

ANALYTICAL REPORT

Job Number: 410-2632-1

Job Description: fYNOP Monthly Surface Water

For:

Groundwater Sciences Corporation
2601 Market Place Street, Suite 310
Harrisburg, PA 17110-9307

Attention: Christopher O'Neil



Approved for release.
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Project Manager
6/18/2020 4:04 PM

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06/18/2020

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

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Definitions/Glossary

Client: Groundwater Sciences Corporation
Project/Site: fYNOP Monthly Surface Water

Job ID: 410-2632-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
FH	MS and/or MSD recovery above control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
1C	Result is from the primary column on a dual-column method.
2C	Result is from the confirmation column on a dual-column method.
CFL	Contains Free Liquid
CFU	Colony Forming Unit
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)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
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)
TNTC	Too Numerous To Count

**Job Narrative
410-2632-1**

Comments

No additional comments.

Receipt

The samples were received on 5/26/2020 4:30 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 5.2° C.

Receipt Exceptions

HD-COD-SW-13-0/1-0 has collection time of 10:50 on the containers, COC has 12:50.

GC/MS VOA

Method 8260C LL: The preservative used in the sample containers provided is not compatible with one of the Method 8260 analytes requested. The following samples were received preserved with hydrochloric acid to pH <2 on analytical batch 410-9922 : HD-COD-SW-6-0/1-0 (410-2632-1), HD-COD-SW-7-0/1-0 (410-2632-2), HD-COD-SW-8-0/1-0 (410-2632-3), HD-COD-SW-9-0/1-0 (410-2632-4), HD-COD-SW-13-0/1-0 (410-2632-5), HD-COD-SW-15-0/1-0 (410-2632-6), HD-COD-SW-16-0/1-0 (410-2632-7), HD-COD-SW-17-0/1-0 (410-2632-8), HD-COD-SW-26-0/1-0 (410-2632-9), HD-COD-SW-27-0/1-0 (410-2632-10), HD-COD-SW-28-0/1-0 (410-2632-11), HD-COD-SW-29-0/1-0 (410-2632-12), HD-QC1-0/1-1 (410-2632-13) and HD-QC1-0/1-2 (410-2632-14). The requested target analyte list includes Acrylonitrile.

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

VOA Prep

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

Detection Summary

Client: Groundwater Sciences Corporation
 Project/Site: fYNOP Monthly Surface Water

Job ID: 410-2632-1

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

Lab Sample ID: 410-2632-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	1.4	J	5.0	0.90	ug/L	1		8260C LL	Total/NA
cis-1,2-Dichloroethene	0.057	J	0.50	0.050	ug/L	1		8260C LL	Total/NA

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

Lab Sample ID: 410-2632-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	1.6	J	5.0	0.90	ug/L	1		8260C LL	Total/NA
Carbon disulfide	0.068	J	1.0	0.060	ug/L	1		8260C LL	Total/NA
Trichloroethene	0.098	J	0.50	0.060	ug/L	1		8260C LL	Total/NA

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

Lab Sample ID: 410-2632-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	2.0	J	5.0	0.90	ug/L	1		8260C LL	Total/NA
Carbon disulfide	0.060	J	1.0	0.060	ug/L	1		8260C LL	Total/NA
Toluene	0.078	J	0.50	0.070	ug/L	1		8260C LL	Total/NA

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

Lab Sample ID: 410-2632-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	3.1	J	5.0	0.90	ug/L	1		8260C LL	Total/NA
cis-1,2-Dichloroethene	0.059	J	0.50	0.050	ug/L	1		8260C LL	Total/NA
Tetrachloroethene	0.094	J	0.50	0.060	ug/L	1		8260C LL	Total/NA
Toluene	0.29	J	0.50	0.070	ug/L	1		8260C LL	Total/NA
Trichloroethene	0.073	J	0.50	0.060	ug/L	1		8260C LL	Total/NA

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

Lab Sample ID: 410-2632-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	1.5	J	5.0	0.90	ug/L	1		8260C LL	Total/NA
cis-1,2-Dichloroethene	0.080	J	0.50	0.050	ug/L	1		8260C LL	Total/NA

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

Lab Sample ID: 410-2632-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethene	0.083	J	0.50	0.060	ug/L	1		8260C LL	Total/NA
Chloroform	0.26	J	0.50	0.090	ug/L	1		8260C LL	Total/NA
cis-1,2-Dichloroethene	0.83	J	0.50	0.050	ug/L	1		8260C LL	Total/NA
Methyl tert-butyl ether	0.050	J	0.50	0.050	ug/L	1		8260C LL	Total/NA
Tetrachloroethene	3.1	J	0.50	0.060	ug/L	1		8260C LL	Total/NA
Trichloroethene	1.0	J	0.50	0.060	ug/L	1		8260C LL	Total/NA

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

Lab Sample ID: 410-2632-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	2.7	J	5.0	0.90	ug/L	1		8260C LL	Total/NA
Carbon disulfide	0.14	J	1.0	0.060	ug/L	1		8260C LL	Total/NA
cis-1,2-Dichloroethene	0.090	J	0.50	0.050	ug/L	1		8260C LL	Total/NA
Tetrachloroethene	0.075	J	0.50	0.060	ug/L	1		8260C LL	Total/NA
Toluene	0.10	J	0.50	0.070	ug/L	1		8260C LL	Total/NA
Trichloroethene	0.16	J	0.50	0.060	ug/L	1		8260C LL	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Groundwater Sciences Corporation
Project/Site: fYNOP Monthly Surface Water

Job ID: 410-2632-1

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

Lab Sample ID: 410-2632-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	1.3	J	5.0	0.90	ug/L	1		8260C LL	Total/NA
cis-1,2-Dichloroethene	0.52		0.50	0.050	ug/L	1		8260C LL	Total/NA
Tetrachloroethene	1.3		0.50	0.060	ug/L	1		8260C LL	Total/NA
Trichloroethene	0.68		0.50	0.060	ug/L	1		8260C LL	Total/NA

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

Lab Sample ID: 410-2632-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethene	0.12	J	0.50	0.060	ug/L	1		8260C LL	Total/NA
Chloroform	0.47	J	0.50	0.090	ug/L	1		8260C LL	Total/NA
cis-1,2-Dichloroethene	0.072	J	0.50	0.050	ug/L	1		8260C LL	Total/NA
Tetrachloroethene	3.1		0.50	0.060	ug/L	1		8260C LL	Total/NA

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

Lab Sample ID: 410-2632-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	2.1	J	5.0	0.90	ug/L	1		8260C LL	Total/NA
Carbon disulfide	0.086	J	1.0	0.060	ug/L	1		8260C LL	Total/NA
Chloromethane	0.075	J	0.50	0.060	ug/L	1		8260C LL	Total/NA
cis-1,2-Dichloroethene	0.079	J	0.50	0.050	ug/L	1		8260C LL	Total/NA
Tetrachloroethene	0.079	J	0.50	0.060	ug/L	1		8260C LL	Total/NA

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

Lab Sample ID: 410-2632-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	2.7	J	5.0	0.90	ug/L	1		8260C LL	Total/NA
Carbon disulfide	0.070	J	1.0	0.060	ug/L	1		8260C LL	Total/NA
cis-1,2-Dichloroethene	0.085	J	0.50	0.050	ug/L	1		8260C LL	Total/NA
Tetrachloroethene	0.13	J	0.50	0.060	ug/L	1		8260C LL	Total/NA
Toluene	0.098	J	0.50	0.070	ug/L	1		8260C LL	Total/NA
Trichloroethene	0.098	J	0.50	0.060	ug/L	1		8260C LL	Total/NA

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

Lab Sample ID: 410-2632-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	1.6	J	5.0	0.90	ug/L	1		8260C LL	Total/NA
cis-1,2-Dichloroethene	0.067	J	0.50	0.050	ug/L	1		8260C LL	Total/NA
Toluene	0.11	J	0.50	0.070	ug/L	1		8260C LL	Total/NA

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

Lab Sample ID: 410-2632-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	1.2	J	5.0	0.90	ug/L	1		8260C LL	Total/NA
cis-1,2-Dichloroethene	0.53		0.50	0.050	ug/L	1		8260C LL	Total/NA
Tetrachloroethene	1.3		0.50	0.060	ug/L	1		8260C LL	Total/NA
Trichloroethene	0.67		0.50	0.060	ug/L	1		8260C LL	Total/NA

Client Sample ID: HD-QC1-0/1-2

Lab Sample ID: 410-2632-14

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Groundwater Sciences Corporation
 Project/Site: fYNOP Monthly Surface Water

Job ID: 410-2632-1

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

Lab Sample ID: 410-2632-1

Date Collected: 05/26/20 11:45

Matrix: Water

Date Received: 05/26/20 16:30

Method: 8260C LL - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50	0.070	ug/L			06/02/20 12:41	1
1,1,1-Trichloroethane	ND		0.50	0.060	ug/L			06/02/20 12:41	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.070	ug/L			06/02/20 12:41	1
1,1,2-Trichloroethane	ND		0.50	0.060	ug/L			06/02/20 12:41	1
1,1-Dichloroethane	ND		0.50	0.070	ug/L			06/02/20 12:41	1
1,1-Dichloroethene	ND		0.50	0.060	ug/L			06/02/20 12:41	1
1,2-Dibromoethane (EDB)	ND		0.50	0.060	ug/L			06/02/20 12:41	1
1,2-Dichloroethane	ND		0.50	0.050	ug/L			06/02/20 12:41	1
1,2-Dichloropropane	ND		0.50	0.060	ug/L			06/02/20 12:41	1
2-Butanone (MEK)	ND		5.0	0.60	ug/L			06/02/20 12:41	1
2-Hexanone	ND		5.0	0.60	ug/L			06/02/20 12:41	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.70	ug/L			06/02/20 12:41	1
Acetone	1.4	J	5.0	0.90	ug/L			06/02/20 12:41	1
Acrylonitrile	ND		5.0	0.40	ug/L			06/02/20 12:41	1
Benzene	ND		0.50	0.050	ug/L			06/02/20 12:41	1
Bromochloromethane	ND		0.50	0.050	ug/L			06/02/20 12:41	1
Bromodichloromethane	ND		0.50	0.050	ug/L			06/02/20 12:41	1
Bromoform	ND		1.0	0.30	ug/L			06/02/20 12:41	1
Bromomethane	ND		0.50	0.070	ug/L			06/02/20 12:41	1
Carbon disulfide	ND		1.0	0.060	ug/L			06/02/20 12:41	1
Carbon tetrachloride	ND		0.50	0.070	ug/L			06/02/20 12:41	1
Chlorobenzene	ND		0.50	0.060	ug/L			06/02/20 12:41	1
Chloroethane	ND		0.50	0.070	ug/L			06/02/20 12:41	1
Chloroform	ND		0.50	0.090	ug/L			06/02/20 12:41	1
Chloromethane	ND		0.50	0.060	ug/L			06/02/20 12:41	1
cis-1,2-Dichloroethene	0.057	J	0.50	0.050	ug/L			06/02/20 12:41	1
cis-1,3-Dichloropropene	ND		0.50	0.050	ug/L			06/02/20 12:41	1
Dibromochloromethane	ND		0.50	0.070	ug/L			06/02/20 12:41	1
Ethylbenzene	ND		0.50	0.060	ug/L			06/02/20 12:41	1
Methyl tert-butyl ether	ND		0.50	0.050	ug/L			06/02/20 12:41	1
Methylene Chloride	ND		0.50	0.070	ug/L			06/02/20 12:41	1
Styrene	ND		0.50	0.050	ug/L			06/02/20 12:41	1
Tetrachloroethene	ND		0.50	0.060	ug/L			06/02/20 12:41	1
Toluene	ND		0.50	0.070	ug/L			06/02/20 12:41	1
trans-1,2-Dichloroethene	ND		0.50	0.060	ug/L			06/02/20 12:41	1
trans-1,3-Dichloropropene	ND		0.50	0.060	ug/L			06/02/20 12:41	1
Trichloroethene	ND		0.50	0.060	ug/L			06/02/20 12:41	1
Vinyl chloride	ND		0.50	0.10	ug/L			06/02/20 12:41	1
Xylenes, Total	ND		1.0	0.15	ug/L			06/02/20 12:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		80 - 120		06/02/20 12:41	1
Dibromofluoromethane (Surr)	103		80 - 120		06/02/20 12:41	1
Toluene-d8 (Surr)	98		80 - 120		06/02/20 12:41	1
4-Bromofluorobenzene (Surr)	97		80 - 120		06/02/20 12:41	1

Client Sample Results

Client: Groundwater Sciences Corporation
 Project/Site: fYNOP Monthly Surface Water

Job ID: 410-2632-1

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

Lab Sample ID: 410-2632-2

Date Collected: 05/26/20 12:30

Matrix: Water

Date Received: 05/26/20 16:30

Method: 8260C LL - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50	0.070	ug/L			06/02/20 13:03	1
1,1,1-Trichloroethane	ND		0.50	0.060	ug/L			06/02/20 13:03	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.070	ug/L			06/02/20 13:03	1
1,1,2-Trichloroethane	ND		0.50	0.060	ug/L			06/02/20 13:03	1
1,1-Dichloroethane	ND		0.50	0.070	ug/L			06/02/20 13:03	1
1,1-Dichloroethene	ND		0.50	0.060	ug/L			06/02/20 13:03	1
1,2-Dibromoethane (EDB)	ND		0.50	0.060	ug/L			06/02/20 13:03	1
1,2-Dichloroethane	ND		0.50	0.050	ug/L			06/02/20 13:03	1
1,2-Dichloropropane	ND		0.50	0.060	ug/L			06/02/20 13:03	1
2-Butanone (MEK)	ND		5.0	0.60	ug/L			06/02/20 13:03	1
2-Hexanone	ND		5.0	0.60	ug/L			06/02/20 13:03	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.70	ug/L			06/02/20 13:03	1
Acetone	1.6	J	5.0	0.90	ug/L			06/02/20 13:03	1
Acrylonitrile	ND		5.0	0.40	ug/L			06/02/20 13:03	1
Benzene	ND		0.50	0.050	ug/L			06/02/20 13:03	1
Bromochloromethane	ND		0.50	0.050	ug/L			06/02/20 13:03	1
Bromodichloromethane	ND		0.50	0.050	ug/L			06/02/20 13:03	1
Bromoform	ND		1.0	0.30	ug/L			06/02/20 13:03	1
Bromomethane	ND		0.50	0.070	ug/L			06/02/20 13:03	1
Carbon disulfide	0.068	J	1.0	0.060	ug/L			06/02/20 13:03	1
Carbon tetrachloride	ND		0.50	0.070	ug/L			06/02/20 13:03	1
Chlorobenzene	ND		0.50	0.060	ug/L			06/02/20 13:03	1
Chloroethane	ND		0.50	0.070	ug/L			06/02/20 13:03	1
Chloroform	ND		0.50	0.090	ug/L			06/02/20 13:03	1
Chloromethane	ND		0.50	0.060	ug/L			06/02/20 13:03	1
cis-1,2-Dichloroethene	ND		0.50	0.050	ug/L			06/02/20 13:03	1
cis-1,3-Dichloropropene	ND		0.50	0.050	ug/L			06/02/20 13:03	1
Dibromochloromethane	ND		0.50	0.070	ug/L			06/02/20 13:03	1
Ethylbenzene	ND		0.50	0.060	ug/L			06/02/20 13:03	1
Methyl tert-butyl ether	ND		0.50	0.050	ug/L			06/02/20 13:03	1
Methylene Chloride	ND		0.50	0.070	ug/L			06/02/20 13:03	1
Styrene	ND		0.50	0.050	ug/L			06/02/20 13:03	1
Tetrachloroethene	ND		0.50	0.060	ug/L			06/02/20 13:03	1
Toluene	ND		0.50	0.070	ug/L			06/02/20 13:03	1
trans-1,2-Dichloroethene	ND		0.50	0.060	ug/L			06/02/20 13:03	1
trans-1,3-Dichloropropene	ND		0.50	0.060	ug/L			06/02/20 13:03	1
Trichloroethene	0.098	J	0.50	0.060	ug/L			06/02/20 13:03	1
Vinyl chloride	ND		0.50	0.10	ug/L			06/02/20 13:03	1
Xylenes, Total	ND		1.0	0.15	ug/L			06/02/20 13:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		80 - 120		06/02/20 13:03	1
Dibromofluoromethane (Surr)	102		80 - 120		06/02/20 13:03	1
Toluene-d8 (Surr)	100		80 - 120		06/02/20 13:03	1
4-Bromofluorobenzene (Surr)	98		80 - 120		06/02/20 13:03	1

Client Sample Results

Client: Groundwater Sciences Corporation
 Project/Site: fYNOP Monthly Surface Water

Job ID: 410-2632-1

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

Lab Sample ID: 410-2632-3

Date Collected: 05/26/20 10:20

Matrix: Water

Date Received: 05/26/20 16:30

Method: 8260C LL - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50	0.070	ug/L			06/02/20 13:24	1
1,1,1-Trichloroethane	ND		0.50	0.060	ug/L			06/02/20 13:24	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.070	ug/L			06/02/20 13:24	1
1,1,2-Trichloroethane	ND		0.50	0.060	ug/L			06/02/20 13:24	1
1,1-Dichloroethane	ND		0.50	0.070	ug/L			06/02/20 13:24	1
1,1-Dichloroethene	ND		0.50	0.060	ug/L			06/02/20 13:24	1
1,2-Dibromoethane (EDB)	ND		0.50	0.060	ug/L			06/02/20 13:24	1
1,2-Dichloroethane	ND		0.50	0.050	ug/L			06/02/20 13:24	1
1,2-Dichloropropane	ND		0.50	0.060	ug/L			06/02/20 13:24	1
2-Butanone (MEK)	ND		5.0	0.60	ug/L			06/02/20 13:24	1
2-Hexanone	ND		5.0	0.60	ug/L			06/02/20 13:24	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.70	ug/L			06/02/20 13:24	1
Acetone	2.0	J	5.0	0.90	ug/L			06/02/20 13:24	1
Acrylonitrile	ND		5.0	0.40	ug/L			06/02/20 13:24	1
Benzene	ND		0.50	0.050	ug/L			06/02/20 13:24	1
Bromochloromethane	ND		0.50	0.050	ug/L			06/02/20 13:24	1
Bromodichloromethane	ND		0.50	0.050	ug/L			06/02/20 13:24	1
Bromoform	ND		1.0	0.30	ug/L			06/02/20 13:24	1
Bromomethane	ND		0.50	0.070	ug/L			06/02/20 13:24	1
Carbon disulfide	0.060	J	1.0	0.060	ug/L			06/02/20 13:24	1
Carbon tetrachloride	ND		0.50	0.070	ug/L			06/02/20 13:24	1
Chlorobenzene	ND		0.50	0.060	ug/L			06/02/20 13:24	1
Chloroethane	ND		0.50	0.070	ug/L			06/02/20 13:24	1
Chloroform	ND		0.50	0.090	ug/L			06/02/20 13:24	1
Chloromethane	ND		0.50	0.060	ug/L			06/02/20 13:24	1
cis-1,2-Dichloroethene	ND		0.50	0.050	ug/L			06/02/20 13:24	1
cis-1,3-Dichloropropene	ND		0.50	0.050	ug/L			06/02/20 13:24	1
Dibromochloromethane	ND		0.50	0.070	ug/L			06/02/20 13:24	1
Ethylbenzene	ND		0.50	0.060	ug/L			06/02/20 13:24	1
Methyl tert-butyl ether	ND		0.50	0.050	ug/L			06/02/20 13:24	1
Methylene Chloride	ND		0.50	0.070	ug/L			06/02/20 13:24	1
Styrene	ND		0.50	0.050	ug/L			06/02/20 13:24	1
Tetrachloroethene	ND		0.50	0.060	ug/L			06/02/20 13:24	1
Toluene	0.078	J	0.50	0.070	ug/L			06/02/20 13:24	1
trans-1,2-Dichloroethene	ND		0.50	0.060	ug/L			06/02/20 13:24	1
trans-1,3-Dichloropropene	ND		0.50	0.060	ug/L			06/02/20 13:24	1
Trichloroethene	ND		0.50	0.060	ug/L			06/02/20 13:24	1
Vinyl chloride	ND		0.50	0.10	ug/L			06/02/20 13:24	1
Xylenes, Total	ND		1.0	0.15	ug/L			06/02/20 13:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		80 - 120		06/02/20 13:24	1
Dibromofluoromethane (Surr)	103		80 - 120		06/02/20 13:24	1
Toluene-d8 (Surr)	98		80 - 120		06/02/20 13:24	1
4-Bromofluorobenzene (Surr)	98		80 - 120		06/02/20 13:24	1

Client Sample Results

Client: Groundwater Sciences Corporation
 Project/Site: fYNOP Monthly Surface Water

Job ID: 410-2632-1

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

Lab Sample ID: 410-2632-4

Date Collected: 05/26/20 13:25

Matrix: Water

Date Received: 05/26/20 16:30

Method: 8260C LL - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50	0.070	ug/L			06/02/20 13:46	1
1,1,1-Trichloroethane	ND		0.50	0.060	ug/L			06/02/20 13:46	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.070	ug/L			06/02/20 13:46	1
1,1,2-Trichloroethane	ND		0.50	0.060	ug/L			06/02/20 13:46	1
1,1-Dichloroethane	ND		0.50	0.070	ug/L			06/02/20 13:46	1
1,1-Dichloroethene	ND		0.50	0.060	ug/L			06/02/20 13:46	1
1,2-Dibromoethane (EDB)	ND		0.50	0.060	ug/L			06/02/20 13:46	1
1,2-Dichloroethane	ND		0.50	0.050	ug/L			06/02/20 13:46	1
1,2-Dichloropropane	ND		0.50	0.060	ug/L			06/02/20 13:46	1
2-Butanone (MEK)	ND		5.0	0.60	ug/L			06/02/20 13:46	1
2-Hexanone	ND		5.0	0.60	ug/L			06/02/20 13:46	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.70	ug/L			06/02/20 13:46	1
Acetone	3.1	J	5.0	0.90	ug/L			06/02/20 13:46	1
Acrylonitrile	ND		5.0	0.40	ug/L			06/02/20 13:46	1
Benzene	ND		0.50	0.050	ug/L			06/02/20 13:46	1
Bromochloromethane	ND		0.50	0.050	ug/L			06/02/20 13:46	1
Bromodichloromethane	ND		0.50	0.050	ug/L			06/02/20 13:46	1
Bromoform	ND		1.0	0.30	ug/L			06/02/20 13:46	1
Bromomethane	ND		0.50	0.070	ug/L			06/02/20 13:46	1
Carbon disulfide	ND		1.0	0.060	ug/L			06/02/20 13:46	1
Carbon tetrachloride	ND		0.50	0.070	ug/L			06/02/20 13:46	1
Chlorobenzene	ND		0.50	0.060	ug/L			06/02/20 13:46	1
Chloroethane	ND		0.50	0.070	ug/L			06/02/20 13:46	1
Chloroform	ND		0.50	0.090	ug/L			06/02/20 13:46	1
Chloromethane	ND		0.50	0.060	ug/L			06/02/20 13:46	1
cis-1,2-Dichloroethene	0.059	J	0.50	0.050	ug/L			06/02/20 13:46	1
cis-1,3-Dichloropropene	ND		0.50	0.050	ug/L			06/02/20 13:46	1
Dibromochloromethane	ND		0.50	0.070	ug/L			06/02/20 13:46	1
Ethylbenzene	ND		0.50	0.060	ug/L			06/02/20 13:46	1
Methyl tert-butyl ether	ND		0.50	0.050	ug/L			06/02/20 13:46	1
Methylene Chloride	ND		0.50	0.070	ug/L			06/02/20 13:46	1
Styrene	ND		0.50	0.050	ug/L			06/02/20 13:46	1
Tetrachloroethene	0.094	J	0.50	0.060	ug/L			06/02/20 13:46	1
Toluene	0.29	J	0.50	0.070	ug/L			06/02/20 13:46	1
trans-1,2-Dichloroethene	ND		0.50	0.060	ug/L			06/02/20 13:46	1
trans-1,3-Dichloropropene	ND		0.50	0.060	ug/L			06/02/20 13:46	1
Trichloroethene	0.073	J	0.50	0.060	ug/L			06/02/20 13:46	1
Vinyl chloride	ND		0.50	0.10	ug/L			06/02/20 13:46	1
Xylenes, Total	ND		1.0	0.15	ug/L			06/02/20 13:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		80 - 120		06/02/20 13:46	1
Dibromofluoromethane (Surr)	103		80 - 120		06/02/20 13:46	1
Toluene-d8 (Surr)	98		80 - 120		06/02/20 13:46	1
4-Bromofluorobenzene (Surr)	98		80 - 120		06/02/20 13:46	1

Client Sample Results

Client: Groundwater Sciences Corporation
 Project/Site: fYNOP Monthly Surface Water

Job ID: 410-2632-1

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

Lab Sample ID: 410-2632-5

Date Collected: 05/26/20 12:50

Matrix: Water

Date Received: 05/26/20 16:30

Method: 8260C LL - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50	0.070	ug/L			06/02/20 14:07	1
1,1,1-Trichloroethane	ND		0.50	0.060	ug/L			06/02/20 14:07	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.070	ug/L			06/02/20 14:07	1
1,1,2-Trichloroethane	ND		0.50	0.060	ug/L			06/02/20 14:07	1
1,1-Dichloroethane	ND		0.50	0.070	ug/L			06/02/20 14:07	1
1,1-Dichloroethene	ND		0.50	0.060	ug/L			06/02/20 14:07	1
1,2-Dibromoethane (EDB)	ND		0.50	0.060	ug/L			06/02/20 14:07	1
1,2-Dichloroethane	ND		0.50	0.050	ug/L			06/02/20 14:07	1
1,2-Dichloropropane	ND		0.50	0.060	ug/L			06/02/20 14:07	1
2-Butanone (MEK)	ND		5.0	0.60	ug/L			06/02/20 14:07	1
2-Hexanone	ND		5.0	0.60	ug/L			06/02/20 14:07	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.70	ug/L			06/02/20 14:07	1
Acetone	1.5	J	5.0	0.90	ug/L			06/02/20 14:07	1
Acrylonitrile	ND		5.0	0.40	ug/L			06/02/20 14:07	1
Benzene	ND		0.50	0.050	ug/L			06/02/20 14:07	1
Bromochloromethane	ND		0.50	0.050	ug/L			06/02/20 14:07	1
Bromodichloromethane	ND		0.50	0.050	ug/L			06/02/20 14:07	1
Bromoform	ND		1.0	0.30	ug/L			06/02/20 14:07	1
Bromomethane	ND		0.50	0.070	ug/L			06/02/20 14:07	1
Carbon disulfide	ND		1.0	0.060	ug/L			06/02/20 14:07	1
Carbon tetrachloride	ND		0.50	0.070	ug/L			06/02/20 14:07	1
Chlorobenzene	ND		0.50	0.060	ug/L			06/02/20 14:07	1
Chloroethane	ND		0.50	0.070	ug/L			06/02/20 14:07	1
Chloroform	ND		0.50	0.090	ug/L			06/02/20 14:07	1
Chloromethane	ND		0.50	0.060	ug/L			06/02/20 14:07	1
cis-1,2-Dichloroethene	0.080	J	0.50	0.050	ug/L			06/02/20 14:07	1
cis-1,3-Dichloropropene	ND		0.50	0.050	ug/L			06/02/20 14:07	1
Dibromochloromethane	ND		0.50	0.070	ug/L			06/02/20 14:07	1
Ethylbenzene	ND		0.50	0.060	ug/L			06/02/20 14:07	1
Methyl tert-butyl ether	ND		0.50	0.050	ug/L			06/02/20 14:07	1
Methylene Chloride	ND		0.50	0.070	ug/L			06/02/20 14:07	1
Styrene	ND		0.50	0.050	ug/L			06/02/20 14:07	1
Tetrachloroethene	ND		0.50	0.060	ug/L			06/02/20 14:07	1
Toluene	ND		0.50	0.070	ug/L			06/02/20 14:07	1
trans-1,2-Dichloroethene	ND		0.50	0.060	ug/L			06/02/20 14:07	1
trans-1,3-Dichloropropene	ND		0.50	0.060	ug/L			06/02/20 14:07	1
Trichloroethene	ND		0.50	0.060	ug/L			06/02/20 14:07	1
Vinyl chloride	ND		0.50	0.10	ug/L			06/02/20 14:07	1
Xylenes, Total	ND		1.0	0.15	ug/L			06/02/20 14:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		80 - 120		06/02/20 14:07	1
Dibromofluoromethane (Surr)	102		80 - 120		06/02/20 14:07	1
Toluene-d8 (Surr)	98		80 - 120		06/02/20 14:07	1
4-Bromofluorobenzene (Surr)	96		80 - 120		06/02/20 14:07	1

Client Sample Results

Client: Groundwater Sciences Corporation
 Project/Site: fYNOP Monthly Surface Water

Job ID: 410-2632-1

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

Lab Sample ID: 410-2632-6

Date Collected: 05/26/20 12:55

Matrix: Water

Date Received: 05/26/20 16:30

Method: 8260C LL - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50	0.070	ug/L			06/02/20 14:29	1
1,1,1-Trichloroethane	ND		0.50	0.060	ug/L			06/02/20 14:29	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.070	ug/L			06/02/20 14:29	1
1,1,2-Trichloroethane	ND		0.50	0.060	ug/L			06/02/20 14:29	1
1,1-Dichloroethane	ND		0.50	0.070	ug/L			06/02/20 14:29	1
1,1-Dichloroethene	0.083	J	0.50	0.060	ug/L			06/02/20 14:29	1
1,2-Dibromoethane (EDB)	ND		0.50	0.060	ug/L			06/02/20 14:29	1
1,2-Dichloroethane	ND	FH	0.50	0.050	ug/L			06/02/20 14:29	1
1,2-Dichloropropane	ND		0.50	0.060	ug/L			06/02/20 14:29	1
2-Butanone (MEK)	ND		5.0	0.60	ug/L			06/02/20 14:29	1
2-Hexanone	ND		5.0	0.60	ug/L			06/02/20 14:29	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.70	ug/L			06/02/20 14:29	1
Acetone	ND		5.0	0.90	ug/L			06/02/20 14:29	1
Acrylonitrile	ND		5.0	0.40	ug/L			06/02/20 14:29	1
Benzene	ND		0.50	0.050	ug/L			06/02/20 14:29	1
Bromochloromethane	ND		0.50	0.050	ug/L			06/02/20 14:29	1
Bromodichloromethane	ND		0.50	0.050	ug/L			06/02/20 14:29	1
Bromoform	ND		1.0	0.30	ug/L			06/02/20 14:29	1
Bromomethane	ND		0.50	0.070	ug/L			06/02/20 14:29	1
Carbon disulfide	ND		1.0	0.060	ug/L			06/02/20 14:29	1
Carbon tetrachloride	ND		0.50	0.070	ug/L			06/02/20 14:29	1
Chlorobenzene	ND		0.50	0.060	ug/L			06/02/20 14:29	1
Chloroethane	ND		0.50	0.070	ug/L			06/02/20 14:29	1
Chloroform	0.26	J	0.50	0.090	ug/L			06/02/20 14:29	1
Chloromethane	ND	FH	0.50	0.060	ug/L			06/02/20 14:29	1
cis-1,2-Dichloroethene	0.83		0.50	0.050	ug/L			06/02/20 14:29	1
cis-1,3-Dichloropropene	ND		0.50	0.050	ug/L			06/02/20 14:29	1
Dibromochloromethane	ND		0.50	0.070	ug/L			06/02/20 14:29	1
Ethylbenzene	ND		0.50	0.060	ug/L			06/02/20 14:29	1
Methyl tert-butyl ether	0.050	J	0.50	0.050	ug/L			06/02/20 14:29	1
Methylene Chloride	ND		0.50	0.070	ug/L			06/02/20 14:29	1
Styrene	ND		0.50	0.050	ug/L			06/02/20 14:29	1
Tetrachloroethene	3.1		0.50	0.060	ug/L			06/02/20 14:29	1
Toluene	ND		0.50	0.070	ug/L			06/02/20 14:29	1
trans-1,2-Dichloroethene	ND		0.50	0.060	ug/L			06/02/20 14:29	1
trans-1,3-Dichloropropene	ND		0.50	0.060	ug/L			06/02/20 14:29	1
Trichloroethene	1.0		0.50	0.060	ug/L			06/02/20 14:29	1
Vinyl chloride	ND		0.50	0.10	ug/L			06/02/20 14:29	1
Xylenes, Total	ND		1.0	0.15	ug/L			06/02/20 14:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		80 - 120		06/02/20 14:29	1
Dibromofluoromethane (Surr)	103		80 - 120		06/02/20 14:29	1
Toluene-d8 (Surr)	99		80 - 120		06/02/20 14:29	1
4-Bromofluorobenzene (Surr)	98		80 - 120		06/02/20 14:29	1

Client Sample Results

Client: Groundwater Sciences Corporation
 Project/Site: fYNOP Monthly Surface Water

Job ID: 410-2632-1

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

Lab Sample ID: 410-2632-7

Date Collected: 05/26/20 11:10

Matrix: Water

Date Received: 05/26/20 16:30

Method: 8260C LL - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50	0.070	ug/L			06/02/20 15:33	1
1,1,1-Trichloroethane	ND		0.50	0.060	ug/L			06/02/20 15:33	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.070	ug/L			06/02/20 15:33	1
1,1,2-Trichloroethane	ND		0.50	0.060	ug/L			06/02/20 15:33	1
1,1-Dichloroethane	ND		0.50	0.070	ug/L			06/02/20 15:33	1
1,1-Dichloroethene	ND		0.50	0.060	ug/L			06/02/20 15:33	1
1,2-Dibromoethane (EDB)	ND		0.50	0.060	ug/L			06/02/20 15:33	1
1,2-Dichloroethane	ND		0.50	0.050	ug/L			06/02/20 15:33	1
1,2-Dichloropropane	ND		0.50	0.060	ug/L			06/02/20 15:33	1
2-Butanone (MEK)	ND		5.0	0.60	ug/L			06/02/20 15:33	1
2-Hexanone	ND		5.0	0.60	ug/L			06/02/20 15:33	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.70	ug/L			06/02/20 15:33	1
Acetone	2.7	J	5.0	0.90	ug/L			06/02/20 15:33	1
Acrylonitrile	ND		5.0	0.40	ug/L			06/02/20 15:33	1
Benzene	ND		0.50	0.050	ug/L			06/02/20 15:33	1
Bromochloromethane	ND		0.50	0.050	ug/L			06/02/20 15:33	1
Bromodichloromethane	ND		0.50	0.050	ug/L			06/02/20 15:33	1
Bromoform	ND		1.0	0.30	ug/L			06/02/20 15:33	1
Bromomethane	ND		0.50	0.070	ug/L			06/02/20 15:33	1
Carbon disulfide	0.14	J	1.0	0.060	ug/L			06/02/20 15:33	1
Carbon tetrachloride	ND		0.50	0.070	ug/L			06/02/20 15:33	1
Chlorobenzene	ND		0.50	0.060	ug/L			06/02/20 15:33	1
Chloroethane	ND		0.50	0.070	ug/L			06/02/20 15:33	1
Chloroform	ND		0.50	0.090	ug/L			06/02/20 15:33	1
Chloromethane	ND		0.50	0.060	ug/L			06/02/20 15:33	1
cis-1,2-Dichloroethene	0.090	J	0.50	0.050	ug/L			06/02/20 15:33	1
cis-1,3-Dichloropropene	ND		0.50	0.050	ug/L			06/02/20 15:33	1
Dibromochloromethane	ND		0.50	0.070	ug/L			06/02/20 15:33	1
Ethylbenzene	ND		0.50	0.060	ug/L			06/02/20 15:33	1
Methyl tert-butyl ether	ND		0.50	0.050	ug/L			06/02/20 15:33	1
Methylene Chloride	ND		0.50	0.070	ug/L			06/02/20 15:33	1
Styrene	ND		0.50	0.050	ug/L			06/02/20 15:33	1
Tetrachloroethene	0.075	J	0.50	0.060	ug/L			06/02/20 15:33	1
Toluene	0.10	J	0.50	0.070	ug/L			06/02/20 15:33	1
trans-1,2-Dichloroethene	ND		0.50	0.060	ug/L			06/02/20 15:33	1
trans-1,3-Dichloropropene	ND		0.50	0.060	ug/L			06/02/20 15:33	1
Trichloroethene	0.16	J	0.50	0.060	ug/L			06/02/20 15:33	1
Vinyl chloride	ND		0.50	0.10	ug/L			06/02/20 15:33	1
Xylenes, Total	ND		1.0	0.15	ug/L			06/02/20 15:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		80 - 120		06/02/20 15:33	1
Dibromofluoromethane (Surr)	102		80 - 120		06/02/20 15:33	1
Toluene-d8 (Surr)	97		80 - 120		06/02/20 15:33	1
4-Bromofluorobenzene (Surr)	98		80 - 120		06/02/20 15:33	1

Client Sample Results

Client: Groundwater Sciences Corporation
 Project/Site: fYNOP Monthly Surface Water

Job ID: 410-2632-1

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

Lab Sample ID: 410-2632-8

Date Collected: 05/26/20 11:30

Matrix: Water

Date Received: 05/26/20 16:30

Method: 8260C LL - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50	0.070	ug/L			06/02/20 15:54	1
1,1,1-Trichloroethane	ND		0.50	0.060	ug/L			06/02/20 15:54	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.070	ug/L			06/02/20 15:54	1
1,1,2-Trichloroethane	ND		0.50	0.060	ug/L			06/02/20 15:54	1
1,1-Dichloroethane	ND		0.50	0.070	ug/L			06/02/20 15:54	1
1,1-Dichloroethene	ND		0.50	0.060	ug/L			06/02/20 15:54	1
1,2-Dibromoethane (EDB)	ND		0.50	0.060	ug/L			06/02/20 15:54	1
1,2-Dichloroethane	ND		0.50	0.050	ug/L			06/02/20 15:54	1
1,2-Dichloropropane	ND		0.50	0.060	ug/L			06/02/20 15:54	1
2-Butanone (MEK)	ND		5.0	0.60	ug/L			06/02/20 15:54	1
2-Hexanone	ND		5.0	0.60	ug/L			06/02/20 15:54	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.70	ug/L			06/02/20 15:54	1
Acetone	1.3	J	5.0	0.90	ug/L			06/02/20 15:54	1
Acrylonitrile	ND		5.0	0.40	ug/L			06/02/20 15:54	1
Benzene	ND		0.50	0.050	ug/L			06/02/20 15:54	1
Bromochloromethane	ND		0.50	0.050	ug/L			06/02/20 15:54	1
Bromodichloromethane	ND		0.50	0.050	ug/L			06/02/20 15:54	1
Bromoform	ND		1.0	0.30	ug/L			06/02/20 15:54	1
Bromomethane	ND		0.50	0.070	ug/L			06/02/20 15:54	1
Carbon disulfide	ND		1.0	0.060	ug/L			06/02/20 15:54	1
Carbon tetrachloride	ND		0.50	0.070	ug/L			06/02/20 15:54	1
Chlorobenzene	ND		0.50	0.060	ug/L			06/02/20 15:54	1
Chloroethane	ND		0.50	0.070	ug/L			06/02/20 15:54	1
Chloroform	ND		0.50	0.090	ug/L			06/02/20 15:54	1
Chloromethane	ND		0.50	0.060	ug/L			06/02/20 15:54	1
cis-1,2-Dichloroethene	0.52		0.50	0.050	ug/L			06/02/20 15:54	1
cis-1,3-Dichloropropene	ND		0.50	0.050	ug/L			06/02/20 15:54	1
Dibromochloromethane	ND		0.50	0.070	ug/L			06/02/20 15:54	1
Ethylbenzene	ND		0.50	0.060	ug/L			06/02/20 15:54	1
Methyl tert-butyl ether	ND		0.50	0.050	ug/L			06/02/20 15:54	1
Methylene Chloride	ND		0.50	0.070	ug/L			06/02/20 15:54	1
Styrene	ND		0.50	0.050	ug/L			06/02/20 15:54	1
Tetrachloroethene	1.3		0.50	0.060	ug/L			06/02/20 15:54	1
Toluene	ND		0.50	0.070	ug/L			06/02/20 15:54	1
trans-1,2-Dichloroethene	ND		0.50	0.060	ug/L			06/02/20 15:54	1
trans-1,3-Dichloropropene	ND		0.50	0.060	ug/L			06/02/20 15:54	1
Trichloroethene	0.68		0.50	0.060	ug/L			06/02/20 15:54	1
Vinyl chloride	ND		0.50	0.10	ug/L			06/02/20 15:54	1
Xylenes, Total	ND		1.0	0.15	ug/L			06/02/20 15:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		80 - 120		06/02/20 15:54	1
Dibromofluoromethane (Surr)	104		80 - 120		06/02/20 15:54	1
Toluene-d8 (Surr)	98		80 - 120		06/02/20 15:54	1
4-Bromofluorobenzene (Surr)	97		80 - 120		06/02/20 15:54	1

Client Sample Results

Client: Groundwater Sciences Corporation
 Project/Site: fYNOP Monthly Surface Water

Job ID: 410-2632-1

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

Lab Sample ID: 410-2632-9

Date Collected: 05/26/20 12:10

Matrix: Water

Date Received: 05/26/20 16:30

Method: 8260C LL - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50	0.070	ug/L			06/02/20 16:15	1
1,1,1-Trichloroethane	ND		0.50	0.060	ug/L			06/02/20 16:15	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.070	ug/L			06/02/20 16:15	1
1,1,2-Trichloroethane	ND		0.50	0.060	ug/L			06/02/20 16:15	1
1,1-Dichloroethane	ND		0.50	0.070	ug/L			06/02/20 16:15	1
1,1-Dichloroethene	0.12	J	0.50	0.060	ug/L			06/02/20 16:15	1
1,2-Dibromoethane (EDB)	ND		0.50	0.060	ug/L			06/02/20 16:15	1
1,2-Dichloroethane	ND		0.50	0.050	ug/L			06/02/20 16:15	1
1,2-Dichloropropane	ND		0.50	0.060	ug/L			06/02/20 16:15	1
2-Butanone (MEK)	ND		5.0	0.60	ug/L			06/02/20 16:15	1
2-Hexanone	ND		5.0	0.60	ug/L			06/02/20 16:15	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.70	ug/L			06/02/20 16:15	1
Acetone	ND		5.0	0.90	ug/L			06/02/20 16:15	1
Acrylonitrile	ND		5.0	0.40	ug/L			06/02/20 16:15	1
Benzene	ND		0.50	0.050	ug/L			06/02/20 16:15	1
Bromochloromethane	ND		0.50	0.050	ug/L			06/02/20 16:15	1
Bromodichloromethane	ND		0.50	0.050	ug/L			06/02/20 16:15	1
Bromoform	ND		1.0	0.30	ug/L			06/02/20 16:15	1
Bromomethane	ND		0.50	0.070	ug/L			06/02/20 16:15	1
Carbon disulfide	ND		1.0	0.060	ug/L			06/02/20 16:15	1
Carbon tetrachloride	ND		0.50	0.070	ug/L			06/02/20 16:15	1
Chlorobenzene	ND		0.50	0.060	ug/L			06/02/20 16:15	1
Chloroethane	ND		0.50	0.070	ug/L			06/02/20 16:15	1
Chloroform	0.47	J	0.50	0.090	ug/L			06/02/20 16:15	1
Chloromethane	ND		0.50	0.060	ug/L			06/02/20 16:15	1
cis-1,2-Dichloroethene	0.072	J	0.50	0.050	ug/L			06/02/20 16:15	1
cis-1,3-Dichloropropene	ND		0.50	0.050	ug/L			06/02/20 16:15	1
Dibromochloromethane	ND		0.50	0.070	ug/L			06/02/20 16:15	1
Ethylbenzene	ND		0.50	0.060	ug/L			06/02/20 16:15	1
Methyl tert-butyl ether	ND		0.50	0.050	ug/L			06/02/20 16:15	1
Methylene Chloride	ND		0.50	0.070	ug/L			06/02/20 16:15	1
Styrene	ND		0.50	0.050	ug/L			06/02/20 16:15	1
Tetrachloroethene	3.1		0.50	0.060	ug/L			06/02/20 16:15	1
Toluene	ND		0.50	0.070	ug/L			06/02/20 16:15	1
trans-1,2-Dichloroethene	ND		0.50	0.060	ug/L			06/02/20 16:15	1
trans-1,3-Dichloropropene	ND		0.50	0.060	ug/L			06/02/20 16:15	1
Trichloroethene	ND		0.50	0.060	ug/L			06/02/20 16:15	1
Vinyl chloride	ND		0.50	0.10	ug/L			06/02/20 16:15	1
Xylenes, Total	ND		1.0	0.15	ug/L			06/02/20 16:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		80 - 120		06/02/20 16:15	1
Dibromofluoromethane (Surr)	103		80 - 120		06/02/20 16:15	1
Toluene-d8 (Surr)	99		80 - 120		06/02/20 16:15	1
4-Bromofluorobenzene (Surr)	99		80 - 120		06/02/20 16:15	1

Client Sample Results

Client: Groundwater Sciences Corporation
 Project/Site: fYNOP Monthly Surface Water

Job ID: 410-2632-1

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

Lab Sample ID: 410-2632-10

Date Collected: 05/26/20 12:45

Matrix: Water

Date Received: 05/26/20 16:30

Method: 8260C LL - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50	0.070	ug/L			06/02/20 16:36	1
1,1,1-Trichloroethane	ND		0.50	0.060	ug/L			06/02/20 16:36	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.070	ug/L			06/02/20 16:36	1
1,1,2-Trichloroethane	ND		0.50	0.060	ug/L			06/02/20 16:36	1
1,1-Dichloroethane	ND		0.50	0.070	ug/L			06/02/20 16:36	1
1,1-Dichloroethene	ND		0.50	0.060	ug/L			06/02/20 16:36	1
1,2-Dibromoethane (EDB)	ND		0.50	0.060	ug/L			06/02/20 16:36	1
1,2-Dichloroethane	ND		0.50	0.050	ug/L			06/02/20 16:36	1
1,2-Dichloropropane	ND		0.50	0.060	ug/L			06/02/20 16:36	1
2-Butanone (MEK)	ND		5.0	0.60	ug/L			06/02/20 16:36	1
2-Hexanone	ND		5.0	0.60	ug/L			06/02/20 16:36	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.70	ug/L			06/02/20 16:36	1
Acetone	2.1	J	5.0	0.90	ug/L			06/02/20 16:36	1
Acrylonitrile	ND		5.0	0.40	ug/L			06/02/20 16:36	1
Benzene	ND		0.50	0.050	ug/L			06/02/20 16:36	1
Bromochloromethane	ND		0.50	0.050	ug/L			06/02/20 16:36	1
Bromodichloromethane	ND		0.50	0.050	ug/L			06/02/20 16:36	1
Bromoform	ND		1.0	0.30	ug/L			06/02/20 16:36	1
Bromomethane	ND		0.50	0.070	ug/L			06/02/20 16:36	1
Carbon disulfide	0.086	J	1.0	0.060	ug/L			06/02/20 16:36	1
Carbon tetrachloride	ND		0.50	0.070	ug/L			06/02/20 16:36	1
Chlorobenzene	ND		0.50	0.060	ug/L			06/02/20 16:36	1
Chloroethane	ND		0.50	0.070	ug/L			06/02/20 16:36	1
Chloroform	ND		0.50	0.090	ug/L			06/02/20 16:36	1
Chloromethane	0.075	J	0.50	0.060	ug/L			06/02/20 16:36	1
cis-1,2-Dichloroethene	0.079	J	0.50	0.050	ug/L			06/02/20 16:36	1
cis-1,3-Dichloropropene	ND		0.50	0.050	ug/L			06/02/20 16:36	1
Dibromochloromethane	ND		0.50	0.070	ug/L			06/02/20 16:36	1
Ethylbenzene	ND		0.50	0.060	ug/L			06/02/20 16:36	1
Methyl tert-butyl ether	ND		0.50	0.050	ug/L			06/02/20 16:36	1
Methylene Chloride	ND		0.50	0.070	ug/L			06/02/20 16:36	1
Styrene	ND		0.50	0.050	ug/L			06/02/20 16:36	1
Tetrachloroethene	0.079	J	0.50	0.060	ug/L			06/02/20 16:36	1
Toluene	ND		0.50	0.070	ug/L			06/02/20 16:36	1
trans-1,2-Dichloroethene	ND		0.50	0.060	ug/L			06/02/20 16:36	1
trans-1,3-Dichloropropene	ND		0.50	0.060	ug/L			06/02/20 16:36	1
Trichloroethene	ND		0.50	0.060	ug/L			06/02/20 16:36	1
Vinyl chloride	ND		0.50	0.10	ug/L			06/02/20 16:36	1
Xylenes, Total	ND		1.0	0.15	ug/L			06/02/20 16:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		80 - 120		06/02/20 16:36	1
Dibromofluoromethane (Surr)	103		80 - 120		06/02/20 16:36	1
Toluene-d8 (Surr)	98		80 - 120		06/02/20 16:36	1
4-Bromofluorobenzene (Surr)	97		80 - 120		06/02/20 16:36	1

Client Sample Results

Client: Groundwater Sciences Corporation
 Project/Site: fYNOP Monthly Surface Water

Job ID: 410-2632-1

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

Lab Sample ID: 410-2632-11

Date Collected: 05/26/20 13:45

Matrix: Water

Date Received: 05/26/20 16:30

Method: 8260C LL - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50	0.070	ug/L			06/02/20 16:58	1
1,1,1-Trichloroethane	ND		0.50	0.060	ug/L			06/02/20 16:58	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.070	ug/L			06/02/20 16:58	1
1,1,2-Trichloroethane	ND		0.50	0.060	ug/L			06/02/20 16:58	1
1,1-Dichloroethane	ND		0.50	0.070	ug/L			06/02/20 16:58	1
1,1-Dichloroethene	ND		0.50	0.060	ug/L			06/02/20 16:58	1
1,2-Dibromoethane (EDB)	ND		0.50	0.060	ug/L			06/02/20 16:58	1
1,2-Dichloroethane	ND		0.50	0.050	ug/L			06/02/20 16:58	1
1,2-Dichloropropane	ND		0.50	0.060	ug/L			06/02/20 16:58	1
2-Butanone (MEK)	ND		5.0	0.60	ug/L			06/02/20 16:58	1
2-Hexanone	ND		5.0	0.60	ug/L			06/02/20 16:58	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.70	ug/L			06/02/20 16:58	1
Acetone	2.7	J	5.0	0.90	ug/L			06/02/20 16:58	1
Acrylonitrile	ND		5.0	0.40	ug/L			06/02/20 16:58	1
Benzene	ND		0.50	0.050	ug/L			06/02/20 16:58	1
Bromochloromethane	ND		0.50	0.050	ug/L			06/02/20 16:58	1
Bromodichloromethane	ND		0.50	0.050	ug/L			06/02/20 16:58	1
Bromoform	ND		1.0	0.30	ug/L			06/02/20 16:58	1
Bromomethane	ND		0.50	0.070	ug/L			06/02/20 16:58	1
Carbon disulfide	0.070	J	1.0	0.060	ug/L			06/02/20 16:58	1
Carbon tetrachloride	ND		0.50	0.070	ug/L			06/02/20 16:58	1
Chlorobenzene	ND		0.50	0.060	ug/L			06/02/20 16:58	1
Chloroethane	ND		0.50	0.070	ug/L			06/02/20 16:58	1
Chloroform	ND		0.50	0.090	ug/L			06/02/20 16:58	1
Chloromethane	ND		0.50	0.060	ug/L			06/02/20 16:58	1
cis-1,2-Dichloroethene	0.085	J	0.50	0.050	ug/L			06/02/20 16:58	1
cis-1,3-Dichloropropene	ND		0.50	0.050	ug/L			06/02/20 16:58	1
Dibromochloromethane	ND		0.50	0.070	ug/L			06/02/20 16:58	1
Ethylbenzene	ND		0.50	0.060	ug/L			06/02/20 16:58	1
Methyl tert-butyl ether	ND		0.50	0.050	ug/L			06/02/20 16:58	1
Methylene Chloride	ND		0.50	0.070	ug/L			06/02/20 16:58	1
Styrene	ND		0.50	0.050	ug/L			06/02/20 16:58	1
Tetrachloroethene	0.13	J	0.50	0.060	ug/L			06/02/20 16:58	1
Toluene	0.098	J	0.50	0.070	ug/L			06/02/20 16:58	1
trans-1,2-Dichloroethene	ND		0.50	0.060	ug/L			06/02/20 16:58	1
trans-1,3-Dichloropropene	ND		0.50	0.060	ug/L			06/02/20 16:58	1
Trichloroethene	0.098	J	0.50	0.060	ug/L			06/02/20 16:58	1
Vinyl chloride	ND		0.50	0.10	ug/L			06/02/20 16:58	1
Xylenes, Total	ND		1.0	0.15	ug/L			06/02/20 16:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		80 - 120		06/02/20 16:58	1
Dibromofluoromethane (Surr)	103		80 - 120		06/02/20 16:58	1
Toluene-d8 (Surr)	98		80 - 120		06/02/20 16:58	1
4-Bromofluorobenzene (Surr)	98		80 - 120		06/02/20 16:58	1

Client Sample Results

Client: Groundwater Sciences Corporation
 Project/Site: fYNOP Monthly Surface Water

Job ID: 410-2632-1

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

Lab Sample ID: 410-2632-12

Date Collected: 05/26/20 10:15

Matrix: Water

Date Received: 05/26/20 16:30

Method: 8260C LL - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50	0.070	ug/L			06/02/20 17:19	1
1,1,1-Trichloroethane	ND		0.50	0.060	ug/L			06/02/20 17:19	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.070	ug/L			06/02/20 17:19	1
1,1,2-Trichloroethane	ND		0.50	0.060	ug/L			06/02/20 17:19	1
1,1-Dichloroethane	ND		0.50	0.070	ug/L			06/02/20 17:19	1
1,1-Dichloroethene	ND		0.50	0.060	ug/L			06/02/20 17:19	1
1,2-Dibromoethane (EDB)	ND		0.50	0.060	ug/L			06/02/20 17:19	1
1,2-Dichloroethane	ND		0.50	0.050	ug/L			06/02/20 17:19	1
1,2-Dichloropropane	ND		0.50	0.060	ug/L			06/02/20 17:19	1
2-Butanone (MEK)	ND		5.0	0.60	ug/L			06/02/20 17:19	1
2-Hexanone	ND		5.0	0.60	ug/L			06/02/20 17:19	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.70	ug/L			06/02/20 17:19	1
Acetone	1.6	J	5.0	0.90	ug/L			06/02/20 17:19	1
Acrylonitrile	ND		5.0	0.40	ug/L			06/02/20 17:19	1
Benzene	ND		0.50	0.050	ug/L			06/02/20 17:19	1
Bromochloromethane	ND		0.50	0.050	ug/L			06/02/20 17:19	1
Bromodichloromethane	ND		0.50	0.050	ug/L			06/02/20 17:19	1
Bromoform	ND		1.0	0.30	ug/L			06/02/20 17:19	1
Bromomethane	ND		0.50	0.070	ug/L			06/02/20 17:19	1
Carbon disulfide	ND		1.0	0.060	ug/L			06/02/20 17:19	1
Carbon tetrachloride	ND		0.50	0.070	ug/L			06/02/20 17:19	1
Chlorobenzene	ND		0.50	0.060	ug/L			06/02/20 17:19	1
Chloroethane	ND		0.50	0.070	ug/L			06/02/20 17:19	1
Chloroform	ND		0.50	0.090	ug/L			06/02/20 17:19	1
Chloromethane	ND		0.50	0.060	ug/L			06/02/20 17:19	1
cis-1,2-Dichloroethene	0.067	J	0.50	0.050	ug/L			06/02/20 17:19	1
cis-1,3-Dichloropropene	ND		0.50	0.050	ug/L			06/02/20 17:19	1
Dibromochloromethane	ND		0.50	0.070	ug/L			06/02/20 17:19	1
Ethylbenzene	ND		0.50	0.060	ug/L			06/02/20 17:19	1
Methyl tert-butyl ether	ND		0.50	0.050	ug/L			06/02/20 17:19	1
Methylene Chloride	ND		0.50	0.070	ug/L			06/02/20 17:19	1
Styrene	ND		0.50	0.050	ug/L			06/02/20 17:19	1
Tetrachloroethene	ND		0.50	0.060	ug/L			06/02/20 17:19	1
Toluene	0.11	J	0.50	0.070	ug/L			06/02/20 17:19	1
trans-1,2-Dichloroethene	ND		0.50	0.060	ug/L			06/02/20 17:19	1
trans-1,3-Dichloropropene	ND		0.50	0.060	ug/L			06/02/20 17:19	1
Trichloroethene	ND		0.50	0.060	ug/L			06/02/20 17:19	1
Vinyl chloride	ND		0.50	0.10	ug/L			06/02/20 17:19	1
Xylenes, Total	ND		1.0	0.15	ug/L			06/02/20 17:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		80 - 120		06/02/20 17:19	1
Dibromofluoromethane (Surr)	102		80 - 120		06/02/20 17:19	1
Toluene-d8 (Surr)	98		80 - 120		06/02/20 17:19	1
4-Bromofluorobenzene (Surr)	98		80 - 120		06/02/20 17:19	1

Client Sample Results

Client: Groundwater Sciences Corporation
 Project/Site: fYNOP Monthly Surface Water

Job ID: 410-2632-1

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

Lab Sample ID: 410-2632-13

Date Collected: 05/26/20 12:00

Matrix: Water

Date Received: 05/26/20 16:30

Method: 8260C LL - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50	0.070	ug/L			06/02/20 17:41	1
1,1,1-Trichloroethane	ND		0.50	0.060	ug/L			06/02/20 17:41	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.070	ug/L			06/02/20 17:41	1
1,1,2-Trichloroethane	ND		0.50	0.060	ug/L			06/02/20 17:41	1
1,1-Dichloroethane	ND		0.50	0.070	ug/L			06/02/20 17:41	1
1,1-Dichloroethene	ND		0.50	0.060	ug/L			06/02/20 17:41	1
1,2-Dibromoethane (EDB)	ND		0.50	0.060	ug/L			06/02/20 17:41	1
1,2-Dichloroethane	ND		0.50	0.050	ug/L			06/02/20 17:41	1
1,2-Dichloropropane	ND		0.50	0.060	ug/L			06/02/20 17:41	1
2-Butanone (MEK)	ND		5.0	0.60	ug/L			06/02/20 17:41	1
2-Hexanone	ND		5.0	0.60	ug/L			06/02/20 17:41	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.70	ug/L			06/02/20 17:41	1
Acetone	1.2	J	5.0	0.90	ug/L			06/02/20 17:41	1
Acrylonitrile	ND		5.0	0.40	ug/L			06/02/20 17:41	1
Benzene	ND		0.50	0.050	ug/L			06/02/20 17:41	1
Bromochloromethane	ND		0.50	0.050	ug/L			06/02/20 17:41	1
Bromodichloromethane	ND		0.50	0.050	ug/L			06/02/20 17:41	1
Bromoform	ND		1.0	0.30	ug/L			06/02/20 17:41	1
Bromomethane	ND		0.50	0.070	ug/L			06/02/20 17:41	1
Carbon disulfide	ND		1.0	0.060	ug/L			06/02/20 17:41	1
Carbon tetrachloride	ND		0.50	0.070	ug/L			06/02/20 17:41	1
Chlorobenzene	ND		0.50	0.060	ug/L			06/02/20 17:41	1
Chloroethane	ND		0.50	0.070	ug/L			06/02/20 17:41	1
Chloroform	ND		0.50	0.090	ug/L			06/02/20 17:41	1
Chloromethane	ND		0.50	0.060	ug/L			06/02/20 17:41	1
cis-1,2-Dichloroethene	0.53		0.50	0.050	ug/L			06/02/20 17:41	1
cis-1,3-Dichloropropene	ND		0.50	0.050	ug/L			06/02/20 17:41	1
Dibromochloromethane	ND		0.50	0.070	ug/L			06/02/20 17:41	1
Ethylbenzene	ND		0.50	0.060	ug/L			06/02/20 17:41	1
Methyl tert-butyl ether	ND		0.50	0.050	ug/L			06/02/20 17:41	1
Methylene Chloride	ND		0.50	0.070	ug/L			06/02/20 17:41	1
Styrene	ND		0.50	0.050	ug/L			06/02/20 17:41	1
Tetrachloroethene	1.3		0.50	0.060	ug/L			06/02/20 17:41	1
Toluene	ND		0.50	0.070	ug/L			06/02/20 17:41	1
trans-1,2-Dichloroethene	ND		0.50	0.060	ug/L			06/02/20 17:41	1
trans-1,3-Dichloropropene	ND		0.50	0.060	ug/L			06/02/20 17:41	1
Trichloroethene	0.67		0.50	0.060	ug/L			06/02/20 17:41	1
Vinyl chloride	ND		0.50	0.10	ug/L			06/02/20 17:41	1
Xylenes, Total	ND		1.0	0.15	ug/L			06/02/20 17:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		80 - 120		06/02/20 17:41	1
Dibromofluoromethane (Surr)	104		80 - 120		06/02/20 17:41	1
Toluene-d8 (Surr)	97		80 - 120		06/02/20 17:41	1
4-Bromofluorobenzene (Surr)	98		80 - 120		06/02/20 17:41	1

Client Sample Results

Client: Groundwater Sciences Corporation
 Project/Site: fYNOP Monthly Surface Water

Job ID: 410-2632-1

Client Sample ID: HD-QC1-0/1-2

Lab Sample ID: 410-2632-14

Date Collected: 05/26/20 00:00

Matrix: Water

Date Received: 05/26/20 16:30

Method: 8260C LL - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50	0.070	ug/L			06/02/20 09:50	1
1,1,1-Trichloroethane	ND		0.50	0.060	ug/L			06/02/20 09:50	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.070	ug/L			06/02/20 09:50	1
1,1,2-Trichloroethane	ND		0.50	0.060	ug/L			06/02/20 09:50	1
1,1-Dichloroethane	ND		0.50	0.070	ug/L			06/02/20 09:50	1
1,1-Dichloroethene	ND		0.50	0.060	ug/L			06/02/20 09:50	1
1,2-Dibromoethane (EDB)	ND		0.50	0.060	ug/L			06/02/20 09:50	1
1,2-Dichloroethane	ND		0.50	0.050	ug/L			06/02/20 09:50	1
1,2-Dichloropropane	ND		0.50	0.060	ug/L			06/02/20 09:50	1
2-Butanone (MEK)	ND		5.0	0.60	ug/L			06/02/20 09:50	1
2-Hexanone	ND		5.0	0.60	ug/L			06/02/20 09:50	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.70	ug/L			06/02/20 09:50	1
Acetone	ND		5.0	0.90	ug/L			06/02/20 09:50	1
Acrylonitrile	ND		5.0	0.40	ug/L			06/02/20 09:50	1
Benzene	ND		0.50	0.050	ug/L			06/02/20 09:50	1
Bromochloromethane	ND		0.50	0.050	ug/L			06/02/20 09:50	1
Bromodichloromethane	ND		0.50	0.050	ug/L			06/02/20 09:50	1
Bromoform	ND		1.0	0.30	ug/L			06/02/20 09:50	1
Bromomethane	ND		0.50	0.070	ug/L			06/02/20 09:50	1
Carbon disulfide	ND		1.0	0.060	ug/L			06/02/20 09:50	1
Carbon tetrachloride	ND		0.50	0.070	ug/L			06/02/20 09:50	1
Chlorobenzene	ND		0.50	0.060	ug/L			06/02/20 09:50	1
Chloroethane	ND		0.50	0.070	ug/L			06/02/20 09:50	1
Chloroform	ND		0.50	0.090	ug/L			06/02/20 09:50	1
Chloromethane	ND		0.50	0.060	ug/L			06/02/20 09:50	1
cis-1,2-Dichloroethene	ND		0.50	0.050	ug/L			06/02/20 09:50	1
cis-1,3-Dichloropropene	ND		0.50	0.050	ug/L			06/02/20 09:50	1
Dibromochloromethane	ND		0.50	0.070	ug/L			06/02/20 09:50	1
Ethylbenzene	ND		0.50	0.060	ug/L			06/02/20 09:50	1
Methyl tert-butyl ether	ND		0.50	0.050	ug/L			06/02/20 09:50	1
Methylene Chloride	ND		0.50	0.070	ug/L			06/02/20 09:50	1
Styrene	ND		0.50	0.050	ug/L			06/02/20 09:50	1
Tetrachloroethene	ND		0.50	0.060	ug/L			06/02/20 09:50	1
Toluene	ND		0.50	0.070	ug/L			06/02/20 09:50	1
trans-1,2-Dichloroethene	ND		0.50	0.060	ug/L			06/02/20 09:50	1
trans-1,3-Dichloropropene	ND		0.50	0.060	ug/L			06/02/20 09:50	1
Trichloroethene	ND		0.50	0.060	ug/L			06/02/20 09:50	1
Vinyl chloride	ND		0.50	0.10	ug/L			06/02/20 09:50	1
Xylenes, Total	ND		1.0	0.15	ug/L			06/02/20 09:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		80 - 120		06/02/20 09:50	1
Dibromofluoromethane (Surr)	102		80 - 120		06/02/20 09:50	1
Toluene-d8 (Surr)	99		80 - 120		06/02/20 09:50	1
4-Bromofluorobenzene (Surr)	98		80 - 120		06/02/20 09:50	1

Default Detection Limits

Client: Groundwater Sciences Corporation
 Project/Site: fYNOP Monthly Surface Water

Job ID: 410-2632-1

Method: 8260C LL - Volatile Organic Compounds by GC/MS

Analyte	RL	MDL	Units
1,1,1,2-Tetrachloroethane	0.50	0.070	ug/L
1,1,1-Trichloroethane	0.50	0.060	ug/L
1,1,2,2-Tetrachloroethane	0.50	0.070	ug/L
1,1,2-Trichloroethane	0.50	0.060	ug/L
1,1-Dichloroethane	0.50	0.070	ug/L
1,1-Dichloroethene	0.50	0.060	ug/L
1,2-Dibromoethane (EDB)	0.50	0.060	ug/L
1,2-Dichloroethane	0.50	0.050	ug/L
1,2-Dichloropropane	0.50	0.060	ug/L
2-Butanone (MEK)	5.0	0.60	ug/L
2-Hexanone	5.0	0.60	ug/L
4-Methyl-2-pentanone (MIBK)	5.0	0.70	ug/L
Acetone	5.0	0.90	ug/L
Acrylonitrile	5.0	0.40	ug/L
Benzene	0.50	0.050	ug/L
Bromochloromethane	0.50	0.050	ug/L
Bromodichloromethane	0.50	0.050	ug/L
Bromoform	1.0	0.30	ug/L
Bromomethane	0.50	0.070	ug/L
Carbon disulfide	1.0	0.060	ug/L
Carbon tetrachloride	0.50	0.070	ug/L
Chlorobenzene	0.50	0.060	ug/L
Chloroethane	0.50	0.070	ug/L
Chloroform	0.50	0.090	ug/L
Chloromethane	0.50	0.060	ug/L
cis-1,2-Dichloroethene	0.50	0.050	ug/L
cis-1,3-Dichloropropene	0.50	0.050	ug/L
Dibromochloromethane	0.50	0.070	ug/L
Ethylbenzene	0.50	0.060	ug/L
Methyl tert-butyl ether	0.50	0.050	ug/L
Methylene Chloride	0.50	0.070	ug/L
Styrene	0.50	0.050	ug/L
Tetrachloroethene	0.50	0.060	ug/L
Toluene	0.50	0.070	ug/L
trans-1,2-Dichloroethene	0.50	0.060	ug/L
trans-1,3-Dichloropropene	0.50	0.060	ug/L
Trichloroethene	0.50	0.060	ug/L
Vinyl chloride	0.50	0.10	ug/L
Xylenes, Total	1.0	0.15	ug/L

Surrogate Summary

Client: Groundwater Sciences Corporation
 Project/Site: fYNOP Monthly Surface Water

Job ID: 410-2632-1

Method: 8260C LL - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (80-120)	DBFM (80-120)	TOL (80-120)	BFB (80-120)
410-2632-1	HD-COD-SW-6-0/1-0	104	103	98	97
410-2632-2	HD-COD-SW-7-0/1-0	106	102	100	98
410-2632-3	HD-COD-SW-8-0/1-0	105	103	98	98
410-2632-4	HD-COD-SW-9-0/1-0	107	103	98	98
410-2632-5	HD-COD-SW-13-0/1-0	105	102	98	96
410-2632-6	HD-COD-SW-15-0/1-0	105	103	99	98
410-2632-6 MS	HD-COD-SW-15-0/1-0	105	103	98	101
410-2632-6 MSD	HD-COD-SW-15-0/1-0	101	102	99	100
410-2632-7	HD-COD-SW-16-0/1-0	108	102	97	98
410-2632-8	HD-COD-SW-17-0/1-0	102	104	98	97
410-2632-9	HD-COD-SW-26-0/1-0	102	103	99	99
410-2632-10	HD-COD-SW-27-0/1-0	107	103	98	97
410-2632-11	HD-COD-SW-28-0/1-0	104	103	98	98
410-2632-12	HD-COD-SW-29-0/1-0	104	102	98	98
410-2632-13	HD-QC1-0/1-1	100	104	97	98
410-2632-14	HD-QC1-0/1-2	104	102	99	98
LCS 410-9922/4	Lab Control Sample	105	103	100	100
MB 410-9922/6	Method Blank	104	101	99	97

Surrogate Legend

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

QC Sample Results

Client: Groundwater Sciences Corporation
 Project/Site: fYNOP Monthly Surface Water

Job ID: 410-2632-1

Method: 8260C LL - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 410-9922/6

Matrix: Water

Analysis Batch: 9922

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1,1,2-Tetrachloroethane	ND		0.50	0.070	ug/L			06/02/20 09:19	1
1,1,1-Trichloroethane	ND		0.50	0.060	ug/L			06/02/20 09:19	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.070	ug/L			06/02/20 09:19	1
1,1,2-Trichloroethane	ND		0.50	0.060	ug/L			06/02/20 09:19	1
1,1-Dichloroethane	ND		0.50	0.070	ug/L			06/02/20 09:19	1
1,1-Dichloroethene	ND		0.50	0.060	ug/L			06/02/20 09:19	1
1,2-Dibromoethane (EDB)	ND		0.50	0.060	ug/L			06/02/20 09:19	1
1,2-Dichloroethane	ND		0.50	0.050	ug/L			06/02/20 09:19	1
1,2-Dichloropropane	ND		0.50	0.060	ug/L			06/02/20 09:19	1
2-Butanone (MEK)	ND		5.0	0.60	ug/L			06/02/20 09:19	1
2-Hexanone	ND		5.0	0.60	ug/L			06/02/20 09:19	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	0.70	ug/L			06/02/20 09:19	1
Acetone	ND		5.0	0.90	ug/L			06/02/20 09:19	1
Acrylonitrile	ND		5.0	0.40	ug/L			06/02/20 09:19	1
Benzene	ND		0.50	0.050	ug/L			06/02/20 09:19	1
Bromochloromethane	ND		0.50	0.050	ug/L			06/02/20 09:19	1
Bromodichloromethane	ND		0.50	0.050	ug/L			06/02/20 09:19	1
Bromoform	ND		1.0	0.30	ug/L			06/02/20 09:19	1
Bromomethane	ND		0.50	0.070	ug/L			06/02/20 09:19	1
Carbon disulfide	ND		1.0	0.060	ug/L			06/02/20 09:19	1
Carbon tetrachloride	ND		0.50	0.070	ug/L			06/02/20 09:19	1
Chlorobenzene	ND		0.50	0.060	ug/L			06/02/20 09:19	1
Chloroethane	ND		0.50	0.070	ug/L			06/02/20 09:19	1
Chloroform	ND		0.50	0.090	ug/L			06/02/20 09:19	1
Chloromethane	ND		0.50	0.060	ug/L			06/02/20 09:19	1
cis-1,2-Dichloroethene	ND		0.50	0.050	ug/L			06/02/20 09:19	1
cis-1,3-Dichloropropene	ND		0.50	0.050	ug/L			06/02/20 09:19	1
Dibromochloromethane	ND		0.50	0.070	ug/L			06/02/20 09:19	1
Ethylbenzene	ND		0.50	0.060	ug/L			06/02/20 09:19	1
Methyl tert-butyl ether	ND		0.50	0.050	ug/L			06/02/20 09:19	1
Methylene Chloride	ND		0.50	0.070	ug/L			06/02/20 09:19	1
Styrene	ND		0.50	0.050	ug/L			06/02/20 09:19	1
Tetrachloroethene	ND		0.50	0.060	ug/L			06/02/20 09:19	1
Toluene	ND		0.50	0.070	ug/L			06/02/20 09:19	1
trans-1,2-Dichloroethene	ND		0.50	0.060	ug/L			06/02/20 09:19	1
trans-1,3-Dichloropropene	ND		0.50	0.060	ug/L			06/02/20 09:19	1
Trichloroethene	ND		0.50	0.060	ug/L			06/02/20 09:19	1
Vinyl chloride	ND		0.50	0.10	ug/L			06/02/20 09:19	1
Xylenes, Total	ND		1.0	0.15	ug/L			06/02/20 09:19	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	104		80 - 120		06/02/20 09:19	1
Dibromofluoromethane (Surr)	101		80 - 120		06/02/20 09:19	1
Toluene-d8 (Surr)	99		80 - 120		06/02/20 09:19	1
4-Bromofluorobenzene (Surr)	97		80 - 120		06/02/20 09:19	1

QC Sample Results

Client: Groundwater Sciences Corporation
 Project/Site: fYNOP Monthly Surface Water

Job ID: 410-2632-1

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

Lab Sample ID: LCS 410-9922/4

Matrix: Water

Analysis Batch: 9922

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	5.00	5.16		ug/L		103	71 - 134
1,1,1-Trichloroethane	5.00	5.22		ug/L		104	78 - 126
1,1,1,2-Tetrachloroethane	5.00	5.33		ug/L		107	75 - 123
1,1,2-Trichloroethane	5.00	5.55		ug/L		111	80 - 120
1,1-Dichloroethane	5.00	5.52		ug/L		110	74 - 120
1,1-Dichloroethene	5.00	5.13		ug/L		103	80 - 131
1,2-Dibromoethane (EDB)	5.00	5.65		ug/L		113	80 - 120
1,2-Dichloroethane	5.00	5.61		ug/L		112	69 - 122
1,2-Dichloropropane	5.00	5.77		ug/L		115	80 - 120
2-Butanone (MEK)	37.5	36.1		ug/L		96	59 - 141
2-Hexanone	25.0	24.6		ug/L		98	52 - 140
4-Methyl-2-pentanone (MIBK)	25.0	23.5		ug/L		94	55 - 140
Acetone	37.5	34.5		ug/L		92	60 - 146
Acrylonitrile	25.0	22.9		ug/L		92	64 - 139
Benzene	5.00	5.42		ug/L		108	80 - 120
Bromochloromethane	5.00	5.08		ug/L		102	80 - 120
Bromodichloromethane	5.00	5.46		ug/L		109	73 - 124
Bromoform	5.00	5.48		ug/L		110	49 - 144
Bromomethane	5.00	5.69		ug/L		114	60 - 136
Carbon disulfide	5.00	5.09		ug/L		102	67 - 130
Carbon tetrachloride	5.00	5.39		ug/L		108	64 - 141
Chlorobenzene	5.00	5.30		ug/L		106	80 - 120
Chloroethane	5.00	5.84		ug/L		117	63 - 120
Chloroform	5.00	5.45		ug/L		109	80 - 120
Chloromethane	5.00	5.88		ug/L		118	56 - 124
cis-1,2-Dichloroethene	5.00	5.56		ug/L		111	80 - 122
cis-1,3-Dichloropropene	5.00	5.60		ug/L		112	67 - 121
Dibromochloromethane	5.00	5.53		ug/L		111	64 - 138
Ethylbenzene	5.00	5.34		ug/L		107	80 - 120
Methyl tert-butyl ether	5.00	5.52		ug/L		110	69 - 120
Methylene Chloride	5.00	5.35		ug/L		107	80 - 120
Styrene	5.00	5.27		ug/L		105	80 - 120
Tetrachloroethene	5.00	5.33		ug/L		107	80 - 120
Toluene	5.00	5.33		ug/L		107	80 - 120
trans-1,2-Dichloroethene	5.00	5.17		ug/L		103	80 - 122
trans-1,3-Dichloropropene	5.00	5.27		ug/L		105	61 - 129
Trichloroethene	5.00	5.38		ug/L		108	80 - 120
Vinyl chloride	5.00	5.74		ug/L		115	60 - 125
Xylenes, Total	15.0	15.7		ug/L		105	80 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	105		80 - 120
Dibromofluoromethane (Surr)	103		80 - 120
Toluene-d8 (Surr)	100		80 - 120
4-Bromofluorobenzene (Surr)	100		80 - 120

QC Sample Results

Client: Groundwater Sciences Corporation
 Project/Site: fYNOP Monthly Surface Water

Job ID: 410-2632-1

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

Lab Sample ID: 410-2632-6 MS

Matrix: Water

Analysis Batch: 9922

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

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.
	Result	Qualifier	Added	Result	Qualifier				
1,1,1,2-Tetrachloroethane	ND		5.00	5.37		ug/L		107	71 - 134
1,1,1-Trichloroethane	ND		5.00	5.89		ug/L		118	78 - 126
1,1,2,2-Tetrachloroethane	ND		5.00	5.20		ug/L		104	75 - 123
1,1,2-Trichloroethane	ND		5.00	5.59		ug/L		112	80 - 120
1,1-Dichloroethane	ND		5.00	5.81		ug/L		116	74 - 120
1,1-Dichloroethene	0.083	J	5.00	5.59		ug/L		110	80 - 131
1,2-Dibromoethane (EDB)	ND		5.00	5.62		ug/L		112	80 - 120
1,2-Dichloroethane	ND	FH	5.00	6.01		ug/L		120	69 - 122
1,2-Dichloropropane	ND		5.00	5.82		ug/L		116	80 - 120
2-Butanone (MEK)	ND		37.5	37.4		ug/L		100	59 - 141
2-Hexanone	ND		25.0	26.0		ug/L		104	52 - 140
4-Methyl-2-pentanone (MIBK)	ND		25.0	24.6		ug/L		98	55 - 140
Acetone	ND		37.5	37.6		ug/L		100	60 - 146
Acrylonitrile	ND		25.0	23.9		ug/L		96	64 - 139
Benzene	ND		5.00	5.67		ug/L		113	80 - 120
Bromochloromethane	ND		5.00	5.35		ug/L		107	80 - 120
Bromodichloromethane	ND		5.00	5.75		ug/L		115	73 - 124
Bromoform	ND		5.00	5.36		ug/L		107	49 - 144
Bromomethane	ND		5.00	5.27		ug/L		105	60 - 136
Carbon disulfide	ND		5.00	5.34		ug/L		107	67 - 130
Carbon tetrachloride	ND		5.00	6.17		ug/L		123	64 - 141
Chlorobenzene	ND		5.00	5.54		ug/L		111	80 - 120
Chloroethane	ND		5.00	5.23		ug/L		105	63 - 120
Chloroform	0.26	J	5.00	6.16		ug/L		118	80 - 120
Chloromethane	ND	FH	5.00	5.49		ug/L		110	80 - 120
cis-1,2-Dichloroethene	0.83		5.00	6.70		ug/L		117	80 - 122
cis-1,3-Dichloropropene	ND		5.00	5.59		ug/L		112	67 - 121
Dibromochloromethane	ND		5.00	5.54		ug/L		111	64 - 138
Ethylbenzene	ND		5.00	5.60		ug/L		112	80 - 120
Methyl tert-butyl ether	0.050	J	5.00	5.74		ug/L		114	69 - 120
Methylene Chloride	ND		5.00	5.58		ug/L		111	80 - 120
Styrene	ND		5.00	5.52		ug/L		110	80 - 120
Tetrachloroethene	3.1		5.00	8.86		ug/L		116	80 - 120
Toluene	ND		5.00	5.53		ug/L		111	80 - 120
trans-1,2-Dichloroethene	ND		5.00	5.46		ug/L		109	80 - 122
trans-1,3-Dichloropropene	ND		5.00	5.18		ug/L		104	61 - 129
Trichloroethene	1.0		5.00	6.75		ug/L		115	80 - 120
Vinyl chloride	ND		5.00	5.49		ug/L		110	60 - 125
Xylenes, Total	ND		15.0	16.5		ug/L		110	80 - 120

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	105		80 - 120
Dibromofluoromethane (Surr)	103		80 - 120
Toluene-d8 (Surr)	98		80 - 120
4-Bromofluorobenzene (Surr)	101		80 - 120

QC Sample Results

Client: Groundwater Sciences Corporation
 Project/Site: fYNOP Monthly Surface Water

Job ID: 410-2632-1

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

Lab Sample ID: 410-2632-6 MSD

Matrix: Water

Analysis Batch: 9922

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

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits			
1,1,1,2-Tetrachloroethane	ND		5.00	5.56		ug/L		111	71 - 134	4	30	
1,1,1-Trichloroethane	ND		5.00	6.09		ug/L		122	78 - 126	3	30	
1,1,2,2-Tetrachloroethane	ND		5.00	5.47		ug/L		109	75 - 123	5	30	
1,1,2-Trichloroethane	ND		5.00	5.74		ug/L		115	80 - 120	3	30	
1,1-Dichloroethane	ND		5.00	6.02		ug/L		120	74 - 120	3	30	
1,1-Dichloroethene	0.083	J	5.00	5.81		ug/L		114	80 - 131	4	30	
1,2-Dibromoethane (EDB)	ND		5.00	5.77		ug/L		115	80 - 120	3	30	
1,2-Dichloroethane	ND	FH	5.00	6.19	FH	ug/L		124	69 - 122	3	30	
1,2-Dichloropropane	ND		5.00	5.95		ug/L		119	80 - 120	2	30	
2-Butanone (MEK)	ND		37.5	38.0		ug/L		101	59 - 141	2	30	
2-Hexanone	ND		25.0	26.1		ug/L		104	52 - 140	1	30	
4-Methyl-2-pentanone (MIBK)	ND		25.0	24.7		ug/L		99	55 - 140	1	30	
Acetone	ND		37.5	37.4		ug/L		100	60 - 146	1	30	
Acrylonitrile	ND		25.0	23.8		ug/L		95	64 - 139	0	30	
Benzene	ND		5.00	5.74		ug/L		115	80 - 120	1	30	
Bromochloromethane	ND		5.00	5.42		ug/L		108	80 - 120	1	30	
Bromodichloromethane	ND		5.00	5.79		ug/L		116	73 - 124	1	30	
Bromoform	ND		5.00	5.65		ug/L		113	49 - 144	5	30	
Bromomethane	ND		5.00	5.71		ug/L		114	60 - 136	8	30	
Carbon disulfide	ND		5.00	5.69		ug/L		114	67 - 130	6	30	
Carbon tetrachloride	ND		5.00	6.20		ug/L		124	64 - 141	0	30	
Chlorobenzene	ND		5.00	5.67		ug/L		113	80 - 120	2	30	
Chloroethane	ND		5.00	5.82		ug/L		116	63 - 120	11	30	
Chloroform	0.26	J	5.00	6.19		ug/L		119	80 - 120	1	30	
Chloromethane	ND	FH	5.00	6.03	FH	ug/L		121	80 - 120	10	30	
cis-1,2-Dichloroethene	0.83		5.00	6.88		ug/L		121	80 - 122	3	30	
cis-1,3-Dichloropropene	ND		5.00	5.77		ug/L		115	67 - 121	3	30	
Dibromochloromethane	ND		5.00	5.71		ug/L		114	64 - 138	3	30	
Ethylbenzene	ND		5.00	5.71		ug/L		114	80 - 120	2	30	
Methyl tert-butyl ether	0.050	J	5.00	5.72		ug/L		113	69 - 120	0	30	
Methylene Chloride	ND		5.00	5.64		ug/L		113	80 - 120	1	30	
Styrene	ND		5.00	5.65		ug/L		113	80 - 120	2	30	
Tetrachloroethene	3.1		5.00	9.07		ug/L		120	80 - 120	2	30	
Toluene	ND		5.00	5.72		ug/L		114	80 - 120	3	30	
trans-1,2-Dichloroethene	ND		5.00	5.69		ug/L		114	80 - 122	4	30	
trans-1,3-Dichloropropene	ND		5.00	5.38		ug/L		107	61 - 129	4	30	
Trichloroethene	1.0		5.00	6.83		ug/L		117	80 - 120	1	30	
Vinyl chloride	ND		5.00	6.06		ug/L		121	60 - 125	10	30	
Xylenes, Total	ND		15.0	17.0		ug/L		113	80 - 120	3	30	

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	101		80 - 120
Dibromofluoromethane (Surr)	102		80 - 120
Toluene-d8 (Surr)	99		80 - 120
4-Bromofluorobenzene (Surr)	100		80 - 120

QC Association Summary

Client: Groundwater Sciences Corporation
Project/Site: fYNOP Monthly Surface Water

Job ID: 410-2632-1

GC/MS VOA

Analysis Batch: 9922

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-2632-1	HD-COD-SW-6-0/1-0	Total/NA	Water	8260C LL	
410-2632-2	HD-COD-SW-7-0/1-0	Total/NA	Water	8260C LL	
410-2632-3	HD-COD-SW-8-0/1-0	Total/NA	Water	8260C LL	
410-2632-4	HD-COD-SW-9-0/1-0	Total/NA	Water	8260C LL	
410-2632-5	HD-COD-SW-13-0/1-0	Total/NA	Water	8260C LL	
410-2632-6	HD-COD-SW-15-0/1-0	Total/NA	Water	8260C LL	
410-2632-7	HD-COD-SW-16-0/1-0	Total/NA	Water	8260C LL	
410-2632-8	HD-COD-SW-17-0/1-0	Total/NA	Water	8260C LL	
410-2632-9	HD-COD-SW-26-0/1-0	Total/NA	Water	8260C LL	
410-2632-10	HD-COD-SW-27-0/1-0	Total/NA	Water	8260C LL	
410-2632-11	HD-COD-SW-28-0/1-0	Total/NA	Water	8260C LL	
410-2632-12	HD-COD-SW-29-0/1-0	Total/NA	Water	8260C LL	
410-2632-13	HD-QC1-0/1-1	Total/NA	Water	8260C LL	
410-2632-14	HD-QC1-0/1-2	Total/NA	Water	8260C LL	
MB 410-9922/6	Method Blank	Total/NA	Water	8260C LL	
LCS 410-9922/4	Lab Control Sample	Total/NA	Water	8260C LL	
410-2632-6 MS	HD-COD-SW-15-0/1-0	Total/NA	Water	8260C LL	
410-2632-6 MSD	HD-COD-SW-15-0/1-0	Total/NA	Water	8260C LL	

Lab Chronicle

Client: Groundwater Sciences Corporation
Project/Site: fYNOP Monthly Surface Water

Job ID: 410-2632-1

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

Date Collected: 05/26/20 11:45

Date Received: 05/26/20 16:30

Lab Sample ID: 410-2632-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C LL		1	9922	06/02/20 12:41	R64Z	ELLE

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

Date Collected: 05/26/20 12:30

Date Received: 05/26/20 16:30

Lab Sample ID: 410-2632-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C LL		1	9922	06/02/20 13:03	R64Z	ELLE

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

Date Collected: 05/26/20 10:20

Date Received: 05/26/20 16:30

Lab Sample ID: 410-2632-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C LL		1	9922	06/02/20 13:24	R64Z	ELLE

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

Date Collected: 05/26/20 13:25

Date Received: 05/26/20 16:30

Lab Sample ID: 410-2632-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C LL		1	9922	06/02/20 13:46	R64Z	ELLE

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

Date Collected: 05/26/20 12:50

Date Received: 05/26/20 16:30

Lab Sample ID: 410-2632-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C LL		1	9922	06/02/20 14:07	R64Z	ELLE

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

Date Collected: 05/26/20 12:55

Date Received: 05/26/20 16:30

Lab Sample ID: 410-2632-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C LL		1	9922	06/02/20 14:29	R64Z	ELLE

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

Date Collected: 05/26/20 11:10

Date Received: 05/26/20 16:30

Lab Sample ID: 410-2632-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C LL		1	9922	06/02/20 15:33	R64Z	ELLE

Lab Chronicle

Client: Groundwater Sciences Corporation
Project/Site: fYNOP Monthly Surface Water

Job ID: 410-2632-1

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

Lab Sample ID: 410-2632-8

Date Collected: 05/26/20 11:30

Matrix: Water

Date Received: 05/26/20 16:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C LL		1	9922	06/02/20 15:54	R64Z	ELLE

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

Lab Sample ID: 410-2632-9

Date Collected: 05/26/20 12:10

Matrix: Water

Date Received: 05/26/20 16:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C LL		1	9922	06/02/20 16:15	R64Z	ELLE

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

Lab Sample ID: 410-2632-10

Date Collected: 05/26/20 12:45

Matrix: Water

Date Received: 05/26/20 16:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C LL		1	9922	06/02/20 16:36	R64Z	ELLE

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

Lab Sample ID: 410-2632-11

Date Collected: 05/26/20 13:45

Matrix: Water

Date Received: 05/26/20 16:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C LL		1	9922	06/02/20 16:58	R64Z	ELLE

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

Lab Sample ID: 410-2632-12

Date Collected: 05/26/20 10:15

Matrix: Water

Date Received: 05/26/20 16:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C LL		1	9922	06/02/20 17:19	R64Z	ELLE

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

Lab Sample ID: 410-2632-13

Date Collected: 05/26/20 12:00

Matrix: Water

Date Received: 05/26/20 16:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C LL		1	9922	06/02/20 17:41	R64Z	ELLE

Client Sample ID: HD-QC1-0/1-2

Lab Sample ID: 410-2632-14

Date Collected: 05/26/20 00:00

Matrix: Water

Date Received: 05/26/20 16:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C LL		1	9922	06/02/20 09:50	R64Z	ELLE

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Env, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Eurofins Lancaster Laboratories Env, LLC

Accreditation/Certification Summary

Client: Groundwater Sciences Corporation
Project/Site: fYNOP Monthly Surface Water

Job ID: 410-2632-1

Laboratory: Eurofins Lancaster Laboratories Env, LLC

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

Authority	Program	Identification Number	Expiration Date
Pennsylvania	NELAP	36-00037	01-30-21

Method Summary

Client: Groundwater Sciences Corporation
Project/Site: FYNOP Monthly Surface Water

Job ID: 410-2632-1

Method	Method Description	Protocol	Laboratory
8260C LL	Volatile Organic Compounds by GC/MS	SW846	ELLE
5030C	Purge and Trap	SW846	ELLE

Protocol References:

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

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Env, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Sample Summary

Client: Groundwater Sciences Corporation
Project/Site: FYNOP Monthly Surface Water

Job ID: 410-2632-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
410-2632-1	HD-COD-SW-6-0/1-0	Water	05/26/20 11:45	05/26/20 16:30	
410-2632-2	HD-COD-SW-7-0/1-0	Water	05/26/20 12:30	05/26/20 16:30	
410-2632-3	HD-COD-SW-8-0/1-0	Water	05/26/20 10:20	05/26/20 16:30	
410-2632-4	HD-COD-SW-9-0/1-0	Water	05/26/20 13:25	05/26/20 16:30	
410-2632-5	HD-COD-SW-13-0/1-0	Water	05/26/20 12:50	05/26/20 16:30	
410-2632-6	HD-COD-SW-15-0/1-0	Water	05/26/20 12:55	05/26/20 16:30	
410-2632-7	HD-COD-SW-16-0/1-0	Water	05/26/20 11:10	05/26/20 16:30	
410-2632-8	HD-COD-SW-17-0/1-0	Water	05/26/20 11:30	05/26/20 16:30	
410-2632-9	HD-COD-SW-26-0/1-0	Water	05/26/20 12:10	05/26/20 16:30	
410-2632-10	HD-COD-SW-27-0/1-0	Water	05/26/20 12:45	05/26/20 16:30	
410-2632-11	HD-COD-SW-28-0/1-0	Water	05/26/20 13:45	05/26/20 16:30	
410-2632-12	HD-COD-SW-29-0/1-0	Water	05/26/20 10:15	05/26/20 16:30	
410-2632-13	HD-QC1-0/1-1	Water	05/26/20 12:00	05/26/20 16:30	
410-2632-14	HD-QC1-0/1-2	Water	05/26/20 00:00	05/26/20 16:30	

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Lancaster Laborator Job No.: 410-2632-1

SDG No.: _____

Instrument ID: 19930 Analysis Batch Number: 6388Lab Sample ID: IC 410-6388/12 Client Sample ID: _____Date Analyzed: 03/16/20 16:24 Lab File ID: IM16I01.D GC Column: R-624SilMS 30 ID: 0.25 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Dichlorodifluoromethane	1.98	Baseline	campbellme	03/17/20 23:26
Chloromethane	2.18	Baseline	campbellme	03/17/20 23:27
Chloroethane	2.72	Incomplete Integration	campbellme	03/18/20 21:34
t-Butyl alcohol-d10 (IS)	4.30	Incomplete Integration	campbellme	03/18/20 21:35
1,4-Dioxane	8.68	Baseline	campbellme	03/18/20 21:37

Lab Sample ID: ICIS 410-6388/13 Client Sample ID: _____Date Analyzed: 03/16/20 16:45 Lab File ID: IM16I02.D GC Column: R-624SilMS 30 ID: 0.25 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Dichlorodifluoromethane	1.98	Incomplete Integration	campbellme	03/18/20 21:38
Chloromethane	2.18	Baseline	campbellme	03/18/20 21:39
t-Butyl alcohol-d10 (IS)	4.29	Incomplete Integration	campbellme	03/18/20 21:39
1,4-Dioxane	8.68	Split Peak	campbellme	03/18/20 21:40

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Lancaster Laborator Job No.: 410-2632-1

SDG No.: _____

Instrument ID: 19930 Analysis Batch Number: 6388Lab Sample ID: IC 410-6388/14 Client Sample ID: _____Date Analyzed: 03/16/20 17:06 Lab File ID: IM16I03.D GC Column: R-624SilMS 30 ID: 0.25 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Dichlorodifluoromethane	1.98	Incomplete Integration	campbellme	03/18/20 21:41
Chloromethane	2.18	Baseline	campbellme	03/18/20 21:41
1,3-Butadiene	2.30	Baseline	campbellme	03/18/20 21:41
t-Butyl alcohol-d10 (IS)	4.30	Incomplete Integration	campbellme	03/18/20 21:41
1,4-Dioxane	8.68	Split Peak	campbellme	03/18/20 21:42

Lab Sample ID: IC 410-6388/15 Client Sample ID: _____Date Analyzed: 03/16/20 17:27 Lab File ID: IM16I04.D GC Column: R-624SilMS 30 ID: 0.25 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Dichlorodifluoromethane	1.98	Incomplete Integration	campbellme	03/18/20 21:43
Vinyl chloride	2.30	Incomplete Integration	campbellme	03/18/20 21:43
Dichlorofluoromethane	2.96	Baseline	campbellme	03/18/20 21:43
t-Butyl alcohol-d10 (IS)	4.29	Incomplete Integration	campbellme	03/18/20 21:43
1,4-Dioxane	8.68	Split Peak	campbellme	03/18/20 21:44

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Lancaster Laborator Job No.: 410-2632-1

SDG No.: _____

Instrument ID: 19930 Analysis Batch Number: 6388Lab Sample ID: IC 410-6388/16 Client Sample ID: _____Date Analyzed: 03/16/20 17:48 Lab File ID: IM16I05.D GC Column: R-624SilMS 30 ID: 0.25 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Dichlorodifluoromethane	2.00	Incomplete Integration	campbellme	03/18/20 21:45
1,3-Butadiene	2.31	Baseline	campbellme	03/18/20 21:45
Acrolein	3.47	Incomplete Integration	campbellme	03/18/20 21:45
1,4-Dioxane	8.69	Split Peak	campbellme	03/18/20 21:46

Lab Sample ID: IC 410-6388/17 Client Sample ID: _____Date Analyzed: 03/16/20 18:09 Lab File ID: IM16I06.D GC Column: R-624SilMS 30 ID: 0.25 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Dichlorodifluoromethane	1.98	Incomplete Integration	campbellme	03/18/20 21:46
1,3-Butadiene	2.29	Baseline	campbellme	03/18/20 21:47
t-Butyl alcohol-d10 (IS)	4.29	Incomplete Integration	campbellme	03/18/20 21:47
1,4-Dioxane	8.68	Incomplete Integration	campbellme	03/18/20 21:48

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Lancaster Laborator Job No.: 410-2632-1

SDG No.: _____

Instrument ID: 19930 Analysis Batch Number: 6388Lab Sample ID: IC 410-6388/18 Client Sample ID: _____Date Analyzed: 03/16/20 18:31 Lab File ID: IM16I07.D GC Column: R-624SilMS 30 ID: 0.25 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Dichlorodifluoromethane	1.99	Incomplete Integration	campbellme	03/18/20 21:48
1,3-Butadiene	2.31	Baseline	campbellme	03/18/20 21:49
Methyl acetate	4.09	Baseline	campbellme	03/18/20 21:49
Methylene Chloride	4.28	Missed Peak	campbellme	03/18/20 21:50
t-Butyl alcohol-d10 (IS)	4.31	Incomplete Integration	campbellme	03/18/20 21:50
Cyclohexane	7.01	Incomplete Integration	campbellme	03/18/20 21:50
Trichloroethene	8.26	Missed Peak	campbellme	03/18/20 21:50
Methyl methacrylate	8.67	Incomplete Integration	campbellme	03/18/20 21:51
1,4-Dioxane	8.68	Incomplete Integration	campbellme	03/18/20 21:51

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Lancaster Laborator Job No.: 410-2632-1

SDG No.: _____

Instrument ID: 19930 Analysis Batch Number: 7691Lab Sample ID: ICV 410-7691/21 Client Sample ID: _____Date Analyzed: 03/18/20 10:28 Lab File ID: IM18S01.D GC Column: R-624SilMS 30 ID: 0.25 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Dichlorodifluoromethane	1.98	Incomplete Integration	campbellme	04/24/20 16:38
Bromomethane	2.63	Incomplete Integration	campbellme	04/24/20 16:38
t-Butyl alcohol-d10 (IS)	4.30	Incomplete Integration	campbellme	04/24/20 16:39
1,4-Dioxane	8.68	Split Peak	campbellme	04/24/20 16:39

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Lancaster Laborator Job No.: 410-2632-1

SDG No.: _____

Instrument ID: 19930 Analysis Batch Number: 9922Lab Sample ID: CCVIS 410-9922/3 Client Sample ID: _____Date Analyzed: 06/02/20 08:16 Lab File ID: Iu02C01.D GC Column: R-624SilMS 30 ID: 0.25 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Dichlorodifluoromethane	1.98	Other	howej	06/02/20 08:49
t-Butyl alcohol-d10 (IS)	4.30	Other	howej	06/02/20 08:50
1,4-Dioxane	8.67	Other	howej	06/02/20 08:51

Lab Sample ID: LCS 410-9922/4 Client Sample ID: _____Date Analyzed: 06/02/20 08:37 Lab File ID: Iu02L01.D GC Column: R-624SilMS 30 ID: 0.25 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
t-Butyl alcohol-d10 (IS)	4.31	Other	howej	06/02/20 09:17

Lab Sample ID: MB 410-9922/6 Client Sample ID: _____Date Analyzed: 06/02/20 09:19 Lab File ID: Iu02B01.D GC Column: R-624SilMS 30 ID: 0.25 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
4-Methyl-2-pentanone (MIBK)		Invalid Compound ID	howej	06/02/20 09:47
Carbon disulfide		Invalid Compound ID	howej	06/02/20 09:47
Toluene		Invalid Compound ID	howej	06/02/20 09:47

Lab Sample ID: 410-2632-14 Client Sample ID: _____Date Analyzed: 06/02/20 09:50 Lab File ID: iU02s01.D GC Column: R-624SilMS 30 ID: 0.25 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
t-Butyl alcohol-d10 (IS)	4.32	Other	howej	06/02/20 12:35
1,2-Dichloroethane		Invalid Compound ID	howej	06/02/20 12:35
Chlorobenzene		Invalid Compound ID	howej	06/02/20 12:35

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Lancaster Laborator Job No.: 410-2632-1

SDG No.: _____

Instrument ID: 19930 Analysis Batch Number: 9922Lab Sample ID: 410-2632-1 Client Sample ID: HD-COD-SW-6-0/1-0Date Analyzed: 06/02/20 12:41 Lab File ID: iU02s09.D GC Column: R-624SilMS 30 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Carbon disulfide	3.90	Other	howej	06/02/20 13:07
t-Butyl alcohol-d10 (IS)	4.31	Other	howej	06/02/20 13:07
4-Methyl-2-pentanone (MIBK)		Invalid Compound ID	howej	06/02/20 13:07
Tetrachloroethene	10.39	Other	howej	06/02/20 13:07

Lab Sample ID: 410-2632-2 Client Sample ID: HD-COD-SW-7-0/1-0Date Analyzed: 06/02/20 13:03 Lab File ID: iU02s10.D GC Column: R-624SilMS 30 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Carbon disulfide	3.93	Other	howej	06/02/20 13:46
t-Butyl alcohol-d10 (IS)	4.31	Other	howej	06/02/20 13:46

Lab Sample ID: 410-2632-3 Client Sample ID: HD-COD-SW-8-0/1-0Date Analyzed: 06/02/20 13:24 Lab File ID: iU02s11.D GC Column: R-624SilMS 30 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Carbon disulfide	3.93	Other	howej	06/03/20 12:29
2-Hexanone		Invalid Compound ID	howej	06/03/20 12:29

Lab Sample ID: 410-2632-4 Client Sample ID: HD-COD-SW-9-0/1-0Date Analyzed: 06/02/20 13:46 Lab File ID: iU02s12.D GC Column: R-624SilMS 30 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Carbon disulfide	3.92	Other	howej	06/03/20 12:30
2-Hexanone		Invalid Compound ID	howej	06/03/20 12:30
4-Methyl-2-pentanone (MIBK)		Invalid Compound ID	howej	06/03/20 12:30

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Lancaster Laborator Job No.: 410-2632-1

SDG No.: _____

Instrument ID: 19930 Analysis Batch Number: 9922Lab Sample ID: 410-2632-5 Client Sample ID: HD-COD-SW-13-0/1-0Date Analyzed: 06/02/20 14:07 Lab File ID: iU02s13.D GC Column: R-624SilMS 30 ID: 0.25 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Carbon disulfide	3.93	Other	howej	06/03/20 12:30
t-Butyl alcohol-d10 (IS)	4.31	Other	howej	06/03/20 12:30
2-Hexanone		Invalid Compound ID	howej	06/03/20 12:31
m-Xylene & p-Xylene	11.43	Other	howej	06/03/20 12:31

Lab Sample ID: 410-2632-6 Client Sample ID: HD-COD-SW-15-0/1-0Date Analyzed: 06/02/20 14:29 Lab File ID: iU02s14.D GC Column: R-624SilMS 30 ID: 0.25 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,1-Dichloroethene	3.62	Other	howej	06/03/20 12:31
t-Butyl alcohol-d10 (IS)	4.31	Other	howej	06/03/20 12:31
Carbon tetrachloride	7.10	Other	howej	06/03/20 12:32

Lab Sample ID: 410-2632-6 MSD Client Sample ID: _____Date Analyzed: 06/02/20 15:11 Lab File ID: iU02s16.D GC Column: R-624SilMS 30 ID: 0.25 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
t-Butyl alcohol-d10 (IS)	4.29	Other	howej	06/03/20 12:37

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Lancaster Laborator Job No.: 410-2632-1

SDG No.: _____

Instrument ID: 19930 Analysis Batch Number: 9922Lab Sample ID: 410-2632-7 Client Sample ID: HD-COD-SW-16-0/1-0Date Analyzed: 06/02/20 15:33 Lab File ID: iU02s17.D GC Column: R-624SilMS 30 ID: 0.25 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Carbon disulfide	3.92	Other	howej	06/03/20 12:40
t-Butyl alcohol-d10 (IS)	4.32	Other	howej	06/03/20 12:40
4-Methyl-2-pentanone (MIBK)	9.65	Invalid Compound ID	howej	06/03/20 12:40
2-Hexanone		Invalid Compound ID	howej	06/03/20 12:40
Ethylbenzene		Invalid Compound ID	howej	06/03/20 12:41
trans-1,3-Dichloropropene		Invalid Compound ID	howej	06/03/20 12:40
Vinyl chloride		Invalid Compound ID	howej	06/03/20 12:40

Lab Sample ID: 410-2632-8 Client Sample ID: HD-COD-SW-17-0/1-0Date Analyzed: 06/02/20 15:54 Lab File ID: iU02s18.D GC Column: R-624SilMS 30 ID: 0.25 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Vinyl chloride	2.32	Other	howej	06/03/20 12:41
Carbon disulfide	3.94	Other	howej	06/03/20 12:41
t-Butyl alcohol-d10 (IS)	4.30	Other	howej	06/03/20 12:41

Lab Sample ID: 410-2632-9 Client Sample ID: HD-COD-SW-26-0/1-0Date Analyzed: 06/02/20 16:15 Lab File ID: iU02s19.D GC Column: R-624SilMS 30 ID: 0.25 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Carbon disulfide	3.91	Other	howej	06/03/20 12:41
t-Butyl alcohol-d10 (IS)	4.29	Other	howej	06/03/20 12:42
Bromodichloromethane		Invalid Compound ID	howej	06/03/20 12:42
m-Xylene & p-Xylene		Invalid Compound ID	howej	06/03/20 12:42

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Lancaster Laborator Job No.: 410-2632-1

SDG No.: _____

Instrument ID: 19930 Analysis Batch Number: 9922Lab Sample ID: 410-2632-10 Client Sample ID: HD-COD-SW-27-0/1-0Date Analyzed: 06/02/20 16:36 Lab File ID: iU02s20.D GC Column: R-624SilMS 30 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Carbon disulfide	3.91	Other	howej	06/03/20 12:42
2-Hexanone		Invalid Compound ID	howej	06/03/20 12:42
4-Methyl-2-pentanone (MIBK)		Invalid Compound ID	howej	06/03/20 12:42
Styrene		Invalid Compound ID	howej	06/03/20 12:42

Lab Sample ID: 410-2632-11 Client Sample ID: HD-COD-SW-28-0/1-0Date Analyzed: 06/02/20 16:58 Lab File ID: iU02s21.D GC Column: R-624SilMS 30 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Carbon disulfide	3.92	Other	howej	06/03/20 12:43
t-Butyl alcohol-d10 (IS)	4.29	Other	howej	06/03/20 12:43
2-Hexanone		Invalid Compound ID	howej	06/03/20 12:43

Lab Sample ID: 410-2632-12 Client Sample ID: HD-COD-SW-29-0/1-0Date Analyzed: 06/02/20 17:19 Lab File ID: iU02s22.D GC Column: R-624SilMS 30 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Carbon disulfide	3.89	Other	howej	06/03/20 12:43
t-Butyl alcohol-d10 (IS)	4.30	Other	howej	06/03/20 12:44
2-Hexanone		Invalid Compound ID	howej	06/03/20 12:44
4-Methyl-2-pentanone (MIBK)		Invalid Compound ID	howej	06/03/20 12:44

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Lancaster Laborator Job No.: 410-2632-1

SDG No.: _____

Instrument ID: 19930 Analysis Batch Number: 9922

Lab Sample ID: 410-2632-13 Client Sample ID: HD-QC1-0/1-1

Date Analyzed: 06/02/20 17:41 Lab File ID: iU02s23.D GC Column: R-624SilMS 30 ID: 0.25 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Vinyl chloride	2.31	Other	howej	06/03/20 12:44
Carbon disulfide	3.90	Other	howej	06/03/20 12:44
t-Butyl alcohol-d10 (IS)	4.29	Other	howej	06/03/20 12:44

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-2632-1

SDG No.: _____

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration					
					Reagent ID	Volume Added							
MSV_31_826ISS_00002	07/28/20	01/28/20	Methanol, Lot DX212	50 mL	MSV_8260_SS_00017	1 mL	1,2-Dichloroethane-d4 (Surr)	50 ug/mL					
							4-Bromofluorobenzene (Surr)	50 ug/mL					
							Dibromofluoromethane (Surr)	50 ug/mL					
										MSV_Cus826_IS_00013	1 mL	1,4-Dichlorobenzene-d4	50 ug/mL
												Chlorobenzene-d5 (IS)	50 ug/mL
												Fluorobenzene (IS)	50 ug/mL
							t-Butyl alcohol-d10 (IS)	250 ug/mL					
.MSV_8260_SS_00017	03/31/22		Restek, Lot A0146938				(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				
.MSV_Cus826_IS_00013	05/31/21		Restek, Lot A0138205				(Purchased Reagent)	1,4-Dichlorobenzene-d4	2500 ug/mL				
								Chlorobenzene-d5 (IS)	2500 ug/mL				
								Fluorobenzene (IS)	2500 ug/mL				
								t-Butyl alcohol-d10 (IS)	12500 ug/mL				
MSV_Q_QVOA1_00018	04/15/20	03/16/20	Methanol, Lot DX212	25 mL	MSV_Q#1B_00017	1 mL	1,1,1,2-Tetrachloroethane	40 mg/L					
							1,1,1-Trichloroethane	40 mg/L					
							1,1,2,2-Tetrachloroethane	40 mg/L					
							1,1,2-Trichloroethane	40 mg/L					
							1,1-Dichloroethane	40 mg/L					
							1,1-Dichloroethene	40 mg/L					
							1,2-Dibromoethane (EDB)	40 mg/L					
							1,2-Dichloroethane	40 mg/L					
							1,2-Dichloropropane	40 mg/L					
							Benzene	40 mg/L					
							Bromodichloromethane	40 mg/L					
							Bromoform	40 mg/L					
							Carbon tetrachloride	40 mg/L					
							Chlorobenzene	40 mg/L					
							Chloroform	40 mg/L					
							cis-1,2-Dichloroethene	40 mg/L					
							cis-1,3-Dichloropropene	40 mg/L					
							Dibromochloromethane	40 mg/L					
					Ethylbenzene	40 mg/L							
					Methylene Chloride	40 mg/L							
					Styrene	40 mg/L							
					Tetrachloroethene	40 mg/L							
					Toluene	40 mg/L							
					trans-1,2-Dichloroethene	40 mg/L							
					trans-1,3-Dichloropropene	40 mg/L							
					Trichloroethene	40 mg/L							
					Xylenes, Total	120 mg/L							
					MSV_Q#3B_00015	1 mL	2-Butanone (MEK)	300 mg/L					
							2-Hexanone	200 mg/L					
							4-Methyl-2-pentanone (MIBK)	200 mg/L					
							Acetone	300 mg/L					

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-2632-1

SDG No.: _____

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					MSV_Q#4C_00023	1 mL	Acrylonitrile	200 mg/L
							Carbon disulfide	40 mg/L
							Methyl tert-butyl ether	40 mg/L
.MSV_Q#1B_00017	04/30/22		Restek, Lot A0148625		(Purchased Reagent)		1,1,1,2-Tetrachloroethane	1000 ug/mL
							1,1,1-Trichloroethane	1000 ug/mL
							1,1,2,2-Tetrachloroethane	1000 ug/mL
							1,1,2-Trichloroethane	1000 ug/mL
							1,1-Dichloroethane	1000 ug/mL
							1,1-Dichloroethene	1000 ug/mL
							1,2-Dibromoethane (EDB)	1000 ug/mL
							1,2-Dichloroethane	1000 ug/mL
							1,2-Dichloropropane	1000 ug/mL
							Benzene	1000 ug/mL
							Bromodichloromethane	1000 ug/mL
							Bromoform	1000 ug/mL
							Carbon tetrachloride	1000 ug/mL
							Chlorobenzene	1000 ug/mL
							Chloroform	1000 ug/mL
							cis-1,2-Dichloroethene	1000 ug/mL
							cis-1,3-Dichloropropene	1000 ug/mL
							Dibromochloromethane	1000 ug/mL
							Ethylbenzene	1000 ug/mL
							Methylene Chloride	1000 ug/mL
							Styrene	1000 ug/mL
							Tetrachloroethene	1000 ug/mL
							Toluene	1000 ug/mL
							trans-1,2-Dichloroethene	1000 ug/mL
							trans-1,3-Dichloropropene	1000 ug/mL
							Trichloroethene	1000 ug/mL
							Xylenes, Total	3000 ug/mL
.MSV_Q#3B_00015	09/30/20		Restek, Lot A0147509		(Purchased Reagent)		2-Butanone (MEK)	7500 ug/mL
							2-Hexanone	5000 ug/mL
							4-Methyl-2-pentanone (MIBK)	5000 ug/mL
							Acetone	7500 ug/mL
							Acrylonitrile	5000 ug/mL
.MSV_Q#4C_00023	04/30/20		Restek, Lot A0147642		(Purchased Reagent)		Carbon disulfide	1000 ug/mL
							Methyl tert-butyl ether	1000 ug/mL
MSV_Q_OVOA1_00031	07/01/20	06/01/20	Methanol, Lot DX212	25 mL	MSV_Q#1B_00037	1 mL	1,1,1,2-Tetrachloroethane	40 mg/L
							1,1,1-Trichloroethane	40 mg/L
							1,1,2,2-Tetrachloroethane	40 mg/L
							1,1,2-Trichloroethane	40 mg/L
							1,1-Dichloroethane	40 mg/L
							1,1-Dichloroethene	40 mg/L
							1,2-Dibromoethane (EDB)	40 mg/L
							1,2-Dichloroethane	40 mg/L
							1,2-Dichloropropane	40 mg/L
							Benzene	40 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-2632-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration				
					Reagent ID	Volume Added						
							Bromodichloromethane	40 mg/L				
							Bromoform	40 mg/L				
							Carbon tetrachloride	40 mg/L				
							Chlorobenzene	40 mg/L				
							Chloroform	40 mg/L				
							cis-1,2-Dichloroethene	40 mg/L				
							cis-1,3-Dichloropropene	40 mg/L				
							Dibromochloromethane	40 mg/L				
							Ethylbenzene	40 mg/L				
							Methylene Chloride	40 mg/L				
							Styrene	40 mg/L				
							Tetrachloroethene	40 mg/L				
							Toluene	40 mg/L				
							trans-1,2-Dichloroethene	40 mg/L				
							trans-1,3-Dichloropropene	40 mg/L				
					Trichloroethene	40 mg/L						
					MSV_Q#3B_00031					1 mL	2-Butanone (MEK)	300 mg/L
											2-Hexanone	200 mg/L
											4-Methyl-2-pentanone (MIBK)	200 mg/L
											Acetone	300 mg/L
Acrylonitrile	200 mg/L											
MSV_Q#4C_00037					1 mL	Carbon disulfide	40 mg/L					
						Methyl tert-butyl ether	40 mg/L					
.MSV_Q#1B_00037	04/30/22		Restek, Lot A0148625			(Purchased Reagent)	1,1,1,2-Tetrachloroethane	1000 ug/mL				
							1,1,1-Trichloroethane	1000 ug/mL				
							1,1,2,2-Tetrachloroethane	1000 ug/mL				
							1,1,2-Trichloroethane	1000 ug/mL				
							1,1-Dichloroethane	1000 ug/mL				
							1,1-Dichloroethene	1000 ug/mL				
							1,2-Dibromoethane (EDB)	1000 ug/mL				
							1,2-Dichloroethane	1000 ug/mL				
							1,2-Dichloropropane	1000 ug/mL				
							Benzene	1000 ug/mL				
							Bromodichloromethane	1000 ug/mL				
							Bromoform	1000 ug/mL				
							Carbon tetrachloride	1000 ug/mL				
							Chlorobenzene	1000 ug/mL				
							Chloroform	1000 ug/mL				
							cis-1,2-Dichloroethene	1000 ug/mL				
							cis-1,3-Dichloropropene	1000 ug/mL				
							Dibromochloromethane	1000 ug/mL				
							Ethylbenzene	1000 ug/mL				
							Methylene Chloride	1000 ug/mL				
							Styrene	1000 ug/mL				
							Tetrachloroethene	1000 ug/mL				
							Toluene	1000 ug/mL				
							trans-1,2-Dichloroethene	1000 ug/mL				
							trans-1,3-Dichloropropene	1000 ug/mL				

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-2632-1

SDG No.: _____

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.MSV_Q#3B_00031	09/30/20		Restek, Lot A0147509		(Purchased Reagent)		Trichloroethene	1000 ug/mL
							2-Butanone (MEK)	7500 ug/mL
							2-Hexanone	5000 ug/mL
							4-Methyl-2-pentanone (MIBK)	5000 ug/mL
							Acetone	7500 ug/mL
.MSV_Q#4C_00037	03/31/21		Restek, Lot A0158704		(Purchased Reagent)		Acrylonitrile	5000 ug/mL
							Carbon disulfide	1000 ug/mL
							Methyl tert-butyl ether	1000 ug/mL
MSV_Q_QVOA6_00017	04/11/20	03/12/20	Methanol, Lot DX212	25 mL	MSV_QCS#6Std_00015	1 mL	Bromochloromethane	40 ug/mL
.MSV_QCS#6Std_00015	09/30/20		Restek, Lot A0146910		(Purchased Reagent)		Bromochloromethane	1000 ug/mL
MSV_Q_QVOA6_00028	06/27/20	05/28/20	Methanol, Lot DX212	25 mL	MSV_QCS#6Std_00031	1 mL	Bromochloromethane	40 ug/mL
.MSV_QCS#6Std_00031	09/30/21		Restek, Lot A0158906		(Purchased Reagent)		Bromochloromethane	1000 ug/mL
MSV_QGAS_826_00022	03/25/20	03/18/20	Methanol, Lot DX212	1 mL	MSV_502QGas_00032	20 uL	Bromomethane	40 ug/mL
							Chloroethane	40 ug/mL
							Chloromethane	40 ug/mL
							Vinyl chloride	40 ug/mL
.MSV_502QGas_00032	03/25/20		Restek, Lot A0155823		(Purchased Reagent)		Bromomethane	2000 ug/mL
							Chloroethane	2000 ug/mL
							Chloromethane	2000 ug/mL
							Vinyl chloride	2000 ug/mL
MSV_QGAS_826_00042	06/08/20	06/01/20	Methanol, Lot DX212	1 mL	MSV_502QGas_00058	20 uL	Bromomethane	40 ug/mL
							Chloroethane	40 ug/mL
							Chloromethane	40 ug/mL
							Vinyl chloride	40 ug/mL
.MSV_502QGas_00058	06/08/20		Restek, Lot A0155823		(Purchased Reagent)		Bromomethane	2000 ug/mL
							Chloroethane	2000 ug/mL
							Chloromethane	2000 ug/mL
							Vinyl chloride	2000 ug/mL
MSV_RV1_826_00008	04/15/20	03/16/20	Methanol, Lot DX212	1 mL	MSV_V#1B_00035	10 uL	1,1,1,2-Tetrachloroethane	50 ug/mL
							1,1,1-Trichloroethane	50 ug/mL
							1,1,2,2-Tetrachloroethane	50 ug/mL
							1,1,2-Trichloroethane	50 ug/mL
							1,1-Dichloroethane	50 ug/mL
							1,1-Dichloroethene	50 ug/mL
							1,1-Dichloropropene	50 ug/mL
							1,2,3-Trichlorobenzene	50 ug/mL
							1,2,3-Trichloropropane	50 ug/mL
							1,2,4-Trichlorobenzene	50 ug/mL
							1,2,4-Trimethylbenzene	50 ug/mL
							1,2-Dibromo-3-Chloropropane	50 ug/mL
							1,2-Dibromoethane (EDB)	50 ug/mL
							1,2-Dichlorobenzene	50 ug/mL
							1,2-Dichloroethane	50 ug/mL
							1,2-Dichloropropane	50 ug/mL
							1,3,5-Trichlorobenzene	50 ug/mL
							1,3,5-Trimethylbenzene	50 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-2632-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,3-Dichlorobenzene	50 ug/mL
							1,3-Dichloropropane	50 ug/mL
							1,4-Dichlorobenzene	50 ug/mL
							1-Chlorohexane	50 ug/mL
							2,2-Dichloropropane	50 ug/mL
							2-Chlorotoluene	50 ug/mL
							4-Chlorotoluene	50 ug/mL
							4-Isopropyltoluene	50 ug/mL
							Benzene	50 ug/mL
							Bromobenzene	50 ug/mL
							Bromodichloromethane	50 ug/mL
							Bromoform	50 ug/mL
							Carbon tetrachloride	50 ug/mL
							Chlorobenzene	50 ug/mL
							Chloroform	50 ug/mL
							cis-1,2-Dichloroethene	50 ug/mL
							cis-1,3-Dichloropropene	50 ug/mL
							Dibromochloromethane	50 ug/mL
							Dibromomethane	50 ug/mL
							Ethylbenzene	50 ug/mL
							Hexachlorobutadiene	50 ug/mL
							Isopropylbenzene	50 ug/mL
							m-Xylene & p-Xylene	100 ug/mL
							Methylene Chloride	50 ug/mL
							n-Butylbenzene	50 ug/mL
							N-Propylbenzene	50 ug/mL
							Naphthalene	50 ug/mL
							o-Xylene	50 ug/mL
							sec-Butylbenzene	50 ug/mL
							Styrene	50 ug/mL
							tert-Butylbenzene	50 ug/mL
							Tetrachloroethene	50 ug/mL
							Toluene	50 ug/mL
							trans-1,2-Dichloroethene	50 ug/mL
							trans-1,3-Dichloropropene	50 ug/mL
							Trichloroethene	50 ug/mL
					MSV_V#2B_00042	10 uL	1,4-Dioxane	2500 ug/mL
							2-Methyl-2-propanol	1000 ug/mL
							Isobutyl alcohol	2500 ug/mL
							Methacrylonitrile	500 ug/mL
							n-Butanol	5000 ug/mL
							Propionitrile	1000 ug/mL
							trans-1,4-Dichloro-2-butene	500 ug/mL
					MSV_V#4C_00032	10 uL	1,1,2-Trichloro-1,2,2-trifluoroethane	50 ug/mL
							1,2-Dichloro-1,1,2-trifluoroethane	50 ug/mL
							2-Chloro-1,3-butadiene	50 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-2632-1

SDG No.: _____

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration												
					Reagent ID	Volume Added														
							Benzyl chloride	50 ug/mL												
							Butadiene	50 ug/mL												
							Carbon disulfide	50 ug/mL												
							Cyclohexane	50 ug/mL												
							Ethyl methacrylate	50 ug/mL												
							Hexane	50 ug/mL												
							Iodomethane	50 ug/mL												
							Isopropyl ether	50 ug/mL												
							Methyl methacrylate	50 ug/mL												
							Methyl tert-butyl ether	50 ug/mL												
							n-Heptane	50 ug/mL												
							Tert-amyl methyl ether	50 ug/mL												
							Tert-butyl ethyl ether	50 ug/mL												
					MSV_V_VOA2_00021	150 uL	1,4-Dioxane	2500 ug/mL												
												2-Methyl-2-propanol	1000 ug/mL							
												Isobutyl alcohol	2500 ug/mL							
												Methacrylonitrile	500 ug/mL							
												n-Butanol	5000 ug/mL							
												Propionitrile	1000 ug/mL							
												trans-1,4-Dichloro-2-butene	500 ug/mL							
												MSV_V_VOA3_00019	100 uL	2-Butanone (MEK)	500 ug/mL					
																			2-Hexanone	500 ug/mL
																			2-Nitropropane	500 ug/mL
4-Methyl-2-pentanone (MIBK)	500 ug/mL																			
Acetone	500 ug/mL																			
Acrylonitrile	250 ug/mL																			
Tetrahydrofuran	500 ug/mL																			
Acrolein	2500.03 ug/mL																			
.MSV_V#1B_00035	04/15/20		Restek, Lot A0154137		(Purchased Reagent)	1,1,1,2-Tetrachloroethane	5000 ug/mL													
							1,1,1-Trichloroethane	5000 ug/mL												
							1,1,2,2-Tetrachloroethane	5000 ug/mL												
							1,1,2-Trichloroethane	5000 ug/mL												
							1,1-Dichloroethane	5000 ug/mL												
							1,1-Dichloroethene	5000 ug/mL												
							1,1-Dichloropropene	5000 ug/mL												
							1,2,3-Trichlorobenzene	5000 ug/mL												
							1,2,3-Trichloropropane	5000 ug/mL												
							1,2,4-Trichlorobenzene	5000 ug/mL												
							1,2,4-Trimethylbenzene	5000 ug/mL												
							1,2-Dibromo-3-Chloropropane	5000 ug/mL												
							1,2-Dibromoethane (EDB)	5000 ug/mL												
							1,2-Dichlorobenzene	5000 ug/mL												
							1,2-Dichloroethane	5000 ug/mL												
							1,2-Dichloropropane	5000 ug/mL												
							1,3,5-Trichlorobenzene	5000 ug/mL												
							1,3,5-Trimethylbenzene	5000 ug/mL												
							1,3-Dichlorobenzene	5000 ug/mL												
							1,3-Dichloropropane	5000 ug/mL												

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-2632-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,4-Dichlorobenzene	5000 ug/mL
							1-Chlorohexane	5000 ug/mL
							2,2-Dichloropropane	5000 ug/mL
							2-Chlorotoluene	5000 ug/mL
							4-Chlorotoluene	5000 ug/mL
							4-Isopropyltoluene	5000 ug/mL
							Benzene	5000 ug/mL
							Bromobenzene	5000 ug/mL
							Bromodichloromethane	5000 ug/mL
							Bromoform	5000 ug/mL
							Carbon tetrachloride	5000 ug/mL
							Chlorobenzene	5000 ug/mL
							Chloroform	5000 ug/mL
							cis-1,2-Dichloroethene	5000 ug/mL
							cis-1,3-Dichloropropene	5000 ug/mL
							Dibromochloromethane	5000 ug/mL
							Dibromomethane	5000 ug/mL
							Ethylbenzene	5000 ug/mL
							Hexachlorobutadiene	5000 ug/mL
							Isopropylbenzene	5000 ug/mL
							m-Xylene & p-Xylene	10000 ug/mL
							Methylene Chloride	5000 ug/mL
							n-Butylbenzene	5000 ug/mL
							N-Propylbenzene	5000 ug/mL
							Naphthalene	5000 ug/mL
							o-Xylene	5000 ug/mL
							sec-Butylbenzene	5000 ug/mL
							Styrene	5000 ug/mL
							tert-Butylbenzene	5000 ug/mL
							Tetrachloroethene	5000 ug/mL
							Toluene	5000 ug/mL
							trans-1,2-Dichloroethene	5000 ug/mL
							trans-1,3-Dichloropropene	5000 ug/mL
							Trichloroethene	5000 ug/mL
.MSV_V#2B_00042	04/15/20		Restek, Lot A0147800			(Purchased Reagent)	1,4-Dioxane	62500 ug/mL
							2-Methyl-2-propanol	25000 ug/mL
							Isobutyl alcohol	62500 ug/mL
							Methacrylonitrile	12500 ug/mL
							n-Butanol	125000 ug/mL
							Propionitrile	25000 ug/mL
							trans-1,4-Dichloro-2-butene	12500 ug/mL
.MSV_V#4C_00032	04/15/20		Restek, Lot A0147817			(Purchased Reagent)	1,1,2-Trichloro-1,2,2-trifluoroethane	5000 ug/mL
							1,2-Dichloro-1,1,2-trifluoroethane	5000 ug/mL
							2-Chloro-1,3-butadiene	5000 ug/mL
							Benzyl chloride	5000 ug/mL
							Butadiene	5000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-2632-1

SDG No.: _____

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Carbon disulfide	5000 ug/mL
							Cyclohexane	5000 ug/mL
							Ethyl methacrylate	5000 ug/mL
							Hexane	5000 ug/mL
							Iodomethane	5000 ug/mL
							Isopropyl ether	5000 ug/mL
							Methyl methacrylate	5000 ug/mL
							Methyl tert-butyl ether	5000 ug/mL
							n-Heptane	5000 ug/mL
							Tert-amyl methyl ether	5000 ug/mL
							Tert-butyl ethyl ether	5000 ug/mL
.MSV_V_VOA2_00021	04/15/20	03/16/20	Methanol, Lot DX212	5 mL	MSV_V#2B_00043	1 mL	1,4-Dioxane	12500 ug/mL
							2-Methyl-2-propanol	5000 ug/mL
							Isobutyl alcohol	12500 ug/mL
							Methacrylonitrile	2500 ug/mL
							n-Butanol	25000 ug/mL
							Propionitrile	5000 ug/mL
							trans-1,4-Dichloro-2-butene	2500 ug/mL
..MSV_V#2B_00043	04/15/20		Restek, Lot A0147800			(Purchased Reagent)	1,4-Dioxane	62500 ug/mL
							2-Methyl-2-propanol	25000 ug/mL
							Isobutyl alcohol	62500 ug/mL
							Methacrylonitrile	12500 ug/mL
							n-Butanol	125000 ug/mL
							Propionitrile	25000 ug/mL
							trans-1,4-Dichloro-2-butene	12500 ug/mL
.MSV_V_VOA3_00019	04/15/20	03/16/20	Methanol, Lot DX212	5 mL	MSV_V#3B_00023	1 mL	2-Butanone (MEK)	5000 ug/mL
							2-Hexanone	5000 ug/mL
							2-Nitropropane	5000 ug/mL
							4-Methyl-2-pentanone (MIBK)	5000 ug/mL
							Acetone	5000 ug/mL
							Acrylonitrile	2500 ug/mL
							Tetrahydrofuran	5000 ug/mL
					MSV VACR 00006	1 mL	Acrolein	25000.3 ug/mL
..MSV_V#3B_00023	04/15/20		Restek, Lot A0153460			(Purchased Reagent)	2-Butanone (MEK)	25000 ug/mL
							2-Hexanone	25000 ug/mL
							2-Nitropropane	25000 ug/mL
							4-Methyl-2-pentanone (MIBK)	25000 ug/mL
							Acetone	25000 ug/mL
							Acrylonitrile	12500 ug/mL
							Tetrahydrofuran	25000 ug/mL
..MSV VACR 00006	04/19/20	02/19/20	Methanol, Lot DX212	10 mL	MSV VACR STK 00006	8.587 mL	Acrolein	125002 ug/mL
...MSV VACR STK 00006	04/19/20	02/19/20	Methanol, Lot DX212	10 mL	MSV ACROLEIN 00002	1.5437 g	Acrolein	145571 ug/mL
...MSV ACROLEIN 00002	12/31/20		Chem Service, Lot 9413200			(Purchased Reagent)	Acrolein	0.943 g/g
MSV_RV1_826_00014	06/12/20	05/26/20	Methanol, Lot DX212	1 mL	MSV_V#1B_00060	10 uL	1,1,1,2-Tetrachloroethane	50 ug/mL
							1,1,1-Trichloroethane	50 ug/mL
							1,1,2,2-Tetrachloroethane	50 ug/mL
							1,1,2-Trichloroethane	50 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-2632-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration		
					Reagent ID	Volume Added				
							1,1-Dichloroethane	50 ug/mL		
							1,1-Dichloroethene	50 ug/mL		
							1,2-Dibromoethane (EDB)	50 ug/mL		
							1,2-Dichloroethane	50 ug/mL		
							1,2-Dichloropropane	50 ug/mL		
							Benzene	50 ug/mL		
							Bromodichloromethane	50 ug/mL		
							Bromoform	50 ug/mL		
							Carbon tetrachloride	50 ug/mL		
							Chlorobenzene	50 ug/mL		
							Chloroform	50 ug/mL		
							cis-1,2-Dichloroethene	50 ug/mL		
							cis-1,3-Dichloropropene	50 ug/mL		
							Dibromochloromethane	50 ug/mL		
							Ethylbenzene	50 ug/mL		
							Methylene Chloride	50 ug/mL		
							Styrene	50 ug/mL		
							Tetrachloroethene	50 ug/mL		
							Toluene	50 ug/mL		
							trans-1,2-Dichloroethene	50 ug/mL		
							trans-1,3-Dichloropropene	50 ug/mL		
							Trichloroethene	50 ug/mL		
		Methyl tert-butyl ether	50 ug/mL							
							MSV_V_VOA3_00029	100 uL	2-Butanone (MEK)	500 ug/mL
									2-Hexanone	500 ug/mL
									4-Methyl-2-pentanone (MIBK)	500 ug/mL
									Acetone	500 ug/mL
									Acrylonitrile	250 ug/mL
.MSV_V#1B_00060	06/25/20		Restek, Lot A0154137		(Purchased Reagent)		1,1,1,2-Tetrachloroethane	5000 ug/mL		
							1,1,1-Trichloroethane	5000 ug/mL		
							1,1,2,2-Tetrachloroethane	5000 ug/mL		
							1,1,2-Trichloroethane	5000 ug/mL		
							1,1-Dichloroethane	5000 ug/mL		
							1,1-Dichloroethene	5000 ug/mL		
							1,2-Dibromoethane (EDB)	5000 ug/mL		
							1,2-Dichloroethane	5000 ug/mL		
							1,2-Dichloropropane	5000 ug/mL		
							Benzene	5000 ug/mL		
							Bromodichloromethane	5000 ug/mL		
							Bromoform	5000 ug/mL		
							Carbon tetrachloride	5000 ug/mL		
							Chlorobenzene	5000 ug/mL		
							Chloroform	5000 ug/mL		
							cis-1,2-Dichloroethene	5000 ug/mL		
							cis-1,3-Dichloropropene	5000 ug/mL		
							Dibromochloromethane	5000 ug/mL		
							Ethylbenzene	5000 ug/mL		

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-2632-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Methylene Chloride	5000 ug/mL
							Styrene	5000 ug/mL
							Tetrachloroethene	5000 ug/mL
							Toluene	5000 ug/mL
							trans-1,2-Dichloroethene	5000 ug/mL
							trans-1,3-Dichloropropene	5000 ug/mL
							Trichloroethene	5000 ug/mL
.MSV_V#4C_00054	06/25/20		Restek, Lot A0158660			(Purchased Reagent)	Carbon disulfide	5000 ug/mL
							Methyl tert-butyl ether	5000 ug/mL
.MSV_V_VOA3_00029	06/12/20	05/26/20	Methanol, Lot DX212	5 mL	MSV_V#3B_00035	1 mL	2-Butanone (MEK)	5000 ug/mL
							2-Hexanone	5000 ug/mL
							4-Methyl-2-pentanone (MIBK)	5000 ug/mL
							Acetone	5000 ug/mL
							Acrylonitrile	2500 ug/mL
..MSV_V#3B_00035	06/25/20		Restek, Lot A0158677			(Purchased Reagent)	2-Butanone (MEK)	25000 ug/mL
							2-Hexanone	25000 ug/mL
							4-Methyl-2-pentanone (MIBK)	25000 ug/mL
							Acetone	25000 ug/mL
							Acrylonitrile	12500 ug/mL
MSV_RV4_826_00009	04/01/20	03/16/20	Methanol, Lot DX212	1 mL	MSV_BCE_00005	25 uL	1-Bromo-2-chloroethane	50 ug/mL
					MSV_V_EE_00002	50 uL	Ethyl ether	50.0069 ug/mL
					MSV_V_ETBR_00003	50 uL	Ethyl bromide	50.0004 ug/mL
					MSV_V_VOA6_00026	50 uL	1,2,3-Trimethylbenzene	50 ug/mL
							3-Chloro-1-propene	50 ug/mL
							Bromochloromethane	50 ug/mL
							Methyl acetate	50 ug/mL
							Methylcyclohexane	50 ug/mL
							Pentachloroethane	50 ug/mL
.MSV_BCE_00005	04/01/20		Restek, Lot A0140948			(Purchased Reagent)	1-Bromo-2-chloroethane	2000 ug/mL
.MSV_V_EE_00002	05/01/20	11/01/19	Methanol, Lot DX212	100 mL	MSV_EE_MISCSK_00002	1.386 mL	Ethyl ether	1000.14 ug/mL
..MSV_EE_MISCSK_00002	05/01/20	11/01/19	Methanol, Lot DX212	10 mL	MSV_EE_Neat_00001	0.7216 g	Ethyl ether	72160 ug/mL
...MSV_EE_Neat_00001	11/30/21		Chem Service, Lot 7967000			(Purchased Reagent)	Ethyl ether	1 g/g
.MSV_V_ETBR_00003	04/29/20	10/29/19	Methanol, Lot DX212	10 mL	MSV_VETBR_STK_00002	0.456 mL	Ethyl bromide	1000.01 ug/mL
..MSV_VETBR_STK_00002	04/29/20	10/29/19	Methanol, Lot DX212	10 mL	MSV_EtBr_Neat_00001	0.2193 g	Ethyl bromide	21930 ug/mL
...MSV_EtBr_Neat_00001	12/31/20		Chem Service, Lot 7832000			(Purchased Reagent)	Ethyl bromide	1 g/g
.MSV_V_VOA6_00026	04/11/20	03/12/20	Methanol, Lot DX212	5 mL	MSV_V#6_00007	1 mL	1,2,3-Trimethylbenzene	1000 ug/mL
							3-Chloro-1-propene	1000 ug/mL
							Bromochloromethane	1000 ug/mL
							Methyl acetate	1000 ug/mL
							Methylcyclohexane	1000 ug/mL
							Pentachloroethane	1000 ug/mL
..MSV_V#6_00007	04/11/20		Restek, Lot A0146393			(Purchased Reagent)	1,2,3-Trimethylbenzene	5000 ug/mL
							3-Chloro-1-propene	5000 ug/mL
							Bromochloromethane	5000 ug/mL
							Methyl acetate	5000 ug/mL
							Methylcyclohexane	5000 ug/mL
							Pentachloroethane	5000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-2632-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
MSV_RV4 826 00015	06/27/20	05/28/20	Methanol, Lot DX212	1 mL	MSV_V_VOA6_00037	50 uL	Bromochloromethane	50 ug/mL
.MSV_V_VOA6_00037	06/27/20	05/28/20	Methanol, Lot DX212	5 mL	MSV_V#6_00019	1 mL	Bromochloromethane	1000 ug/mL
..MSV_V#6_00019	06/27/20		Restek, Lot A0146393		(Purchased Reagent)		Bromochloromethane	5000 ug/mL
MSV_RV4GAS826_00022	03/23/20	03/16/20	Methanol, Lot DX212	1 mL	MSV_DCFM_00010	25 uL	Dichlorofluoromethane	50 ug/mL
					MSV_V_Gas_00045	25 uL	Bromomethane	50 ug/mL
							Chloroethane	50 ug/mL
							Chloromethane	50 ug/mL
							Dichlorodifluoromethane	50 ug/mL
							Trichlorofluoromethane	50 ug/mL
							Vinyl chloride	50 ug/mL
.MSV_DCFM_00010	04/09/20		AccuStandard, Lot 219051360		(Purchased Reagent)		Dichlorofluoromethane	2000 ug/mL
.MSV_V_Gas_00045	03/23/20		Restek, Lot A0150705		(Purchased Reagent)		Bromomethane	2000 ug/mL
							Chloroethane	2000 ug/mL
							Chloromethane	2000 ug/mL
							Dichlorodifluoromethane	2000 ug/mL
							Trichlorofluoromethane	2000 ug/mL
							Vinyl chloride	2000 ug/mL
MSV_RV4GAS826_00044	06/08/20	06/01/20	Methanol, Lot DX212	1 mL	MSV_V_Gas_00086	25 uL	Bromomethane	50 ug/mL
							Chloroethane	50 ug/mL
							Chloromethane	50 ug/mL
							Vinyl chloride	50 ug/mL
.MSV_V_Gas_00086	06/08/20		Restek, Lot A0150705		(Purchased Reagent)		Bromomethane	2000 ug/mL
							Chloroethane	2000 ug/mL
							Chloromethane	2000 ug/mL
							Vinyl chloride	2000 ug/mL
MSV_V_BFB_00002							1,2-Dichloroethene, Total	
							1,3-Dichloropropene, Total	
							Tentatively Identified Compound	
							Xylenes, Total	
.MSV_VBFB_STK_00002	07/28/20	01/28/20	Methanol, Lot DX212	10 mL	MSV_VBFB_STK_00002	0.117 mL	BFB	49.8701 ug/mL
..MSV_4BFB_NEAT_00001	01/31/21		Chem Service, Lot 8995800		MSV_4BFB_NEAT_00001	1.0656 g	BFB	106560 ug/mL
					(Purchased Reagent)		BFB	1 g/g

Reagent

MSV_502QGas_00032



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. : 55669.SEC **Lot No.:** A0155823
Description : Custom 502.2 "Q" Gas Mix
Custom 502.2 "Q" Gas Mix 2,000µg/mL, P&T Methanol, 1mL/ampul
Container Size : 2 mL **Pkg Amt:** > 1 mL
Expiration Date : January 31, 2027 **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)	2,016.5 µg/mL	+/-	19.3550	µg/mL	Gravimetric
	CAS # 75-71-8.SEC (Lot 26165)		+/-	114.1077	µg/mL	Unstressed
	Purity 99%		+/-	116.7296	µg/mL	Stressed
2	Chloromethane (methyl chloride)	2,005.6 µg/mL	+/-	18.7428	µg/mL	Gravimetric
	CAS # 74-87-3.SEC (Lot 18343)		+/-	113.4037	µg/mL	Unstressed
	Purity 99%		+/-	116.0133	µg/mL	Stressed
3	Vinyl chloride	2,004.4 µg/mL	+/-	15.4000	µg/mL	Gravimetric
	CAS # 75-01-4.SEC (Lot MKBK6872V)		+/-	112.8325	µg/mL	Unstressed
	Purity 99%		+/-	115.4519	µg/mL	Stressed
4	Bromomethane (methyl bromide)	2,022.0 µg/mL	+/-	18.0735	µg/mL	Gravimetric
	CAS # 74-83-9.SEC (Lot Q119-46)		+/-	114.2018	µg/mL	Unstressed
	Purity 99%		+/-	116.8358	µg/mL	Stressed
5	Chloroethane (ethyl chloride)	2,013.1 µg/mL	+/-	20.5181	µg/mL	Gravimetric
	CAS # 75-00-3.SEC (Lot 00004202)		+/-	114.1209	µg/mL	Unstressed
	Purity 99%		+/-	116.7336	µg/mL	Stressed
6	Trichlorofluoromethane (CFC-11)	2,001.1 µg/mL	+/-	17.4531	µg/mL	Gravimetric
	CAS # 75-69-4.SEC (Lot 253600)		+/-	112.9531	µg/mL	Unstressed
	Purity 99%		+/-	115.5613	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)

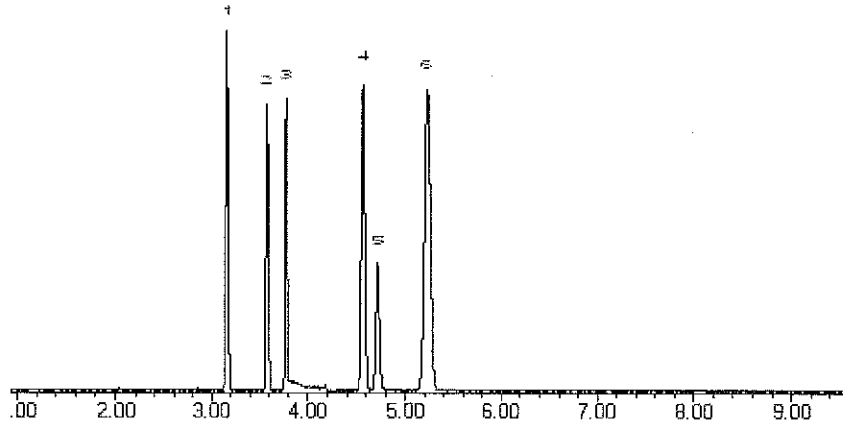
Carrier Gas:
helium-constant flow 2.0 mL/min.

Temp. Program:
40°C (hold 6 min.) to 100°C
@ 6°C/min.

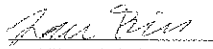
Inj. Temp:
200°C

Det. Temp:
250°C


Det. Type:
MSD



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


Lane Kibe - Mix Technician

Date Mixed: 16-Dec-2019 **Balance:** 1127510105


Amanda Miller - Operations Tech-ARM QC

Date Passed: 27-Dec-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

MSV_502QGas_00058



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. : 55669.SEC **Lot No.:** A0155823
Description : Custom 502.2 "Q" Gas Mix
Custom 502.2 "Q" Gas Mix 2,000µg/mL, P&T Methanol, 1mL/ampul
Container Size : 2 mL **Pkg Amt:** > 1 mL
Expiration Date : January 31, 2027 **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)	2,016.5 µg/mL	+/-	19.3550	µg/mL	Gravimetric
	CAS # 75-71-8.SEC (Lot 26165)		+/-	114.1077	µg/mL	Unstressed
	Purity 99%		+/-	116.7296	µg/mL	Stressed
2	Chloromethane (methyl chloride)	2,005.6 µg/mL	+/-	18.7428	µg/mL	Gravimetric
	CAS # 74-87-3.SEC (Lot 18343)		+/-	113.4037	µg/mL	Unstressed
	Purity 99%		+/-	116.0133	µg/mL	Stressed
3	Vinyl chloride	2,004.4 µg/mL	+/-	15.4000	µg/mL	Gravimetric
	CAS # 75-01-4.SEC (Lot MKBK6872V)		+/-	112.8325	µg/mL	Unstressed
	Purity 99%		+/-	115.4519	µg/mL	Stressed
4	Bromomethane (methyl bromide)	2,022.0 µg/mL	+/-	18.0735	µg/mL	Gravimetric
	CAS # 74-83-9.SEC (Lot Q119-46)		+/-	114.2018	µg/mL	Unstressed
	Purity 99%		+/-	116.8358	µg/mL	Stressed
5	Chloroethane (ethyl chloride)	2,013.1 µg/mL	+/-	20.5181	µg/mL	Gravimetric
	CAS # 75-00-3.SEC (Lot 00004202)		+/-	114.1209	µg/mL	Unstressed
	Purity 99%		+/-	116.7336	µg/mL	Stressed
6	Trichlorofluoromethane (CFC-11)	2,001.1 µg/mL	+/-	17.4531	µg/mL	Gravimetric
	CAS # 75-69-4.SEC (Lot 253600)		+/-	112.9531	µg/mL	Unstressed
	Purity 99%		+/-	115.5613	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)

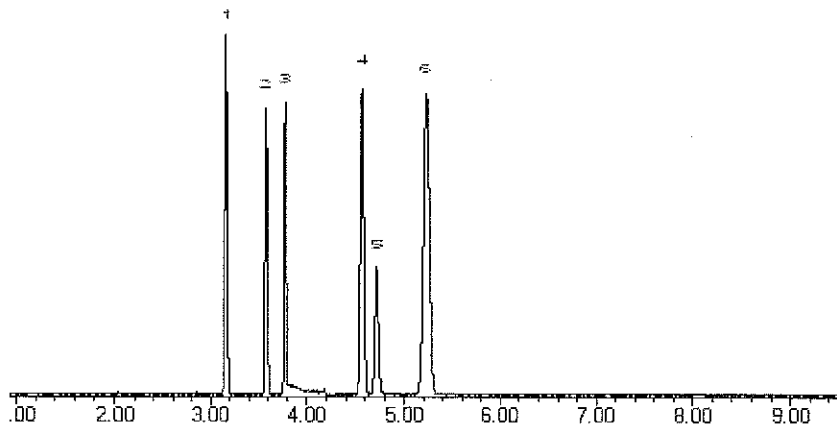
Carrier Gas:
helium-constant flow 2.0 mL/min.

Temp. Program:
40°C (hold 6 min.) to 100°C
@ 6°C/min.

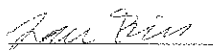
Inj. Temp:
200°C

Det. Temp:
250°C


Det. Type:
MSD



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


Lane Kibe - Mix Technician

Date Mixed: 16-Dec-2019 **Balance:** 1127510105


Amanda Miller - Operations Tech-ARM QC

Date Passed: 27-Dec-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

MSV_ACROLEIN_00002



660 Tower Lane • P O Box 599 • West Chester, PA 19381-0599
1-800-452-9994 • 1-610-692-3026 • Fax 1-610-692-8729
info@chemservice.com • www.chemservice.com

CERTIFICATE OF ANALYSIS

Acrolein

CATALOG NUMBER	RPN-11030-1G ✓✓
LOT NUMBER	9413200 ✓✓
DATE CERTIFIED	12/06/19 ✓✓
EXPIRATION DATE	12/31/20 ✓✓
CAS NUMBER	107-02-8
MOLECULAR FORMULA	C3H4O
MOLECULAR WEIGHT	56.06
STORAGE	Store under refrigeration.
HANDLING	See Safety Data Sheet
INTENDED USE	For laboratory use only.
NOTES	Contains water and hydroquinone as an inhibitor.

Analytical Test	Value
% PURITY (GC/TCD)	94.3 ✓✓
% WATER (KARL FISCHER)	1.9

Chem Service, Inc. guarantees the purity to be +/- 0.5% deviation prior to the expiration date shown on the label and exclusive of any customer contamination.

Certified By

Mary Beth O'Donnell

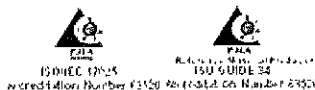
Mary Beth O'Donnell
CSM/TC

1-17-20
LHP 2032

COA Form
Revision 3 (3/2015)

Chem Service, Inc. is a registered...

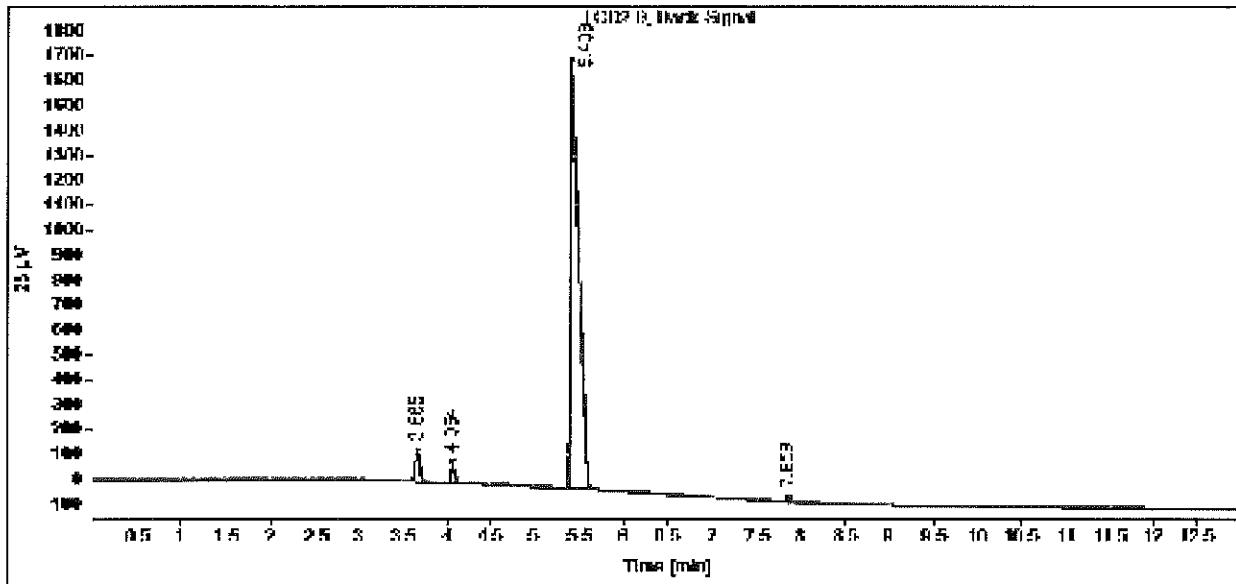
...and certified to ISO 9001:2008



CERTIFICATE OF ANALYSIS

Gas Chromatography / Thermal Conductivity Detector (GC/TCD)

Data file: C:\CHEM32\1\DATA\2019 DATA\1219\SIG2022887.D
 Sample name: Acrolein
 Instrument: GC 1
 Injection date: 12/8/2019 10:34:12 AM
 Acq. method: GASBOMB_TCD.M
 Column name: DB-824 (30m x 0.53mm x 3.0um)
 Sample type: Sample
 Location: Vial 11
 Injection volume: 1.0uL



Signal	RT [min]	Type	Width [min]	Area	Height	Area%
TCD2 B, Back Signal	3.665	BB	0.0554	405.7875	114.3327	3.5675
	4.064	BB	0.0475	217.2787	71.5037	1.9102
	5.408	BV	0.0765	10720.3574	1725.6987	94.2472
	7.859	BB	0.1248	31.2959	3.7865	0.2751
	Sum			11374.7176		



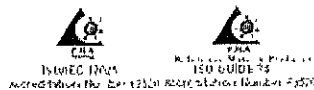
660 Tower Lane • P O Box 599 • West Chester, PA 19381-0599
1-800-452-9994 • 1-610-692-3026 • Fax 1-610-692-8729
info@chemservice.com • www.chemservice.com

CERTIFICATE OF ANALYSIS

Analysis Method:

Catalog Number:	RPN-11030-1G
Description:	Acrolein
Lot Number:	9413200
Expiration Date:	12/31/20

Chem Service Inc. is accredited to ISO Guide 34:2009 ISO/IEC 17025:2005 and cert. fees to ISO 9001:2008



Reagent

MSV_BCE_00005



410-27533

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. : 30469 **Lot No.:** A0140948

Description : 1-Bromo-2-chloroethane Standard
1-Bromo-2-Chloroethane Std, 2000µg/mL, P&T Methanol, 1mL/ampul

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

Expiration Date : August 31, 2023 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	1-Bromo-2-chloroethane CAS # 107-04-0 Purity 99% (Lot BCBQ8054V)	2,010.0 µg/mL	+/- 11.9388	µg/mL	Gravimetric
			+/- 112.7252	µg/mL	Unstressed
			+/- 115.3616	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 psf.

Temp. Program:

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

Inj. Temp:

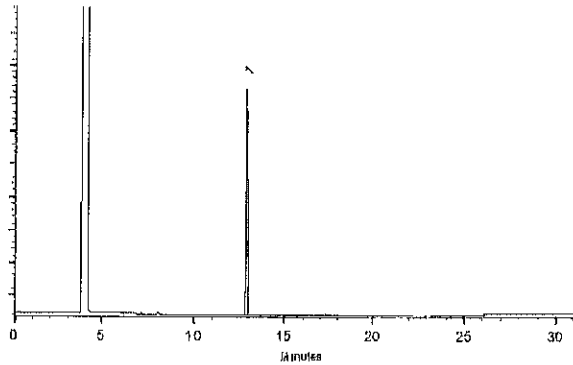
200°C

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.

Matt Fragassi
Matt Fragassi - Mix Technician

Date Mixed: 22-Aug-2018

Balance: 1127510105

Justin Anderson
Justin Anderson - Operations Tech-ARM GC

Date Passed: 24-Aug-2018

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

Reagent

MSV_DCFM_00010

CERTIFICATE OF ANALYSIS

Catalog No: M-502-61-10X
Description: Dichlorofluoromethane
Lot: 219051360
Solvent: Methanol
Hazards: Refer to SDS for complete safety information

Date Certified: May 13, 2019
Expiration: May 13, 2029
Sample Size: 1 mL
Components: 1
Storage Condition: Refrig (0-5 °C)



Signal Word: Danger

Certified Reference Material



Component	CAS #	Purity % (GC/FID)	Prepared Concentration ² (µg/mL)	Certified Analyte Concentration ¹ (µg/mL)
Dichlorofluoromethane	75-43-4	98.0	2000	1960

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

² All weights are traceable through NIST, Test No. 684/289871-17

¹ Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4%. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

The information on this certificate may not be reproduced without the express permission of the manufacturer. See reverse side for additional information

Certified By: 

Larry Decker, Organic QC Manager

1. Quality Standards:

ISO 17034 – General Requirements for the Competence of Reference Material Producers ANAB Certificate Number AR-1463

ISO/IEC 17025 – General Requirements for the Competence of Testing And Calibration Laboratories ANAB Certificate Number AT-1339

ISO 9001:2015 – Quality Management System – Requirements Eagle Registrations Certificate Number 3774

- 2. Intended Use:** The product covered by this certificate is designed for calibration or for use in quality control procedures for the specified chemical compounds listed on the reverse side. This product can be used for quantification and/or identification. This product can also be used as a reference material to validate analytical procedures, subject to the conditions under Section 7.
- 3. Manufacturing:** All balances are calibrated daily using an in-house procedure with weights that are compared annually to master weights and traceable to NIST. The balances are also calibrated annually by an ISO/IEC 17025 accredited calibration laboratory. Please refer to the NIST test number listed on the front of this certificate. Class A glassware is used in the manufacture and quality control of all standards and calibrated using an in-house procedure. Good Laboratory Practices have been used throughout the preparation of this Standard.
- 4. Homogeneity:** This product is sufficiently homogeneous and any sample size would be within the uncertainty budget.
- 5. Stability:** The manufacturer guarantees the stability of this solution through the expiration date stated on the label, when handled and stored according to the conditions stated on the label
- 6. Uncertainty:** The uncertainty values as stated on the face of this certificate have been determined using the EURACHEM/CITAC Guide. We report a combined expanded uncertainty equal to the positive square root of the total variance of the uncertainty of the components using the following formula: $u_a = \sqrt{(u(V))^2 + (u(m))^2 + (u(IV))^2 + (u(RO))^2}$ This formula represents uncertainty components from the mass, volume, short-term stability, long-term stability and homogeneity factors associated with the production of this product. The expanded uncertainty, assumes a normal distribution and a coverage factor of k=2 is chosen using approximately a 95% confidence level.
- 7. Legal Notice and Limit of Liability:** This product is for routine laboratory analysis and research purposes only. The company's liability will be limited to replacement of product or refund of purchase price. Notice of claims must be made within thirty (30) days from date of delivery.

Reagent

MSV_EE_Neat_00001

CERTIFICATE OF ANALYSIS

Ethyl ether

CATALOG NUMBER N-11897-1G
LOT NUMBER 7967000
DATE CERTIFIED 11/16/18
EXPIRATION DATE 11/30/21
CAS NUMBER 60-29-7
MOLECULAR FORMULA C₄H₁₀O
MOLECULAR WEIGHT 74.12
STORAGE Store under refrigeration.
HANDLING See Safety Data Sheet
INTENDED USE For laboratory use only.
ISO GUIDE 34 CERTIFIED []

Analytical Test	Value
% PURITY (GC/TCD)	99.5

Chem Service, Inc. guarantees the purity to be +/- 0.5% deviation prior to the expiration date shown on the label and exclusive of any customer contamination.

Certified By:

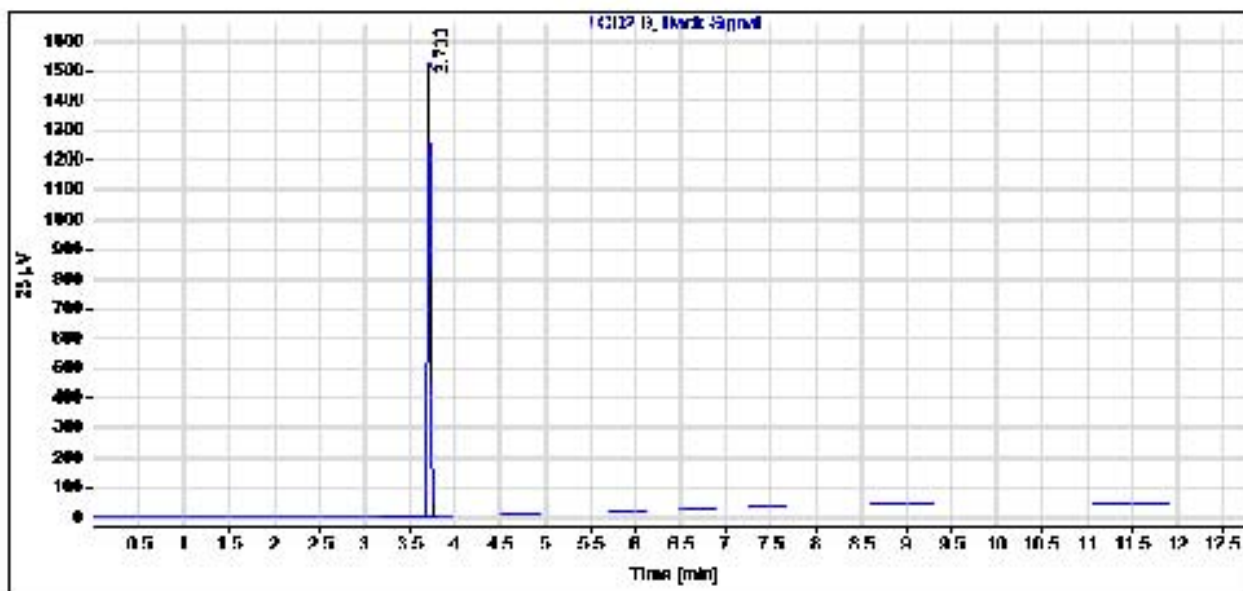
Mary Beth O'Donnell

Mary Beth O'Donnell
CSM/TC

CERTIFICATE OF ANALYSIS

Gas Chromatography / Thermal Conductivity Detector (GC/TCD)

Data file: C:\CHEM32\1\DATA\2018 DATA\1118\SIG2080873.D
Sample name: Ethyl ether
Instrument: GC 1
Injection date: 11/16/2018 10:06:22 AM
Acq. method: TCD_M
Column name: DB-624 (30m x 0.53mm x 3.0um)
Sample type: Sample
Location: Vial 1
Injection volume: 1.0uL



Signal: TCD2 B, Back Signal

RT [min]	Type	Width [min]	Area	Height	Area%
3.706	BV	0.0361	3473.9382	1497.5255	100.0000
Sum			3473.9382		

Reagent

MSV_EtBr_Neat_00001

CHEM SERVICE INC.

660 Tower Lane • P.O. Box 599 • West Chester, PA 19381-0599
1-800-452-9994 • 1-610-692-3026 • Fax 1-610-692-8729
info@chemservice.com • www.chemservice.com

CERTIFICATE OF ANALYSIS

Ethyl bromide

CATALOG NUMBER N-11888-1G
LOT NUMBER 7832000
DATE CERTIFIED 12/01/17
EXPIRATION DATE 12/31/20
CAS NUMBER 74-96-4
MOLECULAR FORMULA C₂H₅Br
MOLECULAR WEIGHT 108.97
STORAGE Store in a cool dry place.
HANDLING See Safety Data Sheet
INTENDED USE For laboratory use only.

Analytical Test	Value
% PURITY (GC/FID)	99.5

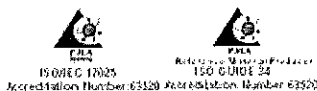
Chem Service, Inc. guarantees the purity to be +/- 0.5% deviation prior to the expiration date shown on the label and exclusive of any customer contamination.

Certified By:

Mary Beth O'Donnell

Mary Beth O'Donnell
CSM/TC

Chem Service, Inc. is accredited to ISO Guide 34:2009, ISO/IEC 17025:2005 and certified to ISO 9001:2008



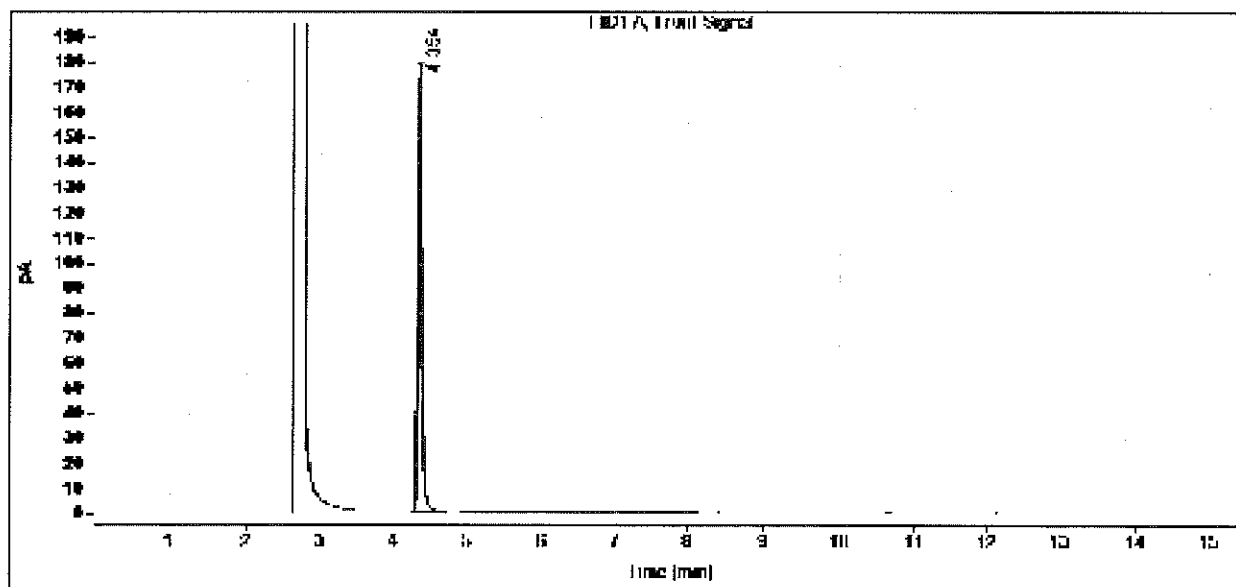
COA Form
Revision 3 (3/2015)

660 Tower Lane • P.O. Box 599 • West Chester, PA 19381-0599
1-800-452-9994 • 1-610-692-3026 • Fax 1-610-692-8729
info@chemservice.com • www.chemservice.com

CERTIFICATE OF ANALYSIS

Gas Chromatography / Flame Ionization Detector (GC/FID)

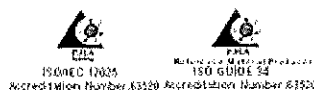
Data file: C:\CHEM32\1\DATA\2017 DATA\1117\SIG1009529.D
Sample name: Bromoethane
Instrument: GC 1
Injection date: 12/1/2017 9:30:43 AM
Acq. method: MIX1.M
Column name: DB-624 (30m x 0.53mm x 3.0um)
Sample type: Sample
Location: Vial 21
Injection volume: 1.0uL



Signal: FID1 A, Front Signal

RT [min]	Type	Width [min]	Area	Height	Area%
4.354	BB	0.0547	648.4102	176.9945	100.0000
Sum			648.4102		

Chem Service, Inc. is accredited to ISO Guide 34:2009, ISO/IEC 17025:2005 and certified to ISO 9001:2008



Reagent

MSV_Q#1B_00017



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. : 569936-1.sec **Lot No.:** A0148625
Description : Custom Revised Q #1B Standard
Custom Revised Q #1B Standard 1,000µg/mL, P&T Methanol, 1mL/ampul
Container Size : 2 mL **Pkg Amt:** > 1 mL
Expiration Date : April 30, 2022 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)			
1	1,1-Dichloroethene	1,005.5 µg/mL	+/-	7.1750	µg/mL	Gravimetric
	CAS # 75-35-4.SEC (Lot 5111300)		+/-	56.5279	µg/mL	Unstressed
	Purity 99%		+/-	57.8435	µg/mL	Stressed
2	Methylene chloride (dichloromethane)	1,004.5 µg/mL	+/-	7.1682	µg/mL	Gravimetric
	CAS # 75-09-2.SEC (Lot FGM02)		+/-	56.4745	µg/mL	Unstressed
	Purity 99%		+/-	57.7888	µg/mL	Stressed
3	trans-1,2-Dichloroethene	1,002.8 µg/mL	+/-	7.1558	µg/mL	Gravimetric
	CAS # 156-60-5.SEC (Lot TSSUB)		+/-	56.3767	µg/mL	Unstressed
	Purity 97%		+/-	57.6888	µg/mL	Stressed
4	1,1-Dichloroethane	1,006.8 µg/mL	+/-	7.1846	µg/mL	Gravimetric
	CAS # 75-34-3.SEC (Lot 5379000)		+/-	56.6038	µg/mL	Unstressed
	Purity 99%		+/-	57.9211	µg/mL	Stressed
5	2,2-Dichloropropane	1,003.2 µg/mL	+/-	7.7659	µg/mL	Gravimetric
	CAS # 594-20-7.SEC (Lot I7E8E)		+/-	56.4820	µg/mL	Unstressed
	Purity 98%		+/-	57.7928	µg/mL	Stressed
6	cis-1,2-Dichloroethene	1,001.2 µg/mL	+/-	7.7507	µg/mL	Gravimetric
	CAS # 156-59-2.SEC (Lot HGC01-BLKT)		+/-	56.3716	µg/mL	Unstressed
	Purity 98%		+/-	57.6799	µg/mL	Stressed
7	Chloroform	1,004.5 µg/mL	+/-	7.1684	µg/mL	Gravimetric
	CAS # 67-66-3.SEC (Lot 1297547)		+/-	56.4759	µg/mL	Unstressed
	Purity 99%		+/-	57.7903	µg/mL	Stressed

8	1,1,1-trichloroethane CAS # 71-55-6 * Purity 99%	(Lot B15W12061)	1,000.9 µg/mL	+/- 7.1427 +/- 56.2735 +/- 57.5832	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
9	1,1-Dichloropropene CAS # 563-58-6.SEC Purity 96%	(Lot 4672600)	1,005.1 µg/mL	+/- 7.7804 +/- 56.5876 +/- 57.9008	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
10	Carbon tetrachloride CAS # 56-23-5.SEC Purity 99%	(Lot 11466)	1,006.6 µg/mL	+/- 7.1828 +/- 56.5897 +/- 57.9068	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
11	1,2-Dichloroethane CAS # 107-06-2.SEC Purity 99%	(Lot FO6PK)	1,003.3 µg/mL	+/- 7.1598 +/- 56.4084 +/- 57.7212	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
12	Benzene CAS # 71-43-2.SEC Purity 99%	(Lot B28Y008)	1,003.5 µg/mL	+/- 7.7683 +/- 56.4996 +/- 57.8109	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
13	Trichloroethene CAS # 79-01-6.SEC Purity 99%	(Lot H04X050)	1,005.6 µg/mL	+/- 7.1760 +/- 56.5363 +/- 57.8521	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
14	1,2-Dichloropropane CAS # 78-87-5.SEC Purity 99%	(Lot OGG01)	1,004.3 µg/mL	+/- 7.1666 +/- 56.4618 +/- 57.7759	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
15	Bromodichloromethane CAS # 75-27-4.SEC Purity 99%	(Lot 10171168)	1,006.2 µg/mL	+/- 7.1801 +/- 56.5686 +/- 57.8852	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
16	Dibromomethane CAS # 74-95-3.SEC Purity 99%	(Lot FGI01-OICH)	1,006.1 µg/mL	+/- 7.7881 +/- 56.6438 +/- 57.9584	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
17	cis-1,3-Dichloropropene CAS # 10061-01-5.SEC Purity 99%	(Lot 4870A)	1,001.9 µg/mL	+/- 7.1498 +/- 56.3297 +/- 57.6407	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
18	Toluene CAS # 108-88-3.SEC Purity 99%	(Lot YND2B-BD)	1,004.8 µg/mL	+/- 7.7782 +/- 56.5717 +/- 57.8846	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
19	trans-1,3-Dichloropropene CAS # 10061-02-6.SEC Purity 99%	(Lot ZDMSL)	1,002.6 µg/mL	+/- 7.1548 +/- 56.3691 +/- 57.6810	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
20	1,1,2-Trichloroethane CAS # 79-00-5.SEC Purity 98%	(Lot 3440900)	1,007.8 µg/mL	+/- 7.1920 +/- 56.6618 +/- 57.9805	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
21	1,3-Dichloropropane CAS # 142-28-9.SEC Purity 99%	(Lot AGN01-EFPC)	1,003.8 µg/mL	+/- 7.7708 +/- 56.5177 +/- 57.8293	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
22	Tetrachloroethene CAS # 127-18-4.SEC Purity 99%	(Lot F09W014)	1,004.1 µg/mL	+/- 7.1652 +/- 56.4506 +/- 57.7644	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
23	Dibromochloromethane CAS # 124-48-1.SEC Purity 97%	(Lot 10181507)	1,009.5 µg/mL	+/- 7.2035 +/- 56.7530 +/- 58.0739	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

24	1,2-Dibromoethane (EDB)		1,007.8	µg/mL	+/-	7.8017	µg/mL	Gravimetric
	CAS # 106-93-4.SEC	(Lot 3505900)			+/-	56.7429	µg/mL	Unstressed
	Purity 99%				+/-	58.0598	µg/mL	Stressed
25	1-Chlorohexane		1,001.0	µg/mL	+/-	5.8744	µg/mL	Gravimetric
	CAS # 544-10-5.SEC	(Lot 8171700)			+/-	56.1308	µg/mL	Unstressed
	Purity 99%				+/-	57.4439	µg/mL	Stressed
26	Chlorobenzene		1,004.8	µg/mL	+/-	7.1703	µg/mL	Gravimetric
	CAS # 108-90-7.SEC	(Lot 1161936)			+/-	56.4913	µg/mL	Unstressed
	Purity 99%				+/-	57.8061	µg/mL	Stressed
27	1,1,1,2-Tetrachloroethane		1,003.4	µg/mL	+/-	7.7677	µg/mL	Gravimetric
	CAS # 630-20-6.SEC	(Lot GC01)			+/-	56.4951	µg/mL	Unstressed
	Purity 99%				+/-	57.8063	µg/mL	Stressed
28	Ethylbenzene		1,003.4	µg/mL	+/-	7.7677	µg/mL	Gravimetric
	CAS # 100-41-4.SEC	(Lot PI4SE)			+/-	56.4951	µg/mL	Unstressed
	Purity 99%				+/-	57.8063	µg/mL	Stressed
29	m-Xylene		1,005.9	µg/mL	+/-	7.7869	µg/mL	Gravimetric
	CAS # 108-38-3.SEC	(Lot OUKMG-GB)			+/-	56.6348	µg/mL	Unstressed
	Purity 99%				+/-	57.9491	µg/mL	Stressed
30	p-Xylene		1,008.3	µg/mL	+/-	7.8054	µg/mL	Gravimetric
	CAS # 106-42-3.SEC	(Lot GM01)			+/-	56.7699	µg/mL	Unstressed
	Purity 99%				+/-	58.0874	µg/mL	Stressed
31	o-Xylene		1,005.8	µg/mL	+/-	7.7862	µg/mL	Gravimetric
	CAS # 95-47-6.SEC	(Lot FGL01)			+/-	56.6303	µg/mL	Unstressed
	Purity 99%				+/-	57.9445	µg/mL	Stressed
32	Styrene		1,001.1	µg/mL	+/-	7.7497	µg/mL	Gravimetric
	CAS # 100-42-5.SEC	(Lot QGQ7F)			+/-	56.3645	µg/mL	Unstressed
	Purity 99%				+/-	57.6726	µg/mL	Stressed
33	Isopropylbenzene (cumene)		1,004.3	µg/mL	+/-	7.7745	µg/mL	Gravimetric
	CAS # 98-82-8.SEC	(Lot WVREC)			+/-	56.5447	µg/mL	Unstressed
	Purity 99%				+/-	57.8570	µg/mL	Stressed
34	Bromoform		1,005.7	µg/mL	+/-	7.1764	µg/mL	Gravimetric
	CAS # 75-25-2.SEC	(Lot 5197400)			+/-	56.5392	µg/mL	Unstressed
	Purity 98%				+/-	57.8551	µg/mL	Stressed
35	1,1,2,2-Tetrachloroethane		1,006.8	µg/mL	+/-	7.1848	µg/mL	Gravimetric
	CAS # 79-34-5.SEC	(Lot CFA4D-AQ)			+/-	56.6052	µg/mL	Unstressed
	Purity 99%				+/-	57.9226	µg/mL	Stressed
36	1,2,3-Trichloropropane		1,002.4	µg/mL	+/-	7.7598	µg/mL	Gravimetric
	CAS # 96-18-4.SEC	(Lot OGI01)			+/-	56.4378	µg/mL	Unstressed
	Purity 98%				+/-	57.7477	µg/mL	Stressed
37	n-Propylbenzene		1,007.8	µg/mL	+/-	7.8011	µg/mL	Gravimetric
	CAS # 103-65-1.SEC	(Lot T2HFC)			+/-	56.7384	µg/mL	Unstressed
	Purity 99%				+/-	58.0551	µg/mL	Stressed
38	Bromobenzene		1,004.8	µg/mL	+/-	7.7782	µg/mL	Gravimetric
	CAS # 108-86-1.SEC	(Lot 2FUHG-EM)			+/-	56.5717	µg/mL	Unstressed
	Purity 99%				+/-	57.8846	µg/mL	Stressed
39	1,3,5-Trichlorobenzene		1,002.0	µg/mL	+/-	5.8803	µg/mL	Gravimetric
	CAS # 108-70-3.SEC	(Lot I28U021)			+/-	56.1868	µg/mL	Unstressed
	Purity 99%				+/-	57.5013	µg/mL	Stressed

40	2-Chlorotoluene CAS # 95-49-8.SEC Purity 99%	(Lot SW8QG-AO)	1,008.1	µg/mL	+/-	7.8036 56.7564 58.0736	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
41	4-Chlorotoluene CAS # 106-43-4.SEC Purity 99%	(Lot P4XHJ-AO)	1,002.1	µg/mL	+/-	7.7571 56.4186 57.7279	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
42	tert-Butylbenzene CAS # 98-06-6.SEC Purity 99%	(Lot D6OHC)	1,004.2	µg/mL	+/-	7.7732 56.5357 57.8478	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
43	1,2,4-Trimethylbenzene CAS # 95-63-6.SEC Purity 99%	(Lot SC7LO-QA)	1,009.5	µg/mL	+/-	7.8147 56.8374 58.1565	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
44	sec-Butylbenzene CAS # 135-98-8.SEC Purity 99%	(Lot O4HRF)	1,006.9	µg/mL	+/-	7.7943 56.6888 58.0044	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
45	4-Isopropyltoluene (p-cymene) CAS # 99-87-6.SEC Purity 96%	(Lot 1195000)	1,000.0	µg/mL	+/-	7.7410 56.3015 57.6081	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
46	1,3-Dichlorobenzene CAS # 541-73-1.SEC Purity 99%	(Lot FMDFD)	1,003.3	µg/mL	+/-	7.1593 56.4042 57.7169	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
47	1,4-Dichlorobenzene CAS # 106-46-7.SEC Purity 99%	(Lot 4Y5DC)	1,008.5	µg/mL	+/-	7.1967 56.6994 58.0189	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
48	n-Butylbenzene CAS # 104-51-8.SEC Purity 99%	(Lot MMPGA)	1,005.4	µg/mL	+/-	7.7825 56.6032 57.9169	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
49	1,2-Dichlorobenzene CAS # 95-50-1.SEC Purity 99%	(Lot 4NRGF-OT)	1,006.8	µg/mL	+/-	7.1842 56.6010 57.9183	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
50	1,2-Dibromo-3-chloropropane CAS # 96-12-8.SEC Purity 98%	(Lot LC00408V)	1,002.7	µg/mL	+/-	7.7616 56.4511 57.7612	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
51	1,3,5-Trimethylbenzene CAS # 108-67-8.SEC Purity 99%	(Lot FGH02-CMLN)	1,002.2	µg/mL	+/-	7.7584 56.4276 57.7371	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
52	1,2,4-Trichlorobenzene CAS # 120-82-1.SEC Purity 99%	(Lot 3LYYC)	1,007.2	µg/mL	+/-	7.7968 56.7068 58.0229	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
53	Hexachlorobutadiene CAS # 87-68-3.SEC Purity 97%	(Lot 5526800)	1,005.8	µg/mL	+/-	7.7857 56.6265 57.9407	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
54	Naphthalene CAS # 91-20-3.SEC Purity 99%	(Lot SKZ5N)	1,001.8	µg/mL	+/-	7.7553 56.4050 57.7141	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
55	1,2,3-Trichlorobenzene CAS # 87-61-6.SEC Purity 98%	(Lot A0043055)	1,005.9	µg/mL	+/-	7.7865 56.6321 57.9464	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)

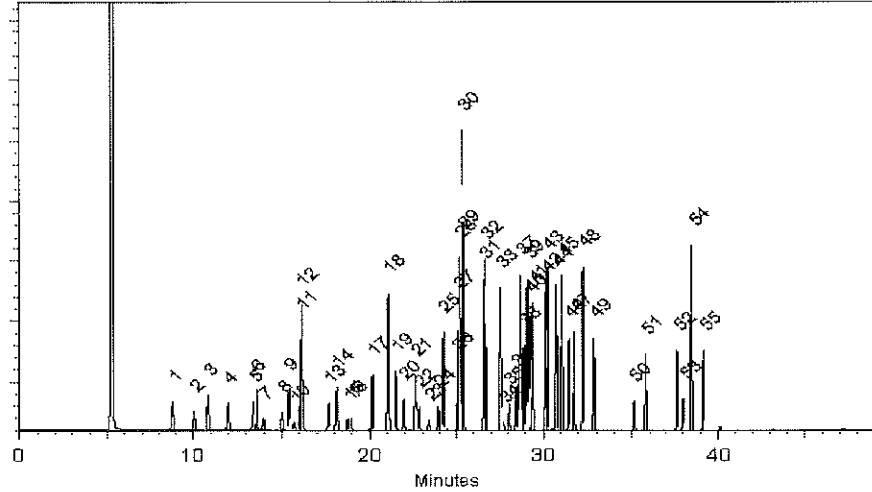
Carrier Gas:
hydrogen-constant pressure 8.0 psi.

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:
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 Mage

Date Mixed: 26-Apr-2019 Balance: 1127510105

Jennifer J. Pollino
Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 30-Apr-2019

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

General Certified Reference Material Notes

Expiration Notes:

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

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/ 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:

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

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

MSV_Q#3B_00015

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)

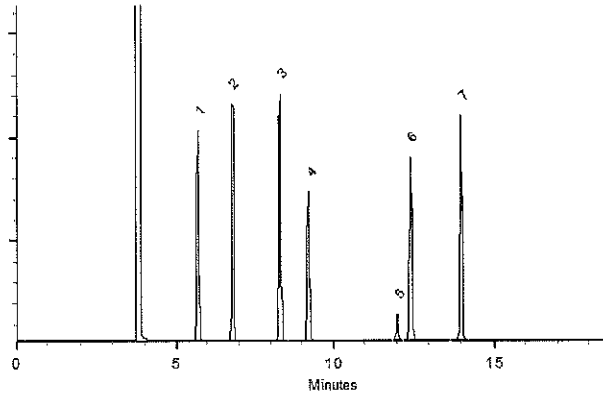
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

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.

Brandon Reish
Brandon Reish - Mix Technician

Date Mixed: 27-Mar-2019 Balance: 1128342314

Justine Albertson
Justine Albertson - Operations Tech-ARM QC

Date Passed: 28-Mar-2019

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

General Certified Reference Material Notes

Expiration Notes:

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- 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

MSV_Q#3B_00031

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)

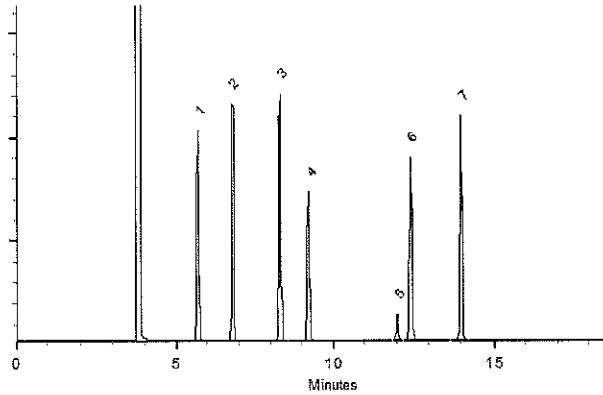
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

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.

Brandon Reish - Mix Technician

Date Mixed: 27-Mar-2019

Balance: 1128342314

Justine Albertson - Operations Tech-ARM QC

Date Passed: 28-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/ 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

MSV_Q#4C_00023



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. : 572312.SEC **Lot No.:** A0147642

Description : Custom Q #4C (Rev 3) Standard
Custom Q #4C (Rev 3) Standard 1,000µg/mL, P&T Methanol, 1mL/ampul

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

Expiration Date : April 30, 2020 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)			
1	1,3-Butadiene	998.9 µg/mL	+/-	7.3863	µg/mL	Gravimetric
	CAS # 106-99-0.SEC (Lot 24033)		+/-	60.4412	µg/mL	Unstressed
	Purity 99%		+/-	60.5839	µg/mL	Stressed
2	1,2-Dichloro-1,1,2-trifluoroethane (CFC-123a)	1,003.8 µg/mL	+/-	32.4125	µg/mL	Gravimetric
	CAS # 354-23-4 * (Lot Q9B-64)		+/-	68.4405	µg/mL	Unstressed
	Purity 99%		+/-	68.5678	µg/mL	Stressed
3	n-Pentane (C5)	1,003.5 µg/mL	+/-	5.8891	µg/mL	Gravimetric
	CAS # 109-66-0.SEC (Lot FGH02)		+/-	60.5509	µg/mL	Unstressed
	Purity 99%		+/-	60.6946	µg/mL	Stressed
4	1,1,2-Trichlorotrifluoroethane (CFC-113)	1,003.0 µg/mL	+/-	5.8862	µg/mL	Gravimetric
	CAS # 76-13-1.SEC (Lot 18342)		+/-	60.5207	µg/mL	Unstressed
	Purity 99%		+/-	60.6644	µg/mL	Stressed
5	Iodomethane (methyl iodide)	1,009.0 µg/mL	+/-	5.9214	µg/mL	Gravimetric
	CAS # 74-88-4.SEC (Lot Y25A027)		+/-	60.8828	µg/mL	Unstressed
	Purity 99%		+/-	61.0273	µg/mL	Stressed
6	Carbon disulfide	1,009.5 µg/mL	+/-	5.9243	µg/mL	Gravimetric
	CAS # 75-15-0.SEC (Lot MKBL1376V)		+/-	60.9129	µg/mL	Unstressed
	Purity 99%		+/-	61.0575	µg/mL	Stressed
7	Methyl-tert-butyl ether (MTBE)	1,000.5 µg/mL	+/-	5.8715	µg/mL	Gravimetric
	CAS # 1634-04-4.SEC (Lot ZHKYA)		+/-	60.3699	µg/mL	Unstressed
	Purity 99%		+/-	60.5132	µg/mL	Stressed

8	n-Hexane (C6) CAS # 110-54-3.SEC Purity 99%	(Lot 10188491)	1,002.0	µg/mL	+/-	5.8803 60.4604 60.6039	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
9	Diisopropyl ether (DIPE) CAS # 108-20-3.SEC Purity 99%	(Lot LL7TN-SH)	1,009.0	µg/mL	+/-	5.9214 60.8828 61.0273	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
10	Chloroprene (2-chloro-1,3-butadiene) CAS # 126-99-8 * Purity 99%	(Lot 190312JLM)	1,009.0	µg/mL	+/-	5.9214 60.8828 61.0273	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
11	Ethyl-tert-butyl ether (ETBE) CAS # 637-92-3.SEC Purity 99%	(Lot MHBjG-QK)	1,003.0	µg/mL	+/-	5.8862 60.5207 60.6644	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
12	Cyclohexane CAS # 110-82-7.SEC Purity 99%	(Lot YADRA)	1,002.0	µg/mL	+/-	5.8803 60.4604 60.6039	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
13	tert-Amyl methyl ether (TAME) CAS # 994-05-8.SEC Purity 99%	(Lot 5614600)	1,002.0	µg/mL	+/-	5.8803 60.4604 60.6039	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
14	n-Heptane (C7) CAS # 142-82-5.SEC Purity 99%	(Lot OGM01)	1,001.0	µg/mL	+/-	5.8744 60.4000 60.5434	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
15	tert-Amyl ethyl ether (TAEE) CAS # 919-94-8.SEC Purity 99%	(Lot 6455100)	1,007.5	µg/mL	+/-	5.9126 60.7923 60.9366	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
16	Methyl methacrylate CAS # 80-62-6.SEC Purity 99%	(Lot G01X021)	1,009.5	µg/mL	+/-	5.9243 60.9129 61.0575	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
17	Ethyl methacrylate CAS # 97-63-2.SEC Purity 99%	(Lot AQSP0)	1,003.0	µg/mL	+/-	5.8862 60.5207 60.6644	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
18	Benzyl chloride CAS # 100-44-7.SEC Purity 99%	(Lot H29N03)	1,004.5	µg/mL	+/-	5.8950 60.6112 60.7551	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
Solvent:	P&T Methanol CAS # 67-56-1 Purity 99%							

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

Tech Tips:

Raw material may contain trace amounts of tert-Butanol.

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

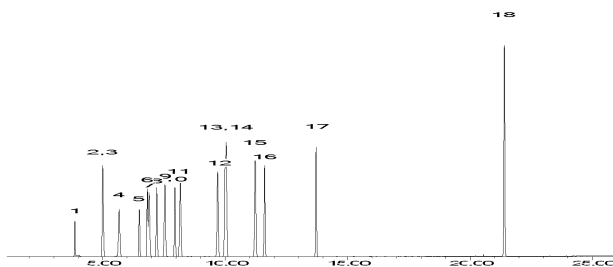
Carrier Gas:
helium-constant pressure 30 psi

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

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
MSD



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

Lane Kibe
Lane Kibe - Mix Technician

Date Mixed: 01-Apr-2019 **Balance:** 1127510105

Jennifer J Pollino
Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 11-Apr-2019

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

General Certified Reference Material Notes

Expiration Notes:

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

Purity Notes:

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

Certified Uncertainty Value Notes:

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

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

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

MSV_QCS#6Std_00015



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. : 558268.SEC **Lot No.:** A0146910
Description : Custom QCS #6 Standard
Custom QCS #6 Standard 1,000µg/mL, P&T Methanol, 1mL/ampul
Container Size : 2 mL **Pkg Amt:** > 1 mL
Expiration Date : September 30, 2020 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L., K=2)			
			+/-	µg/mL	µg/mL	
1	Methyl acetate	1,008.7 µg/mL	+/-	5.9912	µg/mL	Gravimetric
	CAS # 79-20-9.SEC (Lot UCNEL)		+/-	60.8697	µg/mL	Unstressed
	Purity 99%		+/-	61.0141	µg/mL	Stressed
2	Allyl chloride (3-chloropropene)	1,006.7 µg/mL	+/-	5.9793	µg/mL	Gravimetric
	CAS # 107-05-1.SEC (Lot H3HGC)		+/-	60.7490	µg/mL	Unstressed
	Purity 99%		+/-	60.8931	µg/mL	Stressed
3	Bromochloromethane	1,005.3 µg/mL	+/-	5.9714	µg/mL	Gravimetric
	CAS # 74-97-5.SEC (Lot 5670200)		+/-	60.6685	µg/mL	Unstressed
	Purity 99%		+/-	60.8125	µg/mL	Stressed
4	Methylcyclohexane	1,004.0 µg/mL	+/-	5.9635	µg/mL	Gravimetric
	CAS # 108-87-2.SEC (Lot Q02QG)		+/-	60.5881	µg/mL	Unstressed
	Purity 99%		+/-	60.7318	µg/mL	Stressed
5	Pentachloroethane	1,007.3 µg/mL	+/-	5.9833	µg/mL	Gravimetric
	CAS # 76-01-7.SEC (Lot 8170200)		+/-	60.7892	µg/mL	Unstressed
	Purity 99%		+/-	60.9335	µg/mL	Stressed
6	1,2,3-Trimethylbenzene	1,008.8 µg/mL	+/-	5.9920	µg/mL	Gravimetric
	CAS # 526-73-8.SEC (Lot 7754800)		+/-	60.8777	µg/mL	Unstressed
	Purity 97%		+/-	61.0222	µg/mL	Stressed
7	1,3-Diethylbenzene	1,006.7 µg/mL	+/-	5.9793	µg/mL	Gravimetric
	CAS # 141-93-5.SEC (Lot 113566-1)		+/-	60.7490	µg/mL	Unstressed
	Purity 99%		+/-	60.8931	µg/mL	Stressed

8	1,4-Diethylbenzene CAS # 105-05-5.SEC Purity 98%	(Lot FBQ02)	1,001.6 µg/mL	+/- 5.9490 +/- 60.4408 +/- 60.5842	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
9	1,2-Diethylbenzene CAS # 135-01-3.SEC Purity 99%	(Lot BCBF3667V)	1,008.7 µg/mL	+/- 5.9912 +/- 60.8697 +/- 61.0141	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
10	2-Methylnaphthalene CAS # 91-57-6.SEC Purity 99%	(Lot 76023-1)	1,005.3 µg/mL	+/- 5.9714 +/- 60.6685 +/- 60.8125	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:

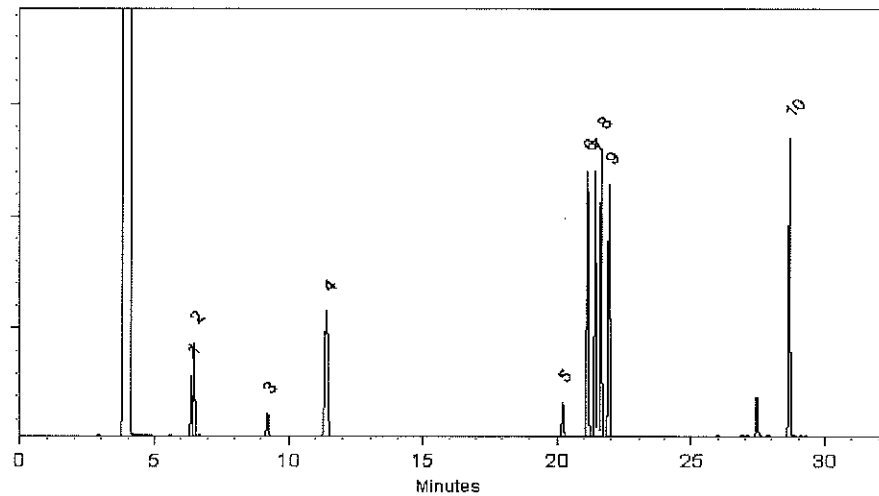
200°C

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.

Maggie Wang

Maggie Wang - Operations Technician I

Date Mixed: 11-Mar-2019

Balance: 1128342314

Jennifer J Pollino

Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 18-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%.

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- 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

MSV_V#1B_00035



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. : 569936-1 **Lot No.:** A0154137
Description : Custom Revised V #1B Standard
Custom Revised V #1B Standard 5,000µg/mL, P&T Methanol, 1mL/ampul
Container Size : 2 mL **Pkg Amt:** > 1 mL
Expiration Date : October 31, 2022 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)				
1	1,1-dichloroethene CAS # 75-35-4 (Lot SHBG8609V) Purity 99%	5,010.7 µg/mL	+/- 35.5877	µg/mL	Gravimetric		
			+/- 281.6868	µg/mL	Unstressed		
			+/- 288.2436	µg/mL	Stressed		
2	Methylene chloride (dichloromethane) CAS # 75-09-2 (Lot SHBK5095) Purity 99%	5,004.0 µg/mL	+/- 35.5402	µg/mL	Gravimetric		
			+/- 281.3109	µg/mL	Unstressed		
			+/- 287.8589	µg/mL	Stressed		
3	trans-1,2-Dichloroethene CAS # 156-60-5 (Lot MKBH9850V) Purity 99%	5,017.5 µg/mL	+/- 35.6361	µg/mL	Gravimetric		
			+/- 282.0698	µg/mL	Unstressed		
			+/- 288.6355	µg/mL	Stressed		
4	1,1-Dichloroethane CAS # 75-34-3 (Lot 1026.30-2) Purity 98%	5,004.3 µg/mL	+/- 35.5424	µg/mL	Gravimetric		
			+/- 281.3282	µg/mL	Unstressed		
			+/- 287.8767	µg/mL	Stressed		
5	2,2-Dichloropropane CAS # 594-20-7 (Lot BCBT5124) Purity 99%	5,050.0 µg/mL	+/- 32.0202	µg/mL	Gravimetric		
			+/- 283.4366	µg/mL	Unstressed		
			+/- 290.0553	µg/mL	Stressed		
6	cis-1,2-Dichloroethene CAS # 156-59-2 (Lot MKBX5945V) Purity 99%	5,046.5 µg/mL	+/- 31.9980	µg/mL	Gravimetric		
			+/- 283.2401	µg/mL	Unstressed		
			+/- 289.8543	µg/mL	Stressed		
7	chloroform CAS # 67-66-3 (Lot SHBJ9076) Purity 99%	5,007.1 µg/mL	+/- 35.5624	µg/mL	Gravimetric		
			+/- 281.4865	µg/mL	Unstressed		
			+/- 288.0387	µg/mL	Stressed		

8	1,1,1-trichloroethane CAS # 71-55-6 Purity 98%	(Lot 190123CG)	5,008.3 µg/mL	+/- 35.5707 +/- 281.5520 +/- 288.1057	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
9	1,1-Dichloropropene CAS # 563-58-6 Purity 99%	(Lot 170301JLM)	5,048.9 µg/mL	+/- 32.0131 +/- 283.3734 +/- 289.9907	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
10	carbon tetrachloride CAS # 56-23-5 Purity 99%	(Lot SHBG8938V)	5,011.1 µg/mL	+/- 35.5908 +/- 281.7114 +/- 288.2688	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
11	1,2-Dichloroethane CAS # 107-06-2 Purity 99%	(Lot SHBJ6510)	5,006.9 µg/mL	+/- 35.5607 +/- 281.4725 +/- 288.0243	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
12	Benzene CAS # 71-43-2 Purity 99%	(Lot SHBG7317V)	5,042.9 µg/mL	+/- 31.9750 +/- 283.0367 +/- 289.6461	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
13	Trichloroethene CAS # 79-01-6 Purity 99%	(Lot SHBJ4611)	5,002.1 µg/mL	+/- 35.5269 +/- 281.2055 +/- 287.7511	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
14	1,2-Dichloropropane CAS # 78-87-5 Purity 99%	(Lot BCBR0882V)	5,014.4 µg/mL	+/- 35.6139 +/- 281.8941 +/- 288.4558	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
15	bromodichloromethane CAS # 75-27-4 Purity 99%	(Lot MKCJ0238)	5,008.5 µg/mL	+/- 35.5722 +/- 281.5638 +/- 288.1178	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
16	Dibromomethane CAS # 74-95-3 Purity 99%	(Lot 10201030)	5,047.3 µg/mL	+/- 32.0027 +/- 283.2822 +/- 289.8973	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
17	cis-1,3-Dichloropropene CAS # 10061-01-5 Purity 99%	(Lot 25649)	5,013.1 µg/mL	+/- 35.6046 +/- 281.8203 +/- 288.3803	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
18	Toluene CAS # 108-88-3 Purity 99%	(Lot SHBH9895)	5,031.9 µg/mL	+/- 31.9053 +/- 282.4193 +/- 289.0143	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
19	trans-1,3-Dichloropropene CAS # 10061-02-6 Purity 98%	(Lot 19160070D7119)	5,009.3 µg/mL	+/- 35.5781 +/- 281.6106 +/- 288.1656	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
20	1,1,2-Trichloroethane CAS # 79-00-5 Purity 99%	(Lot FGB01)	5,016.1 µg/mL	+/- 35.6264 +/- 281.9925 +/- 288.5564	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
21	1,3-Dichloropropane CAS # 142-28-9 Purity 99%	(Lot BCBG2162V)	5,042.4 µg/mL	+/- 31.9718 +/- 283.0086 +/- 289.6173	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
22	Tetrachloroethene CAS # 127-18-4 Purity 99%	(Lot SHBJ7422)	5,007.9 µg/mL	+/- 35.5678 +/- 281.5287 +/- 288.0818	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
23	dibromochloromethane CAS # 124-48-1 Purity 98%	(Lot MKCJ3856)	5,004.8 µg/mL	+/- 35.5459 +/- 281.3558 +/- 287.9049	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

24	1,2-Dibromoethane (EDB) CAS # 106-93-4 Purity 99%	(Lot BCBP2268V)	5,037.4 µg/mL	+/-	31.9401 µg/mL 282.7280 µg/mL 289.3302 µg/mL	Gravimetric Unstressed Stressed
25	1-Chlorohexane CAS # 544-10-5 Purity 98%	(Lot BCBS3368V)	5,036.2 µg/mL	+/-	29.5554 µg/mL 282.4044 µg/mL 289.0110 µg/mL	Gravimetric Unstressed Stressed
26	Chlorobenzene CAS # 108-90-7 Purity 99%	(Lot SHBJ0839)	5,015.8 µg/mL	+/-	35.6241 µg/mL 281.9749 µg/mL 288.5384 µg/mL	Gravimetric Unstressed Stressed
27	1,1,1,2-Tetrachloroethane CAS # 630-20-6 Purity 99%	(Lot MKBS3769V)	5,038.6 µg/mL	+/-	31.9481 µg/mL 282.7981 µg/mL 289.4020 µg/mL	Gravimetric Unstressed Stressed
28	Ethylbenzene CAS # 100-41-4 Purity 99%	(Lot SHBJ3183)	5,029.3 µg/mL	+/-	31.8886 µg/mL 282.2719 µg/mL 288.8635 µg/mL	Gravimetric Unstressed Stressed
29	m-Xylene CAS # 108-38-3 Purity 99%	(Lot SHBH8323)	5,038.4 µg/mL	+/-	31.9465 µg/mL 282.7841 µg/mL 289.3876 µg/mL	Gravimetric Unstressed Stressed
30	p-Xylene CAS # 106-42-3 Purity 99%	(Lot SHBJ0052)	5,038.0 µg/mL	+/-	31.9441 µg/mL 282.7630 µg/mL 289.3661 µg/mL	Gravimetric Unstressed Stressed
31	o-Xylene CAS # 95-47-6 Purity 99%	(Lot SHBH3432V)	5,046.4 µg/mL	+/-	31.9972 µg/mL 283.2331 µg/mL 289.8471 µg/mL	Gravimetric Unstressed Stressed
32	Styrene CAS # 100-42-5 Purity 99%	(Lot MKBV4061V)	5,047.0 µg/mL	+/-	32.0012 µg/mL 283.2682 µg/mL 289.8830 µg/mL	Gravimetric Unstressed Stressed
33	Isopropylbenzene (cumene) CAS # 98-82-8 Purity 99%	(Lot 10185056)	5,035.3 µg/mL	+/-	31.9267 µg/mL 282.6087 µg/mL 289.2081 µg/mL	Gravimetric Unstressed Stressed
34	bromoform CAS # 75-25-2 Purity 99%	(Lot SHBH6924)	5,010.7 µg/mL	+/-	35.5877 µg/mL 281.6868 µg/mL 288.2436 µg/mL	Gravimetric Unstressed Stressed
35	1,1,1,2-Tetrachloroethane CAS # 79-34-5 Purity 99%	(Lot CFA4D)	5,016.6 µg/mL	+/-	35.6295 µg/mL 282.0171 µg/mL 288.5816 µg/mL	Gravimetric Unstressed Stressed
36	1,2,3-Trichloropropane CAS # 96-18-4 Purity 99%	(Lot BCBH8722V)	5,033.4 µg/mL	+/-	31.9148 µg/mL 282.5035 µg/mL 289.1004 µg/mL	Gravimetric Unstressed Stressed
37	n-Propylbenzene CAS # 103-65-1 Purity 99%	(Lot MKBJ0332V)	5,032.4 µg/mL	+/-	31.9084 µg/mL 282.4473 µg/mL 289.0430 µg/mL	Gravimetric Unstressed Stressed
38	Bromobenzene CAS # 108-86-1 Purity 99%	(Lot WXBC5147V)	5,035.5 µg/mL	+/-	31.9282 µg/mL 282.6227 µg/mL 289.2225 µg/mL	Gravimetric Unstressed Stressed
39	1,3,5-Trimethylbenzene CAS # 108-67-8 Purity 99%	(Lot BCBS7648V)	5,029.8 µg/mL	+/-	31.8918 µg/mL 282.3000 µg/mL 288.8922 µg/mL	Gravimetric Unstressed Stressed

40	2-Chlorotoluene CAS # 95-49-8 Purity 99%	(Lot MKBW5554V)	5,037.5 µg/mL	+/-	31.9409 282.7350 289.3373	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
41	4-Chlorotoluene CAS # 106-43-4 Purity 99%	(Lot MKBL7753V)	5,039.1 µg/mL	+/-	31.9512 282.8262 289.4307	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
42	tert-Butylbenzene CAS # 98-06-6 Purity 99%	(Lot STBD6954V)	5,049.8 µg/mL	+/-	32.0186 283.4225 290.0409	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
43	1,2,4-Trimethylbenzene CAS # 95-63-6 Purity 98%	(Lot MKBJ6229V)	5,046.8 µg/mL	+/-	31.9996 283.2544 289.8689	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
44	sec-Butylbenzene CAS # 135-98-8 Purity 99%	(Lot MKBR9260V)	5,042.8 µg/mL	+/-	31.9742 283.0296 289.6389	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
45	p-Isopropyltoluene (p-Cymene) CAS # 99-87-6 Purity 99%	(Lot MKBV3556V)	5,038.4 µg/mL	+/-	31.9465 282.7841 289.3876	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
46	1,3-Dichlorobenzene CAS # 541-73-1 Purity 99%	(Lot BCBQ7100V)	5,005.6 µg/mL	+/-	35.5518 281.4022 287.9524	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
47	1,4-Dichlorobenzene CAS # 106-46-7 Purity 99%	(Lot MKBS4401V)	5,009.4 µg/mL	+/-	35.5789 281.6166 288.1717	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
48	n-Butylbenzene CAS # 104-51-8 Purity 99%	(Lot 09804AE)	5,024.8 µg/mL	+/-	31.8601 282.0194 288.6050	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
49	1,2-Dichlorobenzene CAS # 95-50-1 Purity 99%	(Lot SHBG3111V)	5,008.9 µg/mL	+/-	35.5753 281.5884 288.1430	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
50	1,2-Dibromo-3-chloropropane CAS # 96-12-8 Purity 99%	(Lot FBL01)	5,036.4 µg/mL	+/-	31.9338 282.6718 289.2727	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
51	1,3,5-Trichlorobenzene CAS # 108-70-3 Purity 99%	(Lot 11319AS)	5,026.0 µg/mL	+/-	29.4954 281.8314 288.4245	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
52	1,2,4-Trichlorobenzene CAS # 120-82-1 Purity 99%	(Lot SHBJ0905)	5,036.5 µg/mL	+/-	31.9346 282.6789 289.2799	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
53	Hexachlorobutadiene CAS # 87-68-3 Purity 99%	(Lot J31X013)	5,033.6 µg/mL	+/-	31.9164 282.5175 289.1148	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
54	Naphthalene CAS # 91-20-3 Purity 99%	(Lot MKBW2603V)	5,033.6 µg/mL	+/-	31.9164 282.5175 289.1148	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
55	1,2,3-Trichlorobenzene CAS # 87-61-6 Purity 99%	(Lot MKBS4859V)	5,016.0 µg/mL	+/-	31.8046 281.5283 288.1024	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)

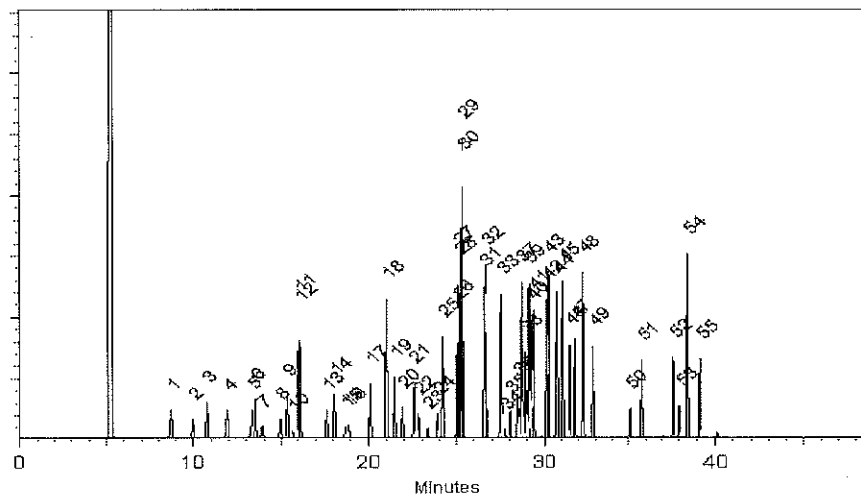
Carrier Gas:
hydrogen-constant pressure 8.0 psi.

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

Inj. Temp:
200°C

Det. Temp:
250°C

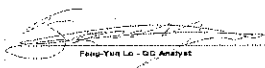
Det. Type:
FID



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


Tom Suckar - Mix Technician

Date Mixed: 21-Oct-2019 Balanc: B707717271


FID/MS/UV - GC ANALYSIS

Date Passed: 25-Oct-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

MSV_V#2B_00042



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

Certificate of Analysis

www.restek.com

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. : 56734 **Lot No.:** A0147800
Description : Custom V # 2B Standard
Custom V #2B Standard 12,500-125,000µg/mL, P&T Methanol, 1mL/ampul
Container Size : 2 mL **Pkg Amt:** > 1 mL
Expiration Date : April 30, 2021 **Storage:** 0°C or colder

Elution Order	Compound	CAS #	Percent Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)
1	2-Propanol (isopropanol)	67-63-0	99%	25,038.8 µg/mL	+/- 146.6077 µg/mL
2	tert-Butanol (TBA)	75-65-0	99%	25,051.6 µg/mL	+/- 146.6826 µg/mL
3	Propionitrile	107-12-0	99%	25,036.8 µg/mL	+/- 146.5960 µg/mL
4	Methacrylonitrile	126-98-7	99%	12,531.6 µg/mL	+/- 73.3753 µg/mL
5	Isobutanol (2-Methyl-1-propanol)	78-83-1	99%	62,524.0 µg/mL	+/- 366.0729 µg/mL
6	1-Butanol	71-36-3	99%	125,066.8 µg/mL	+/- 732.2559 µg/mL
7	1,4-Dioxane	123-91-1	99%	62,523.6 µg/mL	+/- 366.0705 µg/mL
8	trans-1,4-dichloro-2-butene	110-57-6	94%	12,530.6 µg/mL	+/- 73.3693 µg/mL
Solvent:	P&T Methanol	67-56-1	99%		

Specific Reference Material Notes:

This RM (Reference Material) is not a CRM (Certified Reference Material) due to the 1-butanol concentration exceeding the maximum concentration on Restek's ISO Guide 34 scope of accreditation.

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:

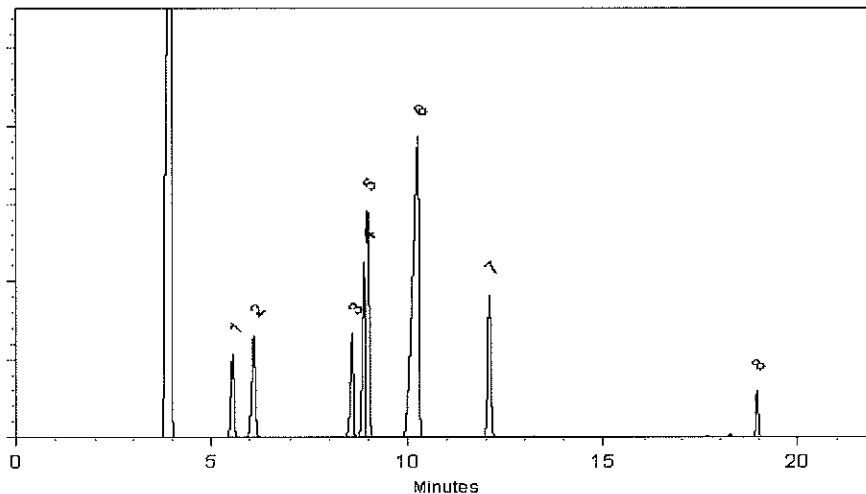
200°C

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.

Clara Winkle

Clara Winkle - Operations Technician I

Date Mixed: 03-Apr-2019

Balance: B251644995

Jennifer L Pollino

Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 10-Apr-2019

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

General Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the RM 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.

Uncertainty Value Notes:

- Uncertainties are determined using data from balances and glassware, raw material purity, and, when significant, equipment tolerances or calibration results.

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

MSV_V#2B_00043



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

Certificate of Analysis

www.restek.com

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. : 56734 **Lot No.:** A0147800
Description : Custom V # 2B Standard
Custom V #2B Standard 12,500-125,000µg/mL, P&T Methanol, 1mL/ampul
Container Size : 2 mL **Pkg Amt:** > 1 mL
Expiration Date : April 30, 2021 **Storage:** 0°C or colder

Elution Order	Compound	CAS #	Percent Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)
1	2-Propanol (isopropanol)	67-63-0	99%	25,038.8 µg/mL	+/- 146.6077 µg/mL
2	tert-Butanol (TBA)	75-65-0	99%	25,051.6 µg/mL	+/- 146.6826 µg/mL
3	Propionitrile	107-12-0	99%	25,036.8 µg/mL	+/- 146.5960 µg/mL
4	Methacrylonitrile	126-98-7	99%	12,531.6 µg/mL	+/- 73.3753 µg/mL
5	Isobutanol (2-Methyl-1-propanol)	78-83-1	99%	62,524.0 µg/mL	+/- 366.0729 µg/mL
6	1-Butanol	71-36-3	99%	125,066.8 µg/mL	+/- 732.2559 µg/mL
7	1,4-Dioxane	123-91-1	99%	62,523.6 µg/mL	+/- 366.0705 µg/mL
8	trans-1,4-dichloro-2-butene	110-57-6	94%	12,530.6 µg/mL	+/- 73.3693 µg/mL
Solvent:	P&T Methanol	67-56-1	99%		

Specific Reference Material Notes:

This RM (Reference Material) is not a CRM (Certified Reference Material) due to the 1-butanol concentration exceeding the maximum concentration on Restek's ISO Guide 34 scope of accreditation.

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:

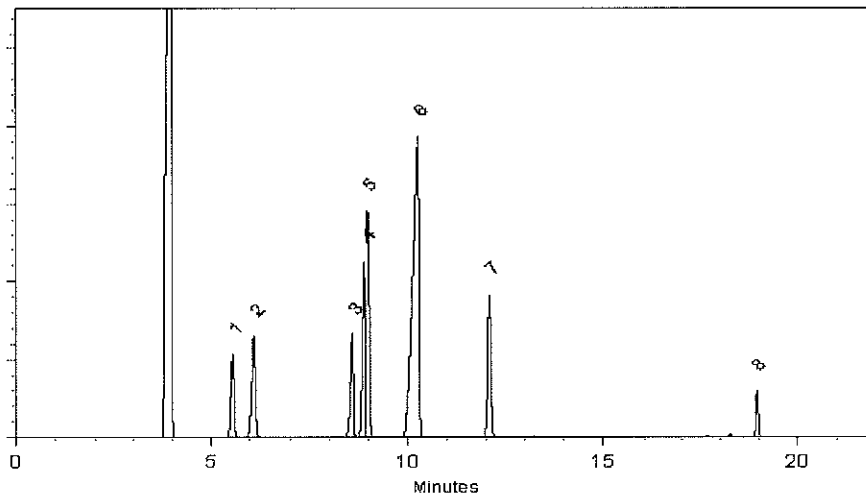
200°C

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.

Clara Winkle

Clara Winkle - Operations Technician I

Date Mixed: 03-Apr-2019

Balance: B251644995

Jennifer L Pollino

Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 10-Apr-2019

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

General Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the RM 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.

Uncertainty Value Notes:

- Uncertainties are determined using data from balances and glassware, raw material purity, and, when significant, equipment tolerances or calibration results.

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

MSV_V#3B_00023



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. : 56736 Lot No.: A0153460
 Description : Custom V # 3B Standard
Custom V #3B Standard 12,500-25,000µg/mL, P&T Methanol/Water (90:10), 1mL/ampul
 Container Size : 2 mL Pkg Amt: > 1 mL
 Expiration Date : September 30, 2022 Storage: 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)			
1	Acetone CAS # 67-64-1 Purity 99% (Lot SHBK6362)	25,018.0 µg/mL	+/- 146.4859 µg/mL	+/- 1,237.7080 µg/mL	+/- 1,268.4787 µg/mL	Gravimetric Unstressed Stressed
2	Acrylonitrile CAS # 107-13-1 Purity 99% (Lot A0387097)	12,520.0 µg/mL	+/- 73.3074 µg/mL	+/- 619.3982 µg/mL	+/- 634.7971 µg/mL	Gravimetric Unstressed Stressed
3	2-Butanone (MEK) CAS # 78-93-3 Purity 99% (Lot SHBK5945)	25,034.0 µg/mL	+/- 146.5796 µg/mL	+/- 1,238.4996 µg/mL	+/- 1,269.2900 µg/mL	Gravimetric Unstressed Stressed
4	Tetrahydrofuran CAS # 109-99-9 Purity 99% (Lot SHBK8926)	25,010.0 µg/mL	+/- 146.4390 µg/mL	+/- 1,237.3122 µg/mL	+/- 1,268.0731 µg/mL	Gravimetric Unstressed Stressed
5	2-Nitropropane CAS # 79-46-9 Purity 98% (Lot BCBL0537V)	25,026.3 µg/mL	+/- 146.5343 µg/mL	+/- 1,238.1166 µg/mL	+/- 1,268.8975 µg/mL	Gravimetric Unstressed Stressed
6	4-Methyl-2-pentanone (MIBK) CAS # 108-10-1 Purity 99% (Lot SHBK5017)	25,055.0 µg/mL	+/- 146.7025 µg/mL	+/- 1,239.5385 µg/mL	+/- 1,270.3547 µg/mL	Gravimetric Unstressed Stressed
7	2-Hexanone CAS # 591-78-6 Purity 99% (Lot MKCD9048)	25,050.0 µg/mL	+/- 146.6733 µg/mL	+/- 1,239.2911 µg/mL	+/- 1,270.1012 µg/mL	Gravimetric Unstressed Stressed

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

Column:

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

Carrier Gas:

hydrogen-constant pressure 11.0 psi.

Temp. Program:

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

Inj. Temp:

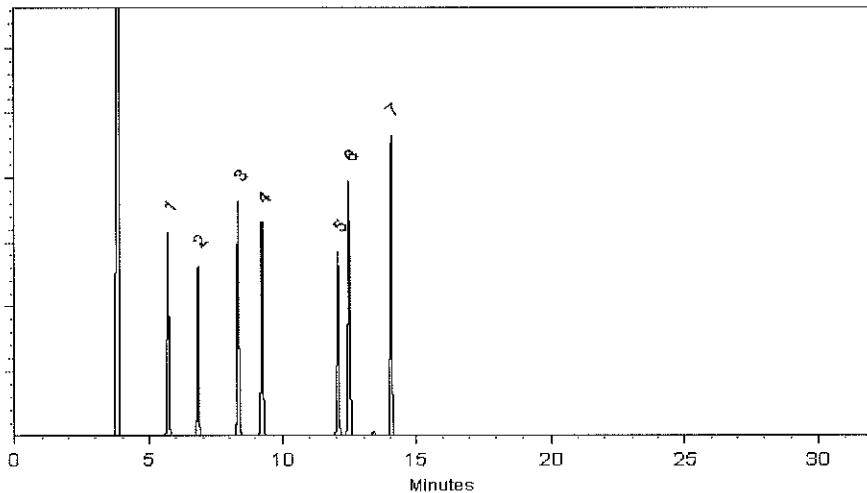
200°C

Det. Temp:

250°C

Det. Type:

FID



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

Miranda Kline
Miranda Kline - Operations Technician I

Date Mixed: 30-Sep-2019

Balance: B251644995

Jennifer A Pollino
Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 03-Oct-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:

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

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

MSV_V#4C_00032



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. : 572312 **Lot No.:** A0147817

Description : Custom V #4C (Rev 3) Standard
Custom V #4C (Rev 3) Standard 5,000µg/mL, P&T Methanol, 1mL/ampul

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

Expiration Date : April 30, 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	1,3-Butadiene	4,999.4 µg/mL	+/-	37.8983	µg/mL	Gravimetric
	CAS # 106-99-0 (Lot SHBK2299)		+/-	302.6147	µg/mL	Unstressed
	Purity 99%		+/-	303.3285	µg/mL	Stressed
2	1,2-Dichloro-1,1,2-trifluoroethane (CFC-123a)	5,002.8 µg/mL	+/-	48.3344	µg/mL	Gravimetric
	CAS # 354-23-4 (Lot Q9B-64)		+/-	304.2996	µg/mL	Unstressed
	Purity 99%		+/-	305.0104	µg/mL	Stressed
3	n-Pentane (C5)	5,044.5 µg/mL	+/-	29.5367	µg/mL	Gravimetric
	CAS # 109-66-0 (Lot SHBJ5949)		+/-	304.3771	µg/mL	Unstressed
	Purity 99%		+/-	305.0997	µg/mL	Stressed
4	1,1,2-Trichlorotrifluoroethane (CFC-113)	5,040.0 µg/mL	+/-	29.5103	µg/mL	Gravimetric
	CAS # 76-13-1 (Lot 00009482)		+/-	304.1056	µg/mL	Unstressed
	Purity 99%		+/-	304.8275	µg/mL	Stressed
5	Iodomethane (methyl iodide)	5,048.0 µg/mL	+/-	29.5572	µg/mL	Gravimetric
	CAS # 74-88-4 (Lot SHBH4362V)		+/-	304.5883	µg/mL	Unstressed
	Purity 99%		+/-	305.3113	µg/mL	Stressed
6	Carbon disulfide	5,039.5 µg/mL	+/-	29.5074	µg/mL	Gravimetric
	CAS # 75-15-0 (Lot U22D706)		+/-	304.0754	µg/mL	Unstressed
	Purity 99%		+/-	304.7972	µg/mL	Stressed
7	Methyl-tert-butyl ether (MTBE)	5,033.0 µg/mL	+/-	29.4693	µg/mL	Gravimetric
	CAS # 1634-04-4 (Lot SHBH9526)		+/-	303.6832	µg/mL	Unstressed
	Purity 99%		+/-	304.4041	µg/mL	Stressed

8	n-Hexane (C6) CAS # 110-54-3 Purity 99%	(Lot SHBJ7262)	5,026.5	µg/mL	+/-	29.4313 303.2910 304.0110	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
9	Diisopropyl ether (DIPE) CAS # 108-20-3 Purity 99%	(Lot SHBH1927V)	5,033.0	µg/mL	+/-	29.4693 303.6832 304.4041	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
10	Chloroprene (2-chloro-1,3-butadiene) CAS # 126-99-8 Purity 99%	(Lot 190312JLM)	5,039.0	µg/mL	+/-	29.5045 304.0452 304.7670	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
11	Ethyl-tert-butyl ether (ETBE) CAS # 637-92-3 Purity 99%	(Lot MKCC2702)	5,028.5	µg/mL	+/-	29.4430 303.4117 304.1319	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
12	Cyclohexane CAS # 110-82-7 Purity 99%	(Lot MKCC9660)	5,028.5	µg/mL	+/-	29.4430 303.4117 304.1319	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
13	tert-Amyl methyl ether (TAME) CAS # 994-05-8 Purity 99%	(Lot HMBF8365V)	5,025.5	µg/mL	+/-	29.4254 303.2307 303.9505	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
14	n-Heptane (C7) CAS # 142-82-5 Purity 99%	(Lot SHBK2731)	5,048.5	µg/mL	+/-	29.5601 304.6185 305.3416	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
15	tert-Amyl ethyl ether (TAEE) CAS # 919-94-8 Purity 99%	(Lot IKVYB)	5,046.0	µg/mL	+/-	29.5454 304.4676 305.1904	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
16	Methyl methacrylate CAS # 80-62-6 Purity 99%	(Lot MKBH4379V)	5,033.5	µg/mL	+/-	29.4722 303.7134 304.4344	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
17	Ethyl methacrylate CAS # 97-63-2 Purity 98%	(Lot SHBF9649V)	5,036.7	µg/mL	+/-	29.4910 303.9071 304.6285	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
18	Benzyl chloride CAS # 100-44-7 Purity 99%	(Lot SHBB7346V)	5,036.0	µg/mL	+/-	29.4869 303.8642 304.5856	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
Solvent:	P&T Methanol CAS # 67-56-1 Purity 99%							

Tech Tips:

Raw material may contain trace amounts of tert-Butanol.

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

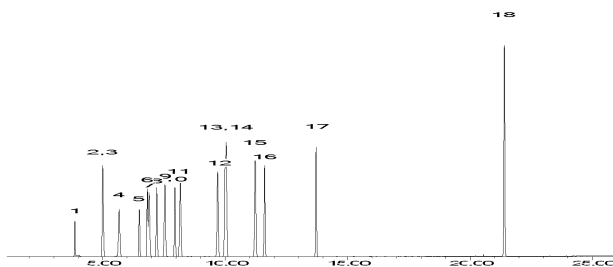
Carrier Gas:
helium-constant pressure 30 psi

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

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
MSD

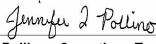


This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.


Tom Suckar - Mix Technician

Date Mixed: 04-Apr-2019

Balance: B707717271


Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 11-Apr-2019

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

General Certified Reference Material Notes

Expiration Notes:

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

Purity Notes:

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

Certified Uncertainty Value Notes:

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

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

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

MSV_V#6_00007



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. : 558268 **Lot No.:** A0146393
Description : Custom CS#6 Standard
Custom CS#6 Standard 5,000µg/mL, P&T Methanol, 1mL/ampul
Container Size : 2 mL **Pkg Amt:** > 1 mL
Expiration Date : August 31, 2020 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)				
			+/-	µg/mL	+/-	µg/mL	Gravimetric
1	Methyl acetate	5,004.0 µg/mL (Lot SHBG4345V)	+/-	29.3663	µg/mL	Gravimetric	
	CAS # 79-20-9		+/-	301.9399	µg/mL	Unstressed	
	Purity 99%		+/-	302.6566	µg/mL	Stressed	
2	Allyl chloride (3-chloropropene)	5,003.0 µg/mL (Lot WXBB7852V)	+/-	29.3604	µg/mL	Gravimetric	
	CAS # 107-05-1		+/-	301.8795	µg/mL	Unstressed	
	Purity 99%		+/-	302.5961	µg/mL	Stressed	
3	Bromochloromethane	5,005.0 µg/mL (Lot 00004559)	+/-	29.3721	µg/mL	Gravimetric	
	CAS # 74-97-5		+/-	302.0002	µg/mL	Unstressed	
	Purity 99%		+/-	302.7171	µg/mL	Stressed	
4	Methylcyclohexane	5,024.0 µg/mL (Lot SHBJ0457)	+/-	29.4836	µg/mL	Gravimetric	
	CAS # 108-87-2		+/-	303.1467	µg/mL	Unstressed	
	Purity 99%		+/-	303.8663	µg/mL	Stressed	
5	Pentachloroethane	5,004.0 µg/mL (Lot L7GVM)	+/-	29.3663	µg/mL	Gravimetric	
	CAS # 76-01-7		+/-	301.9399	µg/mL	Unstressed	
	Purity 99%		+/-	302.6566	µg/mL	Stressed	
6	1,2,3-Trimethylbenzene	5,001.9 µg/mL (Lot 877605-12)	+/-	29.3541	µg/mL	Gravimetric	
	CAS # 526-73-8		+/-	301.8144	µg/mL	Unstressed	
	Purity 98%		+/-	302.5308	µg/mL	Stressed	
7	1,3-Diethylbenzene	5,008.8 µg/mL (Lot BCBT8967)	+/-	29.3943	µg/mL	Gravimetric	
	CAS # 141-93-5		+/-	302.2283	µg/mL	Unstressed	
	Purity 98%		+/-	302.9457	µg/mL	Stressed	

8	1,4-Diethylbenzene CAS # 105-05-5 Purity 98%	(Lot RLHJK)	5,018.6 µg/mL	+/- 29.4518 +/- 302.8196 +/- 303.5385	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
9	1,2-Diethylbenzene CAS # 135-01-3 Purity 99%	(Lot ECH2970181)	5,033.0 µg/mL	+/- 29.5365 +/- 303.6897 +/- 304.4106	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
10	2-Methylnaphthalene CAS # 91-57-6 Purity 96%	(Lot STBG8884)	4,997.8 µg/mL	+/- 29.3297 +/- 301.5634 +/- 302.2792	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:

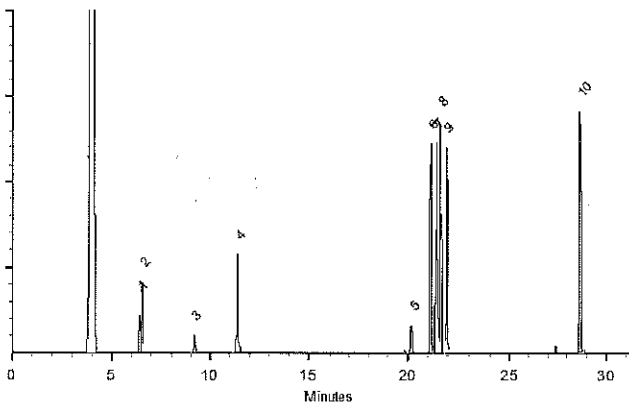
200°C

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.

Rebecca Lawver

Date Mixed: 24-Feb-2019 Balance: B707717271

Justin Alberson
Justin Alberson - Operations Tech-ARM GC

Date Passed: 04-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/ 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
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0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

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

Manufacturing Notes:

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

Handling Notes:

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

Reagent

MSV_V#6_00019



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. : 558268 **Lot No.:** A0146393

Description : Custom CS#6 Standard
Custom CS#6 Standard 5,000µg/mL, P&T Methanol, 1mL/ampul

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

Expiration Date : August 31, 2020 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)				
			+/-	µg/mL	+/-	µg/mL	Gravimetric
1	Methyl acetate	5,004.0 µg/mL (Lot SHBG4345V)	+/-	29.3663	µg/mL	Gravimetric	
	CAS # 79-20-9		+/-	301.9399	µg/mL	Unstressed	
	Purity 99%		+/-	302.6566	µg/mL	Stressed	
2	Allyl chloride (3-chloropropene)	5,003.0 µg/mL (Lot WXBB7852V)	+/-	29.3604	µg/mL	Gravimetric	
	CAS # 107-05-1		+/-	301.8795	µg/mL	Unstressed	
	Purity 99%		+/-	302.5961	µg/mL	Stressed	
3	Bromochloromethane	5,005.0 µg/mL (Lot 00004559)	+/-	29.3721	µg/mL	Gravimetric	
	CAS # 74-97-5		+/-	302.0002	µg/mL	Unstressed	
	Purity 99%		+/-	302.7171	µg/mL	Stressed	
4	Methylcyclohexane	5,024.0 µg/mL (Lot SHBJ0457)	+/-	29.4836	µg/mL	Gravimetric	
	CAS # 108-87-2		+/-	303.1467	µg/mL	Unstressed	
	Purity 99%		+/-	303.8663	µg/mL	Stressed	
5	Pentachloroethane	5,004.0 µg/mL (Lot L7GVM)	+/-	29.3663	µg/mL	Gravimetric	
	CAS # 76-01-7		+/-	301.9399	µg/mL	Unstressed	
	Purity 99%		+/-	302.6566	µg/mL	Stressed	
6	1,2,3-Trimethylbenzene	5,001.9 µg/mL (Lot 877605-12)	+/-	29.3541	µg/mL	Gravimetric	
	CAS # 526-73-8		+/-	301.8144	µg/mL	Unstressed	
	Purity 98%		+/-	302.5308	µg/mL	Stressed	
7	1,3-Diethylbenzene	5,008.8 µg/mL (Lot BCBT8967)	+/-	29.3943	µg/mL	Gravimetric	
	CAS # 141-93-5		+/-	302.2283	µg/mL	Unstressed	
	Purity 98%		+/-	302.9457	µg/mL	Stressed	

8	1,4-Diethylbenzene CAS # 105-05-5 Purity 98%	(Lot RLHJK)	5,018.6 µg/mL	+/- 29.4518 +/- 302.8196 +/- 303.5385	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
9	1,2-Diethylbenzene CAS # 135-01-3 Purity 99%	(Lot ECH2970181)	5,033.0 µg/mL	+/- 29.5365 +/- 303.6897 +/- 304.4106	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
10	2-Methylnaphthalene CAS # 91-57-6 Purity 96%	(Lot STBG8884)	4,997.8 µg/mL	+/- 29.3297 +/- 301.5634 +/- 302.2792	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:

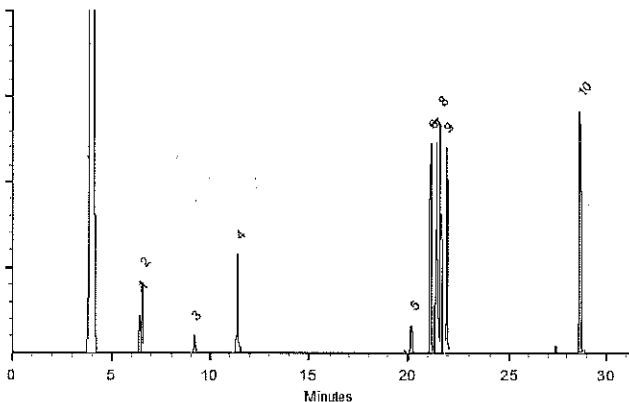
200°C

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.

Rebecca Lawver

Date Mixed: 24-Feb-2019 Balance: B707717271

Justin Alberson
Justin Alberson - Operations Tech-ARM GC

Date Passed: 04-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/ 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

MSV_V_Gas_00045



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. : 55669 **Lot No.:** A0150705

Description : Custom 502.2 "V" Gas Mix
Custom 502.2 "V" Gas Mix 2,000µg/mL, P&T Methanol, 1mL/ampul

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

Expiration Date : August 31, 2026 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)			
1	Dichlorodifluoromethane (CFC-12) CAS # 75-71-8 (Lot 00012554) Purity 99%	2,001.7 µg/mL	+/- 16.1239	µg/mL	Gravimetric	
			+/- 112.7879	µg/mL	Unstressed	
			+/- 115.4014	µg/mL	Stressed	
2	Chloromethane (methyl chloride) CAS # 74-87-3 (Lot SHBK6571) Purity 99%	2,000.3 µg/mL	+/- 18.7162	µg/mL	Gravimetric	
			+/- 113.1078	µg/mL	Unstressed	
			+/- 115.7104	µg/mL	Stressed	
3	Vinyl chloride CAS # 75-01-4 (Lot 00015559) Purity 99%	2,006.5 µg/mL	+/- 18.3560	µg/mL	Gravimetric	
			+/- 113.3921	µg/mL	Unstressed	
			+/- 116.0044	µg/mL	Stressed	
4	Bromomethane (methyl bromide) CAS # 74-83-9 (Lot 101604) Purity 99%	1,999.6 µg/mL	+/- 20.0741	µg/mL	Gravimetric	
			+/- 113.3042	µg/mL	Unstressed	
			+/- 115.9007	µg/mL	Stressed	
5	Chloroethane (ethyl chloride) CAS # 75-00-3 (Lot 107-401039114-1) Purity 99%	1,998.5 µg/mL	+/- 16.7167	µg/mL	Gravimetric	
			+/- 112.6955	µg/mL	Unstressed	
			+/- 115.3027	µg/mL	Stressed	
6	Trichlorofluoromethane (CFC-11) CAS # 75-69-4 (Lot SHBH4155V) Purity 99%	2,000.0 µg/mL	+/- 14.1138	µg/mL	Gravimetric	
			+/- 112.4230	µg/mL	Unstressed	
			+/- 115.0403	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)

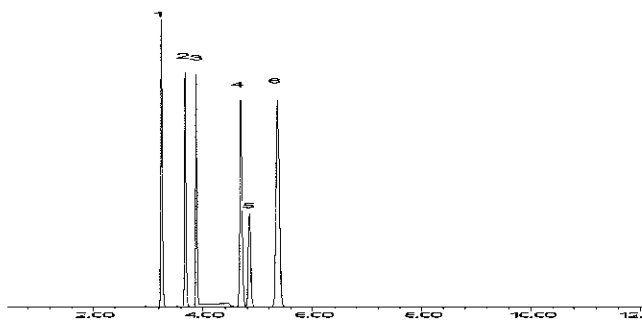
Carrier Gas:
helium-constant flow 2.0 ml/min.

Temp. Program:
40°C (hold 6 min.) to 100°C
@ 5°C/min.

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
MSD



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

Tom Suckar - Mix Technician

Date Mixed: 10-Jul-2019

Balance: B251644995

Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 16-Jul-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.
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- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

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- 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:

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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.

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25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
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0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

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

Manufacturing Notes:

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

Handling Notes:

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

Reagent

MSV_V_Gas_00086



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. : 55669 **Lot No.:** A0150705
Description : Custom 502.2 "V" Gas Mix
Custom 502.2 "V" Gas Mix 2,000µg/mL, P&T Methanol, 1mL/ampul
Container Size : 2 mL **Pkg Amt:** > 1 mL
Expiration Date : August 31, 2026 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)			
1	Dichlorodifluoromethane (CFC-12) CAS # 75-71-8 (Lot 00012554) Purity 99%	2,001.7 µg/mL	+/- 16.1239	µg/mL	Gravimetric	
			+/- 112.7879	µg/mL	Unstressed	
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			+/- 113.1078	µg/mL	Unstressed	
			+/- 115.7104	µg/mL	Stressed	
3	Vinyl chloride CAS # 75-01-4 (Lot 00015559) Purity 99%	2,006.5 µg/mL	+/- 18.3560	µg/mL	Gravimetric	
			+/- 113.3921	µg/mL	Unstressed	
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4	Bromomethane (methyl bromide) CAS # 74-83-9 (Lot 101604) Purity 99%	1,999.6 µg/mL	+/- 20.0741	µg/mL	Gravimetric	
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			+/- 115.9007	µg/mL	Stressed	
5	Chloroethane (ethyl chloride) CAS # 75-00-3 (Lot 107-401039114-1) Purity 99%	1,998.5 µg/mL	+/- 16.7167	µg/mL	Gravimetric	
			+/- 112.6955	µg/mL	Unstressed	
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			+/- 112.4230	µg/mL	Unstressed	
			+/- 115.0403	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)

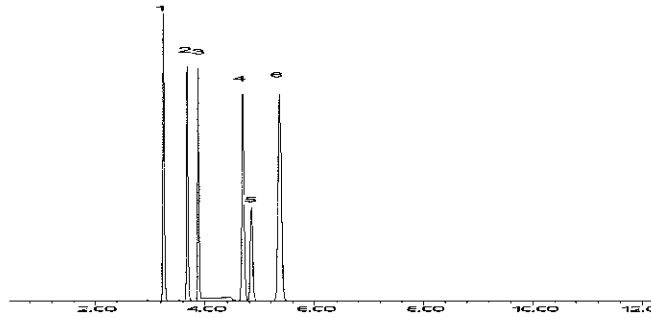
Carrier Gas:
helium-constant flow 2.0 ml/min.

Temp. Program:
40°C (hold 6 min.) to 100°C
@ 5°C/min.

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
MSD

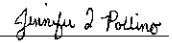


This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.


Tom Suckar - Mix Technician

Date Mixed: 10-Jul-2019

Balance: B251644995


Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 16-Jul-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.
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0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

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

Manufacturing Notes:

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Handling Notes:

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- 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 Lancaster Laboratories Job No.: 410-2632-1

SDG No.: _____

Matrix: Water Level: Low

GC Column (1): R-624SilMS ID: 0.25 (mm)

Client Sample ID	Lab Sample ID	DBFM #	DCA #	TOL #	BFB #
HD-COD-SW-6-0/1-0	410-2632-1	103	104	98	97
HD-COD-SW-7-0/1-0	410-2632-2	102	106	100	98
HD-COD-SW-8-0/1-0	410-2632-3	103	105	98	98
HD-COD-SW-9-0/1-0	410-2632-4	103	107	98	98
HD-COD-SW-13-0/1-0	410-2632-5	102	105	98	96
HD-COD-SW-15-0/1-0	410-2632-6	103	105	99	98
HD-COD-SW-16-0/1-0	410-2632-7	102	108	97	98
HD-COD-SW-17-0/1-0	410-2632-8	104	102	98	97
HD-COD-SW-26-0/1-0	410-2632-9	103	102	99	99
HD-COD-SW-27-0/1-0	410-2632-10	103	107	98	97
HD-COD-SW-28-0/1-0	410-2632-11	103	104	98	98
HD-COD-SW-29-0/1-0	410-2632-12	102	104	98	98
HD-QC1-0/1-1	410-2632-13	104	100	97	98
HD-QC1-0/1-2	410-2632-14	102	104	99	98
	MB 410-9922/6	101	104	99	97
	LCS 410-9922/4	103	105	100	100
HD-COD-SW-15-0/1-0 MS	410-2632-6 MS	103	105	98	101
HD-COD-SW-15-0/1-0 MSD	410-2632-6 MSD	102	101	99	100

	<u>QC LIMITS</u>
DBFM = Dibromofluoromethane (Surr)	80-120
DCA = 1,2-Dichloroethane-d4 (Surr)	80-120
TOL = Toluene-d8 (Surr)	80-120
BFB = 4-Bromofluorobenzene (Surr)	80-120

Column to be used to flag recovery values

FORM III
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-2632-1

SDG No.: _____

Matrix: Water Level: Low Lab File ID: Iu02L01.D

Lab ID: LCS 410-9922/4 Client ID: _____

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
1,1,1,2-Tetrachloroethane	5.00	5.16	103	71-134	
1,1,1-Trichloroethane	5.00	5.22	104	78-126	
1,1,2,2-Tetrachloroethane	5.00	5.33	107	75-123	
1,1,2-Trichloroethane	5.00	5.55	111	80-120	
1,1-Dichloroethane	5.00	5.52	110	74-120	
1,1-Dichloroethene	5.00	5.13	103	80-131	
1,2-Dibromoethane (EDB)	5.00	5.65	113	80-120	
1,2-Dichloroethane	5.00	5.61	112	69-122	
1,2-Dichloropropane	5.00	5.77	115	80-120	
2-Butanone (MEK)	37.5	36.1	96	59-141	
2-Hexanone	25.0	24.6	98	52-140	
4-Methyl-2-pentanone (MIBK)	25.0	23.5	94	55-140	
Acetone	37.5	34.5	92	60-146	
Acrylonitrile	25.0	22.9	92	64-139	
Benzene	5.00	5.42	108	80-120	
Bromochloromethane	5.00	5.08	102	80-120	
Bromodichloromethane	5.00	5.46	109	73-124	
Bromoform	5.00	5.48	110	49-144	
Bromomethane	5.00	5.69	114	60-136	
Carbon disulfide	5.00	5.09	102	67-130	
Carbon tetrachloride	5.00	5.39	108	64-141	
Chlorobenzene	5.00	5.30	106	80-120	
Chloroethane	5.00	5.84	117	63-120	
Chloroform	5.00	5.45	109	80-120	
Chloromethane	5.00	5.88	118	56-124	
cis-1,2-Dichloroethene	5.00	5.56	111	80-122	
cis-1,3-Dichloropropene	5.00	5.60	112	67-121	
Dibromochloromethane	5.00	5.53	111	64-138	
Ethylbenzene	5.00	5.34	107	80-120	
Methyl tert-butyl ether	5.00	5.52	110	69-120	
Methylene Chloride	5.00	5.35	107	80-120	
Styrene	5.00	5.27	105	80-120	
Tetrachloroethene	5.00	5.33	107	80-120	
Toluene	5.00	5.33	107	80-120	
trans-1,2-Dichloroethene	5.00	5.17	103	80-122	
trans-1,3-Dichloropropene	5.00	5.27	105	61-129	
Trichloroethene	5.00	5.38	108	80-120	
Vinyl chloride	5.00	5.74	115	60-125	
Xylenes, Total	15.0	15.7	105	80-120	

Column to be used to flag recovery and RPD values

FORM III
GC/MS VOA MATRIX SPIKE RECOVERY

Lab Name: Eurofins Lancaster Laboratories

Job No.: 410-2632-1

SDG No.: _____

Matrix: Water

Level: Low

Lab File ID: iU02s15.D

Lab ID: 410-2632-6 MS

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

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
1,1,1,2-Tetrachloroethane	5.00	ND	5.37	107	71-134	
1,1,1-Trichloroethane	5.00	ND	5.89	118	78-126	
1,1,2,2-Tetrachloroethane	5.00	ND	5.20	104	75-123	
1,1,2-Trichloroethane	5.00	ND	5.59	112	80-120	
1,1-Dichloroethane	5.00	ND	5.81	116	74-120	
1,1-Dichloroethene	5.00	0.083 J	5.59	110	80-131	
1,2-Dibromoethane (EDB)	5.00	ND	5.62	112	80-120	
1,2-Dichloroethane	5.00	ND	6.01	120	69-122	
1,2-Dichloropropane	5.00	ND	5.82	116	80-120	
2-Butanone (MEK)	37.5	ND	37.4	100	59-141	
2-Hexanone	25.0	ND	26.0	104	52-140	
4-Methyl-2-pentanone (MIBK)	25.0	ND	24.6	98	55-140	
Acetone	37.5	ND	37.6	100	60-146	
Acrylonitrile	25.0	ND	23.9	96	64-139	
Benzene	5.00	ND	5.67	113	80-120	
Bromochloromethane	5.00	ND	5.35	107	80-120	
Bromodichloromethane	5.00	ND	5.75	115	73-124	
Bromoform	5.00	ND	5.36	107	49-144	
Bromomethane	5.00	ND	5.27	105	60-136	
Carbon disulfide	5.00	ND	5.34	107	67-130	
Carbon tetrachloride	5.00	ND	6.17	123	64-141	
Chlorobenzene	5.00	ND	5.54	111	80-120	
Chloroethane	5.00	ND	5.23	105	63-120	
Chloroform	5.00	0.26 J	6.16	118	80-120	
Chloromethane	5.00	ND	5.49	110	80-120	
cis-1,2-Dichloroethene	5.00	0.83	6.70	117	80-122	
cis-1,3-Dichloropropene	5.00	ND	5.59	112	67-121	
Dibromochloromethane	5.00	ND	5.54	111	64-138	
Ethylbenzene	5.00	ND	5.60	112	80-120	
Methyl tert-butyl ether	5.00	0.050 J	5.74	114	69-120	
Methylene Chloride	5.00	ND	5.58	111	80-120	
Styrene	5.00	ND	5.52	110	80-120	
Tetrachloroethene	5.00	3.1	8.86	116	80-120	
Toluene	5.00	ND	5.53	111	80-120	
trans-1,2-Dichloroethene	5.00	ND	5.46	109	80-122	
trans-1,3-Dichloropropene	5.00	ND	5.18	104	61-129	
Trichloroethene	5.00	1.0	6.75	115	80-120	
Vinyl chloride	5.00	ND	5.49	110	60-125	
Xylenes, Total	15.0	ND	16.5	110	80-120	

Column to be used to flag recovery and RPD values

FORM III
GC/MS VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Eurofins Lancaster Laboratories

Job No.: 410-2632-1

SDG No.: _____

Matrix: Water

Level: Low

Lab File ID: iU02s16.D

Lab ID: 410-2632-6 MSD

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

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
1,1,1,2-Tetrachloroethane	5.00	5.56	111	4	30	71-134	
1,1,1-Trichloroethane	5.00	6.09	122	3	30	78-126	
1,1,2,2-Tetrachloroethane	5.00	5.47	109	5	30	75-123	
1,1,2-Trichloroethane	5.00	5.74	115	3	30	80-120	
1,1-Dichloroethane	5.00	6.02	120	3	30	74-120	
1,1-Dichloroethene	5.00	5.81	114	4	30	80-131	
1,2-Dibromoethane (EDB)	5.00	5.77	115	3	30	80-120	
1,2-Dichloroethane	5.00	6.19	124	3	30	69-122	FH
1,2-Dichloropropane	5.00	5.95	119	2	30	80-120	
2-Butanone (MEK)	37.5	38.0	101	2	30	59-141	
2-Hexanone	25.0	26.1	104	1	30	52-140	
4-Methyl-2-pentanone (MIBK)	25.0	24.7	99	1	30	55-140	
Acetone	37.5	37.4	100	1	30	60-146	
Acrylonitrile	25.0	23.8	95	0	30	64-139	
Benzene	5.00	5.74	115	1	30	80-120	
Bromochloromethane	5.00	5.42	108	1	30	80-120	
Bromodichloromethane	5.00	5.79	116	1	30	73-124	
Bromoform	5.00	5.65	113	5	30	49-144	
Bromomethane	5.00	5.71	114	8	30	60-136	
Carbon disulfide	5.00	5.69	114	6	30	67-130	
Carbon tetrachloride	5.00	6.20	124	0	30	64-141	
Chlorobenzene	5.00	5.67	113	2	30	80-120	
Chloroethane	5.00	5.82	116	11	30	63-120	
Chloroform	5.00	6.19	119	1	30	80-120	
Chloromethane	5.00	6.03	121	10	30	80-120	FH
cis-1,2-Dichloroethene	5.00	6.88	121	3	30	80-122	
cis-1,3-Dichloropropene	5.00	5.77	115	3	30	67-121	
Dibromochloromethane	5.00	5.71	114	3	30	64-138	
Ethylbenzene	5.00	5.71	114	2	30	80-120	
Methyl tert-butyl ether	5.00	5.72	113	0	30	69-120	
Methylene Chloride	5.00	5.64	113	1	30	80-120	
Styrene	5.00	5.65	113	2	30	80-120	
Tetrachloroethene	5.00	9.07	120	2	30	80-120	
Toluene	5.00	5.72	114	3	30	80-120	
trans-1,2-Dichloroethene	5.00	5.69	114	4	30	80-122	
trans-1,3-Dichloropropene	5.00	5.38	107	4	30	61-129	
Trichloroethene	5.00	6.83	117	1	30	80-120	
Vinyl chloride	5.00	6.06	121	10	30	60-125	
Xylenes, Total	15.0	17.0	113	3	30	80-120	

Column to be used to flag recovery and RPD values

FORM IV
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-2632-1
 SDG No.: _____
 Lab File ID: Iu02B01.D Lab Sample ID: MB 410-9922/6
 Matrix: Water Heated Purge: (Y/N) N
 Instrument ID: 19930 Date Analyzed: 06/02/2020 09:19
 GC Column: R-624SilMS 30m ID: 0.25 (mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 410-9922/4	Iu02L01.D	06/02/2020 08:37
HD-QC1-0/1-2	410-2632-14	iU02s01.D	06/02/2020 09:50
HD-COD-SW-6-0/1-0	410-2632-1	iU02s09.D	06/02/2020 12:41
HD-COD-SW-7-0/1-0	410-2632-2	iU02s10.D	06/02/2020 13:03
HD-COD-SW-8-0/1-0	410-2632-3	iU02s11.D	06/02/2020 13:24
HD-COD-SW-9-0/1-0	410-2632-4	iU02s12.D	06/02/2020 13:46
HD-COD-SW-13-0/1-0	410-2632-5	iU02s13.D	06/02/2020 14:07
HD-COD-SW-15-0/1-0	410-2632-6	iU02s14.D	06/02/2020 14:29
HD-COD-SW-15-0/1-0 MS	410-2632-6 MS	iU02s15.D	06/02/2020 14:50
HD-COD-SW-15-0/1-0 MSD	410-2632-6 MSD	iU02s16.D	06/02/2020 15:11
HD-COD-SW-16-0/1-0	410-2632-7	iU02s17.D	06/02/2020 15:33
HD-COD-SW-17-0/1-0	410-2632-8	iU02s18.D	06/02/2020 15:54
HD-COD-SW-26-0/1-0	410-2632-9	iU02s19.D	06/02/2020 16:15
HD-COD-SW-27-0/1-0	410-2632-10	iU02s20.D	06/02/2020 16:36
HD-COD-SW-28-0/1-0	410-2632-11	iU02s21.D	06/02/2020 16:58
HD-COD-SW-29-0/1-0	410-2632-12	iU02s22.D	06/02/2020 17:19
HD-QC1-0/1-1	410-2632-13	iU02s23.D	06/02/2020 17:41

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

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-2632-1

SDG No.: _____

Lab File ID: Im16T01.D BFB Injection Date: 03/16/2020

Instrument ID: 19930 BFB Injection Time: 12:37

Analysis Batch No.: 6388

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	16.5	
75	30.0 - 60.0 % of mass 95	46.7	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	6.6	
173	Less than 2.0 % of mass 174	1.0	(1.2) 1
174	50.0 - 120.00 % of mass 95	83.6	
175	5.0 - 9.0 % of mass 174	6.1	(7.3) 1
176	95.0 - 101.0 % of mass 174	80.8	(96.7) 1
177	5.0 - 9.0 % of mass 176	5.3	(6.6) 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 410-6388/12	IM16I01.D	03/16/2020	16:24
	ICIS 410-6388/13	IM16I02.D	03/16/2020	16:45
	IC 410-6388/14	IM16I03.D	03/16/2020	17:06
	IC 410-6388/15	IM16I04.D	03/16/2020	17:27
	IC 410-6388/16	IM16I05.D	03/16/2020	17:48
	IC 410-6388/17	IM16I06.D	03/16/2020	18:09
	IC 410-6388/18	IM16I07.D	03/16/2020	18:31

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

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-2632-1

SDG No.: _____

Lab File ID: IM18T01.D BFB Injection Date: 03/18/2020

Instrument ID: 19930 BFB Injection Time: 09:11

Analysis Batch No.: 7691

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	17.1	
75	30.0 - 60.0 % of mass 95	48.3	
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	0.8	(1.0) 1
174	50.0 - 120.00 % of mass 95	82.6	
175	5.0 - 9.0 % of mass 174	6.2	(7.5) 1
176	95.0 - 101.0 % of mass 174	80.0	(96.8) 1
177	5.0 - 9.0 % of mass 176	5.3	(6.6) 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
	ICV 410-7691/21	IM18S01.D	03/18/2020	10:28

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

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-2632-1

SDG No.: _____

Lab File ID: Iu02T01.D BFB Injection Date: 06/02/2020

Instrument ID: 19930 BFB Injection Time: 07:40

Analysis Batch No.: 9922

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0 % of mass 95	17.9
75	30.0 - 60.0 % of mass 95	50.3
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0 % of mass 95	6.6
173	Less than 2.0 % of mass 174	0.3 (0.4) 1
174	50.0 - 120.00 % of mass 95	87.4
175	5.0 - 9.0 % of mass 174	6.7 (7.7) 1
176	95.0 - 101.0 % of mass 174	85.7 (98.1) 1
177	5.0 - 9.0 % of mass 176	5.2 (6.1) 2

1-Value is % mass 174

2-Value is % mass 176

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

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCVIS 410-9922/3	Iu02C01.D	06/02/2020	8:16
	LCS 410-9922/4	Iu02L01.D	06/02/2020	8:37
	MB 410-9922/6	Iu02B01.D	06/02/2020	9:19
HD-QC1-0/1-2	410-2632-14	iU02s01.D	06/02/2020	9:50
HD-COD-SW-6-0/1-0	410-2632-1	iU02s09.D	06/02/2020	12:41
HD-COD-SW-7-0/1-0	410-2632-2	iU02s10.D	06/02/2020	13:03
HD-COD-SW-8-0/1-0	410-2632-3	iU02s11.D	06/02/2020	13:24
HD-COD-SW-9-0/1-0	410-2632-4	iU02s12.D	06/02/2020	13:46
HD-COD-SW-13-0/1-0	410-2632-5	iU02s13.D	06/02/2020	14:07
HD-COD-SW-15-0/1-0	410-2632-6	iU02s14.D	06/02/2020	14:29
HD-COD-SW-15-0/1-0 MS	410-2632-6 MS	iU02s15.D	06/02/2020	14:50
HD-COD-SW-15-0/1-0 MSD	410-2632-6 MSD	iU02s16.D	06/02/2020	15:11
HD-COD-SW-16-0/1-0	410-2632-7	iU02s17.D	06/02/2020	15:33
HD-COD-SW-17-0/1-0	410-2632-8	iU02s18.D	06/02/2020	15:54
HD-COD-SW-26-0/1-0	410-2632-9	iU02s19.D	06/02/2020	16:15
HD-COD-SW-27-0/1-0	410-2632-10	iU02s20.D	06/02/2020	16:36
HD-COD-SW-28-0/1-0	410-2632-11	iU02s21.D	06/02/2020	16:58
HD-COD-SW-29-0/1-0	410-2632-12	iU02s22.D	06/02/2020	17:19
HD-QC1-0/1-1	410-2632-13	iU02s23.D	06/02/2020	17:41

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

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-2632-1
 SDG No.: _____
 Sample No.: ICIS 410-6388/13 Date Analyzed: 03/16/2020 16:45
 Instrument ID: 19930 GC Column: R-624SilMS 30m ID: 0.25 (mm)
 Lab File ID (Standard): IM16I02.D Heated Purge: (Y/N) N
 Calibration ID: 2799

	TBAd10		FB		CBZd5	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT	174786	4.29	2016512	7.78	1509705	11.23
UPPER LIMIT	349572	4.79	4033024	8.28	3019410	11.73
LOWER LIMIT	87393	3.79	1008256	7.28	754853	10.73
LAB SAMPLE ID	CLIENT SAMPLE ID					
ICV 410-7691/21	170420	4.30	2016169	7.79	1514085	11.22
CCVIS 410-9922/3	217314	4.30	1924381	7.78	1510724	11.22

TBAd10 = t-Butyl alcohol-d10 (IS)

FB = Fluorobenzene (IS)

CBZd5 = Chlorobenzene-d5 (IS)

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 Lancaster Laboratories E Job No.: 410-2632-1
 SDG No.: _____
 Sample No.: ICIS 410-6388/13 Date Analyzed: 03/16/2020 16:45
 Instrument ID: 19930 GC Column: R-624SilMS 30m ID: 0.25 (mm)
 Lab File ID (Standard): IM16I02.D Heated Purge: (Y/N) N
 Calibration ID: 2799

	DCBd4		AREA #	RT #	AREA #	RT #
	AREA #	RT #				
INITIAL CALIBRATION MID-POINT	813828	13.10				
UPPER LIMIT	1627656	13.60				
LOWER LIMIT	406914	12.60				
LAB SAMPLE ID	CLIENT SAMPLE ID					
ICV 410-7691/21		818513	13.10			
CCVIS 410-9922/3		817994	13.09			

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 Lancaster Laboratories E Job No.: 410-2632-1
 SDG No.: _____
 Sample No.: CCVIS 410-9922/3 Date Analyzed: 06/02/2020 08:16
 Instrument ID: 19930 GC Column: R-624SilMS 30m ID: 0.25 (mm)
 Lab File ID (Standard): Iu02C01.D Heated Purge: (Y/N) N
 Calibration ID: 2799

	TBAd10		FB		CBZd5		
	AREA #	RT #	AREA #	RT #	AREA #	RT #	
12/24 HOUR STD	217314	4.30	1924381	7.78	1510724	11.22	
UPPER LIMIT	434628	4.80	3848762	8.28	3021448	11.72	
LOWER LIMIT	108657	3.80	962191	7.28	755362	10.72	
LAB SAMPLE ID	CLIENT SAMPLE ID						
LCS 410-9922/4	222628	4.31	1902044	7.79	1480579	11.22	
MB 410-9922/6	219716	4.31	1908947	7.78	1479506	11.22	
410-2632-14	HD-QC1-0/1-2	219163	4.32	1906431	7.78	1480056	11.22
410-2632-1	HD-COD-SW-6-0/1-0	181158	4.31	1678803	7.78	1314804	11.22
410-2632-2	HD-COD-SW-7-0/1-0	176922	4.31	1663614	7.79	1285597	11.22
410-2632-3	HD-COD-SW-8-0/1-0	172226	4.31	1638994	7.79	1288629	11.22
410-2632-4	HD-COD-SW-9-0/1-0	164136	4.32	1590228	7.78	1258958	11.22
410-2632-5	HD-COD-SW-13-0/1-0	157952	4.31	1574478	7.79	1236797	11.22
410-2632-6	HD-COD-SW-15-0/1-0	163787	4.31	1565347	7.78	1217796	11.22
410-2632-6 MS	HD-COD-SW-15-0/1-0 MS	166556	4.30	1542007	7.78	1216225	11.22
410-2632-6 MSD	HD-COD-SW-15-0/1-0 MSD	167514	4.29	1532100	7.78	1200992	11.22
410-2632-7	HD-COD-SW-16-0/1-0	165812	4.32	1565766	7.78	1234206	11.22
410-2632-8	HD-COD-SW-17-0/1-0	160803	4.30	1553090	7.78	1222944	11.22
410-2632-9	HD-COD-SW-26-0/1-0	159758	4.29	1535593	7.78	1195585	11.22
410-2632-10	HD-COD-SW-27-0/1-0	158452	4.29	1509521	7.78	1194229	11.22
410-2632-11	HD-COD-SW-28-0/1-0	142650	4.29	1475191	7.78	1166935	11.22
410-2632-12	HD-COD-SW-29-0/1-0	145689	4.30	1464742	7.78	1150757	11.22
410-2632-13	HD-QC1-0/1-1	146183	4.29	1449265	7.78	1154280	11.22

TBAd10 = t-Butyl alcohol-d10 (IS)
 FB = Fluorobenzene (IS)
 CBZd5 = Chlorobenzene-d5 (IS)

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 Lancaster Laboratories E Job No.: 410-2632-1
 SDG No.: _____
 Sample No.: CCVIS 410-9922/3 Date Analyzed: 06/02/2020 08:16
 Instrument ID: 19930 GC Column: R-624SilMS 30m ID: 0.25 (mm)
 Lab File ID (Standard): Iu02C01.D Heated Purge: (Y/N) N
 Calibration ID: 2799

		DCBd4					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		817994	13.09				
UPPER LIMIT		1635988	13.59				
LOWER LIMIT		408997	12.59				
LAB SAMPLE ID	CLIENT SAMPLE ID						
LCS 410-9922/4		808540	13.09				
MB 410-9922/6		816884	13.09				
410-2632-14	HD-QC1-0/1-2	809227	13.09				
410-2632-1	HD-COD-SW-6-0/1-0	721667	13.09				
410-2632-2	HD-COD-SW-7-0/1-0	719091	13.09				
410-2632-3	HD-COD-SW-8-0/1-0	700050	13.09				
410-2632-4	HD-COD-SW-9-0/1-0	688558	13.09				
410-2632-5	HD-COD-SW-13-0/1-0	670923	13.09				
410-2632-6	HD-COD-SW-15-0/1-0	673738	13.09				
410-2632-6 MS	HD-COD-SW-15-0/1-0 MS	679734	13.09				
410-2632-6 MSD	HD-COD-SW-15-0/1-0 MSD	670232	13.09				
410-2632-7	HD-COD-SW-16-0/1-0	676050	13.09				
410-2632-8	HD-COD-SW-17-0/1-0	674908	13.09				
410-2632-9	HD-COD-SW-26-0/1-0	673585	13.09				
410-2632-10	HD-COD-SW-27-0/1-0	656389	13.09				
410-2632-11	HD-COD-SW-28-0/1-0	642848	13.09				
410-2632-12	HD-COD-SW-29-0/1-0	633319	13.09				
410-2632-13	HD-QC1-0/1-1	632278	13.09				

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 Lancaster Laboratories E Job No.: 410-2632-1
 SDG No.: _____
 Client Sample ID: HD-COD-SW-6-0/1-0 Lab Sample ID: 410-2632-1
 Matrix: Water Lab File ID: iU02s09.D
 Analysis Method: 8260C LL Date Collected: 05/26/2020 11:45
 Sample wt/vol: 25 (mL) Date Analyzed: 06/02/2020 12:41
 Soil Aliquot Vol: _____ Dilution Factor: 1
 Soil Extract Vol.: _____ GC Column: R-624SilMS 30m ID: 0.25 (mm)
 % Moisture: _____ Level: (low/med) Low
 Analysis Batch No.: 9922 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	ND		0.50	0.070
71-55-6	1,1,1-Trichloroethane	ND		0.50	0.060
79-34-5	1,1,2,2-Tetrachloroethane	ND		0.50	0.070
79-00-5	1,1,2-Trichloroethane	ND		0.50	0.060
75-34-3	1,1-Dichloroethane	ND		0.50	0.070
75-35-4	1,1-Dichloroethene	ND		0.50	0.060
106-93-4	1,2-Dibromoethane (EDB)	ND		0.50	0.060
107-06-2	1,2-Dichloroethane	ND		0.50	0.050
78-87-5	1,2-Dichloropropane	ND		0.50	0.060
78-93-3	2-Butanone (MEK)	ND		5.0	0.60
591-78-6	2-Hexanone	ND		5.0	0.60
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		5.0	0.70
67-64-1	Acetone	1.4	J	5.0	0.90
107-13-1	Acrylonitrile	ND		5.0	0.40
71-43-2	Benzene	ND		0.50	0.050
74-97-5	Bromochloromethane	ND		0.50	0.050
75-27-4	Bromodichloromethane	ND		0.50	0.050
75-25-2	Bromoform	ND		1.0	0.30
74-83-9	Bromomethane	ND		0.50	0.070
75-15-0	Carbon disulfide	ND		1.0	0.060
56-23-5	Carbon tetrachloride	ND		0.50	0.070
108-90-7	Chlorobenzene	ND		0.50	0.060
75-00-3	Chloroethane	ND		0.50	0.070
67-66-3	Chloroform	ND		0.50	0.090
74-87-3	Chloromethane	ND		0.50	0.060
156-59-2	cis-1,2-Dichloroethene	0.057	J	0.50	0.050
10061-01-5	cis-1,3-Dichloropropene	ND		0.50	0.050
124-48-1	Dibromochloromethane	ND		0.50	0.070
100-41-4	Ethylbenzene	ND		0.50	0.060
1634-04-4	Methyl tert-butyl ether	ND		0.50	0.050
75-09-2	Methylene Chloride	ND		0.50	0.070
100-42-5	Styrene	ND		0.50	0.050
127-18-4	Tetrachloroethene	ND		0.50	0.060
108-88-3	Toluene	ND		0.50	0.070
156-60-5	trans-1,2-Dichloroethene	ND		0.50	0.060
10061-02-6	trans-1,3-Dichloropropene	ND		0.50	0.060

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-2632-1
 SDG No.: _____
 Client Sample ID: HD-COD-SW-6-0/1-0 Lab Sample ID: 410-2632-1
 Matrix: Water Lab File ID: iU02s09.D
 Analysis Method: 8260C LL Date Collected: 05/26/2020 11:45
 Sample wt/vol: 25 (mL) Date Analyzed: 06/02/2020 12:41
 Soil Aliquot Vol.: _____ Dilution Factor: 1
 Soil Extract Vol.: _____ GC Column: R-624SilMS 30m ID: 0.25 (mm)
 % Moisture: _____ Level: (low/med) Low
 Analysis Batch No.: 9922 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
79-01-6	Trichloroethene	ND		0.50	0.060
75-01-4	Vinyl chloride	ND		0.50	0.10
1330-20-7	Xylenes, Total	ND		1.0	0.15

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	104		80-120
1868-53-7	Dibromofluoromethane (Surr)	103		80-120
2037-26-5	Toluene-d8 (Surr)	98		80-120
460-00-4	4-Bromofluorobenzene (Surr)	97		80-120

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s09.D
 Lims ID: 410-2632-A-1
 Client ID: HD-COD-SW-6-0/1-0
 Sample Type: Client
 Inject. Date: 02-Jun-2020 12:41:30 ALS Bottle#: 14 Worklist Smp#: 15
 Purge Vol: 25.000 mL Dil. Factor: 1.0000
 Sample Info: 410-0002623-015
 Misc. Info.: 410-2632-A-1
 Operator ID: JKH09052 Instrument ID: 19930
 Method: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\8260 25ml HP31.m
 Limit Group: MSV - 8260C_D
 Last Update: 03-Jun-2020 12:53:08 Calib Date: 16-Mar-2020 18:31:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\IM16107.D
 Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
 Process Host: CTX1046

First Level Reviewer: howej

Date: 04-Jun-2020 14:17:57

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
4 Chloromethane	50	2.184	2.190	-0.006	1	1671	0.0227	
5 Vinyl chloride	62		2.300				ND	
7 Bromomethane	94		2.642				ND	
8 Chloroethane	64		2.727				ND	
14 1,1-Dichloroethene	96		3.599				ND	
15 Acetone	43	3.629	3.629	0.000	98	12478	1.39	
19 Carbon disulfide	76	3.904	3.910	-0.006	60	5335	0.0416	M
23 Methylene Chloride	84		4.288				ND	
* 24 t-Butyl alcohol-d10 (IS)	65	4.306	4.300	0.006	0	181158	50.0	M
26 Acrylonitrile	53		4.623				ND	
27 Methyl tert-butyl ether	73		4.696				ND	
28 trans-1,2-Dichloroethene	96		4.702				ND	
31 1,1-Dichloroethane	63		5.367				ND	
36 2-Butanone (MEK)	43		6.165				ND	
37 cis-1,2-Dichloroethene	96	6.202	6.196	0.006	72	3108	0.0574	
43 Chlorobromomethane	128		6.525				ND	
45 Chloroform	83		6.677				ND	
\$ 46 Dibromofluoromethane (Surr)	113	6.891	6.885	0.006	94	417395	10.3	
47 1,1,1-Trichloroethane	97		6.903				ND	
50 Carbon tetrachloride	117		7.110				ND	
\$ 53 1,2-Dichloroethane-d4 (Surr)	102	7.348	7.342	0.006	0	85329	10.4	
54 Benzene	78		7.378				ND	
56 1,2-Dichloroethane	62		7.452				ND	
* 58 Fluorobenzene (IS)	96	7.781	7.775	0.006	99	1678803	10.0	
61 Trichloroethene	95	8.262	8.256	0.006	54	2289	0.0429	
63 1,2-Dichloropropane	63		8.586				ND	
68 Dichlorobromomethane	83		8.927				ND	
73 cis-1,3-Dichloropropene	75		9.470				ND	
74 4-Methyl-2-pentanone (MIBK)	43		9.634				ND	U
\$ 75 Toluene-d8 (Surr)	98	9.774	9.774	0.000	94	1632664	9.77	
76 Toluene	92	9.860	9.854	0.006	97	5921	0.0443	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
78 trans-1,3-Dichloropropene	75		10.104				ND	
80 1,1,2-Trichloroethane	97		10.305				ND	
81 Tetrachloroethene	166	10.390	10.396	-0.006	86	1737	0.0272	M
83 2-Hexanone	43		10.512				ND	
85 Chlorodibromomethane	129		10.683				ND	
86 Ethylene Dibromide	107		10.792				ND	
* 87 Chlorobenzene-d5 (IS)	117	11.219	11.219	0.000	86	1314804	10.0	
90 Chlorobenzene	112		11.244				ND	
S 89 Xylenes, Total	106				0		0.0218	
91 1,1,1,2-Tetrachloroethane	131		11.323				ND	
92 Ethylbenzene	91	11.335	11.329	0.006	1	1414	0.005394	
93 m-Xylene & p-Xylene	106	11.451	11.445	0.006	0	2240	0.0218	
94 o-Xylene	106		11.768				ND	
95 Styrene	104		11.786				ND	
96 Bromoform	173		11.945				ND	
\$ 100 4-Bromofluorobenzene (Surr)	95	12.213	12.213	0.000	93	608252	9.75	
101 1,1,2,2-Tetrachloroethane	83		12.310				ND	
* 115 1,4-Dichlorobenzene-d4	152	13.091	13.091	0.000	95	721667	10.0	

QC Flag Legend

Review Flags

M - Manually Integrated

U - Marked Undetected

Reagents:

MSV_31_826ISS_00002

Amount Added: 5.00

Units: uL

Run Reagent

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s09.D

Injection Date: 02-Jun-2020 12:41:30

Instrument ID: 19930

Operator ID: JKH09052

Lims ID: 410-2632-A-1

Lab Sample ID: 410-2632-1

Worklist Smp#: 15

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

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

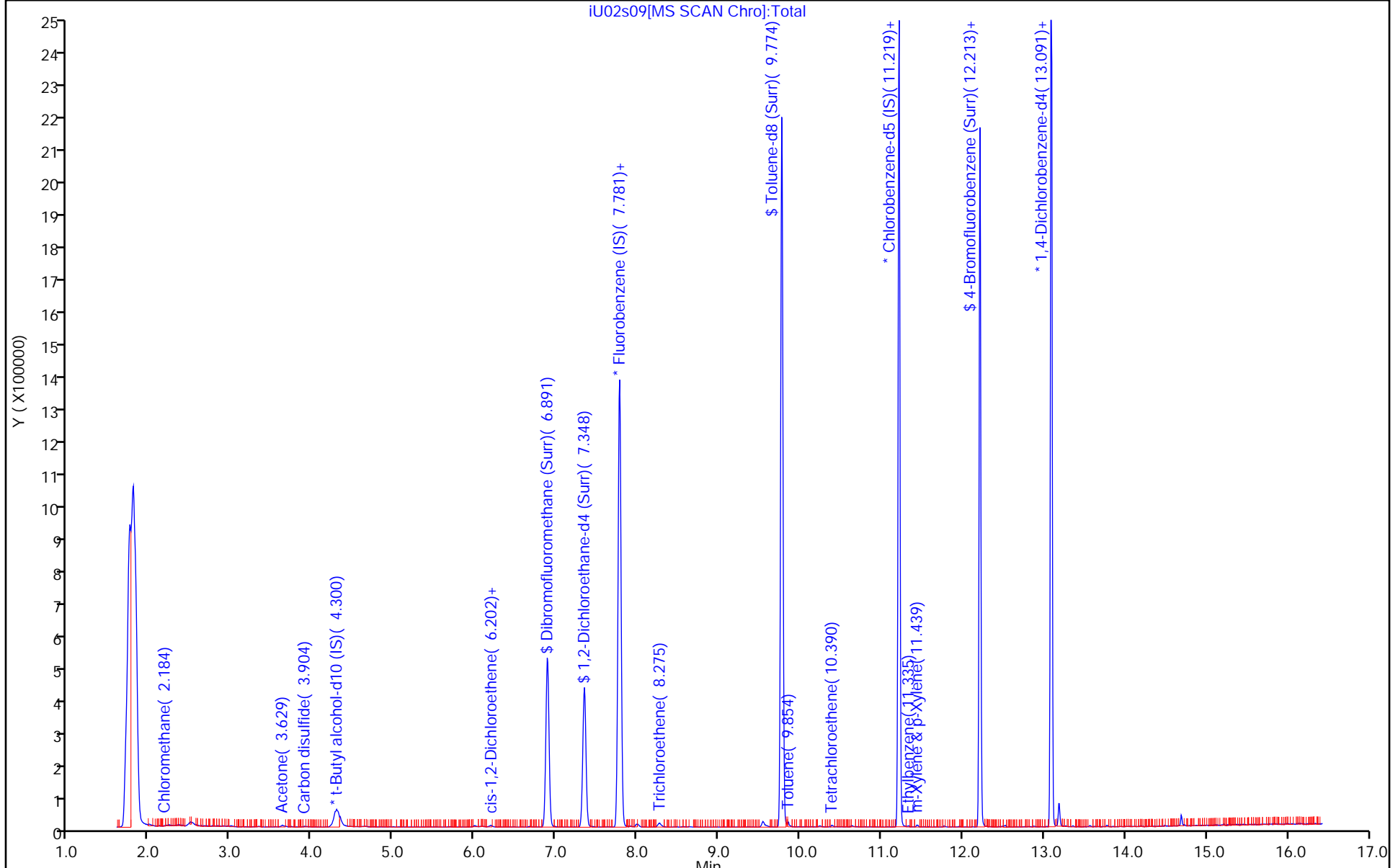
ALS Bottle#: 14

Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25 mm)

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Eurofins Lancaster Laboratories Env, LLC
Recovery Report

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s09.D
 Lims ID: 410-2632-A-1
 Client ID: HD-COD-SW-6-0/1-0
 Sample Type: Client
 Inject. Date: 02-Jun-2020 12:41:30 ALS Bottle#: 14 Worklist Smp#: 15
 Purge Vol: 25.000 mL Dil. Factor: 1.0000
 Sample Info: 410-0002623-015
 Misc. Info.: 410-2632-A-1
 Operator ID: JKH09052 Instrument ID: 19930
 Method: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\8260 25ml HP31.m
 Limit Group: MSV - 8260C_D
 Last Update: 03-Jun-2020 12:53:08 Calib Date: 16-Mar-2020 18:31:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\IM16107.D
 Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
 Process Host: CTX1046

First Level Reviewer: howej

Date: 04-Jun-2020 14:17:57

Compound	Amount Added	Amount Recovered	% Rec.
\$ 46 Dibromofluoromethane (Surr)	10.0	10.3	103.01
\$ 53 1,2-Dichloroethane-d4 (Surr)	10.0	10.4	103.93
\$ 75 Toluene-d8 (Surr)	10.0	9.77	97.65
\$ 100 4-Bromofluorobenzene (Surr)	10.0	9.75	97.49

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s09.D

Injection Date: 02-Jun-2020 12:41:30

Instrument ID: 19930

Lims ID: 410-2632-A-1

Lab Sample ID: 410-2632-1

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

Operator ID: JKH09052

ALS Bottle#: 14

Worklist Smp#: 15

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

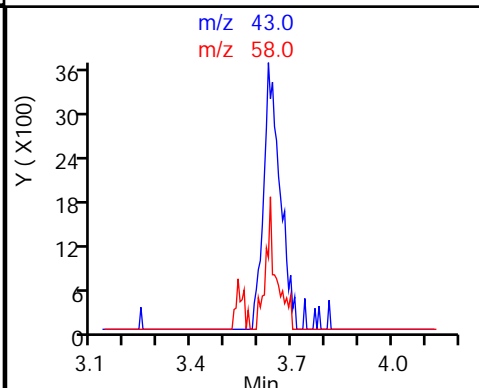
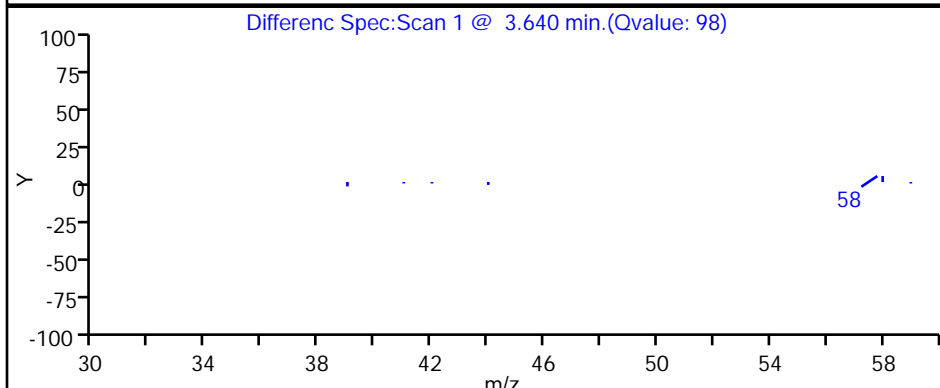
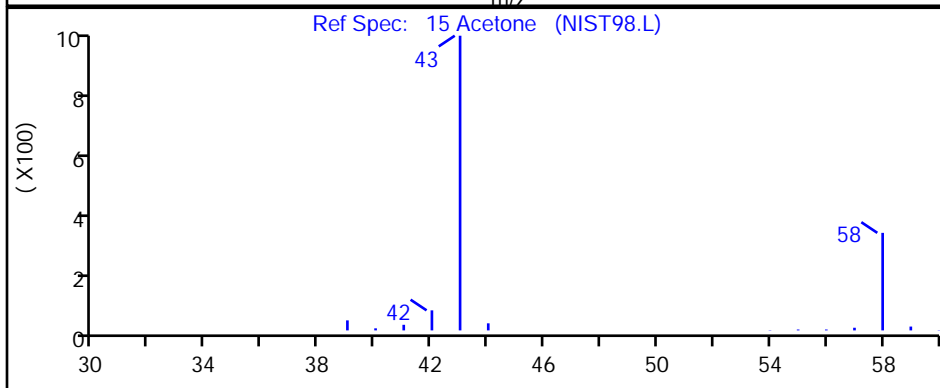
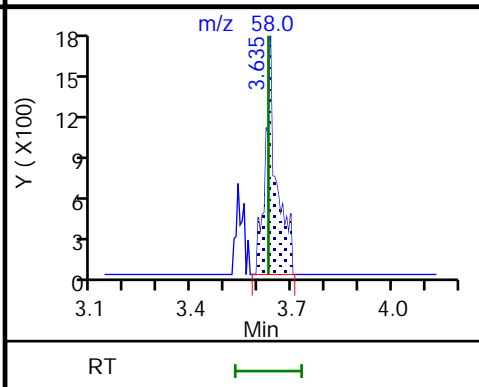
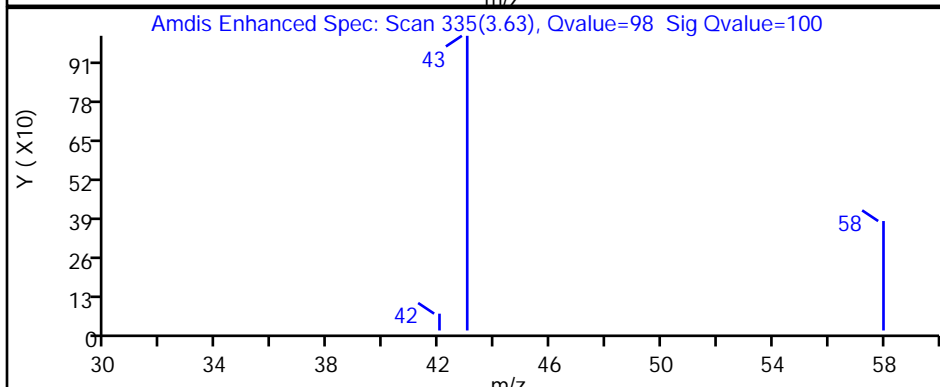
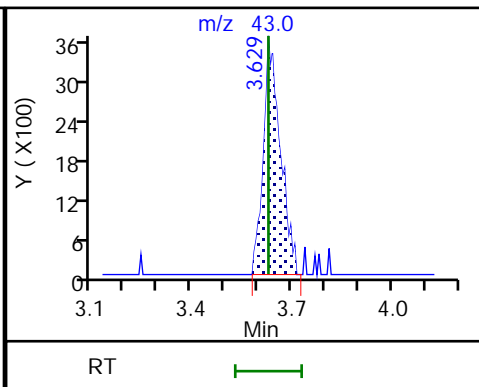
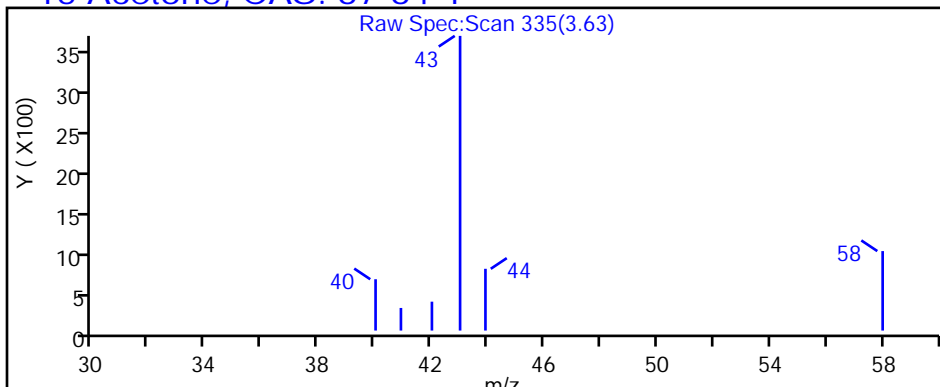
Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector

MS Quad

15 Acetone, CAS: 67-64-1



Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s09.D

Injection Date: 02-Jun-2020 12:41:30

Instrument ID: 19930

Lims ID: 410-2632-A-1

Lab Sample ID: 410-2632-1

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

Operator ID: JKH09052

ALS Bottle#: 14

Worklist Smp#: 15

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

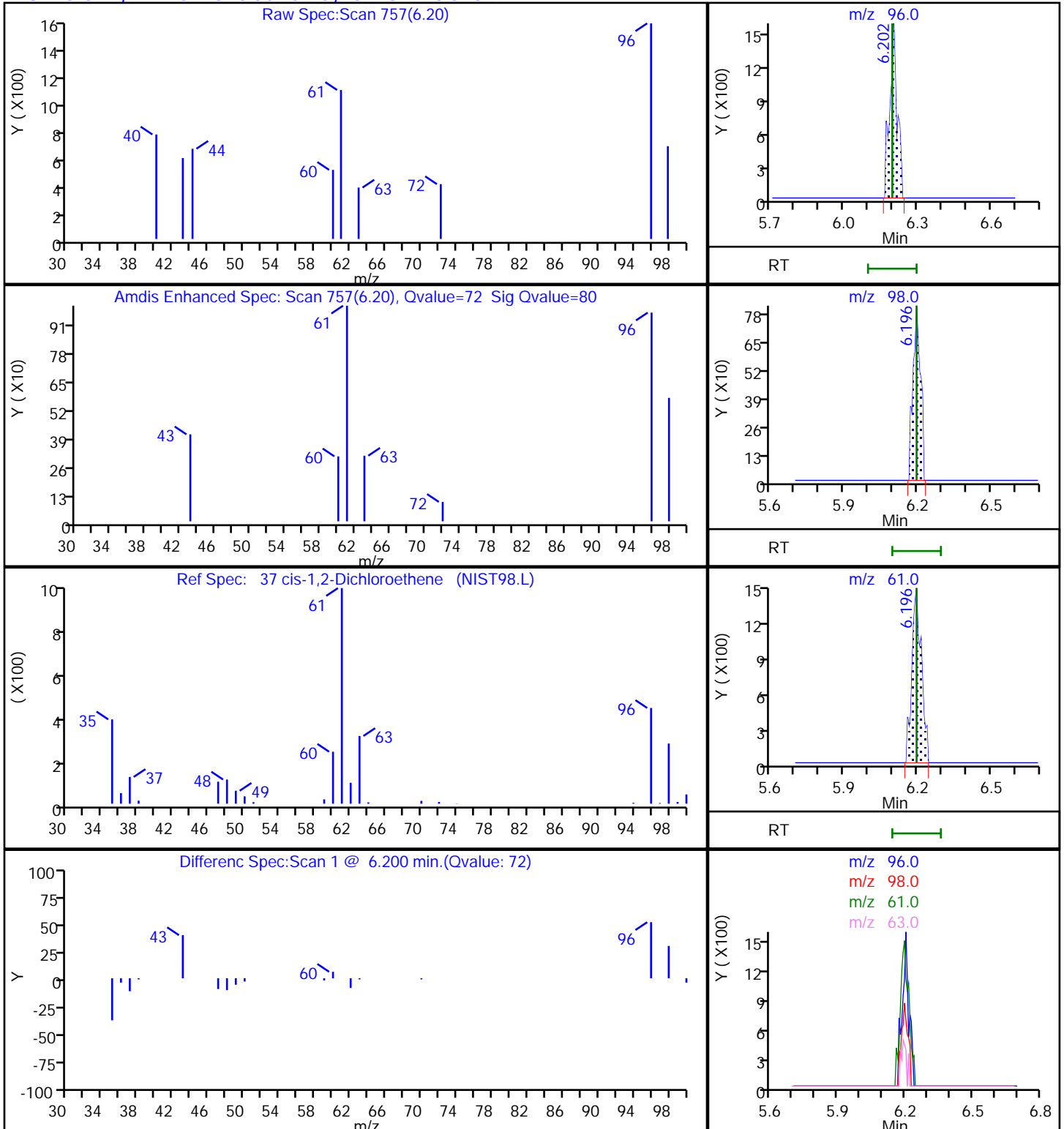
Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector

MS Quad

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

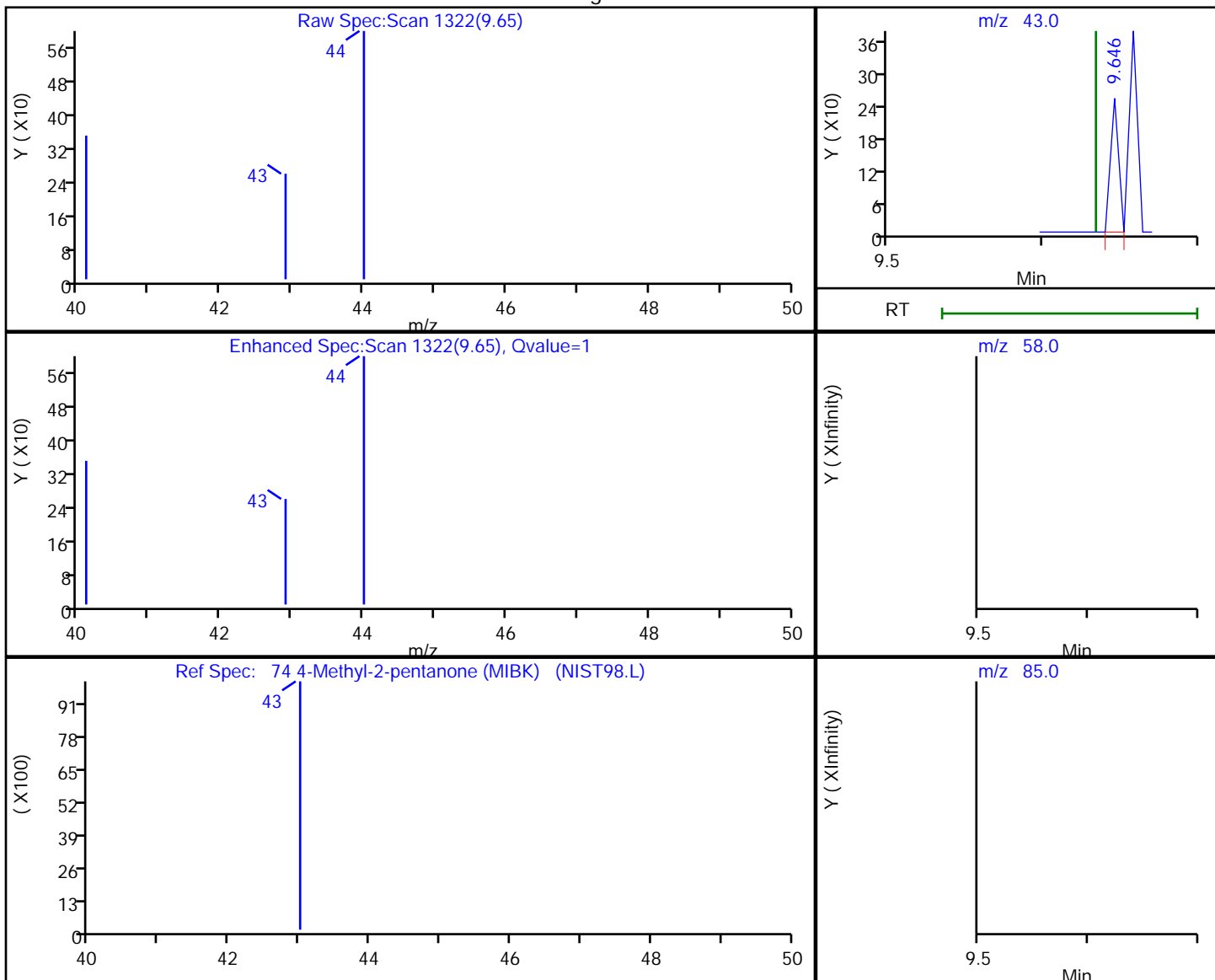


Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s09.D
 Injection Date: 02-Jun-2020 12:41:30 Instrument ID: 19930
 Lims ID: 410-2632-A-1 Lab Sample ID: 410-2632-1
 Client ID: HD-COD-SW-6-0/1-0
 Operator ID: JKH09052 ALS Bottle#: 14 Worklist Smp#: 15
 Purge Vol: 25.000 mL Dil. Factor: 1.0000
 Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
 Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

74 4-Methyl-2-pentanone (MIBK), CAS: 108-10-1

Processing Results



RT	Mass	Response	Amount
9.65	43.00	92	0.002349
9.63	58.00	0	
9.63	85.00	0	
9.63	100.00	0	

Reviewer: howej, 02-Jun-2020 13:07:22

Audit Action: Marked Compound Undetected

Audit Reason: Invalid Compound ID

Eurofins Lancaster Laboratories Env, LLC

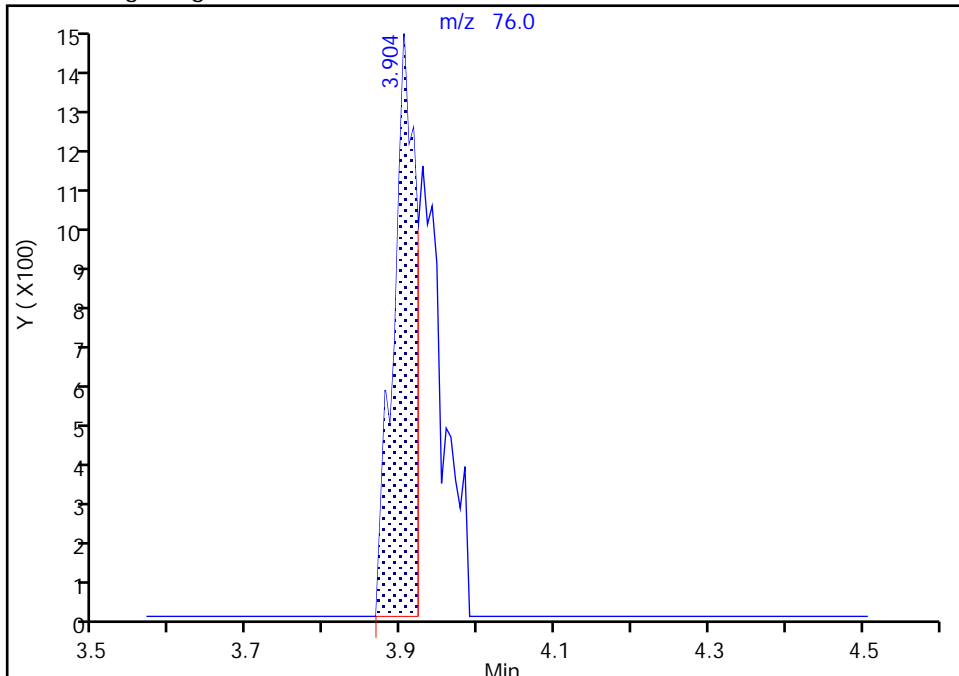
Data File:	\\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s09.D		
Injection Date:	02-Jun-2020 12:41:30	Instrument ID:	19930
Lims ID:	410-2632-A-1	Lab Sample ID:	410-2632-1
Client ID:	HD-COD-SW-6-0/1-0		
Operator ID:	JKH09052	ALS Bottle#:	14
Purge Vol:	25.000 mL	Dil. Factor:	1.0000
Method:	8260 25ml HP31	Limit Group:	MSV - 8260C_D
Column:	Rxi-624Sil MS Capillary Column (0.25mm ID)	Detector:	MS Quad
		Worklist Smp#:	15

19 Carbon disulfide, CAS: 75-15-0

Signal: 1

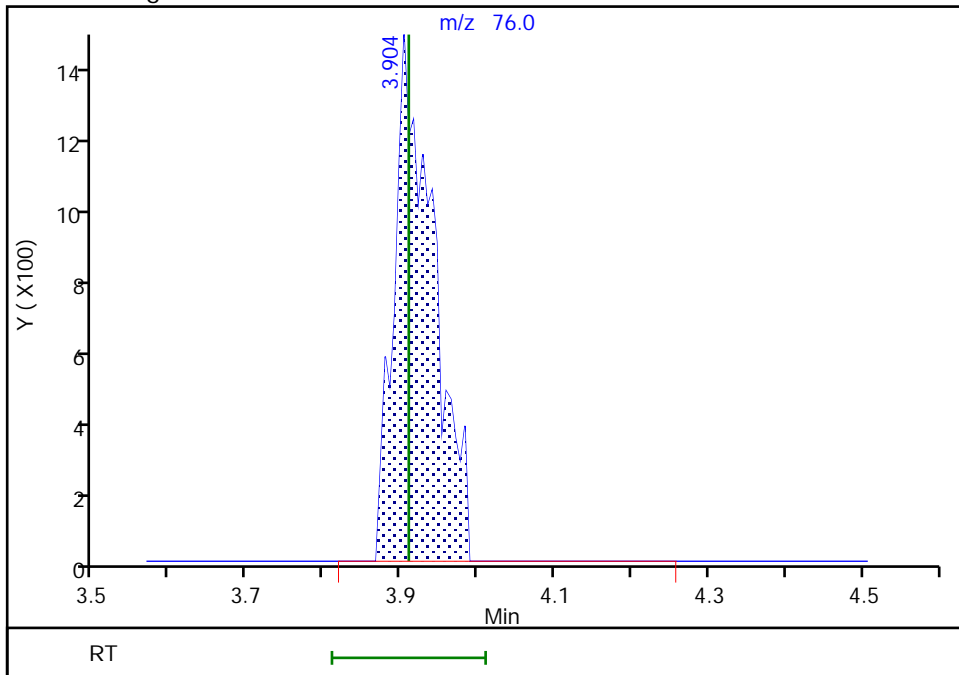
RT: 3.90
 Area: 2984
 Amount: 0.023246
 Amount Units: ug/l

Processing Integration Results



RT: 3.90
 Area: 5335
 Amount: 0.041560
 Amount Units: ug/l

Manual Integration Results



Reviewer: howej, 02-Jun-2020 13:07:02
 Audit Action: Manually Integrated

Audit Reason: Other

Eurofins Lancaster Laboratories Env, LLC

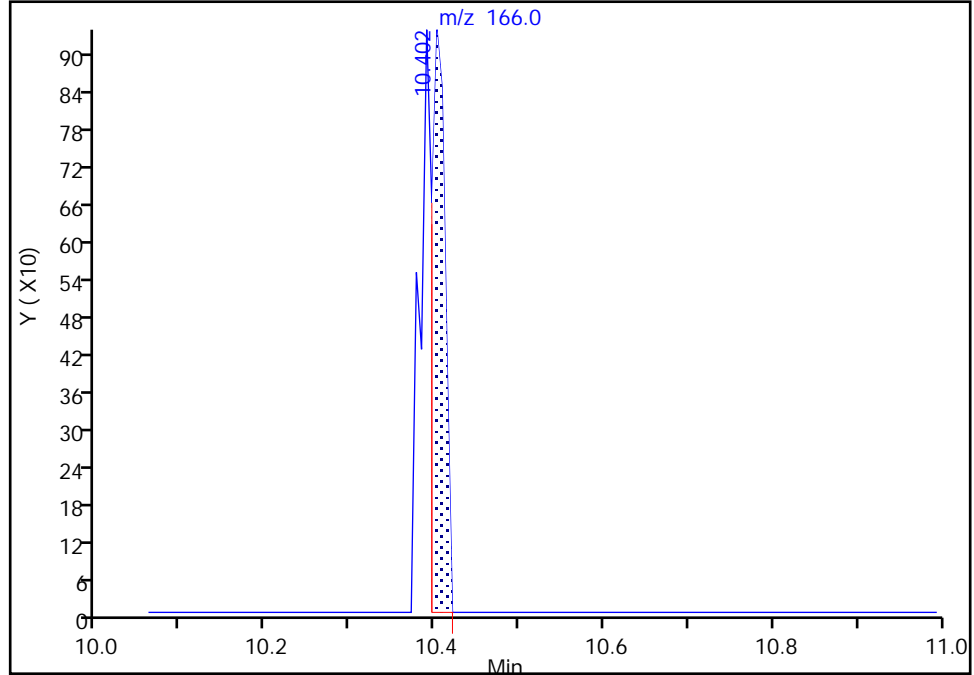
Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s09.D
Injection Date: 02-Jun-2020 12:41:30 Instrument ID: 19930
Lims ID: 410-2632-A-1 Lab Sample ID: 410-2632-1
Client ID: HD-COD-SW-6-0/1-0
Operator ID: JKH09052 ALS Bottle#: 14 Worklist Smp#: 15
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

81 Tetrachloroethene, CAS: 127-18-4

Signal: 1

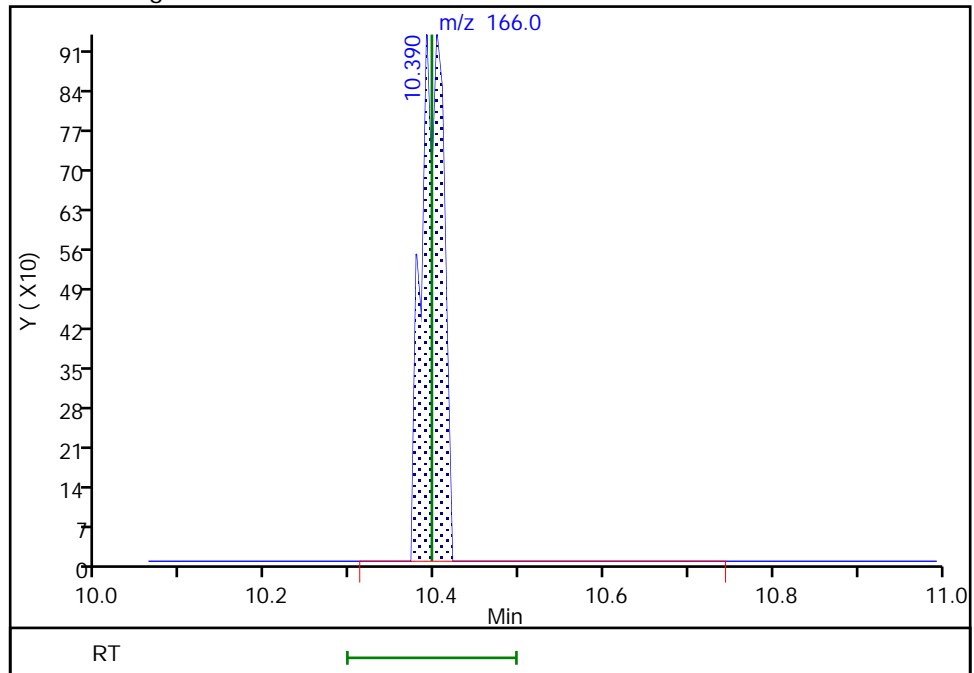
RT: 10.40
Area: 1038
Amount: 0.016267
Amount Units: ug/l

Processing Integration Results



RT: 10.39
Area: 1737
Amount: 0.027221
Amount Units: ug/l

Manual Integration Results



Reviewer: howej, 02-Jun-2020 13:07:34
Audit Action: Manually Integrated

Audit Reason: Other

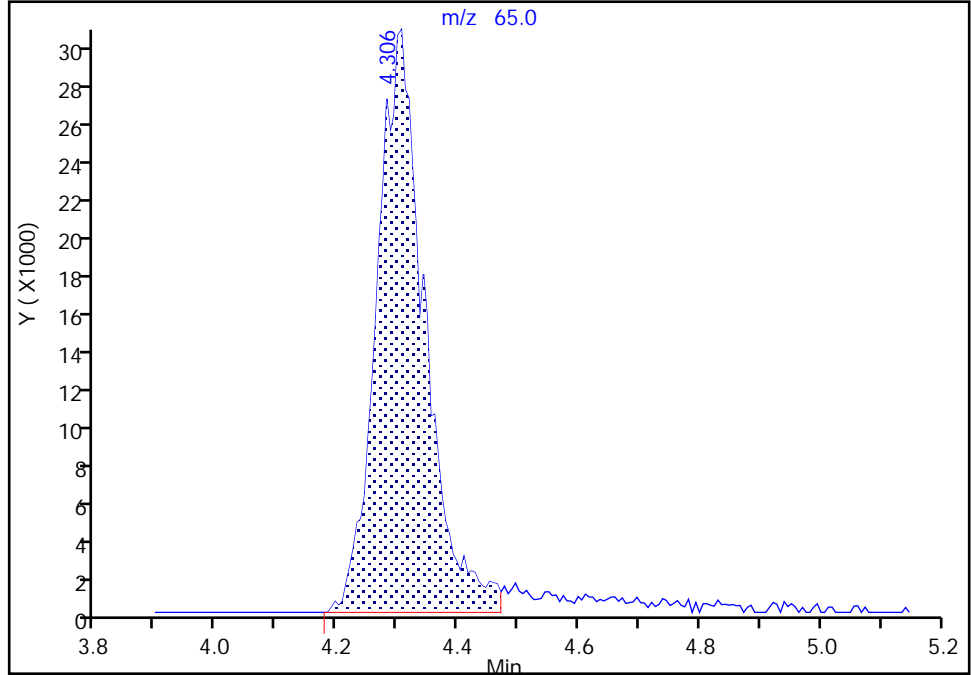
Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s09.D
Injection Date: 02-Jun-2020 12:41:30 Instrument ID: 19930
Lims ID: 410-2632-A-1 Lab Sample ID: 410-2632-1
Client ID: HD-COD-SW-6-0/1-0
Operator ID: JKH09052 ALS Bottle#: 14 Worklist Smp#: 15
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

* 24 t-Butyl alcohol-d10 (IS), CAS: 53001-22-2
Signal: 1

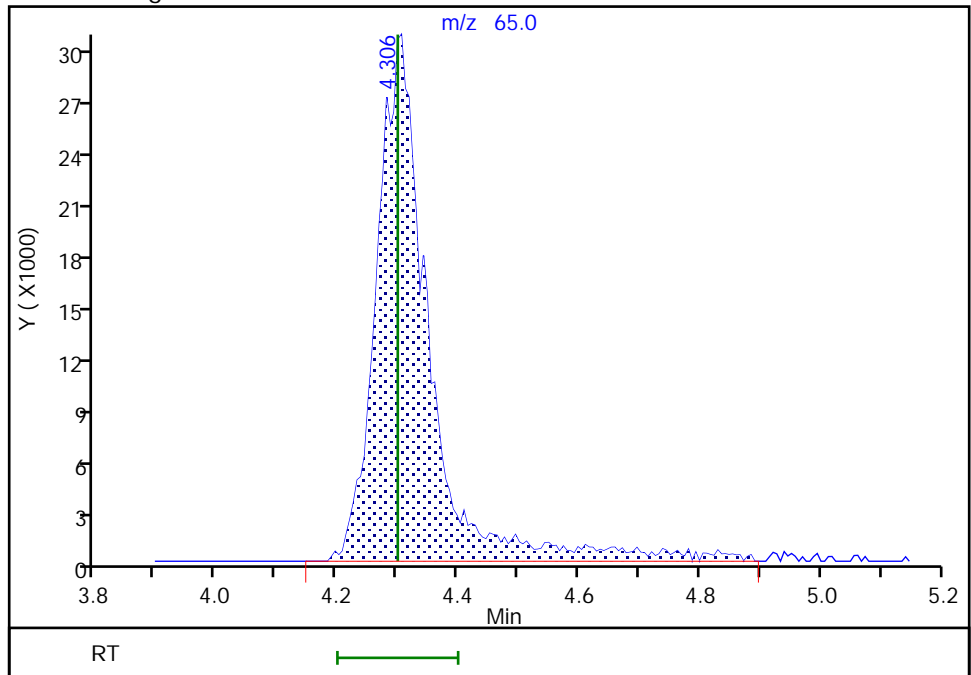
RT: 4.31
Area: 165771
Amount: 50.000000
Amount Units: ug/l

Processing Integration Results



RT: 4.31
Area: 181158
Amount: 50.000000
Amount Units: ug/l

Manual Integration Results



Reviewer: howej, 02-Jun-2020 13:07:07
Audit Action: Manually Integrated

Audit Reason: Other

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-2632-1
 SDG No.: _____
 Client Sample ID: HD-COD-SW-7-0/1-0 Lab Sample ID: 410-2632-2
 Matrix: Water Lab File ID: iU02s10.D
 Analysis Method: 8260C LL Date Collected: 05/26/2020 12:30
 Sample wt/vol: 25 (mL) Date Analyzed: 06/02/2020 13:03
 Soil Aliquot Vol: _____ Dilution Factor: 1
 Soil Extract Vol.: _____ GC Column: R-624SilMS 30m ID: 0.25 (mm)
 % Moisture: _____ Level: (low/med) Low
 Analysis Batch No.: 9922 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	ND		0.50	0.070
71-55-6	1,1,1-Trichloroethane	ND		0.50	0.060
79-34-5	1,1,2,2-Tetrachloroethane	ND		0.50	0.070
79-00-5	1,1,2-Trichloroethane	ND		0.50	0.060
75-34-3	1,1-Dichloroethane	ND		0.50	0.070
75-35-4	1,1-Dichloroethene	ND		0.50	0.060
106-93-4	1,2-Dibromoethane (EDB)	ND		0.50	0.060
107-06-2	1,2-Dichloroethane	ND		0.50	0.050
78-87-5	1,2-Dichloropropane	ND		0.50	0.060
78-93-3	2-Butanone (MEK)	ND		5.0	0.60
591-78-6	2-Hexanone	ND		5.0	0.60
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		5.0	0.70
67-64-1	Acetone	1.6	J	5.0	0.90
107-13-1	Acrylonitrile	ND		5.0	0.40
71-43-2	Benzene	ND		0.50	0.050
74-97-5	Bromochloromethane	ND		0.50	0.050
75-27-4	Bromodichloromethane	ND		0.50	0.050
75-25-2	Bromoform	ND		1.0	0.30
74-83-9	Bromomethane	ND		0.50	0.070
75-15-0	Carbon disulfide	0.068	J	1.0	0.060
56-23-5	Carbon tetrachloride	ND		0.50	0.070
108-90-7	Chlorobenzene	ND		0.50	0.060
75-00-3	Chloroethane	ND		0.50	0.070
67-66-3	Chloroform	ND		0.50	0.090
74-87-3	Chloromethane	ND		0.50	0.060
156-59-2	cis-1,2-Dichloroethene	ND		0.50	0.050
10061-01-5	cis-1,3-Dichloropropene	ND		0.50	0.050
124-48-1	Dibromochloromethane	ND		0.50	0.070
100-41-4	Ethylbenzene	ND		0.50	0.060
1634-04-4	Methyl tert-butyl ether	ND		0.50	0.050
75-09-2	Methylene Chloride	ND		0.50	0.070
100-42-5	Styrene	ND		0.50	0.050
127-18-4	Tetrachloroethene	ND		0.50	0.060
108-88-3	Toluene	ND		0.50	0.070
156-60-5	trans-1,2-Dichloroethene	ND		0.50	0.060
10061-02-6	trans-1,3-Dichloropropene	ND		0.50	0.060

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-2632-1
 SDG No.: _____
 Client Sample ID: HD-COD-SW-7-0/1-0 Lab Sample ID: 410-2632-2
 Matrix: Water Lab File ID: iU02s10.D
 Analysis Method: 8260C LL Date Collected: 05/26/2020 12:30
 Sample wt/vol: 25 (mL) Date Analyzed: 06/02/2020 13:03
 Soil Aliquot Vol.: _____ Dilution Factor: 1
 Soil Extract Vol.: _____ GC Column: R-624SilMS 30m ID: 0.25 (mm)
 % Moisture: _____ Level: (low/med) Low
 Analysis Batch No.: 9922 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
79-01-6	Trichloroethene	0.098	J	0.50	0.060
75-01-4	Vinyl chloride	ND		0.50	0.10
1330-20-7	Xylenes, Total	ND		1.0	0.15

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	106		80-120
1868-53-7	Dibromofluoromethane (Surr)	102		80-120
2037-26-5	Toluene-d8 (Surr)	100		80-120
460-00-4	4-Bromofluorobenzene (Surr)	98		80-120

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s10.D
 Lims ID: 410-2632-A-2
 Client ID: HD-COD-SW-7-0/1-0
 Sample Type: Client
 Inject. Date: 02-Jun-2020 13:03:30 ALS Bottle#: 15 Worklist Smp#: 16
 Purge Vol: 25.000 mL Dil. Factor: 1.0000
 Sample Info: 410-0002623-016
 Misc. Info.: 410-2632-A-2
 Operator ID: JKH09052 Instrument ID: 19930
 Method: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\8260 25ml HP31.m
 Limit Group: MSV - 8260C_D
 Last Update: 03-Jun-2020 12:53:08 Calib Date: 16-Mar-2020 18:31:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\IM16107.D
 Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
 Process Host: CTX1046

First Level Reviewer: howej

Date: 02-Jun-2020 13:47:00

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
4 Chloromethane	50	2.202	2.190	0.012	1	2549	0.0350	
5 Vinyl chloride	62		2.300				ND	
7 Bromomethane	94		2.642				ND	
8 Chloroethane	64		2.727				ND	
14 1,1-Dichloroethene	96		3.599				ND	
15 Acetone	43	3.647	3.629	0.018	99	13951	1.59	
19 Carbon disulfide	76	3.928	3.910	0.018	60	8618	0.0677	M
23 Methylene Chloride	84		4.288				ND	
* 24 t-Butyl alcohol-d10 (IS)	65	4.306	4.300	0.006	0	176922	50.0	M
26 Acrylonitrile	53		4.623				ND	
27 Methyl tert-butyl ether	73		4.696				ND	
28 trans-1,2-Dichloroethene	96		4.702				ND	
31 1,1-Dichloroethane	63		5.367				ND	
36 2-Butanone (MEK)	43		6.165				ND	
37 cis-1,2-Dichloroethene	96		6.196				ND	
43 Chlorobromomethane	128		6.525				ND	
45 Chloroform	83	6.689	6.677	0.012	67	3669	0.0431	
\$ 46 Dibromofluoromethane (Surr)	113	6.897	6.885	0.012	94	408200	10.2	
47 1,1,1-Trichloroethane	97		6.903				ND	
50 Carbon tetrachloride	117		7.110				ND	
\$ 53 1,2-Dichloroethane-d4 (Surr)	102	7.354	7.342	0.012	0	86583	10.6	
54 Benzene	78		7.378				ND	
56 1,2-Dichloroethane	62		7.452				ND	
* 58 Fluorobenzene (IS)	96	7.787	7.775	0.012	99	1663614	10.0	
61 Trichloroethene	95	8.256	8.256	0.000	88	5179	0.0980	
63 1,2-Dichloropropane	63		8.586				ND	
68 Dichlorobromomethane	83		8.927				ND	
73 cis-1,3-Dichloropropene	75		9.470				ND	
74 4-Methyl-2-pentanone (MIBK)	43		9.634				ND	
\$ 75 Toluene-d8 (Surr)	98	9.780	9.774	0.006	94	1630911	9.98	
76 Toluene	92	9.853	9.854	-0.001	97	7936	0.0608	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
78 trans-1,3-Dichloropropene	75		10.104				ND	
80 1,1,2-Trichloroethane	97		10.305				ND	
81 Tetrachloroethene	166	10.396	10.396	0.000	90	3707	0.0594	
83 2-Hexanone	43		10.512				ND	
85 Chlorodibromomethane	129		10.683				ND	
86 Ethylene Dibromide	107		10.792				ND	
* 87 Chlorobenzene-d5 (IS)	117	11.219	11.219	0.000	86	1285597	10.0	
90 Chlorobenzene	112		11.244				ND	
S 89 Xylenes, Total	106				0		0.0276	
91 1,1,1,2-Tetrachloroethane	131		11.323				ND	
92 Ethylbenzene	91	11.335	11.329	0.006	91	1968	0.007677	
93 m-Xylene & p-Xylene	106	11.432	11.445	-0.013	0	2772	0.0276	
94 o-Xylene	106		11.768				ND	
95 Styrene	104	11.792	11.786	0.006	86	1600	0.0101	
96 Bromoform	173		11.945				ND	
\$ 100 4-Bromofluorobenzene (Surr)	95	12.213	12.213	0.000	92	598883	9.82	
101 1,1,2,2-Tetrachloroethane	83		12.310				ND	
* 115 1,4-Dichlorobenzene-d4	152	13.091	13.091	0.000	95	719091	10.0	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

MSV_31_826ISS_00002

Amount Added: 5.00

Units: uL

Run Reagent

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s10.D

Injection Date: 02-Jun-2020 13:03:30

Instrument ID: 19930

Operator ID: JKH09052

Lims ID: 410-2632-A-2

Lab Sample ID: 410-2632-2

Worklist Smp#: 16

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

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

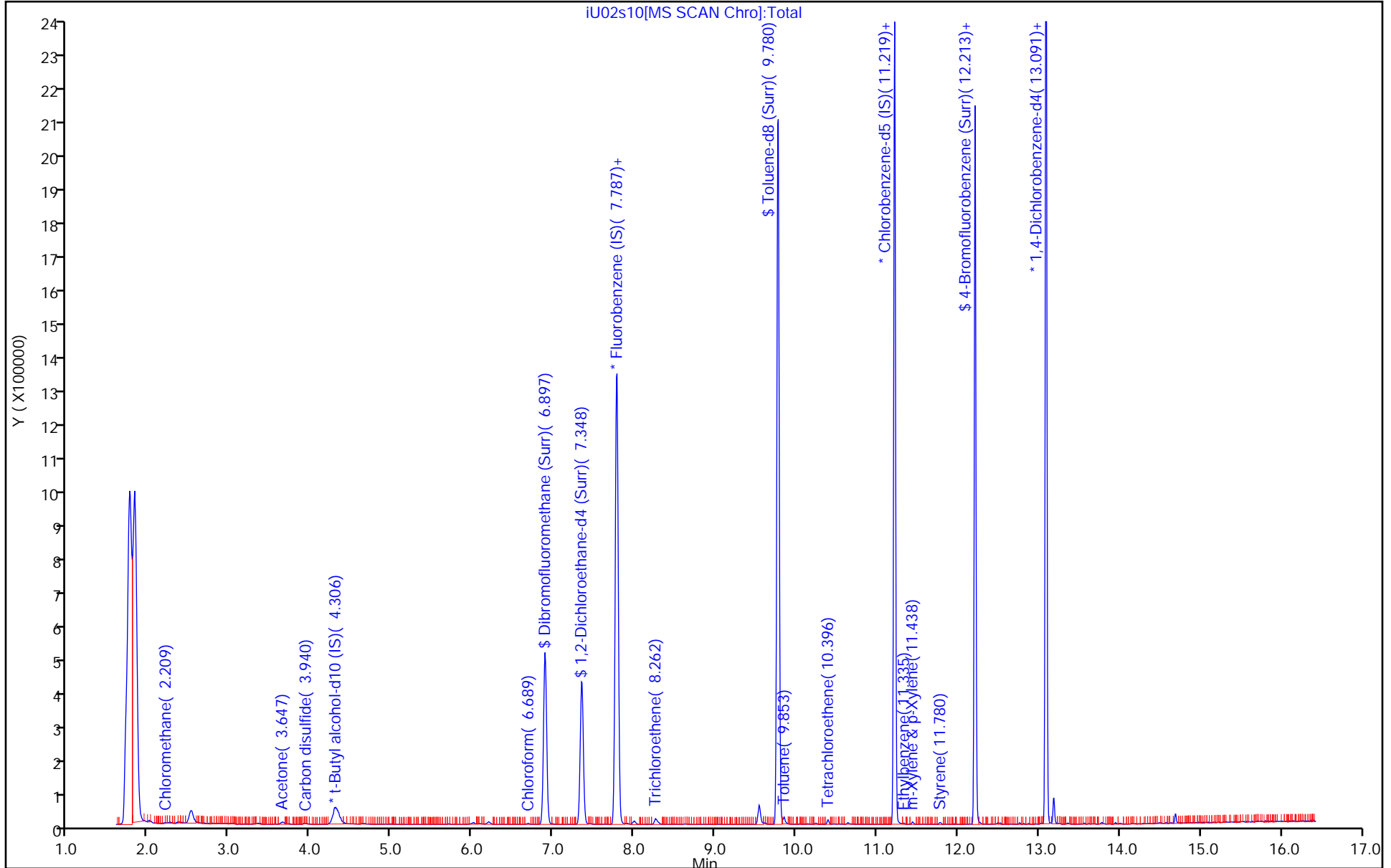
ALS Bottle#: 15

Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25 mm)

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Eurofins Lancaster Laboratories Env, LLC
Recovery Report

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s10.D
 Lims ID: 410-2632-A-2
 Client ID: HD-COD-SW-7-0/1-0
 Sample Type: Client
 Inject. Date: 02-Jun-2020 13:03:30 ALS Bottle#: 15 Worklist Smp#: 16
 Purge Vol: 25.000 mL Dil. Factor: 1.0000
 Sample Info: 410-0002623-016
 Misc. Info.: 410-2632-A-2
 Operator ID: JKH09052 Instrument ID: 19930
 Method: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\8260 25ml HP31.m
 Limit Group: MSV - 8260C_D
 Last Update: 03-Jun-2020 12:53:08 Calib Date: 16-Mar-2020 18:31:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\IM16107.D
 Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
 Process Host: CTX1046

First Level Reviewer: howej

Date: 02-Jun-2020 13:47:00

Compound	Amount Added	Amount Recovered	% Rec.
\$ 46 Dibromofluoromethane (Surr)	10.0	10.2	101.66
\$ 53 1,2-Dichloroethane-d4 (Surr)	10.0	10.6	106.42
\$ 75 Toluene-d8 (Surr)	10.0	9.98	99.76
\$ 100 4-Bromofluorobenzene (Surr)	10.0	9.82	98.17

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s10.D

Injection Date: 02-Jun-2020 13:03:30

Instrument ID: 19930

Lims ID: 410-2632-A-2

Lab Sample ID: 410-2632-2

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

Operator ID: JKH09052

ALS Bottle#: 15

Worklist Smp#: 16

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

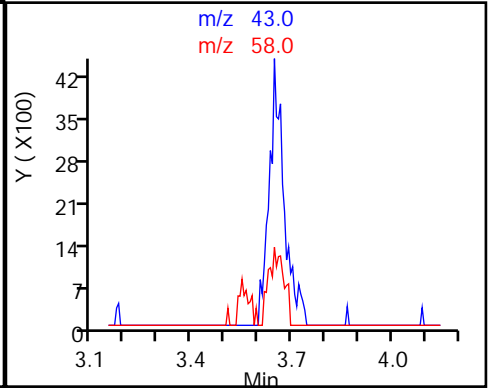
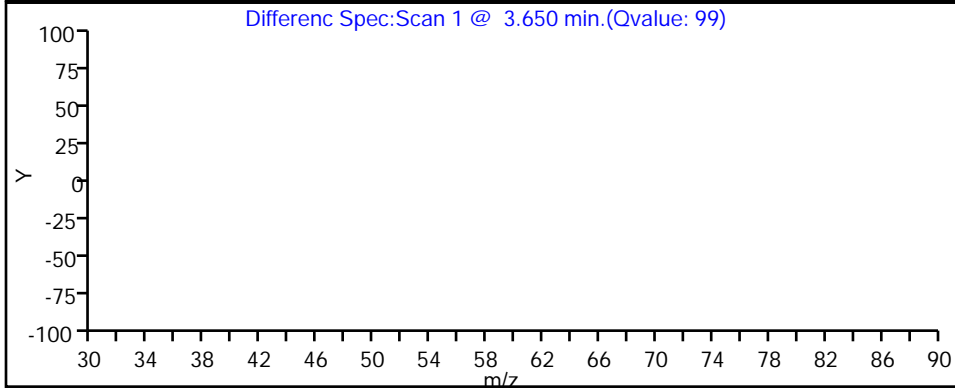
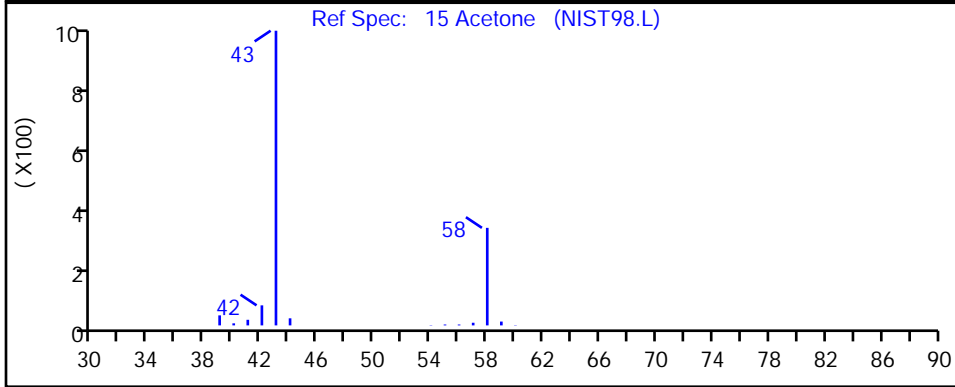
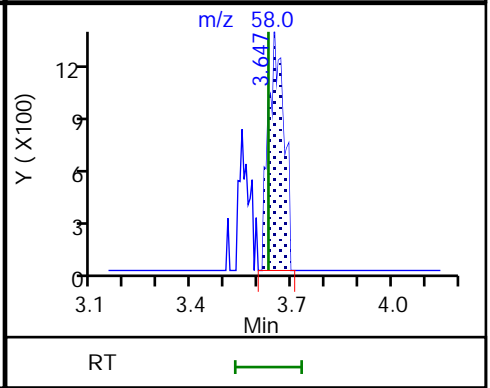
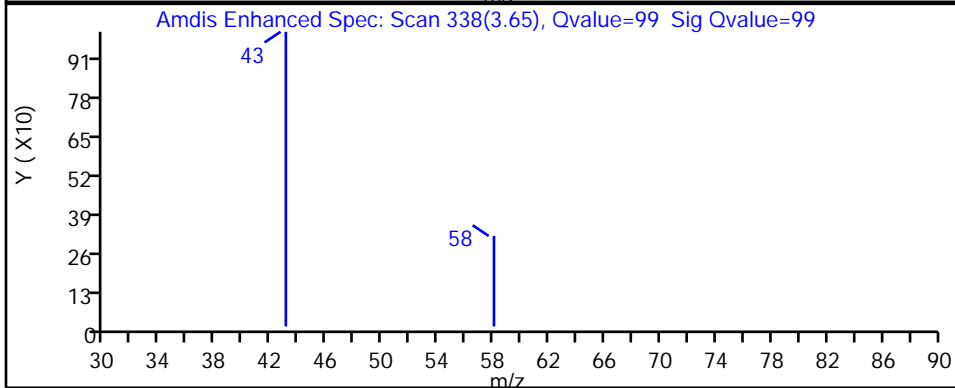
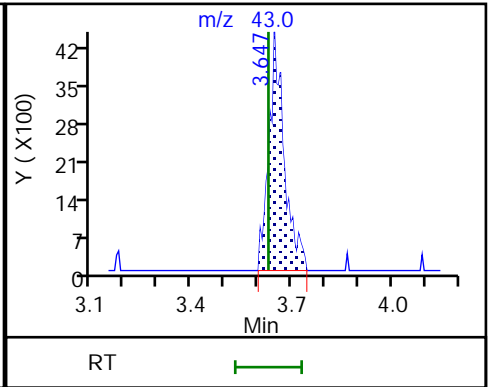
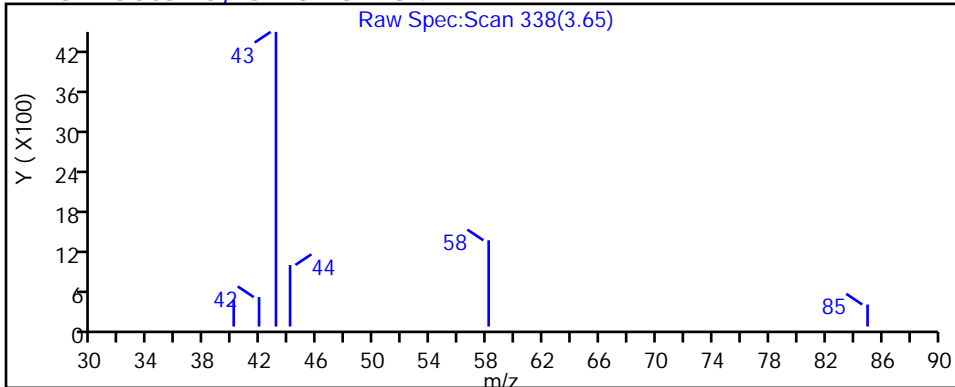
Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25mm ID)

MS Quad

15 Acetone, CAS: 67-64-1



Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s10.D

Injection Date: 02-Jun-2020 13:03:30

Instrument ID: 19930

Lims ID: 410-2632-A-2

Lab Sample ID: 410-2632-2

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

Operator ID: JKH09052

ALS Bottle#: 15

Worklist Smp#: 16

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

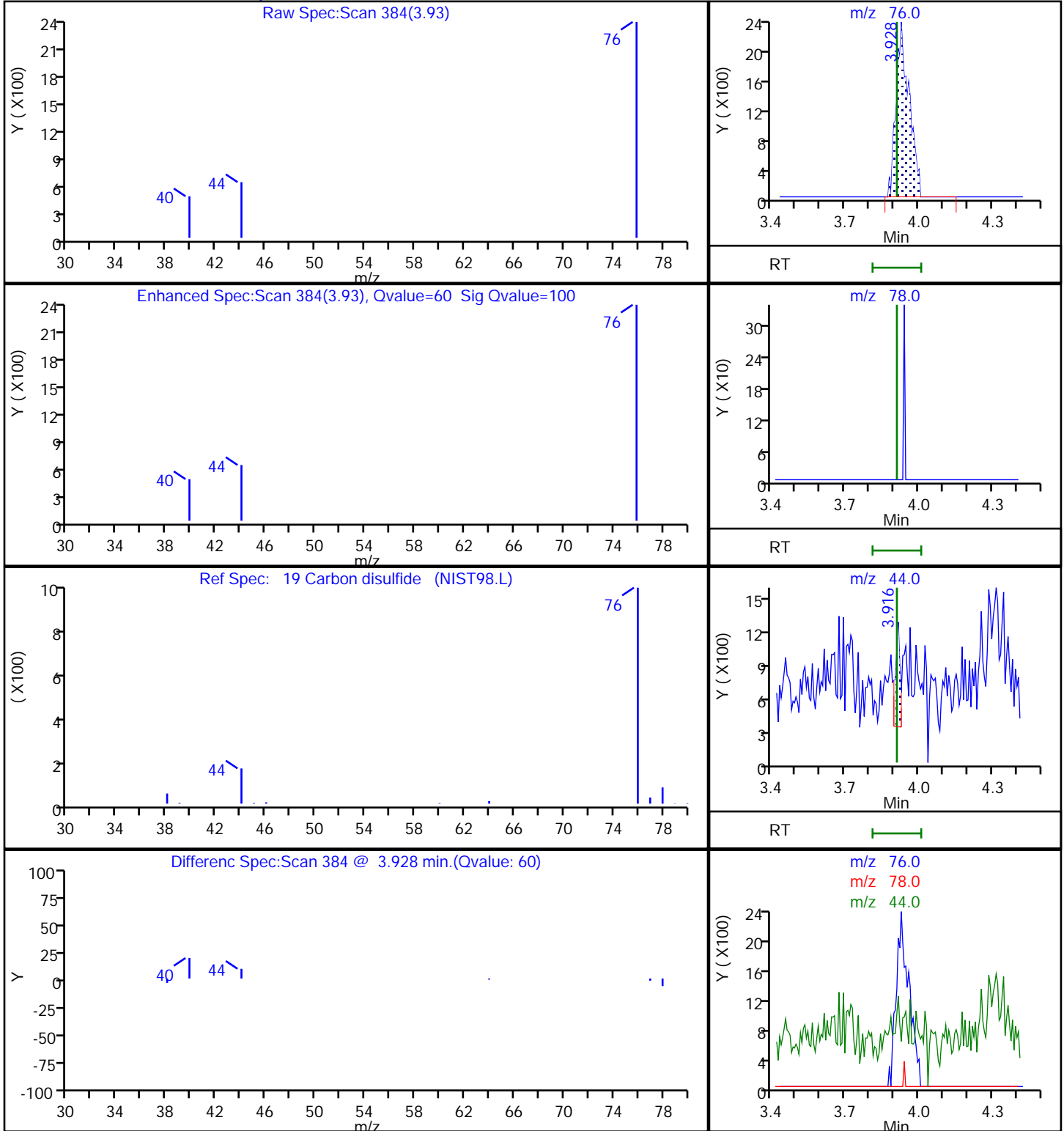
Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25mm ID)

MS Quad

19 Carbon disulfide, CAS: 75-15-0



Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s10.D

Injection Date: 02-Jun-2020 13:03:30

Instrument ID: 19930

Lims ID: 410-2632-A-2

Lab Sample ID: 410-2632-2

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

Operator ID: JKH09052

ALS Bottle#: 15

Worklist Smp#: 16

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

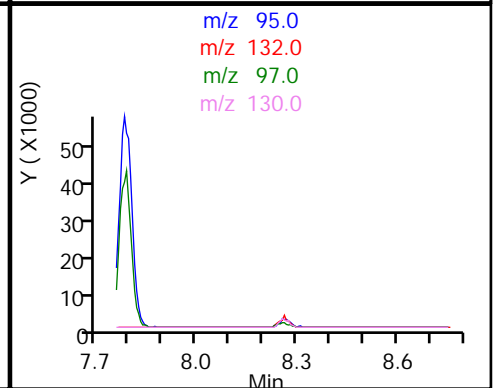
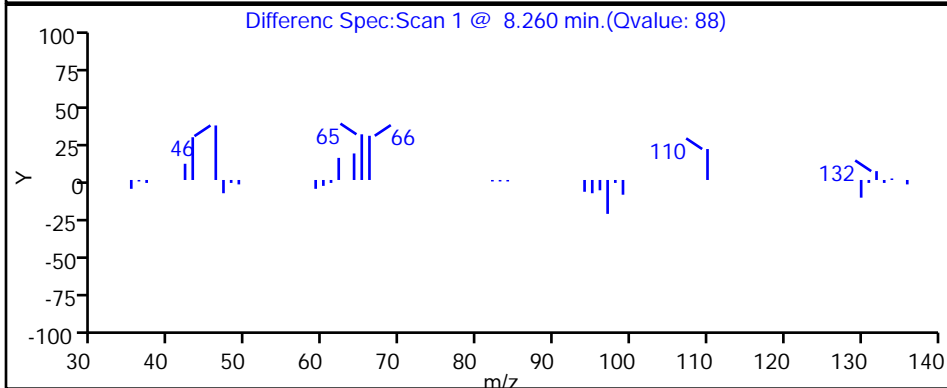
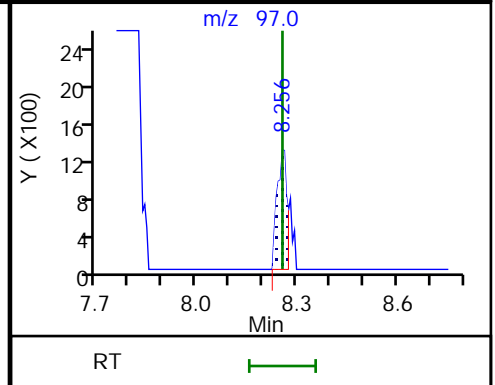
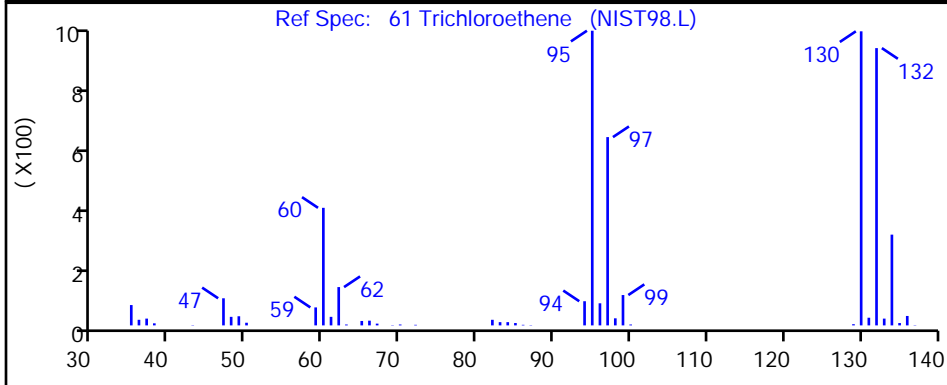
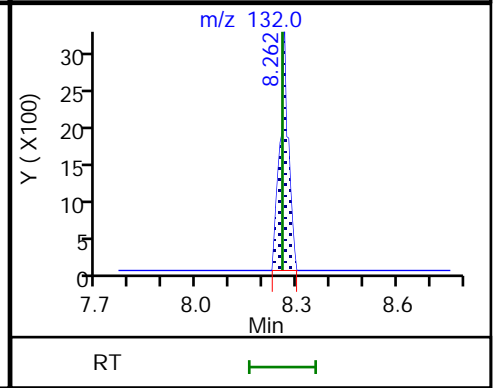
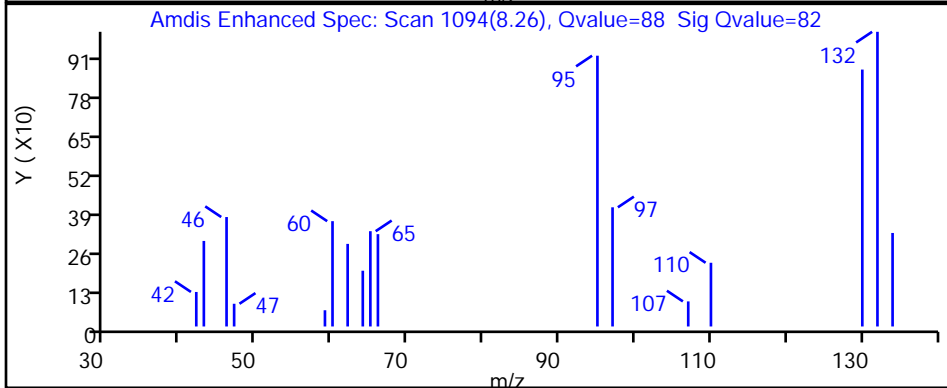
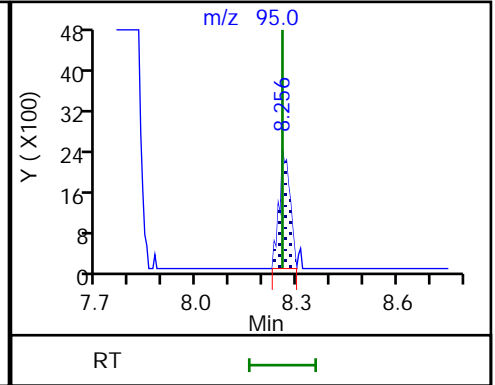
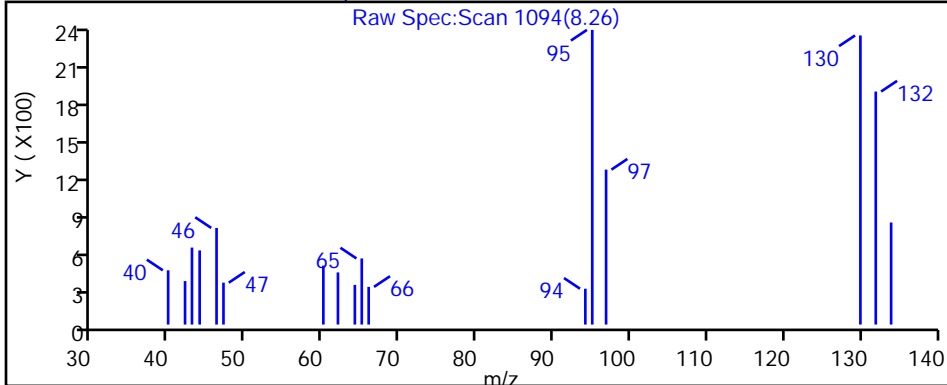
Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector

MS Quad

61 Trichloroethene, CAS: 79-01-6



Euofins Lancaster Laboratories Env, LLC

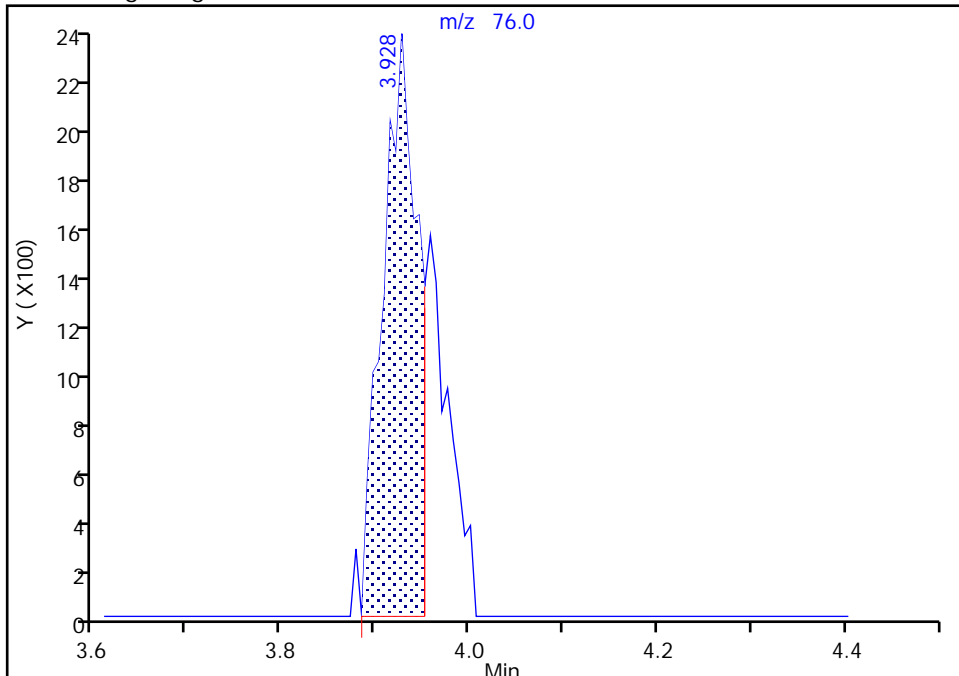
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Injection Date:	02-Jun-2020 13:03:30	Instrument ID:	19930
Lims ID:	410-2632-A-2	Lab Sample ID:	410-2632-2
Client ID:	HD-COD-SW-7-0/1-0		
Operator ID:	JKH09052	ALS Bottle#:	15
Purge Vol:	25.000 mL	Dil. Factor:	1.0000
Method:	8260 25ml HP31	Limit Group:	MSV - 8260C_D
Column:	Rxi-624Sil MS Capillary Column (0.25mm ID)	Detector:	MS Quad
		Worklist Smp#:	16

19 Carbon disulfide, CAS: 75-15-0

Signal: 1

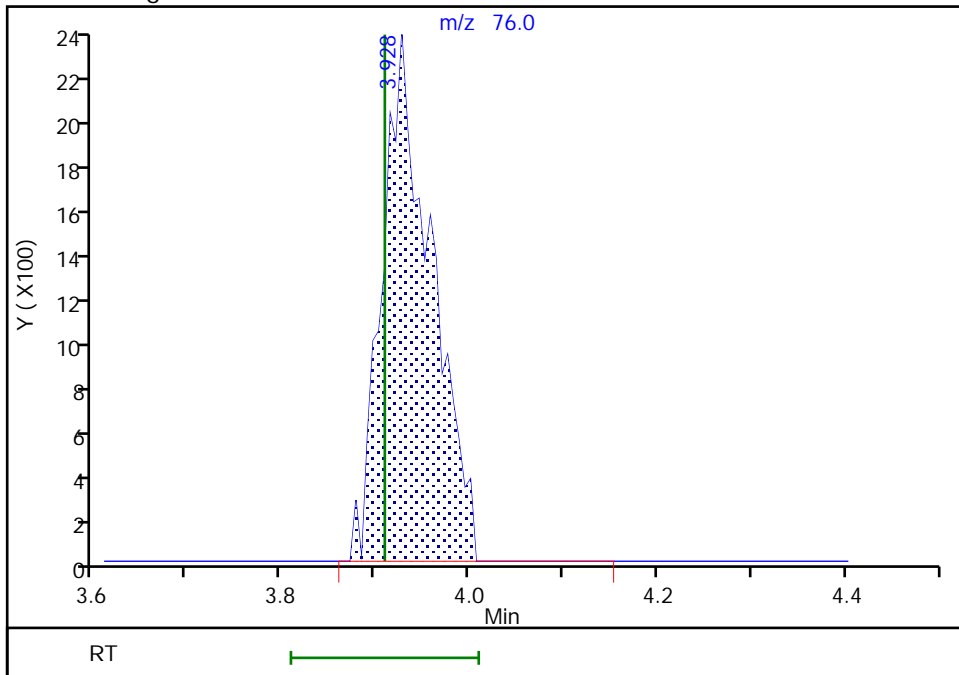
RT: 3.93
 Area: 6099
 Amount: 0.047946
 Amount Units: ug/l

Processing Integration Results



RT: 3.93
 Area: 8618
 Amount: 0.067748
 Amount Units: ug/l

Manual Integration Results



Reviewer: howej, 02-Jun-2020 13:46:18
 Audit Action: Manually Integrated

Audit Reason: Other

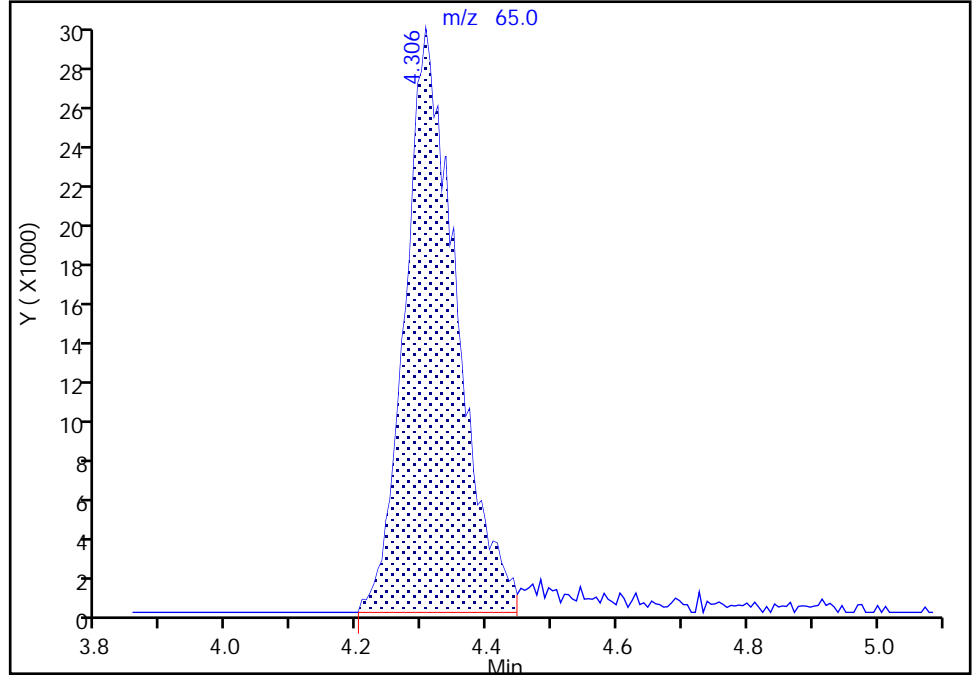
Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s10.D
Injection Date: 02-Jun-2020 13:03:30 Instrument ID: 19930
Lims ID: 410-2632-A-2 Lab Sample ID: 410-2632-2
Client ID: HD-COD-SW-7-0/1-0
Operator ID: JKH09052 ALS Bottle#: 15 Worklist Smp#: 16
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

* 24 t-Butyl alcohol-d10 (IS), CAS: 53001-22-2
Signal: 1

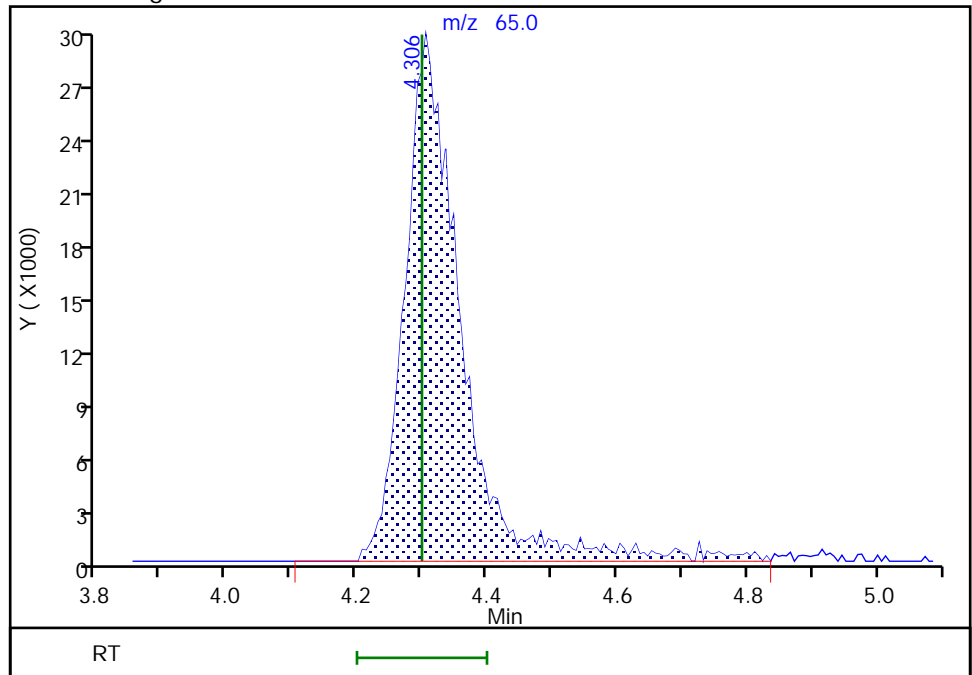
RT: 4.31
Area: 162745
Amount: 50.000000
Amount Units: ug/l

Processing Integration Results



RT: 4.31
Area: 176922
Amount: 50.000000
Amount Units: ug/l

Manual Integration Results



Reviewer: howej, 02-Jun-2020 13:46:29
Audit Action: Manually Integrated

Audit Reason: Other

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-2632-1
 SDG No.: _____
 Client Sample ID: HD-COD-SW-8-0/1-0 Lab Sample ID: 410-2632-3
 Matrix: Water Lab File ID: iU02s11.D
 Analysis Method: 8260C LL Date Collected: 05/26/2020 10:20
 Sample wt/vol: 25 (mL) Date Analyzed: 06/02/2020 13:24
 Soil Aliquot Vol: _____ Dilution Factor: 1
 Soil Extract Vol.: _____ GC Column: R-624SilMS 30m ID: 0.25 (mm)
 % Moisture: _____ Level: (low/med) Low
 Analysis Batch No.: 9922 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	ND		0.50	0.070
71-55-6	1,1,1-Trichloroethane	ND		0.50	0.060
79-34-5	1,1,2,2-Tetrachloroethane	ND		0.50	0.070
79-00-5	1,1,2-Trichloroethane	ND		0.50	0.060
75-34-3	1,1-Dichloroethane	ND		0.50	0.070
75-35-4	1,1-Dichloroethene	ND		0.50	0.060
106-93-4	1,2-Dibromoethane (EDB)	ND		0.50	0.060
107-06-2	1,2-Dichloroethane	ND		0.50	0.050
78-87-5	1,2-Dichloropropane	ND		0.50	0.060
78-93-3	2-Butanone (MEK)	ND		5.0	0.60
591-78-6	2-Hexanone	ND		5.0	0.60
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		5.0	0.70
67-64-1	Acetone	2.0	J	5.0	0.90
107-13-1	Acrylonitrile	ND		5.0	0.40
71-43-2	Benzene	ND		0.50	0.050
74-97-5	Bromochloromethane	ND		0.50	0.050
75-27-4	Bromodichloromethane	ND		0.50	0.050
75-25-2	Bromoform	ND		1.0	0.30
74-83-9	Bromomethane	ND		0.50	0.070
75-15-0	Carbon disulfide	0.060	J	1.0	0.060
56-23-5	Carbon tetrachloride	ND		0.50	0.070
108-90-7	Chlorobenzene	ND		0.50	0.060
75-00-3	Chloroethane	ND		0.50	0.070
67-66-3	Chloroform	ND		0.50	0.090
74-87-3	Chloromethane	ND		0.50	0.060
156-59-2	cis-1,2-Dichloroethene	ND		0.50	0.050
10061-01-5	cis-1,3-Dichloropropene	ND		0.50	0.050
124-48-1	Dibromochloromethane	ND		0.50	0.070
100-41-4	Ethylbenzene	ND		0.50	0.060
1634-04-4	Methyl tert-butyl ether	ND		0.50	0.050
75-09-2	Methylene Chloride	ND		0.50	0.070
100-42-5	Styrene	ND		0.50	0.050
127-18-4	Tetrachloroethene	ND		0.50	0.060
108-88-3	Toluene	0.078	J	0.50	0.070
156-60-5	trans-1,2-Dichloroethene	ND		0.50	0.060
10061-02-6	trans-1,3-Dichloropropene	ND		0.50	0.060

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-2632-1
 SDG No.: _____
 Client Sample ID: HD-COD-SW-8-0/1-0 Lab Sample ID: 410-2632-3
 Matrix: Water Lab File ID: iU02s11.D
 Analysis Method: 8260C LL Date Collected: 05/26/2020 10:20
 Sample wt/vol: 25 (mL) Date Analyzed: 06/02/2020 13:24
 Soil Aliquot Vol.: _____ Dilution Factor: 1
 Soil Extract Vol.: _____ GC Column: R-624SilMS 30m ID: 0.25 (mm)
 % Moisture: _____ Level: (low/med) Low
 Analysis Batch No.: 9922 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
79-01-6	Trichloroethene	ND		0.50	0.060
75-01-4	Vinyl chloride	ND		0.50	0.10
1330-20-7	Xylenes, Total	ND		1.0	0.15

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	105		80-120
1868-53-7	Dibromofluoromethane (Surr)	103		80-120
2037-26-5	Toluene-d8 (Surr)	98		80-120
460-00-4	4-Bromofluorobenzene (Surr)	98		80-120

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s11.D
 Lims ID: 410-2632-A-3
 Client ID: HD-COD-SW-8-0/1-0
 Sample Type: Client
 Inject. Date: 02-Jun-2020 13:24:30 ALS Bottle#: 16 Worklist Smp#: 17
 Purge Vol: 25.000 mL Dil. Factor: 1.0000
 Sample Info: 410-0002623-017
 Misc. Info.: 410-2632-A-3
 Operator ID: JKH09052 Instrument ID: 19930
 Method: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\8260 25ml HP31.m
 Limit Group: MSV - 8260C_D
 Last Update: 03-Jun-2020 12:53:08 Calib Date: 16-Mar-2020 18:31:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\IM16107.D
 Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
 Process Host: CTX1046

First Level Reviewer: howej

Date: 03-Jun-2020 12:29:57

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
4 Chloromethane	50	2.197	2.190	0.006	92	4158	0.0579	
5 Vinyl chloride	62		2.300				ND	
7 Bromomethane	94		2.642				ND	
8 Chloroethane	64		2.727				ND	
14 1,1-Dichloroethene	96		3.599				ND	
15 Acetone	43	3.641	3.629	0.012	97	17139	2.01	
19 Carbon disulfide	76	3.928	3.910	0.018	97	7563	0.0603	M
23 Methylene Chloride	84		4.288				ND	
* 24 t-Butyl alcohol-d10 (IS)	65	4.306	4.300	0.006	0	172226	50.0	
26 Acrylonitrile	53		4.623				ND	
27 Methyl tert-butyl ether	73		4.696				ND	
28 trans-1,2-Dichloroethene	96		4.702				ND	
31 1,1-Dichloroethane	63		5.367				ND	
36 2-Butanone (MEK)	43	6.196	6.165	0.031	56	3697	0.2457	
37 cis-1,2-Dichloroethene	96		6.196				ND	
43 Chlorobromomethane	128		6.525				ND	
45 Chloroform	83		6.677				ND	
\$ 46 Dibromofluoromethane (Surr)	113	6.897	6.885	0.012	94	408443	10.3	
47 1,1,1-Trichloroethane	97		6.903				ND	
50 Carbon tetrachloride	117		7.110				ND	
\$ 53 1,2-Dichloroethane-d4 (Surr)	102	7.354	7.342	0.012	0	84485	10.5	
54 Benzene	78		7.378				ND	
56 1,2-Dichloroethane	62		7.452				ND	
* 58 Fluorobenzene (IS)	96	7.787	7.775	0.012	99	1638994	10.0	
61 Trichloroethene	95		8.256				ND	
63 1,2-Dichloropropane	63		8.586				ND	
68 Dichlorobromomethane	83		8.927				ND	
73 cis-1,3-Dichloropropene	75		9.470				ND	
74 4-Methyl-2-pentanone (MIBK)	43		9.634				ND	
\$ 75 Toluene-d8 (Surr)	98	9.780	9.774	0.006	94	1603333	9.78	
76 Toluene	92	9.847	9.854	-0.007	96	10204	0.0779	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
78 trans-1,3-Dichloropropene	75		10.104				ND	
80 1,1,2-Trichloroethane	97		10.305				ND	
81 Tetrachloroethene	166	10.396	10.396	0.000	89	2829	0.0452	
83 2-Hexanone	43		10.512				ND	U
85 Chlorodibromomethane	129		10.683				ND	
86 Ethylene Dibromide	107		10.792				ND	
* 87 Chlorobenzene-d5 (IS)	117	11.219	11.219	0.000	86	1288629	10.0	
90 Chlorobenzene	112		11.244				ND	
S 89 Xylenes, Total	106				0		0.0421	
91 1,1,1,2-Tetrachloroethane	131		11.323				ND	
92 Ethylbenzene	91	11.323	11.329	-0.006	1	2369	0.009220	
93 m-Xylene & p-Xylene	106	11.445	11.445	0.000	0	2897	0.0288	
94 o-Xylene	106	11.774	11.768	0.006	92	1330	0.0133	
95 Styrene	104		11.786				ND	
96 Bromoform	173		11.945				ND	
\$ 100 4-Bromofluorobenzene (Surr)	95	12.213	12.213	0.000	92	599805	9.81	
101 1,1,2,2-Tetrachloroethane	83		12.310				ND	
* 115 1,4-Dichlorobenzene-d4	152	13.091	13.091	0.000	95	700050	10.0	

QC Flag Legend

Review Flags

M - Manually Integrated

U - Marked Undetected

Reagents:

MSV_31_826ISS_00002

Amount Added: 5.00

Units: uL

Run Reagent

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s11.D

Injection Date: 02-Jun-2020 13:24:30

Instrument ID: 19930

Operator ID: JKH09052

Lims ID: 410-2632-A-3

Lab Sample ID: 410-2632-3

Worklist Smp#: 17

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

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

ALS Bottle#: 16

Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25 mm)

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Eurofins Lancaster Laboratories Env, LLC
Recovery Report

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s11.D
 Lims ID: 410-2632-A-3
 Client ID: HD-COD-SW-8-0/1-0
 Sample Type: Client
 Inject. Date: 02-Jun-2020 13:24:30 ALS Bottle#: 16 Worklist Smp#: 17
 Purge Vol: 25.000 mL Dil. Factor: 1.0000
 Sample Info: 410-0002623-017
 Misc. Info.: 410-2632-A-3
 Operator ID: JKH09052 Instrument ID: 19930
 Method: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\8260 25ml HP31.m
 Limit Group: MSV - 8260C_D
 Last Update: 03-Jun-2020 12:53:08 Calib Date: 16-Mar-2020 18:31:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\IM16107.D
 Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
 Process Host: CTX1046

First Level Reviewer: howej

Date: 03-Jun-2020 12:29:57

Compound	Amount Added	Amount Recovered	% Rec.
\$ 46 Dibromofluoromethane (Surr)	10.0	10.3	103.25
\$ 53 1,2-Dichloroethane-d4 (Surr)	10.0	10.5	105.40
\$ 75 Toluene-d8 (Surr)	10.0	9.78	97.85
\$ 100 4-Bromofluorobenzene (Surr)	10.0	9.81	98.09

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s11.D

Injection Date: 02-Jun-2020 13:24:30

Instrument ID: 19930

Lims ID: 410-2632-A-3

Lab Sample ID: 410-2632-3

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

Operator ID: JKH09052

ALS Bottle#: 16

Worklist Smp#: 17

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

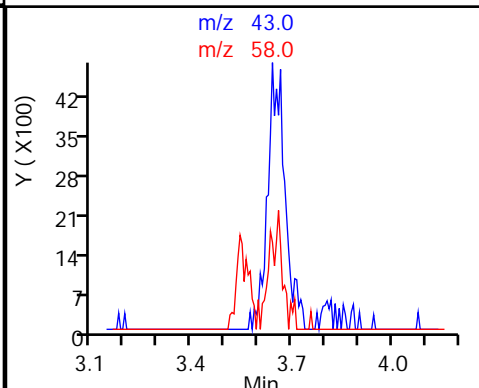
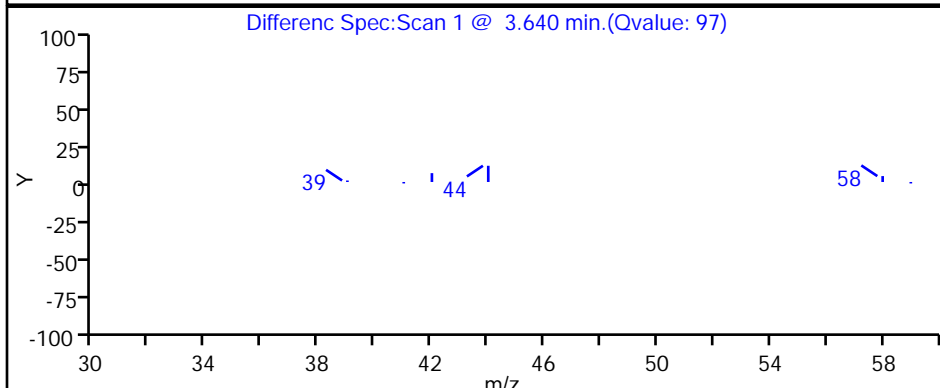
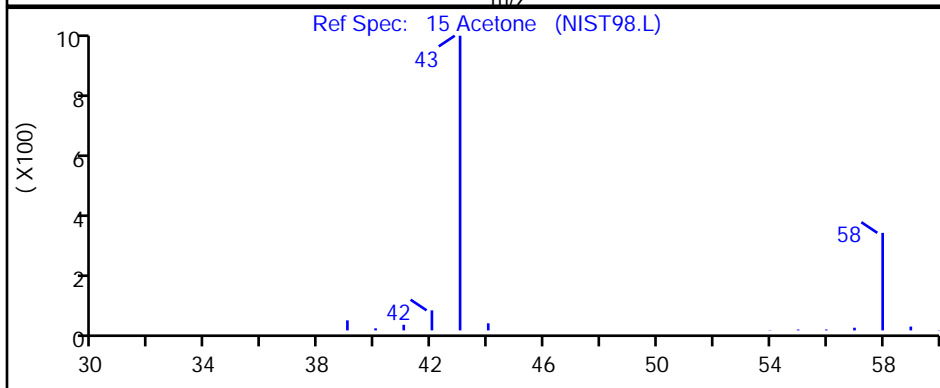
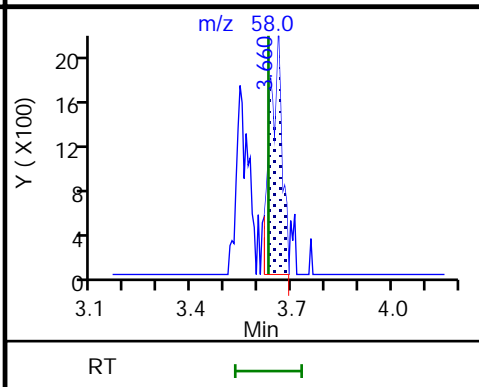
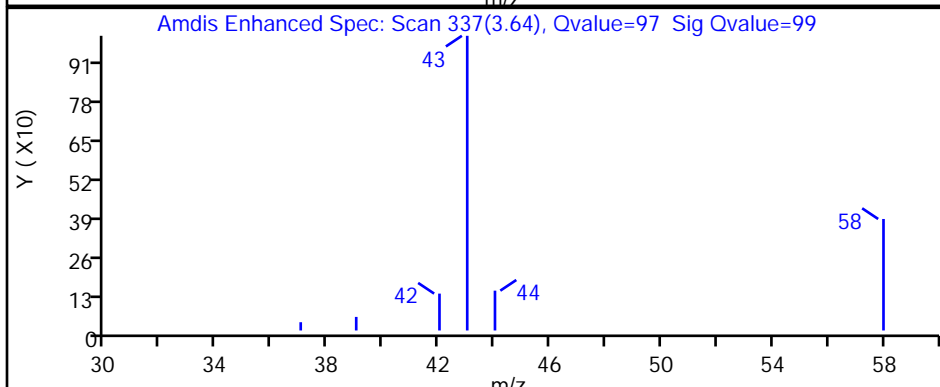
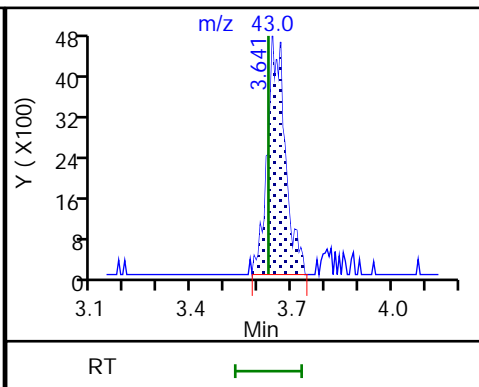
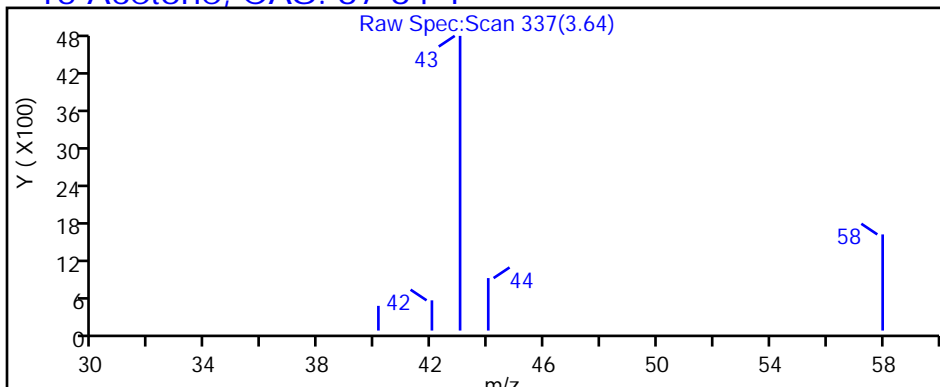
Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25mm ID)

MS Quad

15 Acetone, CAS: 67-64-1



Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s11.D

Injection Date: 02-Jun-2020 13:24:30

Instrument ID: 19930

Lims ID: 410-2632-A-3

Lab Sample ID: 410-2632-3

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

Operator ID: JKH09052

ALS Bottle#: 16

Worklist Smp#: 17

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

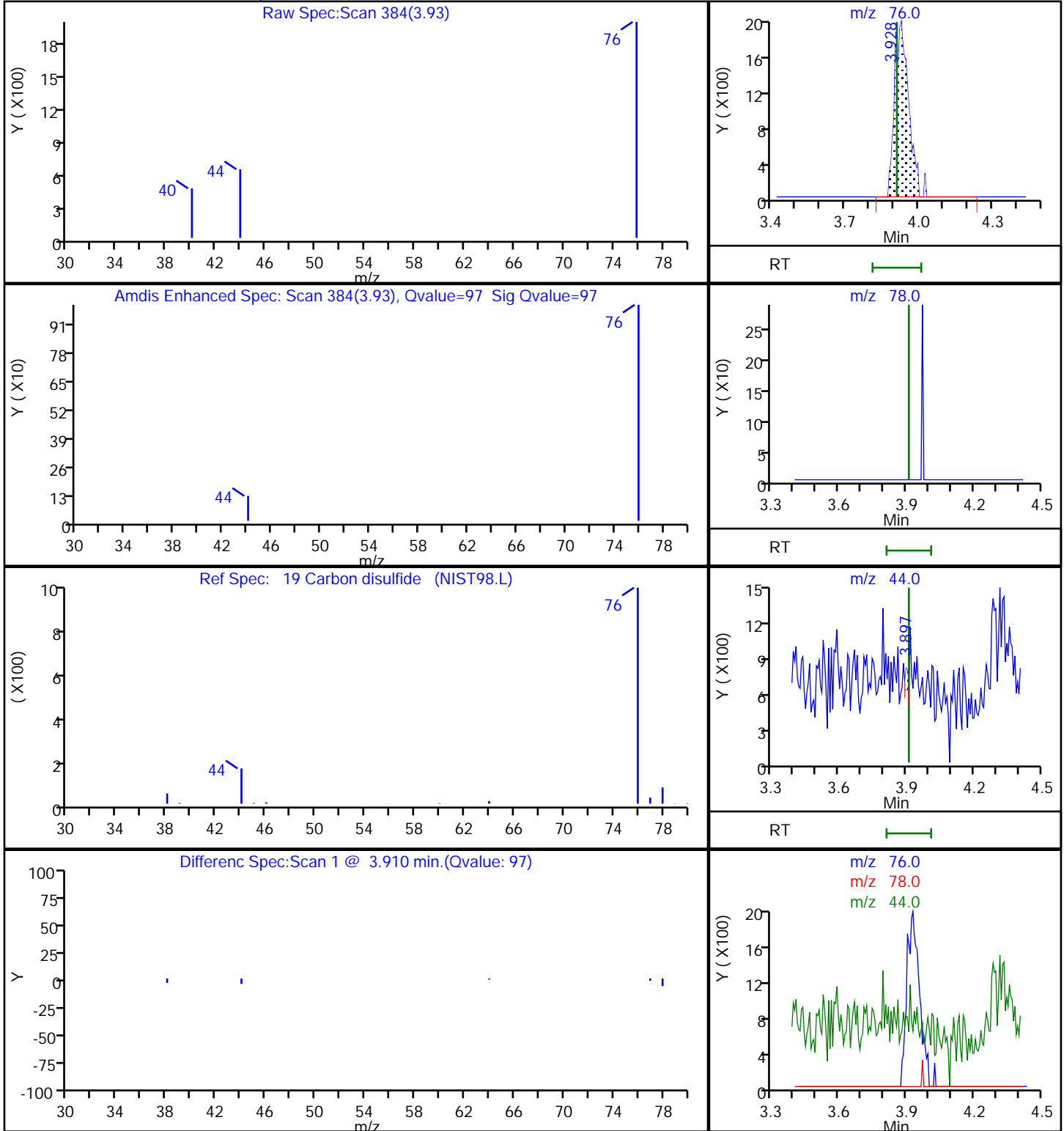
Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25mm ID)

MS Quad

19 Carbon disulfide, CAS: 75-15-0



Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s11.D

Injection Date: 02-Jun-2020 13:24:30

Instrument ID: 19930

Lims ID: 410-2632-A-3

Lab Sample ID: 410-2632-3

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

Operator ID: JKH09052

ALS Bottle#: 16

Worklist Smp#: 17

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

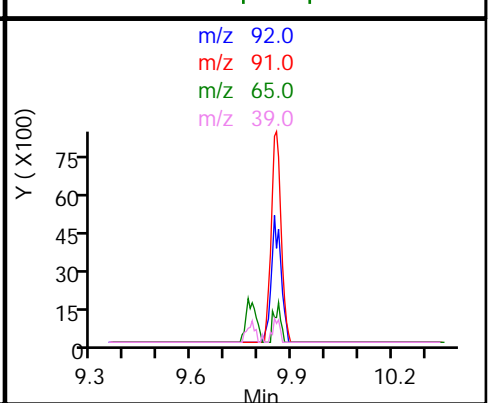
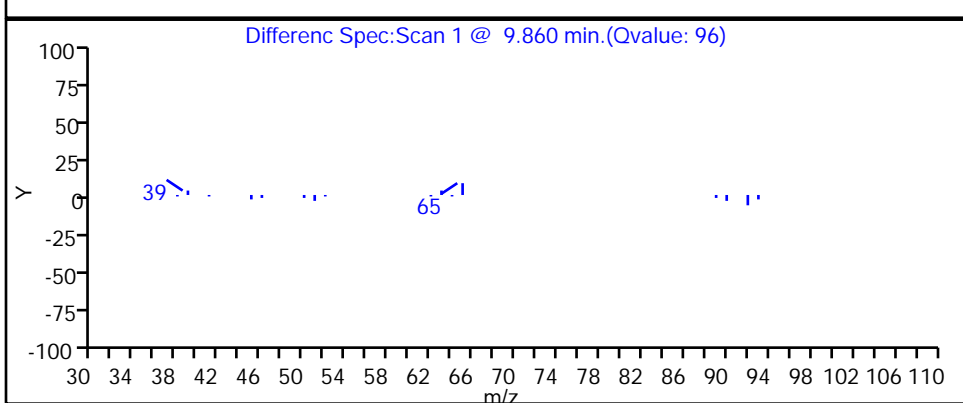
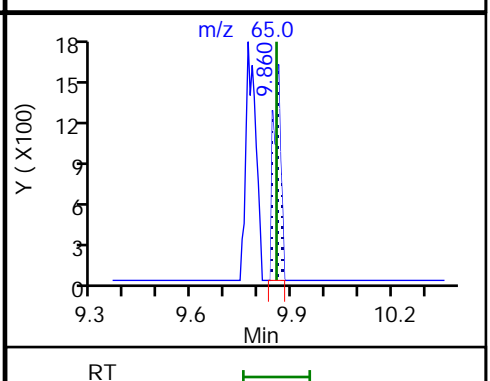
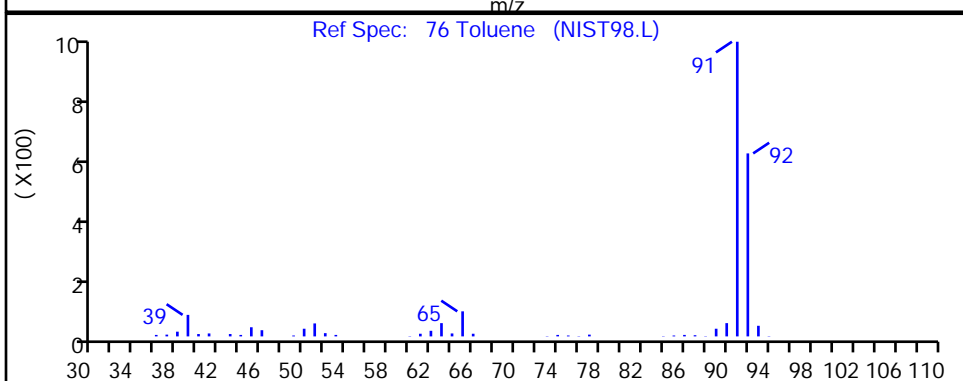
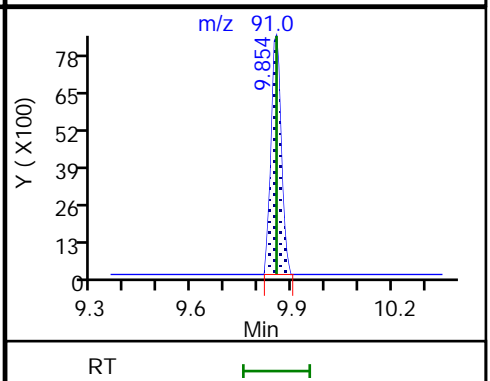
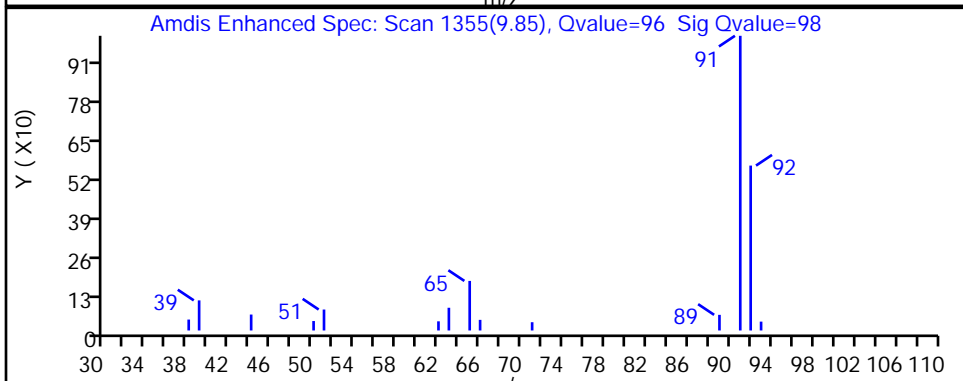
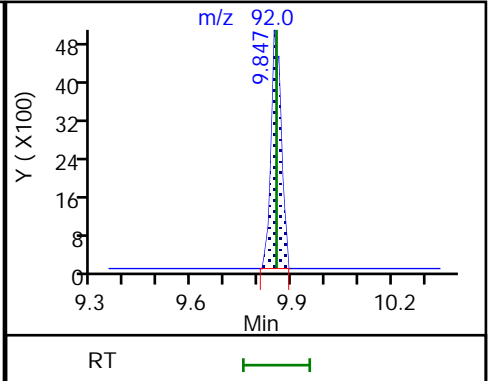
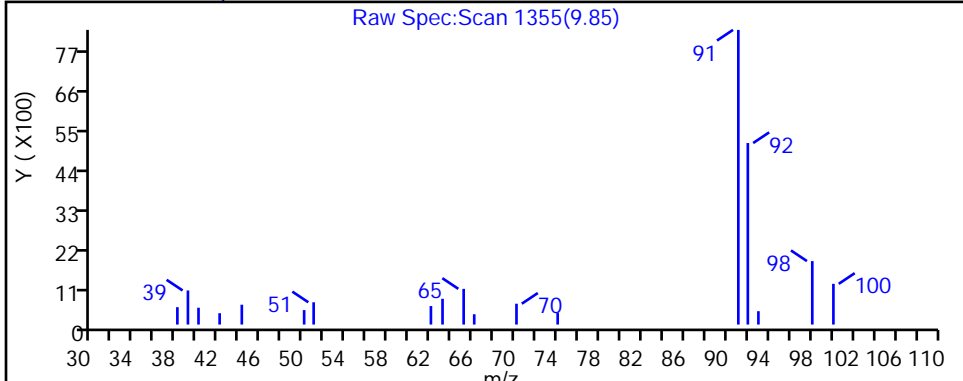
Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25mm ID)

MS Quad

76 Toluene, CAS: 108-88-3

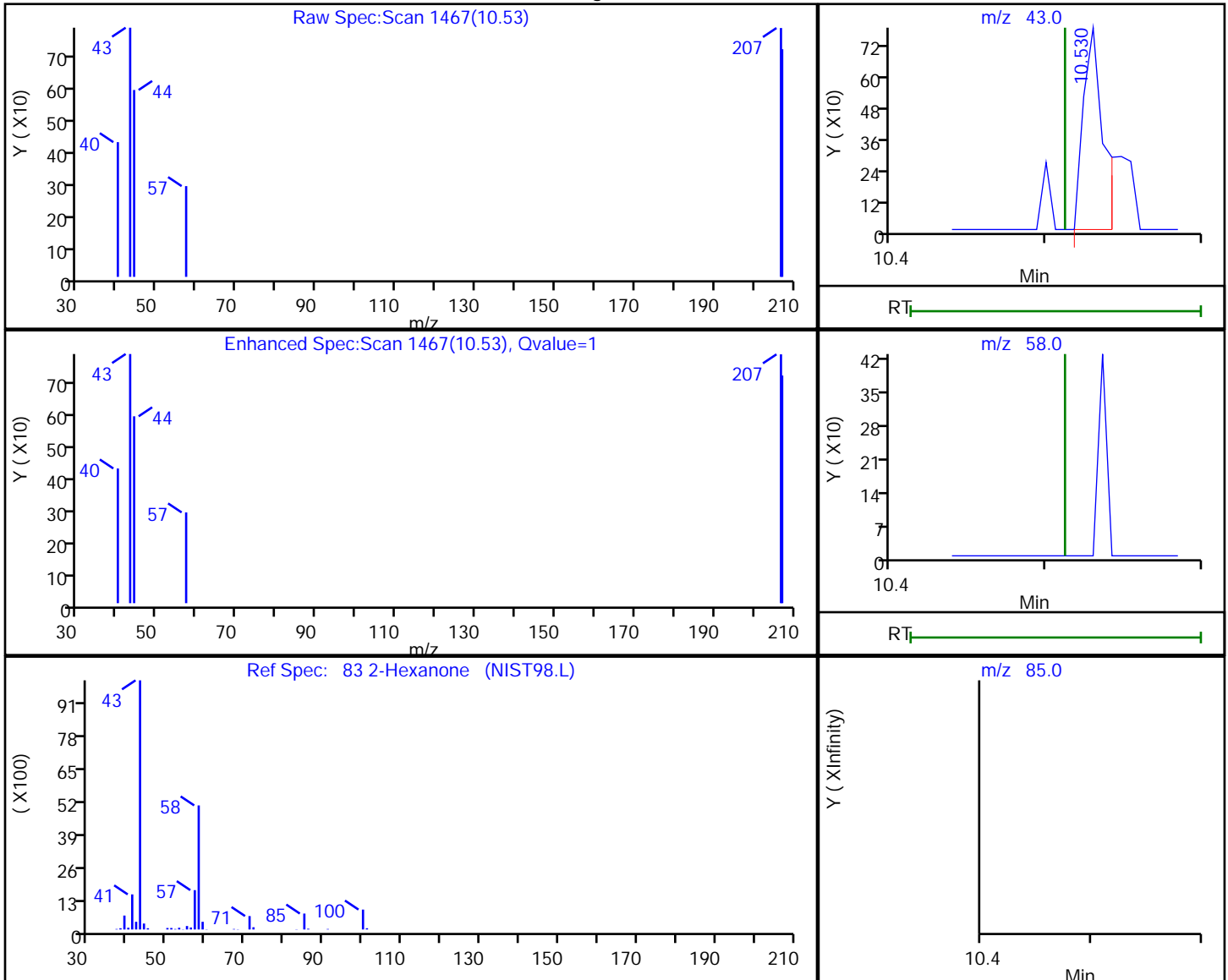


Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s11.D
 Injection Date: 02-Jun-2020 13:24:30 Instrument ID: 19930
 Lims ID: 410-2632-A-3 Lab Sample ID: 410-2632-3
 Client ID: HD-COD-SW-8-0/1-0
 Operator ID: JKH09052 ALS Bottle#: 16 Worklist Smp#: 17
 Purge Vol: 25.000 mL Dil. Factor: 1.0000
 Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
 Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

83 2-Hexanone, CAS: 591-78-6

Processing Results



RT	Mass	Response	Amount
10.53	43.00	705	0.027384
10.51	58.00	0	
10.51	85.00	0	
10.51	100.00	0	

Reviewer: howej, 03-Jun-2020 12:29:49

Audit Action: Marked Compound Undetected

Audit Reason: Invalid Compound ID

Eurofins Lancaster Laboratories Env, LLC

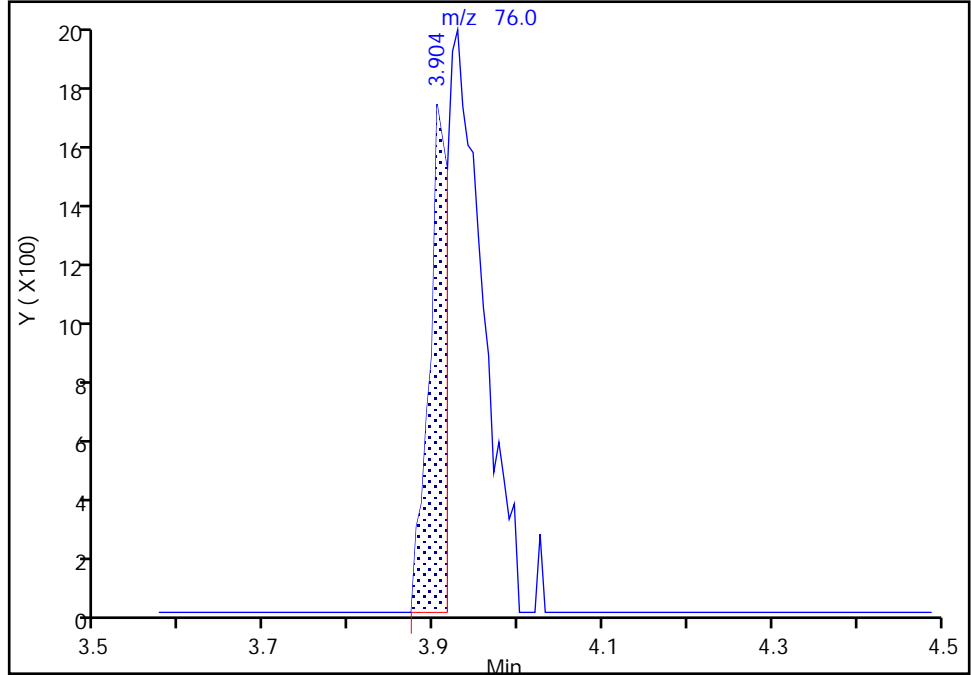
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Injection Date: 02-Jun-2020 13:24:30 Instrument ID: 19930
Lims ID: 410-2632-A-3 Lab Sample ID: 410-2632-3
Client ID: HD-COD-SW-8-0/1-0
Operator ID: JKH09052 ALS Bottle#: 16 Worklist Smp#: 17
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

19 Carbon disulfide, CAS: 75-15-0

Signal: 1

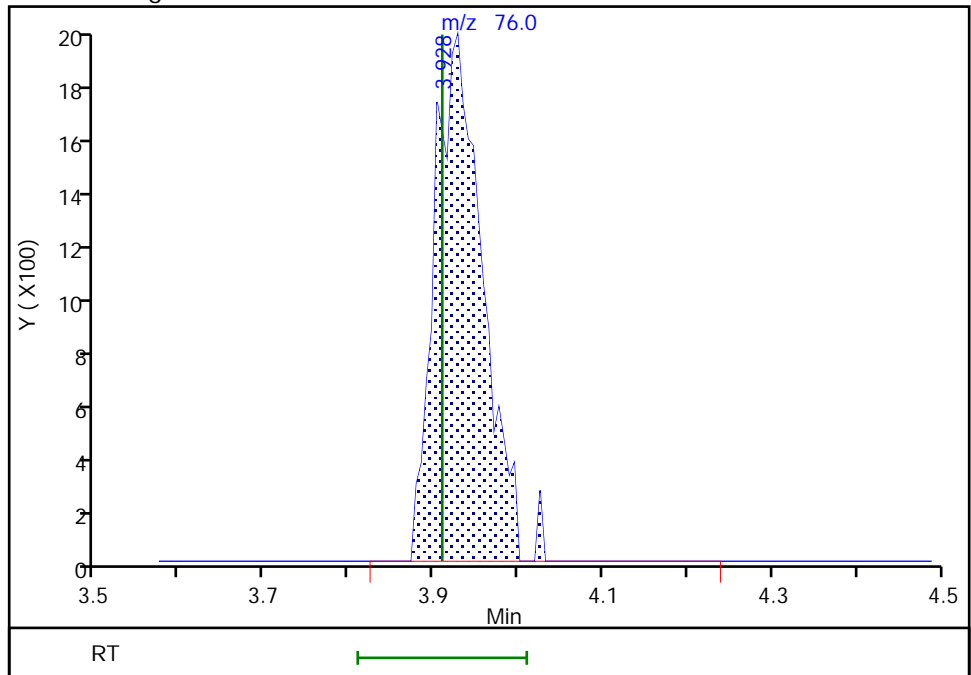
RT: 3.90
Area: 2487
Amount: 0.019845
Amount Units: ug/l

Processing Integration Results



RT: 3.93
Area: 7563
Amount: 0.060348
Amount Units: ug/l

Manual Integration Results



Reviewer: howej, 03-Jun-2020 12:29:29
Audit Action: Manually Integrated

Audit Reason: Other

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-2632-1
 SDG No.: _____
 Client Sample ID: HD-COD-SW-9-0/1-0 Lab Sample ID: 410-2632-4
 Matrix: Water Lab File ID: iU02s12.D
 Analysis Method: 8260C LL Date Collected: 05/26/2020 13:25
 Sample wt/vol: 25 (mL) Date Analyzed: 06/02/2020 13:46
 Soil Aliquot Vol: _____ Dilution Factor: 1
 Soil Extract Vol.: _____ GC Column: R-624SilMS 30m ID: 0.25 (mm)
 % Moisture: _____ Level: (low/med) Low
 Analysis Batch No.: 9922 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	ND		0.50	0.070
71-55-6	1,1,1-Trichloroethane	ND		0.50	0.060
79-34-5	1,1,2,2-Tetrachloroethane	ND		0.50	0.070
79-00-5	1,1,2-Trichloroethane	ND		0.50	0.060
75-34-3	1,1-Dichloroethane	ND		0.50	0.070
75-35-4	1,1-Dichloroethene	ND		0.50	0.060
106-93-4	1,2-Dibromoethane (EDB)	ND		0.50	0.060
107-06-2	1,2-Dichloroethane	ND		0.50	0.050
78-87-5	1,2-Dichloropropane	ND		0.50	0.060
78-93-3	2-Butanone (MEK)	ND		5.0	0.60
591-78-6	2-Hexanone	ND		5.0	0.60
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		5.0	0.70
67-64-1	Acetone	3.1	J	5.0	0.90
107-13-1	Acrylonitrile	ND		5.0	0.40
71-43-2	Benzene	ND		0.50	0.050
74-97-5	Bromochloromethane	ND		0.50	0.050
75-27-4	Bromodichloromethane	ND		0.50	0.050
75-25-2	Bromoform	ND		1.0	0.30
74-83-9	Bromomethane	ND		0.50	0.070
75-15-0	Carbon disulfide	ND		1.0	0.060
56-23-5	Carbon tetrachloride	ND		0.50	0.070
108-90-7	Chlorobenzene	ND		0.50	0.060
75-00-3	Chloroethane	ND		0.50	0.070
67-66-3	Chloroform	ND		0.50	0.090
74-87-3	Chloromethane	ND		0.50	0.060
156-59-2	cis-1,2-Dichloroethene	0.059	J	0.50	0.050
10061-01-5	cis-1,3-Dichloropropene	ND		0.50	0.050
124-48-1	Dibromochloromethane	ND		0.50	0.070
100-41-4	Ethylbenzene	ND		0.50	0.060
1634-04-4	Methyl tert-butyl ether	ND		0.50	0.050
75-09-2	Methylene Chloride	ND		0.50	0.070
100-42-5	Styrene	ND		0.50	0.050
127-18-4	Tetrachloroethene	0.094	J	0.50	0.060
108-88-3	Toluene	0.29	J	0.50	0.070
156-60-5	trans-1,2-Dichloroethene	ND		0.50	0.060
10061-02-6	trans-1,3-Dichloropropene	ND		0.50	0.060

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-2632-1
 SDG No.: _____
 Client Sample ID: HD-COD-SW-9-0/1-0 Lab Sample ID: 410-2632-4
 Matrix: Water Lab File ID: iU02s12.D
 Analysis Method: 8260C LL Date Collected: 05/26/2020 13:25
 Sample wt/vol: 25 (mL) Date Analyzed: 06/02/2020 13:46
 Soil Aliquot Vol.: _____ Dilution Factor: 1
 Soil Extract Vol.: _____ GC Column: R-624SilMS 30m ID: 0.25 (mm)
 % Moisture: _____ Level: (low/med) Low
 Analysis Batch No.: 9922 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
79-01-6	Trichloroethene	0.073	J	0.50	0.060
75-01-4	Vinyl chloride	ND		0.50	0.10
1330-20-7	Xylenes, Total	ND		1.0	0.15

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	107		80-120
1868-53-7	Dibromofluoromethane (Surr)	103		80-120
2037-26-5	Toluene-d8 (Surr)	98		80-120
460-00-4	4-Bromofluorobenzene (Surr)	98		80-120

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s12.D
 Lims ID: 410-2632-A-4
 Client ID: HD-COD-SW-9-0/1-0
 Sample Type: Client
 Inject. Date: 02-Jun-2020 13:46:30 ALS Bottle#: 17 Worklist Smp#: 18
 Purge Vol: 25.000 mL Dil. Factor: 1.0000
 Sample Info: 410-0002623-018
 Misc. Info.: 410-2632-A-4
 Operator ID: JKH09052 Instrument ID: 19930
 Method: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\8260 25ml HP31.m
 Limit Group: MSV - 8260C_D
 Last Update: 03-Jun-2020 12:53:08 Calib Date: 16-Mar-2020 18:31:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\IM16107.D
 Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
 Process Host: CTX1046

First Level Reviewer: howej

Date: 03-Jun-2020 12:30:35

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
4 Chloromethane	50	2.202	2.190	0.012	1	2929	0.0420	
5 Vinyl chloride	62		2.300				ND	
7 Bromomethane	94		2.642				ND	
8 Chloroethane	64		2.727				ND	
14 1,1-Dichloroethene	96		3.599				ND	
15 Acetone	43	3.647	3.629	0.018	98	24852	3.05	
19 Carbon disulfide	76	3.916	3.910	0.006	55	4549	0.0374	M
23 Methylene Chloride	84		4.288				ND	
* 24 t-Butyl alcohol-d10 (IS)	65	4.318	4.300	0.018	0	164136	50.0	
26 Acrylonitrile	53		4.623				ND	
27 Methyl tert-butyl ether	73		4.696				ND	
28 trans-1,2-Dichloroethene	96		4.702				ND	
31 1,1-Dichloroethane	63		5.367				ND	
36 2-Butanone (MEK)	43	6.177	6.165	0.012	65	5167	0.3603	
37 cis-1,2-Dichloroethene	96	6.202	6.196	0.006	71	3038	0.0592	
43 Chlorobromomethane	128		6.525				ND	
45 Chloroform	83		6.677				ND	
\$ 46 Dibromofluoromethane (Surr)	113	6.897	6.885	0.012	94	395328	10.3	
47 1,1,1-Trichloroethane	97		6.903				ND	
50 Carbon tetrachloride	117		7.110				ND	
\$ 53 1,2-Dichloroethane-d4 (Surr)	102	7.354	7.342	0.012	0	82938	10.7	
54 Benzene	78		7.378				ND	
56 1,2-Dichloroethane	62		7.452				ND	
* 58 Fluorobenzene (IS)	96	7.781	7.775	0.006	98	1590228	10.0	
61 Trichloroethene	95	8.262	8.256	0.006	93	3698	0.0732	
63 1,2-Dichloropropane	63		8.586				ND	
68 Dichlorobromomethane	83		8.927				ND	
73 cis-1,3-Dichloropropene	75		9.470				ND	
74 4-Methyl-2-pentanone (MIBK)	43		9.634				ND	U
\$ 75 Toluene-d8 (Surr)	98	9.774	9.774	0.000	93	1569656	9.80	
76 Toluene	92	9.853	9.854	-0.001	98	37612	0.2940	

Compound	Sig	RT (min.)	Exp RT (min.)	Diff RT (min.)	Q	Response	OnCol Amt ug/l	Flags
78 trans-1,3-Dichloropropene	75		10.104				ND	
80 1,1,2-Trichloroethane	97		10.305				ND	
81 Tetrachloroethene	166	10.402	10.396	0.006	92	5760	0.0943	
83 2-Hexanone	43		10.512				ND	U
85 Chlorodibromomethane	129		10.683				ND	
86 Ethylene Dibromide	107		10.792				ND	
* 87 Chlorobenzene-d5 (IS)	117	11.219	11.219	0.000	86	1258958	10.0	
90 Chlorobenzene	112		11.244				ND	
S 89 Xylenes, Total	106				0		0.0487	
91 1,1,1,2-Tetrachloroethane	131		11.323				ND	
92 Ethylbenzene	91	11.329	11.329	0.000	1	2341	0.009326	
93 m-Xylene & p-Xylene	106	11.432	11.445	-0.013	0	3294	0.0335	
94 o-Xylene	106	11.774	11.768	0.006	90	1479	0.0152	
95 Styrene	104		11.786				ND	
96 Bromoform	173		11.945				ND	
\$ 100 4-Bromofluorobenzene (Surr)	95	12.213	12.213	0.000	92	586645	9.82	
101 1,1,2,2-Tetrachloroethane	83		12.310				ND	
* 115 1,4-Dichlorobenzene-d4	152	13.091	13.091	0.000	95	688558	10.0	

QC Flag Legend

Review Flags

M - Manually Integrated

U - Marked Undetected

Reagents:

MSV_31_826ISS_00002

Amount Added: 5.00

Units: uL

Run Reagent

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s12.D

Injection Date: 02-Jun-2020 13:46:30

Instrument ID: 19930

Operator ID: JKH09052

Lims ID: 410-2632-A-4

Lab Sample ID: 410-2632-4

Worklist Smp#: 18

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

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

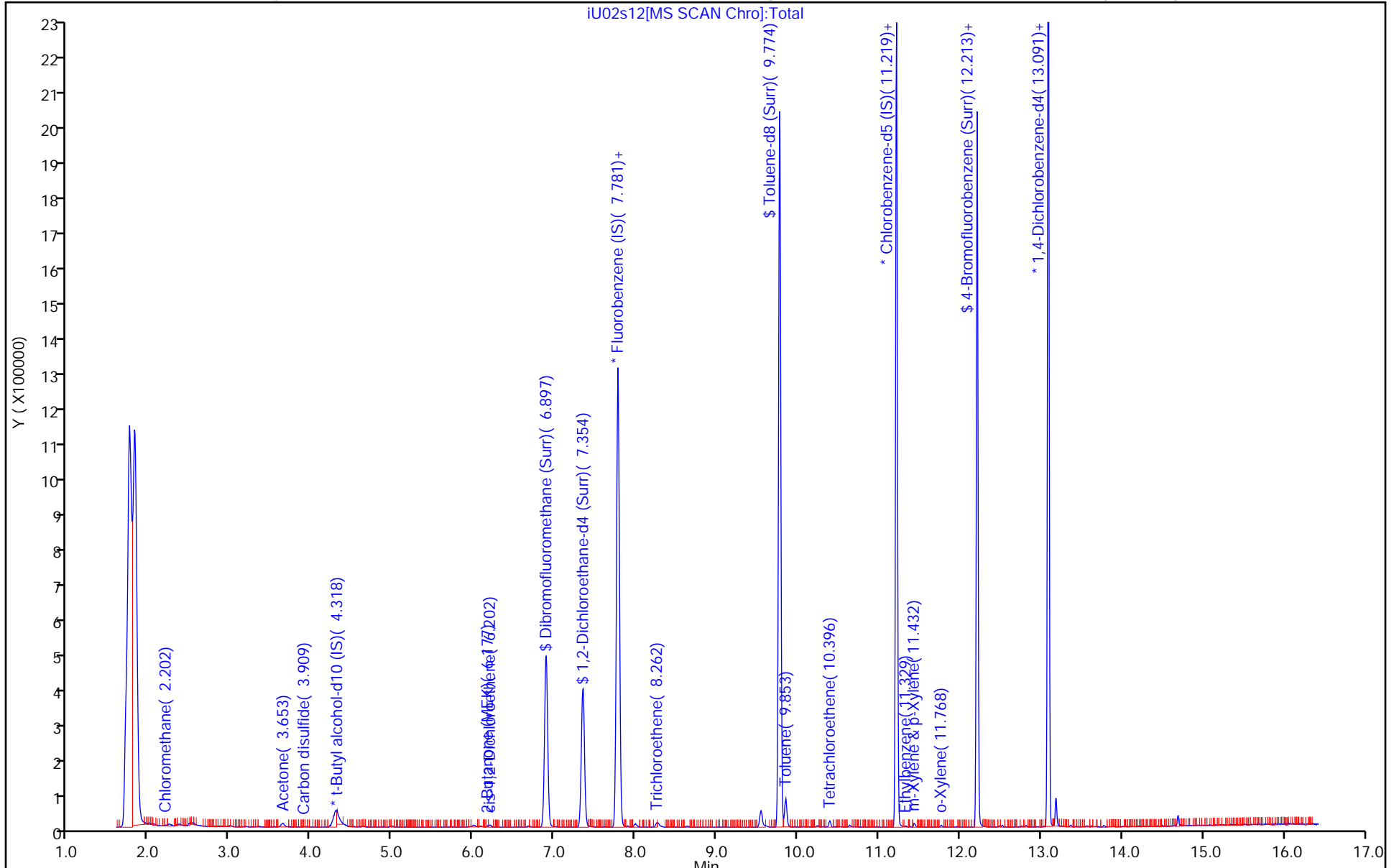
ALS Bottle#: 17

Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25 mm)

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Eurofins Lancaster Laboratories Env, LLC
Recovery Report

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s12.D
 Lims ID: 410-2632-A-4
 Client ID: HD-COD-SW-9-0/1-0
 Sample Type: Client
 Inject. Date: 02-Jun-2020 13:46:30 ALS Bottle#: 17 Worklist Smp#: 18
 Purge Vol: 25.000 mL Dil. Factor: 1.0000
 Sample Info: 410-0002623-018
 Misc. Info.: 410-2632-A-4
 Operator ID: JKH09052 Instrument ID: 19930
 Method: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\8260 25ml HP31.m
 Limit Group: MSV - 8260C_D
 Last Update: 03-Jun-2020 12:53:08 Calib Date: 16-Mar-2020 18:31:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\IM16107.D
 Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
 Process Host: CTX1046

First Level Reviewer: howej

Date: 03-Jun-2020 12:30:35

Compound	Amount Added	Amount Recovered	% Rec.
\$ 46 Dibromofluoromethane (Surr)	10.0	10.3	103.00
\$ 53 1,2-Dichloroethane-d4 (Surr)	10.0	10.7	106.64
\$ 75 Toluene-d8 (Surr)	10.0	9.80	98.05
\$ 100 4-Bromofluorobenzene (Surr)	10.0	9.82	98.20

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s12.D

Injection Date: 02-Jun-2020 13:46:30

Instrument ID: 19930

Lims ID: 410-2632-A-4

Lab Sample ID: 410-2632-4

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

Operator ID: JKH09052

ALS Bottle#: 17

Worklist Smp#: 18

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

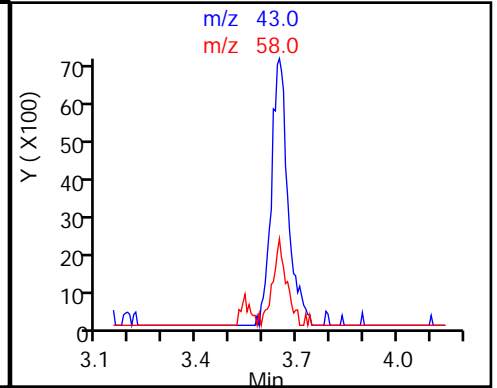
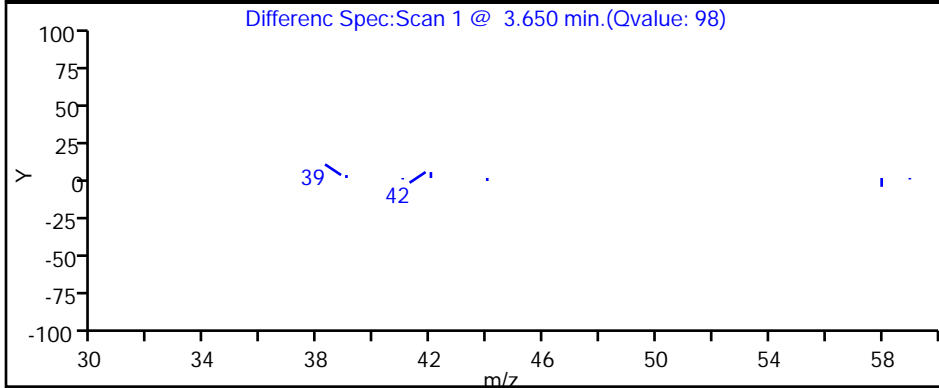
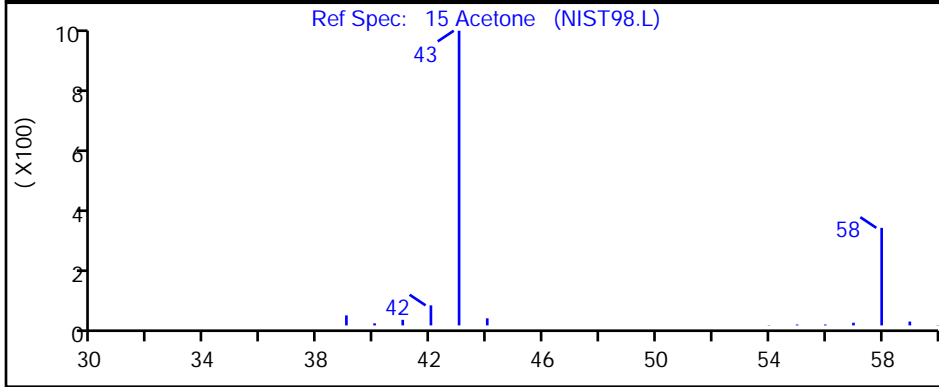
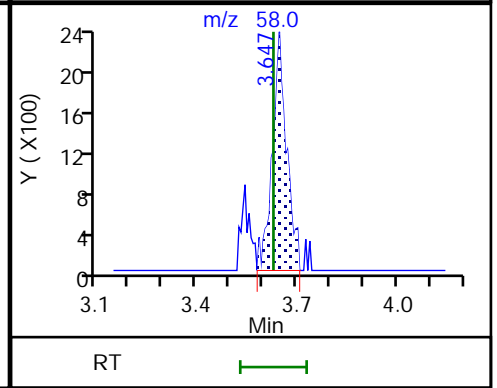
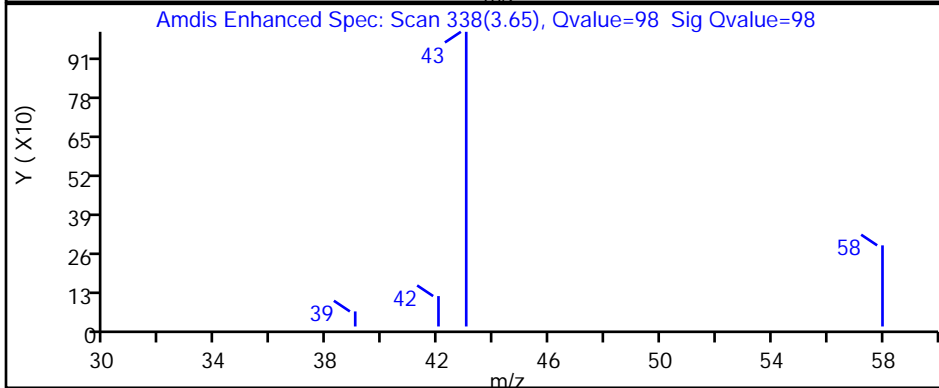
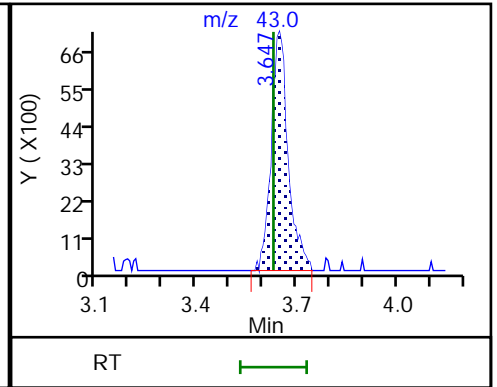
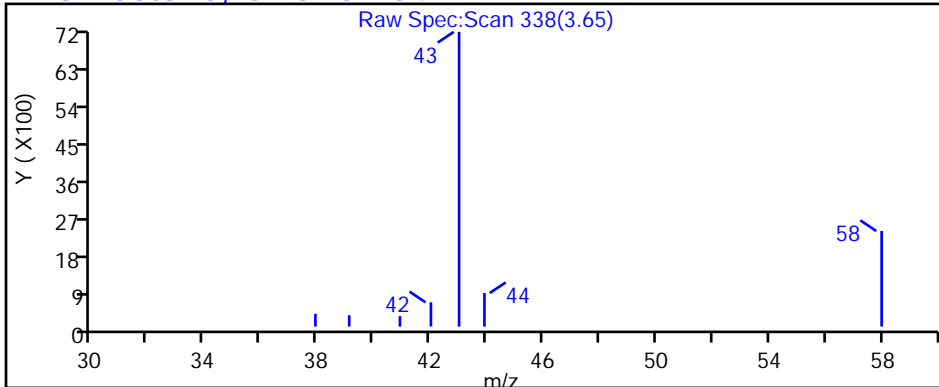
Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25mm ID)

MS Quad

15 Acetone, CAS: 67-64-1



Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s12.D

Injection Date: 02-Jun-2020 13:46:30

Instrument ID: 19930

Lims ID: 410-2632-A-4

Lab Sample ID: 410-2632-4

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

Operator ID: JKH09052

ALS Bottle#: 17

Worklist Smp#: 18

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

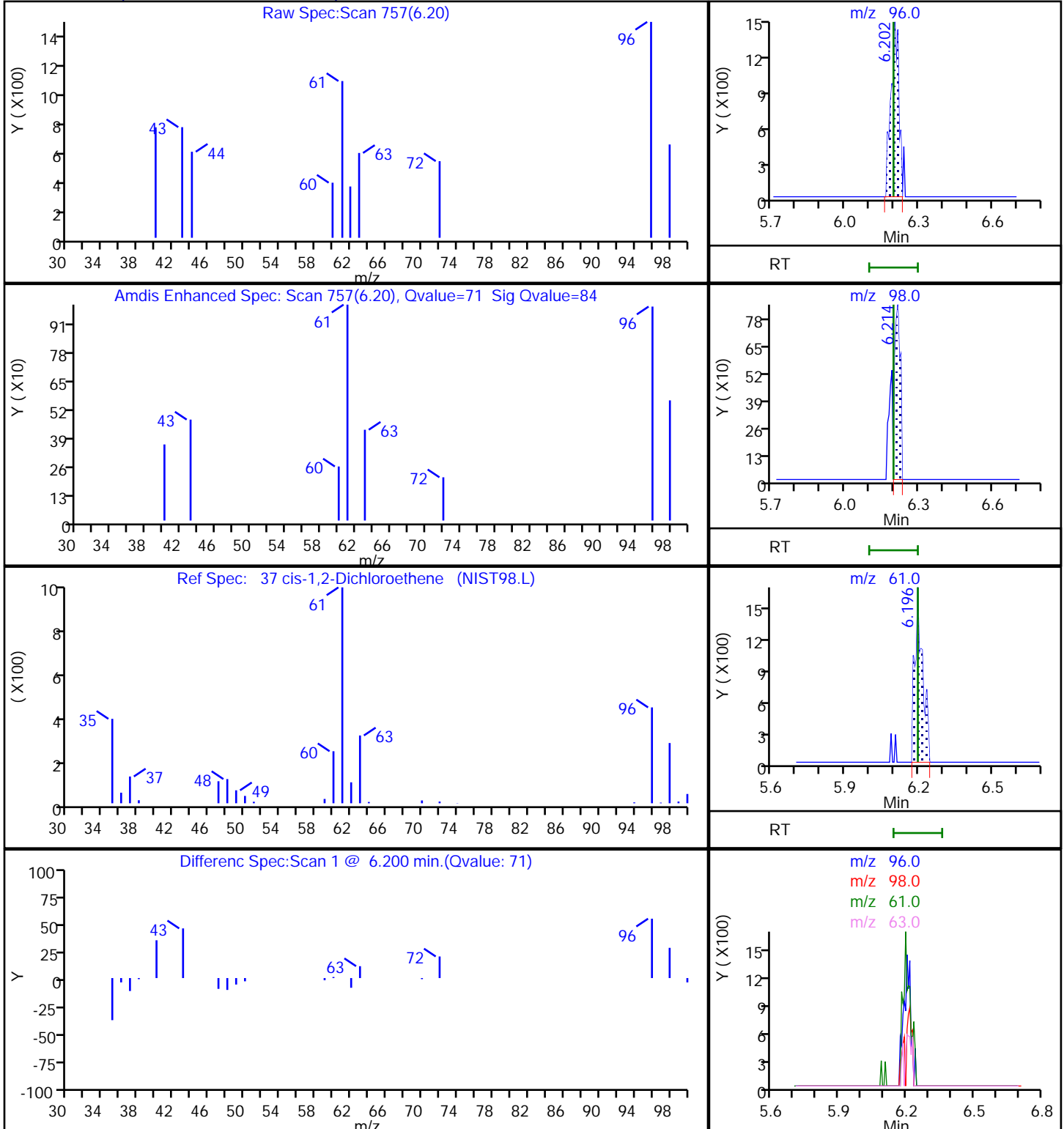
Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector

MS Quad

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



Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s12.D

Injection Date: 02-Jun-2020 13:46:30

Instrument ID: 19930

Lims ID: 410-2632-A-4

Lab Sample ID: 410-2632-4

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

Operator ID: JKH09052

ALS Bottle#: 17

Worklist Smp#: 18

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

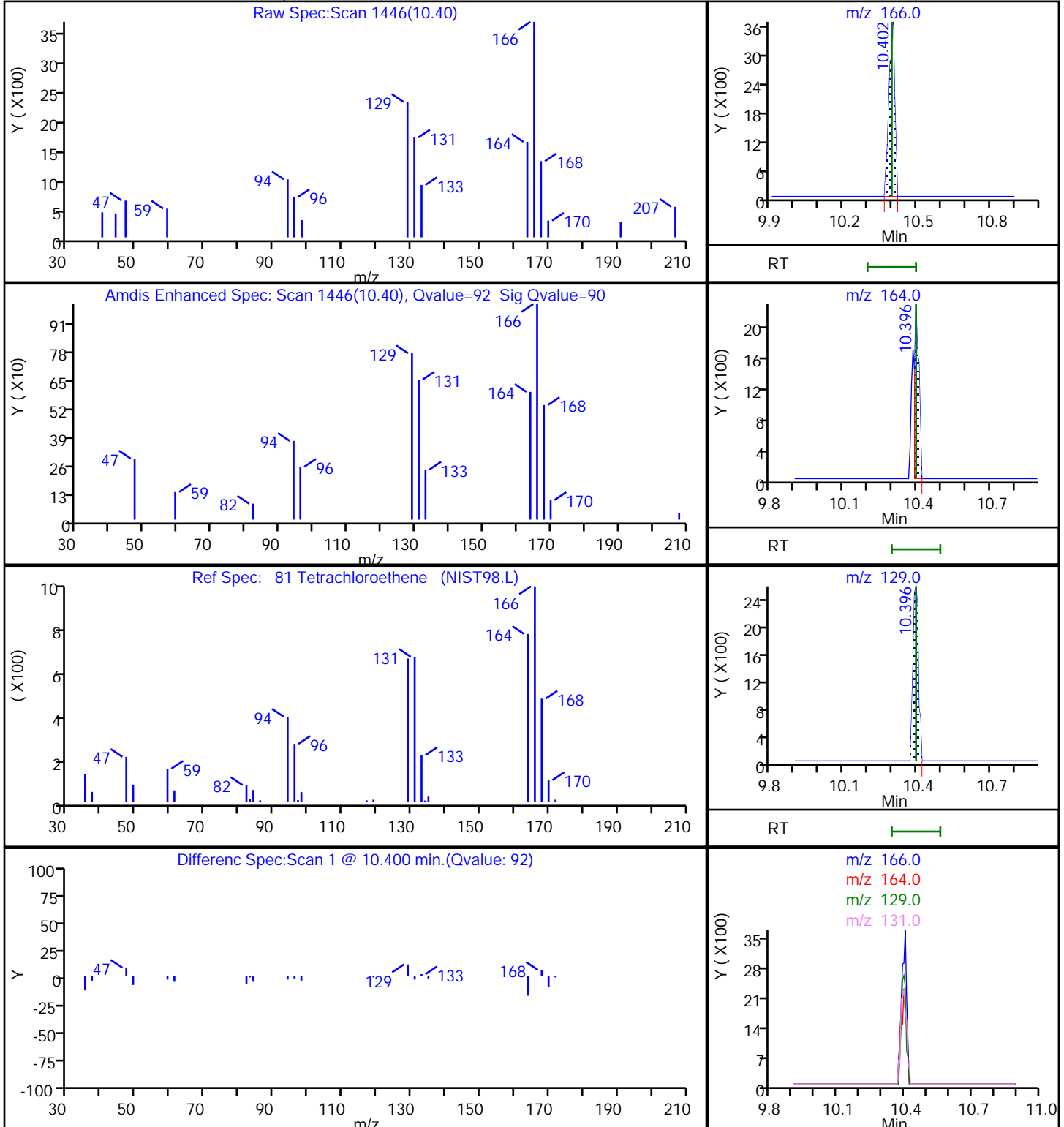
Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector

MS Quad

81 Tetrachloroethene, CAS: 127-18-4



Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s12.D

Injection Date: 02-Jun-2020 13:46:30

Instrument ID: 19930

Lims ID: 410-2632-A-4

Lab Sample ID: 410-2632-4

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

Operator ID: JKH09052

ALS Bottle#: 17

Worklist Smp#: 18

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

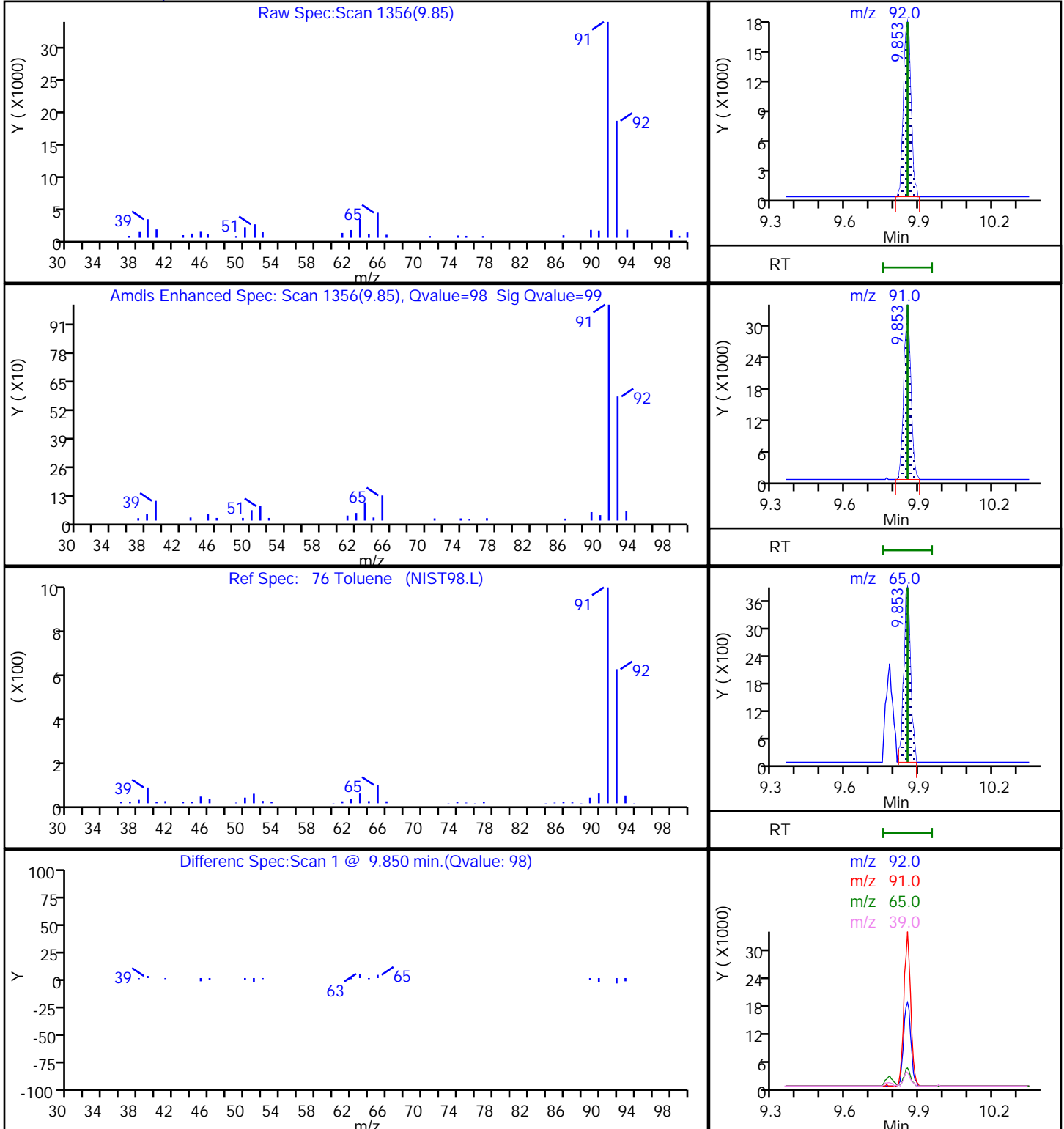
Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25mm ID)

MS Quad

76 Toluene, CAS: 108-88-3



Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s12.D

Injection Date: 02-Jun-2020 13:46:30

Instrument ID: 19930

Lims ID: 410-2632-A-4

Lab Sample ID: 410-2632-4

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

Operator ID: JKH09052

ALS Bottle#: 17

Worklist Smp#: 18

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

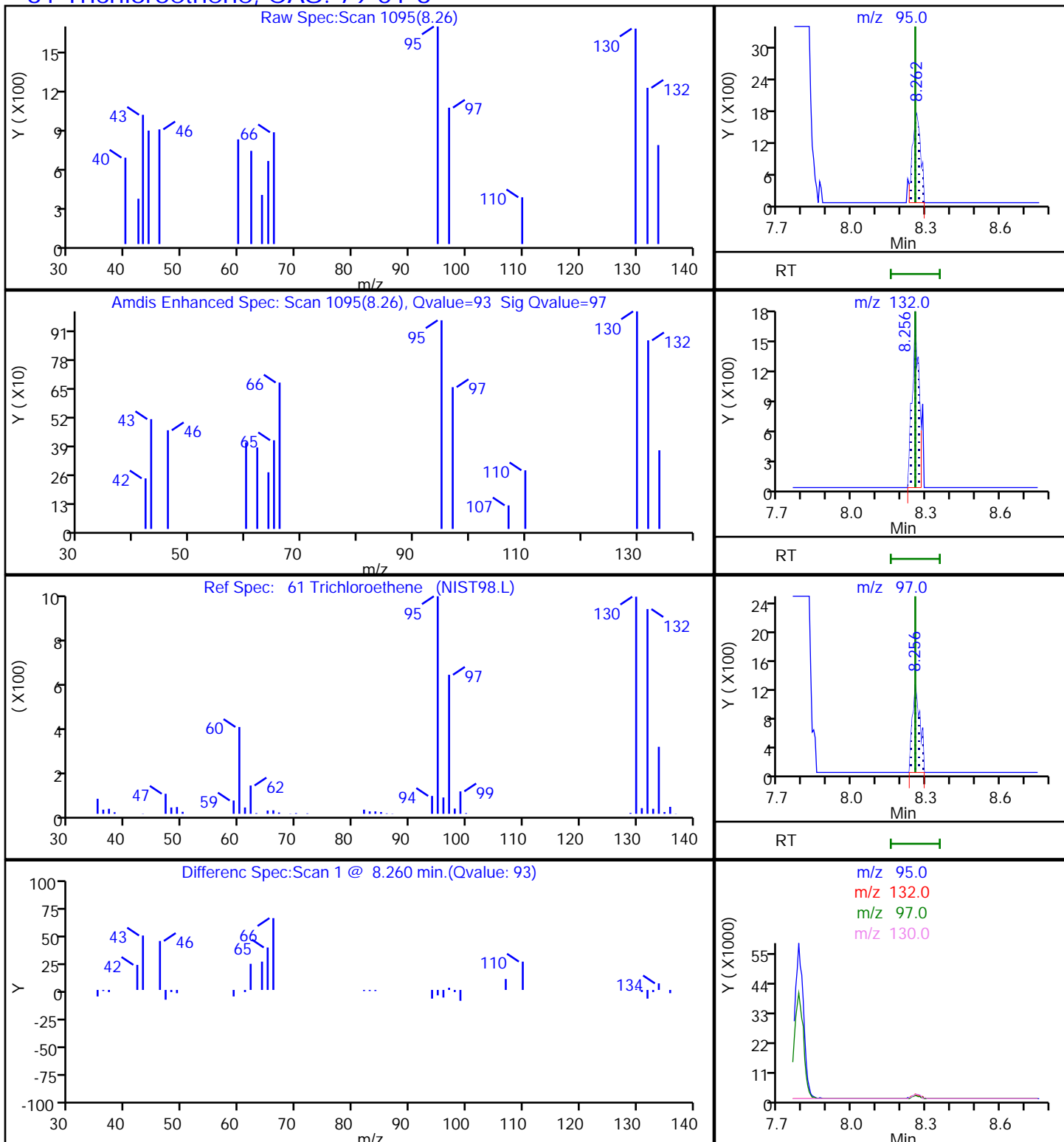
Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25mm ID)

MS Quad

61 Trichloroethene, CAS: 79-01-6

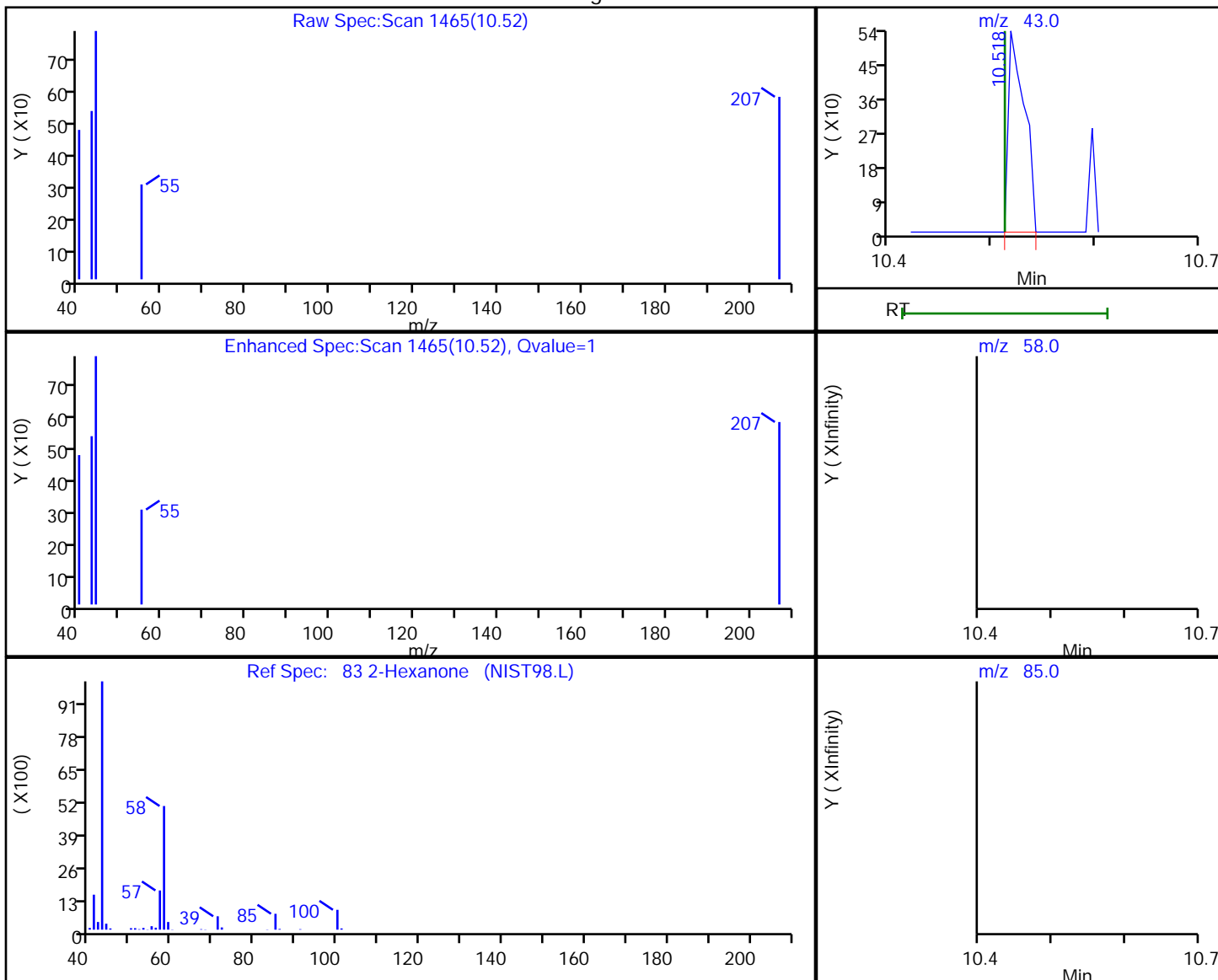


Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s12.D
 Injection Date: 02-Jun-2020 13:46:30 Instrument ID: 19930
 Lims ID: 410-2632-A-4 Lab Sample ID: 410-2632-4
 Client ID: HD-COD-SW-9-0/1-0
 Operator ID: JKH09052 ALS Bottle#: 17 Worklist Smp#: 18
 Purge Vol: 25.000 mL Dil. Factor: 1.0000
 Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
 Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

83 2-Hexanone, CAS: 591-78-6

Processing Results



RT	Mass	Response	Amount
10.52	43.00	580	0.023639
10.51	58.00	0	
10.51	85.00	0	
10.51	100.00	0	

Reviewer: howej, 03-Jun-2020 12:30:28

Audit Action: Marked Compound Undetected

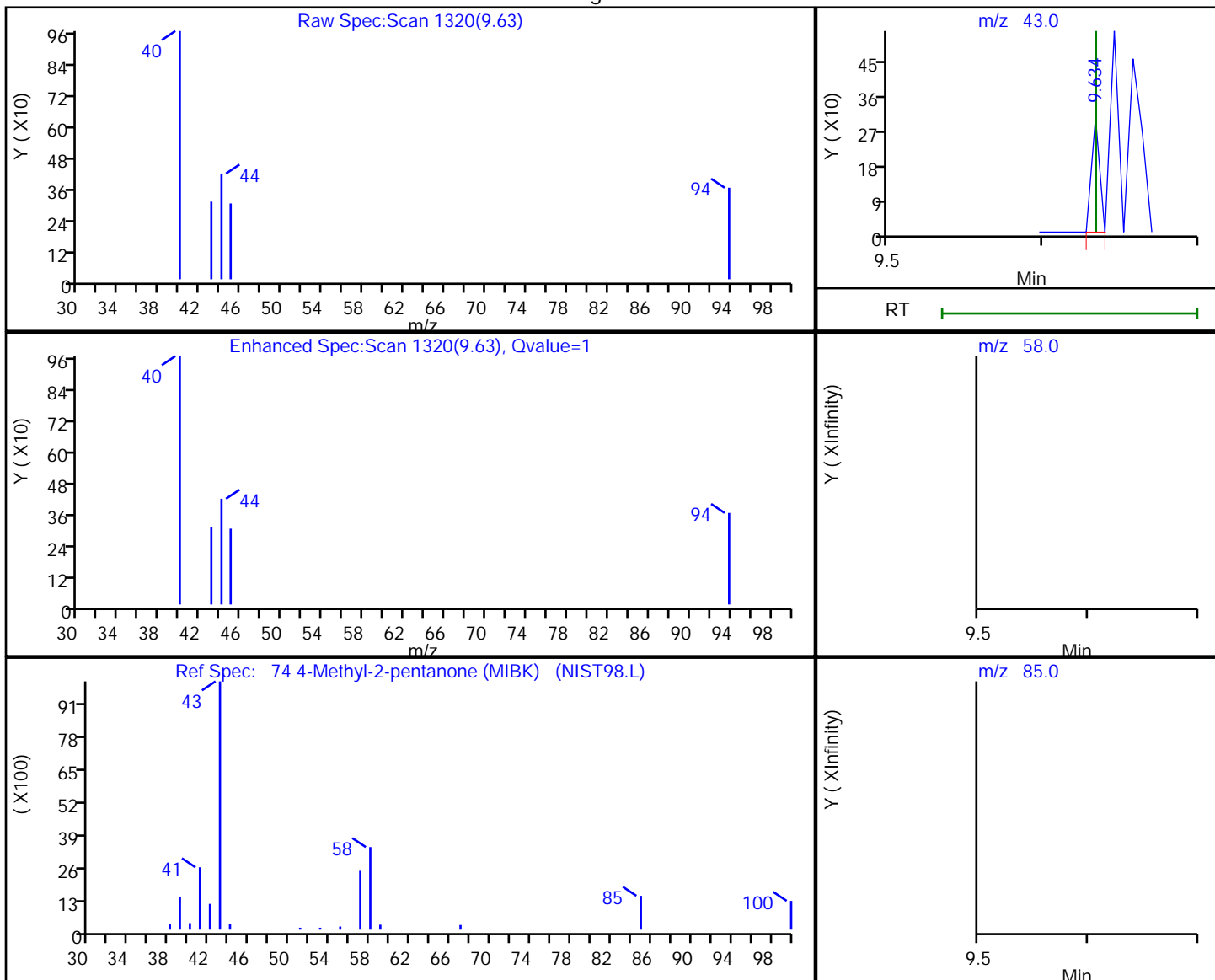
Audit Reason: Invalid Compound ID

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s12.D
 Injection Date: 02-Jun-2020 13:46:30 Instrument ID: 19930
 Lims ID: 410-2632-A-4 Lab Sample ID: 410-2632-4
 Client ID: HD-COD-SW-9-0/1-0
 Operator ID: JKH09052 ALS Bottle#: 17 Worklist Smp#: 18
 Purge Vol: 25.000 mL Dil. Factor: 1.0000
 Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
 Column: Rxi-624Sil MS Capillary Column (0.25mm i.d.) Detector: MS Quad

74 4-Methyl-2-pentanone (MIBK), CAS: 108-10-1

Processing Results



RT	Mass	Response	Amount
9.63	43.00	110	0.003099
9.63	58.00	0	
9.63	85.00	0	
9.63	100.00	0	

Reviewer: howej, 03-Jun-2020 12:30:21

Audit Action: Marked Compound Undetected

Audit Reason: Invalid Compound ID

Eurofins Lancaster Laboratories Env, LLC

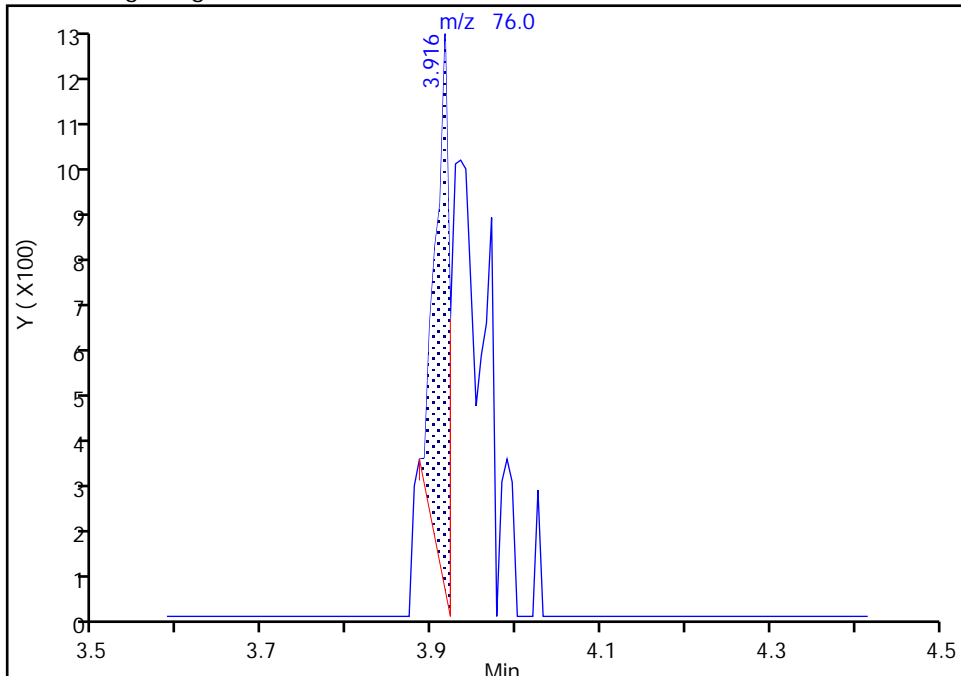
Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s12.D
Injection Date: 02-Jun-2020 13:46:30 Instrument ID: 19930
Lims ID: 410-2632-A-4 Lab Sample ID: 410-2632-4
Client ID: HD-COD-SW-9-0/1-0
Operator ID: JKH09052 ALS Bottle#: 17 Worklist Smp#: 18
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

19 Carbon disulfide, CAS: 75-15-0

Signal: 1

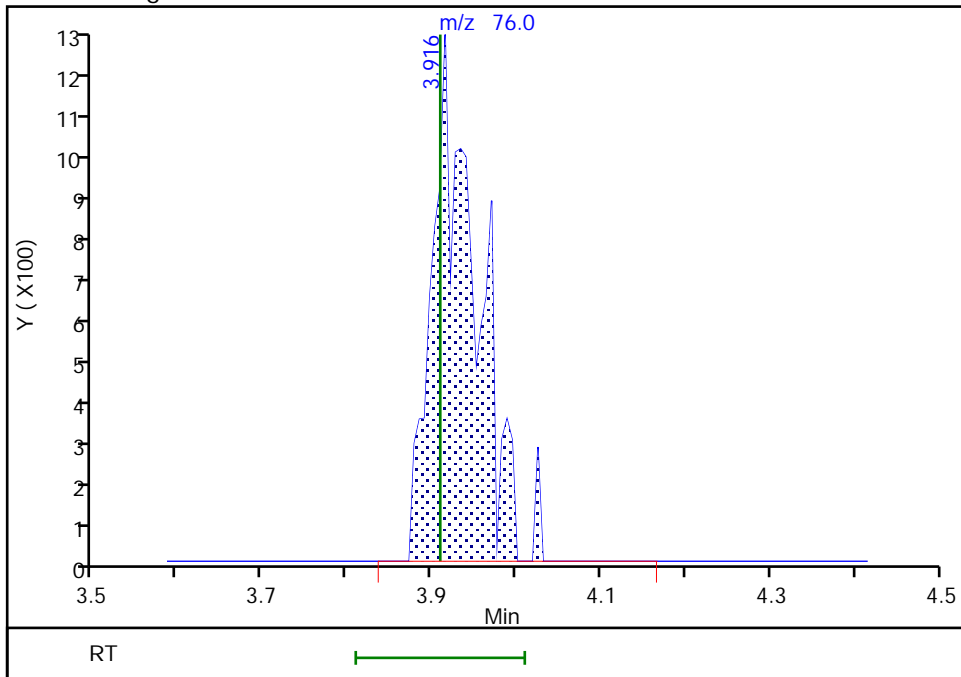
RT: 3.92
Area: 1348
Amount: 0.011086
Amount Units: ug/l

Processing Integration Results



RT: 3.92
Area: 4549
Amount: 0.037411
Amount Units: ug/l

Manual Integration Results



Reviewer: howej, 03-Jun-2020 12:30:09
Audit Action: Manually Integrated

Audit Reason: Other

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-2632-1
 SDG No.: _____
 Client Sample ID: HD-COD-SW-13-0/1-0 Lab Sample ID: 410-2632-5
 Matrix: Water Lab File ID: iU02s13.D
 Analysis Method: 8260C LL Date Collected: 05/26/2020 12:50
 Sample wt/vol: 25 (mL) Date Analyzed: 06/02/2020 14:07
 Soil Aliquot Vol: _____ Dilution Factor: 1
 Soil Extract Vol.: _____ GC Column: R-624SilMS 30m ID: 0.25 (mm)
 % Moisture: _____ Level: (low/med) Low
 Analysis Batch No.: 9922 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	ND		0.50	0.070
71-55-6	1,1,1-Trichloroethane	ND		0.50	0.060
79-34-5	1,1,2,2-Tetrachloroethane	ND		0.50	0.070
79-00-5	1,1,2-Trichloroethane	ND		0.50	0.060
75-34-3	1,1-Dichloroethane	ND		0.50	0.070
75-35-4	1,1-Dichloroethene	ND		0.50	0.060
106-93-4	1,2-Dibromoethane (EDB)	ND		0.50	0.060
107-06-2	1,2-Dichloroethane	ND		0.50	0.050
78-87-5	1,2-Dichloropropane	ND		0.50	0.060
78-93-3	2-Butanone (MEK)	ND		5.0	0.60
591-78-6	2-Hexanone	ND		5.0	0.60
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		5.0	0.70
67-64-1	Acetone	1.5	J	5.0	0.90
107-13-1	Acrylonitrile	ND		5.0	0.40
71-43-2	Benzene	ND		0.50	0.050
74-97-5	Bromochloromethane	ND		0.50	0.050
75-27-4	Bromodichloromethane	ND		0.50	0.050
75-25-2	Bromoform	ND		1.0	0.30
74-83-9	Bromomethane	ND		0.50	0.070
75-15-0	Carbon disulfide	ND		1.0	0.060
56-23-5	Carbon tetrachloride	ND		0.50	0.070
108-90-7	Chlorobenzene	ND		0.50	0.060
75-00-3	Chloroethane	ND		0.50	0.070
67-66-3	Chloroform	ND		0.50	0.090
74-87-3	Chloromethane	ND		0.50	0.060
156-59-2	cis-1,2-Dichloroethene	0.080	J	0.50	0.050
10061-01-5	cis-1,3-Dichloropropene	ND		0.50	0.050
124-48-1	Dibromochloromethane	ND		0.50	0.070
100-41-4	Ethylbenzene	ND		0.50	0.060
1634-04-4	Methyl tert-butyl ether	ND		0.50	0.050
75-09-2	Methylene Chloride	ND		0.50	0.070
100-42-5	Styrene	ND		0.50	0.050
127-18-4	Tetrachloroethene	ND		0.50	0.060
108-88-3	Toluene	ND		0.50	0.070
156-60-5	trans-1,2-Dichloroethene	ND		0.50	0.060
10061-02-6	trans-1,3-Dichloropropene	ND		0.50	0.060

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-2632-1
 SDG No.: _____
 Client Sample ID: HD-COD-SW-13-0/1-0 Lab Sample ID: 410-2632-5
 Matrix: Water Lab File ID: iU02s13.D
 Analysis Method: 8260C LL Date Collected: 05/26/2020 12:50
 Sample wt/vol: 25 (mL) Date Analyzed: 06/02/2020 14:07
 Soil Aliquot Vol.: _____ Dilution Factor: 1
 Soil Extract Vol.: _____ GC Column: R-624SilMS 30m ID: 0.25 (mm)
 % Moisture: _____ Level: (low/med) Low
 Analysis Batch No.: 9922 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
79-01-6	Trichloroethene	ND		0.50	0.060
75-01-4	Vinyl chloride	ND		0.50	0.10
1330-20-7	Xylenes, Total	ND		1.0	0.15

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	105		80-120
1868-53-7	Dibromofluoromethane (Surr)	102		80-120
2037-26-5	Toluene-d8 (Surr)	98		80-120
460-00-4	4-Bromofluorobenzene (Surr)	96		80-120

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s13.D
 Lims ID: 410-2632-A-5
 Client ID: HD-COD-SW-13-0/1-0
 Sample Type: Client
 Inject. Date: 02-Jun-2020 14:07:30 ALS Bottle#: 18 Worklist Smp#: 19
 Purge Vol: 25.000 mL Dil. Factor: 1.0000
 Sample Info: 410-0002623-019
 Misc. Info.: 410-2632-A-5
 Operator ID: JKH09052 Instrument ID: 19930
 Method: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\8260 25ml HP31.m
 Limit Group: MSV - 8260C_D
 Last Update: 03-Jun-2020 12:53:08 Calib Date: 16-Mar-2020 18:31:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\IM16107.D
 Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
 Process Host: CTX1046

First Level Reviewer: howej

Date: 03-Jun-2020 12:31:23

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
4 Chloromethane	50	2.184	2.190	-0.006	1	2207	0.0320	
5 Vinyl chloride	62		2.300				ND	
7 Bromomethane	94		2.642				ND	
8 Chloroethane	64		2.727				ND	
14 1,1-Dichloroethene	96		3.599				ND	
15 Acetone	43	3.654	3.629	0.025	96	11909	1.52	
19 Carbon disulfide	76	3.934	3.910	0.024	55	5283	0.0439	M
23 Methylene Chloride	84		4.288				ND	
* 24 t-Butyl alcohol-d10 (IS)	65	4.306	4.300	0.006	0	157952	50.0	M
26 Acrylonitrile	53		4.623				ND	
27 Methyl tert-butyl ether	73		4.696				ND	
28 trans-1,2-Dichloroethene	96		4.702				ND	
31 1,1-Dichloroethane	63		5.367				ND	
36 2-Butanone (MEK)	43		6.165				ND	
37 cis-1,2-Dichloroethene	96	6.202	6.196	0.006	75	4069	0.0801	
43 Chlorobromomethane	128		6.525				ND	
45 Chloroform	83	6.677	6.677	0.000	1	1808	0.0224	
\$ 46 Dibromofluoromethane (Surr)	113	6.897	6.885	0.012	94	389218	10.2	
47 1,1,1-Trichloroethane	97		6.903				ND	
50 Carbon tetrachloride	117		7.110				ND	
\$ 53 1,2-Dichloroethane-d4 (Surr)	102	7.348	7.342	0.006	0	80554	10.5	
54 Benzene	78		7.378				ND	
56 1,2-Dichloroethane	62		7.452				ND	
* 58 Fluorobenzene (IS)	96	7.787	7.775	0.012	99	1574478	10.0	
61 Trichloroethene	95		8.256				ND	
63 1,2-Dichloropropane	63		8.586				ND	
68 Dichlorobromomethane	83		8.927				ND	
73 cis-1,3-Dichloropropene	75		9.470				ND	
74 4-Methyl-2-pentanone (MIBK)	43		9.634				ND	
\$ 75 Toluene-d8 (Surr)	98	9.774	9.774	0.000	94	1543031	9.81	
76 Toluene	92	9.854	9.854	0.000	99	8519	0.0678	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
78 trans-1,3-Dichloropropene	75		10.104				ND	
80 1,1,2-Trichloroethane	97		10.305				ND	
81 Tetrachloroethene	166	10.396	10.396	0.000	83	3225	0.0537	
83 2-Hexanone	43		10.512				ND	U
85 Chlorodibromomethane	129		10.683				ND	
86 Ethylene Dibromide	107		10.792				ND	
* 87 Chlorobenzene-d5 (IS)	117	11.219	11.219	0.000	86	1236797	10.0	
90 Chlorobenzene	112		11.244				ND	
S 89 Xylenes, Total	106				0		0.0309	
91 1,1,1,2-Tetrachloroethane	131		11.323				ND	
92 Ethylbenzene	91	11.335	11.329	0.006	1	1403	0.005689	
93 m-Xylene & p-Xylene	106	11.433	11.445	-0.012	0	2112	0.0219	M
94 o-Xylene	106	11.780	11.768	0.012	1	866	0.009043	
95 Styrene	104		11.786				ND	
96 Bromoform	173		11.945				ND	
\$ 100 4-Bromofluorobenzene (Surr)	95	12.213	12.213	0.000	93	562107	9.58	
101 1,1,2,2-Tetrachloroethane	83		12.310				ND	
* 115 1,4-Dichlorobenzene-d4	152	13.091	13.091	0.000	95	670923	10.0	

QC Flag Legend

Review Flags

M - Manually Integrated

U - Marked Undetected

Reagents:

MSV_31_826ISS_00002

Amount Added: 5.00

Units: uL

Run Reagent

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s13.D

Injection Date: 02-Jun-2020 14:07:30

Instrument ID: 19930

Operator ID: JKH09052

Lims ID: 410-2632-A-5

Lab Sample ID: 410-2632-5

Worklist Smp#: 19

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

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

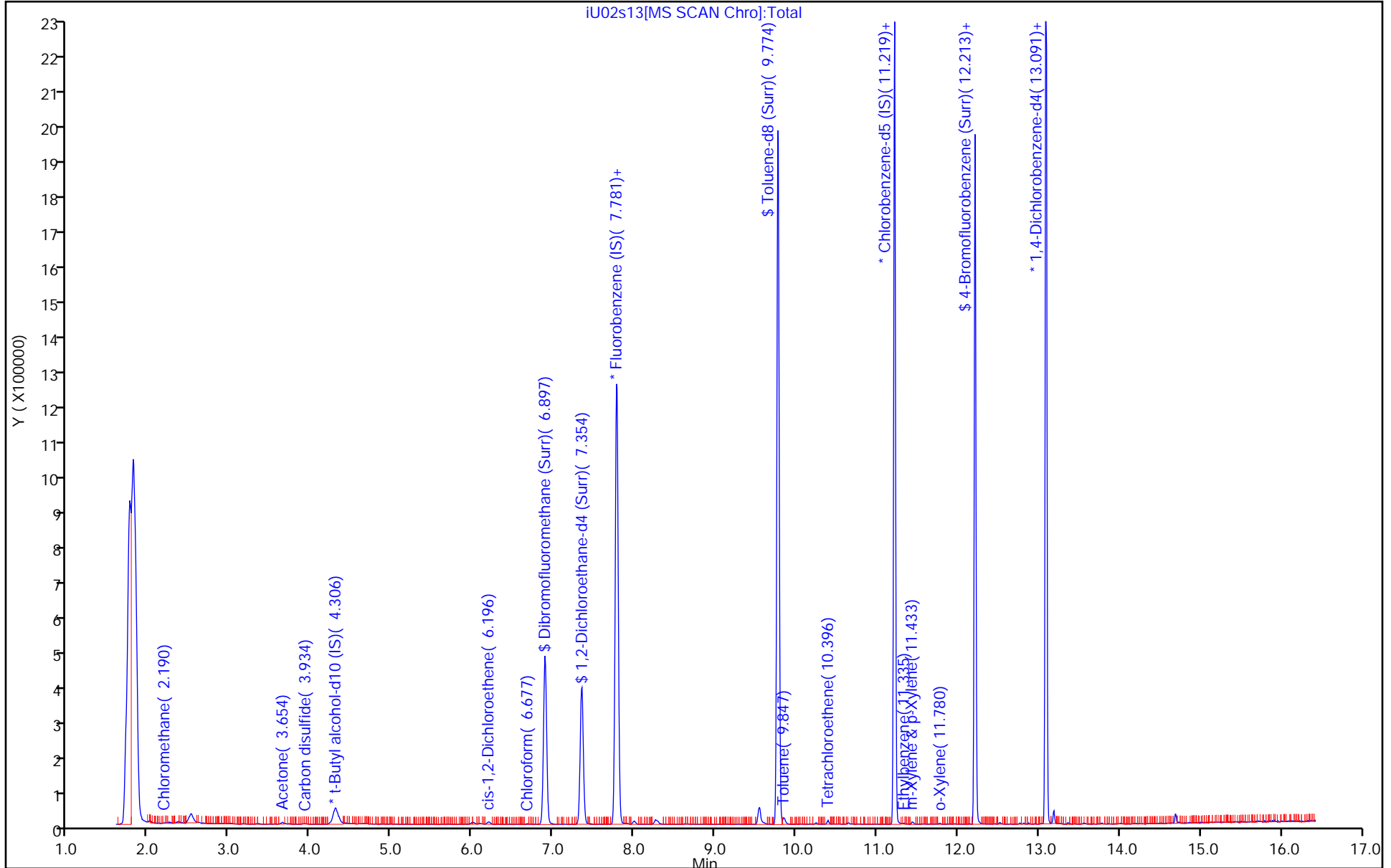
ALS Bottle#: 18

Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25 mm)

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Eurofins Lancaster Laboratories Env, LLC
Recovery Report

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s13.D
 Lims ID: 410-2632-A-5
 Client ID: HD-COD-SW-13-0/1-0
 Sample Type: Client
 Inject. Date: 02-Jun-2020 14:07:30 ALS Bottle#: 18 Worklist Smp#: 19
 Purge Vol: 25.000 mL Dil. Factor: 1.0000
 Sample Info: 410-0002623-019
 Misc. Info.: 410-2632-A-5
 Operator ID: JKH09052 Instrument ID: 19930
 Method: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\8260 25ml HP31.m
 Limit Group: MSV - 8260C_D
 Last Update: 03-Jun-2020 12:53:08 Calib Date: 16-Mar-2020 18:31:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\IM16107.D
 Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
 Process Host: CTX1046

First Level Reviewer: howej

Date: 03-Jun-2020 12:31:23

Compound	Amount Added	Amount Recovered	% Rec.
\$ 46 Dibromofluoromethane (Surr)	10.0	10.2	102.42
\$ 53 1,2-Dichloroethane-d4 (Surr)	10.0	10.5	104.61
\$ 75 Toluene-d8 (Surr)	10.0	9.81	98.11
\$ 100 4-Bromofluorobenzene (Surr)	10.0	9.58	95.78

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\U02s13.D

Injection Date: 02-Jun-2020 14:07:30

Instrument ID: 19930

Lims ID: 410-2632-A-5

Lab Sample ID: 410-2632-5

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

Operator ID: JKH09052

ALS Bottle#: 18

Worklist Smp#: 19

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

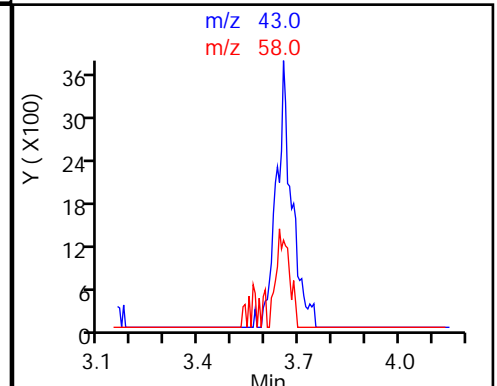
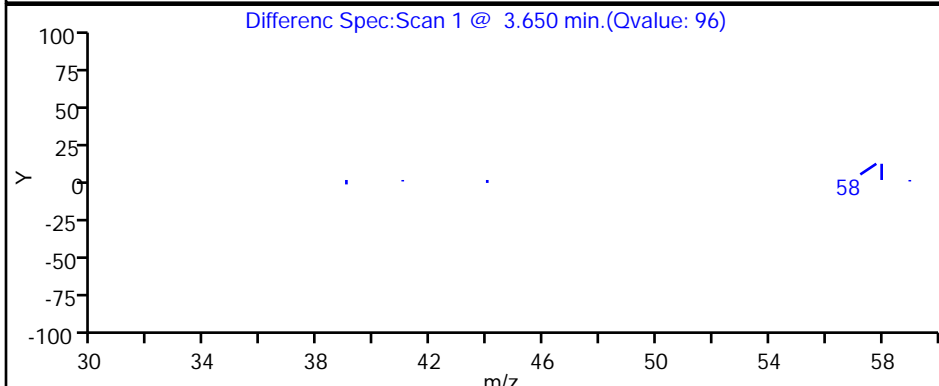
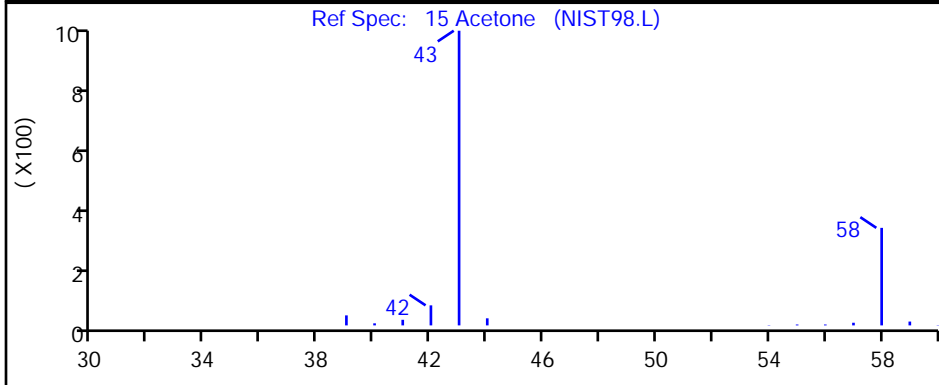
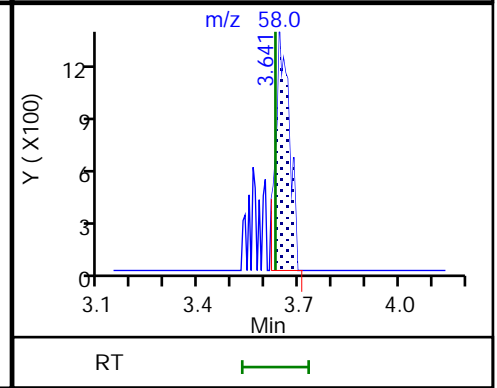
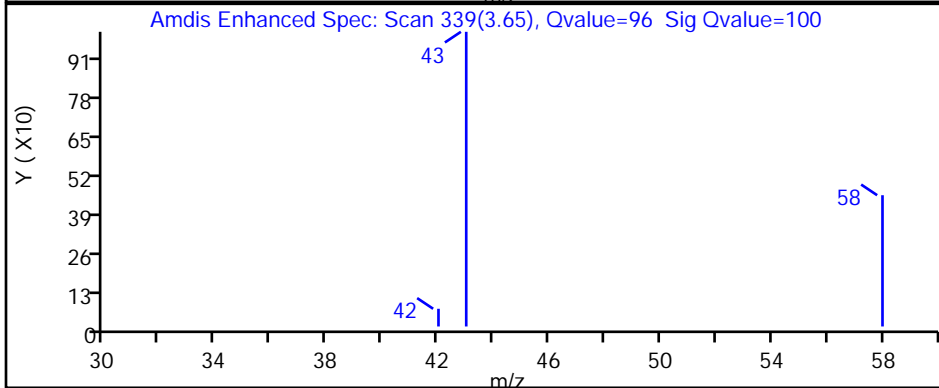
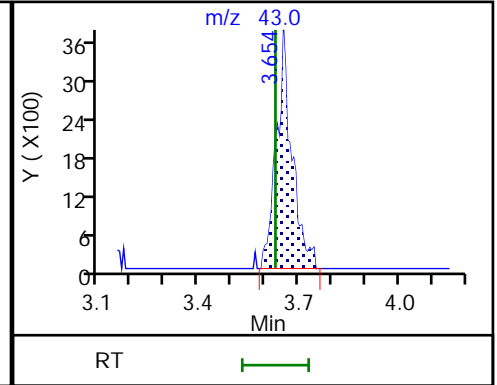
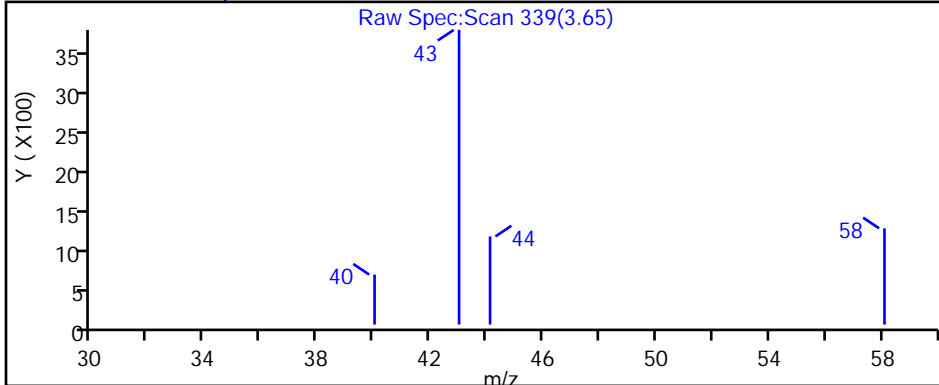
Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25mm ID) x 30m

MS Quad

15 Acetone, CAS: 67-64-1



Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s13.D

Injection Date: 02-Jun-2020 14:07:30

Instrument ID: 19930

Lims ID: 410-2632-A-5

Lab Sample ID: 410-2632-5

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

Operator ID: JKH09052

ALS Bottle#: 18

Worklist Smp#: 19

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

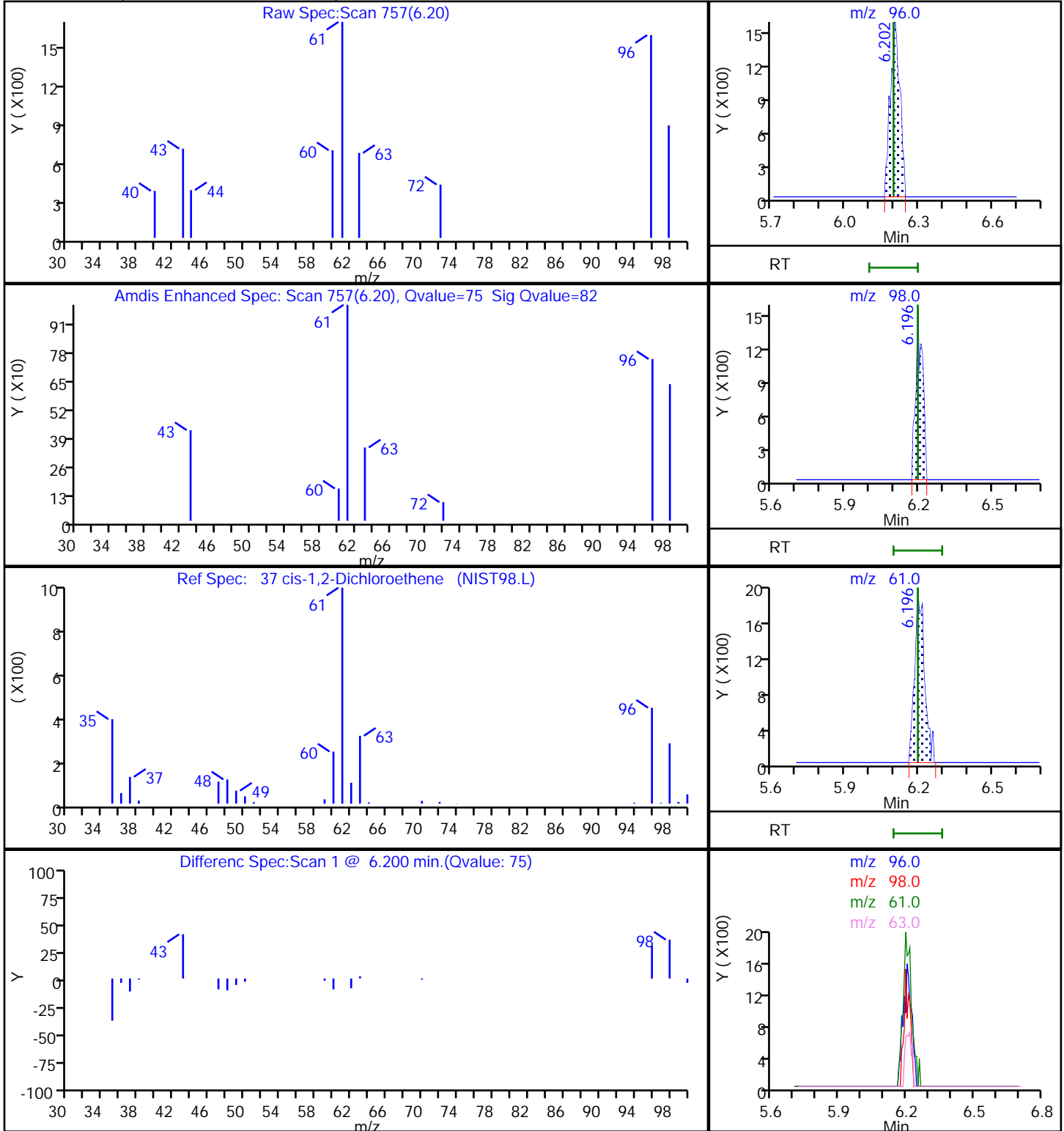
Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector

MS Quad

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

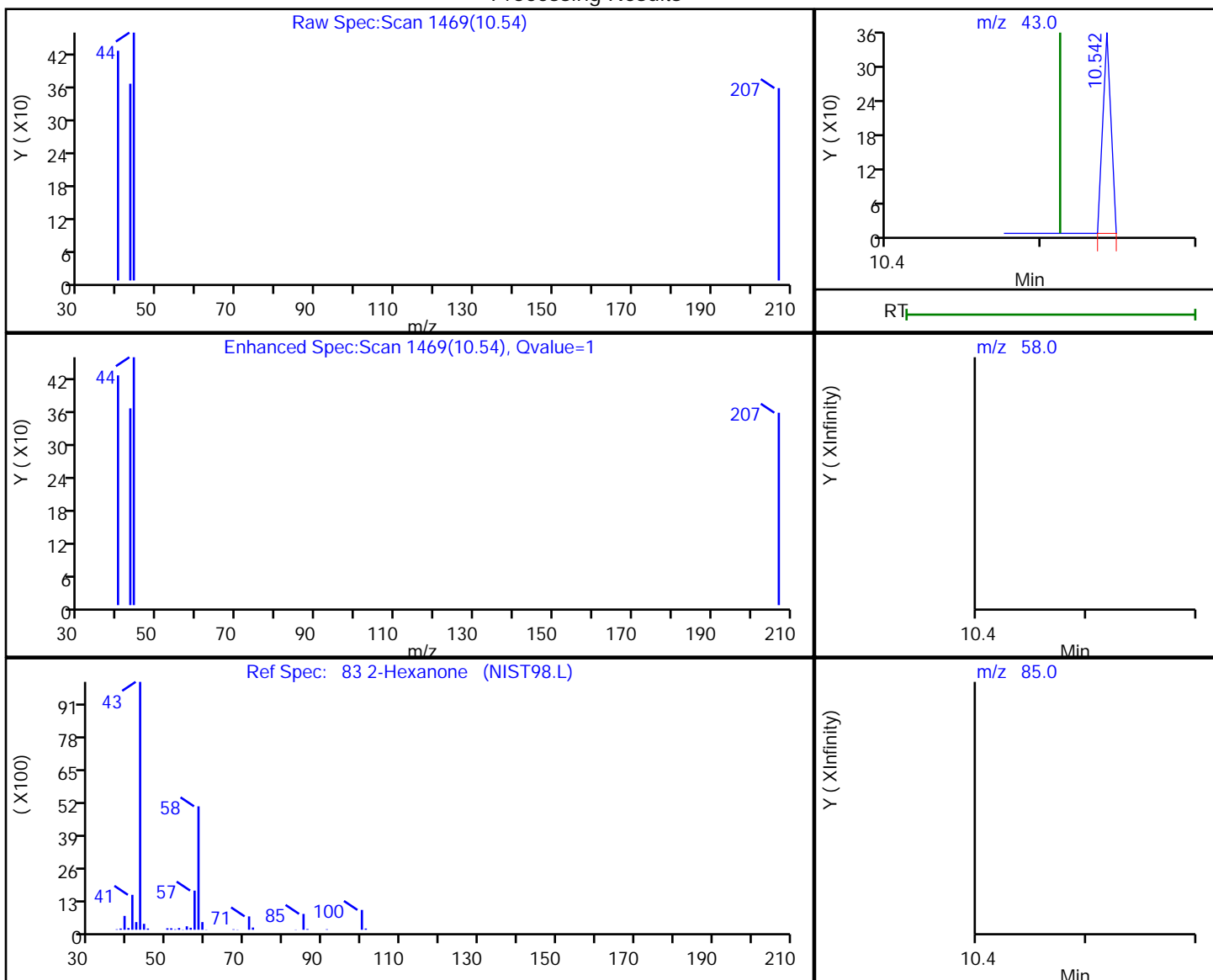


Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s13.D
 Injection Date: 02-Jun-2020 14:07:30 Instrument ID: 19930
 Lims ID: 410-2632-A-5 Lab Sample ID: 410-2632-5
 Client ID: HD-COD-SW-13-0/1-0
 Operator ID: JKH09052 ALS Bottle#: 18 Worklist Smp#: 19
 Purge Vol: 25.000 mL Dil. Factor: 1.0000
 Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
 Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

83 2-Hexanone, CAS: 591-78-6

Processing Results



RT	Mass	Response	Amount
10.54	43.00	131	0.005548
10.51	58.00	0	
10.51	85.00	0	
10.51	100.00	0	

Reviewer: howej, 03-Jun-2020 12:31:06

Audit Action: Marked Compound Undetected

Audit Reason: Invalid Compound ID

Eurofins Lancaster Laboratories Env, LLC

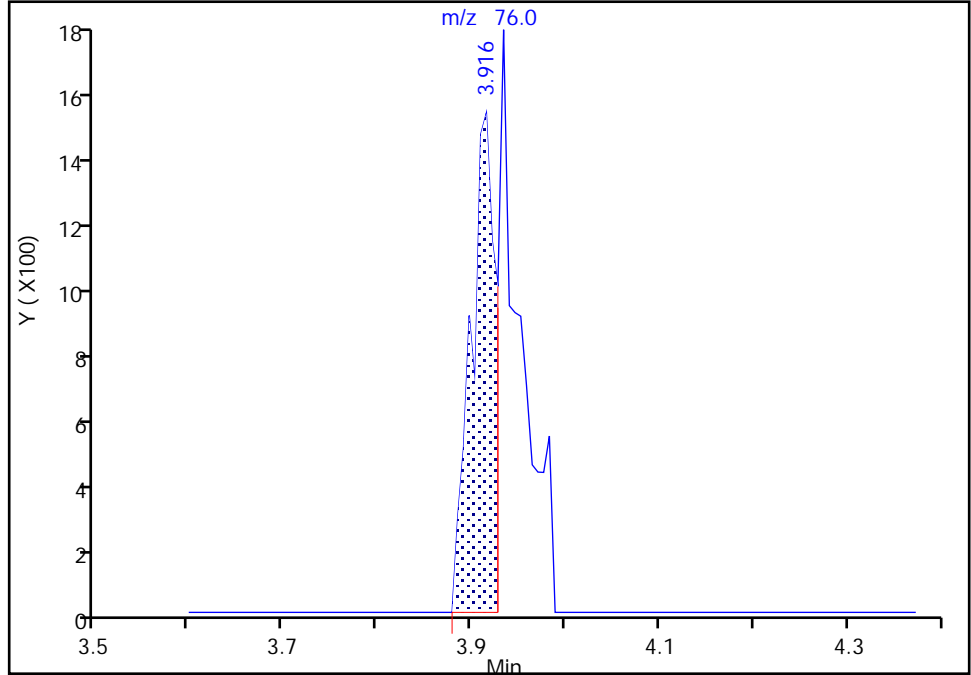
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Injection Date: 02-Jun-2020 14:07:30 Instrument ID: 19930
Lims ID: 410-2632-A-5 Lab Sample ID: 410-2632-5
Client ID: HD-COD-SW-13-0/1-0
Operator ID: JKH09052 ALS Bottle#: 18 Worklist Smp#: 19
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

19 Carbon disulfide, CAS: 75-15-0

Signal: 1

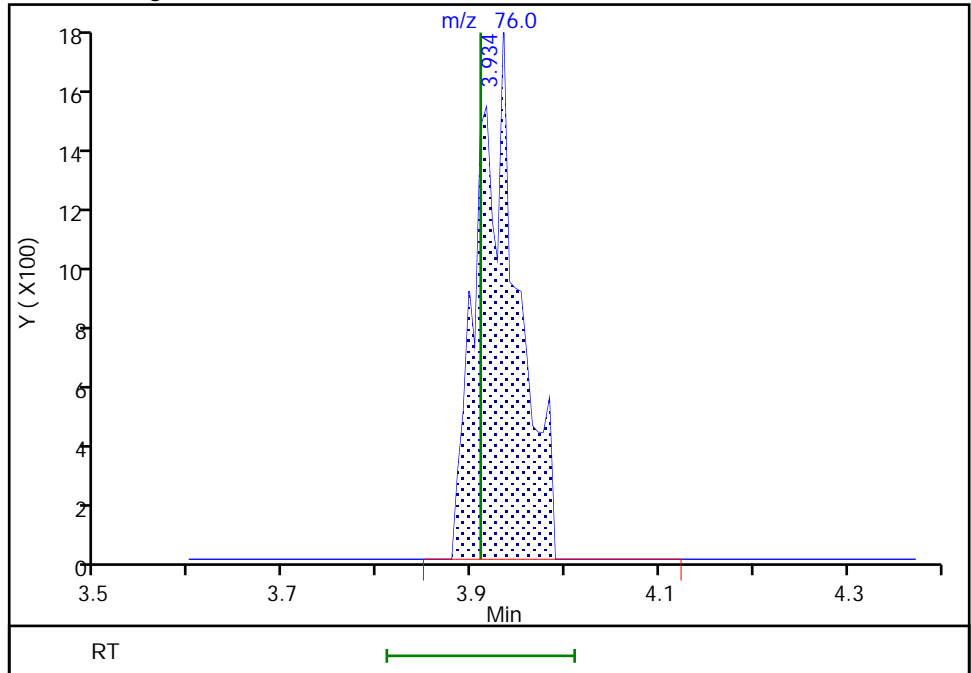
RT: 3.92
Area: 2722
Amount: 0.022610
Amount Units: ug/l

Processing Integration Results



RT: 3.93
Area: 5283
Amount: 0.043882
Amount Units: ug/l

Manual Integration Results



Reviewer: howej, 03-Jun-2020 12:30:49
Audit Action: Manually Integrated

Audit Reason: Other

Eurofins Lancaster Laboratories Env, LLC

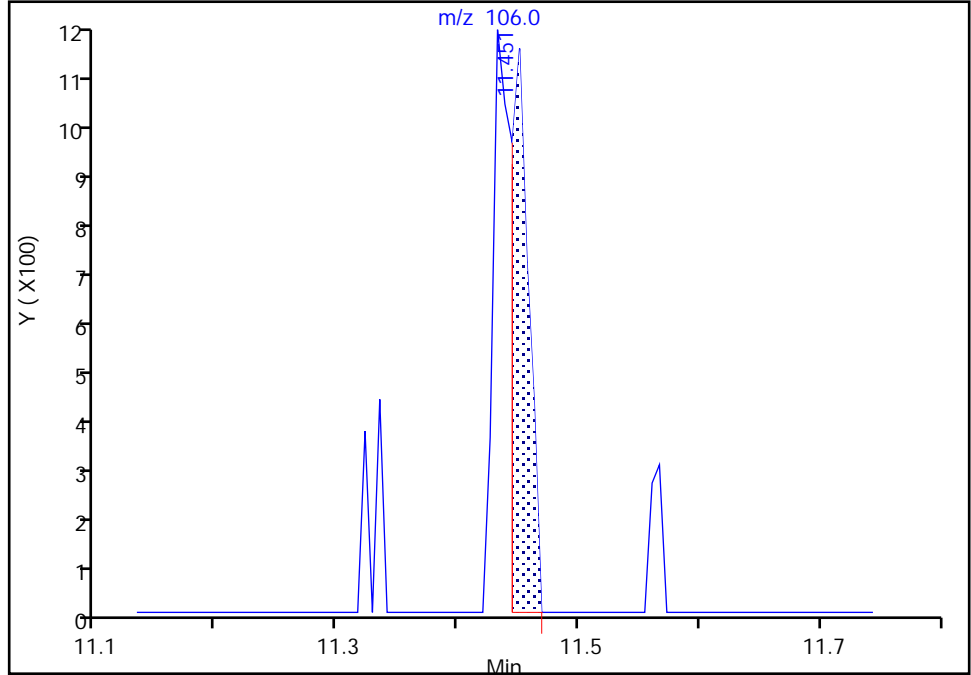
Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s13.D
Injection Date: 02-Jun-2020 14:07:30 Instrument ID: 19930
Lims ID: 410-2632-A-5 Lab Sample ID: 410-2632-5
Client ID: HD-COD-SW-13-0/1-0
Operator ID: JKH09052 ALS Bottle#: 18 Worklist Smp#: 19
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

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

Signal: 1

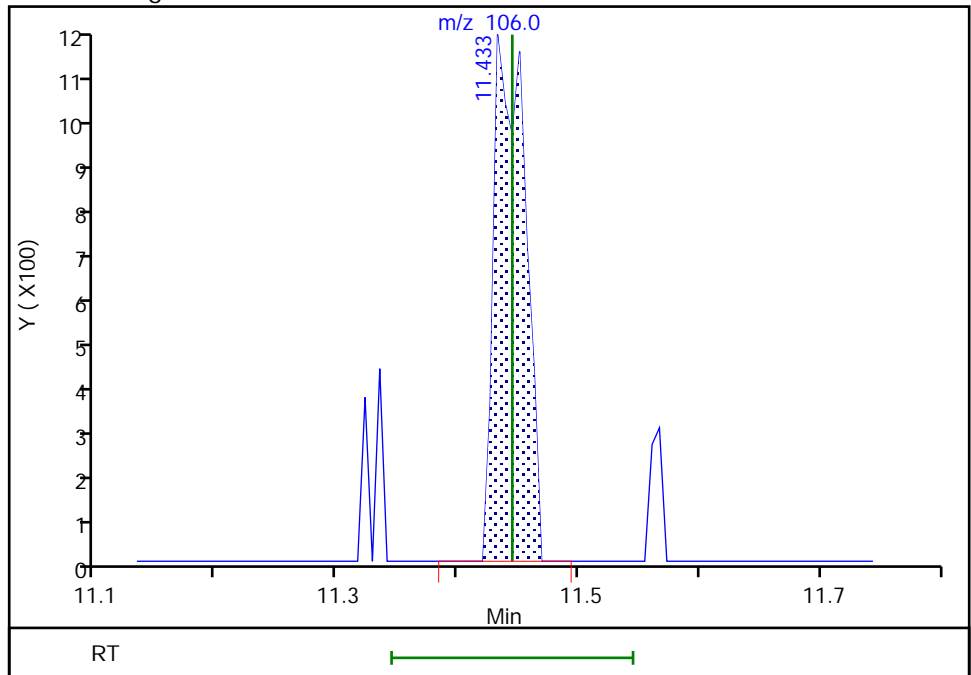
RT: 11.45
Area: 1177
Amount: 0.012182
Amount Units: ug/l

Processing Integration Results



RT: 11.43
Area: 2112
Amount: 0.021859
Amount Units: ug/l

Manual Integration Results



Reviewer: howej, 03-Jun-2020 12:31:16
Audit Action: Manually Integrated

Audit Reason: Other

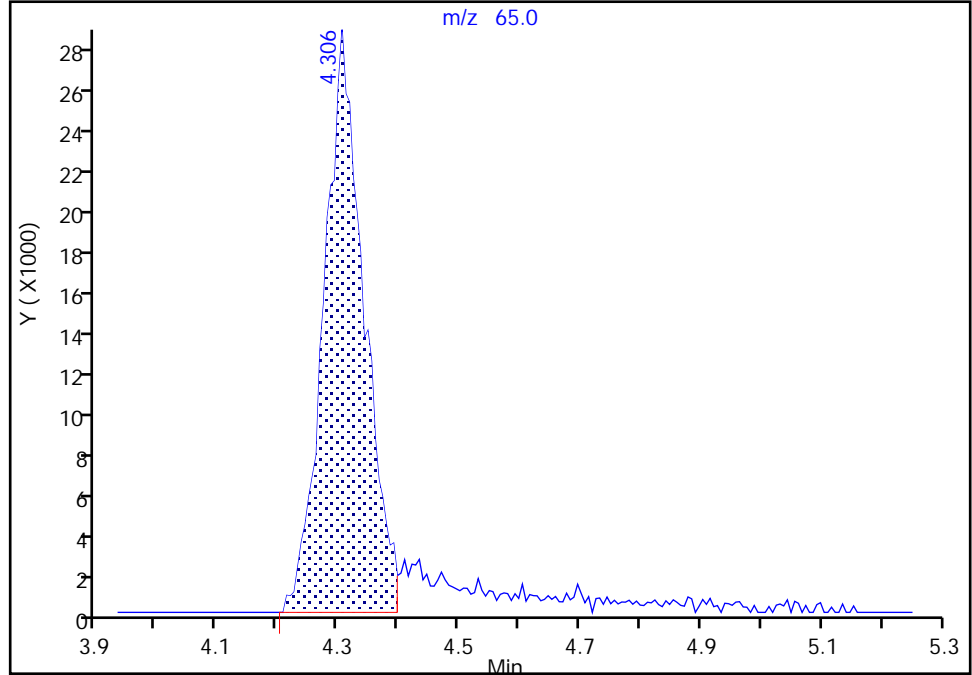
Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s13.D
Injection Date: 02-Jun-2020 14:07:30 Instrument ID: 19930
Lims ID: 410-2632-A-5 Lab Sample ID: 410-2632-5
Client ID: HD-COD-SW-13-0/1-0
Operator ID: JKH09052 ALS Bottle#: 18 Worklist Smp#: 19
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

* 24 t-Butyl alcohol-d10 (IS), CAS: 53001-22-2
Signal: 1

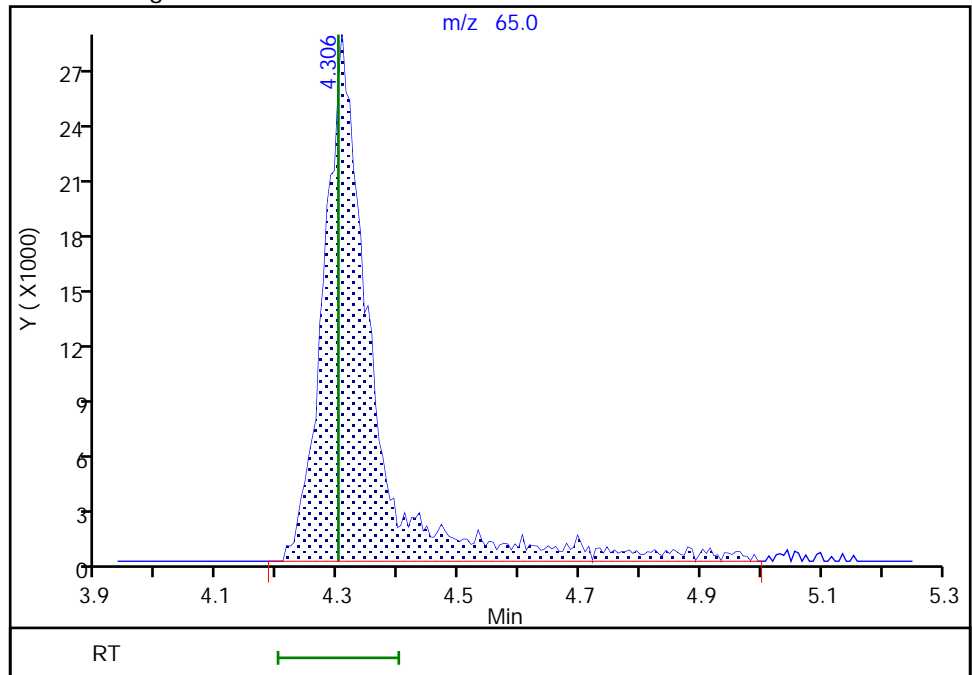
RT: 4.31
Area: 129448
Amount: 50.000000
Amount Units: ug/l

Processing Integration Results



RT: 4.31
Area: 157952
Amount: 50.000000
Amount Units: ug/l

Manual Integration Results



Reviewer: howej, 03-Jun-2020 12:30:55
Audit Action: Manually Integrated

Audit Reason: Other

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-2632-1
 SDG No.: _____
 Client Sample ID: HD-COD-SW-15-0/1-0 Lab Sample ID: 410-2632-6
 Matrix: Water Lab File ID: iU02s14.D
 Analysis Method: 8260C LL Date Collected: 05/26/2020 12:55
 Sample wt/vol: 25 (mL) Date Analyzed: 06/02/2020 14:29
 Soil Aliquot Vol: _____ Dilution Factor: 1
 Soil Extract Vol.: _____ GC Column: R-624SilMS 30m ID: 0.25 (mm)
 % Moisture: _____ Level: (low/med) Low
 Analysis Batch No.: 9922 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	ND		0.50	0.070
71-55-6	1,1,1-Trichloroethane	ND		0.50	0.060
79-34-5	1,1,2,2-Tetrachloroethane	ND		0.50	0.070
79-00-5	1,1,2-Trichloroethane	ND		0.50	0.060
75-34-3	1,1-Dichloroethane	ND		0.50	0.070
75-35-4	1,1-Dichloroethene	0.083	J	0.50	0.060
106-93-4	1,2-Dibromoethane (EDB)	ND		0.50	0.060
107-06-2	1,2-Dichloroethane	ND	FH	0.50	0.050
78-87-5	1,2-Dichloropropane	ND		0.50	0.060
78-93-3	2-Butanone (MEK)	ND		5.0	0.60
591-78-6	2-Hexanone	ND		5.0	0.60
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		5.0	0.70
67-64-1	Acetone	ND		5.0	0.90
107-13-1	Acrylonitrile	ND		5.0	0.40
71-43-2	Benzene	ND		0.50	0.050
74-97-5	Bromochloromethane	ND		0.50	0.050
75-27-4	Bromodichloromethane	ND		0.50	0.050
75-25-2	Bromoform	ND		1.0	0.30
74-83-9	Bromomethane	ND		0.50	0.070
75-15-0	Carbon disulfide	ND		1.0	0.060
56-23-5	Carbon tetrachloride	ND		0.50	0.070
108-90-7	Chlorobenzene	ND		0.50	0.060
75-00-3	Chloroethane	ND		0.50	0.070
67-66-3	Chloroform	0.26	J	0.50	0.090
74-87-3	Chloromethane	ND	FH	0.50	0.060
156-59-2	cis-1,2-Dichloroethene	0.83		0.50	0.050
10061-01-5	cis-1,3-Dichloropropene	ND		0.50	0.050
124-48-1	Dibromochloromethane	ND		0.50	0.070
100-41-4	Ethylbenzene	ND		0.50	0.060
1634-04-4	Methyl tert-butyl ether	0.050	J	0.50	0.050
75-09-2	Methylene Chloride	ND		0.50	0.070
100-42-5	Styrene	ND		0.50	0.050
127-18-4	Tetrachloroethene	3.1		0.50	0.060
108-88-3	Toluene	ND		0.50	0.070
156-60-5	trans-1,2-Dichloroethene	ND		0.50	0.060
10061-02-6	trans-1,3-Dichloropropene	ND		0.50	0.060

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-2632-1
 SDG No.: _____
 Client Sample ID: HD-COD-SW-15-0/1-0 Lab Sample ID: 410-2632-6
 Matrix: Water Lab File ID: iU02s14.D
 Analysis Method: 8260C LL Date Collected: 05/26/2020 12:55
 Sample wt/vol: 25 (mL) Date Analyzed: 06/02/2020 14:29
 Soil Aliquot Vol.: _____ Dilution Factor: 1
 Soil Extract Vol.: _____ GC Column: R-624SilMS 30m ID: 0.25 (mm)
 % Moisture: _____ Level: (low/med) Low
 Analysis Batch No.: 9922 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
79-01-6	Trichloroethene	1.0		0.50	0.060
75-01-4	Vinyl chloride	ND		0.50	0.10
1330-20-7	Xylenes, Total	ND		1.0	0.15

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	105		80-120
1868-53-7	Dibromofluoromethane (Surr)	103		80-120
2037-26-5	Toluene-d8 (Surr)	99		80-120
460-00-4	4-Bromofluorobenzene (Surr)	98		80-120

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s14.D
 Lims ID: 410-2632-A-6
 Client ID: HD-COD-SW-15-0/1-0
 Sample Type: Client
 Inject. Date: 02-Jun-2020 14:29:30 ALS Bottle#: 19 Worklist Smp#: 20
 Purge Vol: 25.000 mL Dil. Factor: 1.0000
 Sample Info: 410-0002623-020
 Misc. Info.: 410-2632-A-6
 Operator ID: JKH09052 Instrument ID: 19930
 Method: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\8260 25ml HP31.m
 Limit Group: MSV - 8260C_D
 Last Update: 03-Jun-2020 12:45:06 Calib Date: 16-Mar-2020 18:31:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\IM16107.D
 Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
 Process Host: CTX1023

First Level Reviewer: howej

Date: 03-Jun-2020 12:32:34

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
1 Dichlorodifluoromethane	85		1.983				ND	
2 Chlorodifluoromethane	51		2.014				ND	
3 Dimethyl ether	45		2.068				ND	
4 Chloromethane	50		2.190				ND	
5 Vinyl chloride	62		2.300				ND	
6 Butadiene	39		2.306				ND	U
7 Bromomethane	94		2.642				ND	
8 Chloroethane	64		2.727				ND	
9 Dichlorofluoromethane	67		2.971				ND	U
10 Trichlorofluoromethane	101		3.032				ND	
11 Ethyl ether	59		3.282				ND	
T 200 Ethanol TIC	45		3.288				ND	U
12 1,2-Dichloro-1,1,2-trifluoroethane	67		3.361				ND	
13 Acrolein	56		3.459				ND	
14 1,1-Dichloroethene	96	3.617	3.599	0.018	95	3473	0.0829	M
15 Acetone	43	3.654	3.629	0.025	63	3126	0.3846	
16 112TCTFE	101		3.648				ND	
17 Iodomethane	142		3.800				ND	
18 Ethyl bromide	108		3.830				ND	
19 Carbon disulfide	76		3.910				ND	
20 Acetonitrile	41		4.031				ND	
21 Methyl acetate	43		4.056				ND	
22 3-Chloro-1-propene	41		4.093				ND	
23 Methylene Chloride	84		4.288				ND	
* 24 t-Butyl alcohol-d10 (IS)	65	4.312	4.300	0.012	0	163787	50.0	M
25 2-Methyl-2-propanol	59		4.416				ND	
26 Acrylonitrile	53		4.623				ND	
27 Methyl tert-butyl ether	73	4.690	4.696	-0.006	1	5415	0.0504	
28 trans-1,2-Dichloroethene	96		4.702				ND	
29 Hexane	57		5.129				ND	
31 1,1-Dichloroethane	63		5.367				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
30 Vinyl acetate	43		5.373				ND	
32 Isopropyl ether	45		5.422				ND	
33 2-Chloro-1,3-butadiene	53		5.476				ND	
34 Tert-butyl ethyl ether	59		5.958				ND	U
S 35 1,2-Dichloroethene, Total	100				0		0.8311	
36 2-Butanone (MEK)	43		6.165				ND	
37 cis-1,2-Dichloroethene	96	6.202	6.196	0.006	78	41992	0.8311	
38 2,2-Dichloropropane	77		6.208				ND	
39 Ethyl acetate	43		6.238				ND	U
40 Propionitrile	54		6.257				ND	
41 Methyl acrylate	55		6.305				ND	
42 Methacrylonitrile	67		6.470				ND	
43 Chlorobromomethane	128		6.525				ND	
44 Tetrahydrofuran	71		6.537				ND	
45 Chloroform	83	6.684	6.677	0.007	93	20450	0.2554	
\$ 46 Dibromofluoromethane (Surr)	113	6.897	6.885	0.012	94	389120	10.3	
47 1,1,1-Trichloroethane	97		6.903				ND	
48 Cyclohexane	56		7.001				ND	
49 1-Chlorobutane	56		7.067				ND	
50 Carbon tetrachloride	117	7.098	7.110	-0.012	30	2091	0.0304	M
51 1,1-Dichloropropene	75		7.110				ND	
52 Isobutyl alcohol	41		7.263				ND	
\$ 53 1,2-Dichloroethane-d4 (Surr)	102	7.348	7.342	0.006	0	80359	10.5	
54 Benzene	78		7.378				ND	
56 1,2-Dichloroethane	62		7.452				ND	
55 Isopropyl acetate	43		7.464				ND	
57 Tert-amyl methyl ether	73		7.561				ND	
* 58 Fluorobenzene (IS)	96	7.781	7.775	0.006	99	1565347	10.0	
59 n-Heptane	43		7.787				ND	
60 n-Butanol	56		8.134				ND	
61 Trichloroethene	95	8.262	8.256	0.006	97	49675	1.00	
62 Methylcyclohexane	83		8.561				ND	
63 1,2-Dichloropropane	63		8.586				ND	
64 Methyl methacrylate	69		8.665				ND	
65 1,4-Dioxane	88		8.671				ND	
66 Dibromomethane	93		8.701				ND	
67 n-Propyl acetate	43		8.750				ND	
68 Dichlorobromomethane	83		8.927				ND	
69 2-Nitropropane	41		9.201				ND	
70 Chloroacetonitrile	75		9.274				ND	
71 2-Chloroethyl vinyl ether	63		9.293				ND	
72 1-Bromo-2-chloroethane	63		9.317				ND	
73 cis-1,3-Dichloropropene	75		9.470				ND	
74 4-Methyl-2-pentanone (MIBK)	43		9.634				ND	
\$ 75 Toluene-d8 (Surr)	98	9.774	9.774	0.000	94	1527372	9.86	
76 Toluene	92	9.848	9.854	-0.006	11	1228	0.0099	
S 77 1,3-Dichloropropene, Total	100		10.060				ND	
78 trans-1,3-Dichloropropene	75		10.104				ND	
79 Ethyl methacrylate	69		10.158				ND	
80 1,1,2-Trichloroethane	97		10.305				ND	
81 Tetrachloroethene	166	10.396	10.396	0.000	98	181072	3.06	
82 1,3-Dichloropropane	76		10.469				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
83 2-Hexanone	43		10.512				ND	
84 n-Butyl acetate	43		10.640				ND	
85 Chlorodibromomethane	129		10.683				ND	
86 Ethylene Dibromide	107		10.792				ND	
* 87 Chlorobenzene-d5 (IS)	117	11.219	11.219	0.000	86	1217796	10.0	
88 1-Chlorohexane	91		11.225				ND	U
90 Chlorobenzene	112		11.244				ND	
S 89 Xylenes, Total	106				0		0.0177	
91 1,1,1,2-Tetrachloroethane	131		11.323				ND	
92 Ethylbenzene	91		11.329				ND	
93 m-Xylene & p-Xylene	106	11.445	11.445	0.000	0	1684	0.0177	
94 o-Xylene	106		11.768				ND	
95 Styrene	104		11.786				ND	
96 Bromoform	173		11.945				ND	
97 Isopropylbenzene	105		12.067				ND	
98 cis-1,4-Dichloro-2-butene	88		12.115				ND	U
99 Cyclohexanone	55		12.152				ND	
\$ 100 4-Bromofluorobenzene (Surr)	95	12.213	12.213	0.000	93	564165	9.76	
101 1,1,2,2-Tetrachloroethane	83		12.310				ND	
102 Bromobenzene	156		12.329				ND	
103 trans-1,4-Dichloro-2-butene	53		12.335				ND	
104 1,2,3-Trichloropropane	110		12.359				ND	
105 N-Propylbenzene	91		12.396				ND	
106 2-Chlorotoluene	126		12.475				ND	
107 1,3,5-Trimethylbenzene	105		12.530				ND	
108 4-Chlorotoluene	126		12.567				ND	
109 tert-Butylbenzene	134		12.774				ND	
110 Pentachloroethane	167		12.804				ND	
111 1,2,4-Trimethylbenzene	105		12.816				ND	U
112 sec-Butylbenzene	105		12.938				ND	
113 1,3-Dichlorobenzene	146		13.036				ND	
114 4-Isopropyltoluene	119		13.042				ND	
* 115 1,4-Dichlorobenzene-d4	152	13.091	13.091	0.000	95	673738	10.0	
116 1,4-Dichlorobenzene	146		13.109				ND	U
117 1,2,3-Trimethylbenzene	120		13.115				ND	U
118 Benzyl chloride	126		13.182				ND	U
119 n-Butylbenzene	92		13.335				ND	
120 1,2-Dichlorobenzene	146		13.365				ND	
121 Hexachloroethane	117		13.572				ND	
122 1,2-Dibromo-3-Chloropropane	155		13.908				ND	
123 1,3,5-Trichlorobenzene	180		14.036				ND	
124 1,2,4-Trichlorobenzene	180		14.456				ND	
125 Hexachlorobutadiene	225		14.542				ND	
126 Naphthalene	128		14.639				ND	U
127 1,2,3-Trichlorobenzene	180		14.779				ND	
128 Dodecane	57		0.000				ND	
156 2,3-Dibromopropene TIC	1		0.000				ND	
155 Ethylene oxide TIC	1		0.000				ND	
154 2-Bromo-3-chloropropene TIC	1		0.000				ND	
153 Epichlorohydrin TIC	1		0.000				ND	
152 Vinyl bromide TIC	1		0.000				ND	
151 Chloroacetaldehyde TIC	1		0.000				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
150 Epibromohydrin TIC	1		0.000				ND	
149 2-Chloroethanol TIC	1		0.000				ND	
148 Monochloroacetic acid TIC	1		0.000				ND	
147 2-Bromoethanol TIC	1		0.000				ND	
146 2,3-Dibromo-1-propanol TIC	1		0.000				ND	
144 2-ethoxy-2-methyl butane	1		0.000				ND	
143 n-Decane	57		0.000				ND	
142 2-Bromo-1-chloropropane	1		0.000				ND	
157 3-Chloro-1,2-propanediol TIC	1		0.000				ND	
139 1-Bromo-3-Chloropropane	1		0.000				ND	
138 1,1-Dichloro-1-fluoroethane	1		0.000				ND	
137 2-Methylnaphthalene	142		0.000				ND	
136 2-Chloro-1,1,1-Trifluoroethane	1		0.000				ND	
135 p-Diethylbenzene	1		0.000				ND	
134 Isopropyl alcohol	45		0.000				ND	
133 t-Amyl alcohol	1		0.000				ND	
132 Methylal	1		0.000				ND	
131 tert-Butyl Formate	1		0.000				ND	
130 Chlorotrifluoroethene	1		0.000				ND	
129 Propene oxide	1		0.000				ND	
141 1-Chloropropane	1		0.000				ND	
140 Ethanol	45		3.288				ND	

QC Flag Legend

Review Flags

M - Manually Integrated

U - Marked Undetected

Reagents:

MSV_31_826ISS_00002

Amount Added: 5.00

Units: uL

Run Reagent

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s14.D

Injection Date: 02-Jun-2020 14:29:30

Instrument ID: 19930

Operator ID: JKH09052

Lims ID: 410-2632-A-6

Lab Sample ID: 410-2632-6

Worklist Smp#: 20

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

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

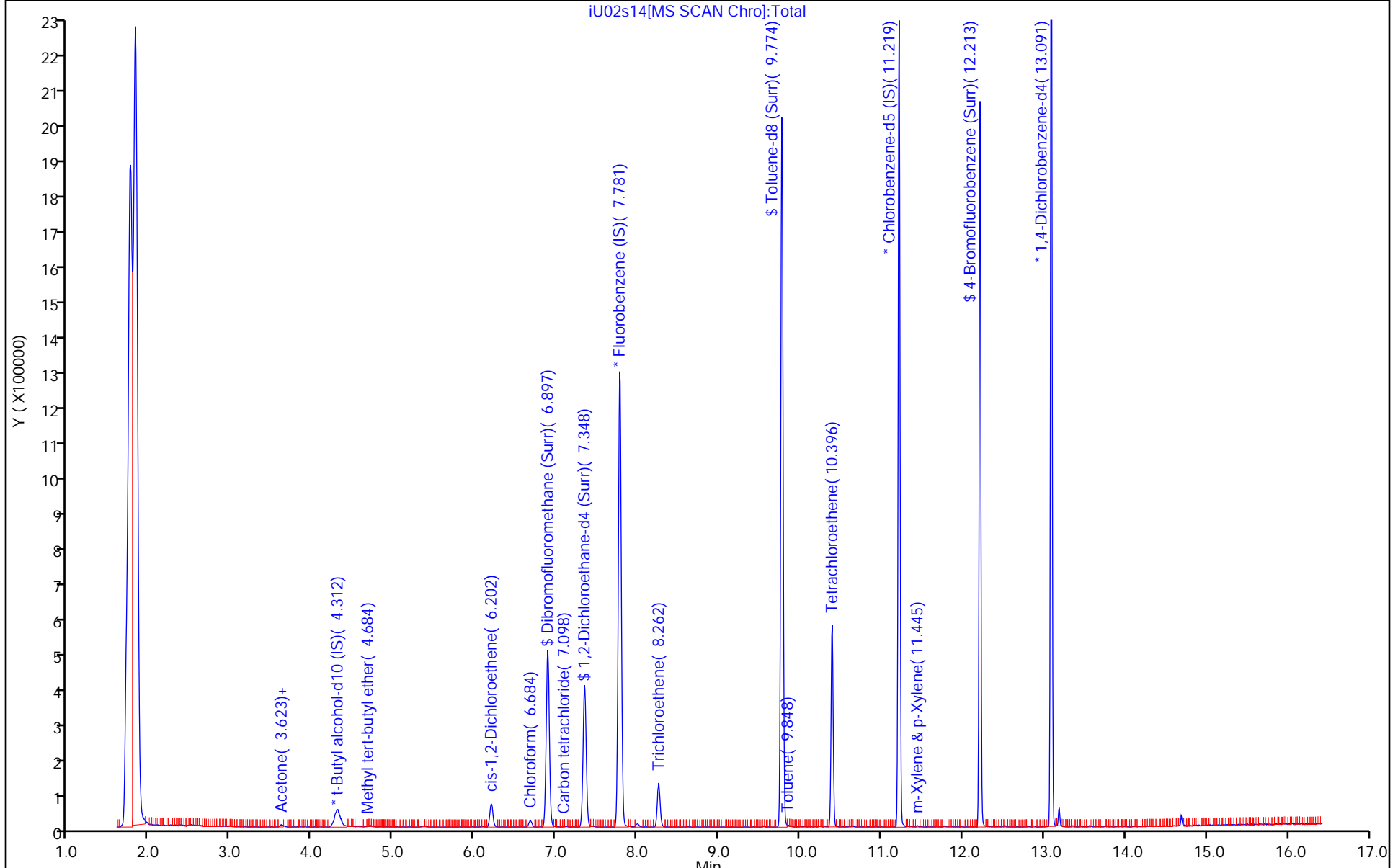
ALS Bottle#: 19

Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25 mm)

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Eurofins Lancaster Laboratories Env, LLC
Recovery Report

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s14.D
 Lims ID: 410-2632-A-6
 Client ID: HD-COD-SW-15-0/1-0
 Sample Type: Client
 Inject. Date: 02-Jun-2020 14:29:30 ALS Bottle#: 19 Worklist Smp#: 20
 Purge Vol: 25.000 mL Dil. Factor: 1.0000
 Sample Info: 410-0002623-020
 Misc. Info.: 410-2632-A-6
 Operator ID: JKH09052 Instrument ID: 19930
 Method: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\8260 25ml HP31.m
 Limit Group: MSV - 8260C_D
 Last Update: 03-Jun-2020 12:45:06 Calib Date: 16-Mar-2020 18:31:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\IM16107.D
 Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
 Process Host: CTX1023

First Level Reviewer: howej Date: 03-Jun-2020 12:32:34

Compound	Amount Added	Amount Recovered	% Rec.
\$ 46 Dibromofluoromethane (Surr)	10.0	10.3	102.99
\$ 53 1,2-Dichloroethane-d4 (Surr)	10.0	10.5	104.97
\$ 75 Toluene-d8 (Surr)	10.0	9.86	98.63
\$ 100 4-Bromofluorobenzene (Surr)	10.0	9.76	97.63

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s14.D

Injection Date: 02-Jun-2020 14:29:30

Instrument ID: 19930

Lims ID: 410-2632-A-6

Lab Sample ID: 410-2632-6

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

Operator ID: JKH09052

ALS Bottle#: 19

Worklist Smp#: 20

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

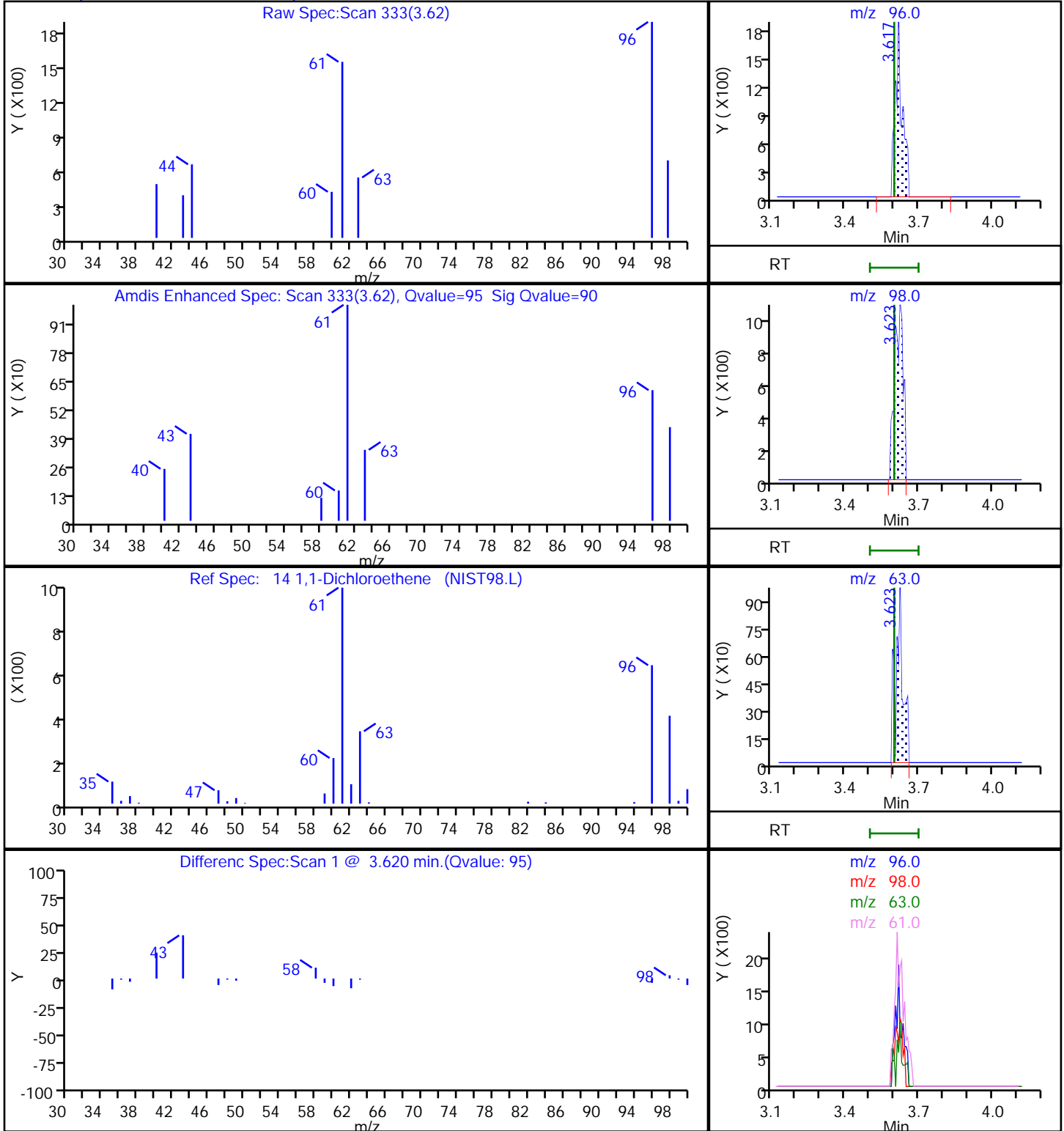
Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector

MS Quad

14 1,1-Dichloroethene, CAS: 75-35-4



Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s14.D

Injection Date: 02-Jun-2020 14:29:30

Instrument ID: 19930

Lims ID: 410-2632-A-6

Lab Sample ID: 410-2632-6

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

Operator ID: JKH09052

ALS Bottle#: 19

Worklist Smp#: 20

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

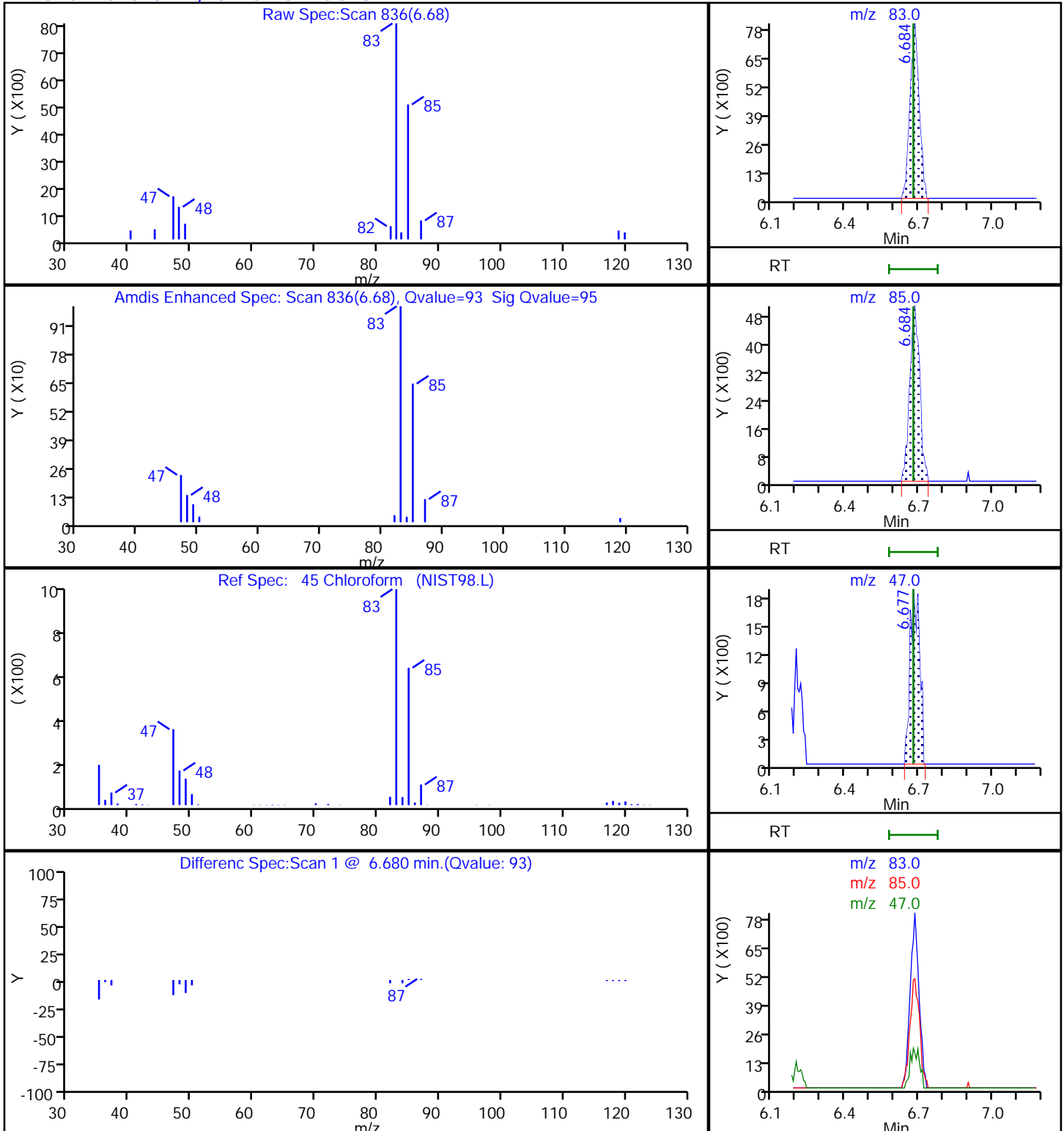
Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector

MS Quad

45 Chloroform, CAS: 67-66-3



Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s14.D

Injection Date: 02-Jun-2020 14:29:30

Instrument ID: 19930

Lims ID: 410-2632-A-6

Lab Sample ID: 410-2632-6

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

Operator ID: JKH09052

ALS Bottle#: 19

Worklist Smp#: 20

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

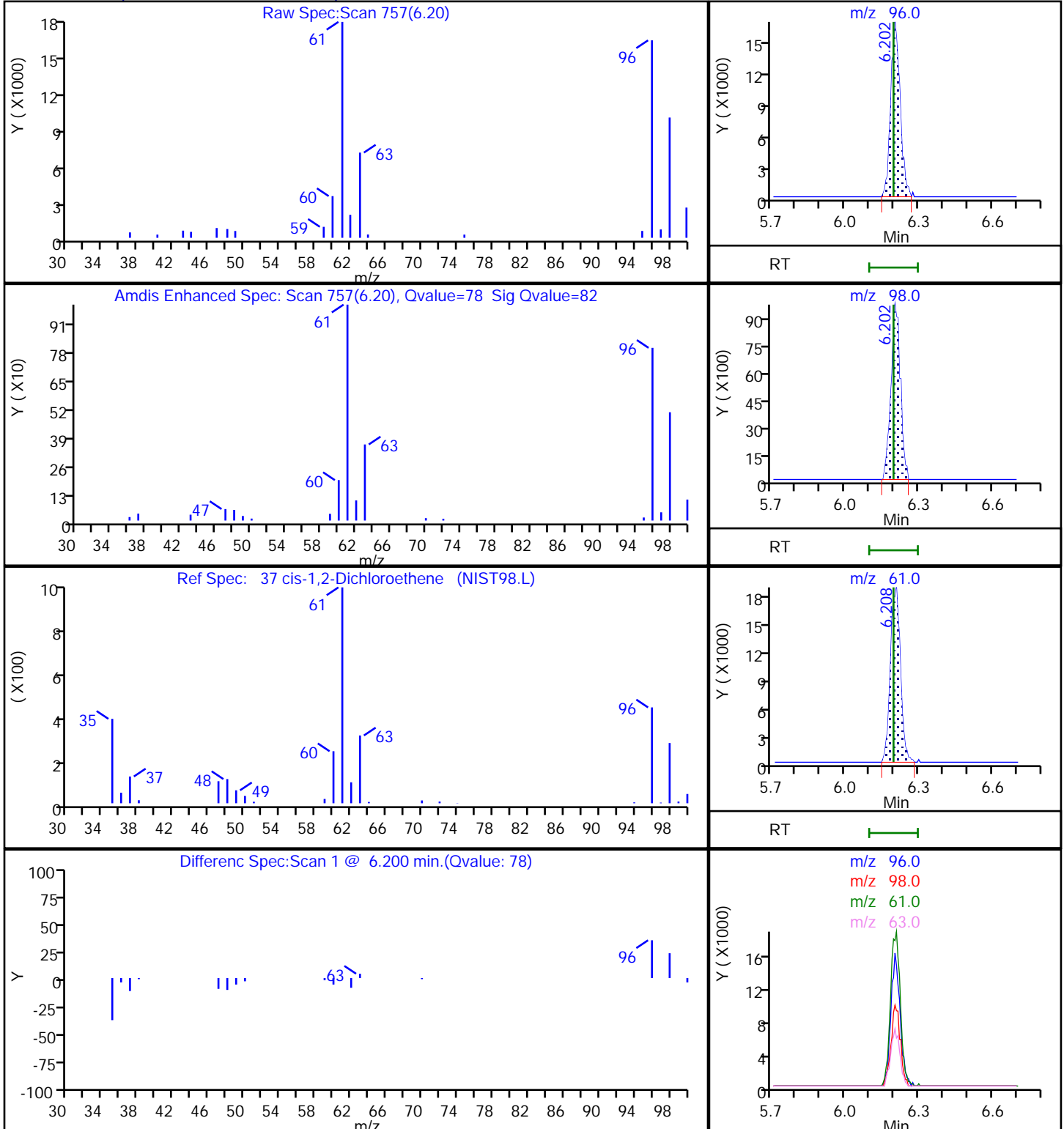
Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector

MS Quad

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



Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s14.D

Injection Date: 02-Jun-2020 14:29:30

Instrument ID: 19930

Lims ID: 410-2632-A-6

Lab Sample ID: 410-2632-6

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

Operator ID: JKH09052

ALS Bottle#: 19

Worklist Smp#: 20

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

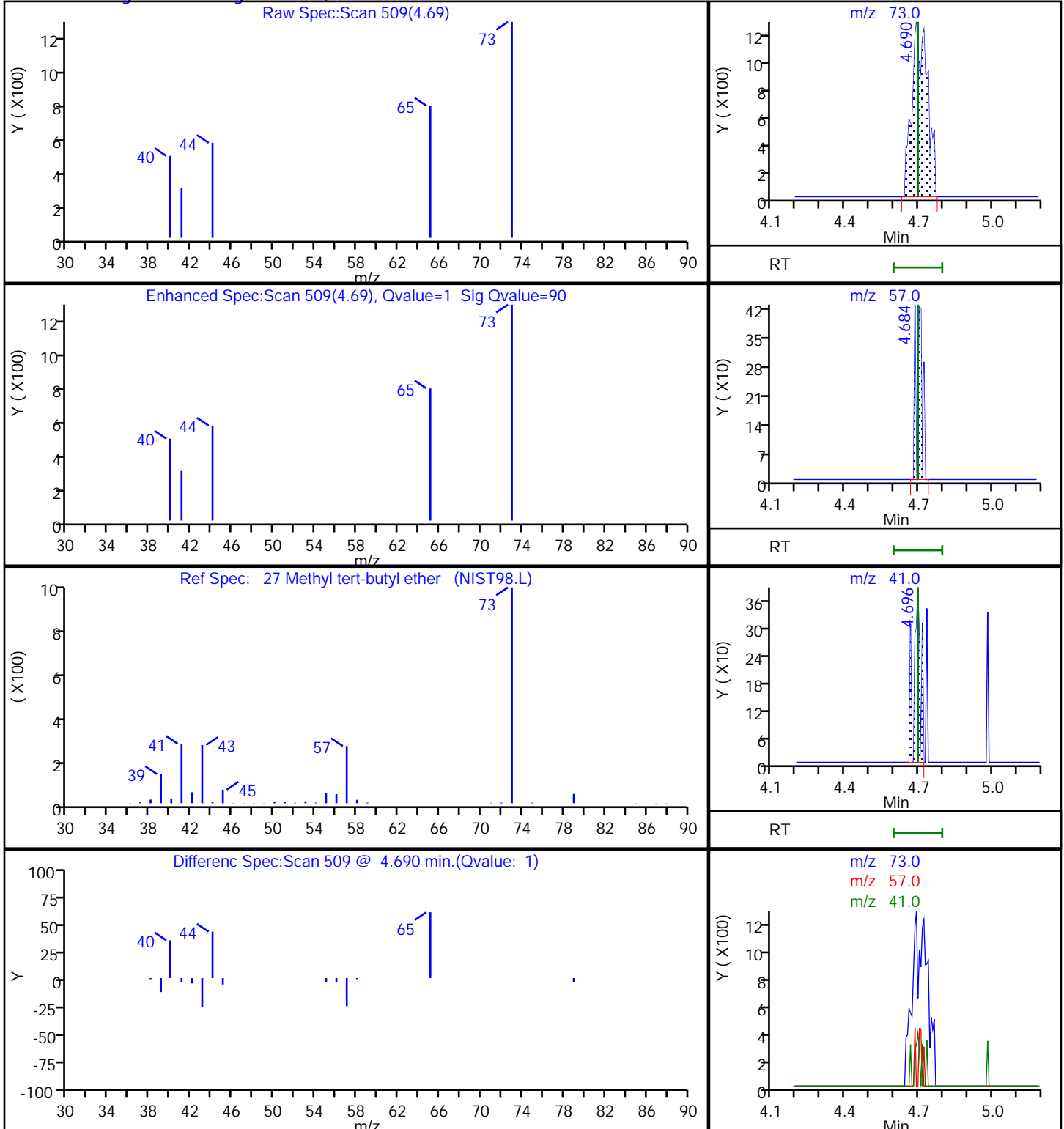
Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25mm ID)

MS Quad

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



Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s14.D

Injection Date: 02-Jun-2020 14:29:30

Instrument ID: 19930

Lims ID: 410-2632-A-6

Lab Sample ID: 410-2632-6

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

Operator ID: JKH09052

ALS Bottle#: 19

Worklist Smp#: 20

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

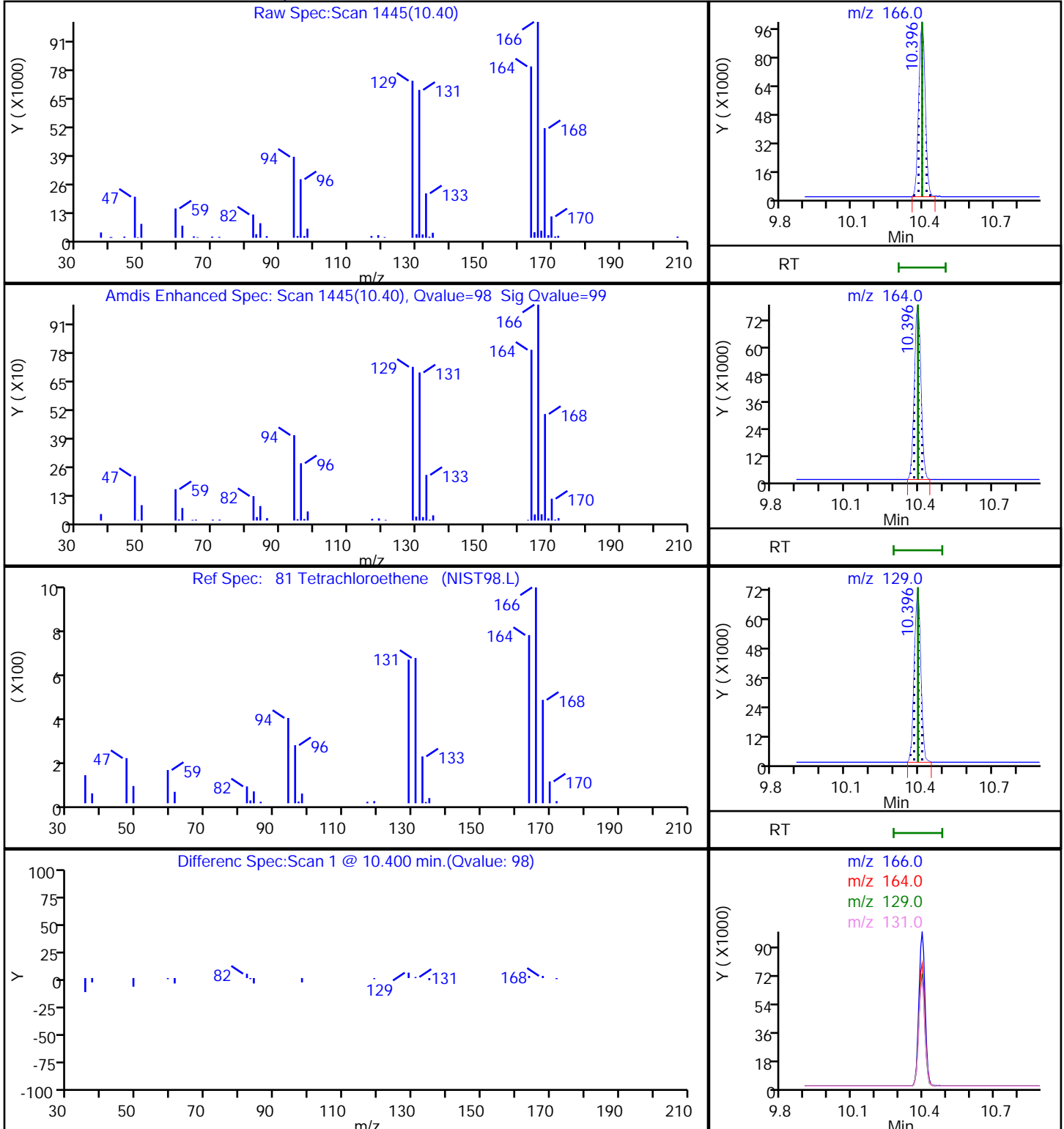
Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25mm ID)

MS Quad

81 Tetrachloroethene, CAS: 127-18-4



Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s14.D

Injection Date: 02-Jun-2020 14:29:30

Instrument ID: 19930

Lims ID: 410-2632-A-6

Lab Sample ID: 410-2632-6

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

Operator ID: JKH09052

ALS Bottle#: 19

Worklist Smp#: 20

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

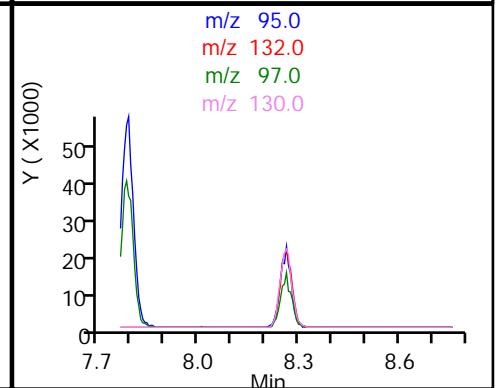
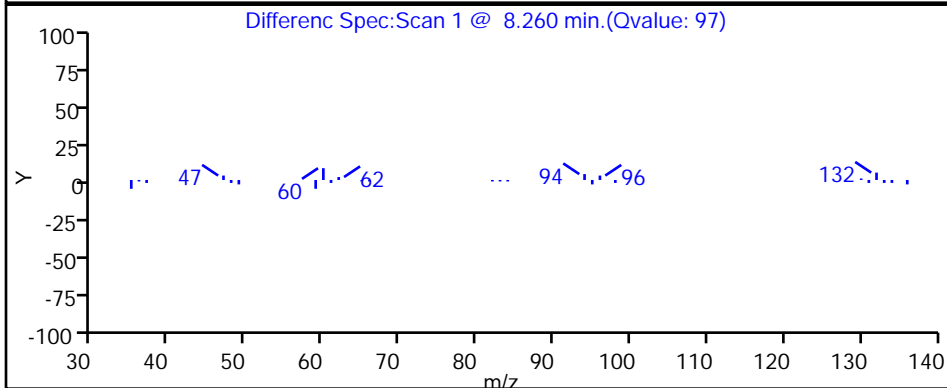
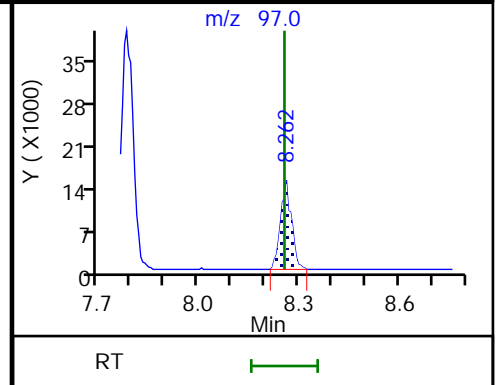
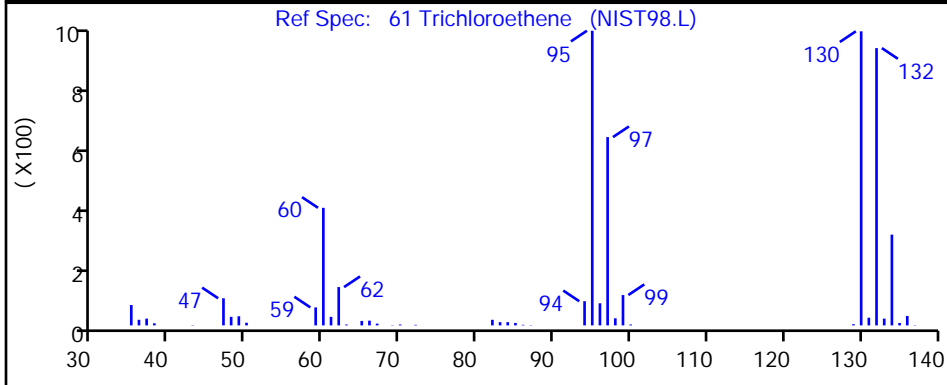
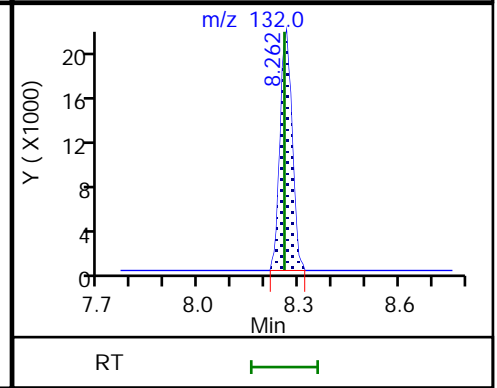
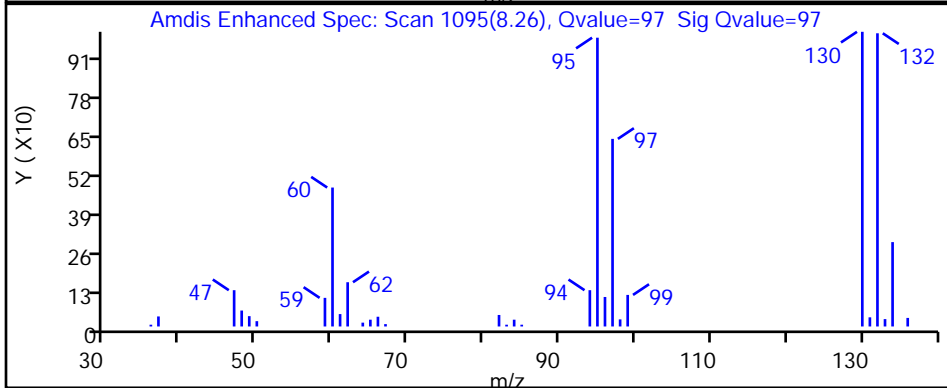
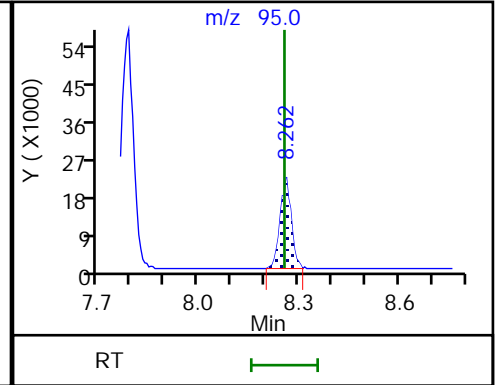
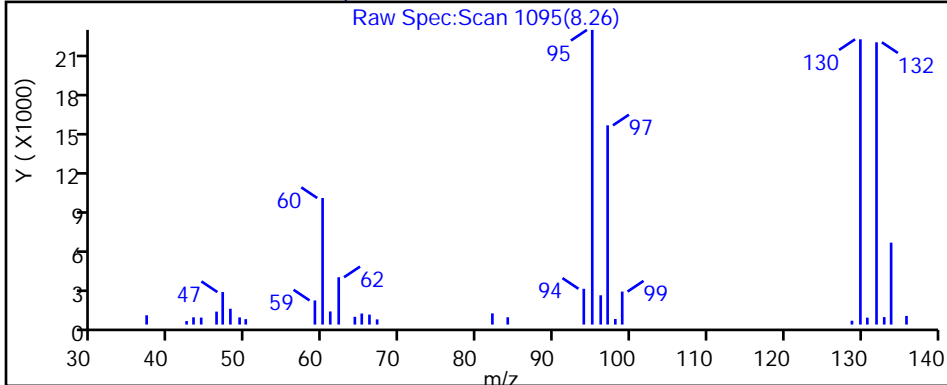
Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector

MS Quad

61 Trichloroethene, CAS: 79-01-6



Eurofins Lancaster Laboratories Env, LLC

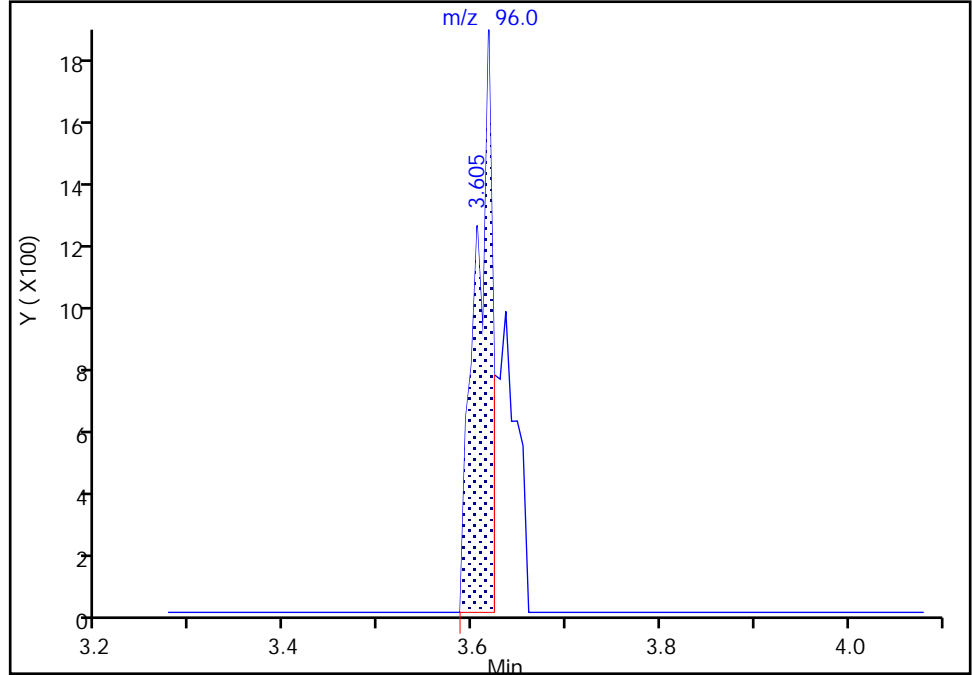
Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s14.D
Injection Date: 02-Jun-2020 14:29:30 Instrument ID: 19930
Lims ID: 410-2632-A-6 Lab Sample ID: 410-2632-6
Client ID: HD-COD-SW-15-0/1-0
Operator ID: JKH09052 ALS Bottle#: 19 Worklist Smp#: 20
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

14 1,1-Dichloroethene, CAS: 75-35-4

Signal: 1

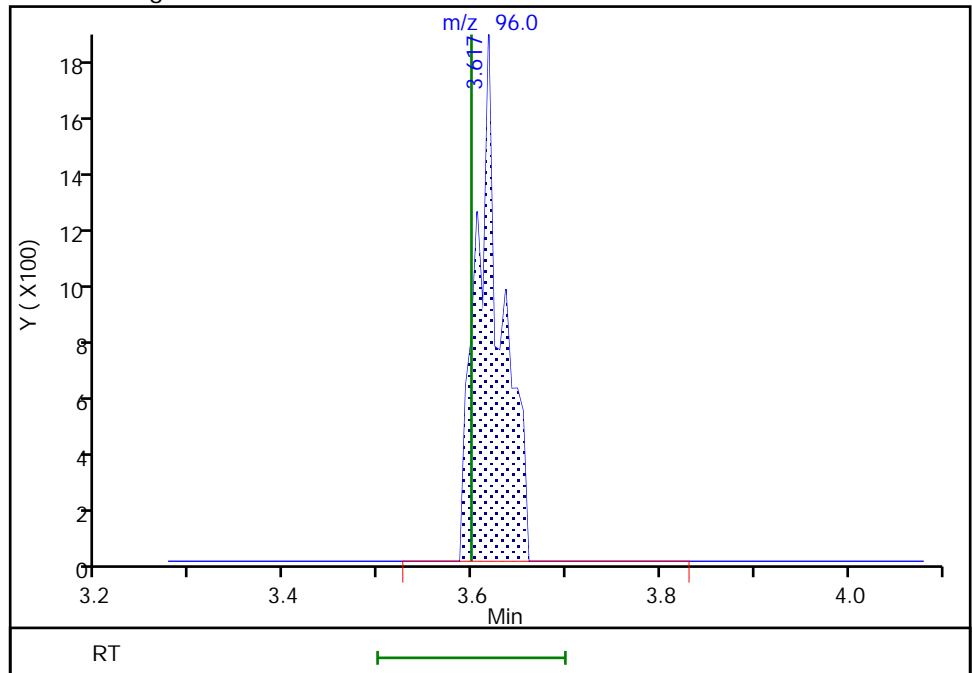
RT: 3.60
Area: 2222
Amount: 0.053050
Amount Units: ug/l

Processing Integration Results



RT: 3.62
Area: 3473
Amount: 0.082918
Amount Units: ug/l

Manual Integration Results



Reviewer: howej, 03-Jun-2020 12:31:39
Audit Action: Manually Integrated

Audit Reason: Other

Eurofins Lancaster Laboratories Env, LLC

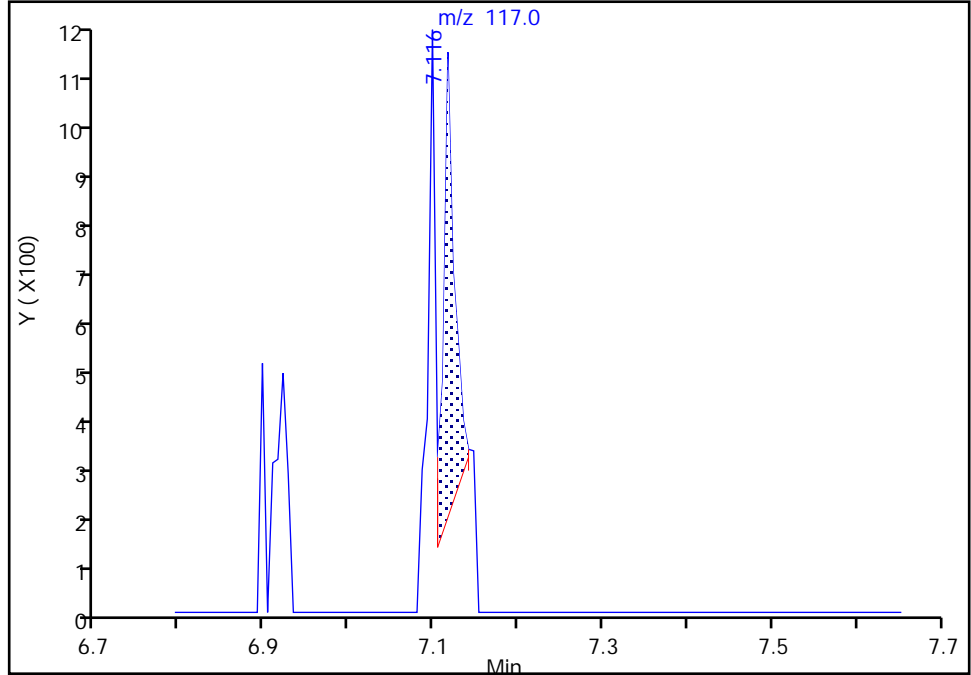
Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s14.D
Injection Date: 02-Jun-2020 14:29:30 Instrument ID: 19930
Lims ID: 410-2632-A-6 Lab Sample ID: 410-2632-6
Client ID: HD-COD-SW-15-0/1-0
Operator ID: JKH09052 ALS Bottle#: 19 Worklist Smp#: 20
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

50 Carbon tetrachloride, CAS: 56-23-5

Signal: 1

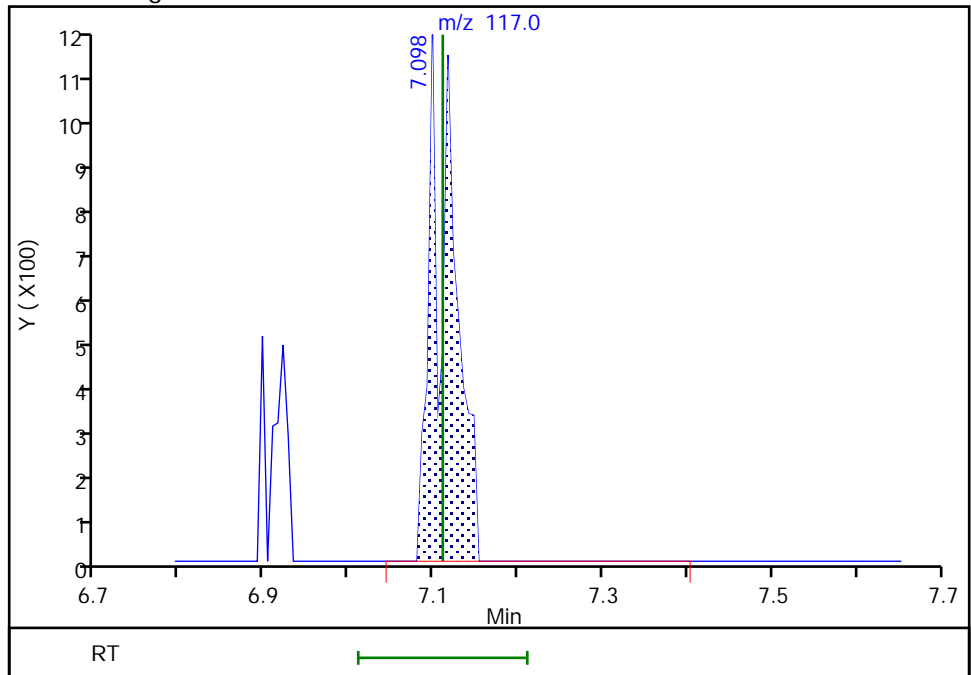
RT: 7.12
Area: 800
Amount: 0.011620
Amount Units: ug/l

Processing Integration Results



RT: 7.10
Area: 2091
Amount: 0.030373
Amount Units: ug/l

Manual Integration Results



Reviewer: howej, 03-Jun-2020 12:32:01
Audit Action: Manually Integrated

Audit Reason: Other

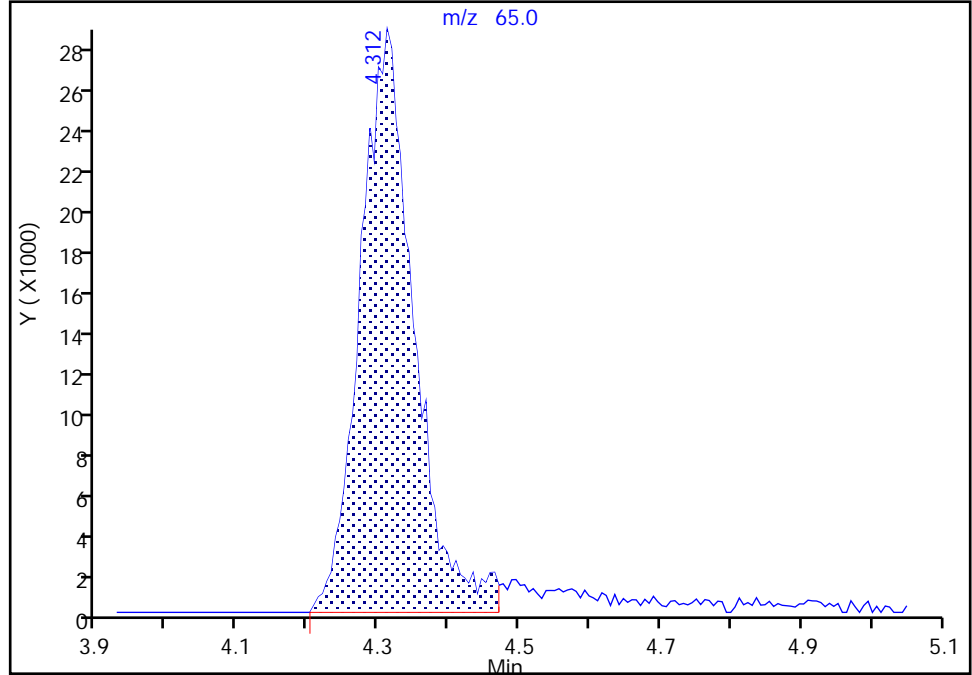
Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s14.D
Injection Date: 02-Jun-2020 14:29:30 Instrument ID: 19930
Lims ID: 410-2632-A-6 Lab Sample ID: 410-2632-6
Client ID: HD-COD-SW-15-0/1-0
Operator ID: JKH09052 ALS Bottle#: 19 Worklist Smp#: 20
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

* 24 t-Butyl alcohol-d10 (IS), CAS: 53001-22-2
Signal: 1

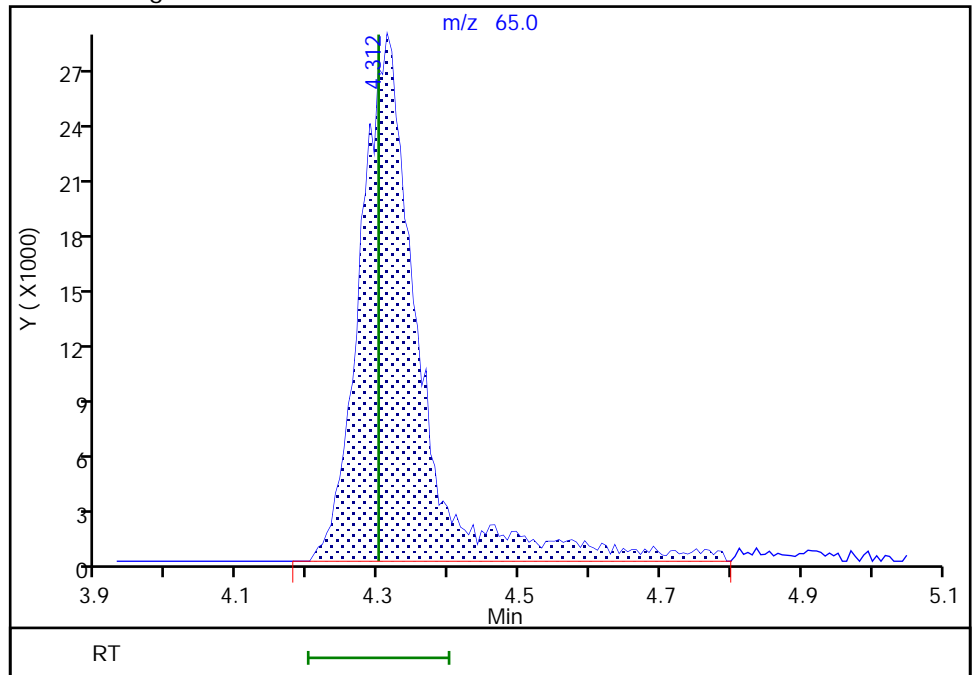
RT: 4.31
Area: 149256
Amount: 50.000000
Amount Units: ug/l

Processing Integration Results



RT: 4.31
Area: 163787
Amount: 50.000000
Amount Units: ug/l

Manual Integration Results



Reviewer: howej, 03-Jun-2020 12:31:46
Audit Action: Manually Integrated

Audit Reason: Other

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-2632-1
 SDG No.: _____
 Client Sample ID: HD-COD-SW-16-0/1-0 Lab Sample ID: 410-2632-7
 Matrix: Water Lab File ID: iU02s17.D
 Analysis Method: 8260C LL Date Collected: 05/26/2020 11:10
 Sample wt/vol: 25 (mL) Date Analyzed: 06/02/2020 15:33
 Soil Aliquot Vol: _____ Dilution Factor: 1
 Soil Extract Vol.: _____ GC Column: R-624SilMS 30m ID: 0.25 (mm)
 % Moisture: _____ Level: (low/med) Low
 Analysis Batch No.: 9922 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	ND		0.50	0.070
71-55-6	1,1,1-Trichloroethane	ND		0.50	0.060
79-34-5	1,1,2,2-Tetrachloroethane	ND		0.50	0.070
79-00-5	1,1,2-Trichloroethane	ND		0.50	0.060
75-34-3	1,1-Dichloroethane	ND		0.50	0.070
75-35-4	1,1-Dichloroethene	ND		0.50	0.060
106-93-4	1,2-Dibromoethane (EDB)	ND		0.50	0.060
107-06-2	1,2-Dichloroethane	ND		0.50	0.050
78-87-5	1,2-Dichloropropane	ND		0.50	0.060
78-93-3	2-Butanone (MEK)	ND		5.0	0.60
591-78-6	2-Hexanone	ND		5.0	0.60
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		5.0	0.70
67-64-1	Acetone	2.7	J	5.0	0.90
107-13-1	Acrylonitrile	ND		5.0	0.40
71-43-2	Benzene	ND		0.50	0.050
74-97-5	Bromochloromethane	ND		0.50	0.050
75-27-4	Bromodichloromethane	ND		0.50	0.050
75-25-2	Bromoform	ND		1.0	0.30
74-83-9	Bromomethane	ND		0.50	0.070
75-15-0	Carbon disulfide	0.14	J	1.0	0.060
56-23-5	Carbon tetrachloride	ND		0.50	0.070
108-90-7	Chlorobenzene	ND		0.50	0.060
75-00-3	Chloroethane	ND		0.50	0.070
67-66-3	Chloroform	ND		0.50	0.090
74-87-3	Chloromethane	ND		0.50	0.060
156-59-2	cis-1,2-Dichloroethene	0.090	J	0.50	0.050
10061-01-5	cis-1,3-Dichloropropene	ND		0.50	0.050
124-48-1	Dibromochloromethane	ND		0.50	0.070
100-41-4	Ethylbenzene	ND		0.50	0.060
1634-04-4	Methyl tert-butyl ether	ND		0.50	0.050
75-09-2	Methylene Chloride	ND		0.50	0.070
100-42-5	Styrene	ND		0.50	0.050
127-18-4	Tetrachloroethene	0.075	J	0.50	0.060
108-88-3	Toluene	0.10	J	0.50	0.070
156-60-5	trans-1,2-Dichloroethene	ND		0.50	0.060
10061-02-6	trans-1,3-Dichloropropene	ND		0.50	0.060

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-2632-1
 SDG No.: _____
 Client Sample ID: HD-COD-SW-16-0/1-0 Lab Sample ID: 410-2632-7
 Matrix: Water Lab File ID: iU02s17.D
 Analysis Method: 8260C LL Date Collected: 05/26/2020 11:10
 Sample wt/vol: 25 (mL) Date Analyzed: 06/02/2020 15:33
 Soil Aliquot Vol.: _____ Dilution Factor: 1
 Soil Extract Vol.: _____ GC Column: R-624SilMS 30m ID: 0.25 (mm)
 % Moisture: _____ Level: (low/med) Low
 Analysis Batch No.: 9922 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
79-01-6	Trichloroethene	0.16	J	0.50	0.060
75-01-4	Vinyl chloride	ND		0.50	0.10
1330-20-7	Xylenes, Total	ND		1.0	0.15

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	108		80-120
1868-53-7	Dibromofluoromethane (Surr)	102		80-120
2037-26-5	Toluene-d8 (Surr)	97		80-120
460-00-4	4-Bromofluorobenzene (Surr)	98		80-120

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s17.D
 Lims ID: 410-2632-A-7
 Client ID: HD-COD-SW-16-0/1-0
 Sample Type: Client
 Inject. Date: 02-Jun-2020 15:33:30 ALS Bottle#: 22 Worklist Smp#: 23
 Purge Vol: 25.000 mL Dil. Factor: 1.0000
 Sample Info: 410-0002623-023
 Misc. Info.: 410-2632-A-7
 Operator ID: JKH09052 Instrument ID: 19930
 Method: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\8260 25ml HP31.m
 Limit Group: MSV - 8260C_D
 Last Update: 03-Jun-2020 12:53:08 Calib Date: 16-Mar-2020 18:31:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\IM16107.D
 Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
 Process Host: CTX1046

First Level Reviewer: howej

Date: 03-Jun-2020 12:41:05

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
4 Chloromethane	50		2.190				ND	
5 Vinyl chloride	62		2.300				ND	U
7 Bromomethane	94		2.642				ND	
8 Chloroethane	64		2.727				ND	
14 1,1-Dichloroethene	96		3.599				ND	
15 Acetone	43	3.654	3.629	0.025	98	21942	2.67	
19 Carbon disulfide	76	3.922	3.910	0.012	97	16430	0.1372	M
23 Methylene Chloride	84		4.288				ND	
* 24 t-Butyl alcohol-d10 (IS)	65	4.318	4.300	0.018	0	165812	50.0	M
26 Acrylonitrile	53		4.623				ND	
27 Methyl tert-butyl ether	73		4.696				ND	
28 trans-1,2-Dichloroethene	96		4.702				ND	
31 1,1-Dichloroethane	63		5.367				ND	
36 2-Butanone (MEK)	43	6.196	6.165	0.031	45	5410	0.3734	
37 cis-1,2-Dichloroethene	96	6.214	6.196	0.018	76	4561	0.0902	
43 Chlorobromomethane	128		6.525				ND	
45 Chloroform	83		6.677				ND	
\$ 46 Dibromofluoromethane (Surr)	113	6.897	6.885	0.012	93	385866	10.2	
47 1,1,1-Trichloroethane	97		6.903				ND	
50 Carbon tetrachloride	117		7.110				ND	
\$ 53 1,2-Dichloroethane-d4 (Surr)	102	7.348	7.342	0.006	0	82618	10.8	
54 Benzene	78	7.378	7.378	0.000	41	2206	0.0118	
56 1,2-Dichloroethane	62		7.452				ND	
* 58 Fluorobenzene (IS)	96	7.781	7.775	0.006	99	1565766	10.0	
61 Trichloroethene	95	8.262	8.256	0.006	97	8077	0.1624	
63 1,2-Dichloropropane	63		8.586				ND	
68 Dichlorobromomethane	83		8.927				ND	
73 cis-1,3-Dichloropropene	75		9.470				ND	
74 4-Methyl-2-pentanone (MIBK)	43	9.646	9.634	0.012	1	880	0.0245	
\$ 75 Toluene-d8 (Surr)	98	9.780	9.774	0.006	94	1521752	9.70	
76 Toluene	92	9.854	9.854	0.000	98	12995	0.1036	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
78 trans-1,3-Dichloropropene	75		10.104				ND	U
80 1,1,2-Trichloroethane	97		10.305				ND	
81 Tetrachloroethene	166	10.396	10.396	0.000	93	4515	0.0754	
83 2-Hexanone	43		10.512				ND	U
85 Chlorodibromomethane	129		10.683				ND	
86 Ethylene Dibromide	107		10.792				ND	
* 87 Chlorobenzene-d5 (IS)	117	11.219	11.219	0.000	86	1234206	10.0	
90 Chlorobenzene	112		11.244				ND	
S 89 Xylenes, Total	106				0		0.0313	
91 1,1,1,2-Tetrachloroethane	131		11.323				ND	
92 Ethylbenzene	91		11.329				ND	U
93 m-Xylene & p-Xylene	106	11.433	11.445	-0.013	0	1601	0.0166	
94 o-Xylene	106	11.768	11.768	0.000	93	1402	0.0147	
95 Styrene	104		11.786				ND	
96 Bromoform	173		11.945				ND	
\$ 100 4-Bromofluorobenzene (Surr)	95	12.213	12.213	0.000	93	572397	9.77	
101 1,1,2,2-Tetrachloroethane	83		12.310				ND	
* 115 1,4-Dichlorobenzene-d4	152	13.091	13.091	0.000	95	676050	10.0	

QC Flag Legend

Review Flags

M - Manually Integrated

U - Marked Undetected

Reagents:

MSV_31_826ISS_00002

Amount Added: 5.00

Units: uL

Run Reagent

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s17.D

Injection Date: 02-Jun-2020 15:33:30

Instrument ID: 19930

Operator ID: JKH09052

Lims ID: 410-2632-A-7

Lab Sample ID: 410-2632-7

Worklist Smp#: 23

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

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

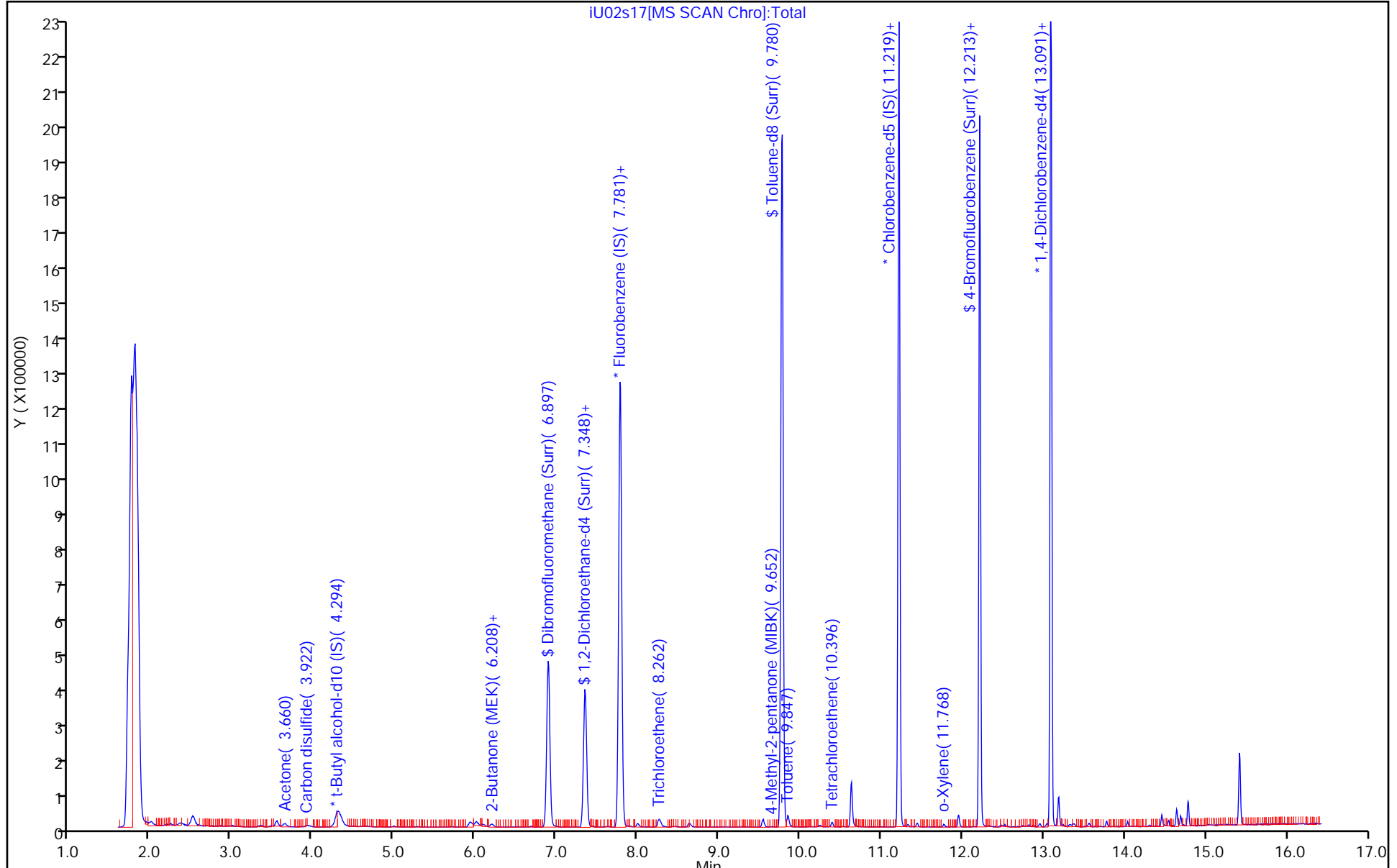
ALS Bottle#: 22

Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25 mm)

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Eurofins Lancaster Laboratories Env, LLC
Recovery Report

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s17.D
 Lims ID: 410-2632-A-7
 Client ID: HD-COD-SW-16-0/1-0
 Sample Type: Client
 Inject. Date: 02-Jun-2020 15:33:30 ALS Bottle#: 22 Worklist Smp#: 23
 Purge Vol: 25.000 mL Dil. Factor: 1.0000
 Sample Info: 410-0002623-023
 Misc. Info.: 410-2632-A-7
 Operator ID: JKH09052 Instrument ID: 19930
 Method: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\8260 25ml HP31.m
 Limit Group: MSV - 8260C_D
 Last Update: 03-Jun-2020 12:53:08 Calib Date: 16-Mar-2020 18:31:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\IM16107.D
 Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
 Process Host: CTX1046

First Level Reviewer: howej

Date: 03-Jun-2020 12:41:05

Compound	Amount Added	Amount Recovered	% Rec.
\$ 46 Dibromofluoromethane (Surr)	10.0	10.2	102.10
\$ 53 1,2-Dichloroethane-d4 (Surr)	10.0	10.8	107.89
\$ 75 Toluene-d8 (Surr)	10.0	9.70	96.96
\$ 100 4-Bromofluorobenzene (Surr)	10.0	9.77	97.74

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s17.D

Injection Date: 02-Jun-2020 15:33:30

Instrument ID: 19930

Lims ID: 410-2632-A-7

Lab Sample ID: 410-2632-7

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

Operator ID: JKH09052

ALS Bottle#: 22

Worklist Smp#: 23

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

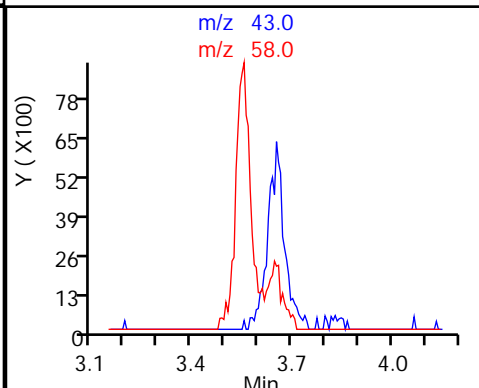
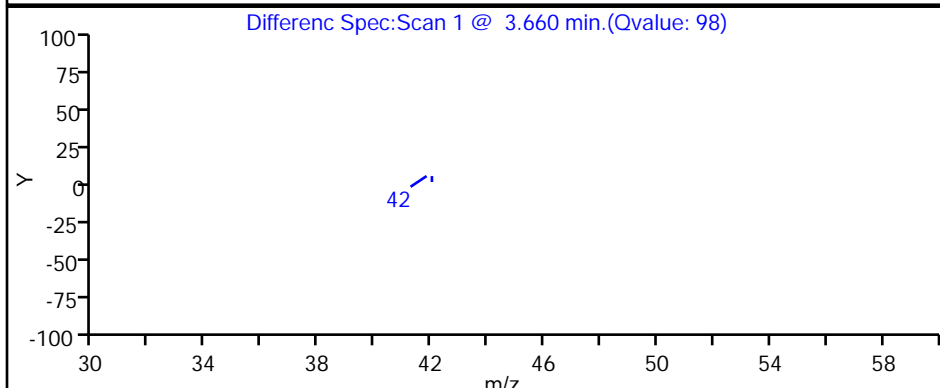
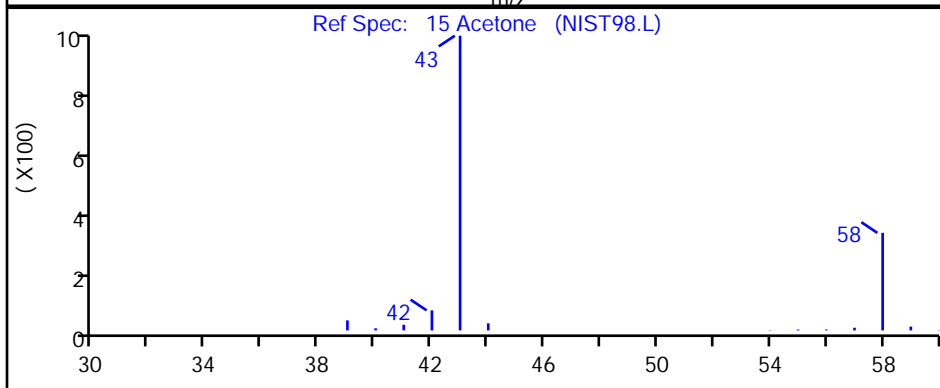
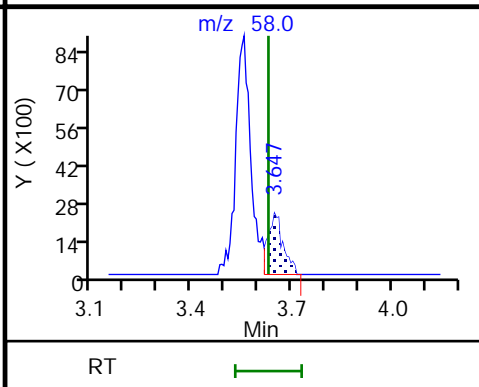
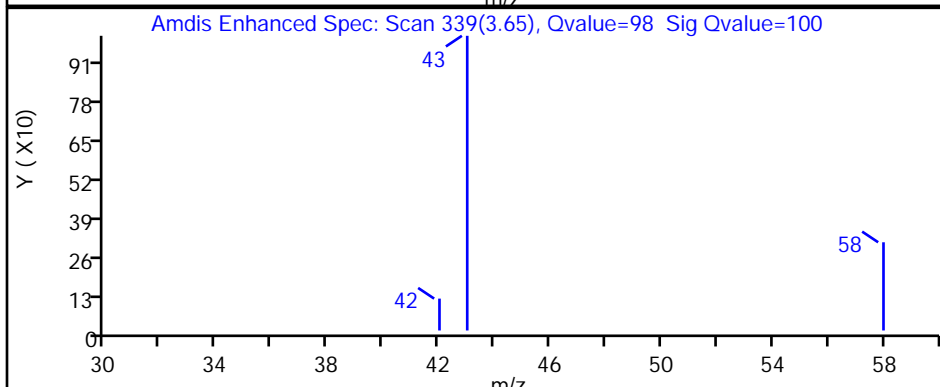
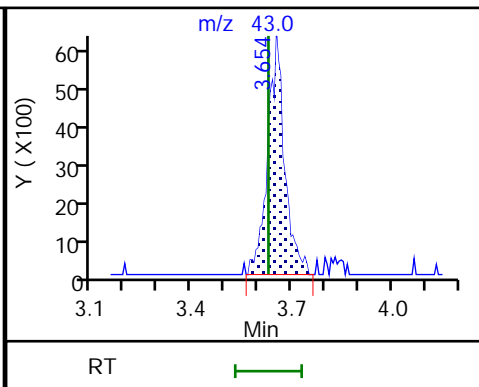
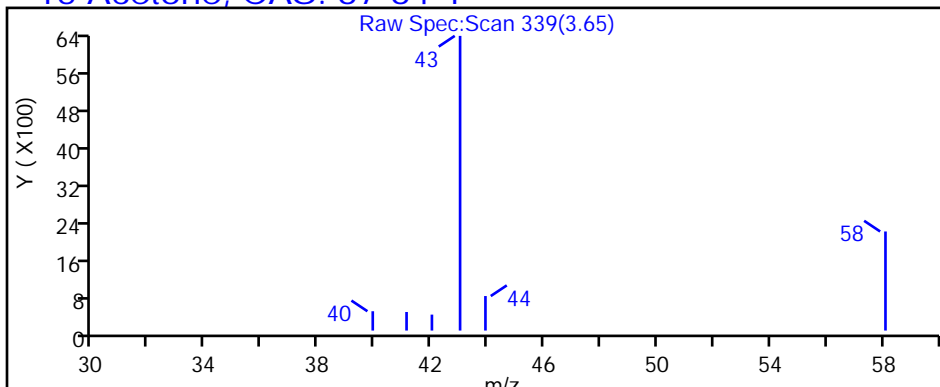
Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25mm ID)

MS Quad

15 Acetone, CAS: 67-64-1



Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s17.D

Injection Date: 02-Jun-2020 15:33:30

Instrument ID: 19930

Lims ID: 410-2632-A-7

Lab Sample ID: 410-2632-7

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

Operator ID: JKH09052

ALS Bottle#: 22

Worklist Smp#: 23

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

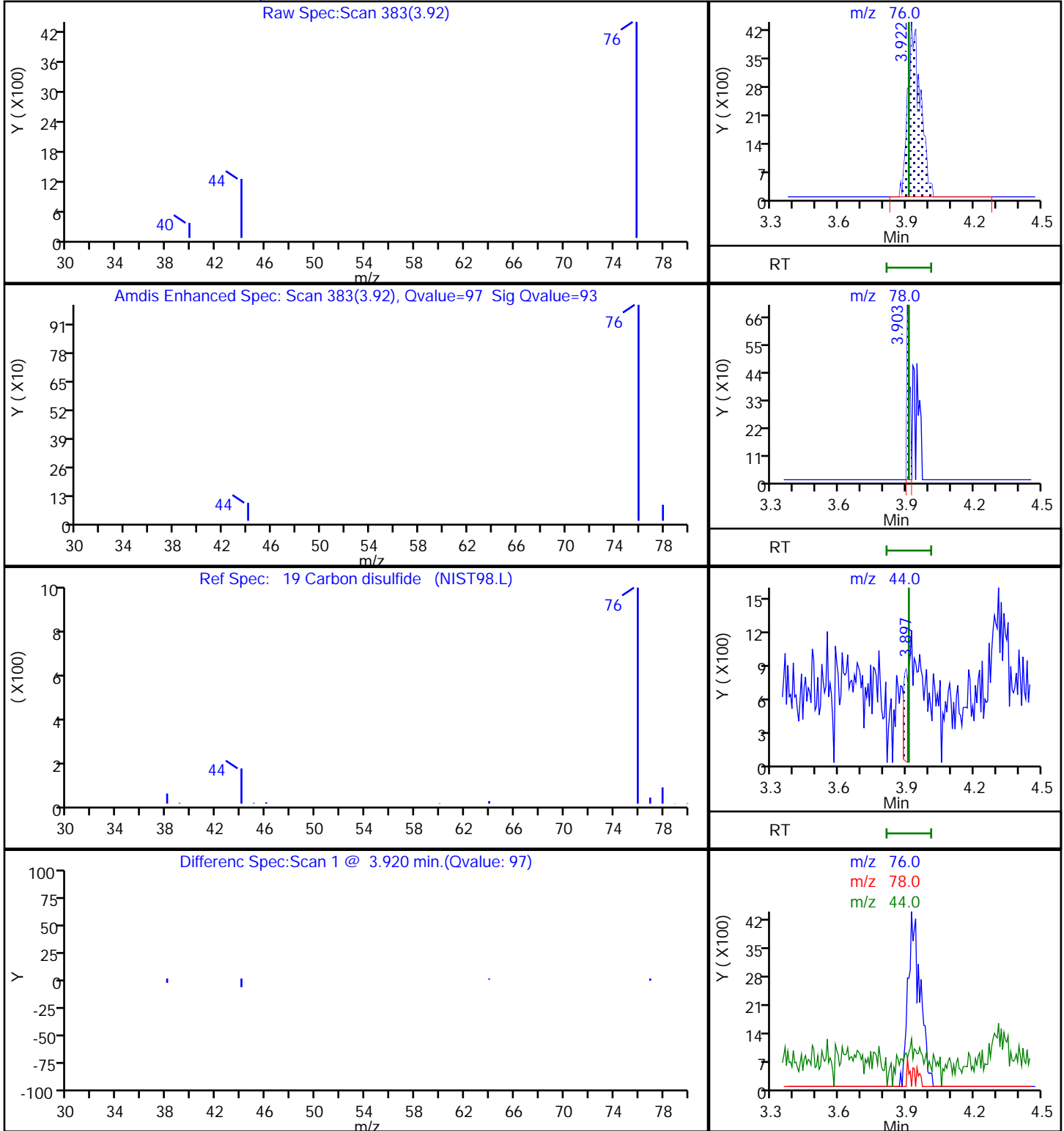
Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25mm ID)

MS Quad

19 Carbon disulfide, CAS: 75-15-0



Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s17.D

Injection Date: 02-Jun-2020 15:33:30

Instrument ID: 19930

Lims ID: 410-2632-A-7

Lab Sample ID: 410-2632-7

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

Operator ID: JKH09052

ALS Bottle#: 22

Worklist Smp#: 23

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

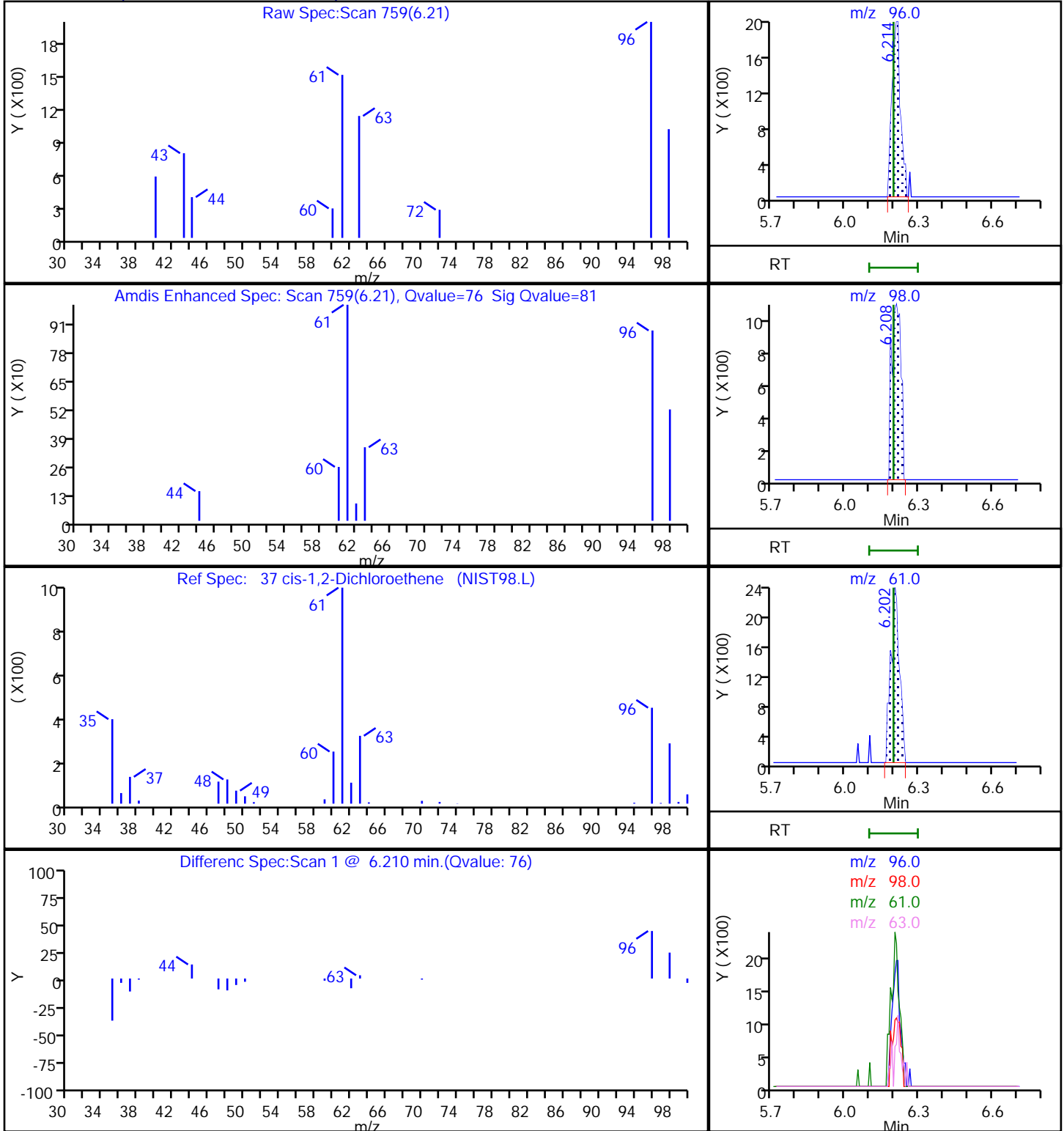
Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector

MS Quad

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



Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s17.D

Injection Date: 02-Jun-2020 15:33:30

Instrument ID: 19930

Lims ID: 410-2632-A-7

Lab Sample ID: 410-2632-7

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

Operator ID: JKH09052

ALS Bottle#: 22

Worklist Smp#: 23

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

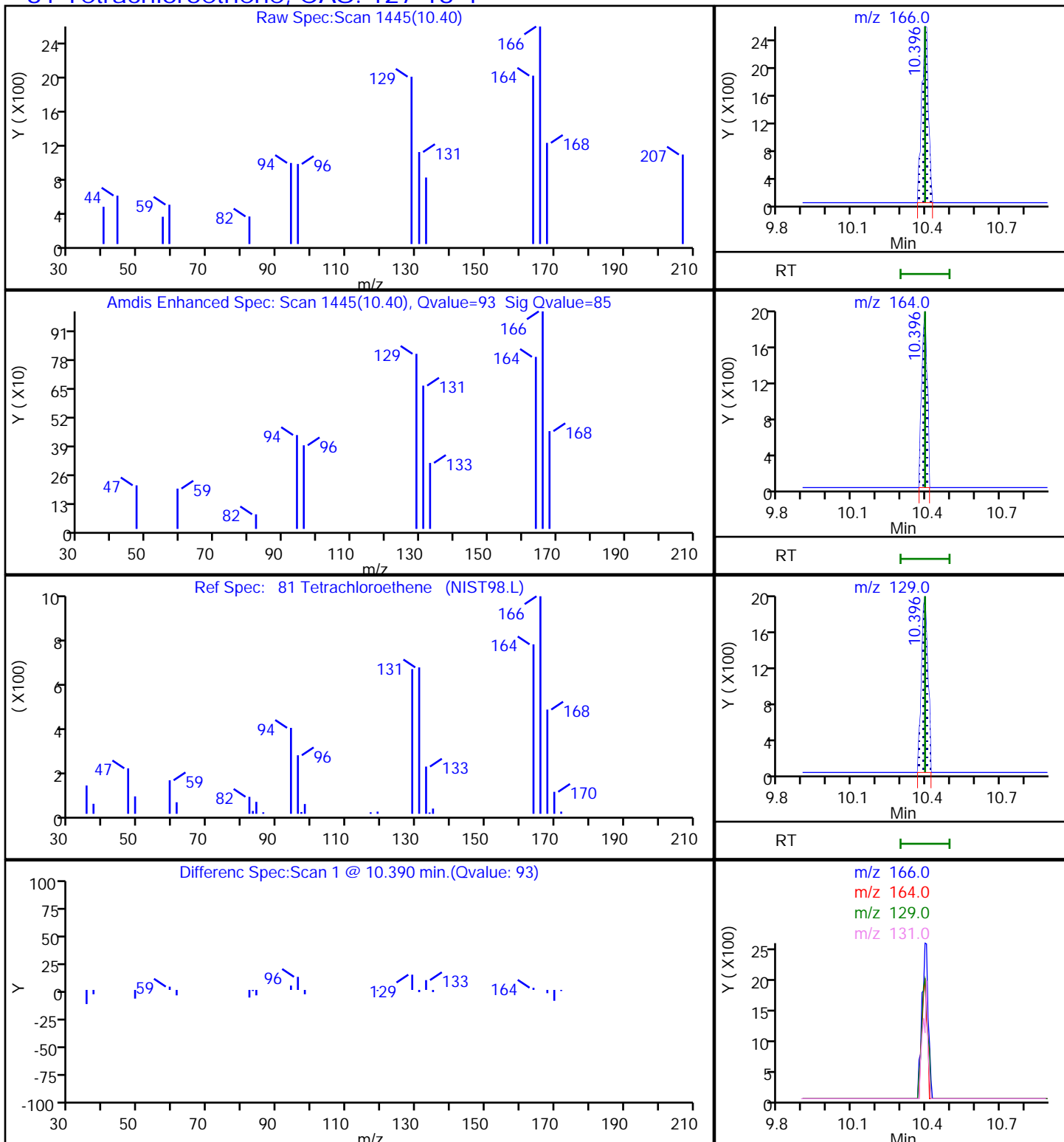
Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25mm ID)

MS Quad

81 Tetrachloroethene, CAS: 127-18-4



Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s17.D

Injection Date: 02-Jun-2020 15:33:30

Instrument ID: 19930

Lims ID: 410-2632-A-7

Lab Sample ID: 410-2632-7

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

Operator ID: JKH09052

ALS Bottle#: 22

Worklist Smp#: 23

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

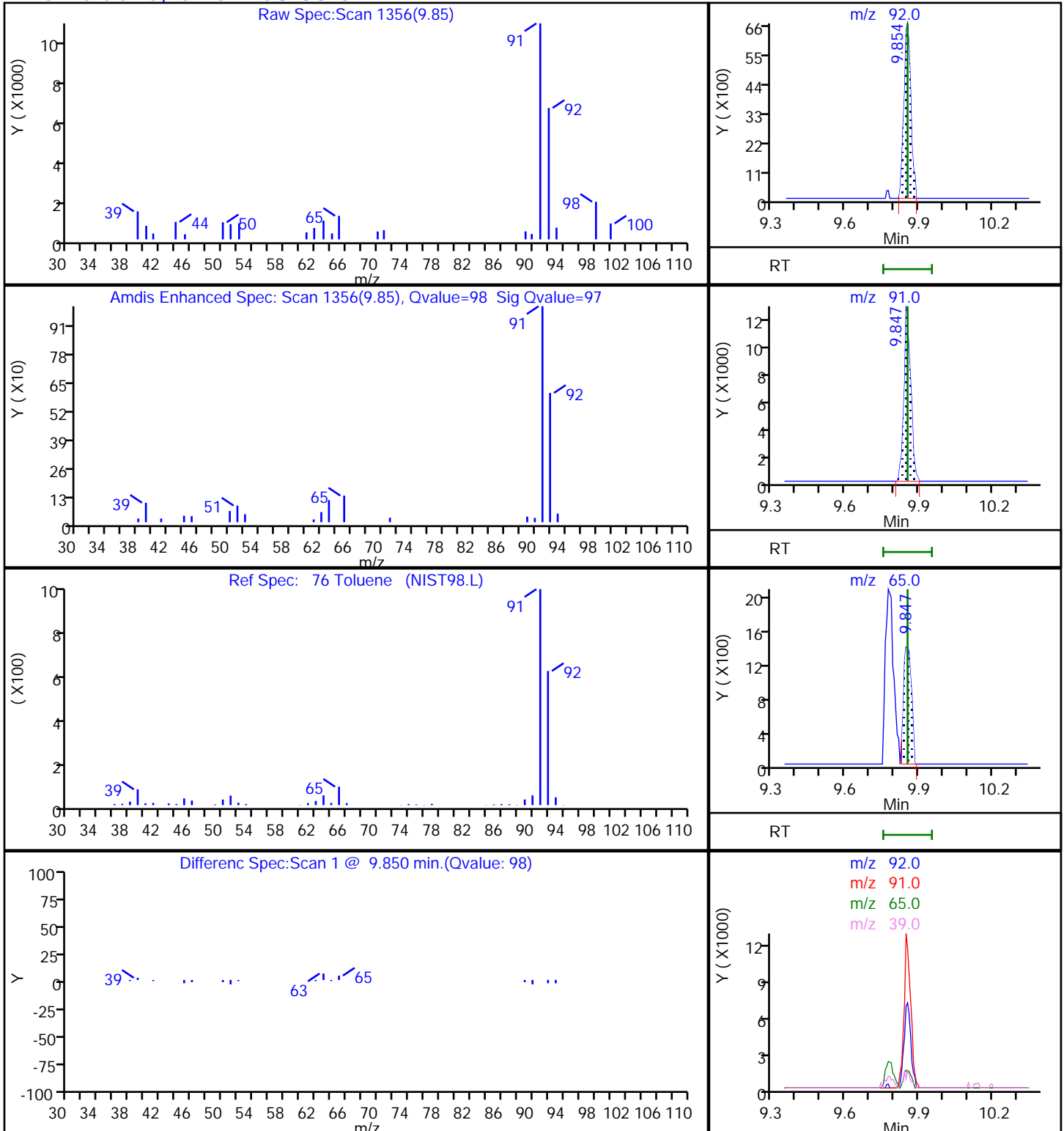
Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25mm ID)

MS Quad

76 Toluene, CAS: 108-88-3



Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s17.D

Injection Date: 02-Jun-2020 15:33:30

Instrument ID: 19930

Lims ID: 410-2632-A-7

Lab Sample ID: 410-2632-7

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

Operator ID: JKH09052

ALS Bottle#: 22

Worklist Smp#: 23

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

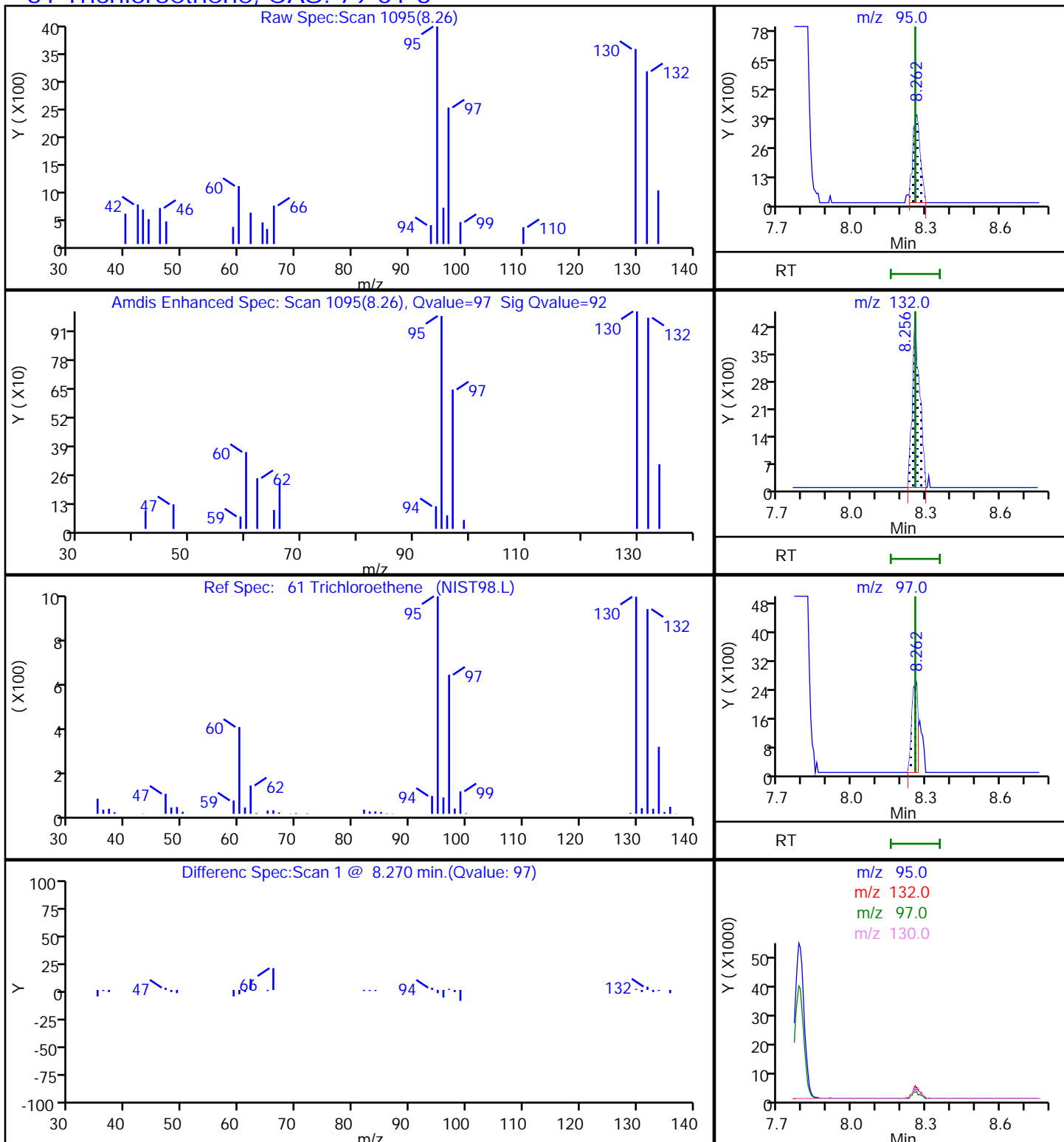
Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector

MS Quad

61 Trichloroethene, CAS: 79-01-6

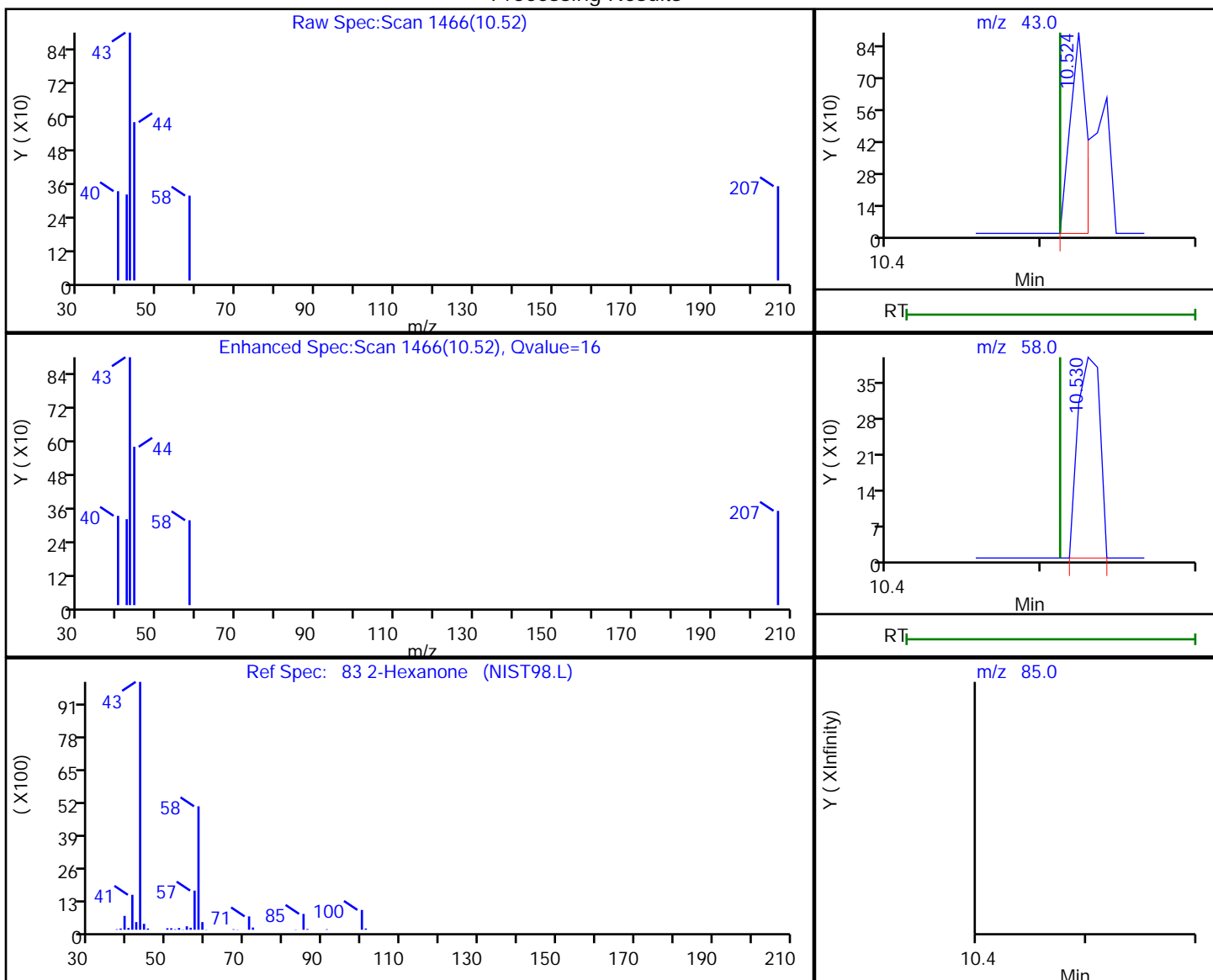


Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s17.D
 Injection Date: 02-Jun-2020 15:33:30 Instrument ID: 19930
 Lims ID: 410-2632-A-7 Lab Sample ID: 410-2632-7
 Client ID: HD-COD-SW-16-0/1-0
 Operator ID: JKH09052 ALS Bottle#: 22 Worklist Smp#: 23
 Purge Vol: 25.000 mL Dil. Factor: 1.0000
 Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
 Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

83 2-Hexanone, CAS: 591-78-6

Processing Results



RT	Mass	Response	Amount
10.52	43.00	649	0.026184
10.53	58.00	395	
10.51	85.00	0	
10.51	100.00	0	

Reviewer: howej, 03-Jun-2020 12:40:52

Audit Action: Marked Compound Undetected

Audit Reason: Invalid Compound ID

Euofins Lancaster Laboratories Env, LLC

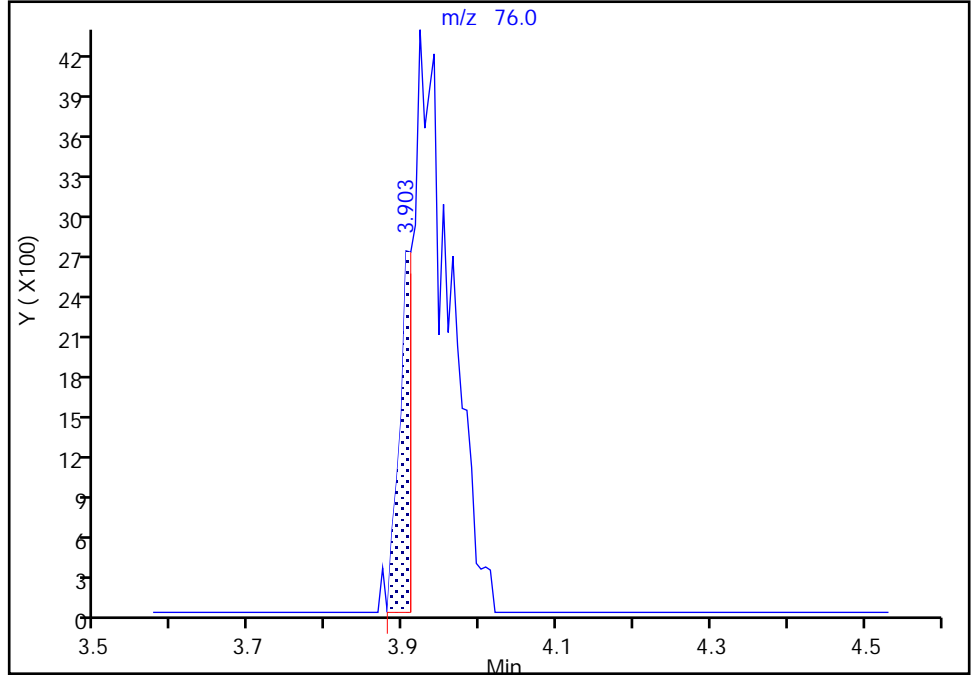
Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s17.D
Injection Date: 02-Jun-2020 15:33:30 Instrument ID: 19930
Lims ID: 410-2632-A-7 Lab Sample ID: 410-2632-7
Client ID: HD-COD-SW-16-0/1-0
Operator ID: JKH09052 ALS Bottle#: 22 Worklist Smp#: 23
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

19 Carbon disulfide, CAS: 75-15-0

Signal: 1

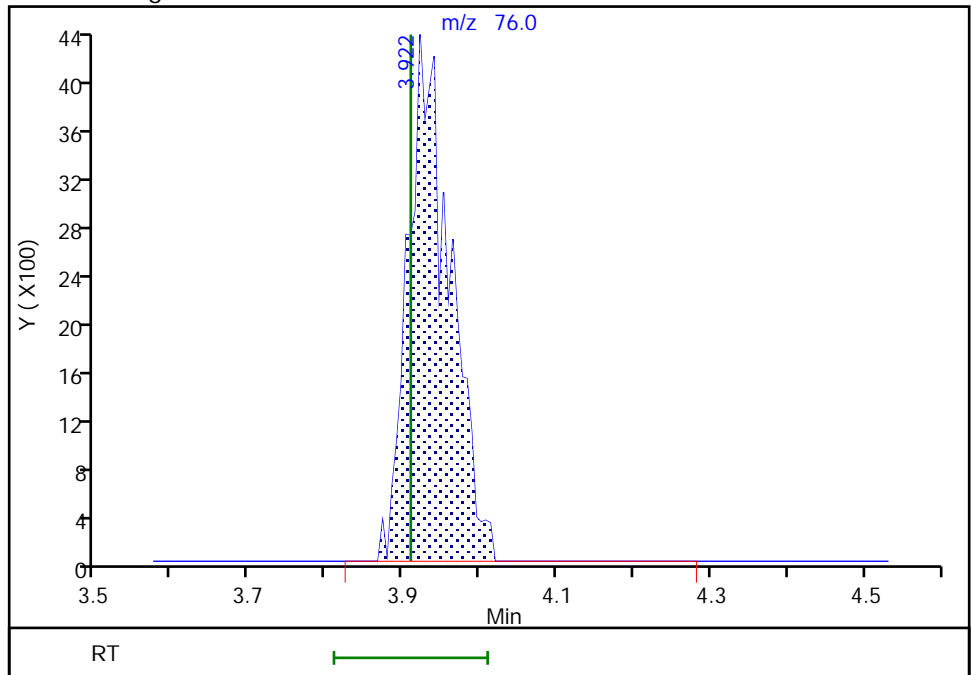
RT: 3.90
Area: 3088
Amount: 0.025793
Amount Units: ug/l

Processing Integration Results



RT: 3.92
Area: 16430
Amount: 0.137232
Amount Units: ug/l

Manual Integration Results



Reviewer: howej, 03-Jun-2020 12:40:30
Audit Action: Manually Integrated

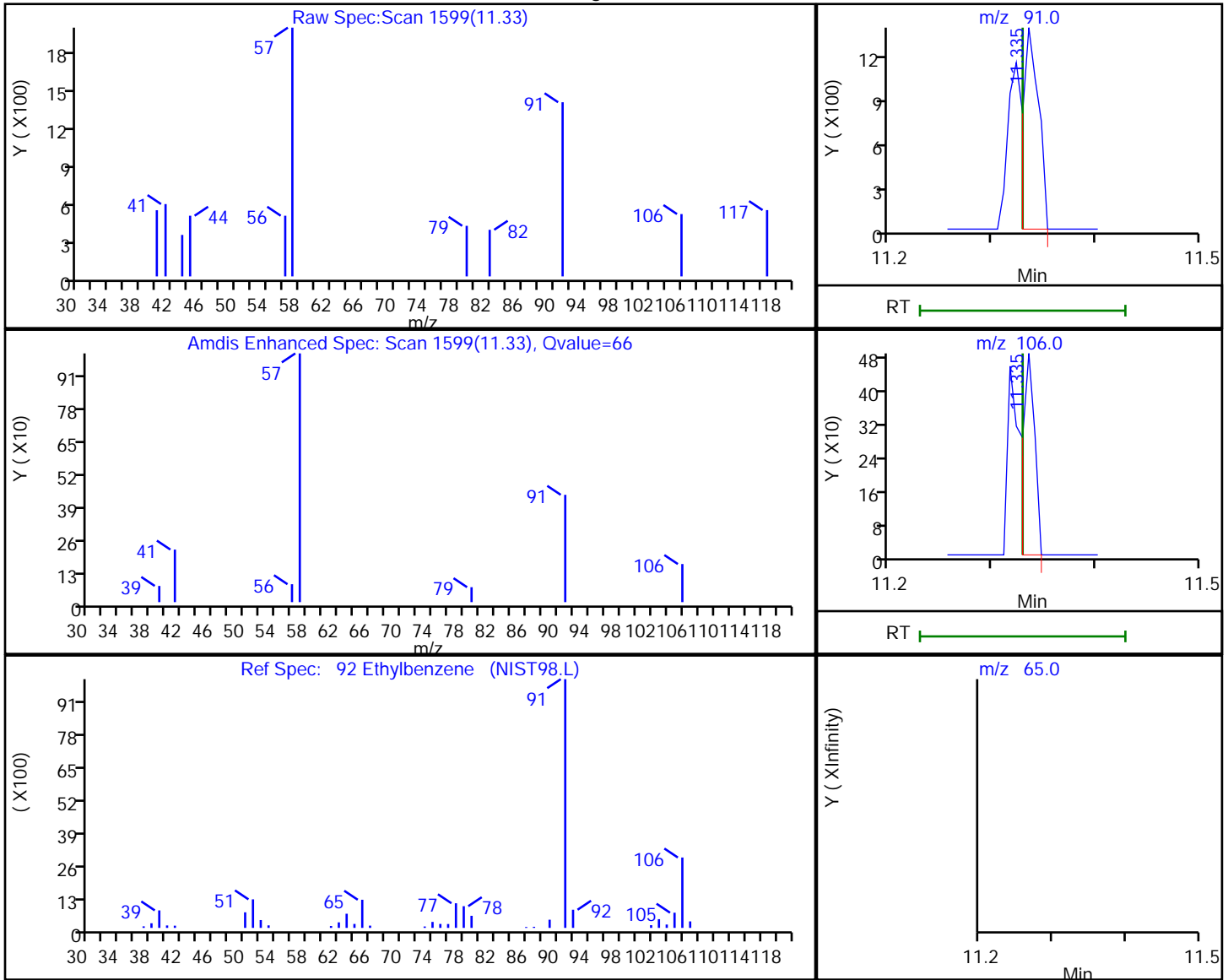
Audit Reason: Other

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s17.D
 Injection Date: 02-Jun-2020 15:33:30 Instrument ID: 19930
 Lims ID: 410-2632-A-7 Lab Sample ID: 410-2632-7
 Client ID: HD-COD-SW-16-0/1-0
 Operator ID: JKH09052 ALS Bottle#: 22 Worklist Smp#: 23
 Purge Vol: 25.000 mL Dil. Factor: 1.0000
 Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
 Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

92 Ethylbenzene, CAS: 100-41-4

Processing Results



RT	Mass	Response	Amount
11.33	91.00	1422	0.005778
11.33	106.00	387	
11.33	65.00	0	

Reviewer: howej, 03-Jun-2020 12:41:00

Audit Action: Marked Compound Undetected

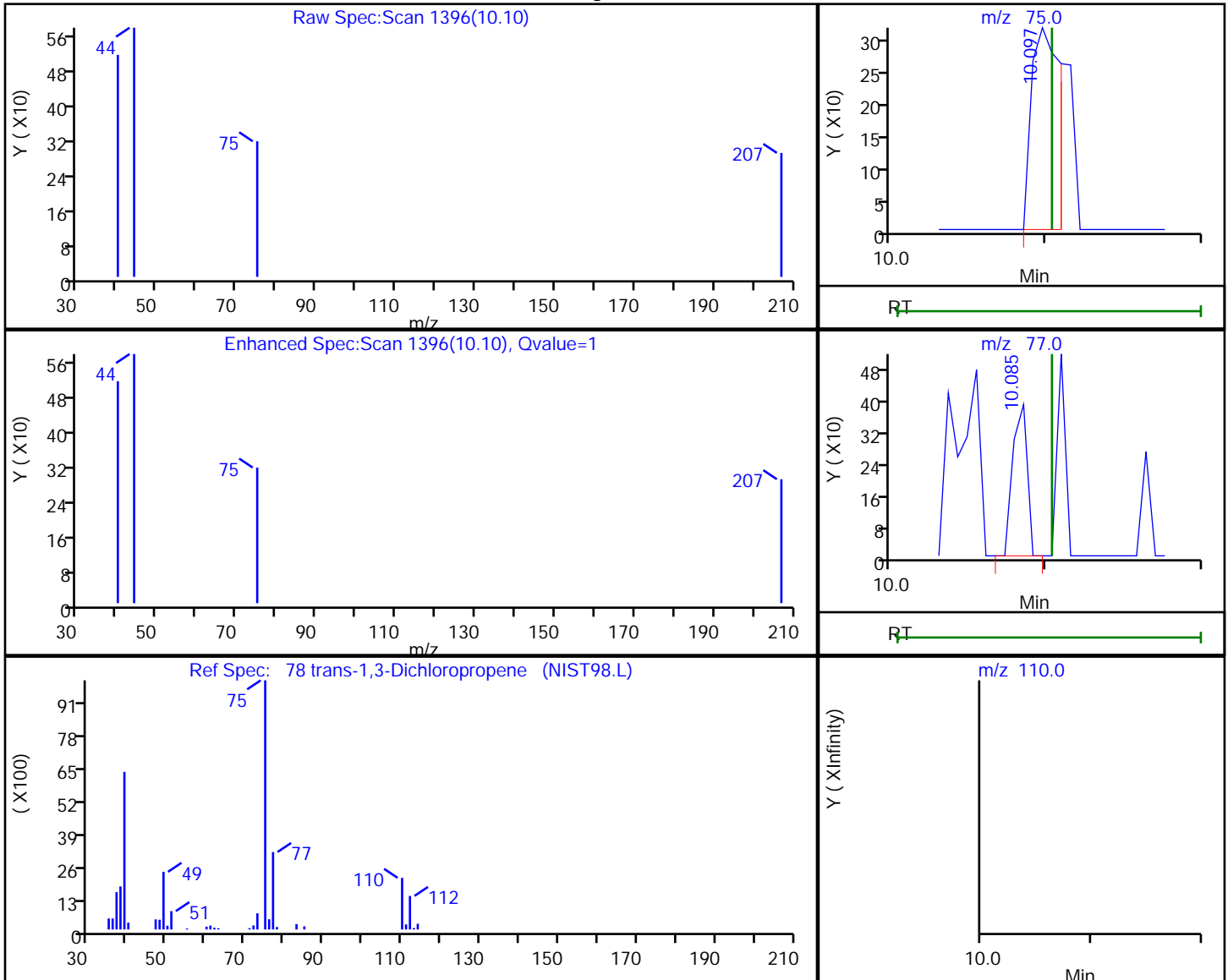
Audit Reason: Invalid Compound ID

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s17.D
 Injection Date: 02-Jun-2020 15:33:30 Instrument ID: 19930
 Lims ID: 410-2632-A-7 Lab Sample ID: 410-2632-7
 Client ID: HD-COD-SW-16-0/1-0
 Operator ID: JKH09052 ALS Bottle#: 22 Worklist Smp#: 23
 Purge Vol: 25.000 mL Dil. Factor: 1.0000
 Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
 Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

78 trans-1,3-Dichloropropene, CAS: 10061-02-6

Processing Results



RT	Mass	Response	Amount
10.10	75.00	406	0.006396
10.09	77.00	249	
10.10	110.00	0	
10.10	112.00	0	

Reviewer: howej, 03-Jun-2020 12:40:49

Audit Action: Marked Compound Undetected

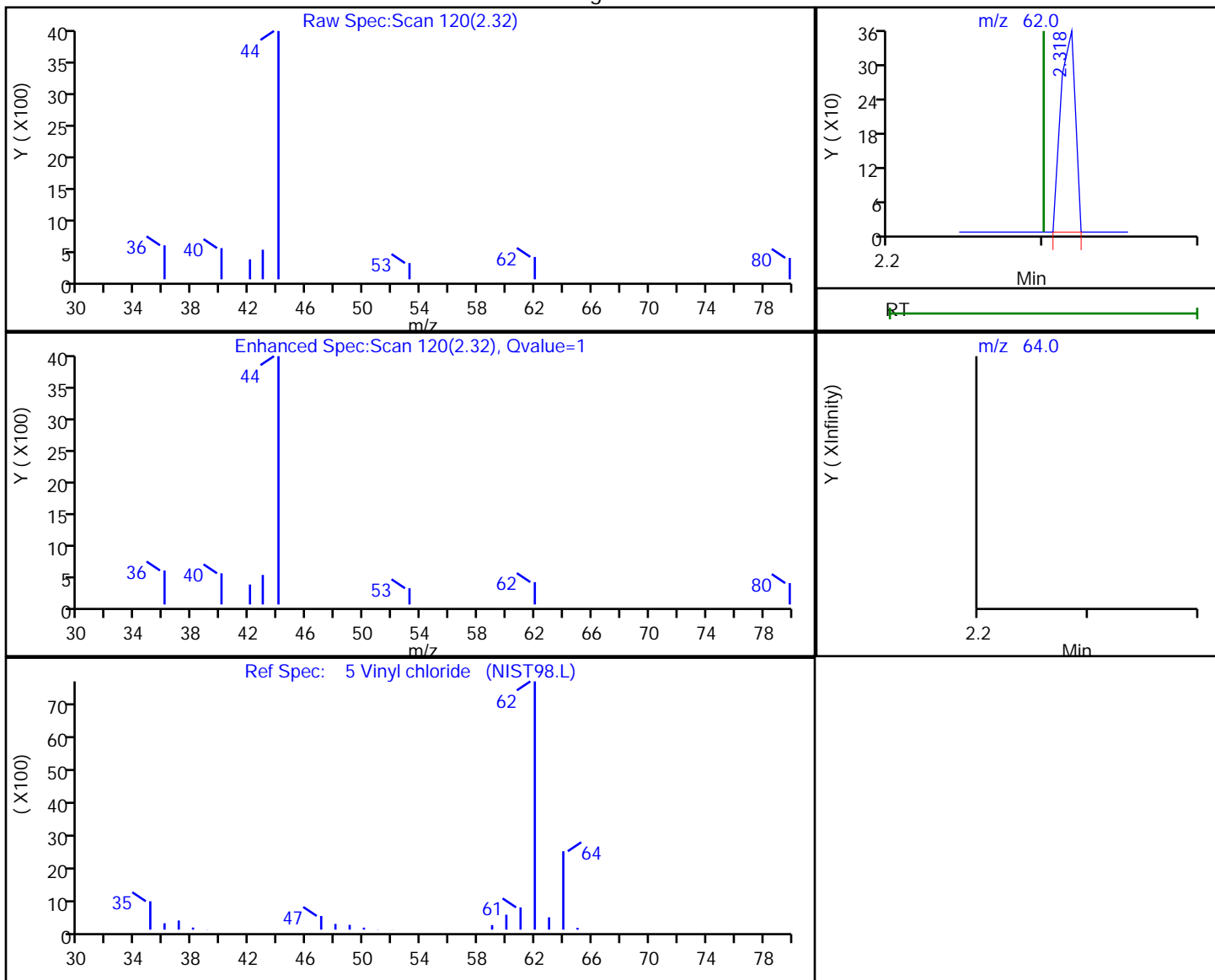
Audit Reason: Invalid Compound ID

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s17.D
 Injection Date: 02-Jun-2020 15:33:30 Instrument ID: 19930
 Lims ID: 410-2632-A-7 Lab Sample ID: 410-2632-7
 Client ID: HD-COD-SW-16-0/1-0
 Operator ID: JKH09052 ALS Bottle#: 22 Worklist Smp#: 23
 Purge Vol: 25.000 mL Dil. Factor: 1.0000
 Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
 Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

5 Vinyl chloride, CAS: 75-01-4

Processing Results



RT	Mass	Response	Amount
2.32	62.00	235	0.003536
2.30	64.00	0	

Reviewer: howej, 03-Jun-2020 12:40:22

Audit Action: Marked Compound Undetected

Audit Reason: Invalid Compound ID

Eurofins Lancaster Laboratories Env, LLC

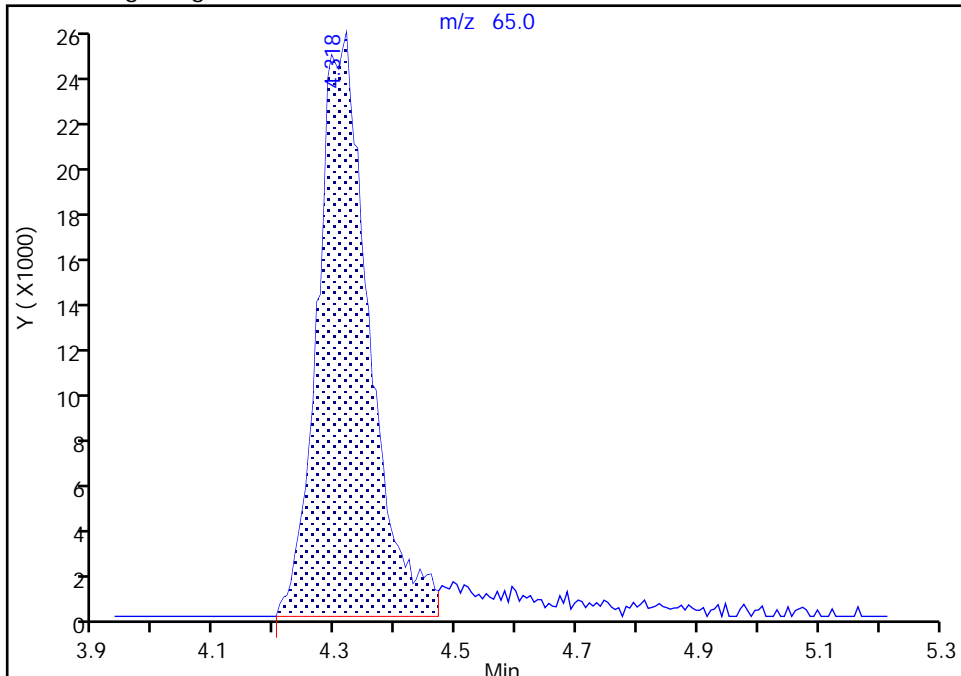
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Injection Date: 02-Jun-2020 15:33:30 Instrument ID: 19930
Lims ID: 410-2632-A-7 Lab Sample ID: 410-2632-7
Client ID: HD-COD-SW-16-0/1-0
Operator ID: JKH09052 ALS Bottle#: 22 Worklist Smp#: 23
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

* 24 t-Butyl alcohol-d10 (IS), CAS: 53001-22-2

Signal: 1

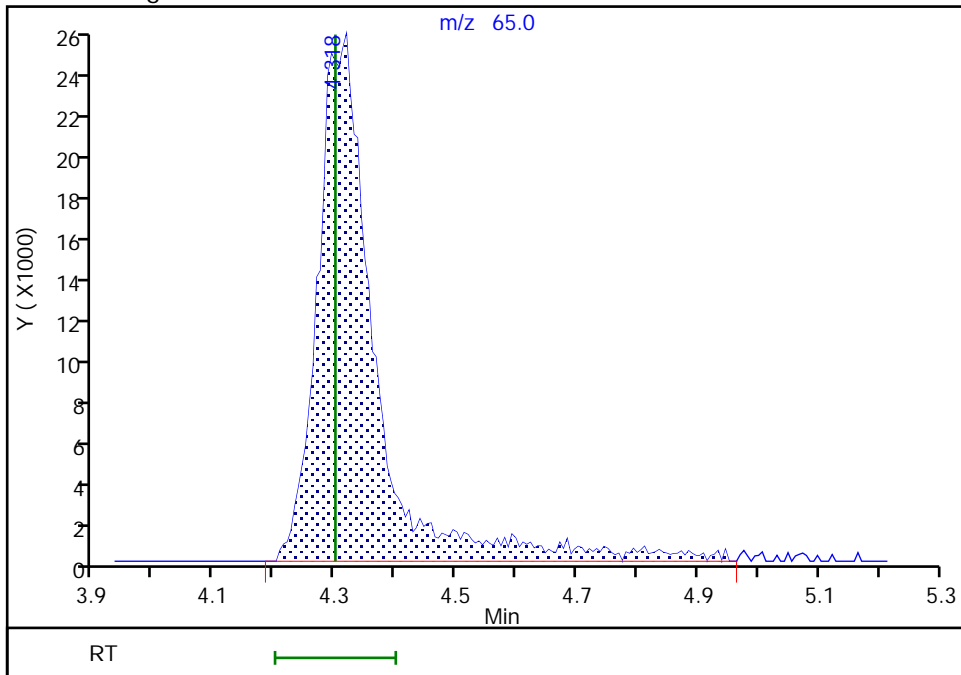
RT: 4.32
Area: 147575
Amount: 50.000000
Amount Units: ug/l

Processing Integration Results



RT: 4.32
Area: 165812
Amount: 50.000000
Amount Units: ug/l

Manual Integration Results



Reviewer: howej, 03-Jun-2020 12:40:35
Audit Action: Manually Integrated

Audit Reason: Other

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-2632-1
 SDG No.: _____
 Client Sample ID: HD-COD-SW-17-0/1-0 Lab Sample ID: 410-2632-8
 Matrix: Water Lab File ID: iU02s18.D
 Analysis Method: 8260C LL Date Collected: 05/26/2020 11:30
 Sample wt/vol: 25 (mL) Date Analyzed: 06/02/2020 15:54
 Soil Aliquot Vol: _____ Dilution Factor: 1
 Soil Extract Vol.: _____ GC Column: R-624SilMS 30m ID: 0.25 (mm)
 % Moisture: _____ Level: (low/med) Low
 Analysis Batch No.: 9922 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	ND		0.50	0.070
71-55-6	1,1,1-Trichloroethane	ND		0.50	0.060
79-34-5	1,1,2,2-Tetrachloroethane	ND		0.50	0.070
79-00-5	1,1,2-Trichloroethane	ND		0.50	0.060
75-34-3	1,1-Dichloroethane	ND		0.50	0.070
75-35-4	1,1-Dichloroethene	ND		0.50	0.060
106-93-4	1,2-Dibromoethane (EDB)	ND		0.50	0.060
107-06-2	1,2-Dichloroethane	ND		0.50	0.050
78-87-5	1,2-Dichloropropane	ND		0.50	0.060
78-93-3	2-Butanone (MEK)	ND		5.0	0.60
591-78-6	2-Hexanone	ND		5.0	0.60
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		5.0	0.70
67-64-1	Acetone	1.3	J	5.0	0.90
107-13-1	Acrylonitrile	ND		5.0	0.40
71-43-2	Benzene	ND		0.50	0.050
74-97-5	Bromochloromethane	ND		0.50	0.050
75-27-4	Bromodichloromethane	ND		0.50	0.050
75-25-2	Bromoform	ND		1.0	0.30
74-83-9	Bromomethane	ND		0.50	0.070
75-15-0	Carbon disulfide	ND		1.0	0.060
56-23-5	Carbon tetrachloride	ND		0.50	0.070
108-90-7	Chlorobenzene	ND		0.50	0.060
75-00-3	Chloroethane	ND		0.50	0.070
67-66-3	Chloroform	ND		0.50	0.090
74-87-3	Chloromethane	ND		0.50	0.060
156-59-2	cis-1,2-Dichloroethene	0.52		0.50	0.050
10061-01-5	cis-1,3-Dichloropropene	ND		0.50	0.050
124-48-1	Dibromochloromethane	ND		0.50	0.070
100-41-4	Ethylbenzene	ND		0.50	0.060
1634-04-4	Methyl tert-butyl ether	ND		0.50	0.050
75-09-2	Methylene Chloride	ND		0.50	0.070
100-42-5	Styrene	ND		0.50	0.050
127-18-4	Tetrachloroethene	1.3		0.50	0.060
108-88-3	Toluene	ND		0.50	0.070
156-60-5	trans-1,2-Dichloroethene	ND		0.50	0.060
10061-02-6	trans-1,3-Dichloropropene	ND		0.50	0.060

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-2632-1
 SDG No.: _____
 Client Sample ID: HD-COD-SW-17-0/1-0 Lab Sample ID: 410-2632-8
 Matrix: Water Lab File ID: iU02s18.D
 Analysis Method: 8260C LL Date Collected: 05/26/2020 11:30
 Sample wt/vol: 25 (mL) Date Analyzed: 06/02/2020 15:54
 Soil Aliquot Vol.: _____ Dilution Factor: 1
 Soil Extract Vol.: _____ GC Column: R-624SilMS 30m ID: 0.25 (mm)
 % Moisture: _____ Level: (low/med) Low
 Analysis Batch No.: 9922 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
79-01-6	Trichloroethene	0.68		0.50	0.060
75-01-4	Vinyl chloride	ND		0.50	0.10
1330-20-7	Xylenes, Total	ND		1.0	0.15

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	102		80-120
1868-53-7	Dibromofluoromethane (Surr)	104		80-120
2037-26-5	Toluene-d8 (Surr)	98		80-120
460-00-4	4-Bromofluorobenzene (Surr)	97		80-120

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s18.D
 Lims ID: 410-2632-A-8
 Client ID: HD-COD-SW-17-0/1-0
 Sample Type: Client
 Inject. Date: 02-Jun-2020 15:54:30 ALS Bottle#: 23 Worklist Smp#: 24
 Purge Vol: 25.000 mL Dil. Factor: 1.0000
 Sample Info: 410-0002623-024
 Misc. Info.: 410-2632-A-8
 Operator ID: JKH09052 Instrument ID: 19930
 Method: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\8260 25ml HP31.m
 Limit Group: MSV - 8260C_D
 Last Update: 03-Jun-2020 12:53:08 Calib Date: 16-Mar-2020 18:31:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\IM16107.D
 Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
 Process Host: CTX1046

First Level Reviewer: howej

Date: 03-Jun-2020 12:41:44

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
4 Chloromethane	50		2.190				ND	
5 Vinyl chloride	62	2.318	2.300	0.018	20	3088	0.0468	M
7 Bromomethane	94		2.642				ND	
8 Chloroethane	64		2.727				ND	
14 1,1-Dichloroethene	96	3.611	3.599	0.012	30	624	0.0150	
15 Acetone	43	3.654	3.629	0.025	99	10721	1.34	
19 Carbon disulfide	76	3.940	3.910	0.030	20	6776	0.0571	M
23 Methylene Chloride	84		4.288				ND	
* 24 t-Butyl alcohol-d10 (IS)	65	4.300	4.300	0.000	0	160803	50.0	M
26 Acrylonitrile	53		4.623				ND	
27 Methyl tert-butyl ether	73	4.696	4.696	0.000	1	630	0.005906	
28 trans-1,2-Dichloroethene	96		4.702				ND	
31 1,1-Dichloroethane	63		5.367				ND	
36 2-Butanone (MEK)	43		6.165				ND	
37 cis-1,2-Dichloroethene	96	6.202	6.196	0.006	79	26125	0.5211	
43 Chlorobromomethane	128		6.525				ND	
45 Chloroform	83	6.671	6.677	-0.006	87	4875	0.0614	
\$ 46 Dibromofluoromethane (Surr)	113	6.897	6.885	0.012	93	390071	10.4	
47 1,1,1-Trichloroethane	97		6.903				ND	
50 Carbon tetrachloride	117		7.110				ND	
\$ 53 1,2-Dichloroethane-d4 (Surr)	102	7.348	7.342	0.006	0	77442	10.2	
54 Benzene	78		7.378				ND	
56 1,2-Dichloroethane	62		7.452				ND	
* 58 Fluorobenzene (IS)	96	7.781	7.775	0.006	99	1553090	10.0	
61 Trichloroethene	95	8.256	8.256	0.000	96	33785	0.6847	
63 1,2-Dichloropropane	63		8.586				ND	
68 Dichlorobromomethane	83		8.927				ND	
73 cis-1,3-Dichloropropene	75		9.470				ND	
74 4-Methyl-2-pentanone (MIBK)	43		9.634				ND	
\$ 75 Toluene-d8 (Surr)	98	9.774	9.774	0.000	94	1522836	9.79	
76 Toluene	92	9.860	9.854	0.006	98	5112	0.0411	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
78 trans-1,3-Dichloropropene	75		10.104				ND	
80 1,1,2-Trichloroethane	97		10.305				ND	
81 Tetrachloroethene	166	10.396	10.396	0.000	97	77425	1.30	
83 2-Hexanone	43		10.512				ND	
85 Chlorodibromomethane	129		10.683				ND	
86 Ethylene Dibromide	107		10.792				ND	
* 87 Chlorobenzene-d5 (IS)	117	11.219	11.219	0.000	86	1222944	10.0	
90 Chlorobenzene	112		11.244				ND	
S 89 Xylenes, Total	106				0		0.0152	
91 1,1,1,2-Tetrachloroethane	131		11.323				ND	
92 Ethylbenzene	91	11.323	11.329	-0.006	1	612	0.002510	
93 m-Xylene & p-Xylene	106	11.451	11.445	0.006	0	1450	0.0152	
94 o-Xylene	106		11.768				ND	
95 Styrene	104		11.786				ND	
96 Bromoform	173		11.945				ND	
\$ 100 4-Bromofluorobenzene (Surr)	95	12.213	12.213	0.000	93	562390	9.69	
101 1,1,2,2-Tetrachloroethane	83		12.310				ND	
* 115 1,4-Dichlorobenzene-d4	152	13.091	13.091	0.000	95	674908	10.0	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

MSV_31_826ISS_00002

Amount Added: 5.00

Units: uL

Run Reagent

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s18.D

Injection Date: 02-Jun-2020 15:54:30

Instrument ID: 19930

Operator ID: JKH09052

Lims ID: 410-2632-A-8

Lab Sample ID: 410-2632-8

Worklist Smp#: 24

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

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

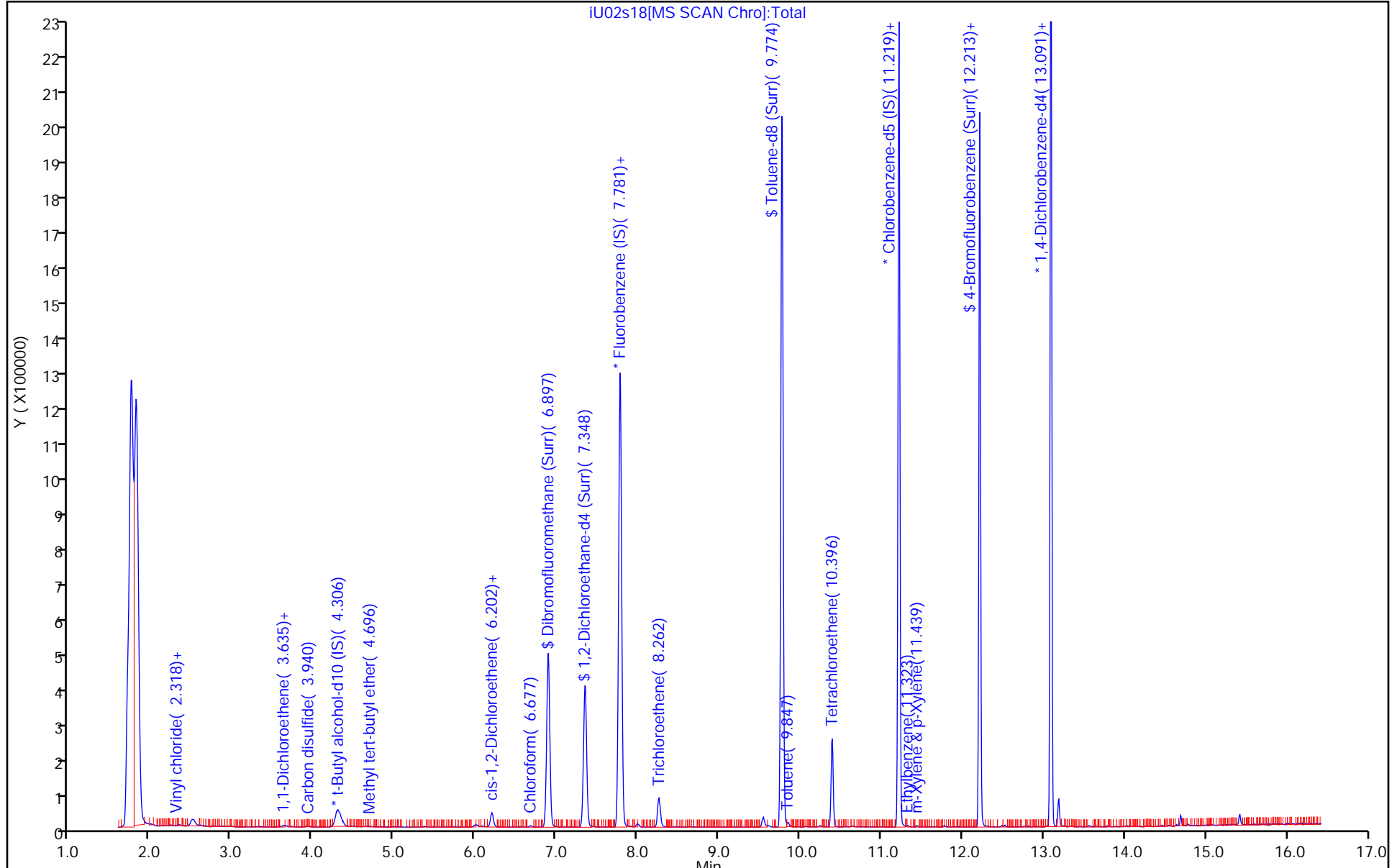
ALS Bottle#: 23

Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25 mm)

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Eurofins Lancaster Laboratories Env, LLC
Recovery Report

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s18.D
 Lims ID: 410-2632-A-8
 Client ID: HD-COD-SW-17-0/1-0
 Sample Type: Client
 Inject. Date: 02-Jun-2020 15:54:30 ALS Bottle#: 23 Worklist Smp#: 24
 Purge Vol: 25.000 mL Dil. Factor: 1.0000
 Sample Info: 410-0002623-024
 Misc. Info.: 410-2632-A-8
 Operator ID: JKH09052 Instrument ID: 19930
 Method: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\8260 25ml HP31.m
 Limit Group: MSV - 8260C_D
 Last Update: 03-Jun-2020 12:53:08 Calib Date: 16-Mar-2020 18:31:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\IM16107.D
 Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
 Process Host: CTX1046

First Level Reviewer: howej Date: 03-Jun-2020 12:41:44

Compound	Amount Added	Amount Recovered	% Rec.
\$ 46 Dibromofluoromethane (Surr)	10.0	10.4	104.06
\$ 53 1,2-Dichloroethane-d4 (Surr)	10.0	10.2	101.95
\$ 75 Toluene-d8 (Surr)	10.0	9.79	97.92
\$ 100 4-Bromofluorobenzene (Surr)	10.0	9.69	96.91

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s18.D

Injection Date: 02-Jun-2020 15:54:30

Instrument ID: 19930

Lims ID: 410-2632-A-8

Lab Sample ID: 410-2632-8

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

Operator ID: JKH09052

ALS Bottle#: 23

Worklist Smp#: 24

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

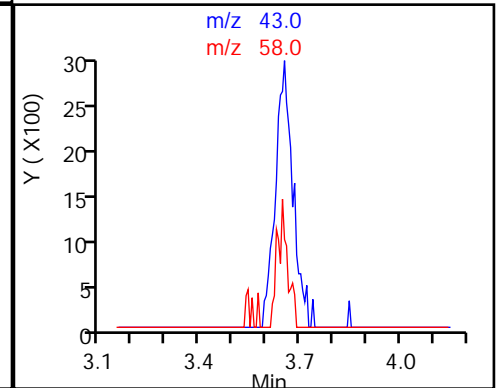
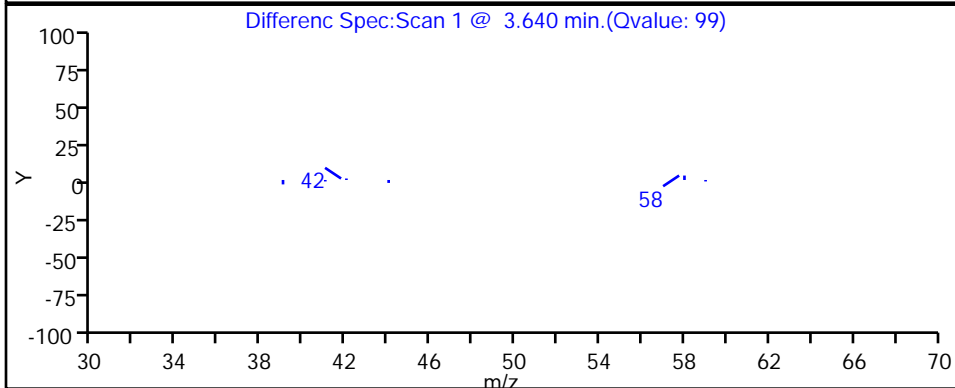
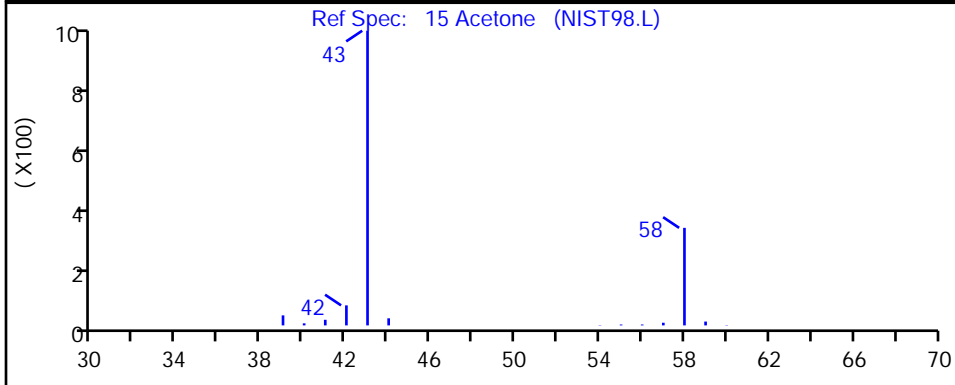
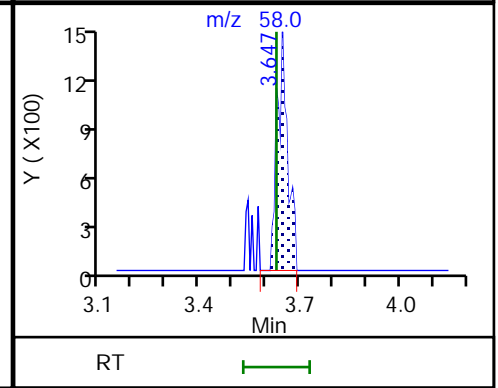
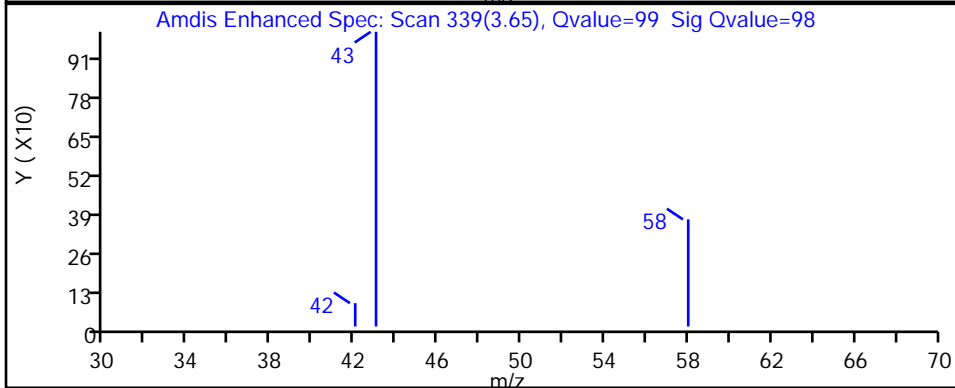
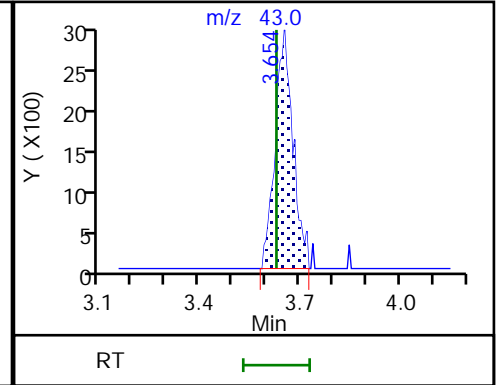
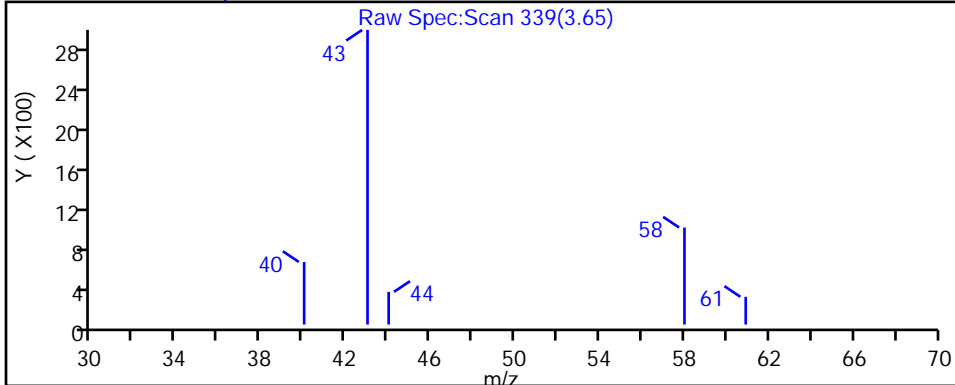
Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25mm ID)

MS Quad

15 Acetone, CAS: 67-64-1



Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s18.D

Injection Date: 02-Jun-2020 15:54:30

Instrument ID: 19930

Lims ID: 410-2632-A-8

Lab Sample ID: 410-2632-8

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

Operator ID: JKH09052

ALS Bottle#: 23

Worklist Smp#: 24

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

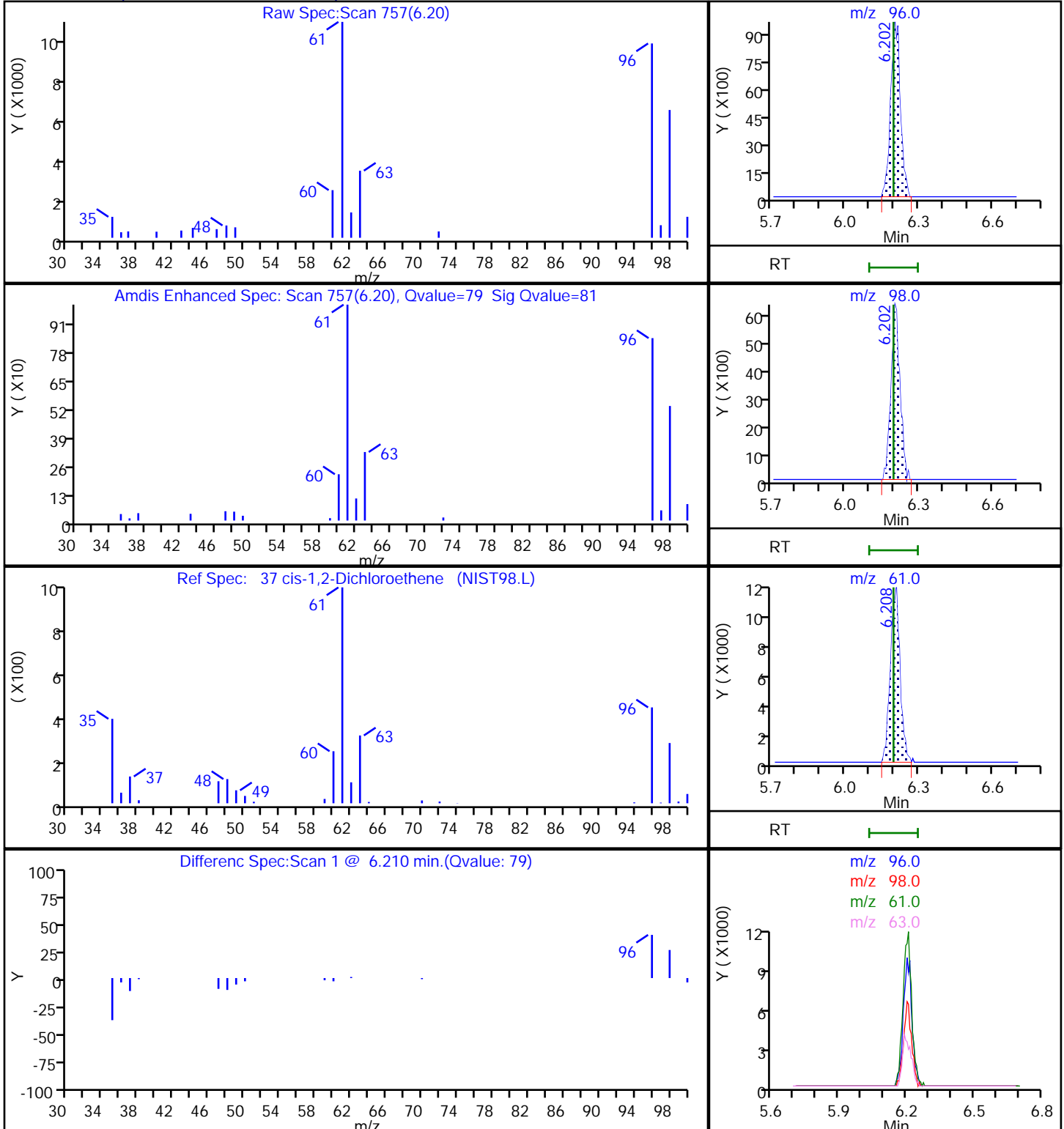
Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25mm ID) x 30m

MS Quad

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



Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\U02s18.D

Injection Date: 02-Jun-2020 15:54:30

Instrument ID: 19930

Lims ID: 410-2632-A-8

Lab Sample ID: 410-2632-8

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

Operator ID: JKH09052

ALS Bottle#: 23

Worklist Smp#: 24

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

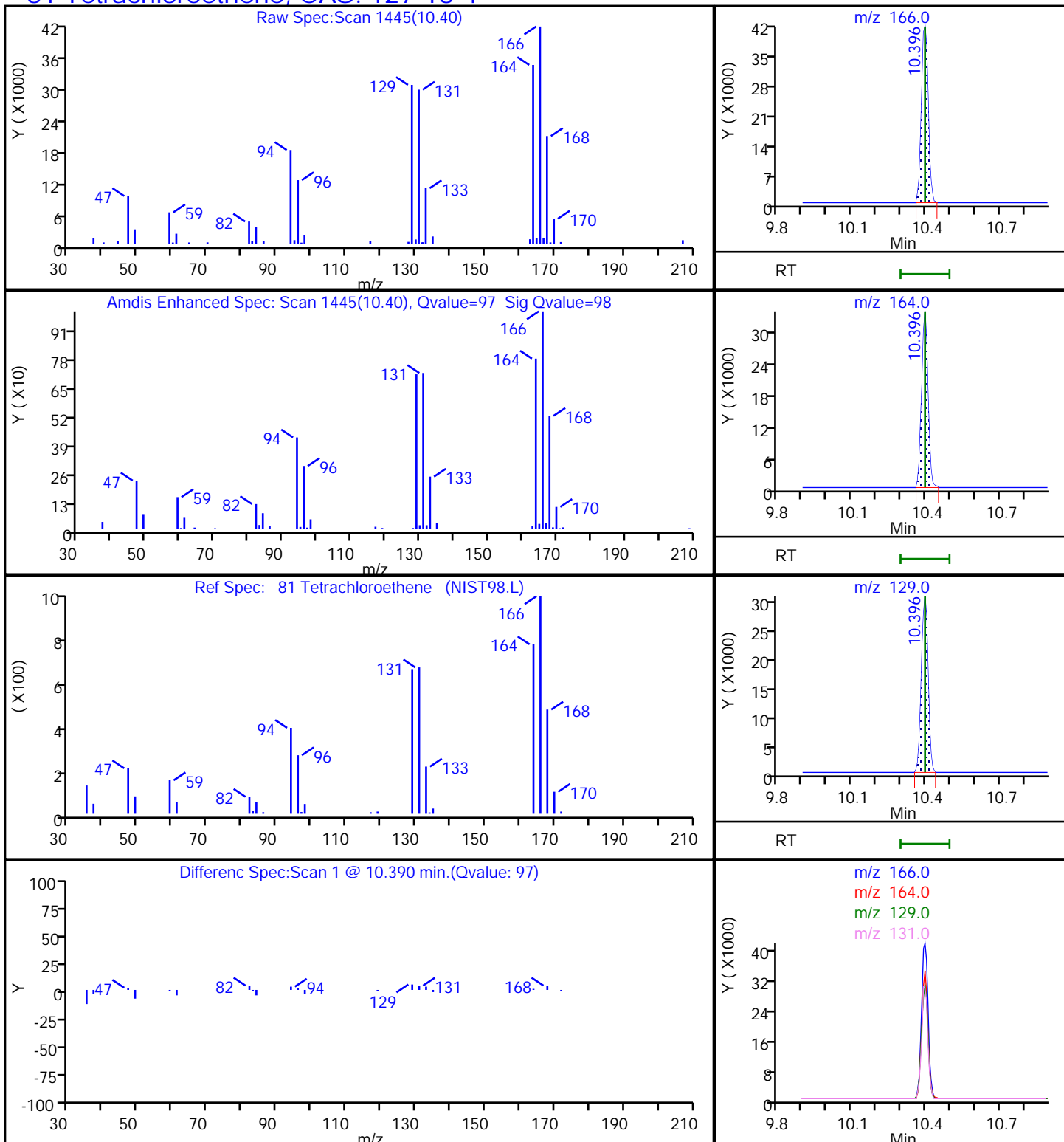
Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25mm ID)

MS Quad

81 Tetrachloroethene, CAS: 127-18-4



Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s18.D

Injection Date: 02-Jun-2020 15:54:30

Instrument ID: 19930

Lims ID: 410-2632-A-8

Lab Sample ID: 410-2632-8

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

Operator ID: JKH09052

ALS Bottle#: 23

Worklist Smp#: 24

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

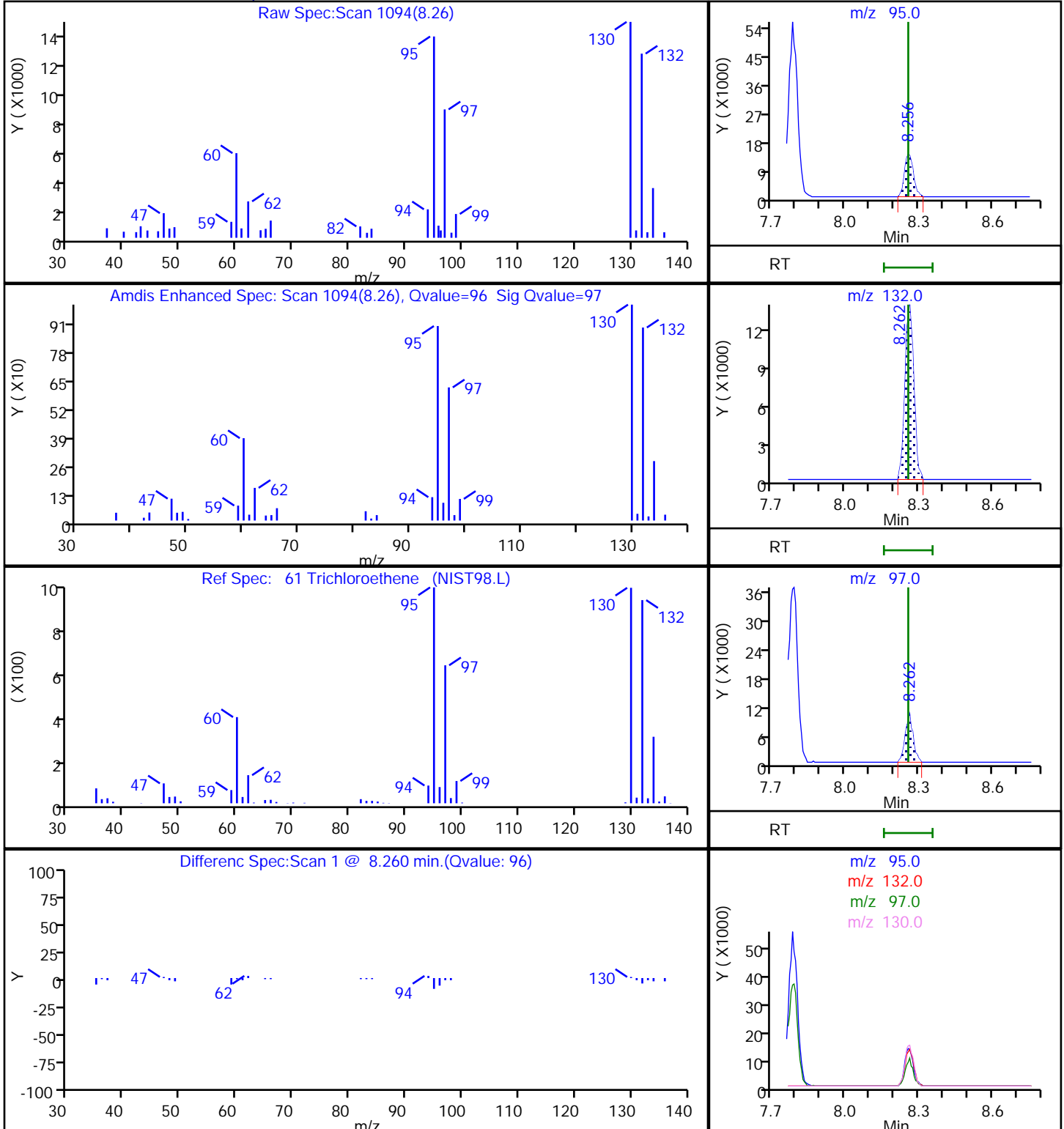
Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25mm ID)

MS Quad

61 Trichloroethene, CAS: 79-01-6



Eurofins Lancaster Laboratories Env, LLC

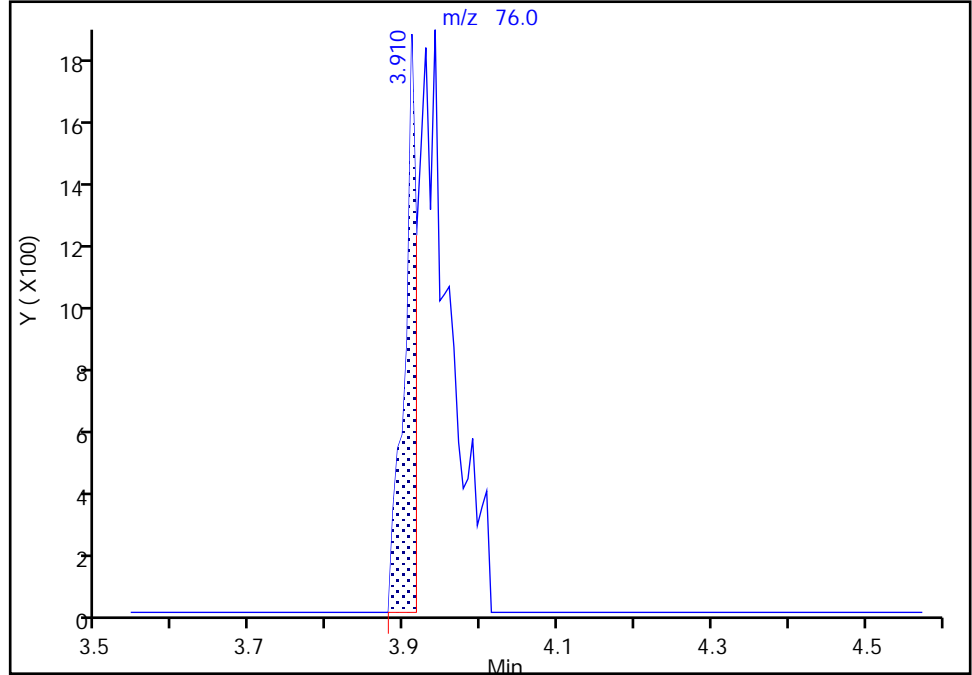
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Injection Date: 02-Jun-2020 15:54:30 Instrument ID: 19930
Lims ID: 410-2632-A-8 Lab Sample ID: 410-2632-8
Client ID: HD-COD-SW-17-0/1-0
Operator ID: JKH09052 ALS Bottle#: 23 Worklist Smp#: 24
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

19 Carbon disulfide, CAS: 75-15-0

Signal: 1

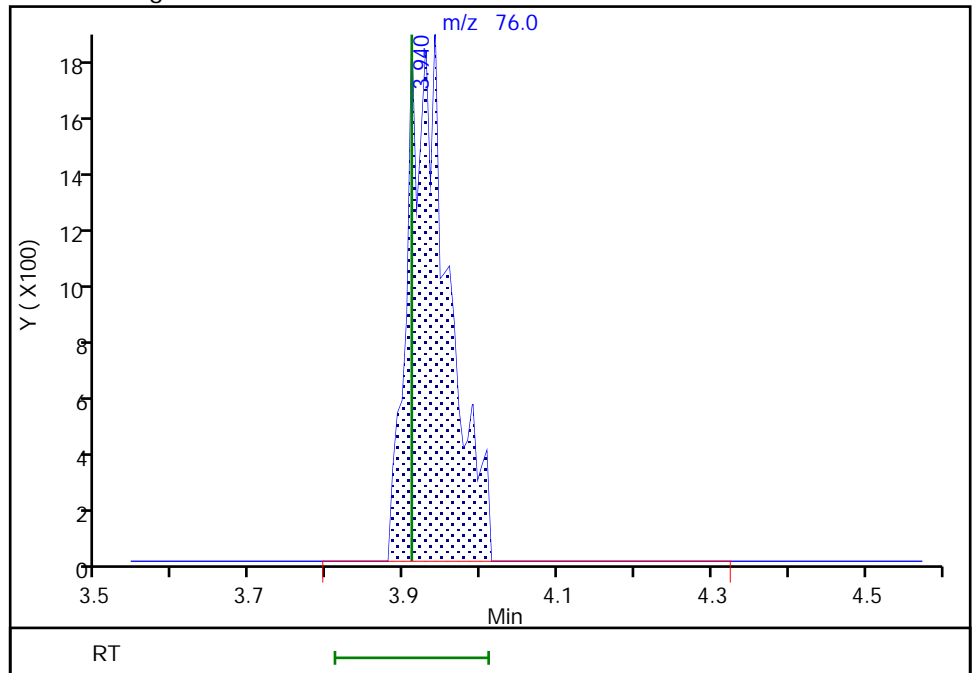
RT: 3.91
Area: 1946
Amount: 0.016387
Amount Units: ug/l

Processing Integration Results



RT: 3.94
Area: 6776
Amount: 0.057058
Amount Units: ug/l

Manual Integration Results



Reviewer: howej, 03-Jun-2020 12:41:22
Audit Action: Manually Integrated

Audit Reason: Other

Eurofins Lancaster Laboratories Env, LLC

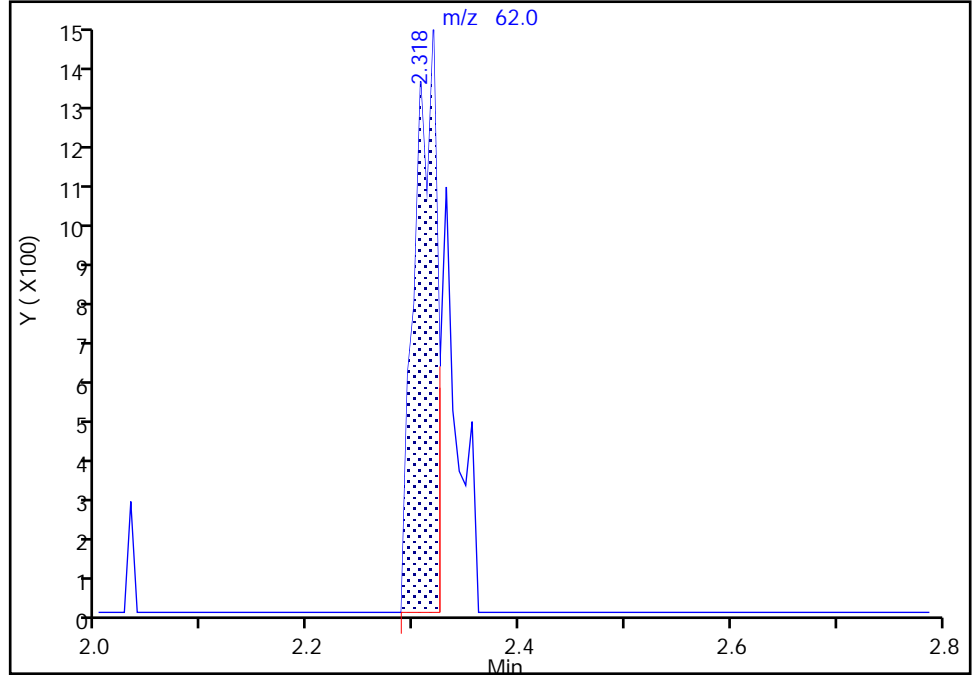
Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s18.D
Injection Date: 02-Jun-2020 15:54:30 Instrument ID: 19930
Lims ID: 410-2632-A-8 Lab Sample ID: 410-2632-8
Client ID: HD-COD-SW-17-0/1-0
Operator ID: JKH09052 ALS Bottle#: 23 Worklist Smp#: 24
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

5 Vinyl chloride, CAS: 75-01-4

Signal: 1

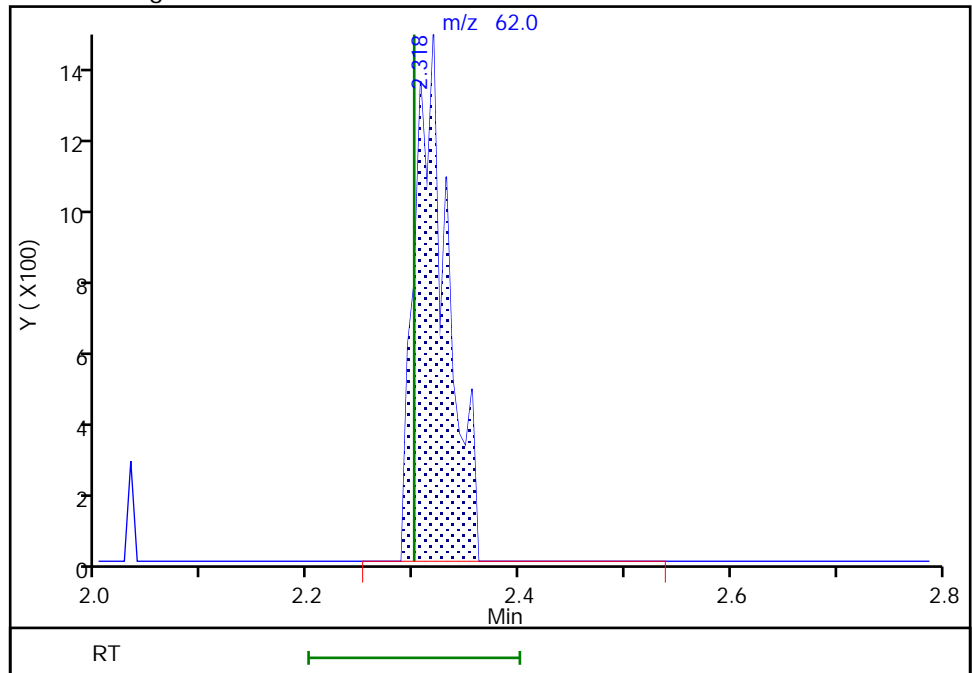
RT: 2.32
Area: 2102
Amount: 0.031885
Amount Units: ug/l

Processing Integration Results



RT: 2.32
Area: 3088
Amount: 0.046841
Amount Units: ug/l

Manual Integration Results



Reviewer: howej, 03-Jun-2020 12:41:16
Audit Action: Manually Integrated

Audit Reason: Other

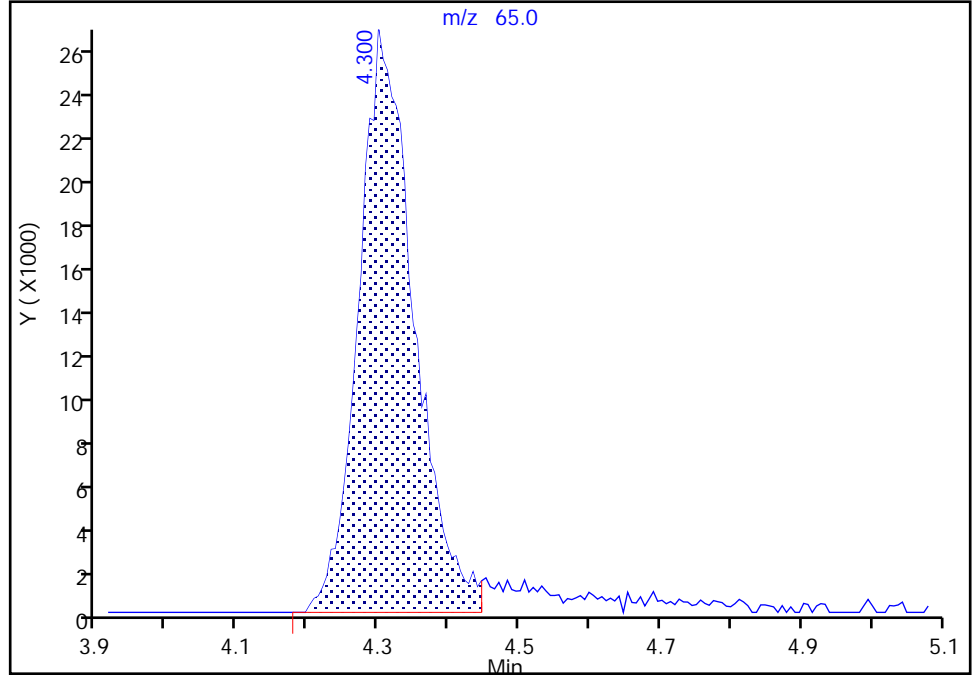
Euofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s18.D
Injection Date: 02-Jun-2020 15:54:30 Instrument ID: 19930
Lims ID: 410-2632-A-8 Lab Sample ID: 410-2632-8
Client ID: HD-COD-SW-17-0/1-0
Operator ID: JKH09052 ALS Bottle#: 23 Worklist Smp#: 24
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

* 24 t-Butyl alcohol-d10 (IS), CAS: 53001-22-2
Signal: 1

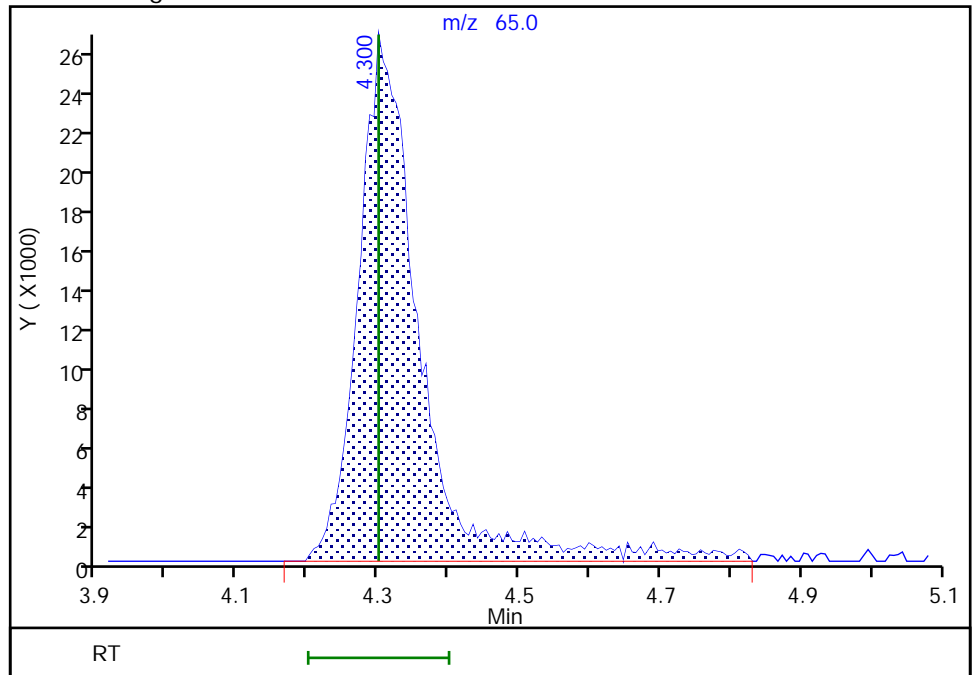
RT: 4.30
Area: 145164
Amount: 50.000000
Amount Units: ug/l

Processing Integration Results



RT: 4.30
Area: 160803
Amount: 50.000000
Amount Units: ug/l

Manual Integration Results



Reviewer: howej, 03-Jun-2020 12:41:27
Audit Action: Manually Integrated

Audit Reason: Other

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-2632-1
 SDG No.: _____
 Client Sample ID: HD-COD-SW-26-0/1-0 Lab Sample ID: 410-2632-9
 Matrix: Water Lab File ID: iU02s19.D
 Analysis Method: 8260C LL Date Collected: 05/26/2020 12:10
 Sample wt/vol: 25 (mL) Date Analyzed: 06/02/2020 16:15
 Soil Aliquot Vol: _____ Dilution Factor: 1
 Soil Extract Vol.: _____ GC Column: R-624SilMS 30m ID: 0.25 (mm)
 % Moisture: _____ Level: (low/med) Low
 Analysis Batch No.: 9922 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	ND		0.50	0.070
71-55-6	1,1,1-Trichloroethane	ND		0.50	0.060
79-34-5	1,1,2,2-Tetrachloroethane	ND		0.50	0.070
79-00-5	1,1,2-Trichloroethane	ND		0.50	0.060
75-34-3	1,1-Dichloroethane	ND		0.50	0.070
75-35-4	1,1-Dichloroethene	0.12	J	0.50	0.060
106-93-4	1,2-Dibromoethane (EDB)	ND		0.50	0.060
107-06-2	1,2-Dichloroethane	ND		0.50	0.050
78-87-5	1,2-Dichloropropane	ND		0.50	0.060
78-93-3	2-Butanone (MEK)	ND		5.0	0.60
591-78-6	2-Hexanone	ND		5.0	0.60
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		5.0	0.70
67-64-1	Acetone	ND		5.0	0.90
107-13-1	Acrylonitrile	ND		5.0	0.40
71-43-2	Benzene	ND		0.50	0.050
74-97-5	Bromochloromethane	ND		0.50	0.050
75-27-4	Bromodichloromethane	ND		0.50	0.050
75-25-2	Bromoform	ND		1.0	0.30
74-83-9	Bromomethane	ND		0.50	0.070
75-15-0	Carbon disulfide	ND		1.0	0.060
56-23-5	Carbon tetrachloride	ND		0.50	0.070
108-90-7	Chlorobenzene	ND		0.50	0.060
75-00-3	Chloroethane	ND		0.50	0.070
67-66-3	Chloroform	0.47	J	0.50	0.090
74-87-3	Chloromethane	ND		0.50	0.060
156-59-2	cis-1,2-Dichloroethene	0.072	J	0.50	0.050
10061-01-5	cis-1,3-Dichloropropene	ND		0.50	0.050
124-48-1	Dibromochloromethane	ND		0.50	0.070
100-41-4	Ethylbenzene	ND		0.50	0.060
1634-04-4	Methyl tert-butyl ether	ND		0.50	0.050
75-09-2	Methylene Chloride	ND		0.50	0.070
100-42-5	Styrene	ND		0.50	0.050
127-18-4	Tetrachloroethene	3.1		0.50	0.060
108-88-3	Toluene	ND		0.50	0.070
156-60-5	trans-1,2-Dichloroethene	ND		0.50	0.060
10061-02-6	trans-1,3-Dichloropropene	ND		0.50	0.060

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-2632-1
 SDG No.: _____
 Client Sample ID: HD-COD-SW-26-0/1-0 Lab Sample ID: 410-2632-9
 Matrix: Water Lab File ID: iU02s19.D
 Analysis Method: 8260C LL Date Collected: 05/26/2020 12:10
 Sample wt/vol: 25 (mL) Date Analyzed: 06/02/2020 16:15
 Soil Aliquot Vol.: _____ Dilution Factor: 1
 Soil Extract Vol.: _____ GC Column: R-624SilMS 30m ID: 0.25 (mm)
 % Moisture: _____ Level: (low/med) Low
 Analysis Batch No.: 9922 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
79-01-6	Trichloroethene	ND		0.50	0.060
75-01-4	Vinyl chloride	ND		0.50	0.10
1330-20-7	Xylenes, Total	ND		1.0	0.15

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	102		80-120
1868-53-7	Dibromofluoromethane (Surr)	103		80-120
2037-26-5	Toluene-d8 (Surr)	99		80-120
460-00-4	4-Bromofluorobenzene (Surr)	99		80-120

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s19.D
 Lims ID: 410-2632-A-9
 Client ID: HD-COD-SW-26-0/1-0
 Sample Type: Client
 Inject. Date: 02-Jun-2020 16:15:30 ALS Bottle#: 24 Worklist Smp#: 25
 Purge Vol: 25.000 mL Dil. Factor: 1.0000
 Sample Info: 410-0002623-025
 Misc. Info.: 410-2632-A-9
 Operator ID: JKH09052 Instrument ID: 19930
 Method: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\8260 25ml HP31.m
 Limit Group: MSV - 8260C_D
 Last Update: 03-Jun-2020 12:53:08 Calib Date: 16-Mar-2020 18:31:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\IM16107.D
 Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
 Process Host: CTX1046

First Level Reviewer: howej

Date: 03-Jun-2020 12:42:27

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
4 Chloromethane	50		2.190				ND	
5 Vinyl chloride	62		2.300				ND	
7 Bromomethane	94		2.642				ND	
8 Chloroethane	64		2.727				ND	
14 1,1-Dichloroethene	96	3.605	3.599	0.006	95	4809	0.1170	
15 Acetone	43	3.641	3.629	0.012	63	5868	0.7401	
19 Carbon disulfide	76	3.910	3.910	0.000	53	3337	0.0284	M
23 Methylene Chloride	84		4.288				ND	
* 24 t-Butyl alcohol-d10 (IS)	65	4.294	4.300	-0.006	0	159758	50.0	M
26 Acrylonitrile	53		4.623				ND	
27 Methyl tert-butyl ether	73		4.696				ND	
28 trans-1,2-Dichloroethene	96		4.702				ND	
31 1,1-Dichloroethane	63		5.367				ND	
36 2-Butanone (MEK)	43		6.165				ND	
37 cis-1,2-Dichloroethene	96	6.208	6.196	0.012	75	3557	0.0718	
43 Chlorobromomethane	128		6.525				ND	
45 Chloroform	83	6.683	6.677	0.006	93	36570	0.4655	
\$ 46 Dibromofluoromethane (Surr)	113	6.897	6.885	0.012	94	381676	10.3	
47 1,1,1-Trichloroethane	97	6.891	6.903	-0.012	35	2331	0.0306	
50 Carbon tetrachloride	117		7.110				ND	
\$ 53 1,2-Dichloroethane-d4 (Surr)	102	7.348	7.342	0.006	0	76846	10.2	
54 Benzene	78		7.378				ND	
56 1,2-Dichloroethane	62		7.452				ND	
* 58 Fluorobenzene (IS)	96	7.781	7.775	0.006	99	1535593	10.0	
61 Trichloroethene	95		8.256				ND	
63 1,2-Dichloropropane	63		8.586				ND	
68 Dichlorobromomethane	83		8.927				ND	U
73 cis-1,3-Dichloropropene	75		9.470				ND	
74 4-Methyl-2-pentanone (MIBK)	43		9.634				ND	
\$ 75 Toluene-d8 (Surr)	98	9.774	9.774	0.000	93	1498244	9.85	
76 Toluene	92	9.860	9.854	0.006	94	2801	0.0231	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
78 trans-1,3-Dichloropropene	75		10.104				ND	
80 1,1,2-Trichloroethane	97		10.305				ND	
81 Tetrachloroethene	166	10.390	10.396	-0.006	98	182274	3.14	
83 2-Hexanone	43		10.512				ND	
85 Chlorodibromomethane	129		10.683				ND	
86 Ethylene Dibromide	107		10.792				ND	
* 87 Chlorobenzene-d5 (IS)	117	11.219	11.219	0.000	86	1195585	10.0	
90 Chlorobenzene	112		11.244				ND	
S 89 Xylenes, Total	106		11.245				ND	
91 1,1,1,2-Tetrachloroethane	131		11.323				ND	
92 Ethylbenzene	91		11.329				ND	
93 m-Xylene & p-Xylene	106		11.445				ND	U
94 o-Xylene	106		11.768				ND	
95 Styrene	104		11.786				ND	
96 Bromoform	173		11.945				ND	
\$ 100 4-Bromofluorobenzene (Surr)	95	12.213	12.213	0.000	93	559889	9.87	
101 1,1,2,2-Tetrachloroethane	83		12.310				ND	
* 115 1,4-Dichlorobenzene-d4	152	13.091	13.091	0.000	95	673585	10.0	

QC Flag Legend

Review Flags

M - Manually Integrated

U - Marked Undetected

Reagents:

MSV_31_826ISS_00002

Amount Added: 5.00

Units: uL

Run Reagent

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s19.D

Injection Date: 02-Jun-2020 16:15:30

Instrument ID: 19930

Operator ID: JKH09052

Lims ID: 410-2632-A-9

Lab Sample ID: 410-2632-9

Worklist Smp#: 25

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

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

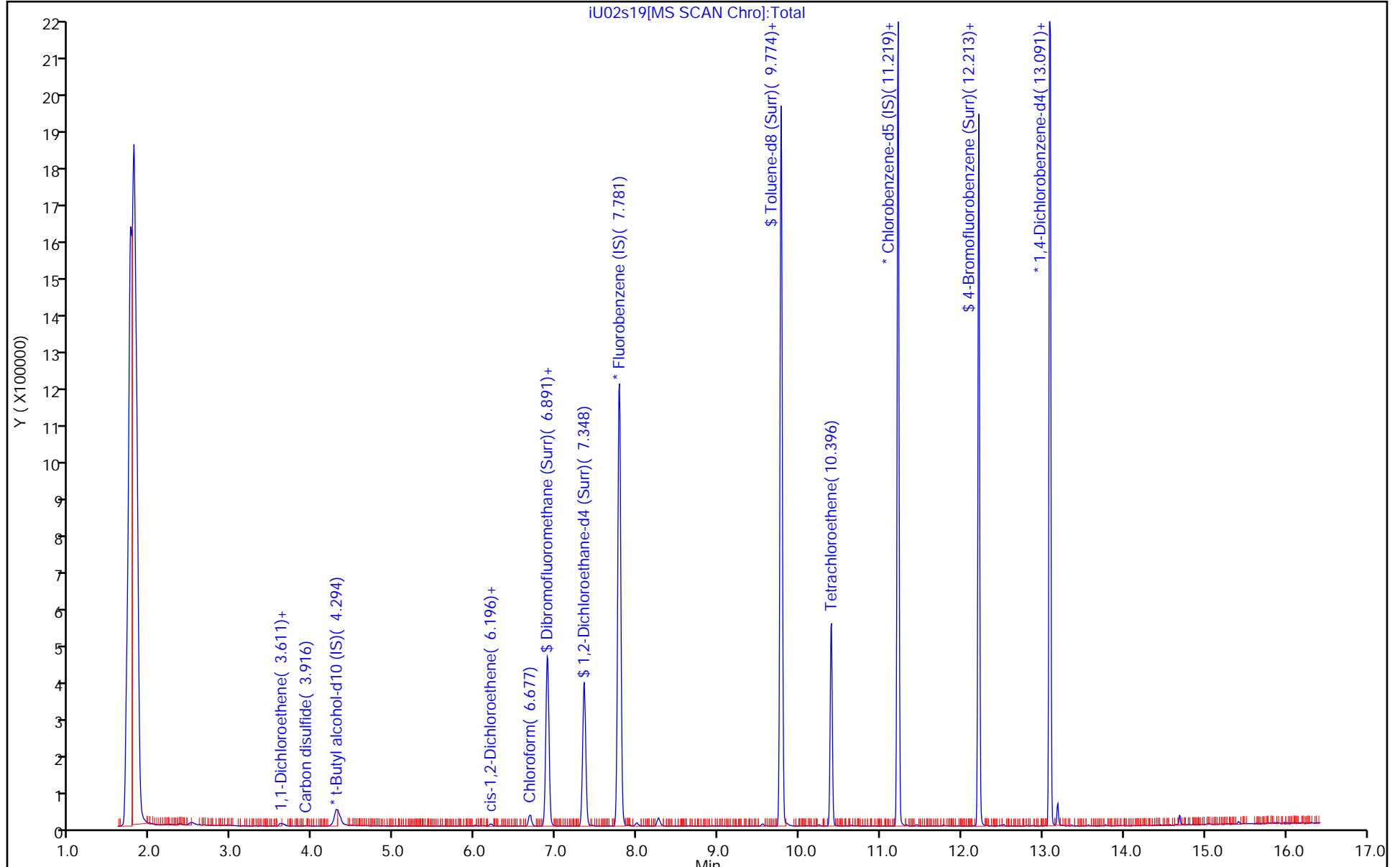
ALS Bottle#: 24

Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25 mm)

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Eurofins Lancaster Laboratories Env, LLC
Recovery Report

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s19.D
 Lims ID: 410-2632-A-9
 Client ID: HD-COD-SW-26-0/1-0
 Sample Type: Client
 Inject. Date: 02-Jun-2020 16:15:30 ALS Bottle#: 24 Worklist Smp#: 25
 Purge Vol: 25.000 mL Dil. Factor: 1.0000
 Sample Info: 410-0002623-025
 Misc. Info.: 410-2632-A-9
 Operator ID: JKH09052 Instrument ID: 19930
 Method: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\8260 25ml HP31.m
 Limit Group: MSV - 8260C_D
 Last Update: 03-Jun-2020 12:53:08 Calib Date: 16-Mar-2020 18:31:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\IM16107.D
 Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
 Process Host: CTX1046

First Level Reviewer: howej

Date: 03-Jun-2020 12:42:27

Compound	Amount Added	Amount Recovered	% Rec.
\$ 46 Dibromofluoromethane (Surr)	10.0	10.3	102.98
\$ 53 1,2-Dichloroethane-d4 (Surr)	10.0	10.2	102.32
\$ 75 Toluene-d8 (Surr)	10.0	9.85	98.55
\$ 100 4-Bromofluorobenzene (Surr)	10.0	9.87	98.69

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s19.D

Injection Date: 02-Jun-2020 16:15:30

Instrument ID: 19930

Lims ID: 410-2632-A-9

Lab Sample ID: 410-2632-9

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

Operator ID: JKH09052

ALS Bottle#: 24

Worklist Smp#: 25

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

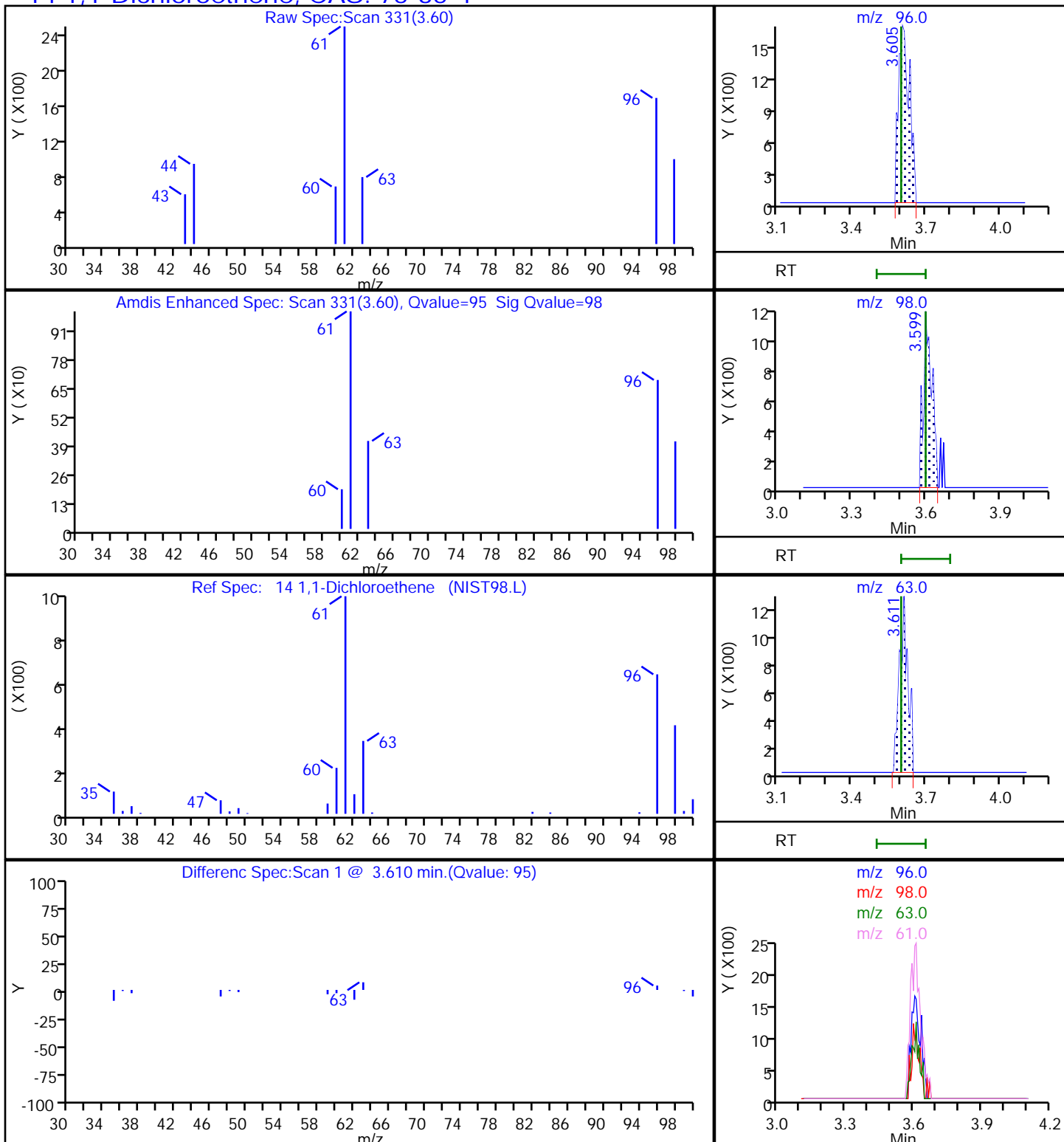
Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25mm ID)

MS Quad

14 1,1-Dichloroethene, CAS: 75-35-4



Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s19.D

Injection Date: 02-Jun-2020 16:15:30

Instrument ID: 19930

Lims ID: 410-2632-A-9

Lab Sample ID: 410-2632-9

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

Operator ID: JKH09052

ALS Bottle#: 24

Worklist Smp#: 25

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

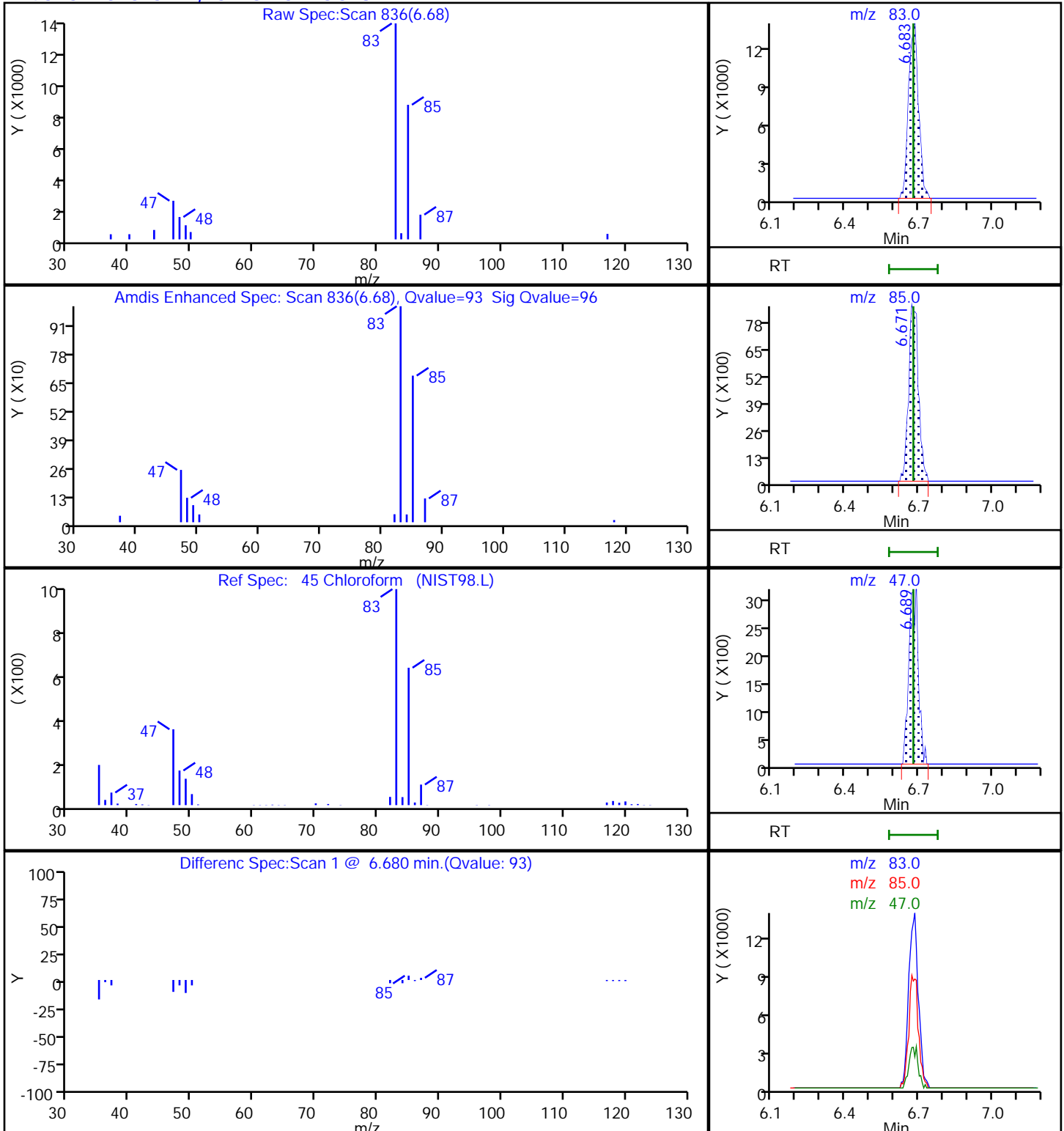
Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector

MS Quad

45 Chloroform, CAS: 67-66-3



Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s19.D

Injection Date: 02-Jun-2020 16:15:30

Instrument ID: 19930

Lims ID: 410-2632-A-9

Lab Sample ID: 410-2632-9

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

Operator ID: JKH09052

ALS Bottle#: 24

Worklist Smp#: 25

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

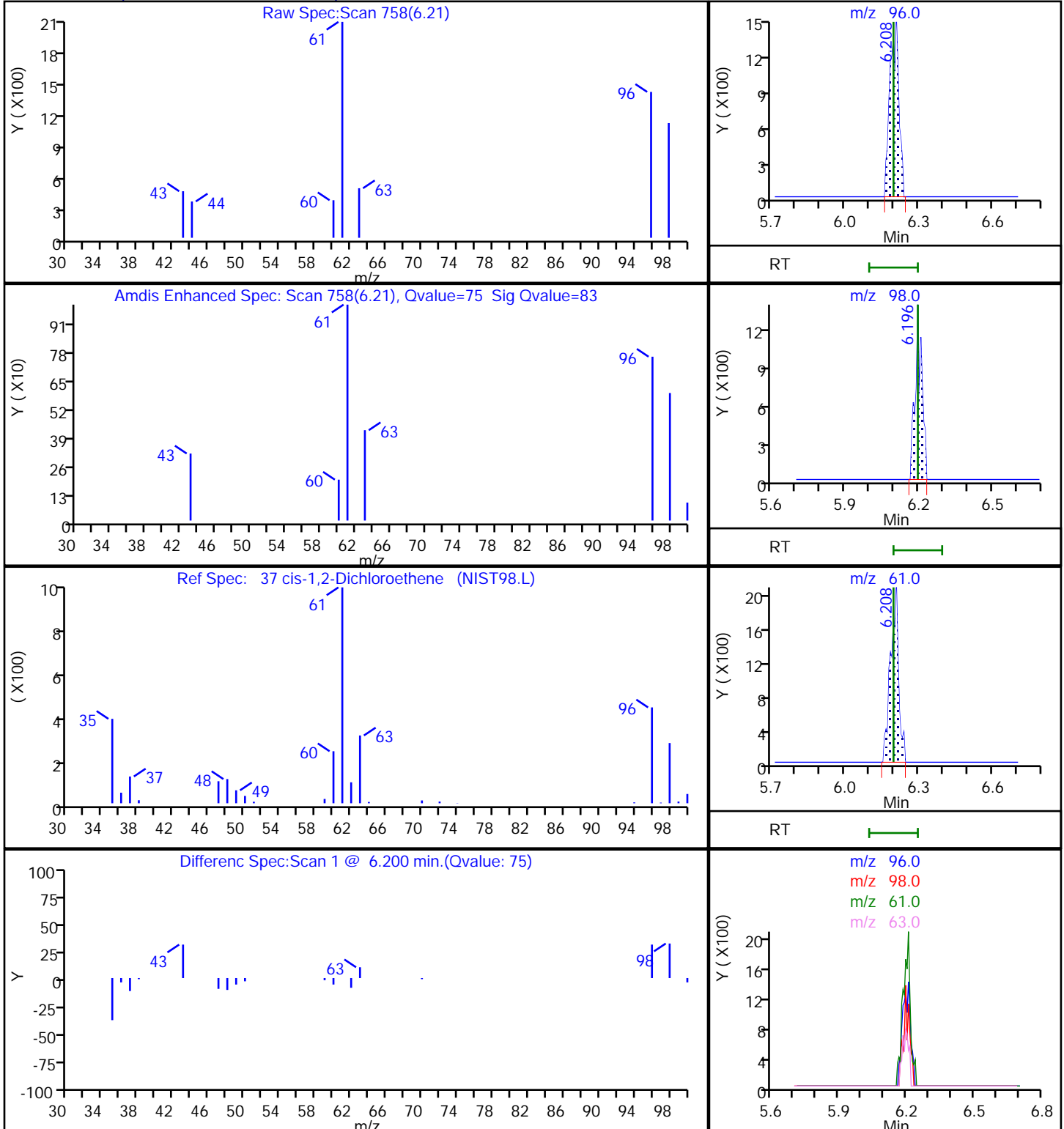
Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector

MS Quad

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



Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s19.D

Injection Date: 02-Jun-2020 16:15:30

Instrument ID: 19930

Lims ID: 410-2632-A-9

Lab Sample ID: 410-2632-9

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

Operator ID: JKH09052

ALS Bottle#: 24

Worklist Smp#: 25

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

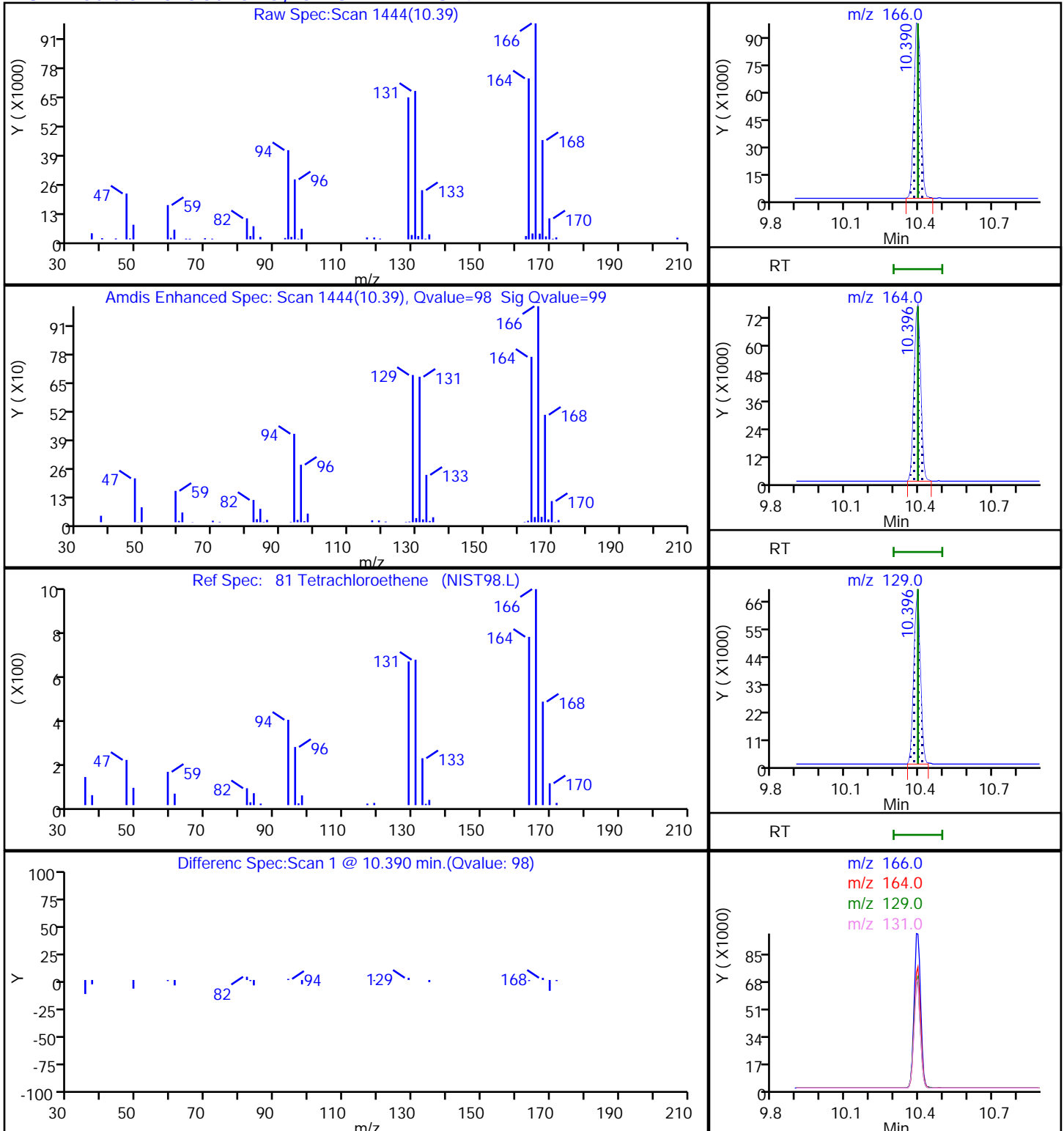
Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25mm ID)

MS Quad

81 Tetrachloroethene, CAS: 127-18-4

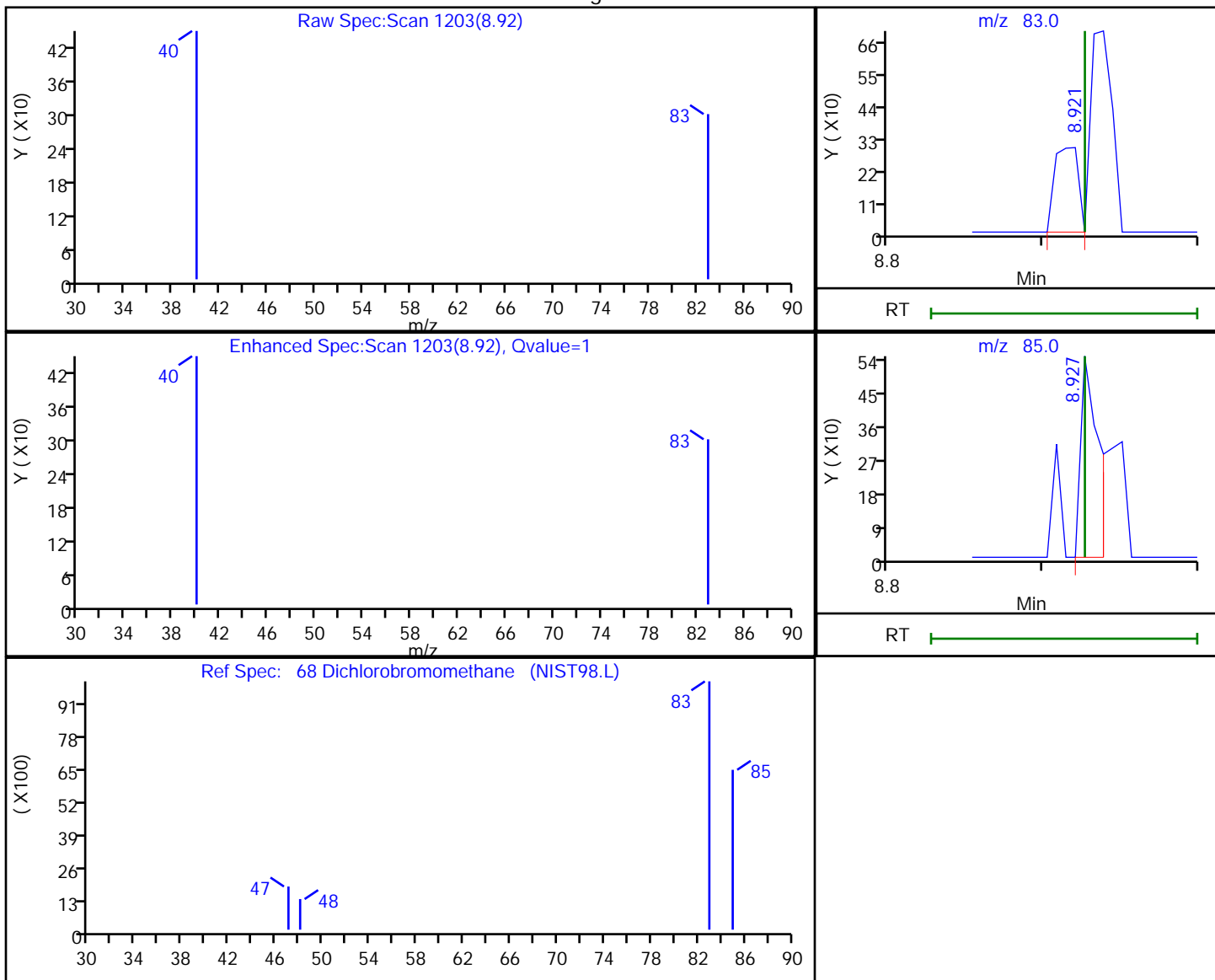


Euofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s19.D
Injection Date: 02-Jun-2020 16:15:30 Instrument ID: 19930
Lims ID: 410-2632-A-9 Lab Sample ID: 410-2632-9
Client ID: HD-COD-SW-26-0/1-0
Operator ID: JKH09052 ALS Bottle#: 24 Worklist Smp#: 25
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

68 Dichlorobromomethane, CAS: 75-27-4

Processing Results



RT	Mass	Response	Amount
8.92	83.00	314	0.005414
8.93	85.00	435	

Reviewer: howej, 03-Jun-2020 12:42:12

Audit Action: Marked Compound Undetected

Audit Reason: Invalid Compound ID

Eurofins Lancaster Laboratories Env, LLC

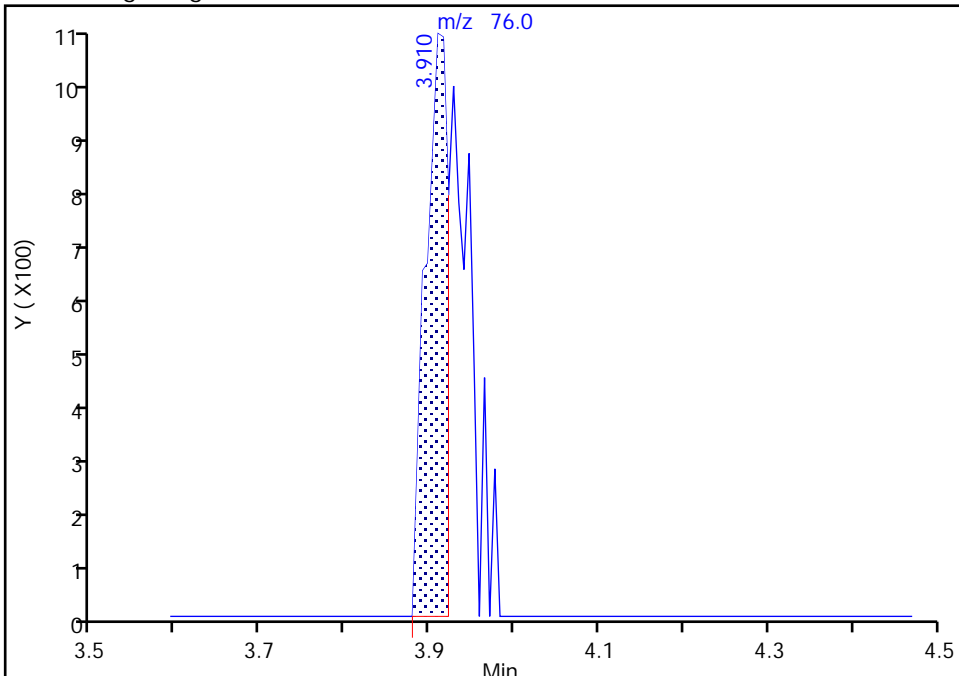
Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s19.D
Injection Date: 02-Jun-2020 16:15:30 Instrument ID: 19930
Lims ID: 410-2632-A-9 Lab Sample ID: 410-2632-9
Client ID: HD-COD-SW-26-0/1-0
Operator ID: JKH09052 ALS Bottle#: 24 Worklist Smp#: 25
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

19 Carbon disulfide, CAS: 75-15-0

Signal: 1

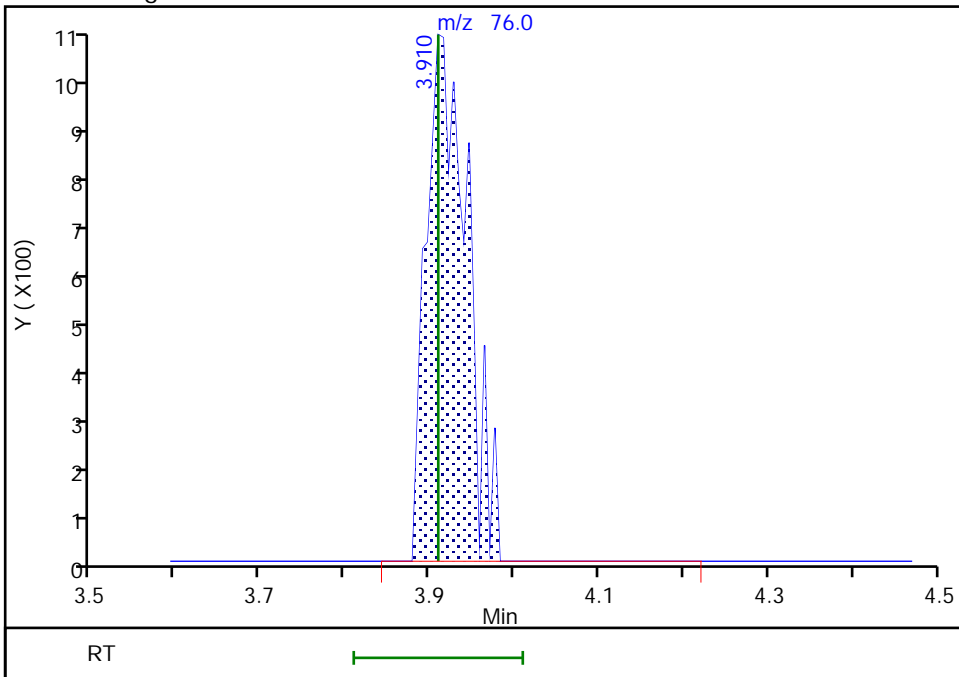
RT: 3.91
Area: 1835
Amount: 0.015628
Amount Units: ug/l

Processing Integration Results



RT: 3.91
Area: 3337
Amount: 0.028420
Amount Units: ug/l

Manual Integration Results



Reviewer: howej, 03-Jun-2020 12:41:55
Audit Action: Manually Integrated

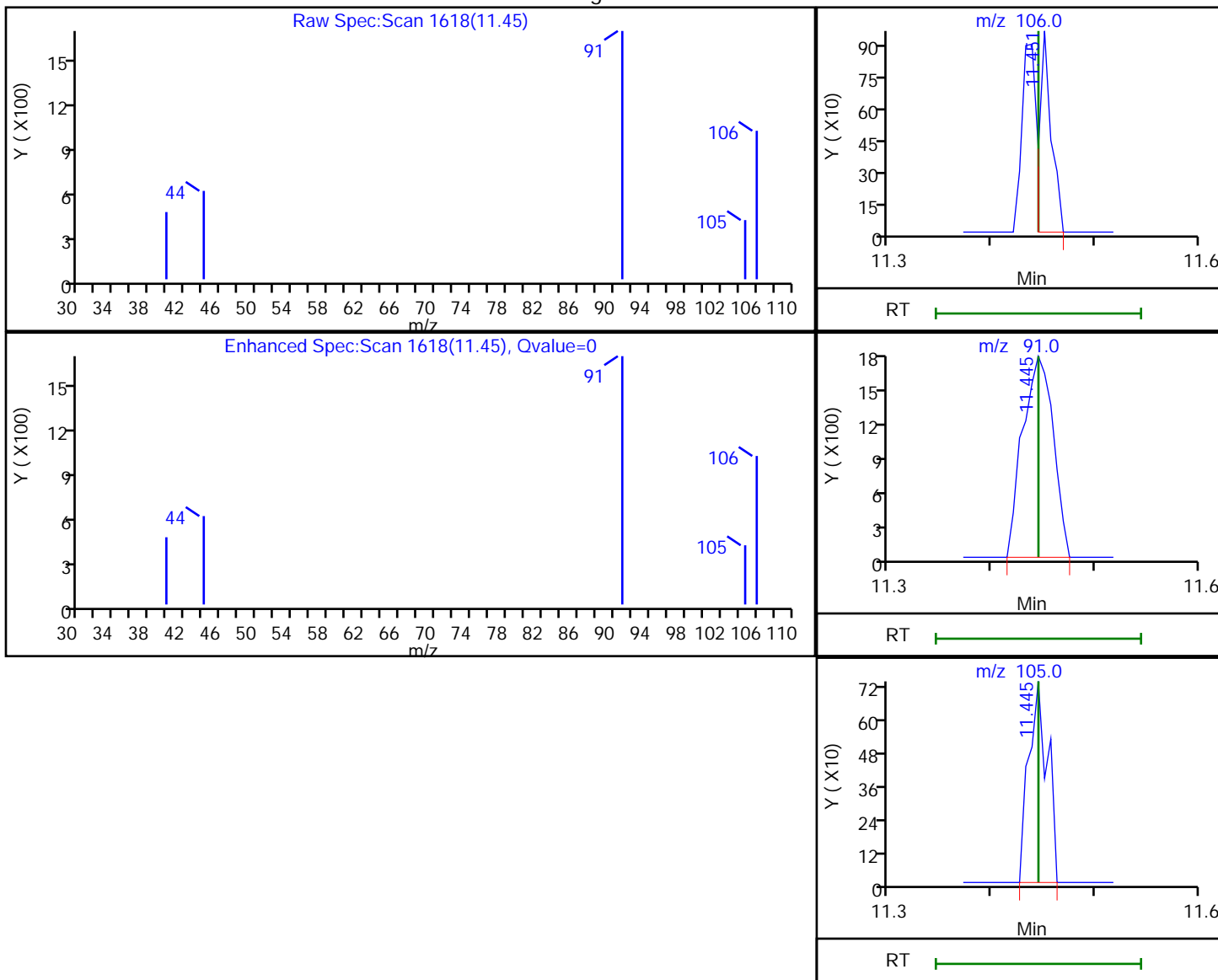
Audit Reason: Other
Page 290 of 519

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s19.D
 Injection Date: 02-Jun-2020 16:15:30 Instrument ID: 19930
 Lims ID: 410-2632-A-9 Lab Sample ID: 410-2632-9
 Client ID: HD-COD-SW-26-0/1-0
 Operator ID: JKH09052 ALS Bottle#: 24 Worklist Smp#: 25
 Purge Vol: 25.000 mL Dil. Factor: 1.0000
 Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
 Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

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

Processing Results



RT	Mass	Response	Amount
11.45	106.00	764	0.008180
11.44	91.00	3630	
11.44	105.00	942	
11.44	77.00	0	

Reviewer: howej, 03-Jun-2020 12:42:23

Audit Action: Marked Compound Undetected

Audit Reason: Invalid Compound ID

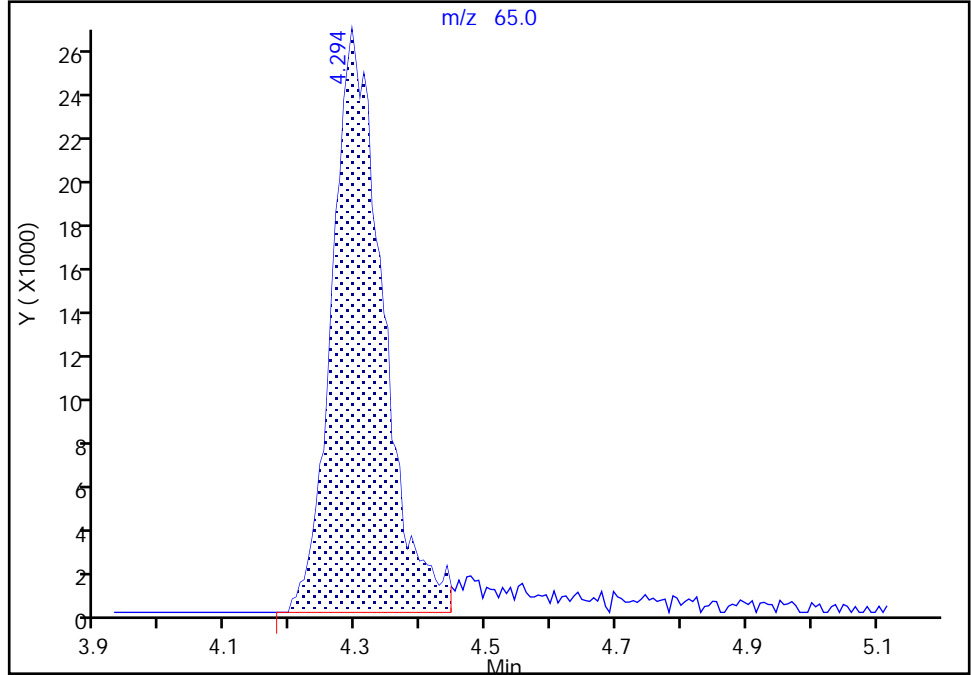
Euofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s19.D
Injection Date: 02-Jun-2020 16:15:30 Instrument ID: 19930
Lims ID: 410-2632-A-9 Lab Sample ID: 410-2632-9
Client ID: HD-COD-SW-26-0/1-0
Operator ID: JKH09052 ALS Bottle#: 24 Worklist Smp#: 25
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

* 24 t-Butyl alcohol-d10 (IS), CAS: 53001-22-2
Signal: 1

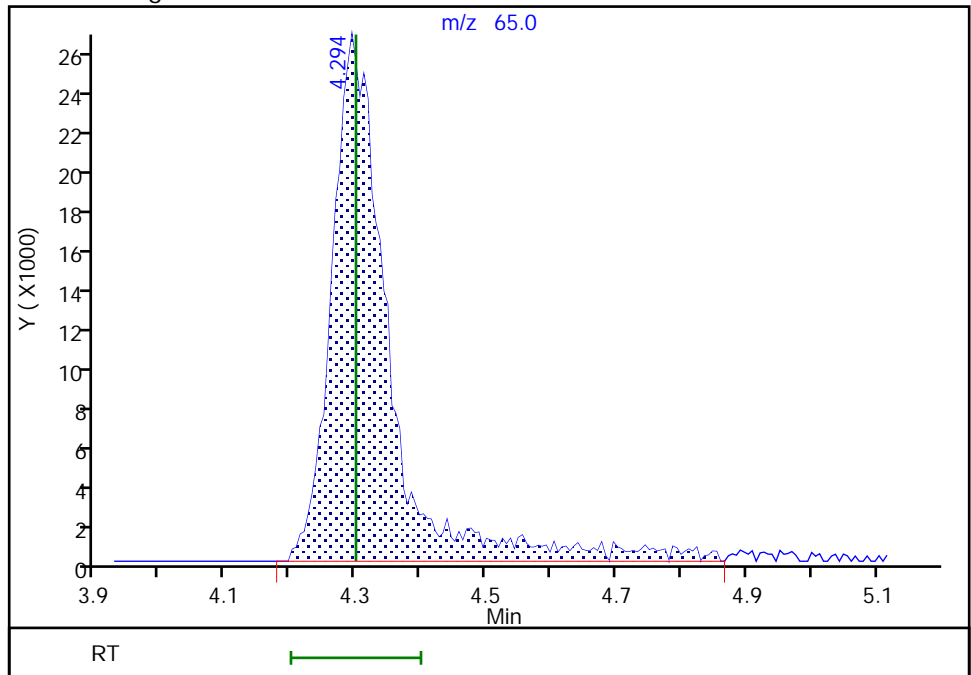
RT: 4.29
Area: 142193
Amount: 50.000000
Amount Units: ug/l

Processing Integration Results



RT: 4.29
Area: 159758
Amount: 50.000000
Amount Units: ug/l

Manual Integration Results



Reviewer: howej, 03-Jun-2020 12:42:00
Audit Action: Manually Integrated

Audit Reason: Other

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-2632-1
 SDG No.: _____
 Client Sample ID: HD-COD-SW-27-0/1-0 Lab Sample ID: 410-2632-10
 Matrix: Water Lab File ID: iU02s20.D
 Analysis Method: 8260C LL Date Collected: 05/26/2020 12:45
 Sample wt/vol: 25 (mL) Date Analyzed: 06/02/2020 16:36
 Soil Aliquot Vol: _____ Dilution Factor: 1
 Soil Extract Vol.: _____ GC Column: R-624SilMS 30m ID: 0.25 (mm)
 % Moisture: _____ Level: (low/med) Low
 Analysis Batch No.: 9922 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	ND		0.50	0.070
71-55-6	1,1,1-Trichloroethane	ND		0.50	0.060
79-34-5	1,1,2,2-Tetrachloroethane	ND		0.50	0.070
79-00-5	1,1,2-Trichloroethane	ND		0.50	0.060
75-34-3	1,1-Dichloroethane	ND		0.50	0.070
75-35-4	1,1-Dichloroethene	ND		0.50	0.060
106-93-4	1,2-Dibromoethane (EDB)	ND		0.50	0.060
107-06-2	1,2-Dichloroethane	ND		0.50	0.050
78-87-5	1,2-Dichloropropane	ND		0.50	0.060
78-93-3	2-Butanone (MEK)	ND		5.0	0.60
591-78-6	2-Hexanone	ND		5.0	0.60
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		5.0	0.70
67-64-1	Acetone	2.1	J	5.0	0.90
107-13-1	Acrylonitrile	ND		5.0	0.40
71-43-2	Benzene	ND		0.50	0.050
74-97-5	Bromochloromethane	ND		0.50	0.050
75-27-4	Bromodichloromethane	ND		0.50	0.050
75-25-2	Bromoform	ND		1.0	0.30
74-83-9	Bromomethane	ND		0.50	0.070
75-15-0	Carbon disulfide	0.086	J	1.0	0.060
56-23-5	Carbon tetrachloride	ND		0.50	0.070
108-90-7	Chlorobenzene	ND		0.50	0.060
75-00-3	Chloroethane	ND		0.50	0.070
67-66-3	Chloroform	ND		0.50	0.090
74-87-3	Chloromethane	0.075	J	0.50	0.060
156-59-2	cis-1,2-Dichloroethene	0.079	J	0.50	0.050
10061-01-5	cis-1,3-Dichloropropene	ND		0.50	0.050
124-48-1	Dibromochloromethane	ND		0.50	0.070
100-41-4	Ethylbenzene	ND		0.50	0.060
1634-04-4	Methyl tert-butyl ether	ND		0.50	0.050
75-09-2	Methylene Chloride	ND		0.50	0.070
100-42-5	Styrene	ND		0.50	0.050
127-18-4	Tetrachloroethene	0.079	J	0.50	0.060
108-88-3	Toluene	ND		0.50	0.070
156-60-5	trans-1,2-Dichloroethene	ND		0.50	0.060
10061-02-6	trans-1,3-Dichloropropene	ND		0.50	0.060

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-2632-1
 SDG No.: _____
 Client Sample ID: HD-COD-SW-27-0/1-0 Lab Sample ID: 410-2632-10
 Matrix: Water Lab File ID: iU02s20.D
 Analysis Method: 8260C LL Date Collected: 05/26/2020 12:45
 Sample wt/vol: 25 (mL) Date Analyzed: 06/02/2020 16:36
 Soil Aliquot Vol.: _____ Dilution Factor: 1
 Soil Extract Vol.: _____ GC Column: R-624SilMS 30m ID: 0.25 (mm)
 % Moisture: _____ Level: (low/med) Low
 Analysis Batch No.: 9922 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
79-01-6	Trichloroethene	ND		0.50	0.060
75-01-4	Vinyl chloride	ND		0.50	0.10
1330-20-7	Xylenes, Total	ND		1.0	0.15

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	107		80-120
1868-53-7	Dibromofluoromethane (Surr)	103		80-120
2037-26-5	Toluene-d8 (Surr)	98		80-120
460-00-4	4-Bromofluorobenzene (Surr)	97		80-120

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s20.D
 Lims ID: 410-2632-A-10
 Client ID: HD-COD-SW-27-0/1-0
 Sample Type: Client
 Inject. Date: 02-Jun-2020 16:36:30 ALS Bottle#: 25 Worklist Smp#: 26
 Purge Vol: 25.000 mL Dil. Factor: 1.0000
 Sample Info: 410-0002623-026
 Misc. Info.: 410-2632-A-10
 Operator ID: JKH09052 Instrument ID: 19930
 Method: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\8260 25ml HP31.m
 Limit Group: MSV - 8260C_D
 Last Update: 03-Jun-2020 12:53:08 Calib Date: 16-Mar-2020 18:31:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\IM16107.D
 Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
 Process Host: CTX1046

First Level Reviewer: howej

Date: 03-Jun-2020 12:43:03

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
4 Chloromethane	50	2.184	2.190	-0.006	57	4991	0.0755	
5 Vinyl chloride	62		2.300				ND	
7 Bromomethane	94		2.642				ND	
8 Chloroethane	64		2.727				ND	
14 1,1-Dichloroethene	96		3.599				ND	
15 Acetone	43	3.629	3.629	0.000	99	16804	2.14	
19 Carbon disulfide	76	3.910	3.910	0.000	97	9894	0.0857	M
23 Methylene Chloride	84		4.288				ND	
* 24 t-Butyl alcohol-d10 (IS)	65	4.288	4.300	-0.012	0	158452	50.0	
26 Acrylonitrile	53		4.623				ND	
27 Methyl tert-butyl ether	73		4.696				ND	
28 trans-1,2-Dichloroethene	96		4.702				ND	
31 1,1-Dichloroethane	63		5.367				ND	
36 2-Butanone (MEK)	43		6.165				ND	
37 cis-1,2-Dichloroethene	96	6.208	6.196	0.012	82	3843	0.0789	
43 Chlorobromomethane	128		6.525				ND	
45 Chloroform	83		6.677				ND	
\$ 46 Dibromofluoromethane (Surr)	113	6.891	6.885	0.006	93	373792	10.3	
47 1,1,1-Trichloroethane	97		6.903				ND	
50 Carbon tetrachloride	117		7.110				ND	
\$ 53 1,2-Dichloroethane-d4 (Surr)	102	7.342	7.342	0.000	0	79064	10.7	
54 Benzene	78		7.378				ND	
56 1,2-Dichloroethane	62		7.452				ND	
* 58 Fluorobenzene (IS)	96	7.781	7.775	0.006	99	1509521	10.0	
61 Trichloroethene	95		8.256				ND	
63 1,2-Dichloropropane	63		8.586				ND	
68 Dichlorobromomethane	83		8.927				ND	
73 cis-1,3-Dichloropropene	75		9.470				ND	
74 4-Methyl-2-pentanone (MIBK)	43		9.634				ND	U
\$ 75 Toluene-d8 (Surr)	98	9.774	9.774	0.000	94	1489550	9.81	
76 Toluene	92	9.854	9.854	0.000	98	7619	0.0628	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
78 trans-1,3-Dichloropropene	75		10.104				ND	
80 1,1,2-Trichloroethane	97		10.305				ND	
81 Tetrachloroethene	166	10.390	10.396	-0.006	90	4579	0.0790	
83 2-Hexanone	43		10.512				ND	U
85 Chlorodibromomethane	129		10.683				ND	
86 Ethylene Dibromide	107		10.792				ND	
* 87 Chlorobenzene-d5 (IS)	117	11.219	11.219	0.000	86	1194229	10.0	
90 Chlorobenzene	112		11.244				ND	
S 89 Xylenes, Total	106				0		0.0371	
91 1,1,1,2-Tetrachloroethane	131		11.323				ND	
92 Ethylbenzene	91	11.329	11.329	0.000	1	1763	0.007404	
93 m-Xylene & p-Xylene	106	11.439	11.445	-0.006	0	2522	0.0270	
94 o-Xylene	106	11.768	11.768	0.000	90	927	0.0100	
95 Styrene	104		11.786				ND	U
96 Bromoform	173		11.945				ND	
\$ 100 4-Bromofluorobenzene (Surr)	95	12.213	12.213	0.000	93	550304	9.71	
101 1,1,2,2-Tetrachloroethane	83		12.310				ND	
* 115 1,4-Dichlorobenzene-d4	152	13.091	13.091	0.000	95	656389	10.0	

QC Flag Legend

Review Flags

M - Manually Integrated

U - Marked Undetected

Reagents:

MSV_31_826ISS_00002

Amount Added: 5.00

Units: uL

Run Reagent

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s20.D

Injection Date: 02-Jun-2020 16:36:30

Instrument ID: 19930

Operator ID: JKH09052

Lims ID: 410-2632-A-10

Lab Sample ID: 410-2632-10

Worklist Smp#: 26

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

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

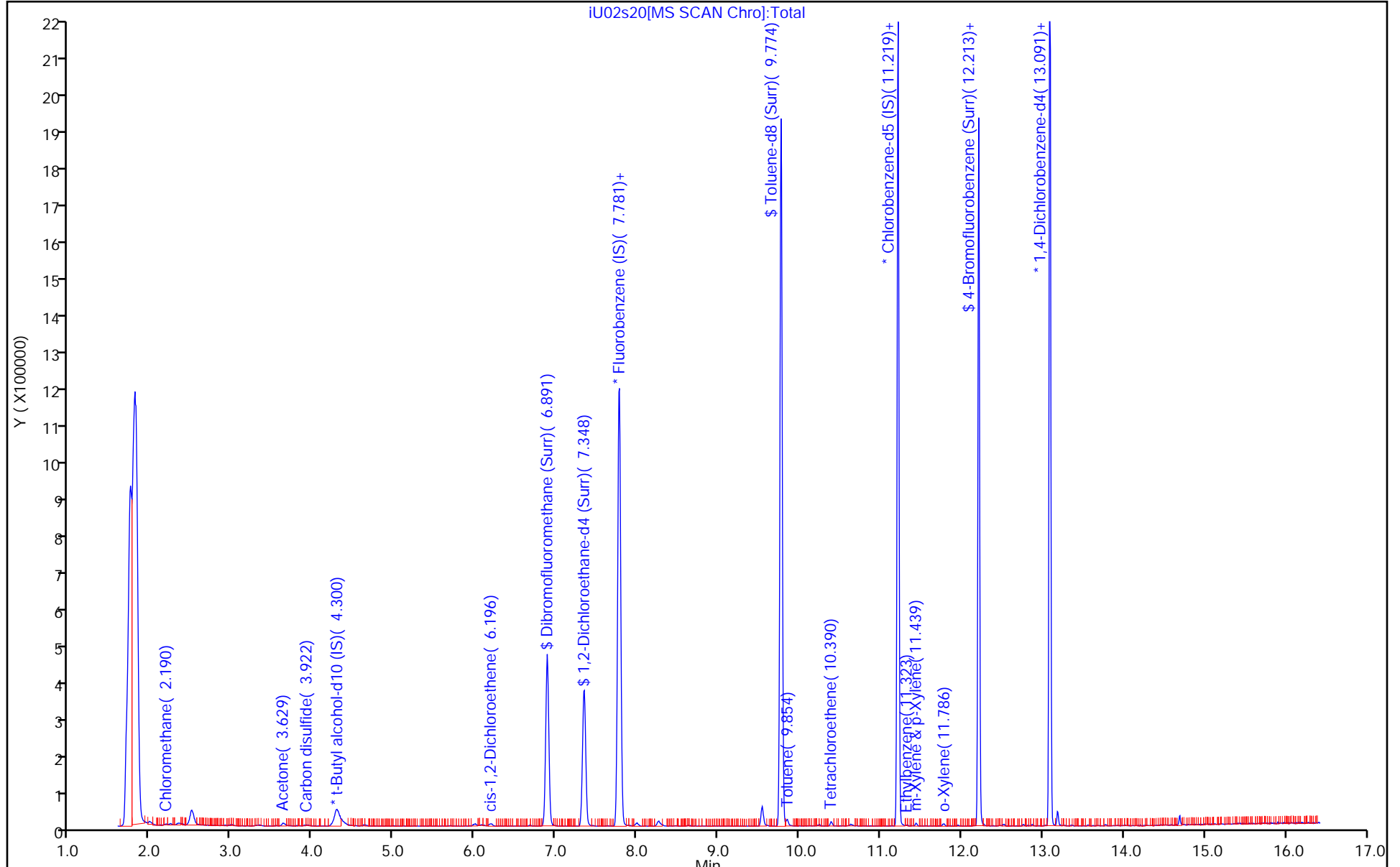
ALS Bottle#: 25

Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25 mm)

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Eurofins Lancaster Laboratories Env, LLC
Recovery Report

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s20.D
 Lims ID: 410-2632-A-10
 Client ID: HD-COD-SW-27-0/1-0
 Sample Type: Client
 Inject. Date: 02-Jun-2020 16:36:30 ALS Bottle#: 25 Worklist Smp#: 26
 Purge Vol: 25.000 mL Dil. Factor: 1.0000
 Sample Info: 410-0002623-026
 Misc. Info.: 410-2632-A-10
 Operator ID: JKH09052 Instrument ID: 19930
 Method: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\8260 25ml HP31.m
 Limit Group: MSV - 8260C_D
 Last Update: 03-Jun-2020 12:53:08 Calib Date: 16-Mar-2020 18:31:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\IM16107.D
 Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
 Process Host: CTX1046

First Level Reviewer: howej Date: 03-Jun-2020 12:43:03

Compound	Amount Added	Amount Recovered	% Rec.
\$ 46 Dibromofluoromethane (Surr)	10.0	10.3	102.59
\$ 53 1,2-Dichloroethane-d4 (Surr)	10.0	10.7	107.09
\$ 75 Toluene-d8 (Surr)	10.0	9.81	98.09
\$ 100 4-Bromofluorobenzene (Surr)	10.0	9.71	97.11

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s20.D

Injection Date: 02-Jun-2020 16:36:30

Instrument ID: 19930

Lims ID: 410-2632-A-10

Lab Sample ID: 410-2632-10

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

Operator ID: JKH09052

ALS Bottle#: 25

Worklist Smp#: 26

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

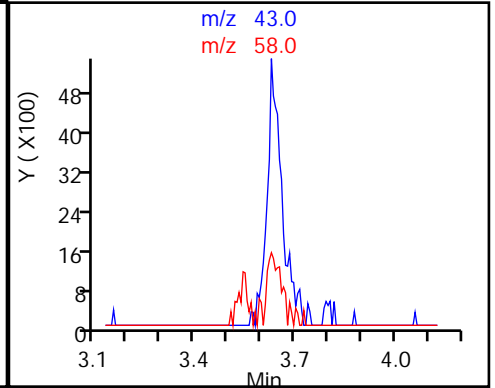
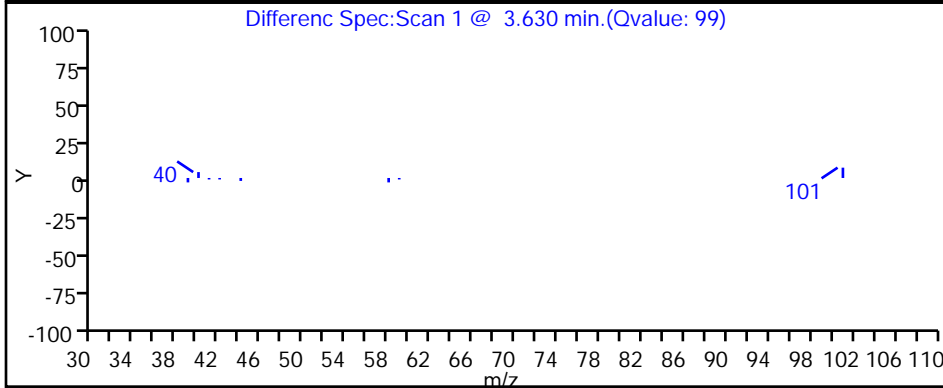
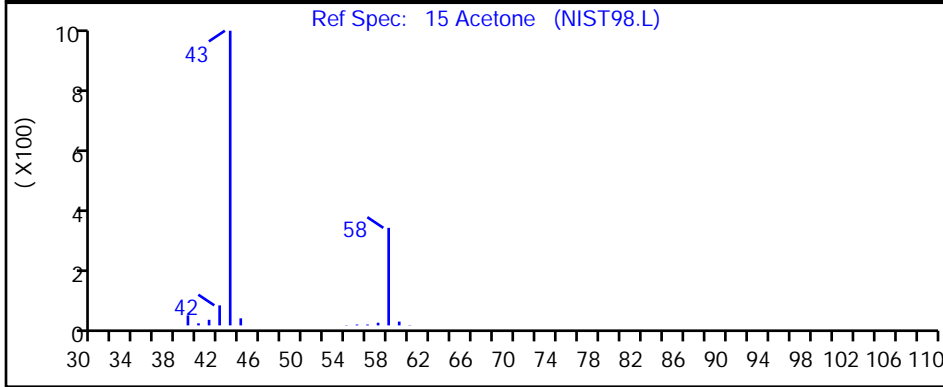
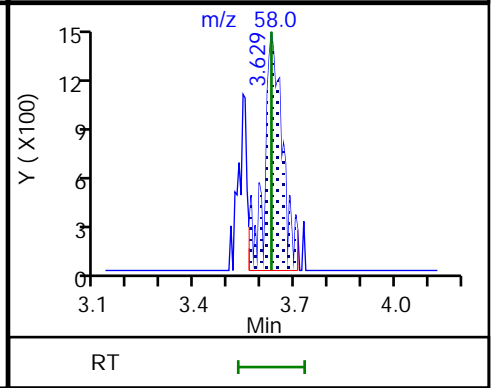
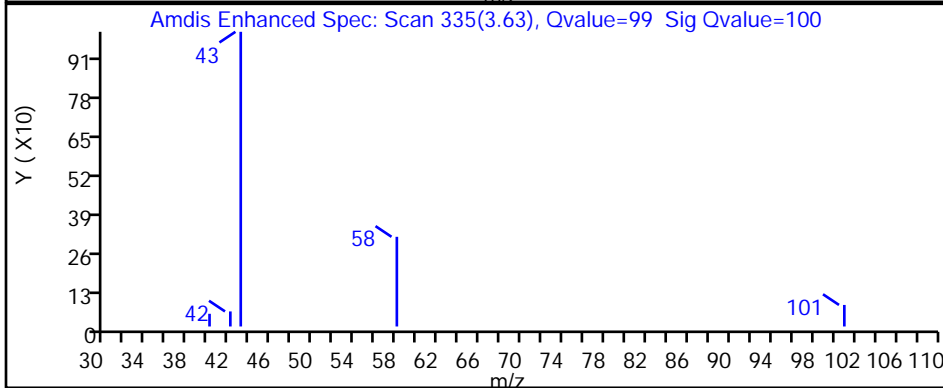
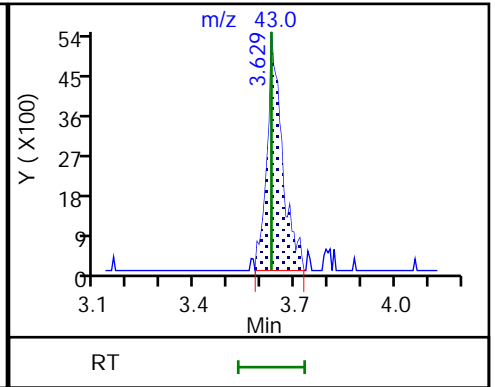
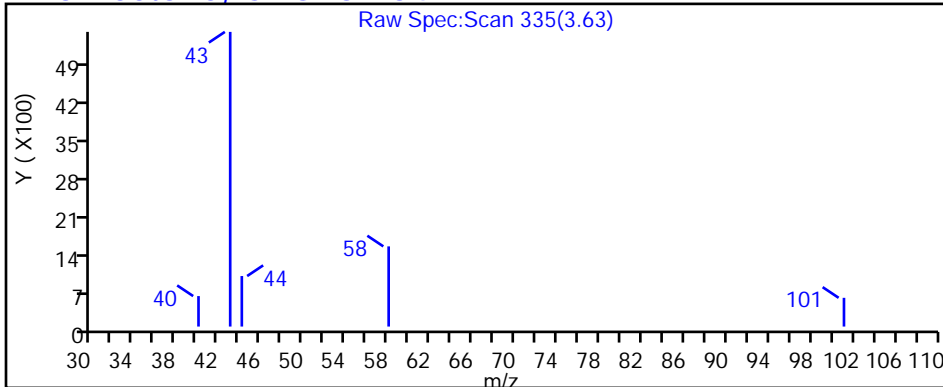
Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25mm ID)

MS Quad

15 Acetone, CAS: 67-64-1



Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s20.D

Injection Date: 02-Jun-2020 16:36:30

Instrument ID: 19930

Lims ID: 410-2632-A-10

Lab Sample ID: 410-2632-10

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

Operator ID: JKH09052

ALS Bottle#: 25

Worklist Smp#: 26

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

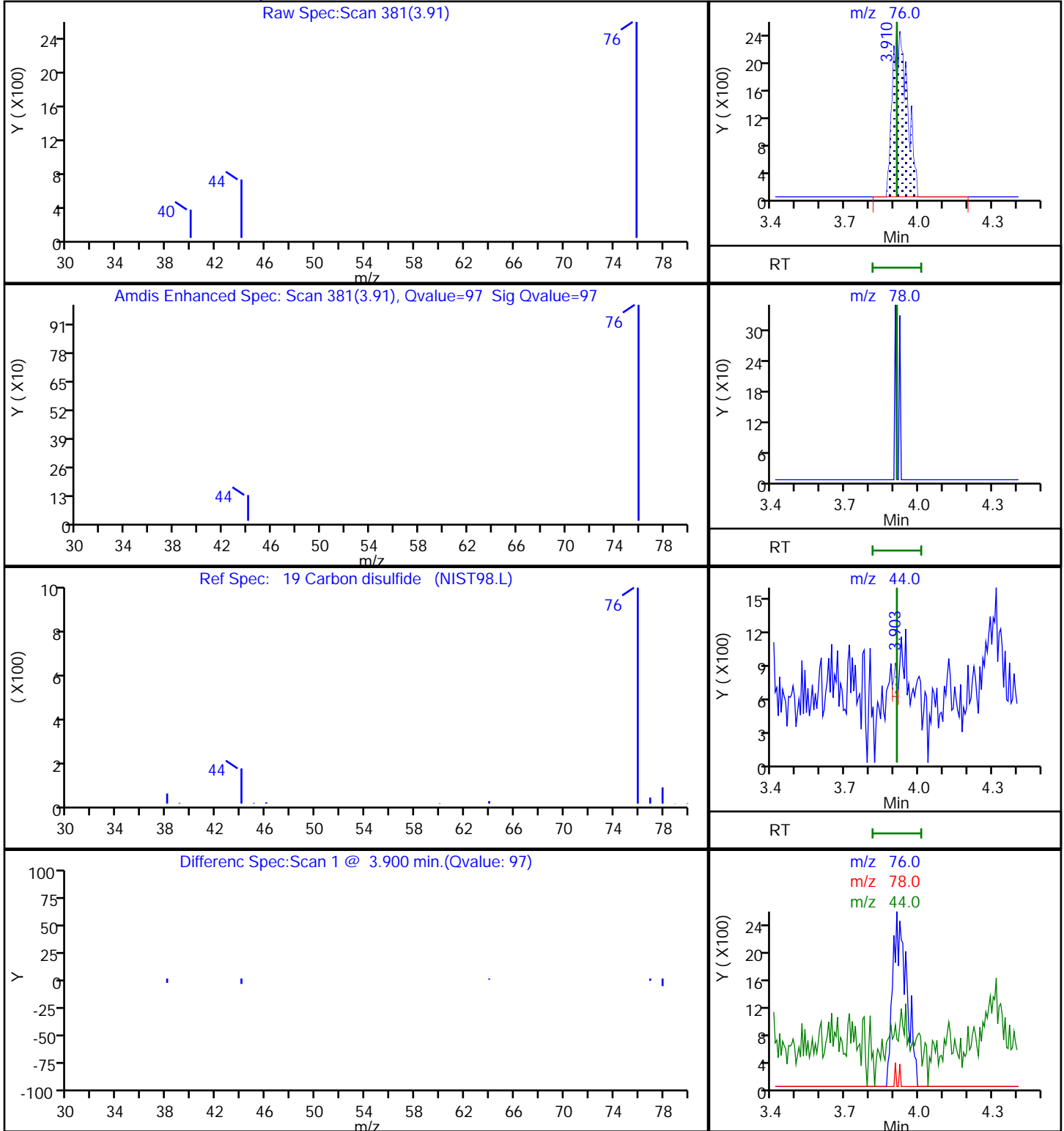
Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25mm ID)

MS Quad

19 Carbon disulfide, CAS: 75-15-0



Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s20.D

Injection Date: 02-Jun-2020 16:36:30

Instrument ID: 19930

Lims ID: 410-2632-A-10

Lab Sample ID: 410-2632-10

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

Operator ID: JKH09052

ALS Bottle#: 25

Worklist Smp#: 26

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

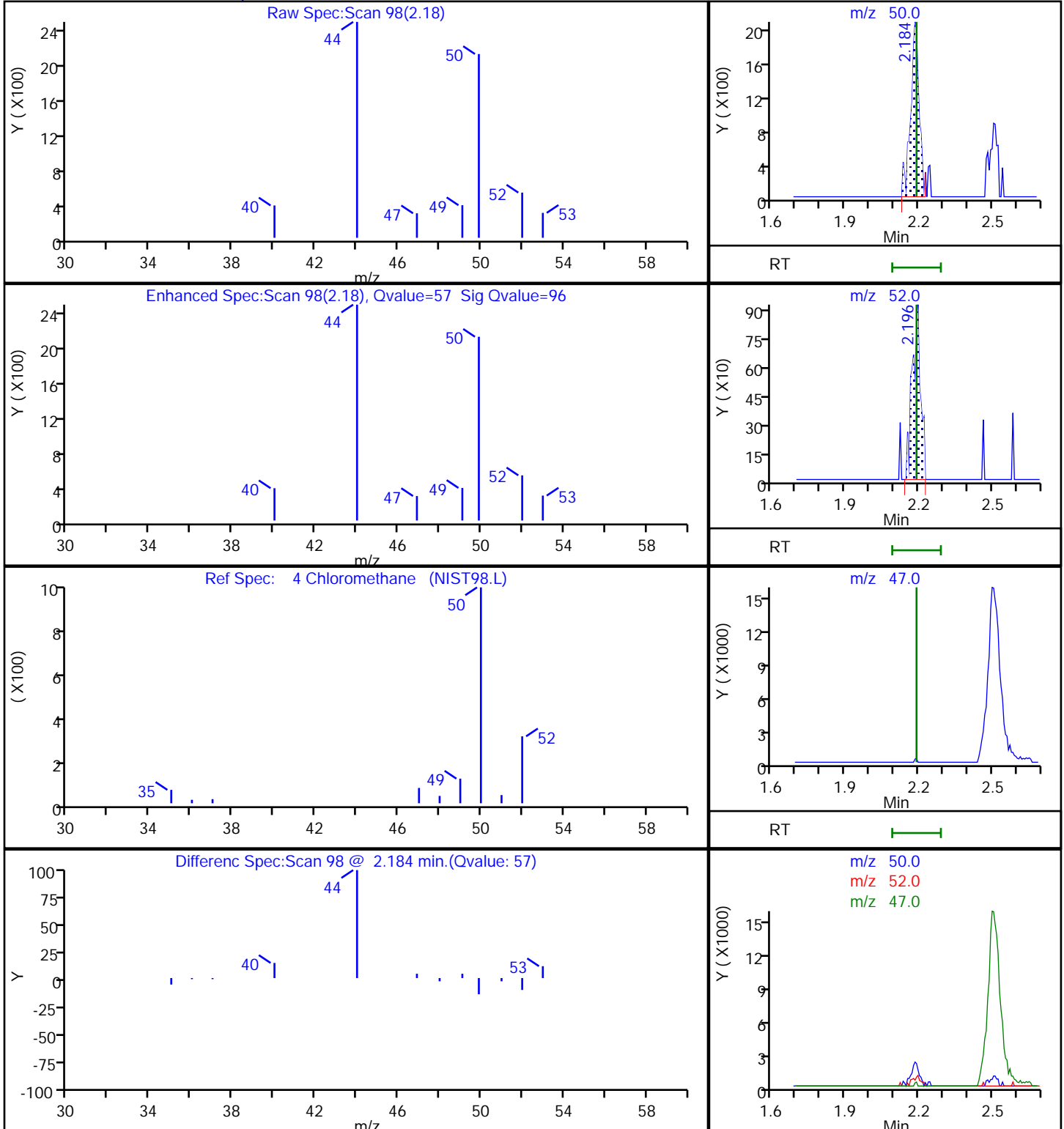
Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector

MS Quad

4 Chloromethane, CAS: 74-87-3



Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\U02s20.D

Injection Date: 02-Jun-2020 16:36:30

Instrument ID: 19930

Lims ID: 410-2632-A-10

Lab Sample ID: 410-2632-10

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

Operator ID: JKH09052

ALS Bottle#: 25

Worklist Smp#: 26

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

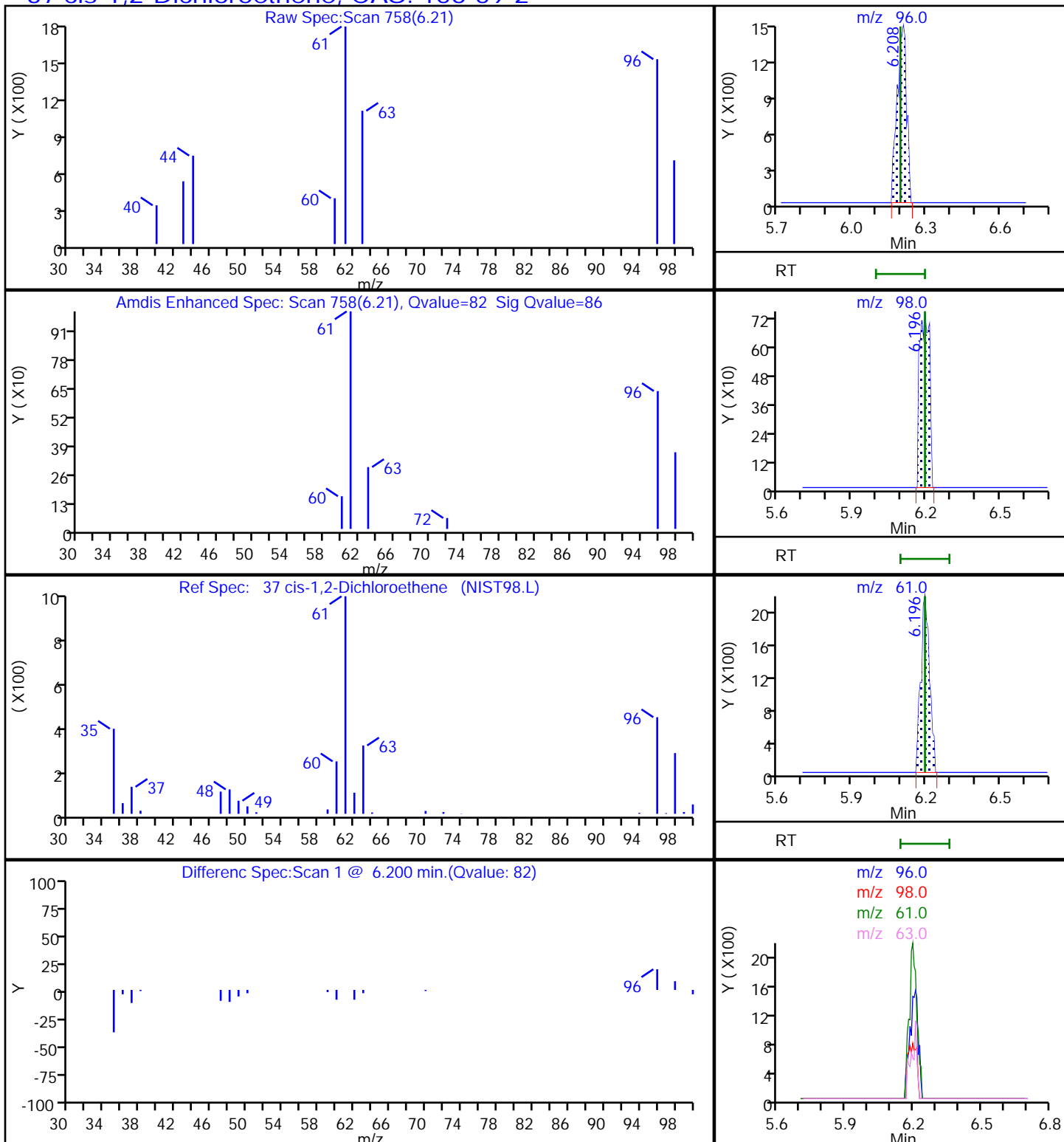
Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector

MS Quad

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



Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\U02s20.D

Injection Date: 02-Jun-2020 16:36:30

Instrument ID: 19930

Lims ID: 410-2632-A-10

Lab Sample ID: 410-2632-10

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

Operator ID: JKH09052

ALS Bottle#: 25

Worklist Smp#: 26

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

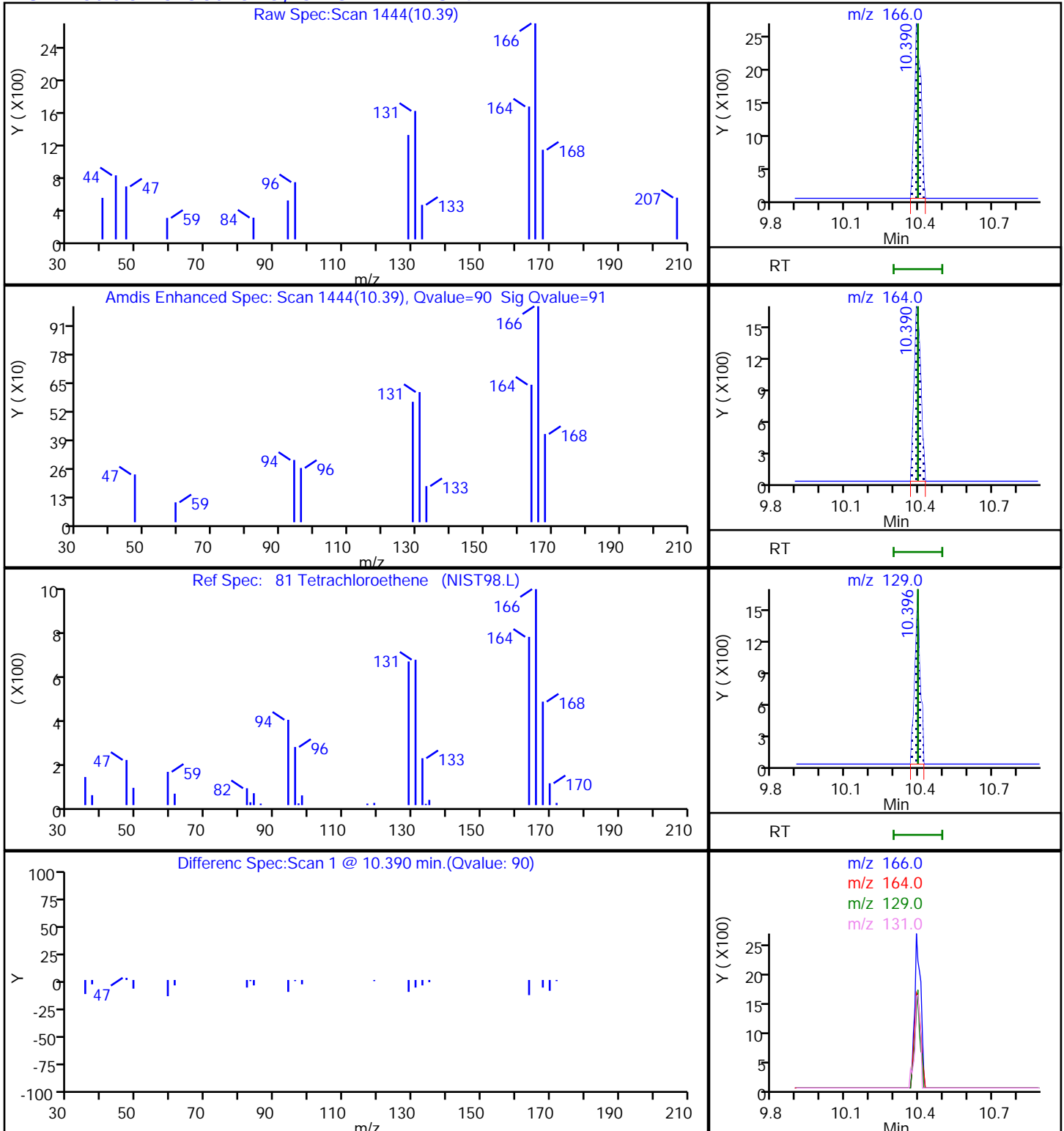
Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25mm ID)

MS Quad

81 Tetrachloroethene, CAS: 127-18-4

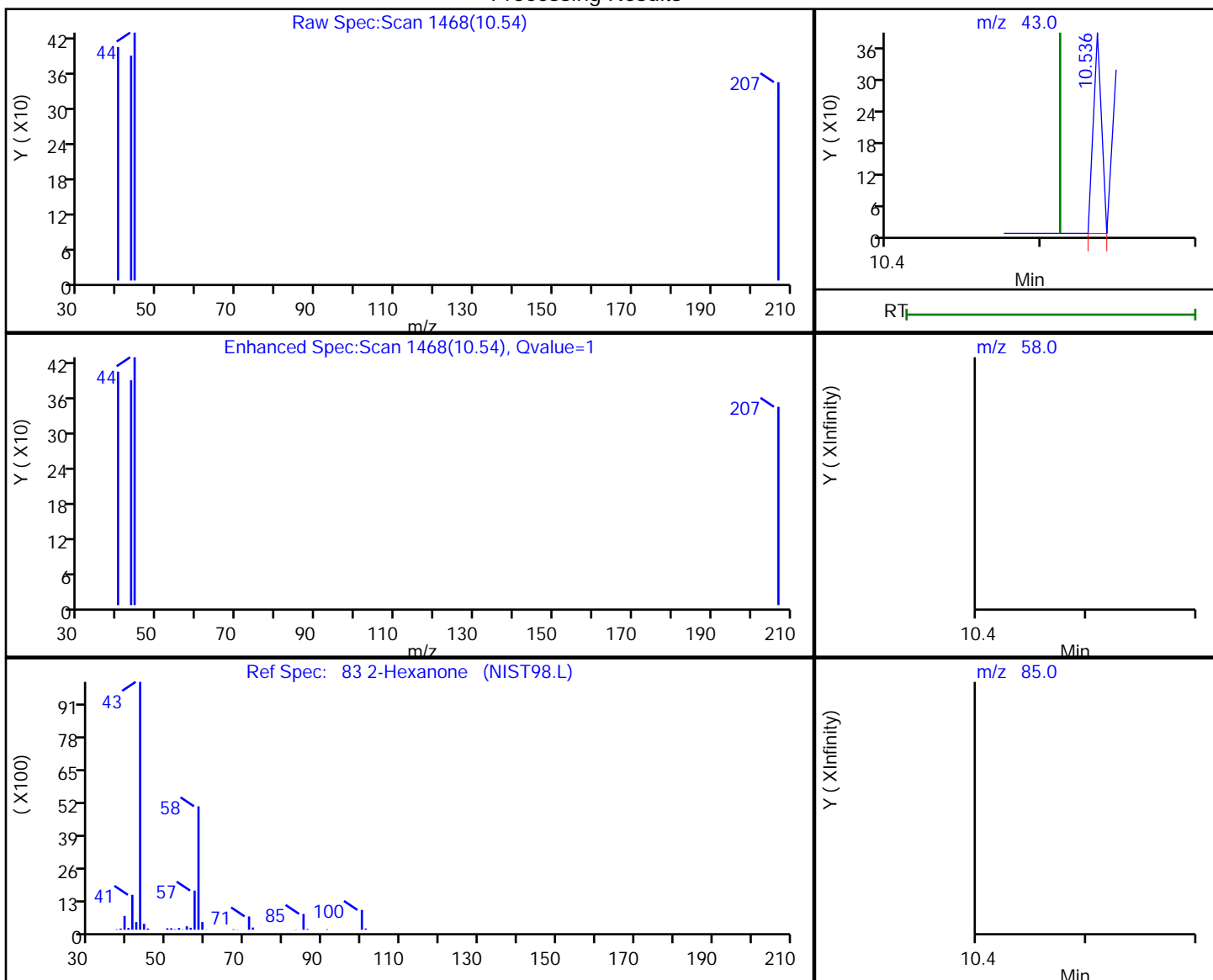


Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s20.D
 Injection Date: 02-Jun-2020 16:36:30 Instrument ID: 19930
 Lims ID: 410-2632-A-10 Lab Sample ID: 410-2632-10
 Client ID: HD-COD-SW-27-0/1-0
 Operator ID: JKH09052 ALS Bottle#: 25 Worklist Smp#: 26
 Purge Vol: 25.000 mL Dil. Factor: 1.0000
 Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
 Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

83 2-Hexanone, CAS: 591-78-6

Processing Results



RT	Mass	Response	Amount
10.54	43.00	143	0.006037
10.51	58.00	0	
10.51	85.00	0	
10.51	100.00	0	

Reviewer: howej, 03-Jun-2020 12:42:52

Audit Action: Marked Compound Undetected

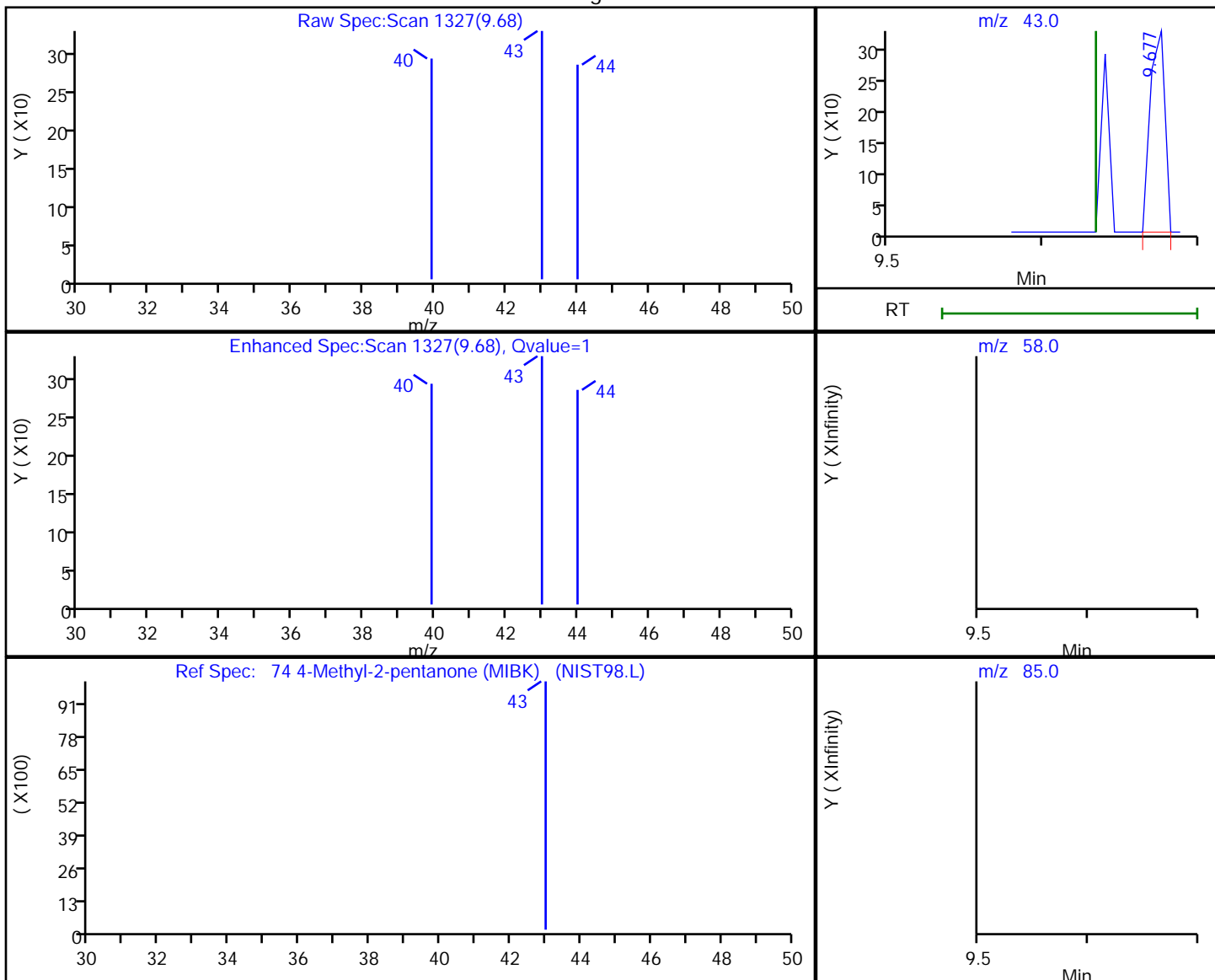
Audit Reason: Invalid Compound ID

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s20.D
 Injection Date: 02-Jun-2020 16:36:30 Instrument ID: 19930
 Lims ID: 410-2632-A-10 Lab Sample ID: 410-2632-10
 Client ID: HD-COD-SW-27-0/1-0
 Operator ID: JKH09052 ALS Bottle#: 25 Worklist Smp#: 26
 Purge Vol: 25.000 mL Dil. Factor: 1.0000
 Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
 Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

74 4-Methyl-2-pentanone (MIBK), CAS: 108-10-1

Processing Results



RT	Mass	Response	Amount
9.68	43.00	215	0.006275
9.63	58.00	0	
9.63	85.00	0	
9.63	100.00	0	

Reviewer: howej, 03-Jun-2020 12:42:47

Audit Action: Marked Compound Undetected

Audit Reason: Invalid Compound ID

Eurofins Lancaster Laboratories Env, LLC

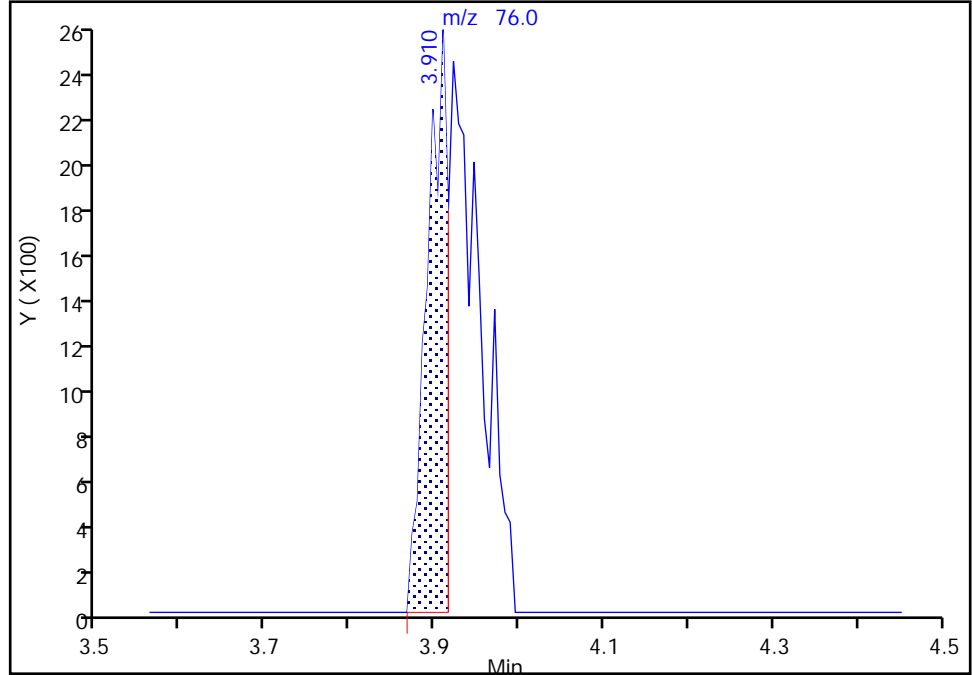
Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s20.D
Injection Date: 02-Jun-2020 16:36:30 Instrument ID: 19930
Lims ID: 410-2632-A-10 Lab Sample ID: 410-2632-10
Client ID: HD-COD-SW-27-0/1-0
Operator ID: JKH09052 ALS Bottle#: 25 Worklist Smp#: 26
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

19 Carbon disulfide, CAS: 75-15-0

Signal: 1

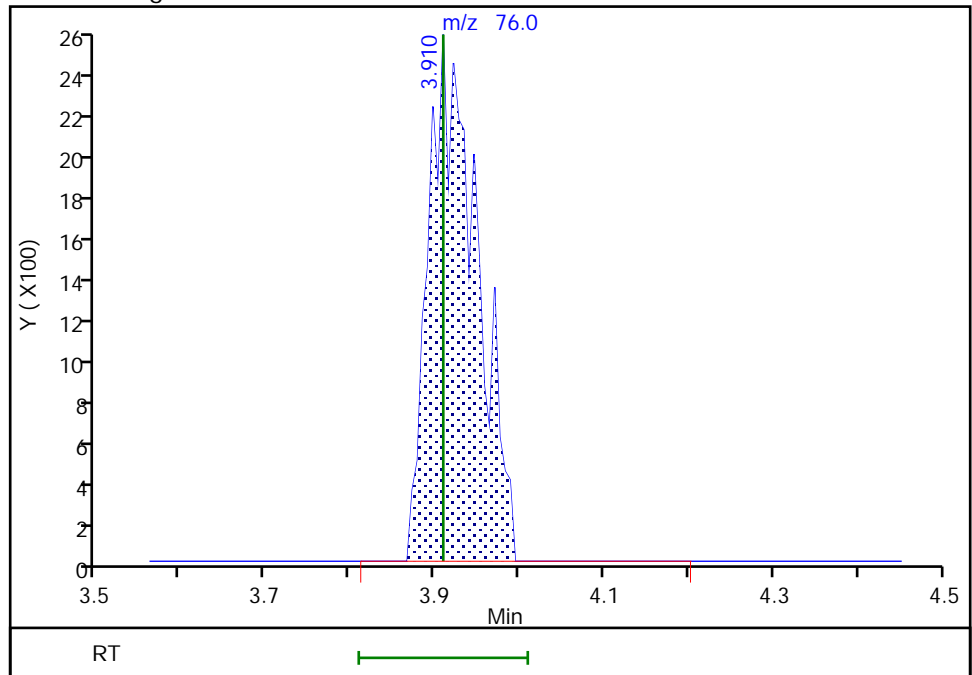
RT: 3.91
Area: 4243
Amount: 0.036760
Amount Units: ug/l

Processing Integration Results



RT: 3.91
Area: 9894
Amount: 0.085719
Amount Units: ug/l

Manual Integration Results



Reviewer: howej, 03-Jun-2020 12:42:38
Audit Action: Manually Integrated

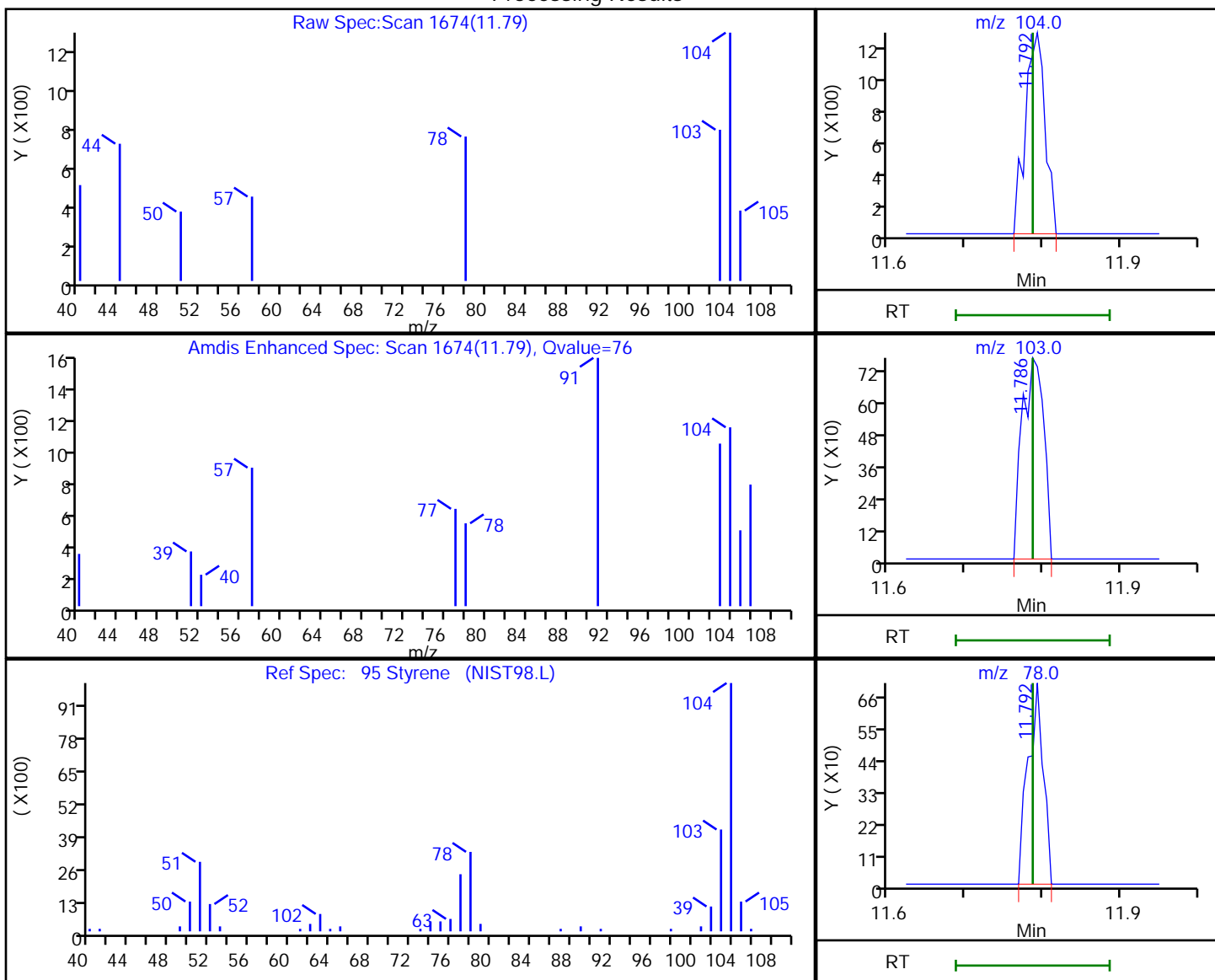
Audit Reason: Other

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s20.D
 Injection Date: 02-Jun-2020 16:36:30 Instrument ID: 19930
 Lims ID: 410-2632-A-10 Lab Sample ID: 410-2632-10
 Client ID: HD-COD-SW-27-0/1-0
 Operator ID: JKH09052 ALS Bottle#: 25 Worklist Smp#: 26
 Purge Vol: 25.000 mL Dil. Factor: 1.0000
 Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
 Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

95 Styrene, CAS: 100-42-5

Processing Results



RT	Mass	Response	Amount
11.79	104.00	2139	0.014496
11.79	103.00	1488	
11.79	78.00	961	
11.79	77.00	377	

Reviewer: howej, 03-Jun-2020 12:42:59

Audit Action: Marked Compound Undetected

Audit Reason: Invalid Compound ID

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-2632-1
 SDG No.: _____
 Client Sample ID: HD-COD-SW-28-0/1-0 Lab Sample ID: 410-2632-11
 Matrix: Water Lab File ID: iU02s21.D
 Analysis Method: 8260C LL Date Collected: 05/26/2020 13:45
 Sample wt/vol: 25 (mL) Date Analyzed: 06/02/2020 16:58
 Soil Aliquot Vol: _____ Dilution Factor: 1
 Soil Extract Vol.: _____ GC Column: R-624SilMS 30m ID: 0.25 (mm)
 % Moisture: _____ Level: (low/med) Low
 Analysis Batch No.: 9922 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	ND		0.50	0.070
71-55-6	1,1,1-Trichloroethane	ND		0.50	0.060
79-34-5	1,1,2,2-Tetrachloroethane	ND		0.50	0.070
79-00-5	1,1,2-Trichloroethane	ND		0.50	0.060
75-34-3	1,1-Dichloroethane	ND		0.50	0.070
75-35-4	1,1-Dichloroethene	ND		0.50	0.060
106-93-4	1,2-Dibromoethane (EDB)	ND		0.50	0.060
107-06-2	1,2-Dichloroethane	ND		0.50	0.050
78-87-5	1,2-Dichloropropane	ND		0.50	0.060
78-93-3	2-Butanone (MEK)	ND		5.0	0.60
591-78-6	2-Hexanone	ND		5.0	0.60
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		5.0	0.70
67-64-1	Acetone	2.7	J	5.0	0.90
107-13-1	Acrylonitrile	ND		5.0	0.40
71-43-2	Benzene	ND		0.50	0.050
74-97-5	Bromochloromethane	ND		0.50	0.050
75-27-4	Bromodichloromethane	ND		0.50	0.050
75-25-2	Bromoform	ND		1.0	0.30
74-83-9	Bromomethane	ND		0.50	0.070
75-15-0	Carbon disulfide	0.070	J	1.0	0.060
56-23-5	Carbon tetrachloride	ND		0.50	0.070
108-90-7	Chlorobenzene	ND		0.50	0.060
75-00-3	Chloroethane	ND		0.50	0.070
67-66-3	Chloroform	ND		0.50	0.090
74-87-3	Chloromethane	ND		0.50	0.060
156-59-2	cis-1,2-Dichloroethene	0.085	J	0.50	0.050
10061-01-5	cis-1,3-Dichloropropene	ND		0.50	0.050
124-48-1	Dibromochloromethane	ND		0.50	0.070
100-41-4	Ethylbenzene	ND		0.50	0.060
1634-04-4	Methyl tert-butyl ether	ND		0.50	0.050
75-09-2	Methylene Chloride	ND		0.50	0.070
100-42-5	Styrene	ND		0.50	0.050
127-18-4	Tetrachloroethene	0.13	J	0.50	0.060
108-88-3	Toluene	0.098	J	0.50	0.070
156-60-5	trans-1,2-Dichloroethene	ND		0.50	0.060
10061-02-6	trans-1,3-Dichloropropene	ND		0.50	0.060

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-2632-1
 SDG No.: _____
 Client Sample ID: HD-COD-SW-28-0/1-0 Lab Sample ID: 410-2632-11
 Matrix: Water Lab File ID: iU02s21.D
 Analysis Method: 8260C LL Date Collected: 05/26/2020 13:45
 Sample wt/vol: 25 (mL) Date Analyzed: 06/02/2020 16:58
 Soil Aliquot Vol.: _____ Dilution Factor: 1
 Soil Extract Vol.: _____ GC Column: R-624SilMS 30m ID: 0.25 (mm)
 % Moisture: _____ Level: (low/med) Low
 Analysis Batch No.: 9922 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
79-01-6	Trichloroethene	0.098	J	0.50	0.060
75-01-4	Vinyl chloride	ND		0.50	0.10
1330-20-7	Xylenes, Total	ND		1.0	0.15

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	104		80-120
1868-53-7	Dibromofluoromethane (Surr)	103		80-120
2037-26-5	Toluene-d8 (Surr)	98		80-120
460-00-4	4-Bromofluorobenzene (Surr)	98		80-120

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s21.D
 Lims ID: 410-2632-A-11
 Client ID: HD-COD-SW-28-0/1-0
 Sample Type: Client
 Inject. Date: 02-Jun-2020 16:58:30 ALS Bottle#: 26 Worklist Smp#: 27
 Purge Vol: 25.000 mL Dil. Factor: 1.0000
 Sample Info: 410-0002623-027
 Misc. Info.: 410-2632-A-11
 Operator ID: JKH09052 Instrument ID: 19930
 Method: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\8260 25ml HP31.m
 Limit Group: MSV - 8260C_D
 Last Update: 03-Jun-2020 12:53:08 Calib Date: 16-Mar-2020 18:31:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\IM16107.D
 Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
 Process Host: CTX1046

First Level Reviewer: howej

Date: 03-Jun-2020 12:43:43

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
4 Chloromethane	50	2.178	2.190	-0.012	1	2832	0.0438	
5 Vinyl chloride	62		2.300				ND	
7 Bromomethane	94		2.642				ND	
8 Chloroethane	64		2.727				ND	
14 1,1-Dichloroethene	96		3.599				ND	
15 Acetone	43	3.635	3.629	0.006	99	18787	2.65	
19 Carbon disulfide	76	3.922	3.910	0.012	53	7925	0.0703	M
23 Methylene Chloride	84		4.288				ND	
* 24 t-Butyl alcohol-d10 (IS)	65	4.294	4.300	-0.006	0	142650	50.0	M
26 Acrylonitrile	53		4.623				ND	
27 Methyl tert-butyl ether	73		4.696				ND	
28 trans-1,2-Dichloroethene	96		4.702				ND	
31 1,1-Dichloroethane	63		5.367				ND	
36 2-Butanone (MEK)	43		6.165				ND	
37 cis-1,2-Dichloroethene	96	6.190	6.196	-0.006	74	4027	0.0846	
43 Chlorobromomethane	128		6.525				ND	
45 Chloroform	83	6.677	6.677	0.000	89	3653	0.0484	
\$ 46 Dibromofluoromethane (Surr)	113	6.891	6.885	0.006	94	367403	10.3	
47 1,1,1-Trichloroethane	97		6.903				ND	
50 Carbon tetrachloride	117		7.110				ND	
\$ 53 1,2-Dichloroethane-d4 (Surr)	102	7.342	7.342	0.000	0	74878	10.4	
54 Benzene	78		7.378				ND	
56 1,2-Dichloroethane	62		7.452				ND	
* 58 Fluorobenzene (IS)	96	7.781	7.775	0.006	99	1475191	10.0	
61 Trichloroethene	95	8.250	8.256	-0.006	89	4589	0.0979	
63 1,2-Dichloropropane	63		8.586				ND	
68 Dichlorobromomethane	83		8.927				ND	
73 cis-1,3-Dichloropropene	75		9.470				ND	
74 4-Methyl-2-pentanone (MIBK)	43		9.634				ND	
\$ 75 Toluene-d8 (Surr)	98	9.774	9.774	0.000	94	1454597	9.80	
76 Toluene	92	9.853	9.854	-0.001	98	11659	0.0983	

Compound	Sig	RT (min.)	Exp RT (min.)	Diff RT (min.)	Q	Response	OnCol Amt ug/l	Flags
78 trans-1,3-Dichloropropene	75		10.104				ND	
80 1,1,2-Trichloroethane	97		10.305				ND	
81 Tetrachloroethene	166	10.396	10.396	0.000	84	7310	0.1291	
83 2-Hexanone	43		10.512				ND	U
85 Chlorodibromomethane	129		10.683				ND	
86 Ethylene Dibromide	107		10.792				ND	
* 87 Chlorobenzene-d5 (IS)	117	11.219	11.219	0.000	86	1166935	10.0	
90 Chlorobenzene	112		11.244				ND	
S 89 Xylenes, Total	106				0		0.0474	
91 1,1,1,2-Tetrachloroethane	131		11.323				ND	
92 Ethylbenzene	91	11.323	11.329	-0.006	1	1521	0.006537	
93 m-Xylene & p-Xylene	106	11.439	11.445	-0.006	0	3285	0.0360	
94 o-Xylene	106	11.768	11.768	0.000	1	1028	0.0114	
95 Styrene	104		11.786				ND	
96 Bromoform	173		11.945				ND	
\$ 100 4-Bromofluorobenzene (Surr)	95	12.213	12.213	0.000	93	544638	9.84	
101 1,1,2,2-Tetrachloroethane	83		12.310				ND	
* 115 1,4-Dichlorobenzene-d4	152	13.091	13.091	0.000	95	642848	10.0	

QC Flag Legend

Review Flags

M - Manually Integrated

U - Marked Undetected

Reagents:

MSV_31_826ISS_00002

Amount Added: 5.00

Units: uL

Run Reagent

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s21.D

Injection Date: 02-Jun-2020 16:58:30

Instrument ID: 19930

Operator ID: JKH09052

Lims ID: 410-2632-A-11

Lab Sample ID: 410-2632-11

Worklist Smp#: 27

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

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

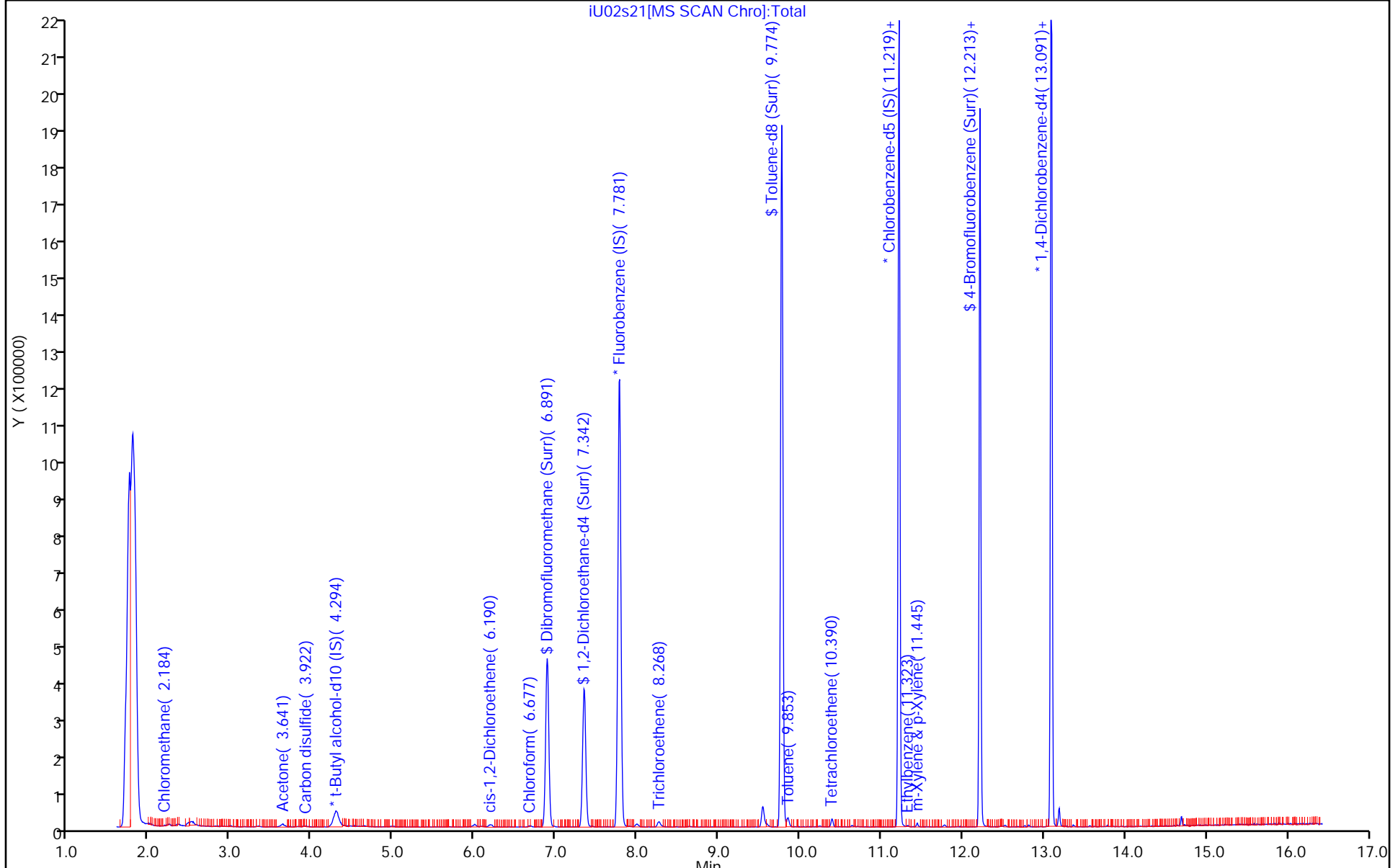
ALS Bottle#: 26

Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25 mm)

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Eurofins Lancaster Laboratories Env, LLC
Recovery Report

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s21.D
 Lims ID: 410-2632-A-11
 Client ID: HD-COD-SW-28-0/1-0
 Sample Type: Client
 Inject. Date: 02-Jun-2020 16:58:30 ALS Bottle#: 26 Worklist Smp#: 27
 Purge Vol: 25.000 mL Dil. Factor: 1.0000
 Sample Info: 410-0002623-027
 Misc. Info.: 410-2632-A-11
 Operator ID: JKH09052 Instrument ID: 19930
 Method: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\8260 25ml HP31.m
 Limit Group: MSV - 8260C_D
 Last Update: 03-Jun-2020 12:53:08 Calib Date: 16-Mar-2020 18:31:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\IM16107.D
 Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
 Process Host: CTX1046

First Level Reviewer: howej

Date: 03-Jun-2020 12:43:43

Compound	Amount Added	Amount Recovered	% Rec.
\$ 46 Dibromofluoromethane (Surr)	10.0	10.3	103.19
\$ 53 1,2-Dichloroethane-d4 (Surr)	10.0	10.4	103.78
\$ 75 Toluene-d8 (Surr)	10.0	9.80	98.03
\$ 100 4-Bromofluorobenzene (Surr)	10.0	9.84	98.36

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s21.D

Injection Date: 02-Jun-2020 16:58:30

Instrument ID: 19930

Lims ID: 410-2632-A-11

Lab Sample ID: 410-2632-11

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

Operator ID: JKH09052

ALS Bottle#: 26

Worklist Smp#: 27

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

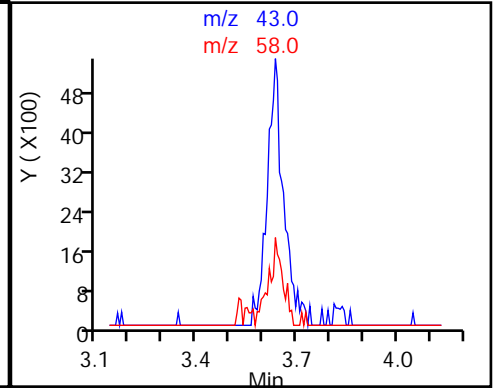
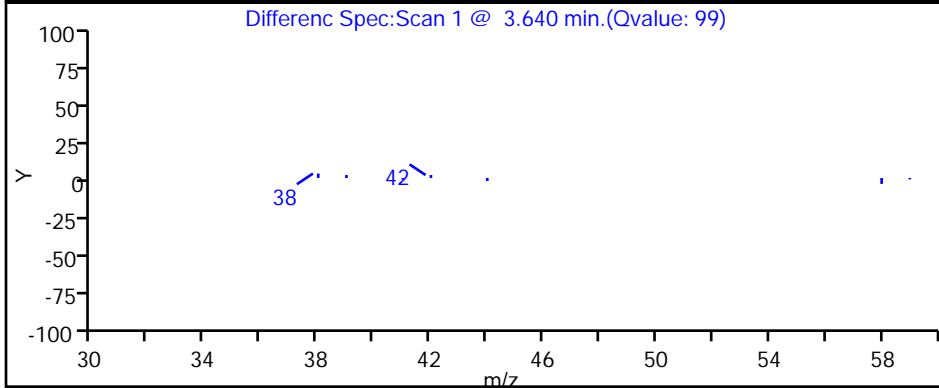
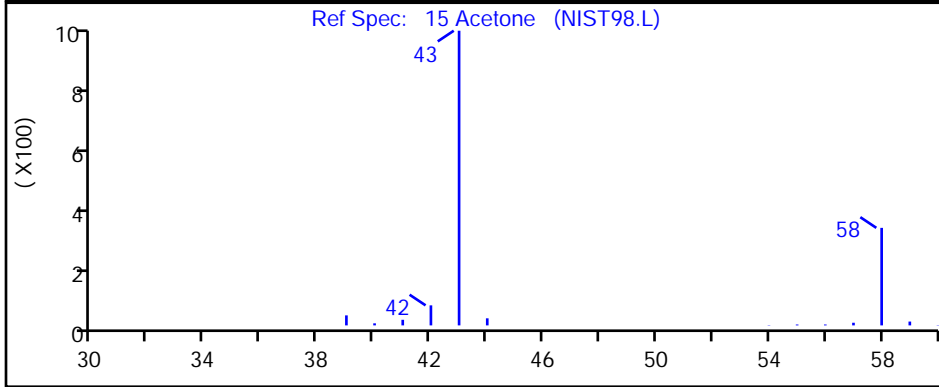
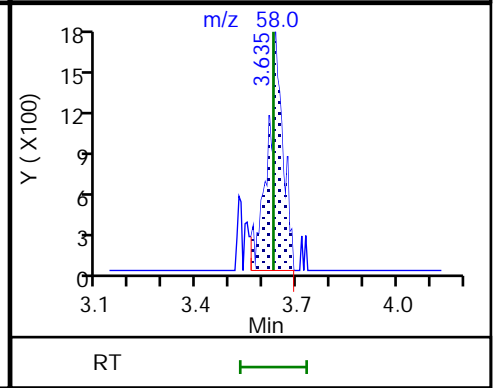
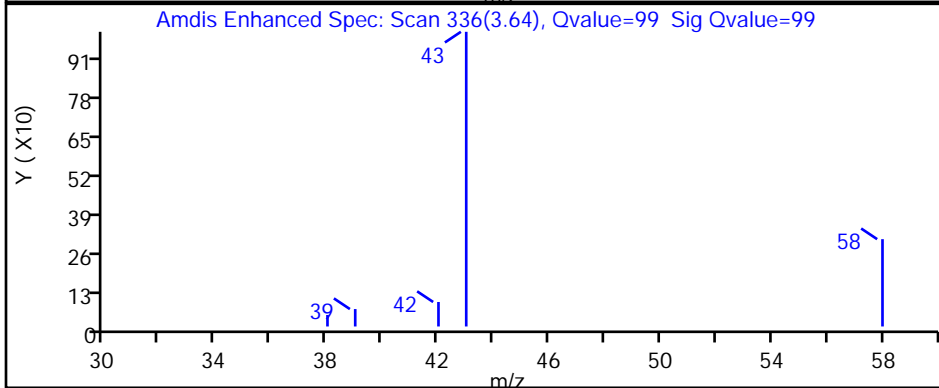
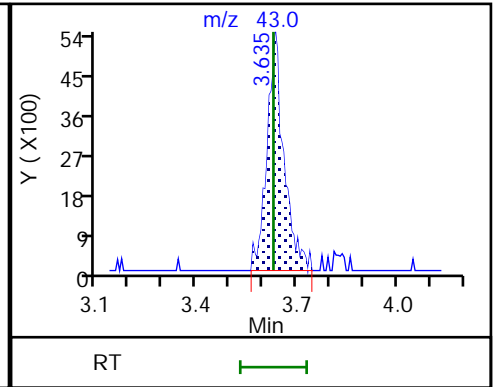
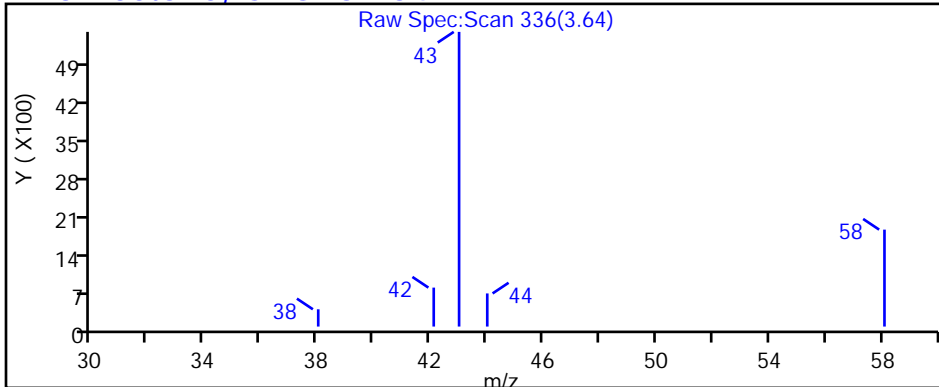
Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector

MS Quad

15 Acetone, CAS: 67-64-1



Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s21.D

Injection Date: 02-Jun-2020 16:58:30

Instrument ID: 19930

Lims ID: 410-2632-A-11

Lab Sample ID: 410-2632-11

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

Operator ID: JKH09052

ALS Bottle#: 26

Worklist Smp#: 27

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

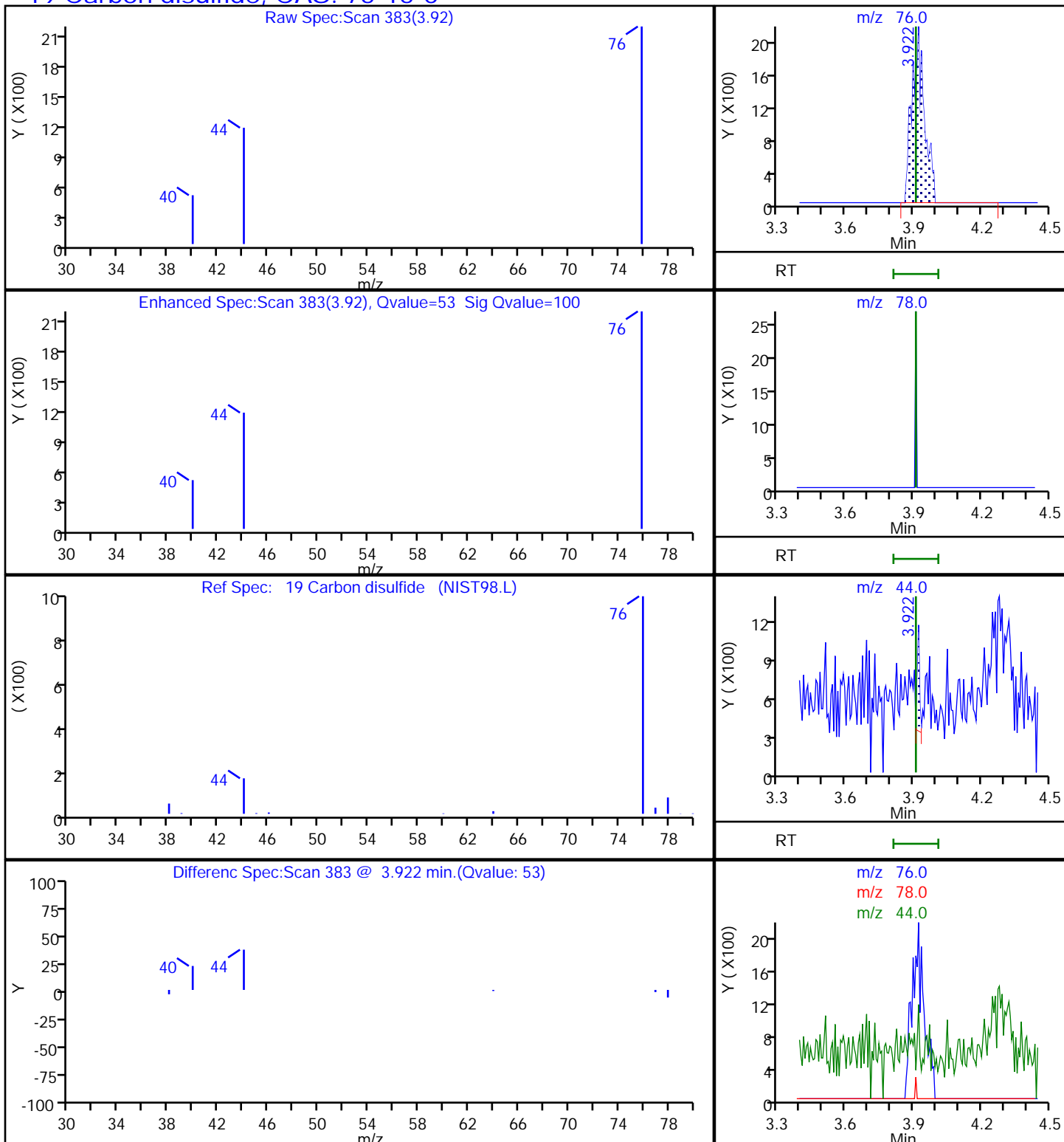
Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25mm ID)

MS Quad

19 Carbon disulfide, CAS: 75-15-0



Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s21.D

Injection Date: 02-Jun-2020 16:58:30

Instrument ID: 19930

Lims ID: 410-2632-A-11

Lab Sample ID: 410-2632-11

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

Operator ID: JKH09052

ALS Bottle#: 26

Worklist Smp#: 27

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

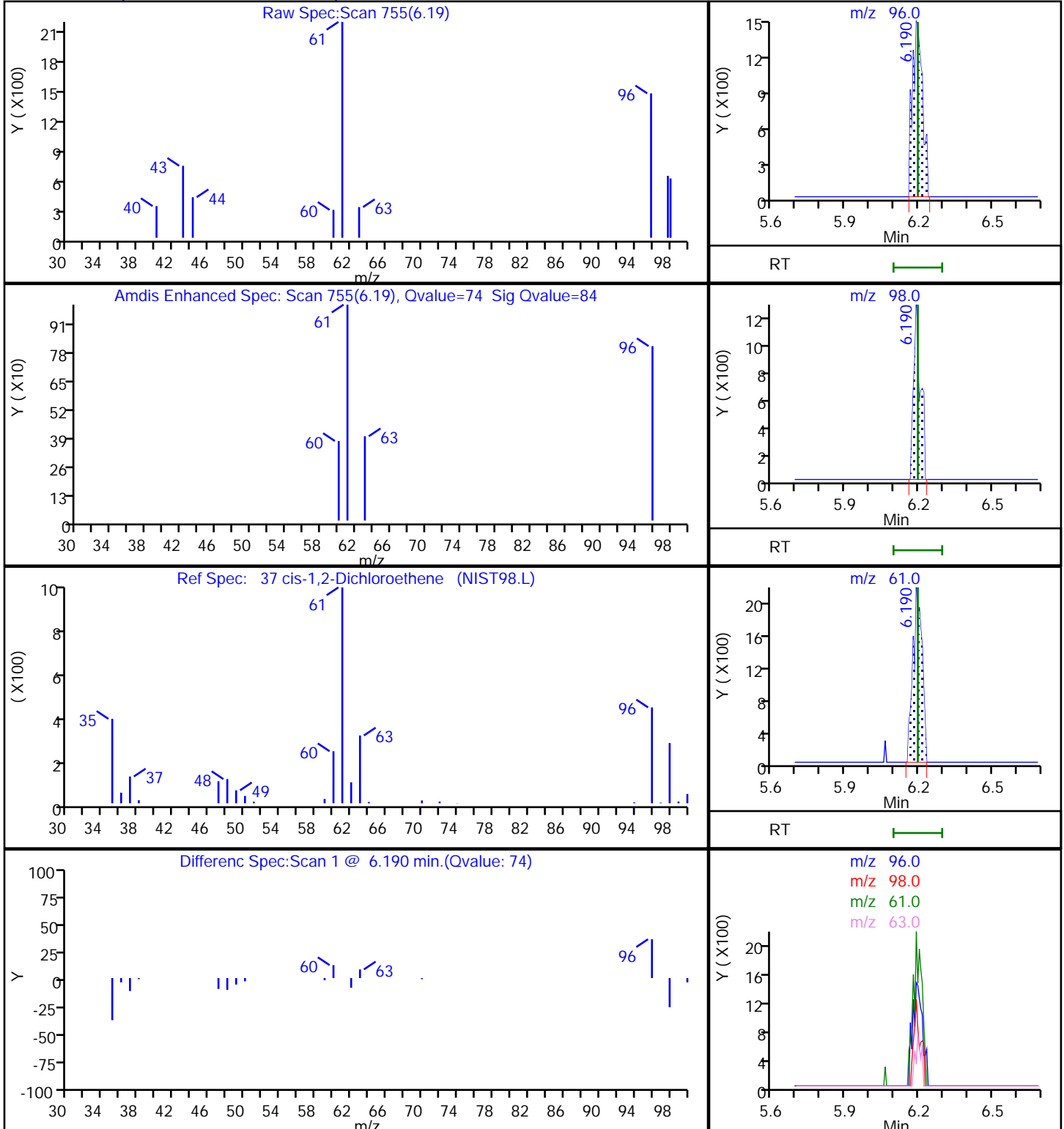
Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25mm ID) x 30m

MS Quad

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



Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s21.D

Injection Date: 02-Jun-2020 16:58:30

Instrument ID: 19930

Lims ID: 410-2632-A-11

Lab Sample ID: 410-2632-11

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

Operator ID: JKH09052

ALS Bottle#: 26

Worklist Smp#: 27

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

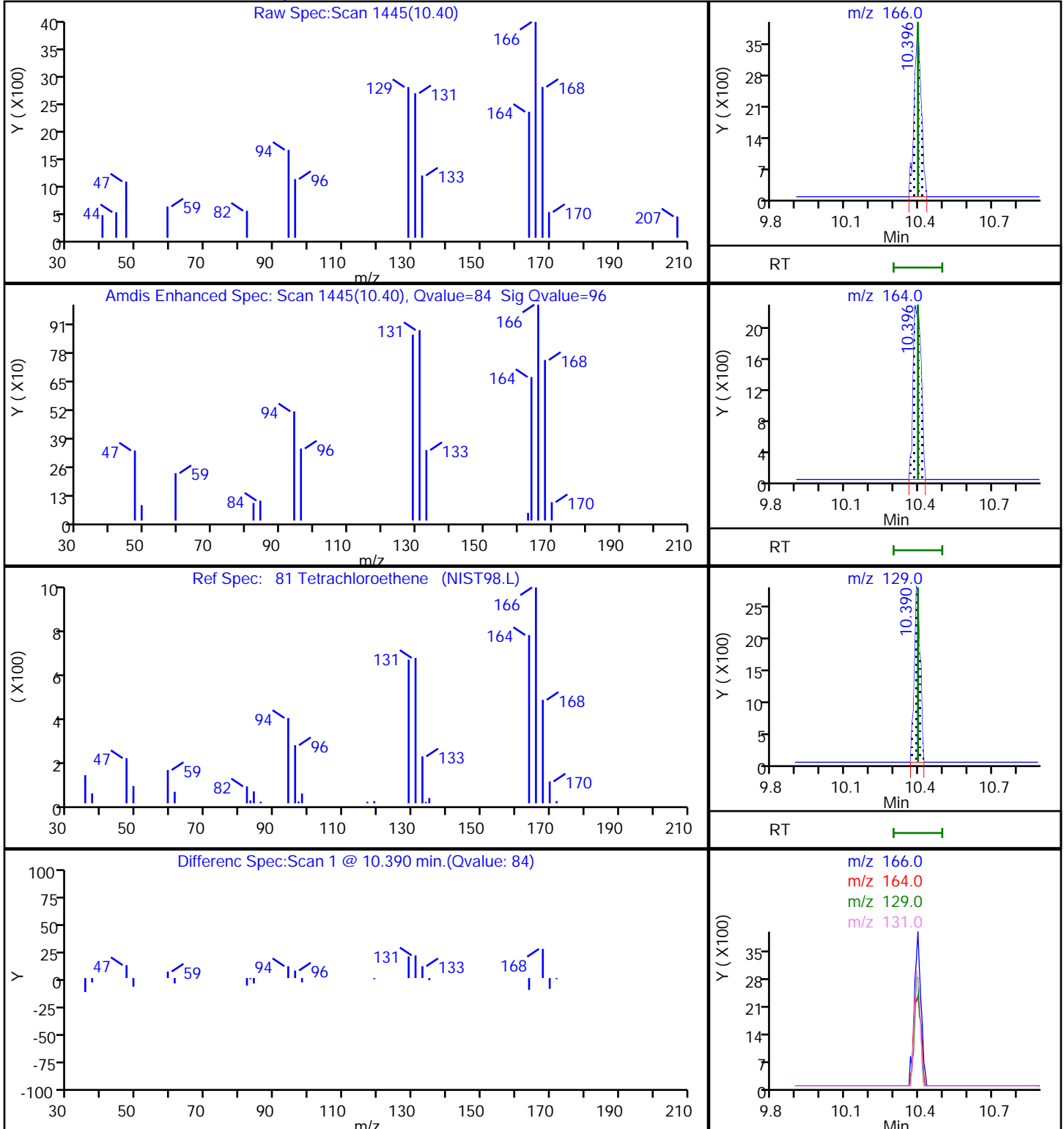
Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25mm ID) x 30m

MS Quad

81 Tetrachloroethene, CAS: 127-18-4



Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s21.D

Injection Date: 02-Jun-2020 16:58:30

Instrument ID: 19930

Lims ID: 410-2632-A-11

Lab Sample ID: 410-2632-11

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

Operator ID: JKH09052

ALS Bottle#: 26

Worklist Smp#: 27

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

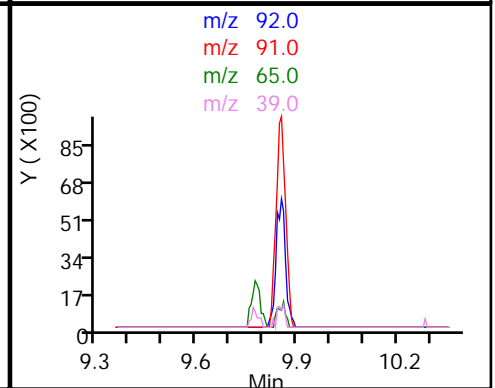
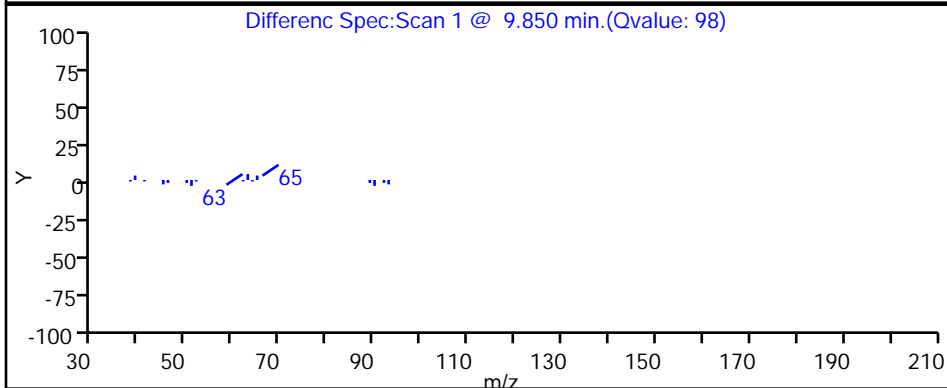
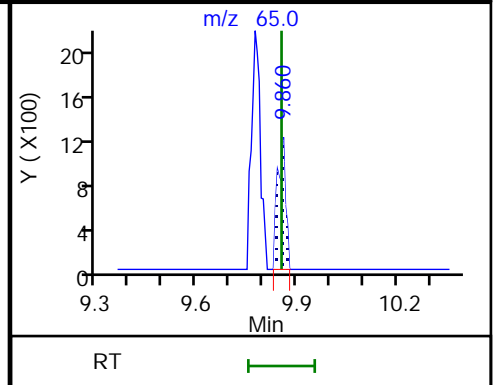
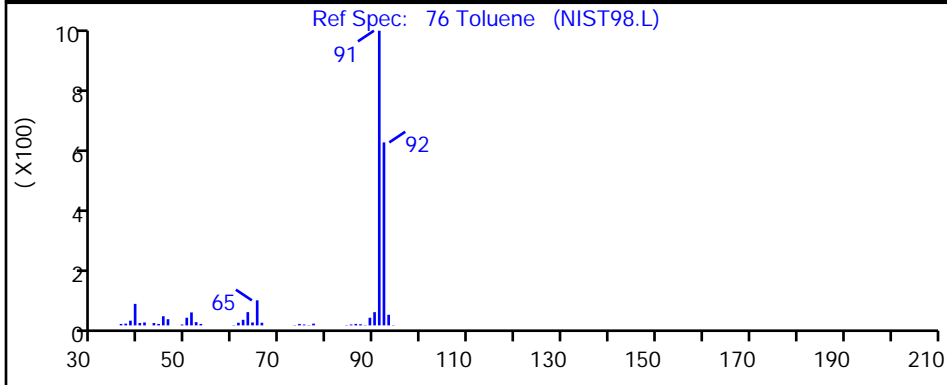
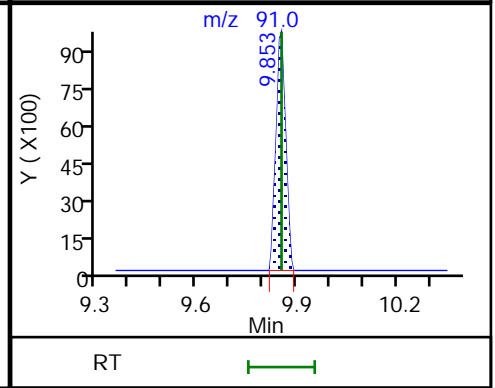
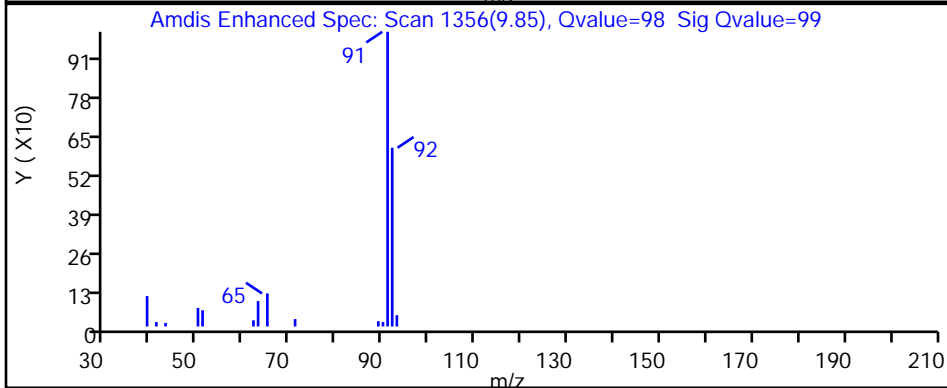
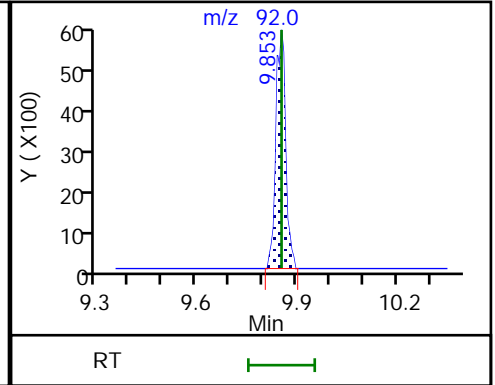
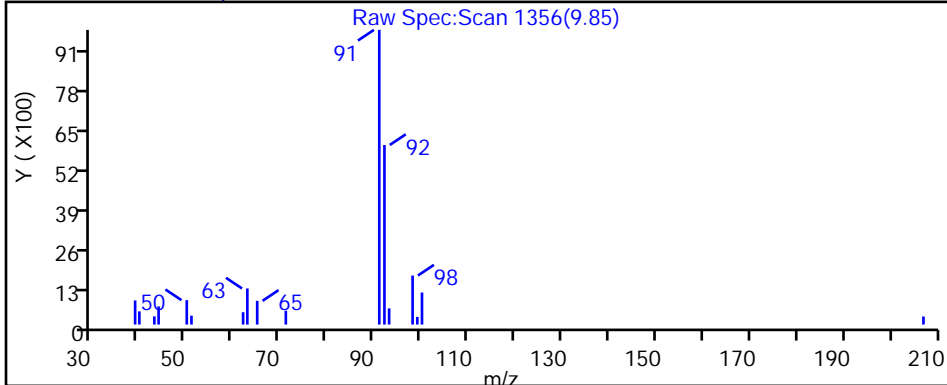
Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25mm ID) x 30m

MS Quad

76 Toluene, CAS: 108-88-3



Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s21.D

Injection Date: 02-Jun-2020 16:58:30

Instrument ID: 19930

Lims ID: 410-2632-A-11

Lab Sample ID: 410-2632-11

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

Operator ID: JKH09052

ALS Bottle#: 26

Worklist Smp#: 27

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

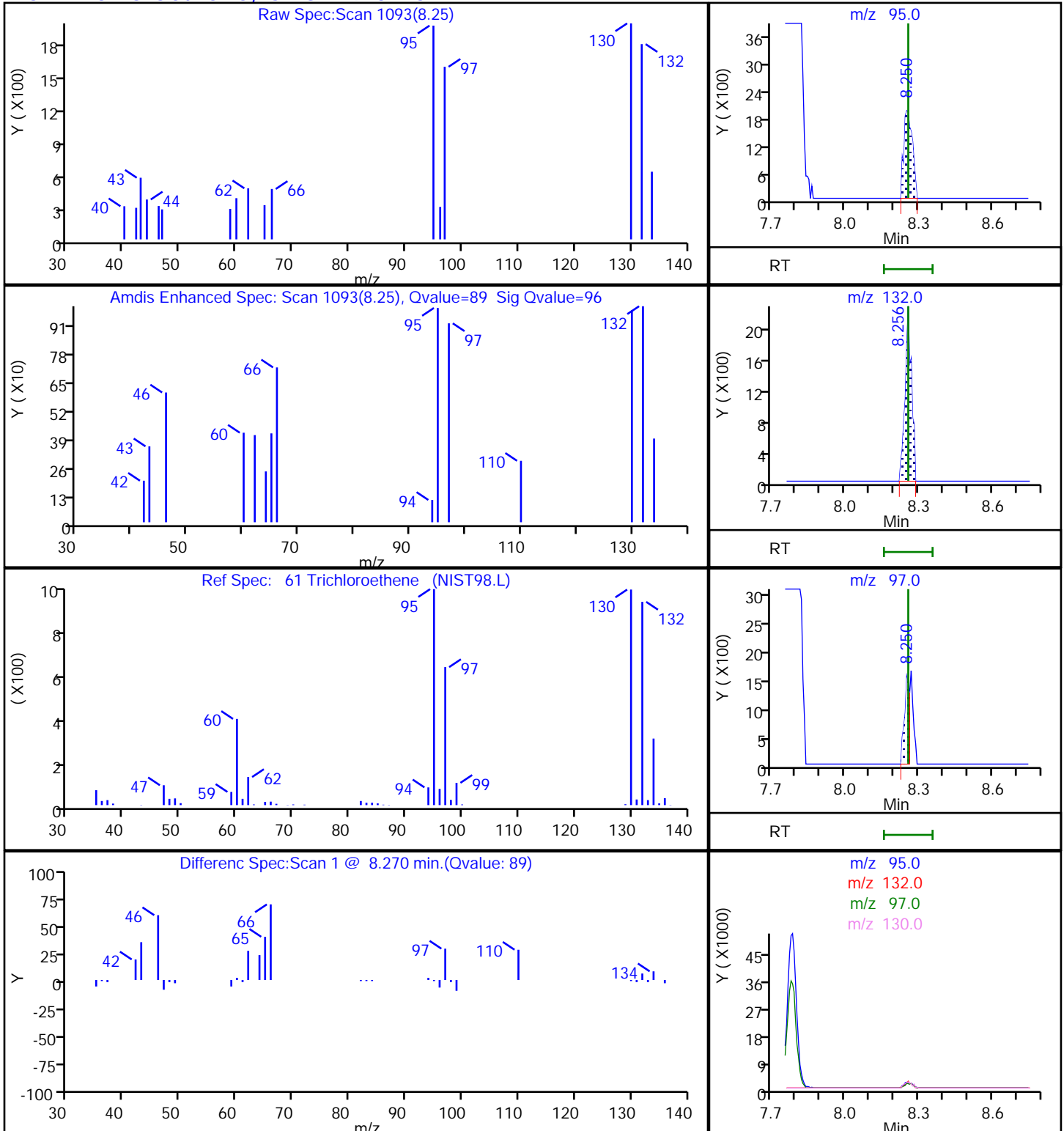
Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25mm ID)

MS Quad

61 Trichloroethene, CAS: 79-01-6

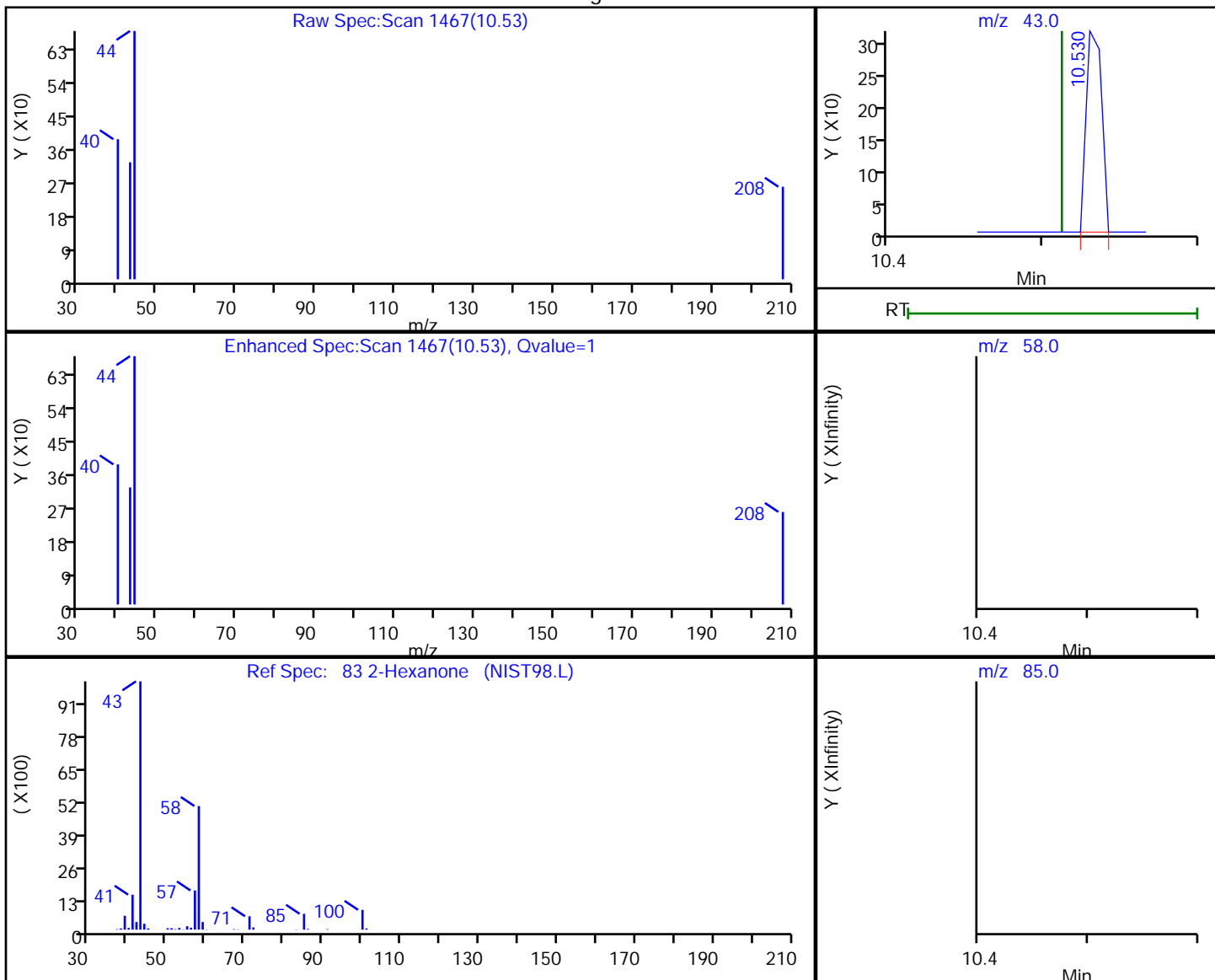


Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s21.D
 Injection Date: 02-Jun-2020 16:58:30 Instrument ID: 19930
 Lims ID: 410-2632-A-11 Lab Sample ID: 410-2632-11
 Client ID: HD-COD-SW-28-0/1-0
 Operator ID: JKH09052 ALS Bottle#: 26 Worklist Smp#: 27
 Purge Vol: 25.000 mL Dil. Factor: 1.0000
 Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
 Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

83 2-Hexanone, CAS: 591-78-6

Processing Results



RT	Mass	Response	Amount
10.53	43.00	223	0.010458
10.51	58.00	0	
10.51	85.00	0	
10.51	100.00	0	

Reviewer: howej, 03-Jun-2020 12:43:34

Audit Action: Marked Compound Undetected

Audit Reason: Invalid Compound ID

Eurofins Lancaster Laboratories Env, LLC

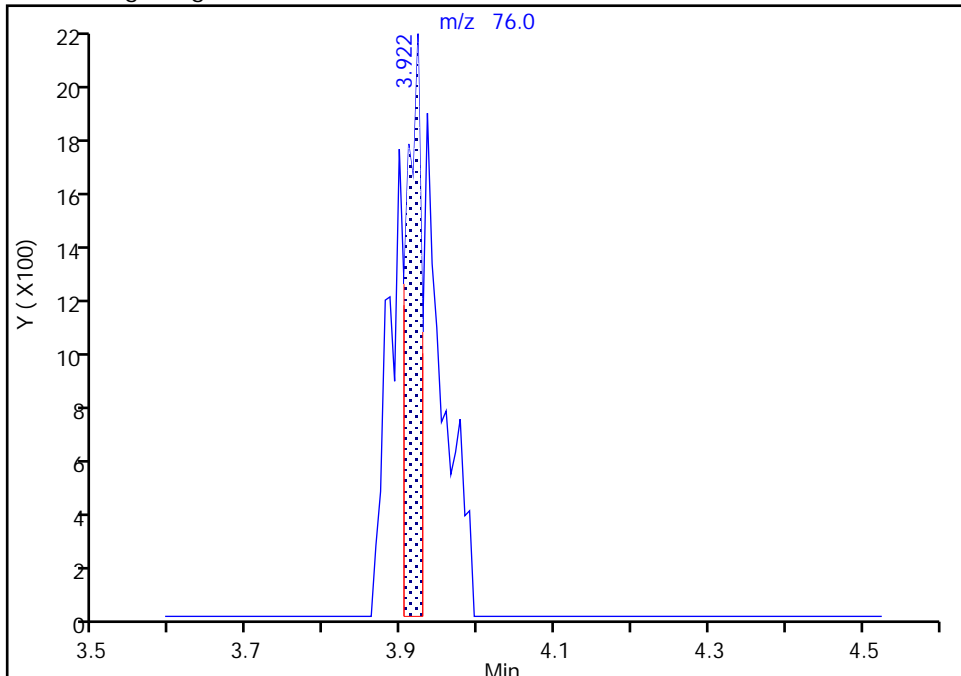
Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s21.D
Injection Date: 02-Jun-2020 16:58:30 Instrument ID: 19930
Lims ID: 410-2632-A-11 Lab Sample ID: 410-2632-11
Client ID: HD-COD-SW-28-0/1-0
Operator ID: JKH09052 ALS Bottle#: 26 Worklist Smp#: 27
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

19 Carbon disulfide, CAS: 75-15-0

Signal: 1

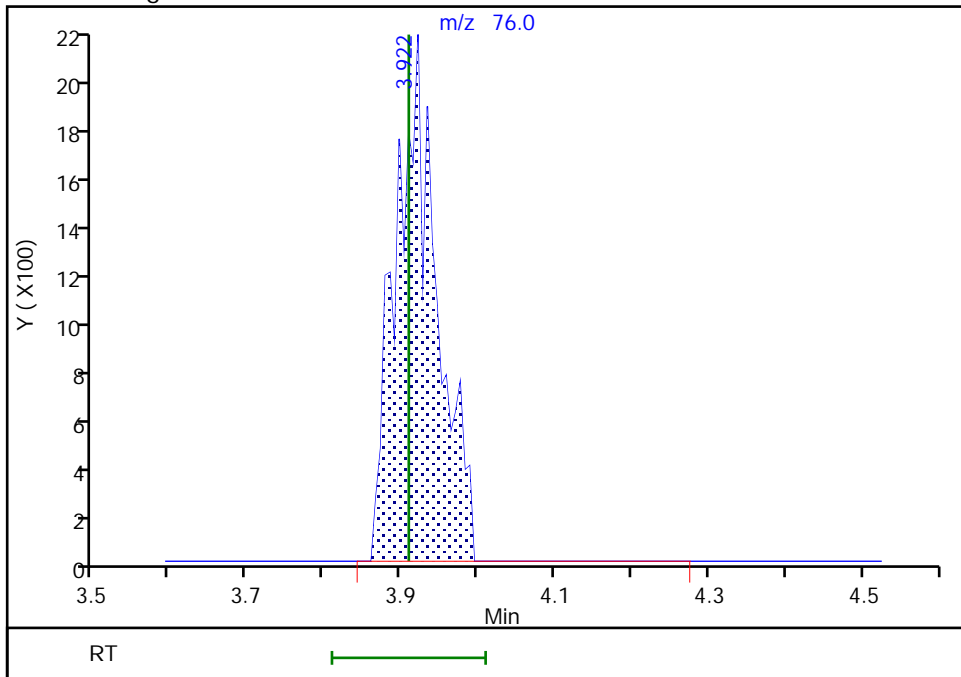
RT: 3.92
Area: 2833
Amount: 0.025115
Amount Units: ug/l

Processing Integration Results



RT: 3.92
Area: 7925
Amount: 0.070258
Amount Units: ug/l

Manual Integration Results



Reviewer: howej, 03-Jun-2020 12:43:16
Audit Action: Manually Integrated

Audit Reason: Other

Eurofins Lancaster Laboratories Env, LLC

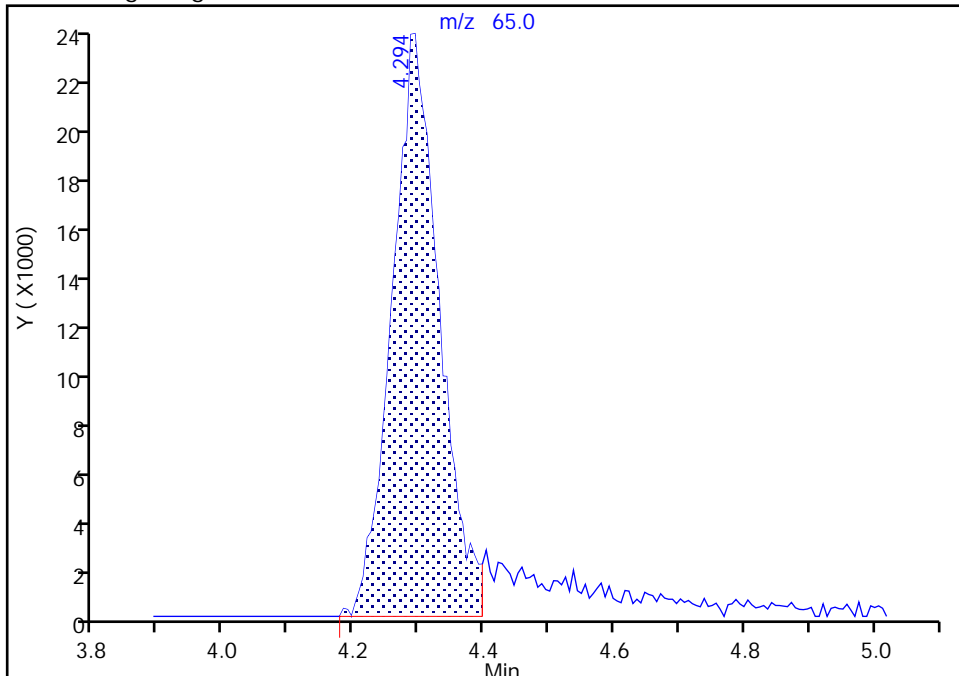
Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s21.D
Injection Date: 02-Jun-2020 16:58:30 Instrument ID: 19930
Lims ID: 410-2632-A-11 Lab Sample ID: 410-2632-11
Client ID: HD-COD-SW-28-0/1-0
Operator ID: JKH09052 ALS Bottle#: 26 Worklist Smp#: 27
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

* 24 t-Butyl alcohol-d10 (IS), CAS: 53001-22-2

Signal: 1

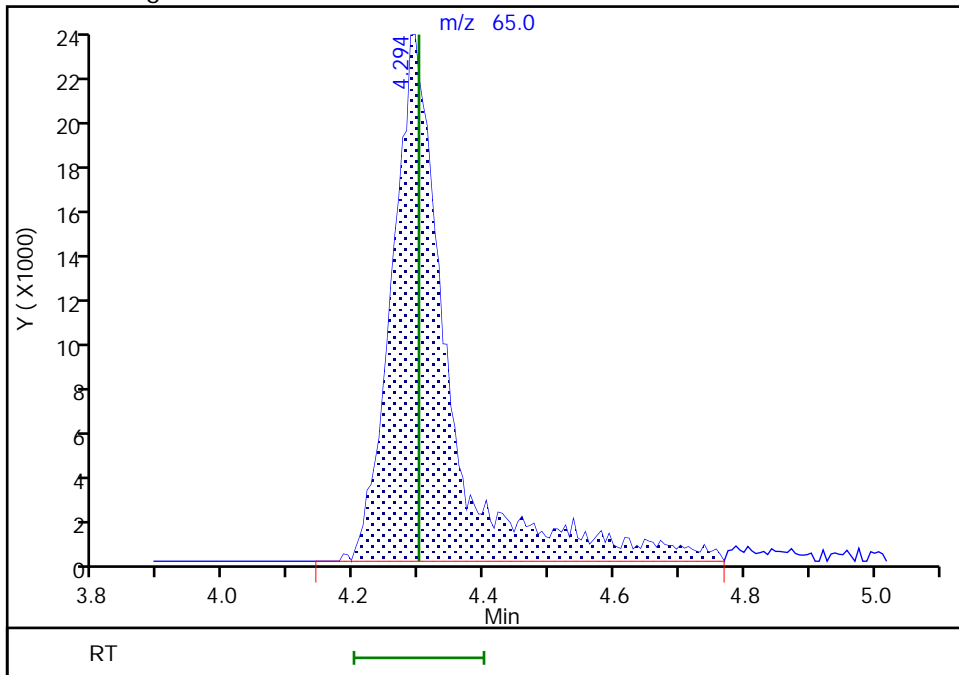
RT: 4.29
Area: 119022
Amount: 50.000000
Amount Units: ug/l

Processing Integration Results



RT: 4.29
Area: 142650
Amount: 50.000000
Amount Units: ug/l

Manual Integration Results



Reviewer: howej, 03-Jun-2020 12:43:22
Audit Action: Manually Integrated

Audit Reason: Other

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-2632-1
 SDG No.: _____
 Client Sample ID: HD-COD-SW-29-0/1-0 Lab Sample ID: 410-2632-12
 Matrix: Water Lab File ID: iU02s22.D
 Analysis Method: 8260C LL Date Collected: 05/26/2020 10:15
 Sample wt/vol: 25 (mL) Date Analyzed: 06/02/2020 17:19
 Soil Aliquot Vol: _____ Dilution Factor: 1
 Soil Extract Vol.: _____ GC Column: R-624SilMS 30m ID: 0.25 (mm)
 % Moisture: _____ Level: (low/med) Low
 Analysis Batch No.: 9922 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	ND		0.50	0.070
71-55-6	1,1,1-Trichloroethane	ND		0.50	0.060
79-34-5	1,1,2,2-Tetrachloroethane	ND		0.50	0.070
79-00-5	1,1,2-Trichloroethane	ND		0.50	0.060
75-34-3	1,1-Dichloroethane	ND		0.50	0.070
75-35-4	1,1-Dichloroethene	ND		0.50	0.060
106-93-4	1,2-Dibromoethane (EDB)	ND		0.50	0.060
107-06-2	1,2-Dichloroethane	ND		0.50	0.050
78-87-5	1,2-Dichloropropane	ND		0.50	0.060
78-93-3	2-Butanone (MEK)	ND		5.0	0.60
591-78-6	2-Hexanone	ND		5.0	0.60
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		5.0	0.70
67-64-1	Acetone	1.6	J	5.0	0.90
107-13-1	Acrylonitrile	ND		5.0	0.40
71-43-2	Benzene	ND		0.50	0.050
74-97-5	Bromochloromethane	ND		0.50	0.050
75-27-4	Bromodichloromethane	ND		0.50	0.050
75-25-2	Bromoform	ND		1.0	0.30
74-83-9	Bromomethane	ND		0.50	0.070
75-15-0	Carbon disulfide	ND		1.0	0.060
56-23-5	Carbon tetrachloride	ND		0.50	0.070
108-90-7	Chlorobenzene	ND		0.50	0.060
75-00-3	Chloroethane	ND		0.50	0.070
67-66-3	Chloroform	ND		0.50	0.090
74-87-3	Chloromethane	ND		0.50	0.060
156-59-2	cis-1,2-Dichloroethene	0.067	J	0.50	0.050
10061-01-5	cis-1,3-Dichloropropene	ND		0.50	0.050
124-48-1	Dibromochloromethane	ND		0.50	0.070
100-41-4	Ethylbenzene	ND		0.50	0.060
1634-04-4	Methyl tert-butyl ether	ND		0.50	0.050
75-09-2	Methylene Chloride	ND		0.50	0.070
100-42-5	Styrene	ND		0.50	0.050
127-18-4	Tetrachloroethene	ND		0.50	0.060
108-88-3	Toluene	0.11	J	0.50	0.070
156-60-5	trans-1,2-Dichloroethene	ND		0.50	0.060
10061-02-6	trans-1,3-Dichloropropene	ND		0.50	0.060

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-2632-1
 SDG No.: _____
 Client Sample ID: HD-COD-SW-29-0/1-0 Lab Sample ID: 410-2632-12
 Matrix: Water Lab File ID: iU02s22.D
 Analysis Method: 8260C LL Date Collected: 05/26/2020 10:15
 Sample wt/vol: 25 (mL) Date Analyzed: 06/02/2020 17:19
 Soil Aliquot Vol.: _____ Dilution Factor: 1
 Soil Extract Vol.: _____ GC Column: R-624SilMS 30m ID: 0.25 (mm)
 % Moisture: _____ Level: (low/med) Low
 Analysis Batch No.: 9922 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
79-01-6	Trichloroethene	ND		0.50	0.060
75-01-4	Vinyl chloride	ND		0.50	0.10
1330-20-7	Xylenes, Total	ND		1.0	0.15

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	104		80-120
1868-53-7	Dibromofluoromethane (Surr)	102		80-120
2037-26-5	Toluene-d8 (Surr)	98		80-120
460-00-4	4-Bromofluorobenzene (Surr)	98		80-120

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s22.D
 Lims ID: 410-2632-A-12
 Client ID: HD-COD-SW-29-0/1-0
 Sample Type: Client
 Inject. Date: 02-Jun-2020 17:19:30 ALS Bottle#: 27 Worklist Smp#: 28
 Purge Vol: 25.000 mL Dil. Factor: 1.0000
 Sample Info: 410-0002623-028
 Misc. Info.: 410-2632-A-12
 Operator ID: JKH09052 Instrument ID: 19930
 Method: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\8260 25ml HP31.m
 Limit Group: MSV - 8260C_D
 Last Update: 03-Jun-2020 12:53:08 Calib Date: 16-Mar-2020 18:31:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\IM16107.D
 Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
 Process Host: CTX1046

First Level Reviewer: howej

Date: 03-Jun-2020 12:44:19

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
4 Chloromethane	50	2.184	2.190	-0.006	3	2457	0.0383	
5 Vinyl chloride	62		2.300				ND	
7 Bromomethane	94		2.642				ND	
8 Chloroethane	64		2.727				ND	
14 1,1-Dichloroethene	96		3.599				ND	
15 Acetone	43	3.635	3.629	0.006	98	11364	1.57	
19 Carbon disulfide	76	3.891	3.910	-0.019	54	4905	0.0438	M
23 Methylene Chloride	84		4.288				ND	
* 24 t-Butyl alcohol-d10 (IS)	65	4.300	4.300	0.000	0	145689	50.0	M
26 Acrylonitrile	53		4.623				ND	
27 Methyl tert-butyl ether	73		4.696				ND	
28 trans-1,2-Dichloroethene	96		4.702				ND	
31 1,1-Dichloroethane	63		5.367				ND	
36 2-Butanone (MEK)	43		6.165				ND	
37 cis-1,2-Dichloroethene	96	6.190	6.196	-0.006	71	3175	0.0672	
43 Chlorobromomethane	128		6.525				ND	
45 Chloroform	83		6.677				ND	
\$ 46 Dibromofluoromethane (Surr)	113	6.891	6.885	0.006	93	359434	10.2	
47 1,1,1-Trichloroethane	97		6.903				ND	
50 Carbon tetrachloride	117		7.110				ND	
\$ 53 1,2-Dichloroethane-d4 (Surr)	102	7.348	7.342	0.006	0	74173	10.4	
54 Benzene	78		7.378				ND	
56 1,2-Dichloroethane	62		7.452				ND	
* 58 Fluorobenzene (IS)	96	7.781	7.775	0.006	99	1464742	10.0	
61 Trichloroethene	95		8.256				ND	
63 1,2-Dichloropropane	63		8.586				ND	
68 Dichlorobromomethane	83		8.927				ND	
73 cis-1,3-Dichloropropene	75		9.470				ND	
74 4-Methyl-2-pentanone (MIBK)	43		9.634				ND	U
\$ 75 Toluene-d8 (Surr)	98	9.774	9.774	0.000	93	1430504	9.78	
76 Toluene	92	9.847	9.854	-0.007	98	13441	0.1149	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
78 trans-1,3-Dichloropropene	75		10.104				ND	
80 1,1,2-Trichloroethane	97		10.305				ND	
81 Tetrachloroethene	166	10.396	10.396	0.000	92	2676	0.0479	
83 2-Hexanone	43		10.512				ND	U
85 Chlorodibromomethane	129		10.683				ND	
86 Ethylene Dibromide	107		10.792				ND	
* 87 Chlorobenzene-d5 (IS)	117	11.219	11.219	0.000	86	1150757	10.0	
90 Chlorobenzene	112		11.244				ND	
S 89 Xylenes, Total	106				0		0.0215	
91 1,1,1,2-Tetrachloroethane	131		11.323				ND	
92 Ethylbenzene	91		11.329				ND	
93 m-Xylene & p-Xylene	106	11.439	11.445	-0.006	0	1930	0.0215	
94 o-Xylene	106		11.768				ND	
95 Styrene	104		11.786				ND	
96 Bromoform	173		11.945				ND	
\$ 100 4-Bromofluorobenzene (Surr)	95	12.213	12.213	0.000	94	534171	9.78	
101 1,1,2,2-Tetrachloroethane	83		12.310				ND	
* 115 1,4-Dichlorobenzene-d4	152	13.091	13.091	0.000	95	633319	10.0	

QC Flag Legend

Review Flags

M - Manually Integrated

U - Marked Undetected

Reagents:

MSV_31_826ISS_00002

Amount Added: 5.00

Units: uL

Run Reagent

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s22.D

Injection Date: 02-Jun-2020 17:19:30

Instrument ID: 19930

Operator ID: JKH09052

Lims ID: 410-2632-A-12

Lab Sample ID: 410-2632-12

Worklist Smp#: 28

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

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

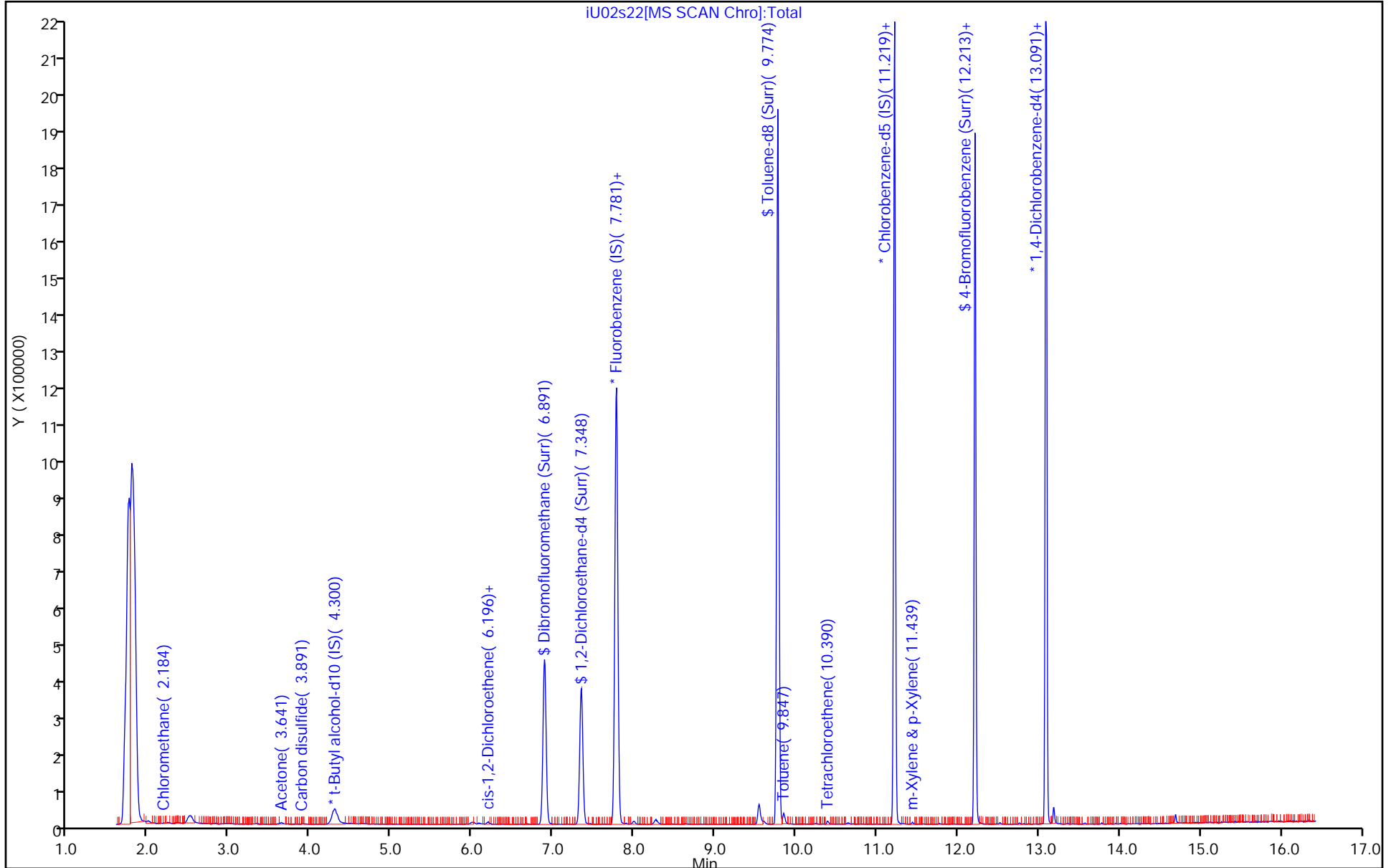
ALS Bottle#: 27

Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25 mm)

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Eurofins Lancaster Laboratories Env, LLC
Recovery Report

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s22.D
 Lims ID: 410-2632-A-12
 Client ID: HD-COD-SW-29-0/1-0
 Sample Type: Client
 Inject. Date: 02-Jun-2020 17:19:30 ALS Bottle#: 27 Worklist Smp#: 28
 Purge Vol: 25.000 mL Dil. Factor: 1.0000
 Sample Info: 410-0002623-028
 Misc. Info.: 410-2632-A-12
 Operator ID: JKH09052 Instrument ID: 19930
 Method: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\8260 25ml HP31.m
 Limit Group: MSV - 8260C_D
 Last Update: 03-Jun-2020 12:53:08 Calib Date: 16-Mar-2020 18:31:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\IM16107.D
 Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
 Process Host: CTX1046

First Level Reviewer: howej

Date: 03-Jun-2020 12:44:19

Compound	Amount Added	Amount Recovered	% Rec.
\$ 46 Dibromofluoromethane (Surr)	10.0	10.2	101.67
\$ 53 1,2-Dichloroethane-d4 (Surr)	10.0	10.4	103.54
\$ 75 Toluene-d8 (Surr)	10.0	9.78	97.76
\$ 100 4-Bromofluorobenzene (Surr)	10.0	9.78	97.83

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s22.D

Injection Date: 02-Jun-2020 17:19:30

Instrument ID: 19930

Lims ID: 410-2632-A-12

Lab Sample ID: 410-2632-12

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

Operator ID: JKH09052

ALS Bottle#: 27

Worklist Smp#: 28

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

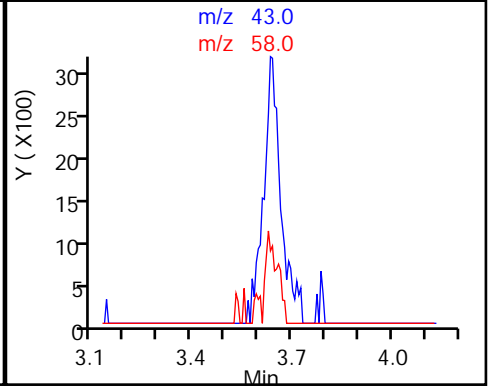
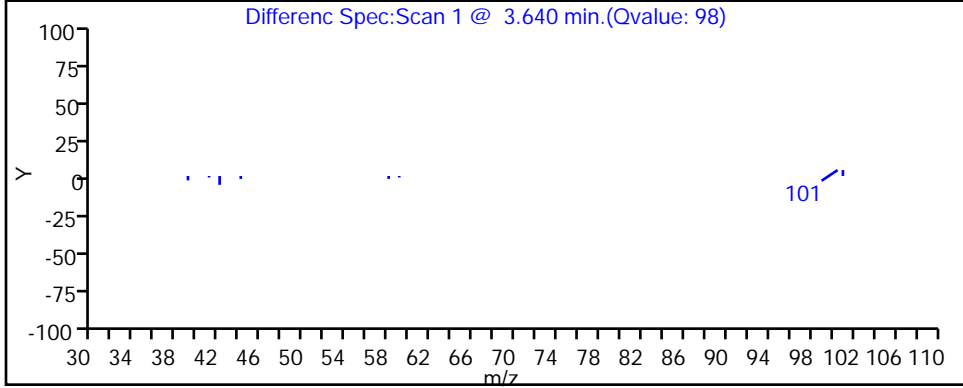
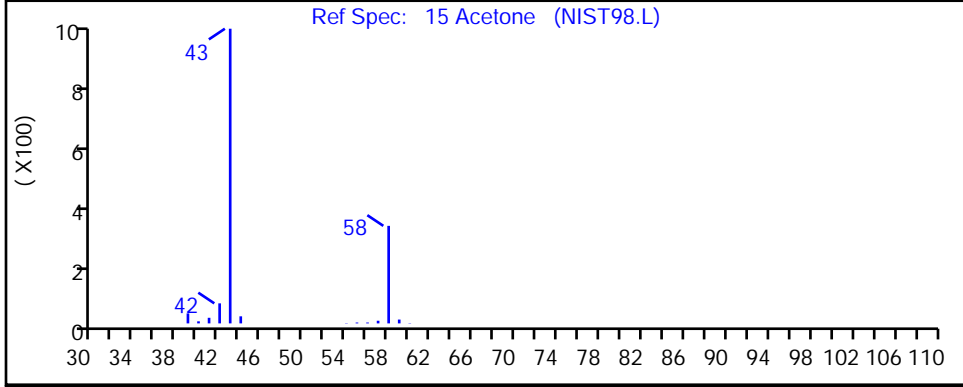
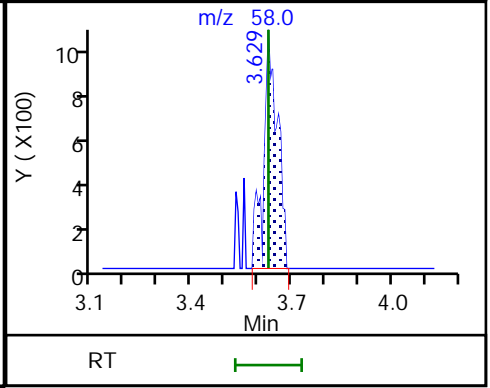
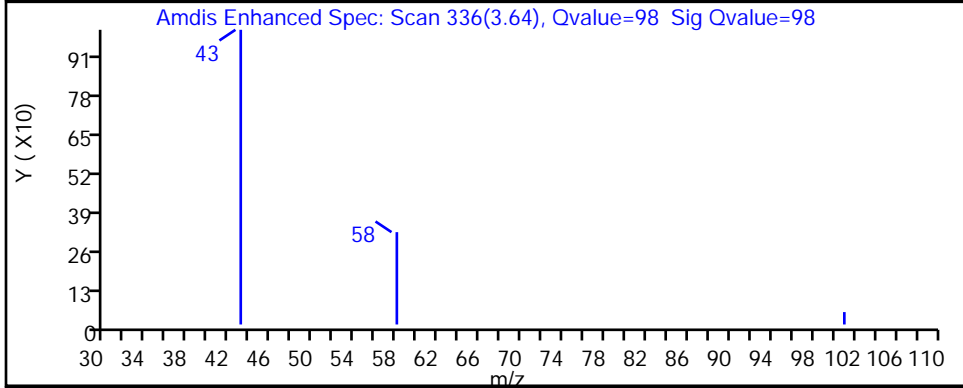
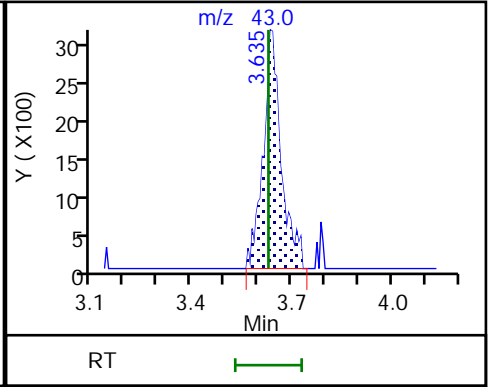
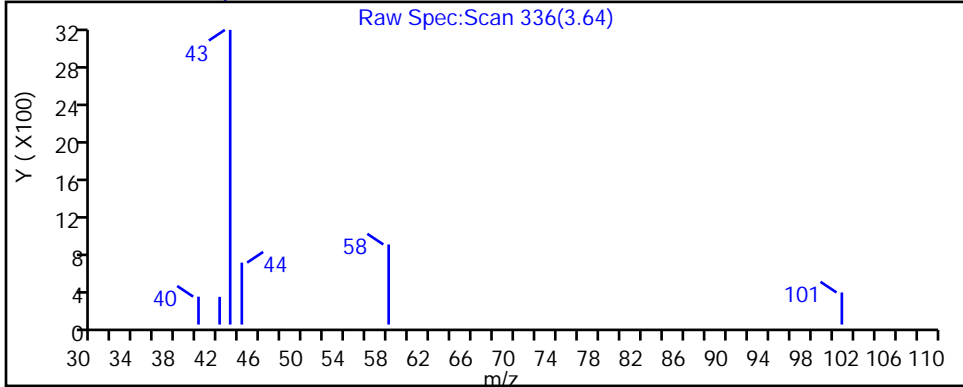
Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25mm ID)

MS Quad

15 Acetone, CAS: 67-64-1



Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s22.D

Injection Date: 02-Jun-2020 17:19:30

Instrument ID: 19930

Lims ID: 410-2632-A-12

Lab Sample ID: 410-2632-12

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

Operator ID: JKH09052

ALS Bottle#: 27

Worklist Smp#: 28

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

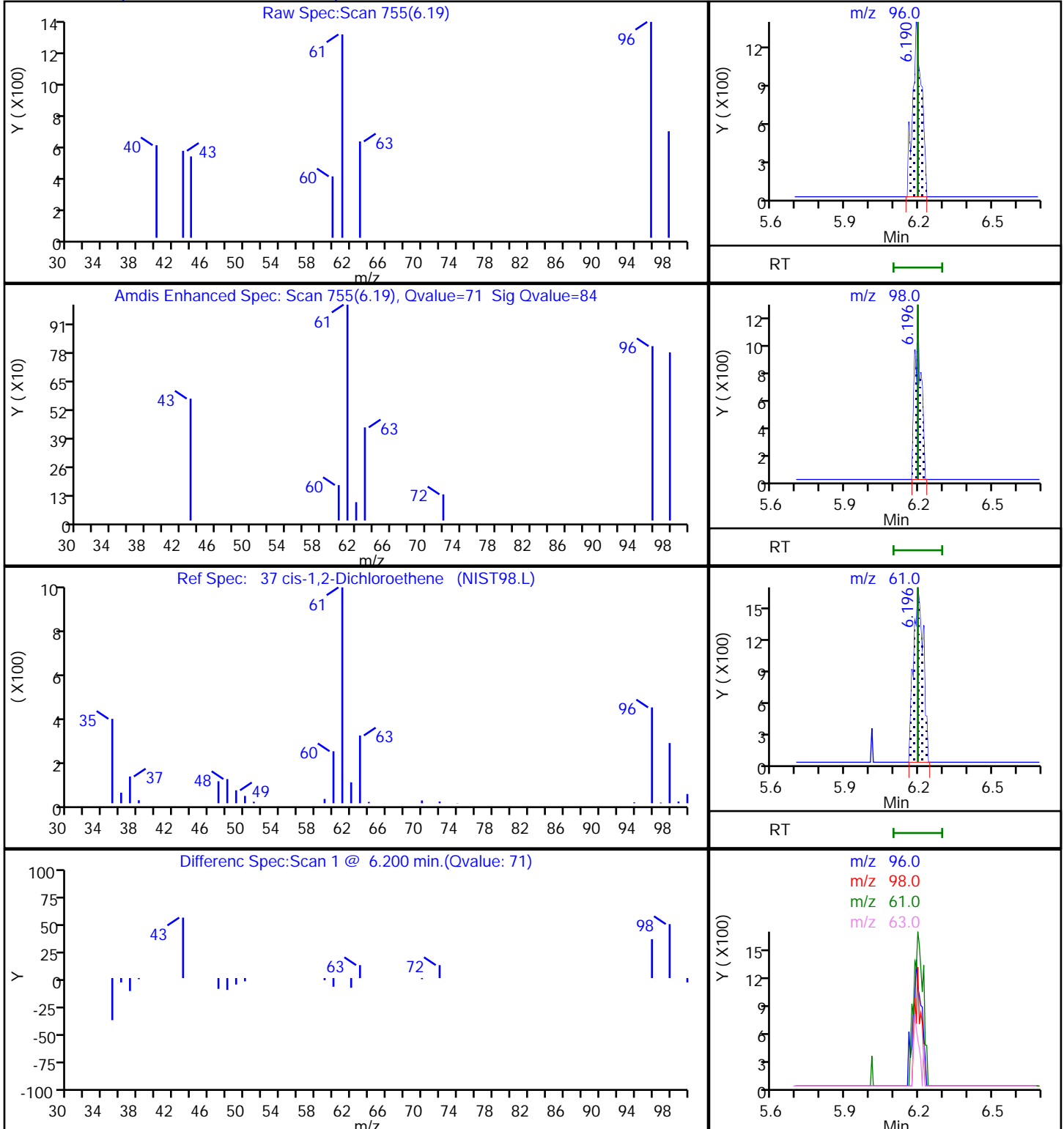
Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25mm ID) x 30m

MS Quad

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



Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s22.D

Injection Date: 02-Jun-2020 17:19:30

Instrument ID: 19930

Lims ID: 410-2632-A-12

Lab Sample ID: 410-2632-12

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

Operator ID: JKH09052

ALS Bottle#: 27

Worklist Smp#: 28

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

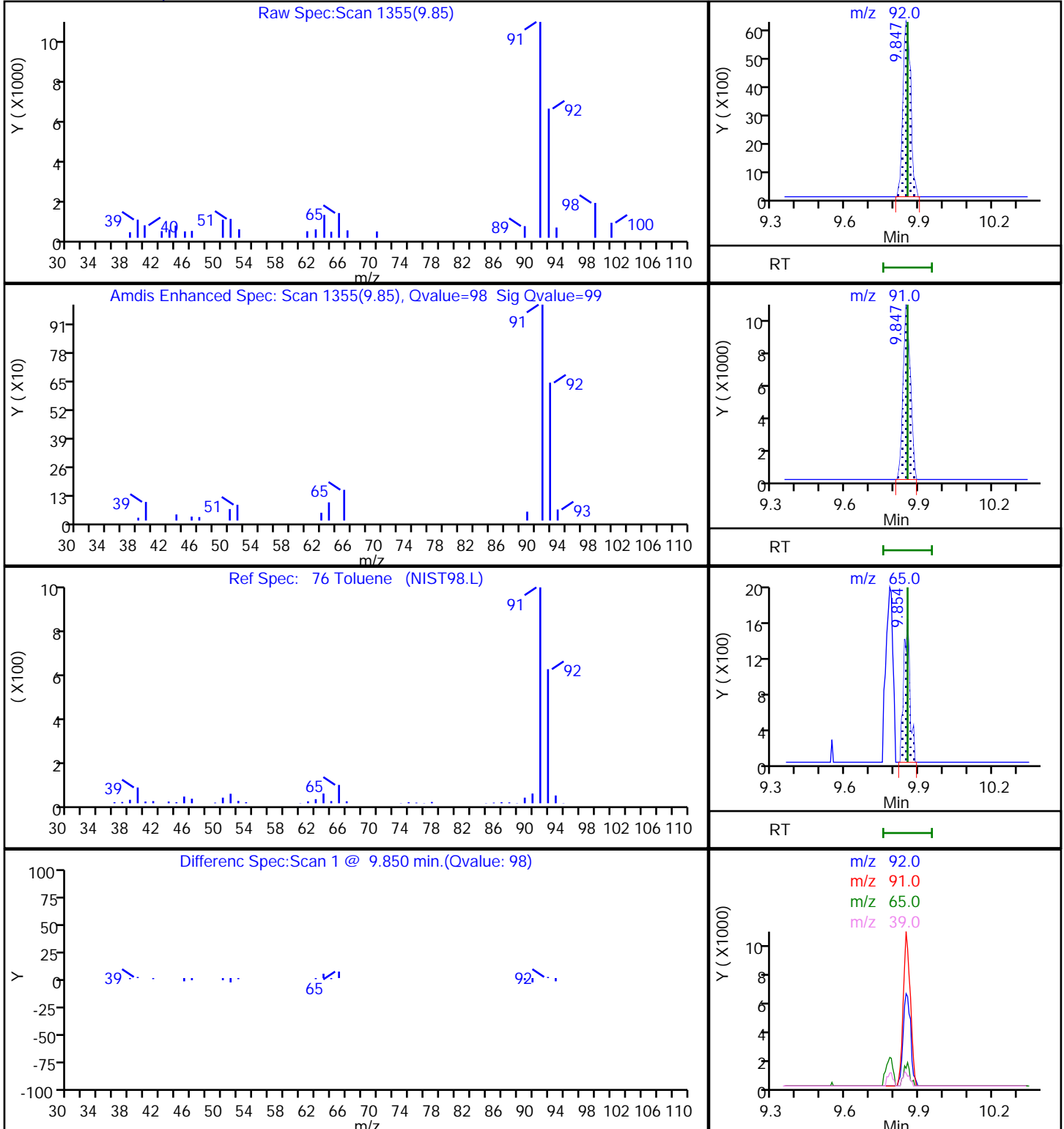
Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25mm ID)

MS Quad

76 Toluene, CAS: 108-88-3

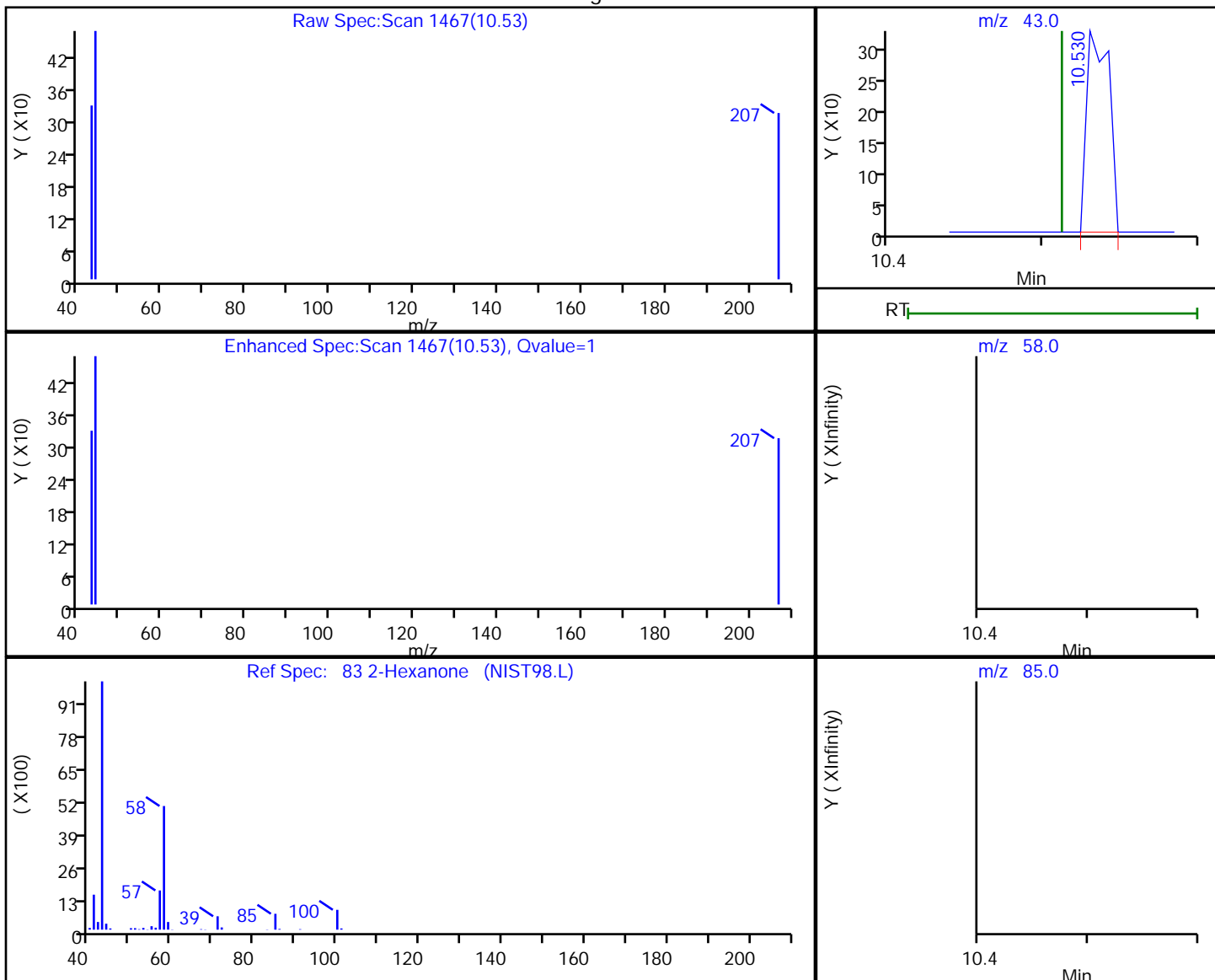


Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s22.D
 Injection Date: 02-Jun-2020 17:19:30 Instrument ID: 19930
 Lims ID: 410-2632-A-12 Lab Sample ID: 410-2632-12
 Client ID: HD-COD-SW-29-0/1-0
 Operator ID: JKH09052 ALS Bottle#: 27 Worklist Smp#: 28
 Purge Vol: 25.000 mL Dil. Factor: 1.0000
 Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
 Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

83 2-Hexanone, CAS: 591-78-6

Processing Results



RT	Mass	Response	Amount
10.53	43.00	326	0.014969
10.51	58.00	0	
10.51	85.00	0	
10.51	100.00	0	

Reviewer: howej, 03-Jun-2020 12:44:12

Audit Action: Marked Compound Undetected

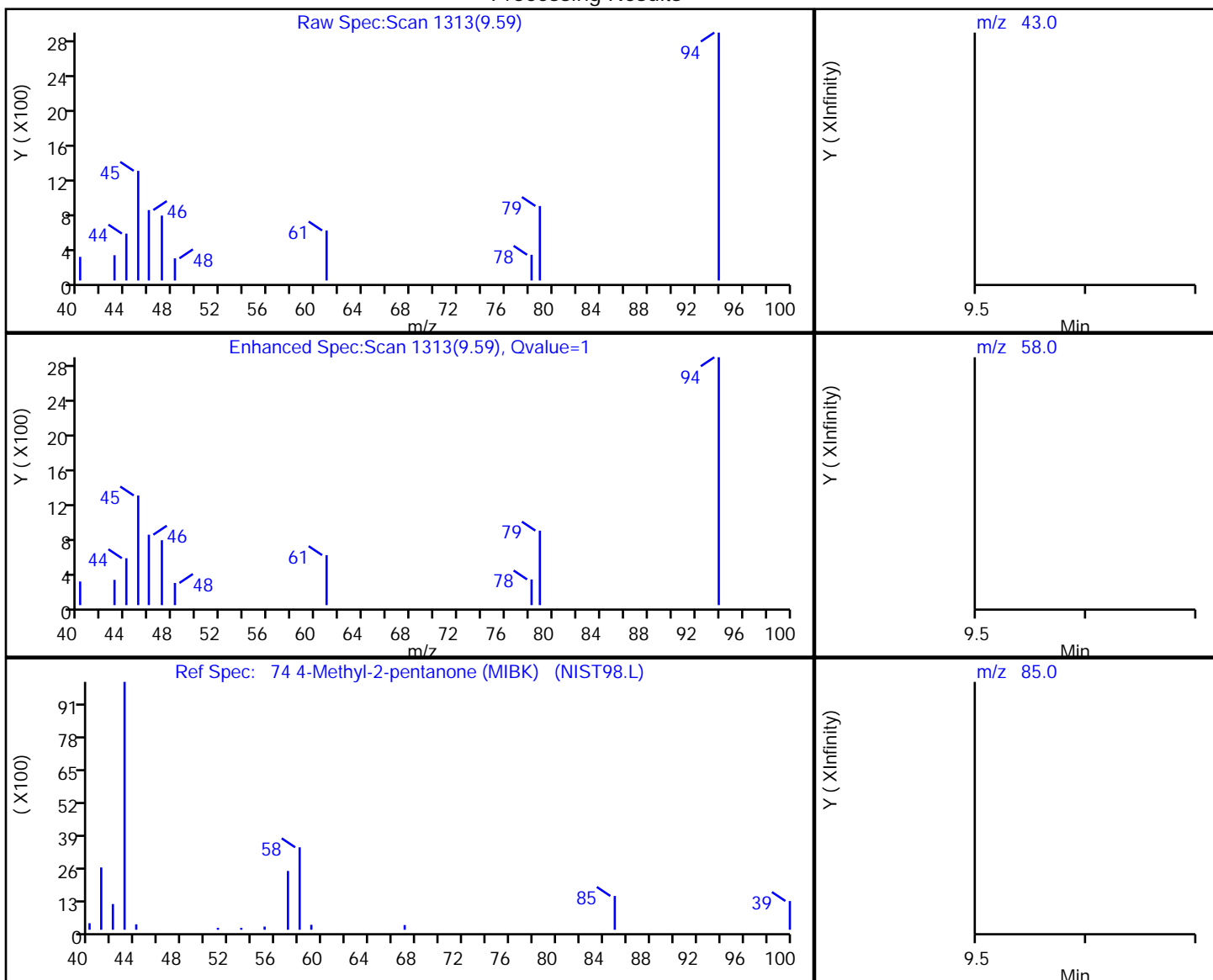
Audit Reason: Invalid Compound ID

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s22.D
 Injection Date: 02-Jun-2020 17:19:30 Instrument ID: 19930
 Lims ID: 410-2632-A-12 Lab Sample ID: 410-2632-12
 Client ID: HD-COD-SW-29-0/1-0
 Operator ID: JKH09052 ALS Bottle#: 27 Worklist Smp#: 28
 Purge Vol: 25.000 mL Dil. Factor: 1.0000
 Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
 Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

74 4-Methyl-2-pentanone (MIBK), CAS: 108-10-1

Processing Results



RT	Mass	Response	Amount
9.59	43.00	107	0.003396
9.63	58.00	0	
9.63	85.00	0	
9.63	100.00	0	

Reviewer: howej, 03-Jun-2020 12:44:08

Audit Action: Marked Compound Undetected

Audit Reason: Invalid Compound ID

Eurofins Lancaster Laboratories Env, LLC

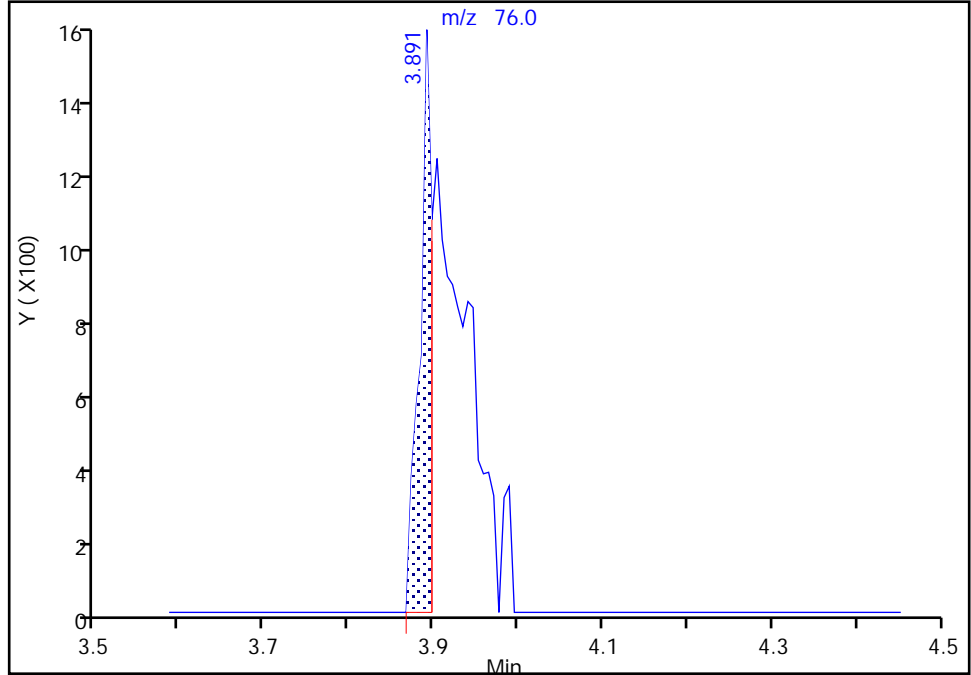
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Injection Date: 02-Jun-2020 17:19:30 Instrument ID: 19930
Lims ID: 410-2632-A-12 Lab Sample ID: 410-2632-12
Client ID: HD-COD-SW-29-0/1-0
Operator ID: JKH09052 ALS Bottle#: 27 Worklist Smp#: 28
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

19 Carbon disulfide, CAS: 75-15-0

Signal: 1

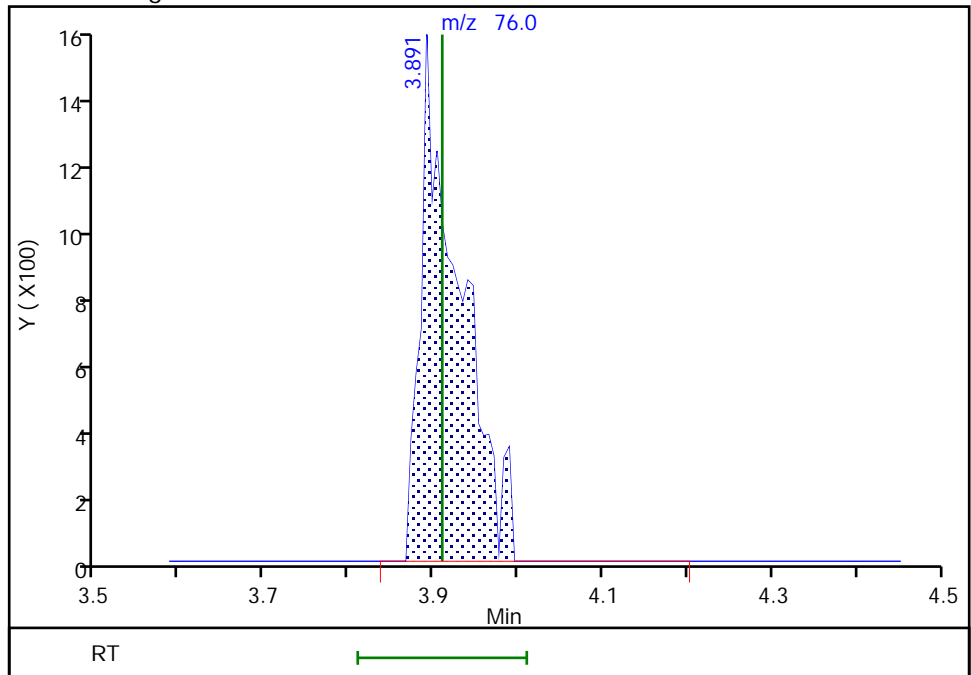
RT: 3.89
Area: 1529
Amount: 0.013652
Amount Units: ug/l

Processing Integration Results



RT: 3.89
Area: 4905
Amount: 0.043795
Amount Units: ug/l

Manual Integration Results



Reviewer: howej, 03-Jun-2020 12:43:55
Audit Action: Manually Integrated

Audit Reason: Other

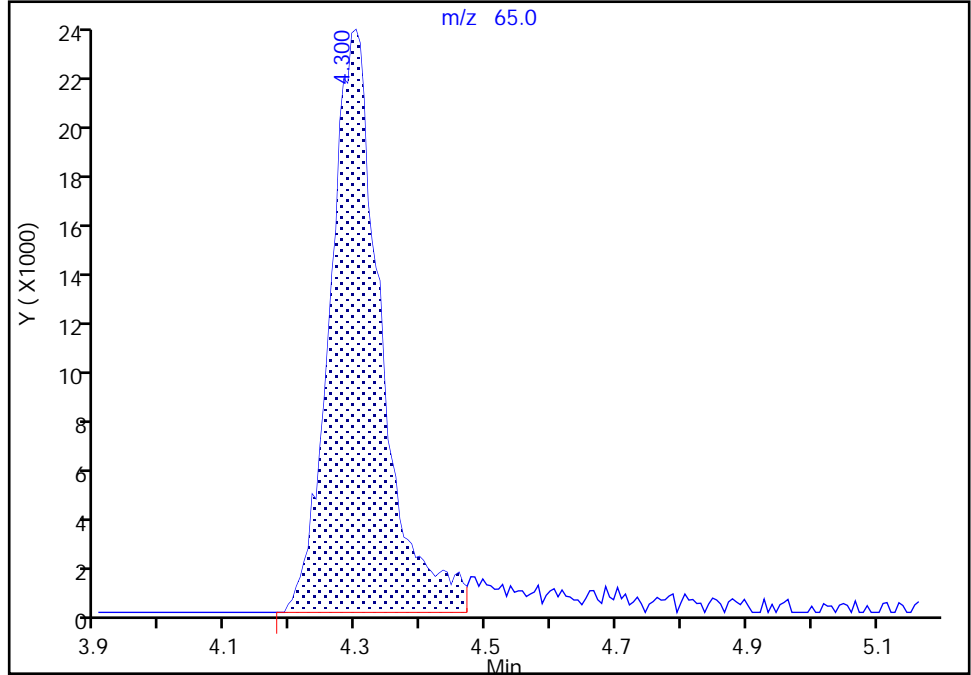
Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s22.D
Injection Date: 02-Jun-2020 17:19:30 Instrument ID: 19930
Lims ID: 410-2632-A-12 Lab Sample ID: 410-2632-12
Client ID: HD-COD-SW-29-0/1-0
Operator ID: JKH09052 ALS Bottle#: 27 Worklist Smp#: 28
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

* 24 t-Butyl alcohol-d10 (IS), CAS: 53001-22-2
Signal: 1

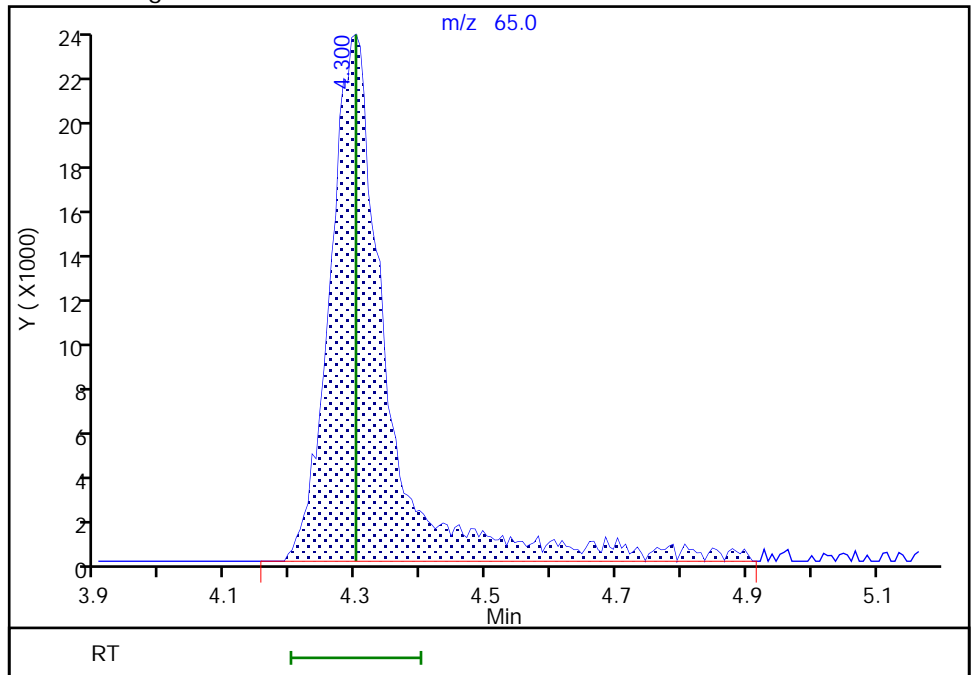
RT: 4.30
Area: 128959
Amount: 50.000000
Amount Units: ug/l

Processing Integration Results



RT: 4.30
Area: 145689
Amount: 50.000000
Amount Units: ug/l

Manual Integration Results



Reviewer: howej, 03-Jun-2020 12:44:00
Audit Action: Manually Integrated

Audit Reason: Other

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-2632-1
 SDG No.: _____
 Client Sample ID: HD-QC1-0/1-1 Lab Sample ID: 410-2632-13
 Matrix: Water Lab File ID: iU02s23.D
 Analysis Method: 8260C LL Date Collected: 05/26/2020 12:00
 Sample wt/vol: 25 (mL) Date Analyzed: 06/02/2020 17:41
 Soil Aliquot Vol: _____ Dilution Factor: 1
 Soil Extract Vol.: _____ GC Column: R-624SilMS 30m ID: 0.25 (mm)
 % Moisture: _____ Level: (low/med) Low
 Analysis Batch No.: 9922 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	ND		0.50	0.070
71-55-6	1,1,1-Trichloroethane	ND		0.50	0.060
79-34-5	1,1,2,2-Tetrachloroethane	ND		0.50	0.070
79-00-5	1,1,2-Trichloroethane	ND		0.50	0.060
75-34-3	1,1-Dichloroethane	ND		0.50	0.070
75-35-4	1,1-Dichloroethene	ND		0.50	0.060
106-93-4	1,2-Dibromoethane (EDB)	ND		0.50	0.060
107-06-2	1,2-Dichloroethane	ND		0.50	0.050
78-87-5	1,2-Dichloropropane	ND		0.50	0.060
78-93-3	2-Butanone (MEK)	ND		5.0	0.60
591-78-6	2-Hexanone	ND		5.0	0.60
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		5.0	0.70
67-64-1	Acetone	1.2	J	5.0	0.90
107-13-1	Acrylonitrile	ND		5.0	0.40
71-43-2	Benzene	ND		0.50	0.050
74-97-5	Bromochloromethane	ND		0.50	0.050
75-27-4	Bromodichloromethane	ND		0.50	0.050
75-25-2	Bromoform	ND		1.0	0.30
74-83-9	Bromomethane	ND		0.50	0.070
75-15-0	Carbon disulfide	ND		1.0	0.060
56-23-5	Carbon tetrachloride	ND		0.50	0.070
108-90-7	Chlorobenzene	ND		0.50	0.060
75-00-3	Chloroethane	ND		0.50	0.070
67-66-3	Chloroform	ND		0.50	0.090
74-87-3	Chloromethane	ND		0.50	0.060
156-59-2	cis-1,2-Dichloroethene	0.53		0.50	0.050
10061-01-5	cis-1,3-Dichloropropene	ND		0.50	0.050
124-48-1	Dibromochloromethane	ND		0.50	0.070
100-41-4	Ethylbenzene	ND		0.50	0.060
1634-04-4	Methyl tert-butyl ether	ND		0.50	0.050
75-09-2	Methylene Chloride	ND		0.50	0.070
100-42-5	Styrene	ND		0.50	0.050
127-18-4	Tetrachloroethene	1.3		0.50	0.060
108-88-3	Toluene	ND		0.50	0.070
156-60-5	trans-1,2-Dichloroethene	ND		0.50	0.060
10061-02-6	trans-1,3-Dichloropropene	ND		0.50	0.060

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-2632-1
 SDG No.: _____
 Client Sample ID: HD-QC1-0/1-1 Lab Sample ID: 410-2632-13
 Matrix: Water Lab File ID: iU02s23.D
 Analysis Method: 8260C LL Date Collected: 05/26/2020 12:00
 Sample wt/vol: 25 (mL) Date Analyzed: 06/02/2020 17:41
 Soil Aliquot Vol.: _____ Dilution Factor: 1
 Soil Extract Vol.: _____ GC Column: R-624SilMS 30m ID: 0.25 (mm)
 % Moisture: _____ Level: (low/med) Low
 Analysis Batch No.: 9922 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
79-01-6	Trichloroethene	0.67		0.50	0.060
75-01-4	Vinyl chloride	ND		0.50	0.10
1330-20-7	Xylenes, Total	ND		1.0	0.15

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	100		80-120
1868-53-7	Dibromofluoromethane (Surr)	104		80-120
2037-26-5	Toluene-d8 (Surr)	97		80-120
460-00-4	4-Bromofluorobenzene (Surr)	98		80-120

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s23.D
 Lims ID: 410-2632-A-13
 Client ID: HD-QC1-0/1-1
 Sample Type: Client
 Inject. Date: 02-Jun-2020 17:41:30 ALS Bottle#: 28 Worklist Smp#: 29
 Purge Vol: 25.000 mL Dil. Factor: 1.0000
 Sample Info: 410-0002623-029
 Misc. Info.: 410-2632-A-13
 Operator ID: JKH09052 Instrument ID: 19930
 Method: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\8260 25ml HP31.m
 Limit Group: MSV - 8260C_D
 Last Update: 03-Jun-2020 12:53:08 Calib Date: 16-Mar-2020 18:31:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\IM16107.D
 Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
 Process Host: CTX1046

First Level Reviewer: howej

Date: 03-Jun-2020 12:45:06

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
4 Chloromethane	50		2.190				ND	
5 Vinyl chloride	62	2.312	2.300	0.012	21	2759	0.0448	M
7 Bromomethane	94		2.642				ND	
8 Chloroethane	64		2.727				ND	
14 1,1-Dichloroethene	96	3.635	3.599	0.036	35	404	0.0104	
15 Acetone	43	3.641	3.629	0.012	98	8984	1.24	
19 Carbon disulfide	76	3.897	3.910	-0.013	35	4960	0.0448	M
23 Methylene Chloride	84		4.288				ND	
* 24 t-Butyl alcohol-d10 (IS)	65	4.294	4.300	-0.006	0	146183	50.0	M
26 Acrylonitrile	53		4.623				ND	
27 Methyl tert-butyl ether	73		4.696				ND	
28 trans-1,2-Dichloroethene	96		4.702				ND	
31 1,1-Dichloroethane	63		5.367				ND	
36 2-Butanone (MEK)	43		6.165				ND	
37 cis-1,2-Dichloroethene	96	6.202	6.196	0.006	79	24938	0.5331	
43 Chlorobromomethane	128		6.525				ND	
45 Chloroform	83	6.677	6.677	0.000	90	4476	0.0604	
\$ 46 Dibromofluoromethane (Surr)	113	6.891	6.885	0.006	94	363260	10.4	
47 1,1,1-Trichloroethane	97	6.909	6.903	0.006	35	2805	0.0390	
50 Carbon tetrachloride	117		7.110				ND	
\$ 53 1,2-Dichloroethane-d4 (Surr)	102	7.348	7.342	0.006	0	70745	9.98	
54 Benzene	78		7.378				ND	
56 1,2-Dichloroethane	62		7.452				ND	
* 58 Fluorobenzene (IS)	96	7.781	7.775	0.006	99	1449265	10.0	
61 Trichloroethene	95	8.250	8.256	-0.006	95	30641	0.6655	
63 1,2-Dichloropropane	63		8.586				ND	
68 Dichlorobromomethane	83		8.927				ND	
73 cis-1,3-Dichloropropene	75		9.470				ND	
74 4-Methyl-2-pentanone (MIBK)	43		9.634				ND	
\$ 75 Toluene-d8 (Surr)	98	9.774	9.774	0.000	94	1429472	9.74	
76 Toluene	92	9.854	9.854	0.000	91	3886	0.0331	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
78 trans-1,3-Dichloropropene	75		10.104				ND	
80 1,1,2-Trichloroethane	97		10.305				ND	
81 Tetrachloroethene	166	10.396	10.396	0.000	98	74449	1.33	
83 2-Hexanone	43		10.512				ND	
85 Chlorodibromomethane	129		10.683				ND	
86 Ethylene Dibromide	107		10.792				ND	
* 87 Chlorobenzene-d5 (IS)	117	11.219	11.219	0.000	86	1154280	10.0	
90 Chlorobenzene	112		11.244				ND	
S 89 Xylenes, Total	106				0		0.0151	
91 1,1,1,2-Tetrachloroethane	131		11.323				ND	
92 Ethylbenzene	91	11.329	11.329	0.000	1	1017	0.004419	
93 m-Xylene & p-Xylene	106	11.445	11.445	0.000	0	1366	0.0151	
94 o-Xylene	106		11.768				ND	
95 Styrene	104		11.786				ND	
96 Bromoform	173		11.945				ND	
\$ 100 4-Bromofluorobenzene (Surr)	95	12.213	12.213	0.000	93	534889	9.77	
101 1,1,2,2-Tetrachloroethane	83		12.310				ND	
* 115 1,4-Dichlorobenzene-d4	152	13.091	13.091	0.000	95	632278	10.0	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

MSV_31_826ISS_00002

Amount Added: 5.00

Units: uL

Run Reagent

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s23.D

Injection Date: 02-Jun-2020 17:41:30

Instrument ID: 19930

Operator ID: JKH09052

Lims ID: 410-2632-A-13

Lab Sample ID: 410-2632-13

Worklist Smp#: 29

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

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

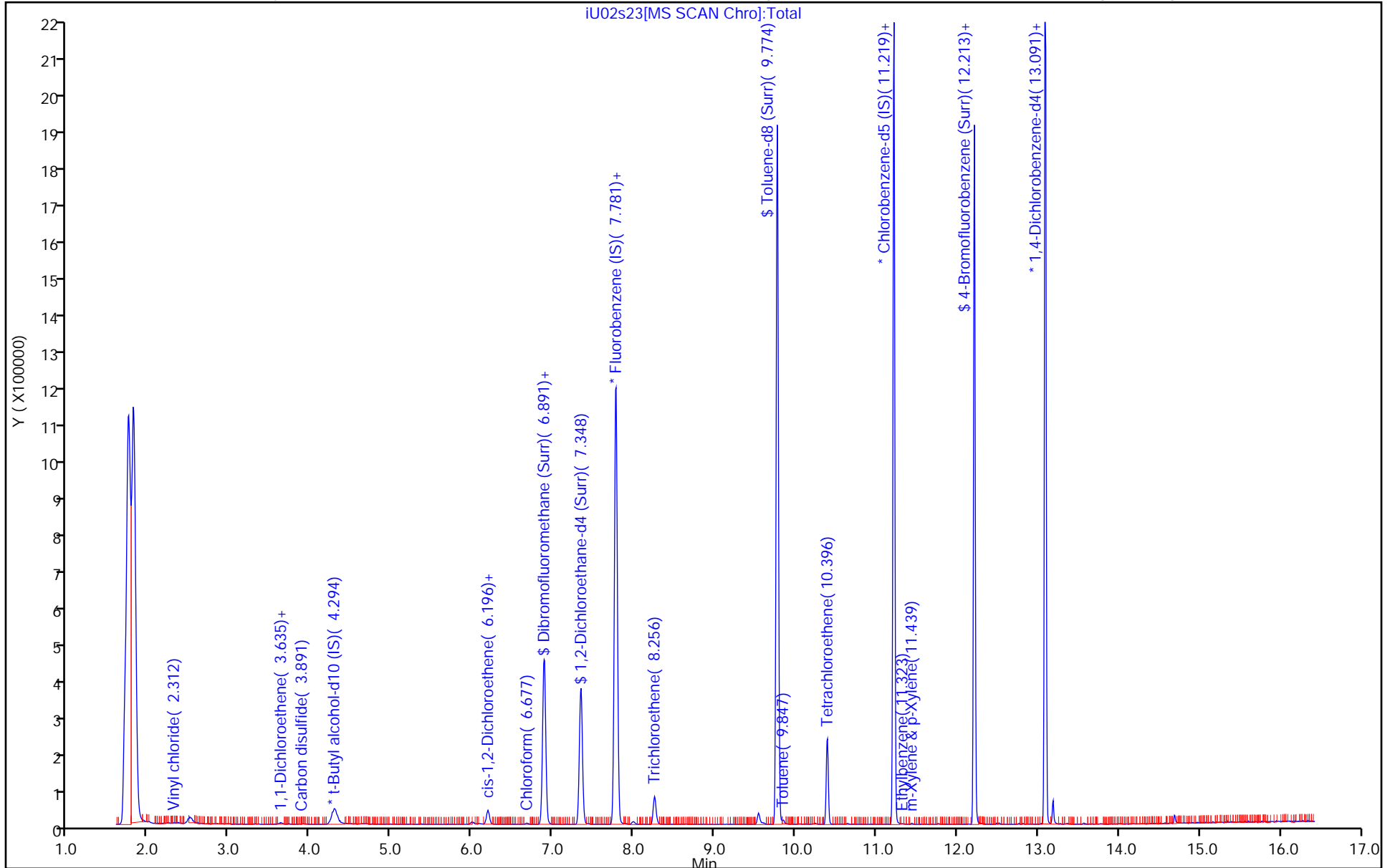
ALS Bottle#: 28

Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25 mm)

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Eurofins Lancaster Laboratories Env, LLC
Recovery Report

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s23.D
 Lims ID: 410-2632-A-13
 Client ID: HD-QC1-0/1-1
 Sample Type: Client
 Inject. Date: 02-Jun-2020 17:41:30 ALS Bottle#: 28 Worklist Smp#: 29
 Purge Vol: 25.000 mL Dil. Factor: 1.0000
 Sample Info: 410-0002623-029
 Misc. Info.: 410-2632-A-13
 Operator ID: JKH09052 Instrument ID: 19930
 Method: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\8260 25ml HP31.m
 Limit Group: MSV - 8260C_D
 Last Update: 03-Jun-2020 12:53:08 Calib Date: 16-Mar-2020 18:31:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\IM16107.D
 Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
 Process Host: CTX1046

First Level Reviewer: howej

Date: 03-Jun-2020 12:45:06

Compound	Amount Added	Amount Recovered	% Rec.
\$ 46 Dibromofluoromethane (Surr)	10.0	10.4	103.85
\$ 53 1,2-Dichloroethane-d4 (Surr)	10.0	9.98	99.81
\$ 75 Toluene-d8 (Surr)	10.0	9.74	97.39
\$ 100 4-Bromofluorobenzene (Surr)	10.0	9.77	97.66

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s23.D

Injection Date: 02-Jun-2020 17:41:30

Instrument ID: 19930

Lims ID: 410-2632-A-13

Lab Sample ID: 410-2632-13

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

Operator ID: JKH09052

ALS Bottle#: 28

Worklist Smp#: 29

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

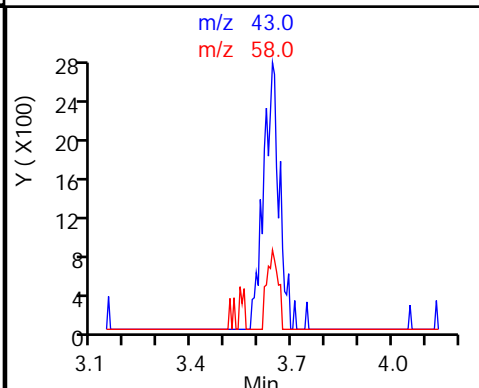
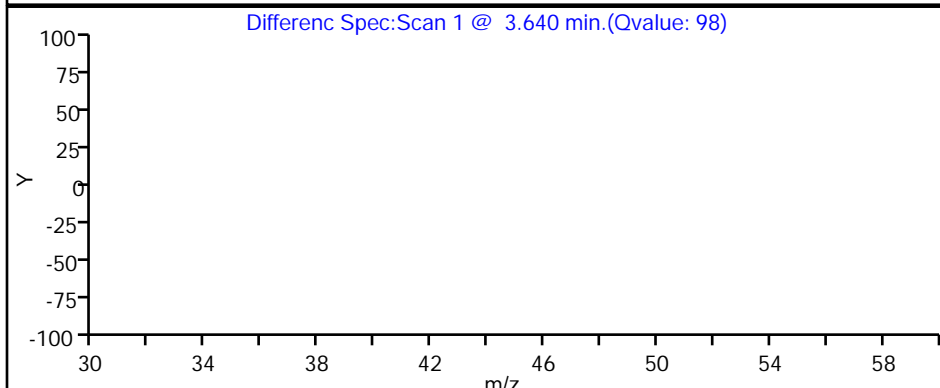
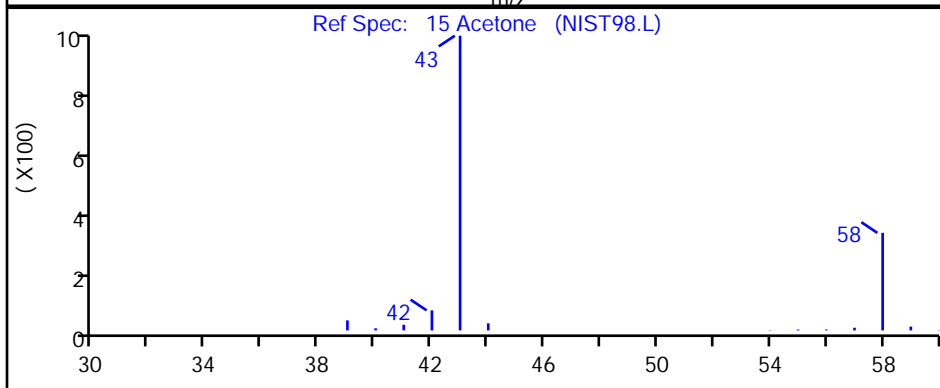
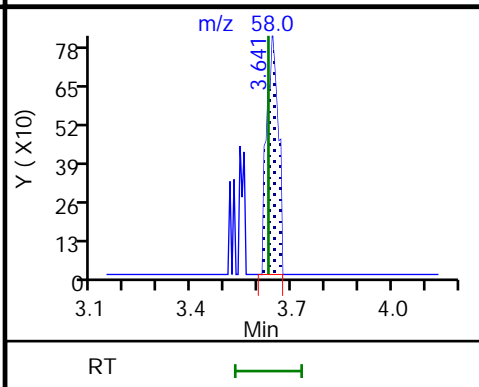
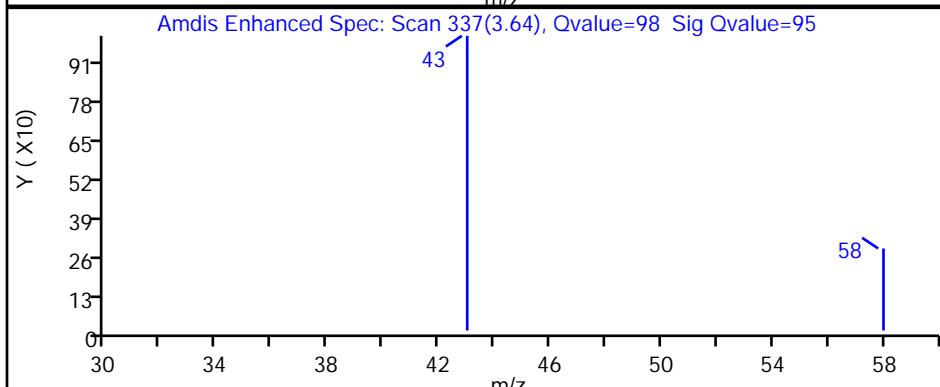
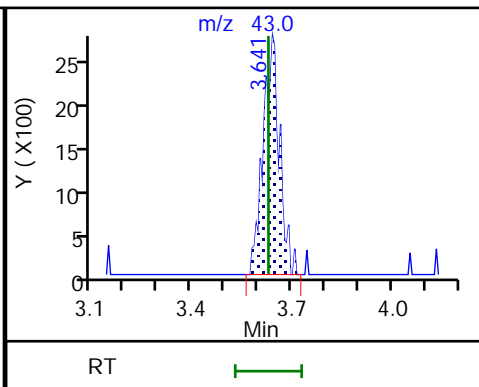
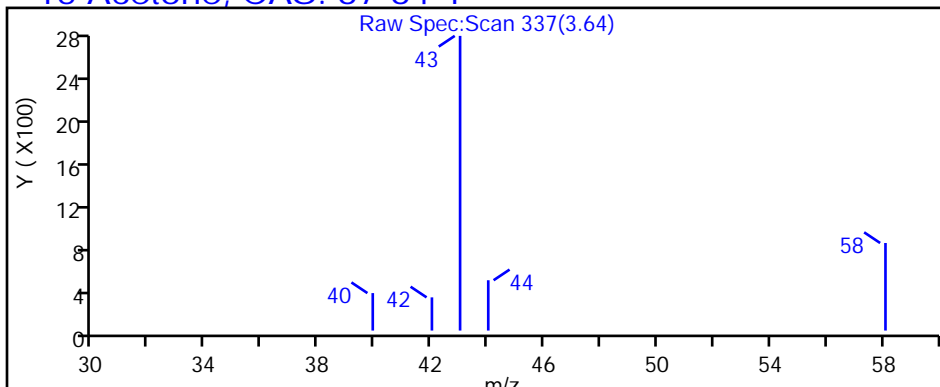
Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25mm ID)

MS Quad

15 Acetone, CAS: 67-64-1



Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s23.D

Injection Date: 02-Jun-2020 17:41:30

Instrument ID: 19930

Lims ID: 410-2632-A-13

Lab Sample ID: 410-2632-13

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

Operator ID: JKH09052

ALS Bottle#: 28

Worklist Smp#: 29

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

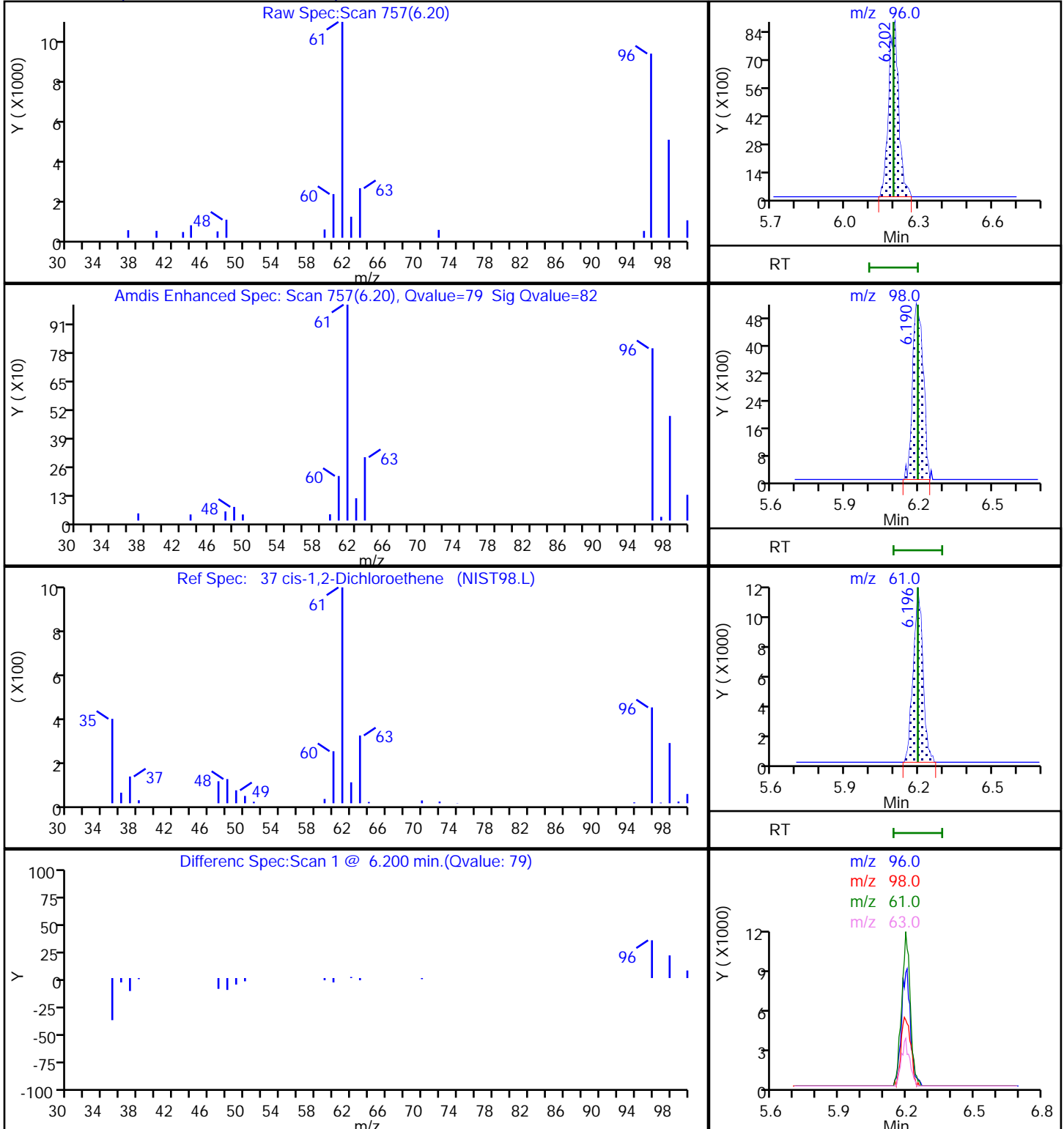
Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25mm ID)

MS Quad

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



Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s23.D

Injection Date: 02-Jun-2020 17:41:30

Instrument ID: 19930

Lims ID: 410-2632-A-13

Lab Sample ID: 410-2632-13

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

Operator ID: JKH09052

ALS Bottle#: 28

Worklist Smp#: 29

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

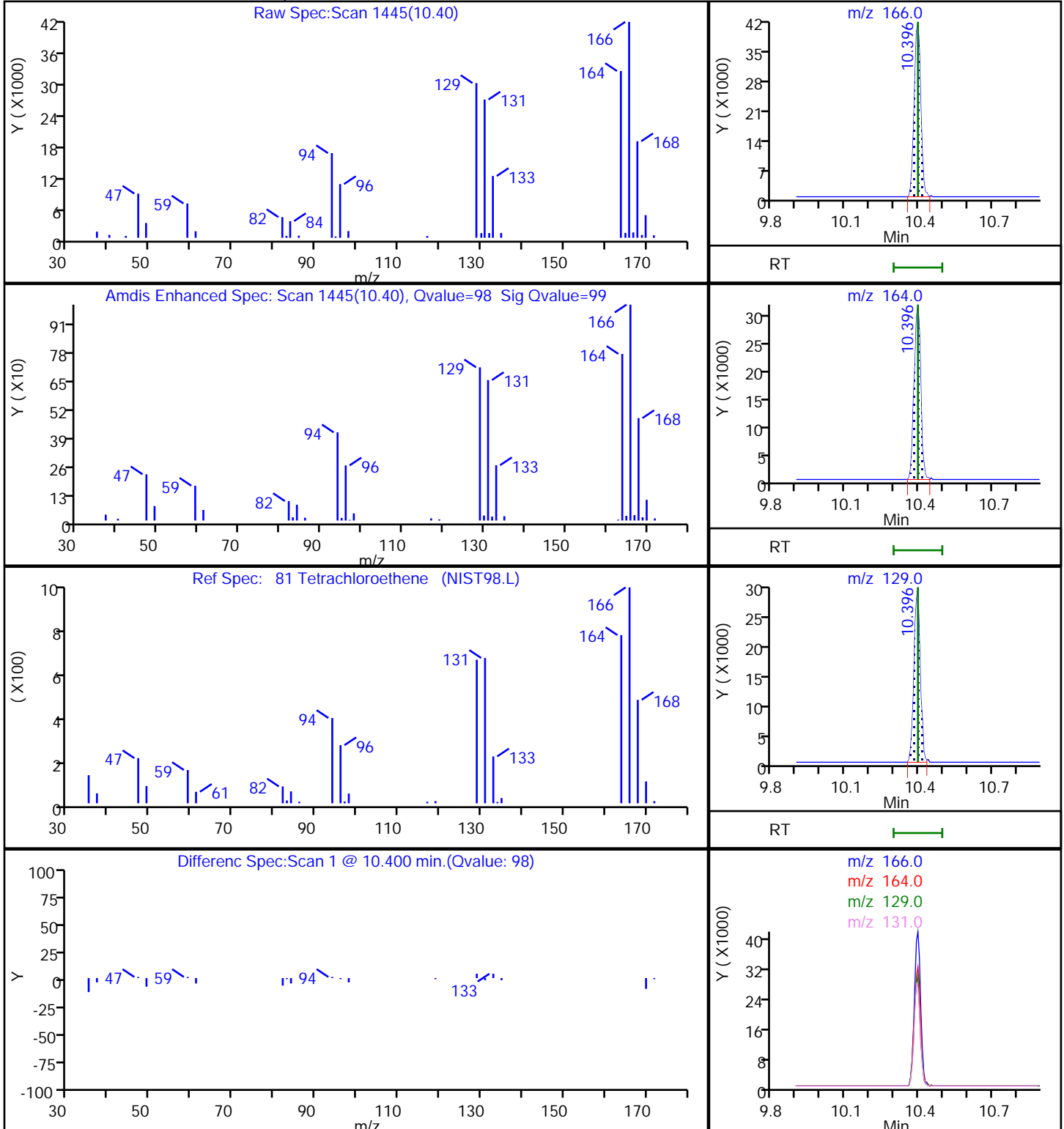
Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25mm ID)

MS Quad

81 Tetrachloroethene, CAS: 127-18-4



Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s23.D

Injection Date: 02-Jun-2020 17:41:30

Instrument ID: 19930

Lims ID: 410-2632-A-13

Lab Sample ID: 410-2632-13

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

Operator ID: JKH09052

ALS Bottle#: 28

Worklist Smp#: 29

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

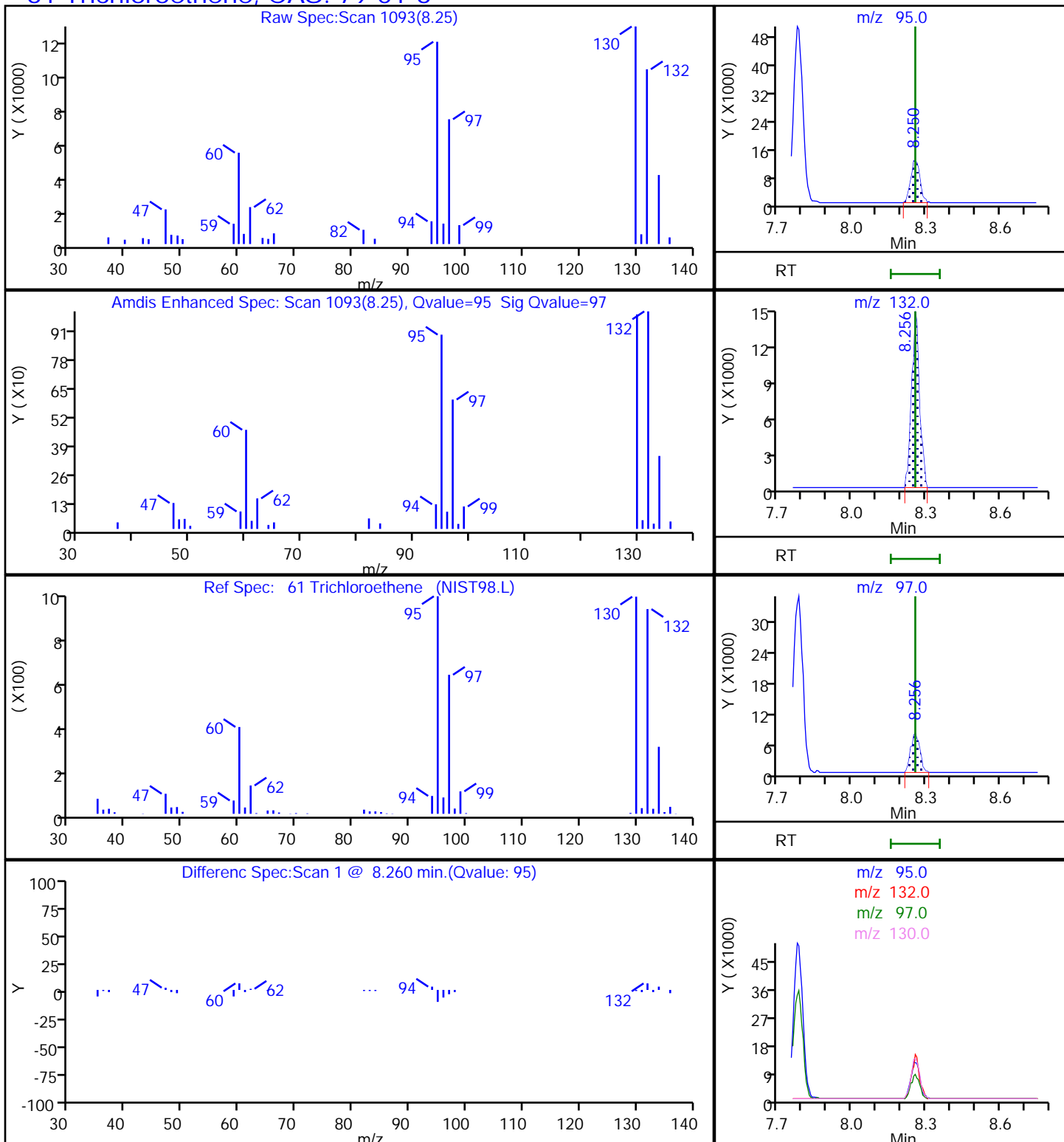
Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25mm ID)

MS Quad

61 Trichloroethene, CAS: 79-01-6



Eurofins Lancaster Laboratories Env, LLC

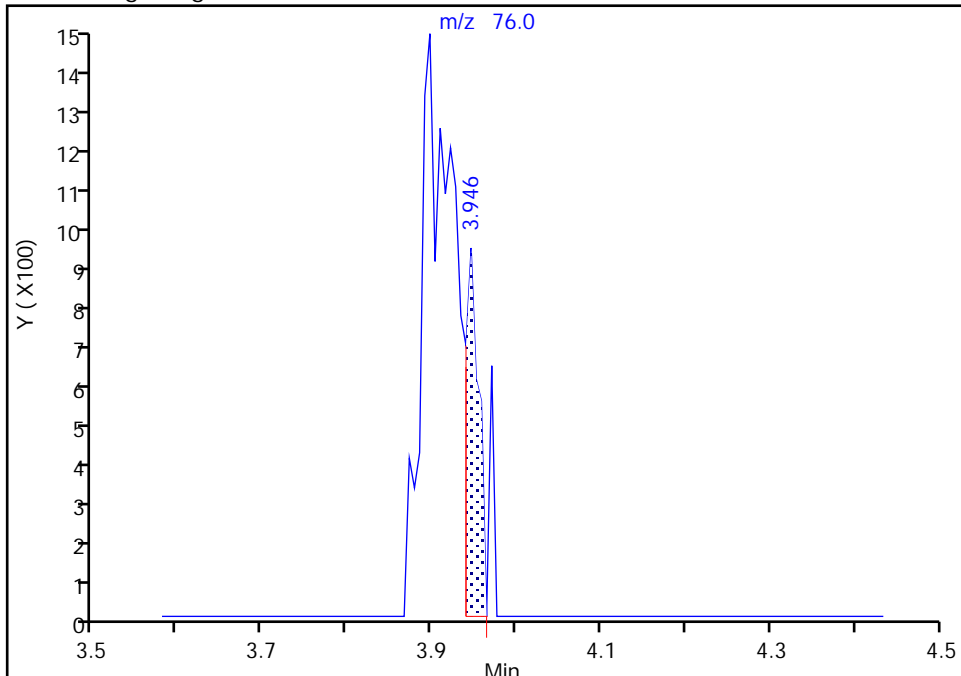
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Injection Date: 02-Jun-2020 17:41:30 Instrument ID: 19930
Lims ID: 410-2632-A-13 Lab Sample ID: 410-2632-13
Client ID: HD-QC1-0/1-1
Operator ID: JKH09052 ALS Bottle#: 28 Worklist Smp#: 29
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

19 Carbon disulfide, CAS: 75-15-0

Signal: 1

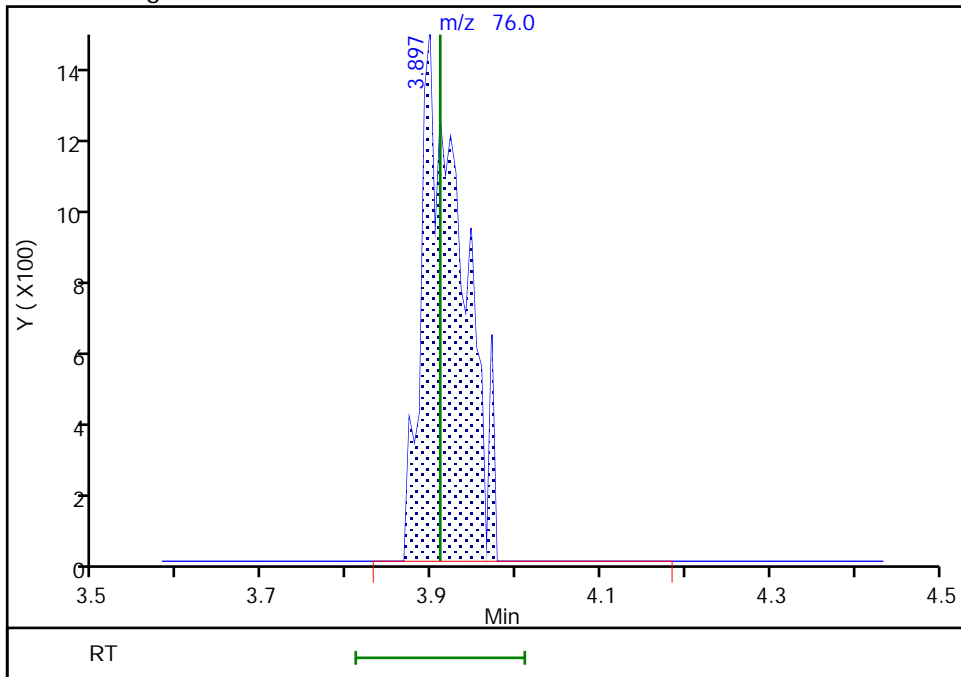
RT: 3.95
Area: 1010
Amount: 0.009114
Amount Units: ug/l

Processing Integration Results



RT: 3.90
Area: 4960
Amount: 0.044759
Amount Units: ug/l

Manual Integration Results



Reviewer: howej, 03-Jun-2020 12:44:33
Audit Action: Manually Integrated

Audit Reason: Other

Eurofins Lancaster Laboratories Env, LLC

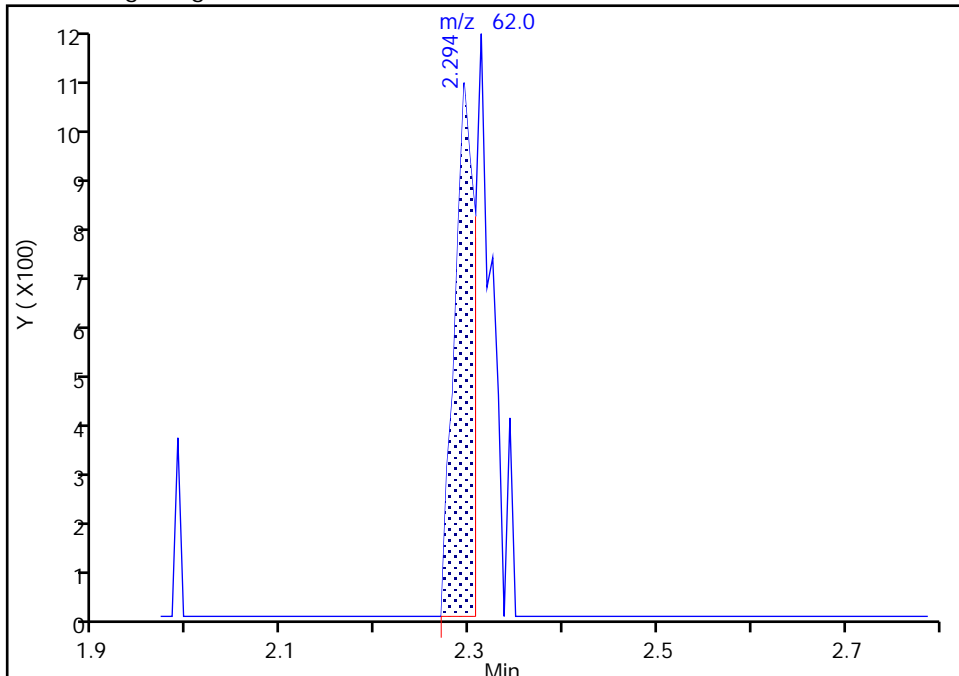
Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s23.D
Injection Date: 02-Jun-2020 17:41:30 Instrument ID: 19930
Lims ID: 410-2632-A-13 Lab Sample ID: 410-2632-13
Client ID: HD-QC1-0/1-1
Operator ID: JKH09052 ALS Bottle#: 28 Worklist Smp#: 29
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

5 Vinyl chloride, CAS: 75-01-4

Signal: 1

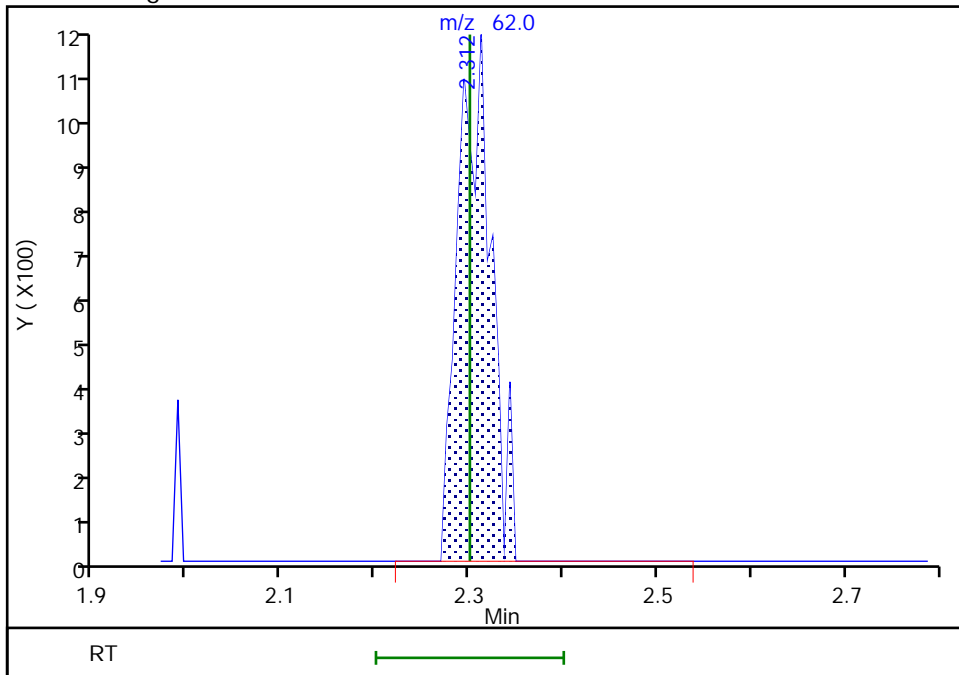
RT: 2.29
Area: 1547
Amount: 0.025147
Amount Units: ug/l

Processing Integration Results



RT: 2.31
Area: 2759
Amount: 0.044849
Amount Units: ug/l

Manual Integration Results



Reviewer: howej, 03-Jun-2020 12:44:28
Audit Action: Manually Integrated

Audit Reason: Other

Eurofins Lancaster Laboratories Env, LLC

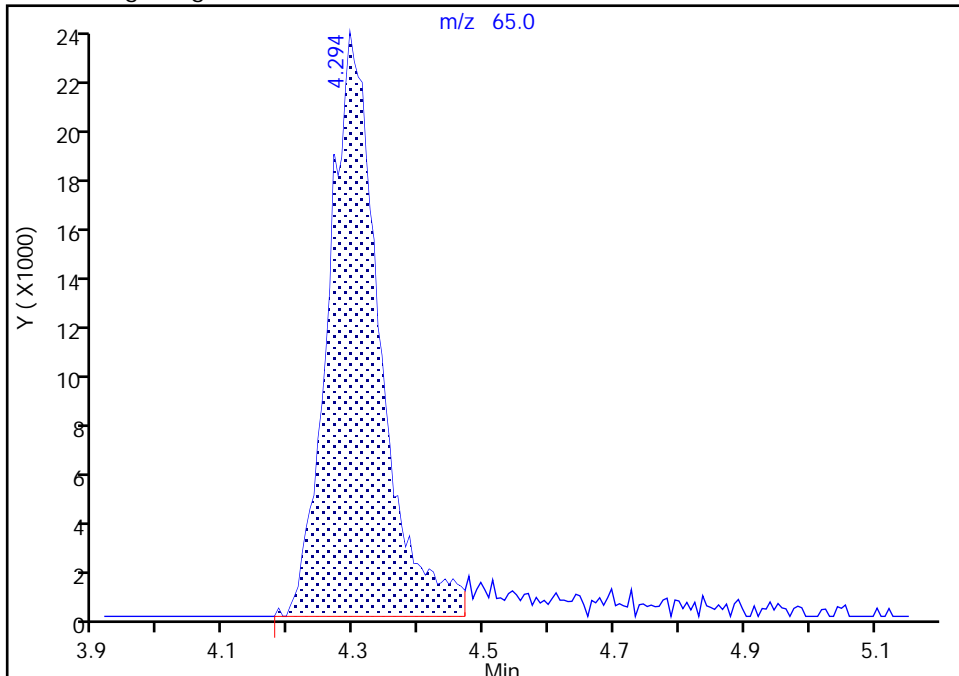
Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s23.D
Injection Date: 02-Jun-2020 17:41:30 Instrument ID: 19930
Lims ID: 410-2632-A-13 Lab Sample ID: 410-2632-13
Client ID: HD-QC1-0/1-1
Operator ID: JKH09052 ALS Bottle#: 28 Worklist Smp#: 29
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

* 24 t-Butyl alcohol-d10 (IS), CAS: 53001-22-2

Signal: 1

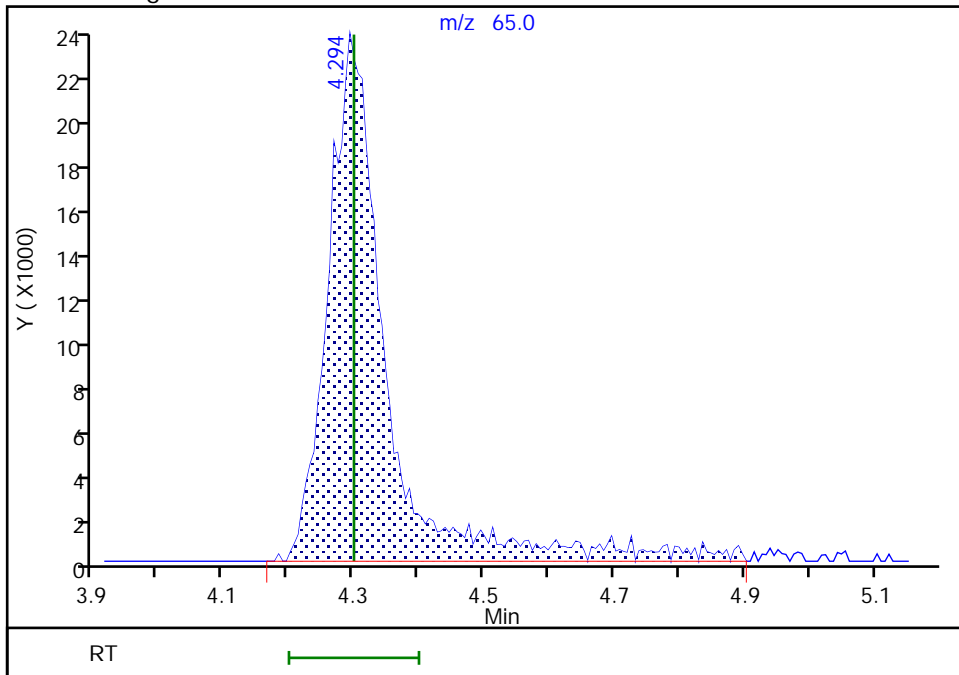
RT: 4.29
Area: 130133
Amount: 50.000000
Amount Units: ug/l

Processing Integration Results



RT: 4.29
Area: 146183
Amount: 50.000000
Amount Units: ug/l

Manual Integration Results



Reviewer: howej, 03-Jun-2020 12:44:38
Audit Action: Manually Integrated

Audit Reason: Other

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-2632-1
 SDG No.: _____
 Client Sample ID: HD-QC1-0/1-2 Lab Sample ID: 410-2632-14
 Matrix: Water Lab File ID: iU02s01.D
 Analysis Method: 8260C LL Date Collected: 05/26/2020 00:00
 Sample wt/vol: 25 (mL) Date Analyzed: 06/02/2020 09:50
 Soil Aliquot Vol: _____ Dilution Factor: 1
 Soil Extract Vol.: _____ GC Column: R-624SilMS 30m ID: 0.25 (mm)
 % Moisture: _____ Level: (low/med) Low
 Analysis Batch No.: 9922 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	ND		0.50	0.070
71-55-6	1,1,1-Trichloroethane	ND		0.50	0.060
79-34-5	1,1,2,2-Tetrachloroethane	ND		0.50	0.070
79-00-5	1,1,2-Trichloroethane	ND		0.50	0.060
75-34-3	1,1-Dichloroethane	ND		0.50	0.070
75-35-4	1,1-Dichloroethene	ND		0.50	0.060
106-93-4	1,2-Dibromoethane (EDB)	ND		0.50	0.060
107-06-2	1,2-Dichloroethane	ND		0.50	0.050
78-87-5	1,2-Dichloropropane	ND		0.50	0.060
78-93-3	2-Butanone (MEK)	ND		5.0	0.60
591-78-6	2-Hexanone	ND		5.0	0.60
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		5.0	0.70
67-64-1	Acetone	ND		5.0	0.90
107-13-1	Acrylonitrile	ND		5.0	0.40
71-43-2	Benzene	ND		0.50	0.050
74-97-5	Bromochloromethane	ND		0.50	0.050
75-27-4	Bromodichloromethane	ND		0.50	0.050
75-25-2	Bromoform	ND		1.0	0.30
74-83-9	Bromomethane	ND		0.50	0.070
75-15-0	Carbon disulfide	ND		1.0	0.060
56-23-5	Carbon tetrachloride	ND		0.50	0.070
108-90-7	Chlorobenzene	ND		0.50	0.060
75-00-3	Chloroethane	ND		0.50	0.070
67-66-3	Chloroform	ND		0.50	0.090
74-87-3	Chloromethane	ND		0.50	0.060
156-59-2	cis-1,2-Dichloroethene	ND		0.50	0.050
10061-01-5	cis-1,3-Dichloropropene	ND		0.50	0.050
124-48-1	Dibromochloromethane	ND		0.50	0.070
100-41-4	Ethylbenzene	ND		0.50	0.060
1634-04-4	Methyl tert-butyl ether	ND		0.50	0.050
75-09-2	Methylene Chloride	ND		0.50	0.070
100-42-5	Styrene	ND		0.50	0.050
127-18-4	Tetrachloroethene	ND		0.50	0.060
108-88-3	Toluene	ND		0.50	0.070
156-60-5	trans-1,2-Dichloroethene	ND		0.50	0.060
10061-02-6	trans-1,3-Dichloropropene	ND		0.50	0.060

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-2632-1
 SDG No.: _____
 Client Sample ID: HD-QC1-0/1-2 Lab Sample ID: 410-2632-14
 Matrix: Water Lab File ID: iU02s01.D
 Analysis Method: 8260C LL Date Collected: 05/26/2020 00:00
 Sample wt/vol: 25 (mL) Date Analyzed: 06/02/2020 09:50
 Soil Aliquot Vol.: _____ Dilution Factor: 1
 Soil Extract Vol.: _____ GC Column: R-624SilMS 30m ID: 0.25 (mm)
 % Moisture: _____ Level: (low/med) Low
 Analysis Batch No.: 9922 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
79-01-6	Trichloroethene	ND		0.50	0.060
75-01-4	Vinyl chloride	ND		0.50	0.10
1330-20-7	Xylenes, Total	ND		1.0	0.15

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	104		80-120
1868-53-7	Dibromofluoromethane (Surr)	102		80-120
2037-26-5	Toluene-d8 (Surr)	99		80-120
460-00-4	4-Bromofluorobenzene (Surr)	98		80-120

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s01.D
 Lims ID: 410-2632-A-14
 Client ID: HD-QC1-0/1-2
 Sample Type: Client
 Inject. Date: 02-Jun-2020 09:50:30 ALS Bottle#: 6 Worklist Smp#: 7
 Purge Vol: 25.000 mL Dil. Factor: 1.0000
 Sample Info: 410-0002623-007
 Misc. Info.: 410-2632-A-14
 Operator ID: JKH09052 Instrument ID: 19930
 Method: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\8260 25ml HP31.m
 Limit Group: MSV - 8260C_D
 Last Update: 03-Jun-2020 12:53:08 Calib Date: 16-Mar-2020 18:31:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\IM16107.D
 Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
 Process Host: CTX1046

First Level Reviewer: howej

Date: 02-Jun-2020 12:36:07

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
4 Chloromethane	50		2.190				ND	
5 Vinyl chloride	62		2.300				ND	
7 Bromomethane	94		2.642				ND	
8 Chloroethane	64		2.727				ND	
14 1,1-Dichloroethene	96		3.599				ND	
15 Acetone	43	3.660	3.629	0.031	68	5870	0.5397	
19 Carbon disulfide	76	3.916	3.910	0.006	13	392	0.002689	
23 Methylene Chloride	84		4.288				ND	
* 24 t-Butyl alcohol-d10 (IS)	65	4.318	4.300	0.018	0	219163	50.0	M
26 Acrylonitrile	53		4.623				ND	
27 Methyl tert-butyl ether	73		4.696				ND	
28 trans-1,2-Dichloroethene	96		4.702				ND	
31 1,1-Dichloroethane	63		5.367				ND	
36 2-Butanone (MEK)	43		6.165				ND	
37 cis-1,2-Dichloroethene	96		6.196				ND	
43 Chlorobromomethane	128		6.525				ND	
45 Chloroform	83		6.677				ND	
\$ 46 Dibromofluoromethane (Surr)	113	6.897	6.885	0.012	94	469621	10.2	
47 1,1,1-Trichloroethane	97		6.903				ND	
50 Carbon tetrachloride	117		7.110				ND	
\$ 53 1,2-Dichloroethane-d4 (Surr)	102	7.354	7.342	0.012	0	97097	10.4	
54 Benzene	78		7.378				ND	
56 1,2-Dichloroethane	62		7.452				ND	U
* 58 Fluorobenzene (IS)	96	7.781	7.775	0.006	99	1906431	10.0	
61 Trichloroethene	95		8.256				ND	
63 1,2-Dichloropropane	63		8.586				ND	
68 Dichlorobromomethane	83		8.927				ND	
73 cis-1,3-Dichloropropene	75		9.470				ND	
74 4-Methyl-2-pentanone (MIBK)	43		9.634				ND	
\$ 75 Toluene-d8 (Surr)	98	9.780	9.774	0.006	94	1862409	9.90	
76 Toluene	92	9.854	9.854	0.000	11	1001	0.006656	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
78 trans-1,3-Dichloropropene	75		10.104				ND	
80 1,1,2-Trichloroethane	97		10.305				ND	
81 Tetrachloroethene	166		10.396				ND	
83 2-Hexanone	43		10.512				ND	
85 Chlorodibromomethane	129		10.683				ND	
86 Ethylene Dibromide	107		10.792				ND	
* 87 Chlorobenzene-d5 (IS)	117	11.219	11.219	0.000	86	1480056	10.0	
90 Chlorobenzene	112		11.244				ND	U
S 89 Xylenes, Total	106		11.245				ND	
91 1,1,1,2-Tetrachloroethane	131		11.323				ND	
92 Ethylbenzene	91		11.329				ND	
93 m-Xylene & p-Xylene	106		11.445				ND	
94 o-Xylene	106		11.768				ND	
95 Styrene	104		11.786				ND	
96 Bromoform	173		11.945				ND	
\$ 100 4-Bromofluorobenzene (Surr)	95	12.213	12.213	0.000	92	686636	9.78	
101 1,1,2,2-Tetrachloroethane	83		12.310				ND	
* 115 1,4-Dichlorobenzene-d4	152	13.091	13.091	0.000	95	809227	10.0	

QC Flag Legend

Review Flags

M - Manually Integrated

U - Marked Undetected

Reagents:

MSV_31_826ISS_00002

Amount Added: 5.00

Units: uL

Run Reagent

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s01.D

Injection Date: 02-Jun-2020 09:50:30

Instrument ID: 19930

Operator ID: JKH09052

Lims ID: 410-2632-A-14

Lab Sample ID: 410-2632-14

Worklist Smp#: 7

Client ID: HD-QC1-0/1-2

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

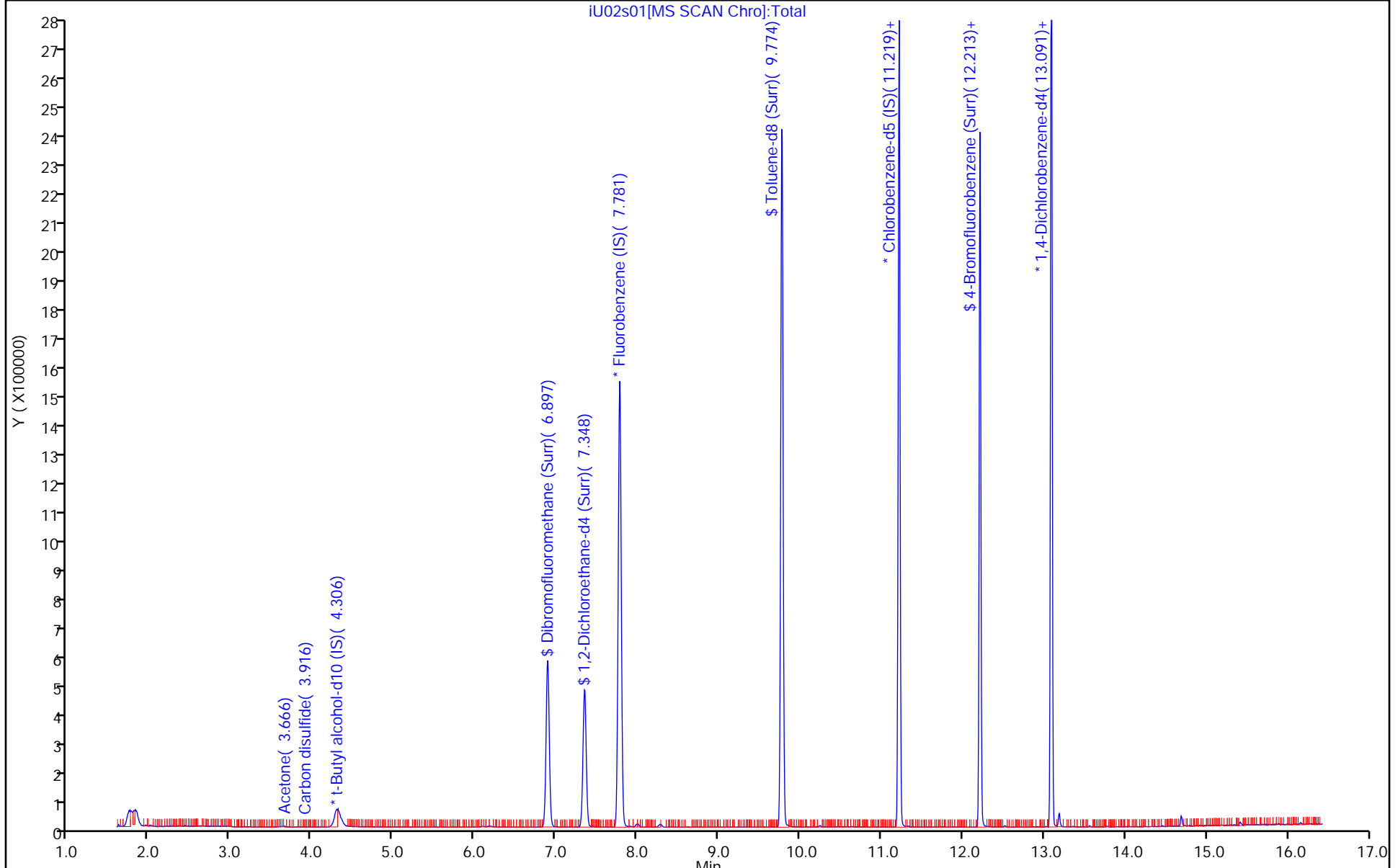
ALS Bottle#: 6

Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25 mm)

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Eurofins Lancaster Laboratories Env, LLC
Recovery Report

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s01.D
 Lims ID: 410-2632-A-14
 Client ID: HD-QC1-0/1-2
 Sample Type: Client
 Inject. Date: 02-Jun-2020 09:50:30 ALS Bottle#: 6 Worklist Smp#: 7
 Purge Vol: 25.000 mL Dil. Factor: 1.0000
 Sample Info: 410-0002623-007
 Misc. Info.: 410-2632-A-14
 Operator ID: JKH09052 Instrument ID: 19930
 Method: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\8260 25ml HP31.m
 Limit Group: MSV - 8260C_D
 Last Update: 03-Jun-2020 12:53:08 Calib Date: 16-Mar-2020 18:31:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\IM16107.D
 Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
 Process Host: CTX1046

First Level Reviewer: howej Date: 02-Jun-2020 12:36:07

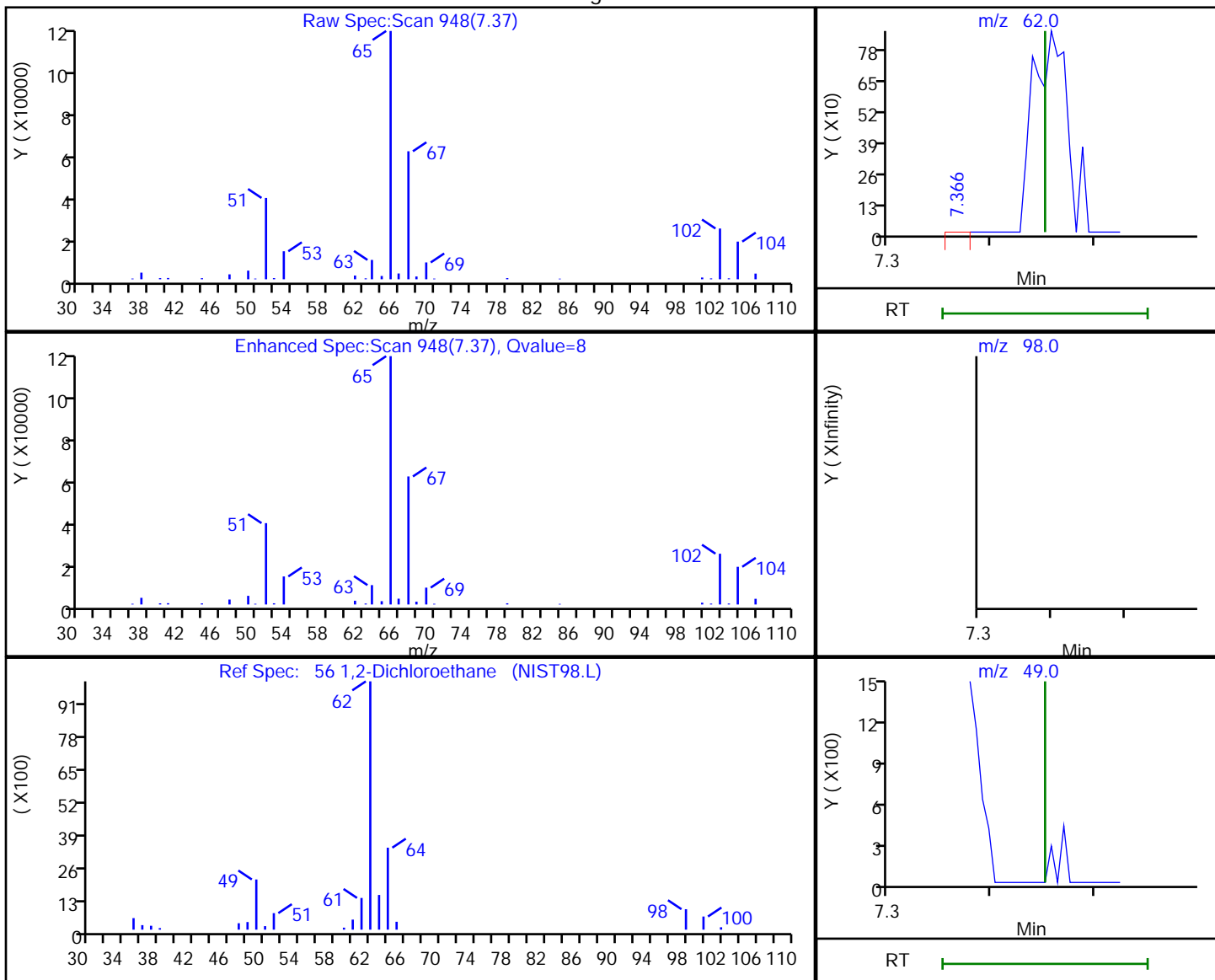
Compound	Amount Added	Amount Recovered	% Rec.
\$ 46 Dibromofluoromethane (Surr)	10.0	10.2	102.06
\$ 53 1,2-Dichloroethane-d4 (Surr)	10.0	10.4	104.14
\$ 75 Toluene-d8 (Surr)	10.0	9.90	98.96
\$ 100 4-Bromofluorobenzene (Surr)	10.0	9.78	97.77

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s01.D
 Injection Date: 02-Jun-2020 09:50:30 Instrument ID: 19930
 Lims ID: 410-2632-A-14 Lab Sample ID: 410-2632-14
 Client ID: HD-QC1-0/1-2
 Operator ID: JKH09052 ALS Bottle#: 6 Worklist Smp#: 7
 Purge Vol: 25.000 mL Dil. Factor: 1.0000
 Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
 Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

56 1,2-Dichloroethane, CAS: 107-06-2

Processing Results



RT	Mass	Response	Amount
7.37	62.00	423	0.006911
7.35	98.00	565	
7.45	49.00	0	

Reviewer: howej, 02-Jun-2020 12:35:51

Audit Action: Marked Compound Undetected

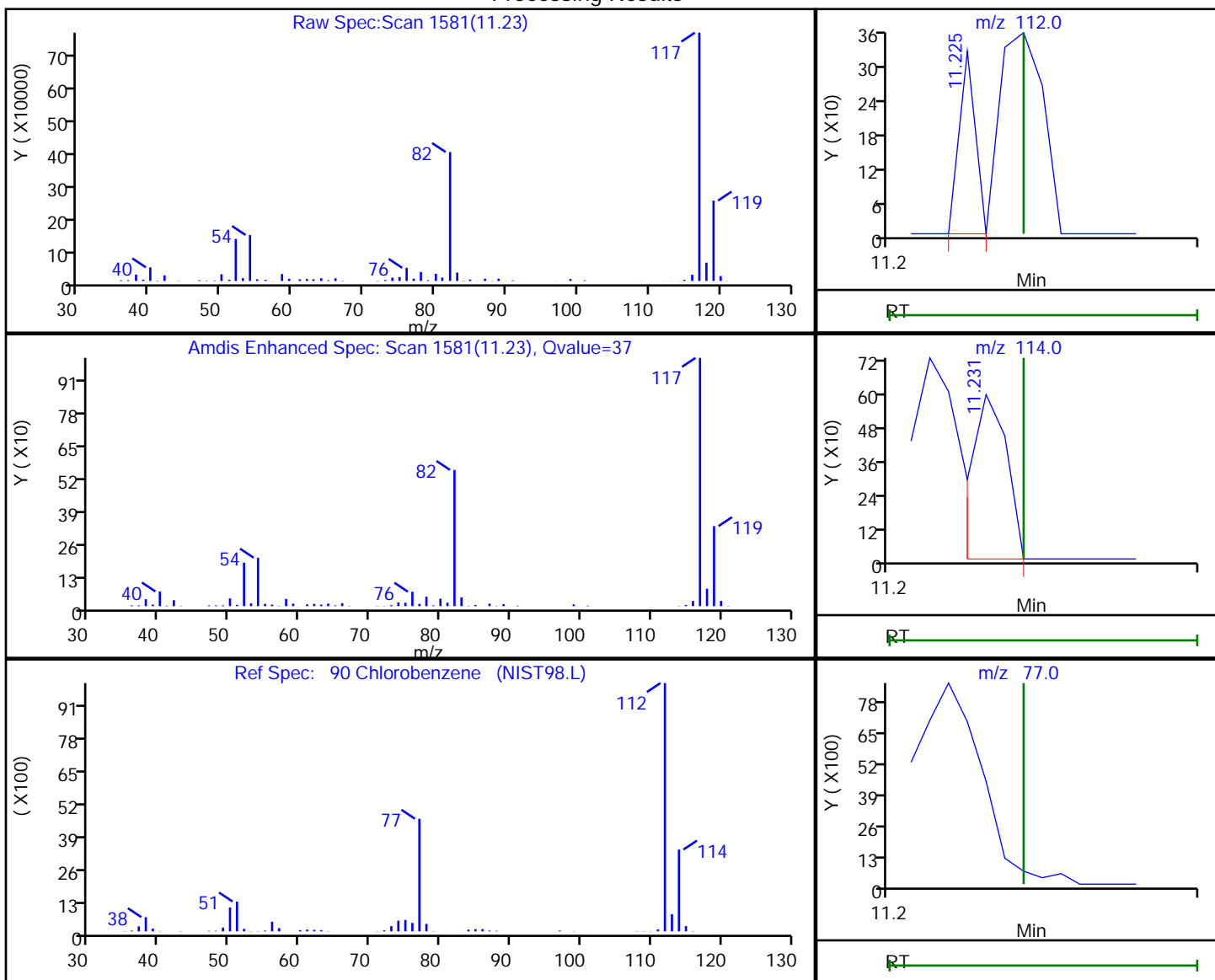
Audit Reason: Invalid Compound ID

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s01.D
 Injection Date: 02-Jun-2020 09:50:30 Instrument ID: 19930
 Lims ID: 410-2632-A-14 Lab Sample ID: 410-2632-14
 Client ID: HD-QC1-0/1-2
 Operator ID: JKH09052 ALS Bottle#: 6 Worklist Smp#: 7
 Purge Vol: 25.000 mL Dil. Factor: 1.0000
 Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
 Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

90 Chlorobenzene, CAS: 108-90-7

Processing Results



RT	Mass	Response	Amount
11.23	112.00	119	0.000714
11.23	114.00	482	
11.22	77.00	13658	
11.22	50.00	44568	

Reviewer: howej, 02-Jun-2020 12:35:59

Audit Action: Marked Compound Undetected

Audit Reason: Invalid Compound ID

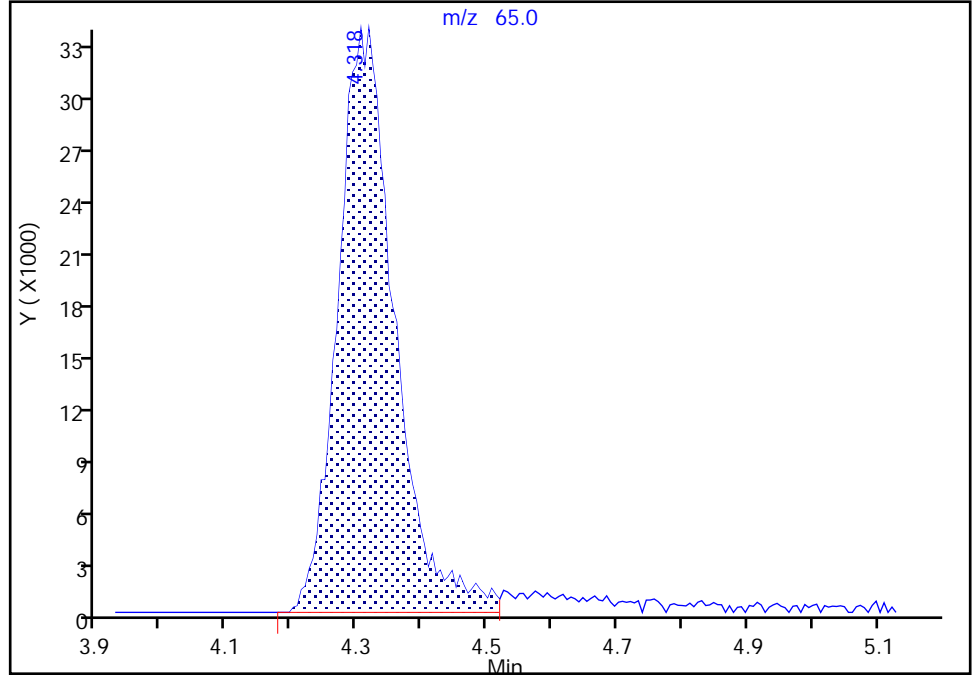
Euofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s01.D
Injection Date: 02-Jun-2020 09:50:30 Instrument ID: 19930
Lims ID: 410-2632-A-14 Lab Sample ID: 410-2632-14
Client ID: HD-QC1-0/1-2
Operator ID: JKH09052 ALS Bottle#: 6 Worklist Smp#: 7
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

* 24 t-Butyl alcohol-d10 (IS), CAS: 53001-22-2
Signal: 1

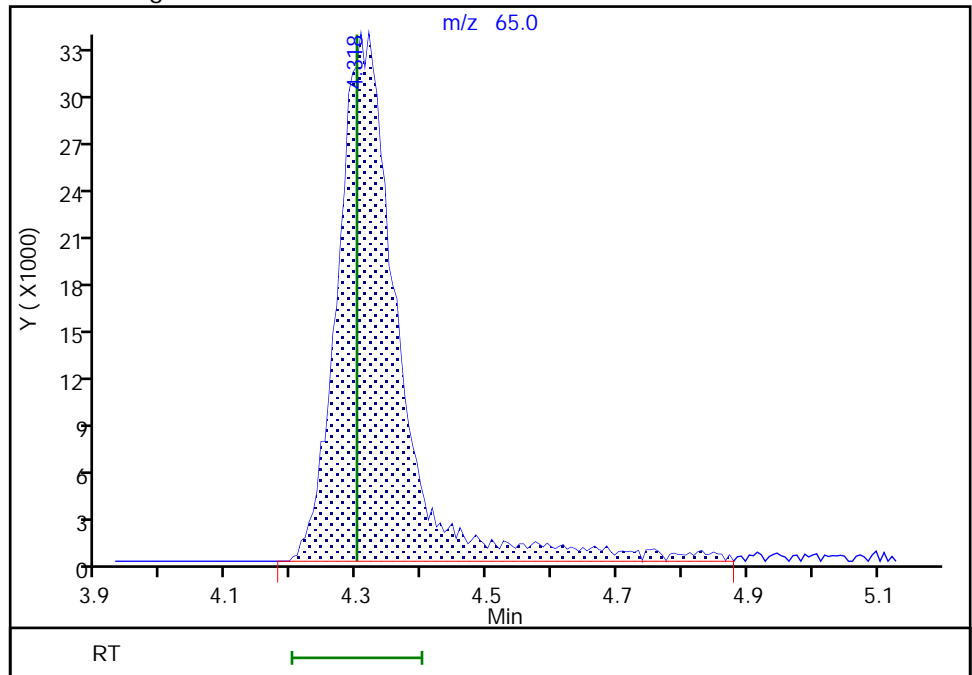
RT: 4.32
Area: 204697
Amount: 50.000000
Amount Units: ug/l

Processing Integration Results



RT: 4.32
Area: 219163
Amount: 50.000000
Amount Units: ug/l

Manual Integration Results



Reviewer: howej, 02-Jun-2020 12:35:47
Audit Action: Manually Integrated

Audit Reason: Other

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

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-2632-1

Analy Batch No.: 6388

SDG No.: _____

Instrument ID: 19930

GC Column: R-624SilMS ID: 0.25 (mm)

Heated Purge: (Y/N) N

Calibration Start Date: 03/16/2020 16:24

Calibration End Date: 03/16/2020 18:31

Calibration ID: 2799

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 410-6388/18	IM16I07.D
Level 2	IC 410-6388/17	IM16I06.D
Level 3	IC 410-6388/16	IM16I05.D
Level 4	IC 410-6388/15	IM16I04.D
Level 5	IC 410-6388/14	IM16I03.D
Level 6	ICIS 410-6388/13	IM16I02.D
Level 7	IC 410-6388/12	IM16I01.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															
Dichlorodifluoromethane	0.7248 0.5060	0.5380 0.5082	0.5398	0.4855	0.5032	Ave	0.5436			0.1000	15.1		20.0				
Chloromethane	0.4601 0.4454	0.4178 0.4461	0.4291	0.4229	0.4452	Ave	0.4381			0.1000	3.5		20.0				
1,3-Butadiene	0.3205 0.3154	0.3130 0.3093	0.3276	0.3090	0.3067	Ave	0.3145				2.3		20.0				
Vinyl chloride	0.4281 0.4380	0.3945 0.4374	0.4211	0.4135	0.4388	Ave	0.4245			0.1000	3.8		20.0				
Bromomethane	0.3146 0.3001	0.2847 0.2973	0.2920	0.2873	0.3076	Ave	0.2976			0.1000	3.6		20.0				
Chloroethane	0.2494 0.2424	0.2267 0.2397	0.2426	0.2336	0.2474	Ave	0.2402			0.1000	3.3		20.0				
Dichlorofluoromethane	0.6391 0.5539	0.5249 0.5479	0.5476	0.5349	0.5633	Ave	0.5588			0.1000	6.7		20.0				
Trichlorofluoromethane	0.5016 0.5256	0.4674 0.5211	0.5088	0.4962	0.5218	Ave	0.5061			0.1000	4.0		20.0				
Ethyl ether	0.2220 0.2203	0.2182 0.2135	0.2064	0.2202	0.2218	Ave	0.2175				2.6		20.0				
Freon 123a	0.3512 0.3478	0.3329 0.3333	0.3558	0.3403	0.3358	Ave	0.3424				2.7		20.0				
Acrolein	1.7901 2.1084	1.8223 2.1384	2.0188	1.9950	1.9897	Ave	1.9804				6.7		20.0				
1,1-Dichloroethene	0.2504 0.2748	0.2657 0.2642	0.2756	0.2736	0.2687	Ave	0.2676			0.1000	3.3		20.0				
Acetone	2.5908 2.4459	2.4869 2.4117	2.6072	2.4683	2.3589	Ave	2.4814			0.1000	3.6		20.0				
Freon 113	0.2478 0.3090	0.2706 0.2988	0.3094	0.2952	0.3021	Ave	0.2904			0.1000	7.9		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 Lancaster Laboratories Env Job No.: 410-2632-1

Analy Batch No.: 6388

SDG No.: _____

Instrument ID: 19930

GC Column: R-624SilMS ID: 0.25 (mm)

Heated Purge: (Y/N) N

Calibration Start Date: 03/16/2020 16:24

Calibration End Date: 03/16/2020 18:31

Calibration ID: 2799

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															
Methyl iodide	0.4834 0.5275	0.4950 0.5105	0.5242	0.5186	0.5166	Ave		0.5108			3.2		20.0				
Ethyl bromide	0.2245 0.2329	0.2241 0.2246	0.2215	0.2299	0.2338	Ave		0.2273			2.1		20.0				
Carbon disulfide	0.7526 0.7803	0.7455 0.7499	0.7887	0.7753	0.7600	Ave		0.7646		0.1000	2.2		20.0				
Methyl acetate	0.1512 0.1196	0.1212 0.1114	0.1089	0.1156	0.1132	Ave		0.1202		0.1000	11.9		20.0				
Allyl chloride	0.3923 0.4109	0.4037 0.3994	0.3959	0.4142	0.4120	Ave		0.4040			2.1		20.0				
Methylene Chloride	0.2697 0.2824	0.2805 0.2722	0.2851	0.2779	0.2768	Ave		0.2778		0.1000	2.0		20.0				
t-Butyl alcohol	1.1724 1.2154	1.1833 1.1315	1.3084	1.2346	1.1856	Ave		1.2045			4.7		20.0				
Acrylonitrile	2.9719 3.4734	3.0008 3.5107	3.3407	3.2593	3.2811	Ave		3.2626			6.4		20.0				
Methyl tert-butyl ether	0.6405 0.7005	0.6898 0.6616	0.7101	0.6988	0.7070	Ave		0.6869		0.1000	3.8		20.0				
trans-1,2-Dichloroethene	0.2865 0.2938	0.2826 0.2822	0.2909	0.2885	0.2883	Ave		0.2875		0.1000	1.5		20.0				
n-Hexane	0.4442 0.4541	0.4046 0.4375	0.4358	0.4285	0.4261	Ave		0.4330			3.6		20.0				
1,1-Dichloroethane	0.4598 0.5319	0.5054 0.5134	0.5295	0.5222	0.5172	Ave		0.5113		0.2000	4.8		20.0				
di-Isopropyl ether	0.7943 0.8838	0.8404 0.8471	0.8859	0.8711	0.8645	Ave		0.8553			3.7		20.0				
2-Chloro-1,3-butadiene	0.4285 0.4690	0.4368 0.4526	0.4591	0.4581	0.4580	Ave		0.4517			3.1		20.0				
Ethyl t-butyl ether	0.8002 0.8555	0.8244 0.8087	0.8827	0.8683	0.8522	Ave		0.8417			3.7		20.0				
2-Butanone (MEK)	3.9176 4.6223	4.0453 4.7355	4.4465	4.4302	4.3859	Ave		4.3690		0.1000	6.7		20.0				
cis-1,2-Dichloroethene	0.3121 0.3307	0.3151 0.3197	0.3300	0.3260	0.3258	Ave		0.3228		0.1000	2.3		20.0				
2,2-Dichloropropane	0.4570 0.4750	0.4512 0.4549	0.4696	0.4654	0.4649	Ave		0.4626			1.8		20.0				
Propionitrile	1.1162 1.2641	1.1378 1.2723	1.2661	1.2494	1.2031	Ave		1.2156			5.3		20.0				
Methacrylonitrile	3.6535 4.4605	3.8117 4.5747	4.2160	4.2195	4.1917	Ave		4.1611			7.9		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 Lancaster Laboratories Env Job No.: 410-2632-1

Analy Batch No.: 6388

SDG No.: _____

Instrument ID: 19930

GC Column: R-624SilMS ID: 0.25 (mm)

Heated Purge: (Y/N) N

Calibration Start Date: 03/16/2020 16:24

Calibration End Date: 03/16/2020 18:31

Calibration ID: 2799

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															
Bromochloromethane	0.1440 0.1433	0.1477 0.1381	0.1379	0.1440	0.1446	Ave		0.1428			2.5		20.0				
Tetrahydrofuran	1.3815 1.3711	1.2312 1.3840	1.3713	1.3240	1.3153	Ave		1.3398			4.1		20.0				
Chloroform	0.4855 0.5211	0.5075 0.5040	0.5306	0.5178	0.5147	Ave		0.5116		0.2000	2.8		20.0				
1,1,1-Trichloroethane	0.4633 0.5125	0.4852 0.4938	0.5169	0.5024	0.4986	Ave		0.4961		0.1000	3.6		20.0				
Cyclohexane	0.5307 0.5356	0.4955 0.5156	0.5463	0.5187	0.5188	Ave		0.5230		0.1000	3.1		20.0				
Carbon tetrachloride	0.3963 0.4605	0.4154 0.4484	0.4608	0.4483	0.4489	Ave		0.4398		0.1000	5.6		20.0				
1,1-Dichloropropene	0.3703 0.4309	0.3921 0.4168	0.4241	0.4207	0.4141	Ave		0.4099			5.2		20.0				
Isobutyl alcohol	0.3710 0.3502	0.3329 0.3374	0.3529	0.3487	0.3435	Ave		0.3481			3.6		20.0				
Benzene	1.1329 1.2362	1.1632 1.1905	1.2220	1.2051	1.2022	Ave		1.1931		0.5000	3.0		20.0				
1,2-Dichloroethane	0.3324 0.3218	0.3232 0.3057	0.3263	0.3252	0.3126	Ave		0.3210		0.1000	2.8		20.0				
t-Amyl methyl ether	0.7625 0.7985	0.7793 0.7513	0.7972	0.7901	0.7948	Ave		0.7820			2.4		20.0				
n-Heptane	0.3791 0.4454	0.3734 0.4313	0.4239	0.4159	0.4187	Ave		0.4125			6.5		20.0				
n-Butanol	0.2723 0.3268	0.3027 0.2973	0.3178	0.3187	0.3177	Ave		0.3076			6.1		20.0				
Trichloroethene	0.3015 0.3283	0.3078 0.3199	0.3261	0.3212	0.3192	Ave		0.3177		0.2000	3.0		20.0				
Methylcyclohexane	0.5398 0.5919	0.5335 0.5815	0.5427	0.5827	0.5898	Ave		0.5660		0.1000	4.6		20.0				
1,2-Dichloropropane	0.2698 0.3000	0.2847 0.2935	0.2965	0.2912	0.2946	Ave		0.2901		0.1000	3.5		20.0				
Methyl methacrylate	7.5664 8.9898	7.6398 9.3199	8.5948	8.4203	8.4955	Ave		8.4324			7.7		20.0				
1,4-Dioxane	0.0493 0.0807	0.0845 0.0544	0.0757	0.0763	0.0740	Ave		0.0707		0.0050	19.0		20.0				
Dibromomethane	0.1352 0.1467	0.1375 0.1414	0.1548	0.1467	0.1445	Ave		0.1438			4.6		20.0				
Bromodichloromethane	0.3583 0.3885	0.3725 0.3811	0.3880	0.3765	0.3790	Ave		0.3777		0.2000	2.7		20.0				

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

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

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-2632-1

Analy Batch No.: 6388

SDG No.:

Instrument ID: 19930

GC Column: R-624SilMS ID: 0.25 (mm)

Heated Purge: (Y/N) N

Calibration Start Date: 03/16/2020 16:24

Calibration End Date: 03/16/2020 18:31

Calibration ID: 2799

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															
2-Nitropropane	2.1962 2.8180	2.4103 2.9065	2.7131	2.6526	2.6444	Ave		2.6202			9.3		20.0				
1-Bromo-2-chloroethane	0.2862 0.3111	0.2992 0.3041	0.2888	0.3090	0.3095	Ave		0.3011			3.4		20.0				
cis-1,3-Dichloropropene	0.3943 0.4720	0.4262 0.4604	0.4622	0.4528	0.4599	Ave		0.4468		0.2000	6.1		20.0				
4-Methyl-2-pentanone (MIBK)	9.3982 11.604	9.8843 11.649	11.147	11.001	11.000	Ave		10.812		0.1000	7.9		20.0				
Toluene	0.9248 1.0593	0.9894 1.0172	1.0422	1.0460	1.0340	Ave		1.0161		0.4000	4.5		20.0				
trans-1,3-Dichloropropene	0.4858 0.5325	0.4957 0.5210	0.5182	0.5221	0.5248	Ave		0.5143		0.1000	3.3		20.0				
Ethyl methacrylate	0.4171 0.4480	0.4247 0.4331	0.4561	0.4436	0.4464	Ave		0.4384			3.2		20.0				
1,1,2-Trichloroethane	0.2787 0.2886	0.2882 0.2789	0.2854	0.2871	0.2850	Ave		0.2845		0.1000	1.5		20.0				
Tetrachloroethene	0.4490 0.5111	0.4629 0.4929	0.4905	0.4952	0.4957	Ave		0.4853		0.2000	4.4		20.0				
1,3-Dichloropropane	0.4361 0.4927	0.4693 0.4736	0.4978	0.4879	0.4900	Ave		0.4782			4.4		20.0				
2-Hexanone	6.4513 8.0128	6.7793 8.1253	7.6757	7.6123	7.6631	Ave		7.4743		0.1000	8.4		20.0				
Dibromochloromethane	0.3192 0.3806	0.3517 0.3735	0.3668	0.3719	0.3751	Ave		0.3627			5.9		20.0				
1,2-Dibromoethane (EDB)	0.2325 0.2804	0.2642 0.2721	0.2817	0.2718	0.2779	Ave		0.2687		0.1000	6.3		20.0				
1-Chlorohexane	0.6374 0.6402	0.5995 0.6146	0.6418	0.6219	0.6179	Ave		0.6248			2.5		20.0				
Chlorobenzene	1.0371 1.1742	1.0934 1.1296	1.1502	1.1456	1.1484	Ave		1.1255		0.5000	4.1		20.0				
1,1,1,2-Tetrachloroethane	0.3634 0.4381	0.4204 0.4242	0.4341	0.4280	0.4252	Ave		0.4190			6.0		20.0				
Ethylbenzene	1.8850 2.0767	1.9240 1.9568	2.0397	2.0484	2.0268	Ave		1.9939		0.1000	3.6		20.0				
m&p-Xylene	0.7213 0.8107	0.7629 0.7783	0.7963	0.8022	0.7967	Ave		0.7812		0.1000	4.0		20.0				
o-Xylene	0.7430 0.8033	0.7336 0.7767	0.7961	0.7850	0.7825	Ave		0.7743		0.3000	3.4		20.0				
Styrene	1.1358 1.2964	1.1666 1.2426	1.2600	1.2762	1.2717	Ave		1.2356		0.3000	4.9		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 Lancaster Laboratories Env Job No.: 410-2632-1

Analy Batch No.: 6388

SDG No.: _____

Instrument ID: 19930

GC Column: R-624SilMS ID: 0.25 (mm)

Heated Purge: (Y/N) N

Calibration Start Date: 03/16/2020 16:24

Calibration End Date: 03/16/2020 18:31

Calibration ID: 2799

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															
Bromoform	0.1957 0.2363	0.2193 0.2335	0.2229	0.2228	0.2318	Ave		0.2232			0.1000	6.1	20.0				
Isopropylbenzene	1.8217 2.1703	1.9715 2.0302	2.1314	2.1147	2.1127	Ave		2.0504			0.1000	5.9	20.0				
1,1,2,2-Tetrachloroethane	0.5993 0.6832	0.6053 0.6575	0.6589	0.6493	0.6695	Ave		0.6462			0.3000	4.9	20.0				
Bromobenzene	0.8016 0.9094	0.8336 0.8994	0.8746	0.8711	0.8884	Ave		0.8683				4.4	20.0				
trans-1,4-Dichloro-2-butene	3.3637 4.0803	3.4533 4.1701	3.8658	3.8531	3.8559	Ave		3.8060				7.9	20.0				
1,2,3-Trichloropropane	0.1628 0.1839	0.1717 0.1759	0.1920	0.1843	0.1895	Ave		0.1800				5.8	20.0				
N-Propylbenzene	4.0491 4.5133	4.0643 4.2214	4.3707	4.3794	4.4185	Ave		4.2881				4.2	20.0				
2-Chlorotoluene	0.7545 0.9190	0.8302 0.8993	0.8800	0.8919	0.8882	Ave		0.8662				6.5	20.0				
1,3,5-Trimethylbenzene	2.8797 3.3335	2.9000 3.1827	3.1478	3.2061	3.2056	Ave		3.1222				5.4	20.0				
4-Chlorotoluene	0.8214 0.9240	0.8418 0.8964	0.8867	0.9018	0.9004	Ave		0.8818				4.1	20.0				
tert-Butylbenzene	0.6277 0.7534	0.6374 0.7384	0.7058	0.7125	0.7246	Ave		0.7000				7.0	20.0				
Pentachloroethane	0.5599 0.6222	0.5602 0.6144	0.5665	0.6003	0.6099	Ave		0.5905				4.6	20.0				
1,2,4-Trimethylbenzene	2.9120 3.4212	3.0724 3.2542	3.2817	3.2354	3.2966	Ave		3.2105				5.2	20.0				
sec-Butylbenzene	3.5318 4.3404	3.7129 4.1224	4.0613	4.1240	4.1808	Ave		4.0105				7.1	20.0				
1,3-Dichlorobenzene	1.5559 1.7775	1.6203 1.7414	1.7434	1.7227	1.7323	Ave		1.6991			0.6000	4.7	20.0				
p-Isopropyltoluene	3.0325 3.7690	3.1818 3.5991	3.5009	3.5406	3.5930	Ave		3.4596				7.5	20.0				
1,4-Dichlorobenzene	1.5892 1.7408	1.5890 1.7100	1.7341	1.7107	1.6974	Ave		1.6816			0.5000	3.9	20.0				
1,2,3-Trimethylbenzene	1.3443 1.4229	1.3392 1.4035	1.3358	1.4044	1.4226	Ave		1.3818				2.9	20.0				
Benzyl chloride	0.2626 0.3113	0.2958 0.3035	0.3038	0.2919	0.3044	Ave		0.2962				5.4	20.0				
n-Butylbenzene	1.3733 1.7853	1.4743 1.7328	1.5939	1.6466	1.6790	Ave		1.6122				9.0	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 Lancaster Laboratories Env Job No.: 410-2632-1 Analy Batch No.: 6388

SDG No.: _____

Instrument ID: 19930 GC Column: R-624SilMS ID: 0.25 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 03/16/2020 16:24 Calibration End Date: 03/16/2020 18:31 Calibration ID: 2799

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															
1,2-Dichlorobenzene	1.4410 1.6143	1.5154 1.5609	1.5698	1.5833	1.5741	Ave		1.5512		0.4000	3.7		20.0				
1,2-Dibromo-3-Chloropropane	0.0902 0.1098	0.1137 0.1089	0.1107	0.1065	0.1072	Ave		0.1067		0.0500	7.2		20.0				
1,3,5-Trichlorobenzene	1.0577 1.3525	1.1401 1.3547	1.2278	1.2226	1.2517	Ave		1.2296			8.7		20.0				
1,2,4-Trichlorobenzene	0.8882 1.1312	0.9801 1.1458	1.0440	1.0037	1.0558	Ave		1.0355		0.2000	8.6		20.0				
Hexachlorobutadiene	0.3835 0.4859	0.3890 0.4999	0.4249	0.4273	0.4479	Ave		0.4369			10.2		20.0				
Naphthalene	1.8032 2.1521	2.0509 2.0696	2.0881	2.0514	2.0686	Ave		2.0406			5.4		20.0				
1,2,3-Trichlorobenzene	0.7277 0.9275	0.8555 0.9328	0.8665	0.8572	0.8710	Ave		0.8626			7.8		20.0				
Dibromofluoromethane (Surr)	0.2418 0.2412	0.2426 0.2408	0.2401	0.2404	0.2426	Ave		0.2414			0.4		20.0				
1,2-Dichloroethane-d4 (Surr)	0.0491 0.0485	0.0489 0.0492	0.0492	0.0493	0.0482	Ave		0.0489			0.8		20.0				
Toluene-d8 (Surr)	1.2755 1.2640	1.2826 1.2573	1.2736	1.2697	1.2785	Ave		1.2716			0.7		20.0				
4-Bromofluorobenzene (Surr)	0.4760 0.4670	0.4819 0.4684	0.4750	0.4765	0.4766	Ave		0.4745			1.1		20.0				

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

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

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-2632-1

Analy Batch No.: 6388

SDG No.: _____

Instrument ID: 19930

GC Column: R-624SilMS ID: 0.25 (mm)

Heated Purge: (Y/N) N

Calibration Start Date: 03/16/2020 16:24

Calibration End Date: 03/16/2020 18:31

Calibration ID: 2799

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 410-6388/18	IM16I07.D
Level 2	IC 410-6388/17	IM16I06.D
Level 3	IC 410-6388/16	IM16I05.D
Level 4	IC 410-6388/15	IM16I04.D
Level 5	IC 410-6388/14	IM16I03.D
Level 6	ICIS 410-6388/13	IM16I02.D
Level 7	IC 410-6388/12	IM16I01.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Dichlorodifluoromethane	FB	Ave	29447 1020389	54675 2551714	110058	198151	507814	0.200 10.0	0.500 25.0	1.00	2.00	5.00
Chloromethane	FB	Ave	18692 898074	42463 2240175	87485	172586	449250	0.200 10.0	0.500 25.0	1.00	2.00	5.00
1,3-Butadiene	FB	Ave	13020 635985	31811 1553125	66790	126126	309498	0.200 10.0	0.500 25.0	1.00	2.00	5.00
Vinyl chloride	FB	Ave	17394 883143	40095 2196123	85852	168751	442830	0.200 10.0	0.500 25.0	1.00	2.00	5.00
Bromomethane	FB	Ave	12781 605057	28935 1492837	59528	117256	310370	0.200 10.0	0.500 25.0	1.00	2.00	5.00
Chloroethane	FB	Ave	10135 488722	23037 1203506	49459	95356	249607	0.200 10.0	0.500 25.0	1.00	2.00	5.00
Dichlorofluoromethane	FB	Ave	25966 1116990	53348 2751224	111662	218323	568382	0.200 10.0	0.500 25.0	1.00	2.00	5.00
Trichlorofluoromethane	FB	Ave	20380 1059857	47505 2616531	103739	202528	526540	0.200 10.0	0.500 25.0	1.00	2.00	5.00
Ethyl ether	FB	Ave	9020 444364	22182 1072038	42087	89867	223830	0.200 10.0	0.500 25.0	1.00	2.00	5.00
Freon 123a	FB	Ave	14271 701358	33829 1673357	72547	138896	338811	0.200 10.0	0.500 25.0	1.00	2.00	5.00
Acrolein	TBAd 10	Ave	70800 3685275	184567 8721564	380382	747595	1864004	10.0 500	25.0 1250	50.0	100	250
1,1-Dichloroethene	FB	Ave	10173 554085	27004 1326647	56192	111680	271165	0.200 10.0	0.500 25.0	1.00	2.00	5.00
Acetone	TBAd 10	Ave	20493 855032	50375 1967275	98249	184990	441964	2.00 100	5.00 250	10.0	20.0	50.0
Freon 113	FB	Ave	10068 623018	27503 1500259	63078	120472	304860	0.200 10.0	0.500 25.0	1.00	2.00	5.00
Methyl iodide	FB	Ave	19642 1063805	50302 2563231	106891	211652	521309	0.200 10.0	0.500 25.0	1.00	2.00	5.00

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

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-2632-1

Analy Batch No.: 6388

SDG No.:

Instrument ID: 19930

GC Column: R-624SilMS ID: 0.25 (mm)

Heated Purge: (Y/N) N

Calibration Start Date: 03/16/2020 16:24

Calibration End Date: 03/16/2020 18:31

Calibration ID: 2799

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Ethyl bromide	FB	Ave	9120 469558	22777 1128023	45162	93851	235938	0.200 10.0	0.500 25.0	1.00	2.00	5.00
Carbon disulfide	FB	Ave	30579 1573563	75768 3765697	160810	316449	766906	0.200 10.0	0.500 25.0	1.00	2.00	5.00
Methyl acetate	FB	Ave	6142 241267	12313 559292	22212	47166	114270	0.200 10.0	0.500 25.0	1.00	2.00	5.00
Allyl chloride	FB	Ave	15938 828579	41024 2005431	80727	169050	415708	0.200 10.0	0.500 25.0	1.00	2.00	5.00
Methylene Chloride	FB	Ave	10957 569463	28507 1366733	58139	113412	279336	0.200 10.0	0.500 25.0	1.00	2.00	5.00
t-Butyl alcohol	TBAd 10	Ave	18548 849755	47936 1845881	98614	185056	444257	4.00 200	10.0 500	20.0	40.0	100
Acrylonitrile	TBAd 10	Ave	11754 607103	30392 1431830	62946	122138	307372	1.00 50.0	2.50 125	5.00	10.0	25.0
Methyl tert-butyl ether	FB	Ave	26023 1412572	70101 3321974	144775	285194	713424	0.200 10.0	0.500 25.0	1.00	2.00	5.00
trans-1,2-Dichloroethene	FB	Ave	11639 592532	28719 1417019	59314	117731	290960	0.200 10.0	0.500 25.0	1.00	2.00	5.00
n-Hexane	FB	Ave	18047 915761	41124 2196756	88852	174899	430008	0.200 10.0	0.500 25.0	1.00	2.00	5.00
1,1-Dichloroethane	FB	Ave	18680 1072677	51361 2577850	107953	213118	521875	0.200 10.0	0.500 25.0	1.00	2.00	5.00
di-Isopropyl ether	FB	Ave	32274 1782121	85406 4253330	180623	355534	872306	0.200 10.0	0.500 25.0	1.00	2.00	5.00
2-Chloro-1,3-butadiene	FB	Ave	17410 945809	44387 2272460	93611	186962	462107	0.200 10.0	0.500 25.0	1.00	2.00	5.00
Ethyl t-butyl ether	FB	Ave	32510 1725201	83782 4060868	179979	354411	859911	0.200 10.0	0.500 25.0	1.00	2.00	5.00
2-Butanone (MEK)	TBAd 10	Ave	30988 1615831	81941 3862804	167561	332028	821747	2.00 100	5.00 250	10.0	20.0	50.0
cis-1,2-Dichloroethene	FB	Ave	12679 666924	32022 1605416	67279	133056	328795	0.200 10.0	0.500 25.0	1.00	2.00	5.00
2,2-Dichloropropane	FB	Ave	18569 957766	45857 2284227	95753	189959	469089	0.200 10.0	0.500 25.0	1.00	2.00	5.00
Propionitrile	TBAd 10	Ave	17659 883801	46096 2075641	95421	187283	450837	4.00 200	10.0 500	20.0	40.0	100
Methacrylonitrile	TBAd 10	Ave	28899 1559282	77209 3731583	158877	316236	785361	2.00 100	5.00 250	10.0	20.0	50.0
Bromochloromethane	FB	Ave	5852 289006	15015 693555	28121	58764	145894	0.200 10.0	0.500 25.0	1.00	2.00	5.00
Tetrahydrofuran	TBAd 10	Ave	10928 479313	24939 1128963	51676	99231	246436	2.00 100	5.00 250	10.0	20.0	50.0

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

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-2632-1

Analy Batch No.: 6388

SDG No.:

Instrument ID: 19930

GC Column: R-624SilMS ID: 0.25 (mm)

Heated Purge: (Y/N) N

Calibration Start Date: 03/16/2020 16:24

Calibration End Date: 03/16/2020 18:31

Calibration ID: 2799

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Chloroform	FB	Ave	19725 1050753	51575 2530552	108176	211329	519324	0.200 10.0	0.500 25.0	1.00	2.00	5.00
1,1,1-Trichloroethane	FB	Ave	18825 1033490	49308 2479708	105395	205071	503133	0.200 10.0	0.500 25.0	1.00	2.00	5.00
Cyclohexane	FB	Ave	21564 1080056	50356 2588845	111385	211691	523555	0.200 10.0	0.500 25.0	1.00	2.00	5.00
Carbon tetrachloride	FB	Ave	16102 928589	42212 2251684	93963	182976	452962	0.200 10.0	0.500 25.0	1.00	2.00	5.00
1,1-Dichloropropene	FB	Ave	15046 868999	39847 2092962	86478	171702	417889	0.200 10.0	0.500 25.0	1.00	2.00	5.00
Isobutyl alcohol	TBAd 10	Ave	14672 612127	33714 1376227	66493	130668	321827	10.0 500	25.0 1250	50.0	100	250
Benzene	FB	Ave	46030 2492767	118212 5977955	249148	491839	1213141	0.200 10.0	0.500 25.0	1.00	2.00	5.00
1,2-Dichloroethane	FB	Ave	13507 648929	32843 1534806	66533	132744	315451	0.200 10.0	0.500 25.0	1.00	2.00	5.00
t-Amyl methyl ether	FB	Ave	30981 1610282	79199 3772482	162542	322462	802048	0.200 10.0	0.500 25.0	1.00	2.00	5.00
n-Heptane	FB	Ave	15403 898225	37944 2165706	86431	169759	422462	0.200 10.0	0.500 25.0	1.00	2.00	5.00
n-Butanol	TBAd 10	Ave	21535 1142481	61312 2424781	119752	238865	595233	20.0 1000	50.0 2500	100	200	500
Trichloroethene	FB	Ave	12251 661952	31278 1606195	66486	131079	322098	0.200 10.0	0.500 25.0	1.00	2.00	5.00
Methylcyclohexane	FB	Ave	21932 1193666	54220 2920090	110645	237846	595183	0.200 10.0	0.500 25.0	1.00	2.00	5.00
1,2-Dichloropropane	FB	Ave	10960 605037	28933 1473998	60450	118855	297311	0.200 10.0	0.500 25.0	1.00	2.00	5.00
Methyl methacrylate	TBAd 10	Ave	5985 314259	15475 760228	32389	63108	159170	0.200 10.0	0.500 25.0	1.00	2.00	5.00
1,4-Dioxane	TBAd 10	Ave	1950 141136	8556 221774	14258	28575	69311	10.0 500	25.0 1250	50.0	100	250
Dibromomethane	FB	Ave	5492 295807	13976 709799	31570	59862	145809	0.200 10.0	0.500 25.0	1.00	2.00	5.00
Bromodichloromethane	FB	Ave	14558 783507	37860 1913810	79116	153673	382425	0.200 10.0	0.500 25.0	1.00	2.00	5.00
2-Nitropropane	TBAd 10	Ave	17372 985108	48823 2370828	102241	198803	495450	2.00 100	5.00 250	10.0	20.0	50.0
1-Bromo-2-chloroethane	FB	Ave	11627 627353	30408 1526808	58883	126137	312286	0.200 10.0	0.500 25.0	1.00	2.00	5.00
cis-1,3-Dichloropropene	FB	Ave	16020 951714	43315 2311579	94232	184819	464109	0.200 10.0	0.500 25.0	1.00	2.00	5.00

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

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-2632-1

Analy Batch No.: 6388

SDG No.:

Instrument ID: 19930

GC Column: R-624SilMS ID: 0.25 (mm)

Heated Purge: (Y/N) N

Calibration Start Date: 03/16/2020 16:24

Calibration End Date: 03/16/2020 18:31

Calibration ID: 2799

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
4-Methyl-2-pentanone (MIBK)	TBA 10	Ave	74340 4056586	200214 9501953	420051	824516	2060954	2.00 100	5.00 250	10.0	20.0	50.0
Toluene	CBZ 5	Ave	27903 1599225	74368 3860923	158032	317517	776857	0.200 10.0	0.500 25.0	1.00	2.00	5.00
trans-1,3-Dichloropropene	CBZ 5	Ave	14659 803868	37257 1977417	78583	158481	394285	0.200 10.0	0.500 25.0	1.00	2.00	5.00
Ethyl methacrylate	CBZ 5	Ave	12586 676318	31923 1644049	69163	134668	335368	0.200 10.0	0.500 25.0	1.00	2.00	5.00
1,1,2-Trichloroethane	CBZ 5	Ave	8408 435626	21660 1058474	43280	87162	214127	0.200 10.0	0.500 25.0	1.00	2.00	5.00
Tetrachloroethene	CBZ 5	Ave	13547 771679	34794 1870823	74375	150308	372446	0.200 10.0	0.500 25.0	1.00	2.00	5.00
1,3-Dichloropropane	CBZ 5	Ave	13157 743778	35276 1797641	75482	148091	368157	0.200 10.0	0.500 25.0	1.00	2.00	5.00
2-Hexanone	TBA 10	Ave	51030 2801042	137320 6627827	289252	570518	1435758	2.00 100	5.00 250	10.0	20.0	50.0
Dibromochloromethane	CBZ 5	Ave	9631 574600	26432 1417766	55626	112901	281805	0.200 10.0	0.500 25.0	1.00	2.00	5.00
1,2-Dibromoethane (EDB)	CBZ 5	Ave	7016 423280	19859 1032636	42717	82516	208754	0.200 10.0	0.500 25.0	1.00	2.00	5.00
1-Chlorohexane	CBZ 5	Ave	19231 966542	45065 2332716	97319	188787	464220	0.200 10.0	0.500 25.0	1.00	2.00	5.00
Chlorobenzene	CBZ 5	Ave	31292 1772740	82189 4287527	174405	347759	862744	0.200 10.0	0.500 25.0	1.00	2.00	5.00
1,1,1,2-Tetrachloroethane	CBZ 5	Ave	10964 661375	31596 1609952	65818	129908	319438	0.200 10.0	0.500 25.0	1.00	2.00	5.00
Ethylbenzene	CBZ 5	Ave	56876 3135198	144619 7427537	309286	621789	1522716	0.200 10.0	0.500 25.0	1.00	2.00	5.00
m&p-Xylene	CBZ 5	Ave	43526 2447965	114685 5908255	241508	487008	1197162	0.400 20.0	1.00 50.0	2.00	4.00	10.0
o-Xylene	CBZ 5	Ave	22418 1212795	55140 2948072	120712	238276	587908	0.200 10.0	0.500 25.0	1.00	2.00	5.00
Styrene	CBZ 5	Ave	34270 1957192	87686 4716643	191061	387394	955403	0.200 10.0	0.500 25.0	1.00	2.00	5.00
Bromoform	CBZ 5	Ave	5904 356744	16484 886158	33797	67646	174165	0.200 10.0	0.500 25.0	1.00	2.00	5.00
Isopropylbenzene	CBZ 5	Ave	54965 3276510	148190 7706092	323191	641937	1587251	0.200 10.0	0.500 25.0	1.00	2.00	5.00
1,1,2,2-Tetrachloroethane	DCB 4	Ave	9904 556023	25318 1335482	54891	107882	273453	0.200 10.0	0.500 25.0	1.00	2.00	5.00
Bromobenzene	DCB 4	Ave	13246 740069	34868 1826739	72862	144735	362833	0.200 10.0	0.500 25.0	1.00	2.00	5.00

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

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-2632-1

Analy Batch No.: 6388

SDG No.: _____

Instrument ID: 19930

GC Column: R-624SilMS ID: 0.25 (mm)

Heated Purge: (Y/N) N

Calibration Start Date: 03/16/2020 16:24

Calibration End Date: 03/16/2020 18:31

Calibration ID: 2799

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
trans-1,4-Dichloro-2-butene	TBAd 10	Ave	26607 1426343	69949 3401551	145681	288778	722433	2.00 100	5.00 250	10.0	20.0	50.0
1,2,3-Trichloropropane	DCBd 4	Ave	2691 149666	7183 357175	15995	30624	77402	0.200 10.0	0.500 25.0	1.00	2.00	5.00
N-Propylbenzene	DCBd 4	Ave	66911 3673082	170003 8573781	364128	727660	1804651	0.200 10.0	0.500 25.0	1.00	2.00	5.00
2-Chlorotoluene	DCBd 4	Ave	12468 747923	34726 1826509	73314	148197	362786	0.200 10.0	0.500 25.0	1.00	2.00	5.00
1,3,5-Trimethylbenzene	DCBd 4	Ave	47587 2712914	121303 6463980	262244	532706	1309251	0.200 10.0	0.500 25.0	1.00	2.00	5.00
4-Chlorotoluene	DCBd 4	Ave	13573 751944	35210 1820544	73872	149835	367758	0.200 10.0	0.500 25.0	1.00	2.00	5.00
tert-Butylbenzene	DCBd 4	Ave	10372 613177	26660 1499603	58801	118387	295952	0.200 10.0	0.500 25.0	1.00	2.00	5.00
Pentachloroethane	DCBd 4	Ave	9252 506329	23433 1247885	47192	99745	249082	0.200 10.0	0.500 25.0	1.00	2.00	5.00
1,2,4-Trimethylbenzene	DCBd 4	Ave	48121 2784291	128514 6609280	273400	537587	1346411	0.200 10.0	0.500 25.0	1.00	2.00	5.00
sec-Butylbenzene	DCBd 4	Ave	58363 3532328	155303 8372660	338352	685221	1707579	0.200 10.0	0.500 25.0	1.00	2.00	5.00
1,3-Dichlorobenzene	DCBd 4	Ave	25712 1446570	67773 3536888	145246	286238	707528	0.200 10.0	0.500 25.0	1.00	2.00	5.00
p-Isopropyltoluene	DCBd 4	Ave	50112 3067350	133089 7309726	291668	588295	1467497	0.200 10.0	0.500 25.0	1.00	2.00	5.00
1,4-Dichlorobenzene	DCBd 4	Ave	26261 1416735	66463 3472989	144468	284244	693277	0.200 10.0	0.500 25.0	1.00	2.00	5.00
1,2,3-Trimethylbenzene	DCBd 4	Ave	22215 1157997	56015 2850454	111289	233348	581033	0.200 10.0	0.500 25.0	1.00	2.00	5.00
Benzyl chloride	DCBd 4	Ave	4340 253323	12374 616447	25310	48505	124318	0.200 10.0	0.500 25.0	1.00	2.00	5.00
n-Butylbenzene	DCBd 4	Ave	22693 1452958	61668 3519318	132791	273595	685755	0.200 10.0	0.500 25.0	1.00	2.00	5.00
1,2-Dichlorobenzene	DCBd 4	Ave	23812 1313773	63385 3170211	130781	263070	642903	0.200 10.0	0.500 25.0	1.00	2.00	5.00
1,2-Dibromo-3-Chloropropane	DCBd 4	Ave	1491 89366	4756 221127	9220	17700	43766	0.200 10.0	0.500 25.0	1.00	2.00	5.00
1,3,5-Trichlorobenzene	DCBd 4	Ave	17479 1100723	47689 2751351	102291	203146	511228	0.200 10.0	0.500 25.0	1.00	2.00	5.00
1,2,4-Trichlorobenzene	DCBd 4	Ave	14677 920606	40997 2327125	86977	166771	431202	0.200 10.0	0.500 25.0	1.00	2.00	5.00
Hexachlorobutadiene	DCBd 4	Ave	6338 395472	16272 1015261	35400	71002	182926	0.200 10.0	0.500 25.0	1.00	2.00	5.00

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

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-2632-1 Analy Batch No.: 6388

SDG No.: _____

Instrument ID: 19930 GC Column: R-624SilMS ID: 0.25 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 03/16/2020 16:24 Calibration End Date: 03/16/2020 18:31 Calibration ID: 2799

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Naphthalene	DCBd 4	Ave	29798 1751429	85787 4203327	173964	340844	844888	0.200 10.0	0.500 25.0	1.00	2.00	5.00
1,2,3-Trichlorobenzene	DCBd 4	Ave	12026 754804	35782 1894519	72189	142435	355728	0.200 10.0	0.500 25.0	1.00	2.00	5.00
Dibromofluoromethane (Surr)	FB	Ave	491181 486394	493200 483569	489598	490540	489679	10.0 10.0	10.0 10.0	10.0	10.0	10.0
1,2-Dichloroethane-d4 (Surr)	FB	Ave	99741 97836	99319 98806	100281	100629	97249	10.0 10.0	10.0 10.0	10.0	10.0	10.0
Toluene-d8 (Surr)	CBZd 5	Ave	1924255 1908330	1928163 1908928	1931273	1927152	1921017	10.0 10.0	10.0 10.0	10.0	10.0	10.0
4-Bromofluorobenzene (Surr)	CBZd 5	Ave	718165 705064	724468 711219	720334	723296	716065	10.0 10.0	10.0 10.0	10.0	10.0	10.0

Curve Type Legend:

Ave = Average ISTD

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\IM16101.D
 Lims ID: IC std7
 Client ID:
 Sample Type: IC Calib Level: 7
 Inject. Date: 16-Mar-2020 16:24:30 ALS Bottle#: 11 Worklist Smp#: 12
 Purge Vol: 25.000 mL Dil. Factor: 1.0000
 Sample Info: VSTD025;VSTD025;1;1;.....
 Misc. Info.: 8260W25.SUB;25;25;...
 Operator ID: JKH09052 Instrument ID: 19930
 Sublist: chrom-8260 25ml HP31*sub2
 Method: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\8260 25ml HP31.m
 Limit Group: MSV - 8260C_D
 Last Update: 13-May-2020 18:29:55 Calib Date: 16-Mar-2020 18:31:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\IM16107.D
 Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
 Process Host: CTX1007

First Level Reviewer: campbellme Date: 17-Mar-2020 23:28:17

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Dichlorodifluoromethane	85	1.977	1.983	-0.006	99	2551714	25.0	23.4	M
4 Chloromethane	50	2.178	2.184	-0.006	99	2240175	25.0	25.5	M
5 Vinyl chloride	62	2.294	2.300	-0.006	97	2196123	25.0	25.8	
6 Butadiene	39	2.294	2.300	-0.006	84	1553125	25.0	24.6	
7 Bromomethane	94	2.623	2.629	-0.006	90	1492837	25.0	25.0	
8 Chloroethane	64	2.715	2.721	-0.006	100	1203506	25.0	24.9	M
9 Dichlorofluoromethane	67	2.959	2.964	-0.005	97	2751224	25.0	24.5	
10 Trichlorofluoromethane	101	3.020	3.025	-0.005	97	2616531	25.0	25.7	
11 Ethyl ether	59	3.276	3.288	-0.012	90	1072038	25.0	24.5	
12 1,2-Dichloro-1,1,2-trifluoroetha	67	3.367	3.373	-0.006	91	1673357	25.0	24.3	
13 Acrolein	56	3.459	3.464	-0.006	100	8721564	1250.0	1349.7	
14 1,1-Dichloroethene	96	3.599	3.605	-0.006	98	1326647	25.0	24.7	
15 Acetone	43	3.629	3.635	-0.006	100	1967275	250.0	243.0	
16 1,1,2-Trichloro-1,2,2-trifluoroe	101	3.635	3.641	-0.006	91	1500259	25.0	25.7	
17 Iodomethane	142	3.800	3.806	-0.006	99	2563231	25.0	25.0	
18 Ethyl bromide	108	3.830	3.830	0.000	99	1128023	25.0	24.7	
19 Carbon disulfide	76	3.910	3.909	0.001	99	3765697	25.0	24.5	
21 Methyl acetate	43	4.056	4.068	-0.012	97	559292	25.0	23.2	
22 3-Chloro-1-propene	41	4.086	4.092	-0.006	91	2005431	25.0	24.7	
23 Methylene Chloride	84	4.282	4.293	-0.011	90	1366733	25.0	24.5	
* 24 t-Butyl alcohol-d10 (IS)	65	4.300	4.293	0.007	0	163141	50.0	50.0	M
25 2-Methyl-2-propanol	59	4.422	4.428	-0.006	100	1845881	500.0	469.7	
26 Acrylonitrile	53	4.623	4.629	-0.006	99	1431830	125.0	134.5	
27 Methyl tert-butyl ether	73	4.696	4.702	-0.006	94	3321974	25.0	24.1	
28 trans-1,2-Dichloroethene	96	4.702	4.702	0.000	99	1417019	25.0	24.5	
29 Hexane	57	5.129	5.129	0.000	91	2196756	25.0	25.3	
31 1,1-Dichloroethane	63	5.361	5.366	-0.005	96	2577850	25.0	25.1	
32 Isopropyl ether	45	5.422	5.421	0.001	94	4253330	25.0	24.8	
33 2-Chloro-1,3-butadiene	53	5.470	5.476	-0.006	91	2272460	25.0	25.0	
34 Tert-butyl ethyl ether	59	5.958	5.958	0.000	97	4060868	25.0	24.0	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
S 35 1,2-Dichloroethene, Total	100				0			49.3	
36 2-Butanone (MEK)	43	6.171	6.171	0.000	99	3862804	250.0	271.0	
37 cis-1,2-Dichloroethene	96	6.196	6.196	0.000	81	1605416	25.0	24.8	
38 2,2-Dichloropropane	77	6.214	6.208	0.006	86	2284227	25.0	24.6	
40 Propionitrile	54	6.257	6.263	-0.006	99	2075641	500.0	523.3	
42 Methacrylonitrile	67	6.476	6.470	0.006	90	3731583	250.0	274.8	
43 Chlorobromomethane	128	6.531	6.531	0.000	86	693555	25.0	24.2	
44 Tetrahydrofuran	71	6.537	6.543	-0.006	89	1128963	250.0	258.3	
45 Chloroform	83	6.677	6.683	-0.006	93	2530552	25.0	24.6	
\$ 46 Dibromofluoromethane (Surr)	113	6.891	6.897	-0.006	93	483569	10.0	9.98	
47 1,1,1-Trichloroethane	97	6.909	6.903	0.006	98	2479708	25.0	24.9	
48 Cyclohexane	56	7.001	7.000	0.000	89	2588845	25.0	24.6	
50 Carbon tetrachloride	117	7.116	7.116	0.000	85	2251684	25.0	25.5	
51 1,1-Dichloropropene	75	7.116	7.116	0.000	95	2092962	25.0	25.4	
52 Isobutyl alcohol	41	7.263	7.269	-0.006	94	1376227	1250.0	1211.7	
\$ 53 1,2-Dichloroethane-d4 (Surr)	102	7.348	7.354	-0.006	0	98806	10.0	10.1	
54 Benzene	78	7.378	7.378	0.000	96	5977955	25.0	24.9	
56 1,2-Dichloroethane	62	7.452	7.451	0.001	98	1534806	25.0	23.8	
57 Tert-amyl methyl ether	73	7.567	7.561	0.006	98	3772482	25.0	24.0	
* 58 Fluorobenzene (IS)	96	7.781	7.781	0.000	99	2008523	10.0	10.0	
59 n-Heptane	43	7.787	7.793	-0.006	89	2165706	25.0	26.1	
60 n-Butanol	56	8.134	8.140	-0.006	87	2424781	2500.0	2416.0	
61 Trichloroethene	95	8.262	8.262	0.000	98	1606195	25.0	25.2	
62 Methylcyclohexane	83	8.567	8.567	0.000	93	2920090	25.0	25.7	
63 1,2-Dichloropropane	63	8.592	8.591	0.001	83	1473998	25.0	25.3	
64 Methyl methacrylate	69	8.671	8.671	0.000	90	760228	25.0	27.6	
65 1,4-Dioxane	88	8.677	8.683	-0.006	85	221774	1250.0	961.5	M
66 Dibromomethane	93	8.701	8.707	-0.006	95	709799	25.0	24.6	
68 Dichlorobromomethane	83	8.933	8.933	0.000	99	1913810	25.0	25.2	
69 2-Nitropropane	41	9.201	9.201	0.000	98	2370828	250.0	277.3	
72 1-Bromo-2-chloroethane	63	9.329	9.323	0.006	99	1526808	25.0	25.2	
73 cis-1,3-Dichloropropene	75	9.476	9.475	0.001	96	2311579	25.0	25.8	
74 4-Methyl-2-pentanone (MIBK)	43	9.640	9.640	0.000	95	9501953	250.0	269.3	
\$ 75 Toluene-d8 (Surr)	98	9.780	9.780	0.000	93	1908928	10.0	9.89	
76 Toluene	92	9.854	9.853	0.001	98	3860923	25.0	25.0	
S 77 1,3-Dichloropropene, Total	100				0			51.1	
78 trans-1,3-Dichloropropene	75	10.110	10.109	0.001	92	1977417	25.0	25.3	
79 Ethyl methacrylate	69	10.165	10.164	0.001	88	1644049	25.0	24.7	
80 1,1,2-Trichloroethane	97	10.311	10.311	0.000	90	1058474	25.0	24.5	
81 Tetrachloroethene	166	10.396	10.396	0.000	98	1870823	25.0	25.4	
82 1,3-Dichloropropane	76	10.469	10.475	-0.006	89	1797641	25.0	24.8	
83 2-Hexanone	43	10.518	10.518	0.000	95	6627827	250.0	271.8	
85 Chlorodibromomethane	129	10.683	10.682	0.001	90	1417766	25.0	25.7	
86 Ethylene Dibromide	107	10.799	10.798	0.001	99	1032636	25.0	25.3	
* 87 Chlorobenzene-d5 (IS)	117	11.225	11.219	0.006	86	1518268	10.0	10.0	
88 1-Chlorohexane	91	11.231	11.231	0.000	96	2332716	25.0	24.6	
S 89 Xylenes, Total	106				0			74.9	
90 Chlorobenzene	112	11.250	11.249	0.001	98	4287527	25.0	25.1	
91 1,1,1,2-Tetrachloroethane	131	11.329	11.329	0.000	96	1609952	25.0	25.3	
92 Ethylbenzene	91	11.335	11.335	0.000	98	7427537	25.0	24.5	
93 m-Xylene & p-Xylene	106	11.451	11.445	0.006	0	5908255	50.0	49.8	
94 o-Xylene	106	11.774	11.774	0.000	96	2948072	25.0	25.1	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
95 Styrene	104	11.786	11.792	-0.006	95	4716643	25.0	25.1	
96 Bromoform	173	11.945	11.944	0.001	98	886158	25.0	26.2	
97 Isopropylbenzene	105	12.073	12.072	0.001	96	7706092	25.0	24.8	
\$ 100 4-Bromofluorobenzene (Surr)	95	12.219	12.219	0.000	93	711219	10.0	9.87	
101 1,1,2,2-Tetrachloroethane	83	12.317	12.316	0.001	92	1335482	25.0	25.4	
102 Bromobenzene	156	12.335	12.335	0.000	97	1826739	25.0	25.9	
103 trans-1,4-Dichloro-2-butene	53	12.341	12.341	0.000	91	3401551	250.0	273.9	
104 1,2,3-Trichloropropane	110	12.365	12.365	0.000	83	357175	25.0	24.4	
105 N-Propylbenzene	91	12.402	12.402	0.000	98	8573781	25.0	24.6	
106 2-Chlorotoluene	126	12.475	12.475	0.000	97	1826509	25.0	26.0	
107 1,3,5-Trimethylbenzene	105	12.536	12.536	0.000	94	6463980	25.0	25.5	
108 4-Chlorotoluene	126	12.566	12.566	0.000	97	1820544	25.0	25.4	
109 tert-Butylbenzene	134	12.774	12.780	-0.006	93	1499603	25.0	26.4	
110 Pentachloroethane	167	12.810	12.810	0.000	95	1247885	25.0	26.0	
111 1,2,4-Trimethylbenzene	105	12.816	12.816	0.000	97	6609280	25.0	25.3	
112 sec-Butylbenzene	105	12.938	12.938	0.000	94	8372660	25.0	25.7	
113 1,3-Dichlorobenzene	146	13.042	13.042	0.000	98	3536888	25.0	25.6	
114 4-Isopropyltoluene	119	13.048	13.048	0.000	97	7309726	25.0	26.0	
* 115 1,4-Dichlorobenzene-d4	152	13.097	13.097	0.000	92	812402	10.0	10.0	
116 1,4-Dichlorobenzene	146	13.115	13.115	0.000	95	3472989	25.0	25.4	
117 1,2,3-Trimethylbenzene	120	13.121	13.121	0.000	98	2850454	25.0	25.4	
118 Benzyl chloride	126	13.188	13.188	0.000	98	616447	25.0	25.6	
119 n-Butylbenzene	92	13.335	13.334	0.001	97	3519318	25.0	26.9	
120 1,2-Dichlorobenzene	146	13.371	13.371	0.000	99	3170211	25.0	25.2	
122 1,2-Dibromo-3-Chloropropane	155	13.914	13.914	0.000	90	221127	25.0	25.5	
123 1,3,5-Trichlorobenzene	180	14.036	14.035	0.001	98	2751351	25.0	27.5	
124 1,2,4-Trichlorobenzene	180	14.462	14.462	0.000	94	2327125	25.0	27.7	
125 Hexachlorobutadiene	225	14.542	14.541	0.001	97	1015261	25.0	28.6	
126 Naphthalene	128	14.645	14.645	0.000	97	4203327	25.0	25.4	
127 1,2,3-Trichlorobenzene	180	14.786	14.785	0.001	96	1894519	25.0	27.0	
134 Isopropyl alcohol	45		0.000				ND	ND	U
135 p-Diethylbenzene	1		0.000				ND	ND	U
137 2-Methylnaphthalene	142		0.000				ND	ND	U
144 2-ethoxy-2-methyl butane	1		0.000				ND	ND	U

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

U - Marked Undetected

Reagents:

MSV_RV1_826_00008

Amount Added: 25.00

Units: uL

MSV_RV4_826_00009

Amount Added: 25.00

Units: uL

MSV_RV4GAS826_00022

Amount Added: 25.00

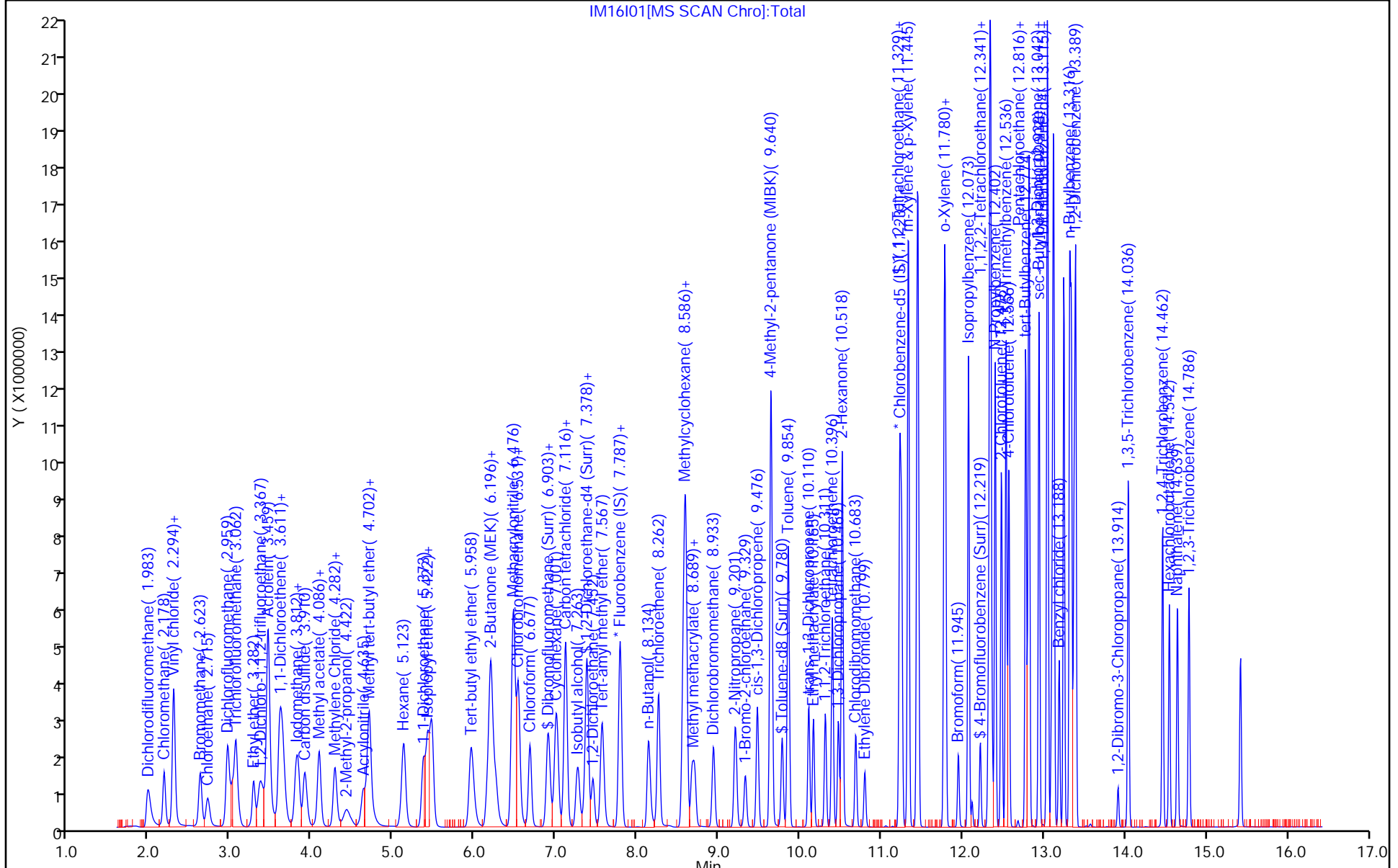
Units: uL

MSV_31_826ISS_00002

Amount Added: 5.00

Units: uL

Run Reagent



IM16101[MS SCAN Chrom]:Total

Euofins Lancaster Laboratories Env, LLC

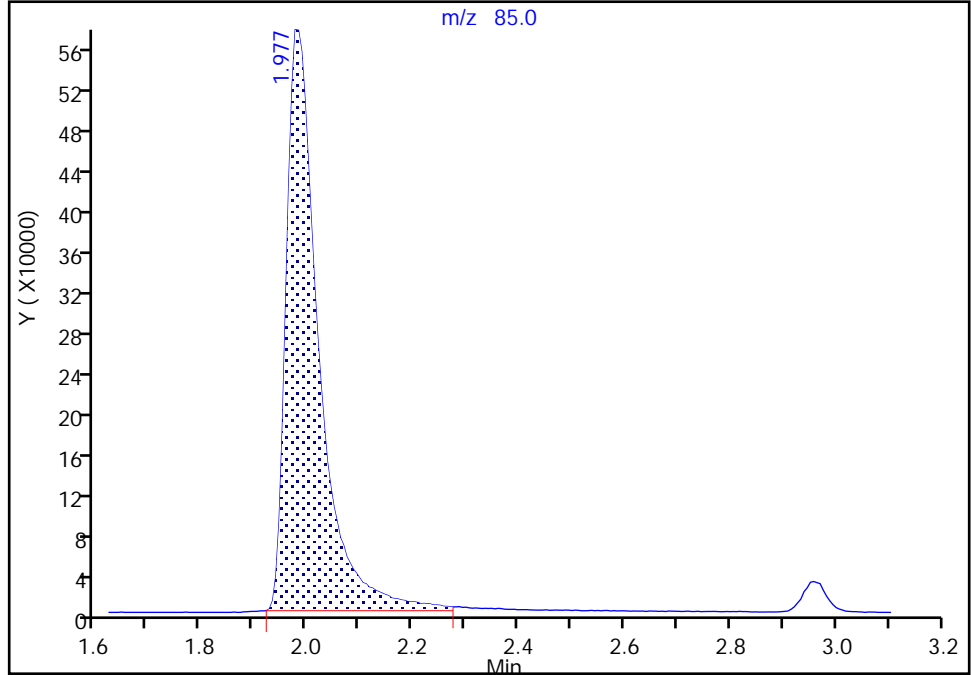
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Injection Date: 16-Mar-2020 16:24:30 Instrument ID: 19930
Lims ID: IC std7
Client ID:
Operator ID: JKH09052 ALS Bottle#: 11 Worklist Smp#: 12
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm i.d.) Detector: MS Quad

1 Dichlorodifluoromethane, CAS: 75-71-8

Signal: 1

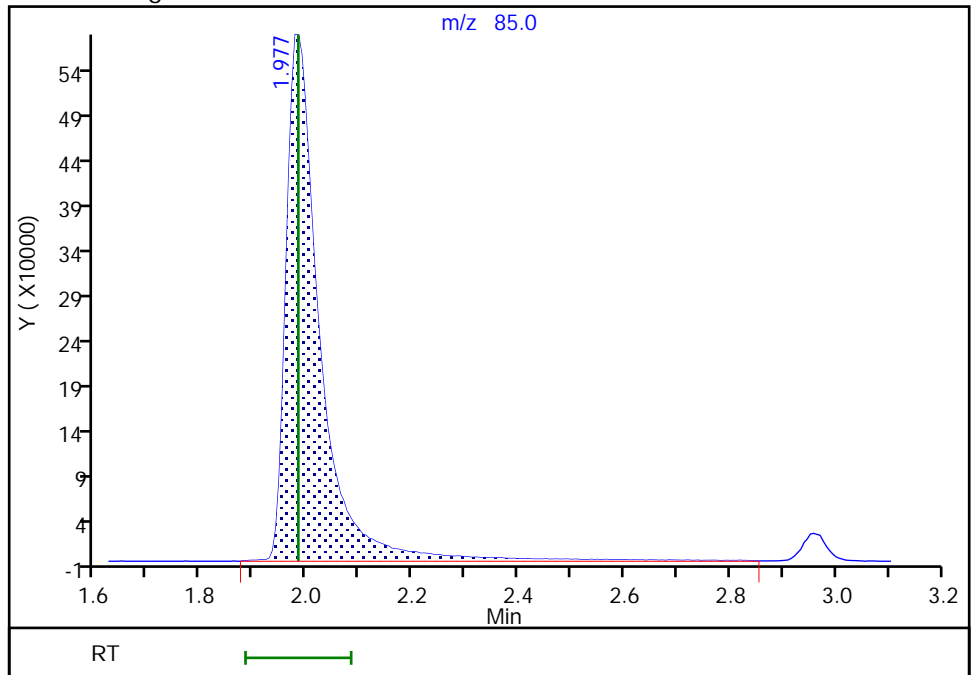
RT: 1.98
Area: 2445688
Amount: 25.920637
Amount Units: ug/l

Processing Integration Results



RT: 1.98
Area: 2551714
Amount: 23.369316
Amount Units: ug/l

Manual Integration Results



Reviewer: campbellme, 17-Mar-2020 23:26:31
Audit Action: Assigned New Baseline

Audit Reason: Baseline

Eurofins Lancaster Laboratories Env, LLC

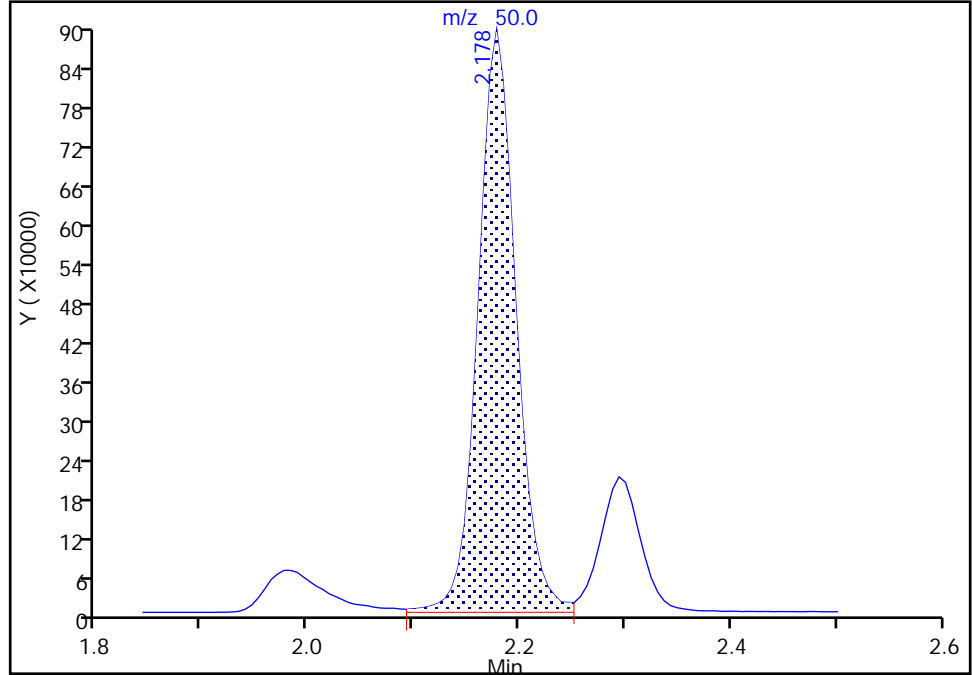
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Injection Date: 16-Mar-2020 16:24:30 Instrument ID: 19930
Lims ID: IC std7
Client ID:
Operator ID: JKH09052 ALS Bottle#: 11 Worklist Smp#: 12
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

4 Chloromethane, CAS: 74-87-3

Signal: 1

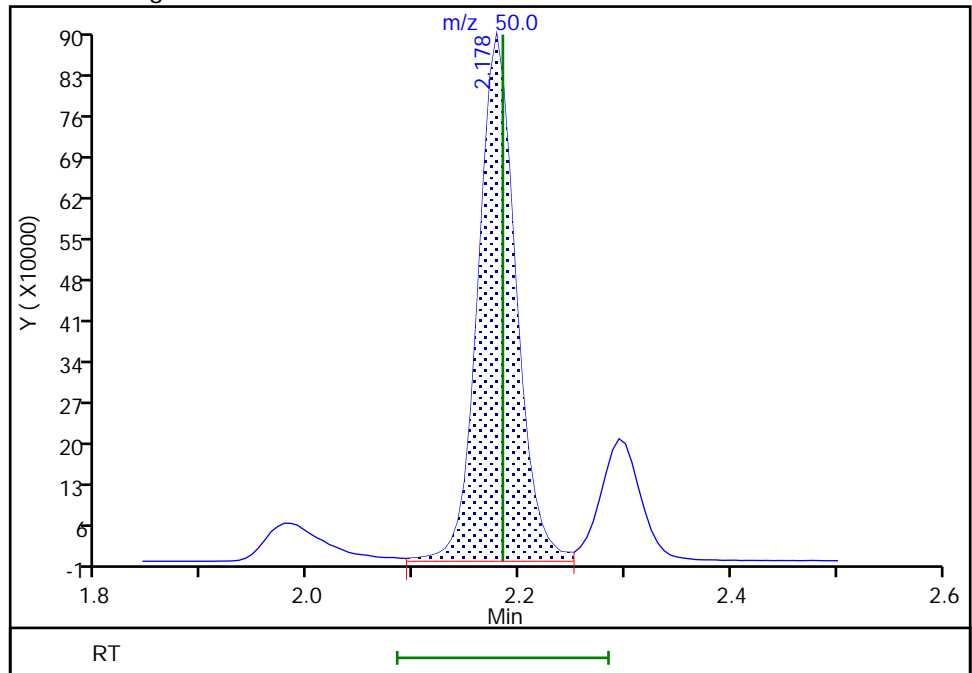
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Area: 2239128
Amount: 25.459081
Amount Units: ug/l

Processing Integration Results



RT: 2.18
Area: 2240175
Amount: 25.460044
Amount Units: ug/l

Manual Integration Results



Reviewer: campbellme, 17-Mar-2020 23:27:08

Audit Action: Assigned New Baseline

Audit Reason: Baseline

Eurofins Lancaster Laboratories Env, LLC

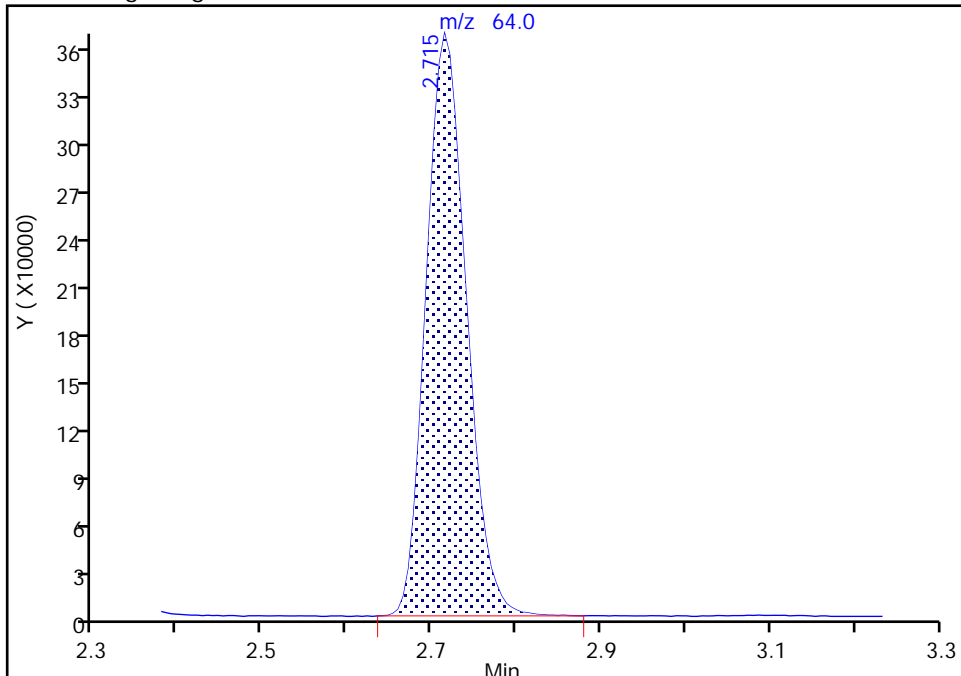
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Injection Date: 16-Mar-2020 16:24:30 Instrument ID: 19930
Lims ID: IC std7
Client ID:
Operator ID: JKH09052 ALS Bottle#: 11 Worklist Smp#: 12
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

8 Chloroethane, CAS: 75-00-3

Signal: 1

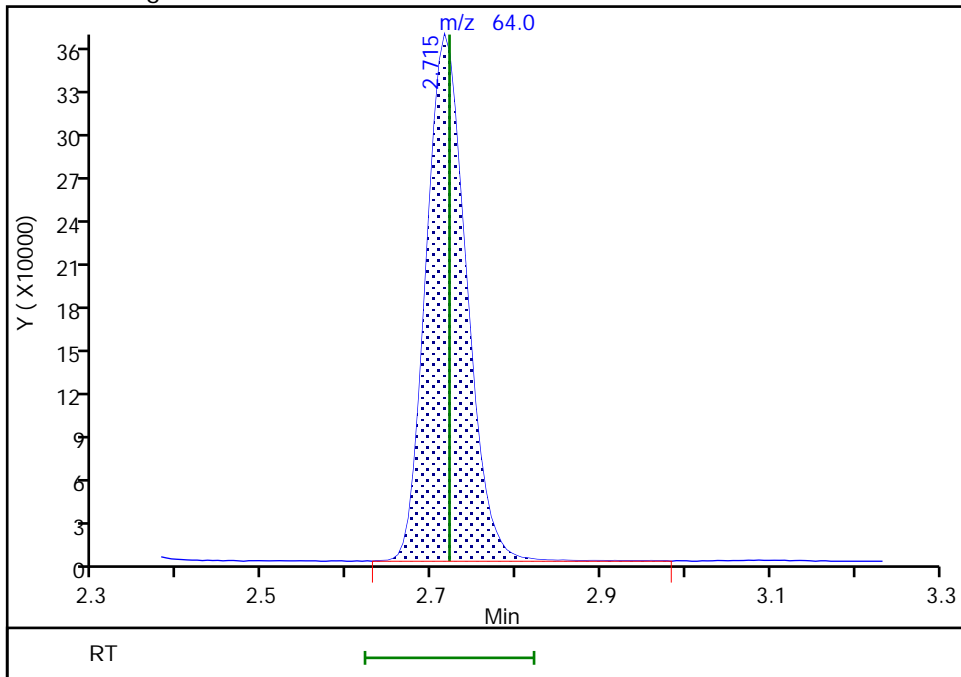
RT: 2.71
Area: 1196677
Amount: 24.819501
Amount Units: ug/l

Processing Integration Results



RT: 2.71
Area: 1203506
Amount: 24.940951
Amount Units: ug/l

Manual Integration Results



Reviewer: campbellme, 18-Mar-2020 21:34:44
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 376 of 519

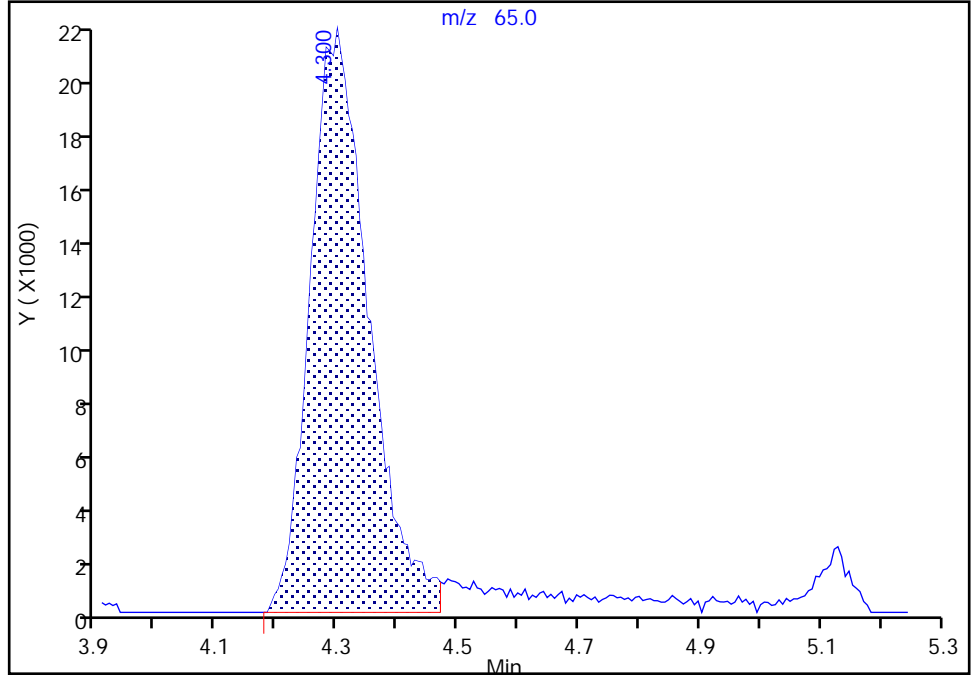
Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\IM16101.D
Injection Date: 16-Mar-2020 16:24:30 Instrument ID: 19930
Lims ID: IC std7
Client ID:
Operator ID: JKH09052 ALS Bottle#: 11 Worklist Smp#: 12
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

* 24 t-Butyl alcohol-d10 (IS), CAS: 53001-22-2
Signal: 1

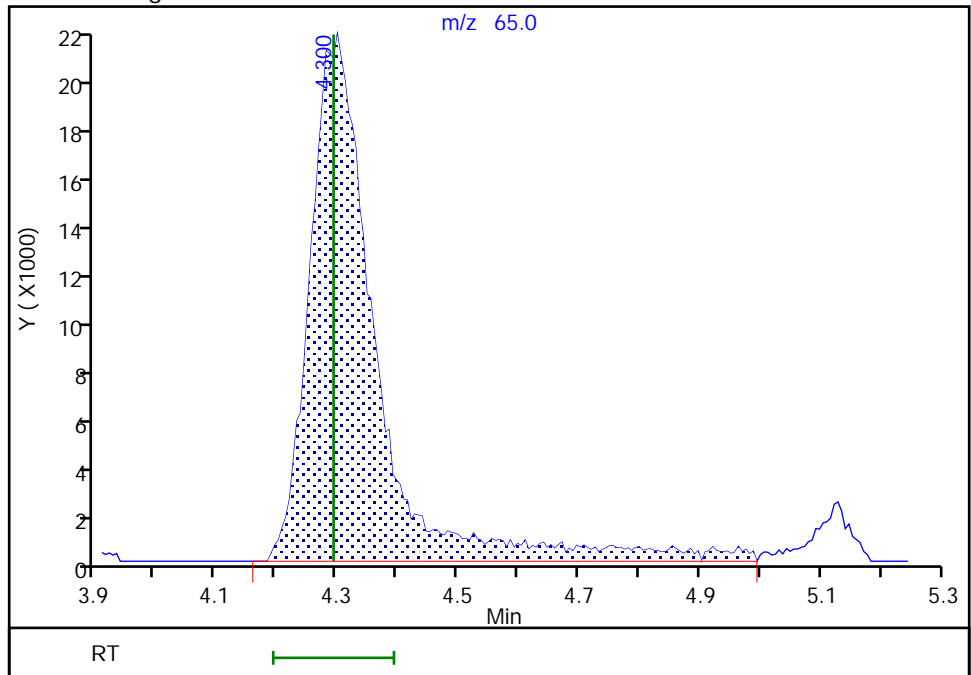
RT: 4.30
Area: 144659
Amount: 50.000000
Amount Units: ug/l

Processing Integration Results



RT: 4.30
Area: 163141
Amount: 50.000000
Amount Units: ug/l

Manual Integration Results



Reviewer: campbellme, 18-Mar-2020 21:35:03
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

Eurofins Lancaster Laboratories Env, LLC

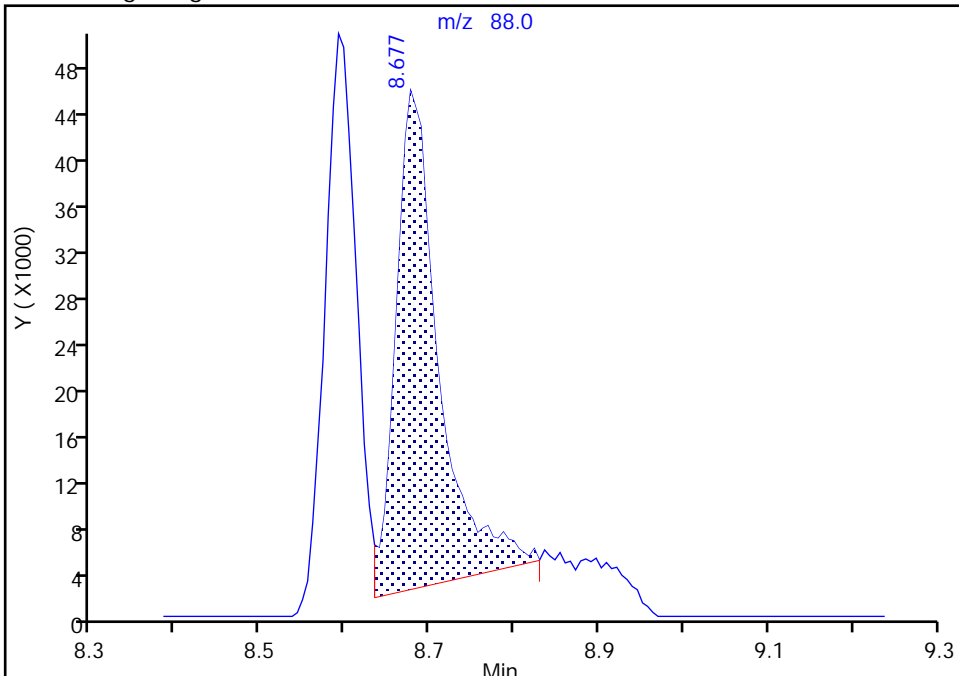
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Injection Date: 16-Mar-2020 16:24:30 Instrument ID: 19930
Lims ID: IC std7
Client ID:
Operator ID: JKH09052 ALS Bottle#: 11 Worklist Smp#: 12
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

65 1,4-Dioxane, CAS: 123-91-1

Signal: 1

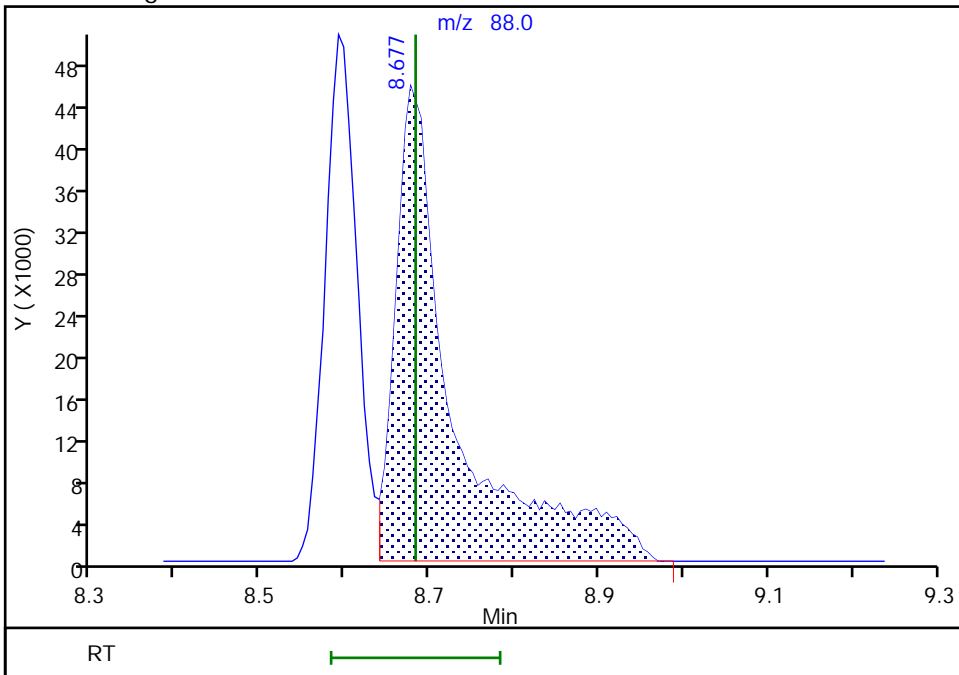
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Area: 153776
Amount: 1166.0942
Amount Units: ug/l

Processing Integration Results



RT: 8.68
Area: 221774
Amount: 961.5419
Amount Units: ug/l

Manual Integration Results



Reviewer: campbellme, 18-Mar-2020 21:37:49
Audit Action: Assigned New Baseline

Audit Reason: Baseline
Page 378 of 519

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfms\Lancaster\ChromData\19930\20200317-1775.b\IM16102.D
 Lims ID: ICIS - LG
 Client ID:
 Sample Type: ICIS Calib Level: 6
 Inject. Date: 16-Mar-2020 16:45:30 ALS Bottle#: 12 Worklist Smp#: 13
 Purge Vol: 25.000 mL Dil. Factor: 1.0000
 Sample Info: VSTD010;VSTD010;1;1;.....
 Misc. Info.: 8260W25.SUB;;;25;25;;;
 Operator ID: JKH09052 Instrument ID: 19930
 Sublist: chrom-8260 25ml HP31*sub2
 Method: \\chromfms\Lancaster\ChromData\19930\20200317-1775.b\8260 25ml HP31.m
 Limit Group: MSV - 8260C_D
 Last Update: 13-May-2020 18:30:05 Calib Date: 16-Mar-2020 18:31:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfms\Lancaster\ChromData\19930\20200317-1775.b\IM16107.D
 Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
 Process Host: CTX1007

First Level Reviewer: campbellme Date: 18-Mar-2020 21:40:54

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Dichlorodifluoromethane	85	1.983	1.983	0.000	99	1020389	10.0	9.31	M
4 Chloromethane	50	2.184	2.184	0.000	99	898074	10.0	10.2	M
5 Vinyl chloride	62	2.300	2.300	0.000	97	883143	10.0	10.3	
6 Butadiene	39	2.300	2.300	0.000	86	635985	10.0	10.0	
7 Bromomethane	94	2.629	2.629	0.000	90	605057	10.0	10.1	
8 Chloroethane	64	2.715	2.715	0.000	99	488722	10.0	10.1	
9 Dichlorofluoromethane	67	2.965	2.965	0.000	97	1116990	10.0	9.91	
10 Trichlorofluoromethane	101	3.025	3.025	0.000	98	1059857	10.0	10.4	
11 Ethyl ether	59	3.282	3.282	0.000	90	444364	10.0	10.1	
12 1,2-Dichloro-1,1,2-trifluoroetha	67	3.367	3.367	0.000	91	701358	10.0	10.2	
13 Acrolein	56	3.458	3.458	0.000	99	3685275	500.0	532.3	
14 1,1-Dichloroethene	96	3.605	3.605	0.000	98	554085	10.0	10.3	
15 Acetone	43	3.635	3.635	0.000	100	855032	100.0	98.6	
16 1,1,2-Trichloro-1,2,2-trifluoroe	101	3.641	3.641	0.000	93	623018	10.0	10.6	
17 Iodomethane	142	3.806	3.806	0.000	99	1063805	10.0	10.3	
18 Ethyl bromide	108	3.830	3.830	0.000	99	469558	10.0	10.2	
19 Carbon disulfide	76	3.916	3.916	0.000	99	1573563	10.0	10.2	
21 Methyl acetate	43	4.062	4.062	0.000	97	241267	10.0	9.96	
22 3-Chloro-1-propene	41	4.092	4.092	0.000	91	828579	10.0	10.2	
23 Methylene Chloride	84	4.281	4.281	0.000	90	569463	10.0	10.2	
* 24 t-Butyl alcohol-d10 (IS)	65	4.294	4.294	0.000	0	174786	50.0	50.0	M
25 2-Methyl-2-propanol	59	4.428	4.428	0.000	100	849755	200.0	201.8	
26 Acrylonitrile	53	4.629	4.629	0.000	98	607103	50.0	53.2	
27 Methyl tert-butyl ether	73	4.696	4.696	0.000	95	1412572	10.0	10.2	
28 trans-1,2-Dichloroethene	96	4.708	4.708	0.000	99	592532	10.0	10.2	
29 Hexane	57	5.129	5.129	0.000	91	915761	10.0	10.5	
31 1,1-Dichloroethane	63	5.366	5.366	0.000	96	1072677	10.0	10.4	
32 Isopropyl ether	45	5.421	5.421	0.000	94	1782121	10.0	10.3	
33 2-Chloro-1,3-butadiene	53	5.476	5.476	0.000	90	945809	10.0	10.4	
34 Tert-butyl ethyl ether	59	5.958	5.958	0.000	97	1725201	10.0	10.2	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
36 2-Butanone (MEK)	43	6.171	6.171	0.000	99	1615831	100.0	105.8	
37 cis-1,2-Dichloroethene	96	6.196	6.196	0.000	82	666924	10.0	10.2	
38 2,2-Dichloropropane	77	6.208	6.208	0.000	86	957766	10.0	10.3	
40 Propionitrile	54	6.263	6.263	0.000	99	883801	200.0	208.0	
42 Methacrylonitrile	67	6.476	6.476	0.000	92	1559282	100.0	107.2	
43 Chlorobromomethane	128	6.531	6.531	0.000	88	289006	10.0	10.0	
44 Tetrahydrofuran	71	6.543	6.543	0.000	86	479313	100.0	102.3	
45 Chloroform	83	6.677	6.677	0.000	93	1050753	10.0	10.2	
\$ 46 Dibromofluoromethane (Surr)	113	6.897	6.897	0.000	94	486394	10.0	10.0	
47 1,1,1-Trichloroethane	97	6.909	6.909	0.000	98	1033490	10.0	10.3	
48 Cyclohexane	56	7.006	7.006	0.000	89	1080056	10.0	10.2	
50 Carbon tetrachloride	117	7.116	7.116	0.000	88	928589	10.0	10.5	
51 1,1-Dichloropropene	75	7.116	7.116	0.000	95	868999	10.0	10.5	
52 Isobutyl alcohol	41	7.269	7.269	0.000	94	612127	500.0	503.1	
\$ 53 1,2-Dichloroethane-d4 (Surr)	102	7.348	7.348	0.000	0	97836	10.0	9.92	
54 Benzene	78	7.378	7.378	0.000	96	2492767	10.0	10.4	
56 1,2-Dichloroethane	62	7.451	7.451	0.000	98	648929	10.0	10.0	
57 Tert-amyl methyl ether	73	7.567	7.567	0.000	98	1610282	10.0	10.2	
* 58 Fluorobenzene (IS)	96	7.781	7.781	0.000	99	2016512	10.0	10.0	
59 n-Heptane	43	7.793	7.793	0.000	90	898225	10.0	10.8	
60 n-Butanol	56	8.134	8.134	0.000	87	1142481	1000.0	1062.5	
61 Trichloroethene	95	8.262	8.262	0.000	98	661952	10.0	10.3	
62 Methylcyclohexane	83	8.567	8.567	0.000	93	1193666	10.0	10.5	
63 1,2-Dichloropropane	63	8.591	8.591	0.000	72	605037	10.0	10.3	
64 Methyl methacrylate	69	8.671	8.671	0.000	89	314259	10.0	10.7	
65 1,4-Dioxane	88	8.677	8.677	0.000	44	141136	500.0	571.2	M
66 Dibromomethane	93	8.701	8.701	0.000	95	295807	10.0	10.2	
68 Dichlorobromomethane	83	8.939	8.939	0.000	100	783507	10.0	10.3	
69 2-Nitropropane	41	9.201	9.201	0.000	98	985108	100.0	107.6	
72 1-Bromo-2-chloroethane	63	9.329	9.329	0.000	98	627353	10.0	10.3	
73 cis-1,3-Dichloropropene	75	9.475	9.475	0.000	96	951714	10.0	10.6	
74 4-Methyl-2-pentanone (MIBK)	43	9.646	9.646	0.000	96	4056586	100.0	107.3	
\$ 75 Toluene-d8 (Surr)	98	9.780	9.780	0.000	93	1908330	10.0	9.94	
76 Toluene	92	9.853	9.853	0.000	98	1599225	10.0	10.4	
78 trans-1,3-Dichloropropene	75	10.109	10.109	0.000	92	803868	10.0	10.4	
79 Ethyl methacrylate	69	10.164	10.164	0.000	88	676318	10.0	10.2	
80 1,1,2-Trichloroethane	97	10.311	10.311	0.000	90	435626	10.0	10.1	
81 Tetrachloroethene	166	10.396	10.396	0.000	98	771679	10.0	10.5	
82 1,3-Dichloropropane	76	10.475	10.475	0.000	88	743778	10.0	10.3	
83 2-Hexanone	43	10.518	10.518	0.000	96	2801042	100.0	107.2	
85 Chlorodibromomethane	129	10.683	10.683	0.000	90	574600	10.0	10.5	
86 Ethylene Dibromide	107	10.798	10.798	0.000	99	423280	10.0	10.4	
* 87 Chlorobenzene-d5 (IS)	117	11.225	11.225	0.000	85	1509705	10.0	10.0	
88 1-Chlorohexane	91	11.225	11.225	0.000	95	966542	10.0	10.2	
90 Chlorobenzene	112	11.249	11.249	0.000	96	1772740	10.0	10.4	
91 1,1,1,2-Tetrachloroethane	131	11.329	11.329	0.000	96	661375	10.0	10.5	
92 Ethylbenzene	91	11.335	11.335	0.000	98	3135198	10.0	10.4	
93 m-Xylene & p-Xylene	106	11.445	11.445	0.000	0	2447965	20.0	20.8	
94 o-Xylene	106	11.774	11.774	0.000	96	1212795	10.0	10.4	
95 Styrene	104	11.786	11.786	0.000	95	1957192	10.0	10.5	
96 Bromoform	173	11.951	11.951	0.000	98	356744	10.0	10.6	
97 Isopropylbenzene	105	12.072	12.072	0.000	95	3276510	10.0	10.6	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
\$ 100 4-Bromofluorobenzene (Surr)	95	12.213	12.213	0.000	92	705064	10.0	9.84	
101 1,1,2,2-Tetrachloroethane	83	12.316	12.316	0.000	94	556023	10.0	10.6	
102 Bromobenzene	156	12.335	12.335	0.000	95	740069	10.0	10.5	
103 trans-1,4-Dichloro-2-butene	53	12.341	12.341	0.000	92	1426343	100.0	107.2	
104 1,2,3-Trichloropropane	110	12.365	12.365	0.000	83	149666	10.0	10.2	
105 N-Propylbenzene	91	12.402	12.402	0.000	99	3673082	10.0	10.5	
106 2-Chlorotoluene	126	12.475	12.475	0.000	97	747923	10.0	10.6	
107 1,3,5-Trimethylbenzene	105	12.536	12.536	0.000	94	2712914	10.0	10.7	
108 4-Chlorotoluene	126	12.566	12.566	0.000	97	751944	10.0	10.5	
109 tert-Butylbenzene	134	12.774	12.774	0.000	93	613177	10.0	10.8	
110 Pentachloroethane	167	12.810	12.810	0.000	93	506329	10.0	10.5	
111 1,2,4-Trimethylbenzene	105	12.816	12.816	0.000	97	2784291	10.0	10.7	
112 sec-Butylbenzene	105	12.938	12.938	0.000	94	3532328	10.0	10.8	
113 1,3-Dichlorobenzene	146	13.042	13.042	0.000	98	1446570	10.0	10.5	
114 4-Isopropyltoluene	119	13.048	13.048	0.000	97	3067350	10.0	10.9	
* 115 1,4-Dichlorobenzene-d4	152	13.097	13.097	0.000	94	813828	10.0	10.0	
116 1,4-Dichlorobenzene	146	13.115	13.115	0.000	95	1416735	10.0	10.4	
117 1,2,3-Trimethylbenzene	120	13.121	13.121	0.000	98	1157997	10.0	10.3	
118 Benzyl chloride	126	13.188	13.188	0.000	98	253323	10.0	10.5	
119 n-Butylbenzene	92	13.334	13.334	0.000	96	1452958	10.0	11.1	
120 1,2-Dichlorobenzene	146	13.371	13.371	0.000	99	1313773	10.0	10.4	
122 1,2-Dibromo-3-Chloropropane	155	13.914	13.914	0.000	88	89366	10.0	10.3	
123 1,3,5-Trichlorobenzene	180	14.036	14.036	0.000	98	1100723	10.0	11.0	
124 1,2,4-Trichlorobenzene	180	14.462	14.462	0.000	94	920606	10.0	10.9	
125 Hexachlorobutadiene	225	14.542	14.542	0.000	97	395472	10.0	11.1	
126 Naphthalene	128	14.645	14.645	0.000	97	1751429	10.0	10.5	
127 1,2,3-Trichlorobenzene	180	14.785	14.785	0.000	95	754804	10.0	10.8	
144 2-ethoxy-2-methyl butane	1		0.000				ND	ND	U
137 2-Methylnaphthalene	142		0.000				ND	ND	U
135 p-Diethylbenzene	1		0.000				ND	ND	U
134 Isopropyl alcohol	45		0.000				ND	ND	U

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

U - Marked Undetected

Reagents:

MSV_RV1_826_00008

Amount Added: 10.00

Units: uL

MSV_RV4_826_00009

Amount Added: 10.00

Units: uL

MSV_RV4GAS826_00022

Amount Added: 10.00

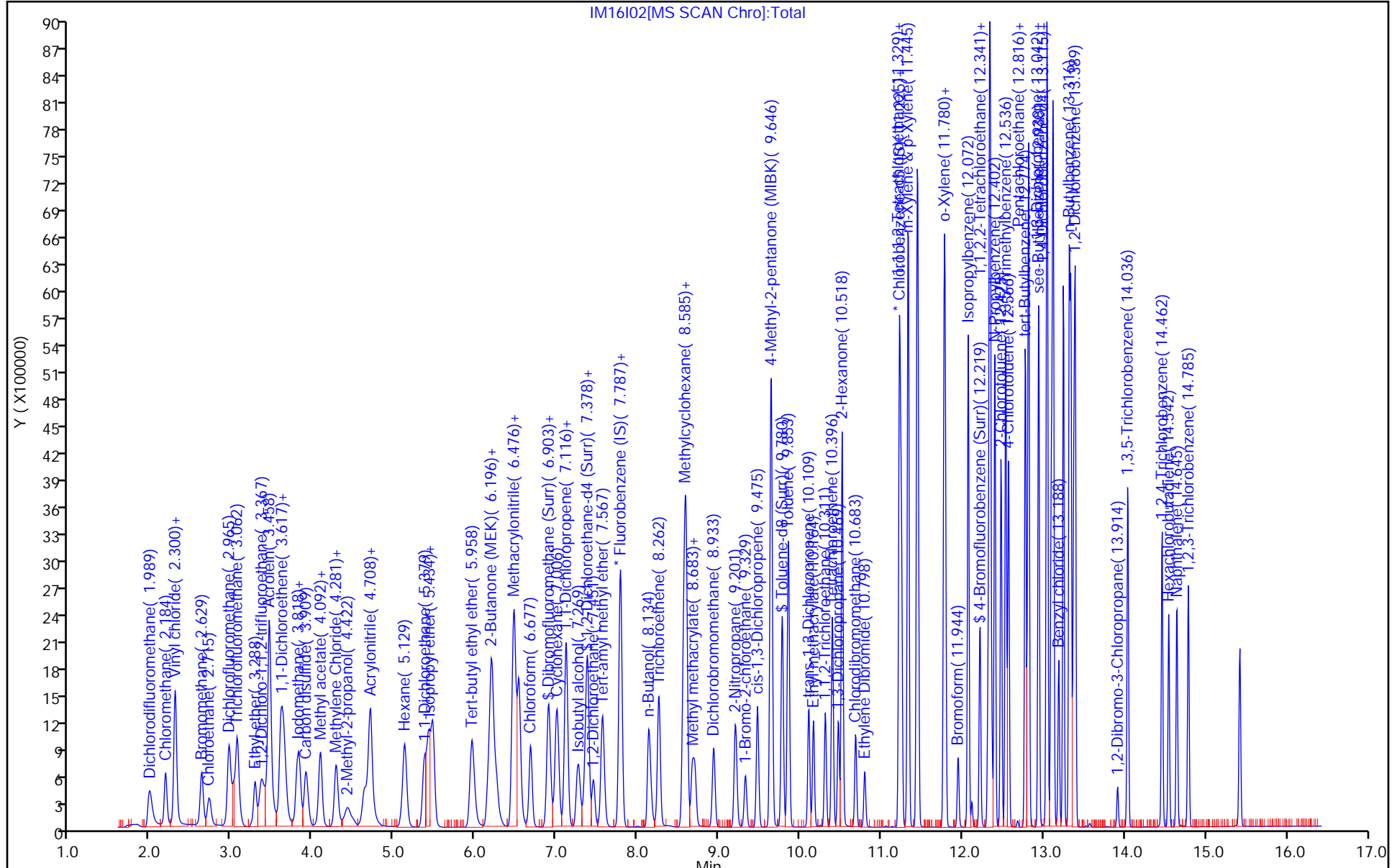
Units: uL

MSV_31_826ISS_00002

Amount Added: 5.00

Units: uL

Run Reagent



IM16102[MS SCAN Chrom]:Total

Eurofins Lancaster Laboratories Env, LLC

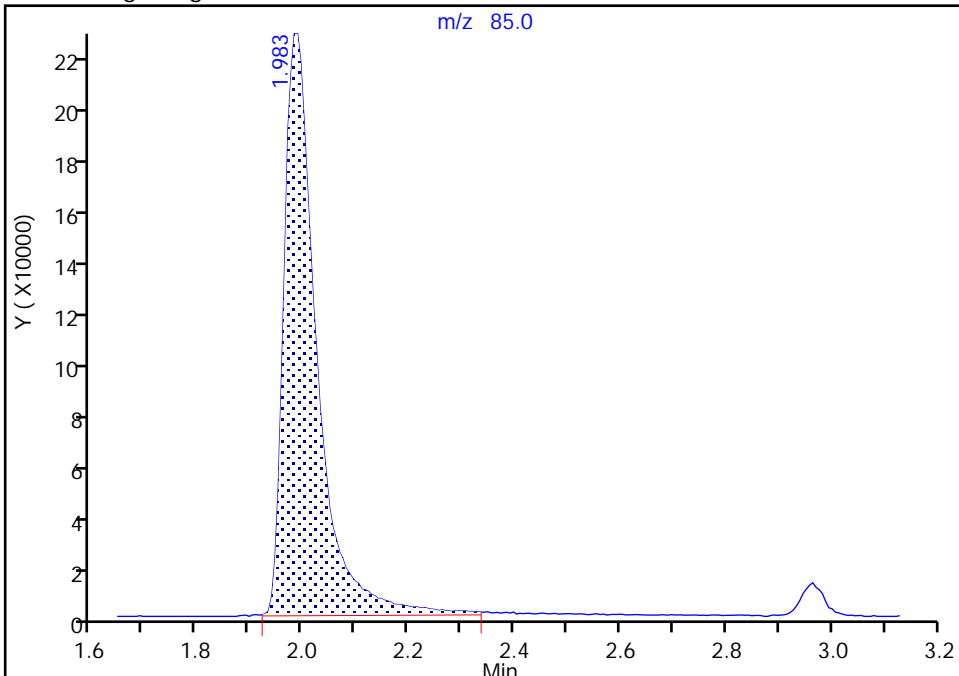
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Injection Date: 16-Mar-2020 16:45:30 Instrument ID: 19930
Lims ID: ICIS - LG
Client ID:
Operator ID: JKH09052 ALS Bottle#: 12 Worklist Smp#: 13
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

1 Dichlorodifluoromethane, CAS: 75-71-8

Signal: 1

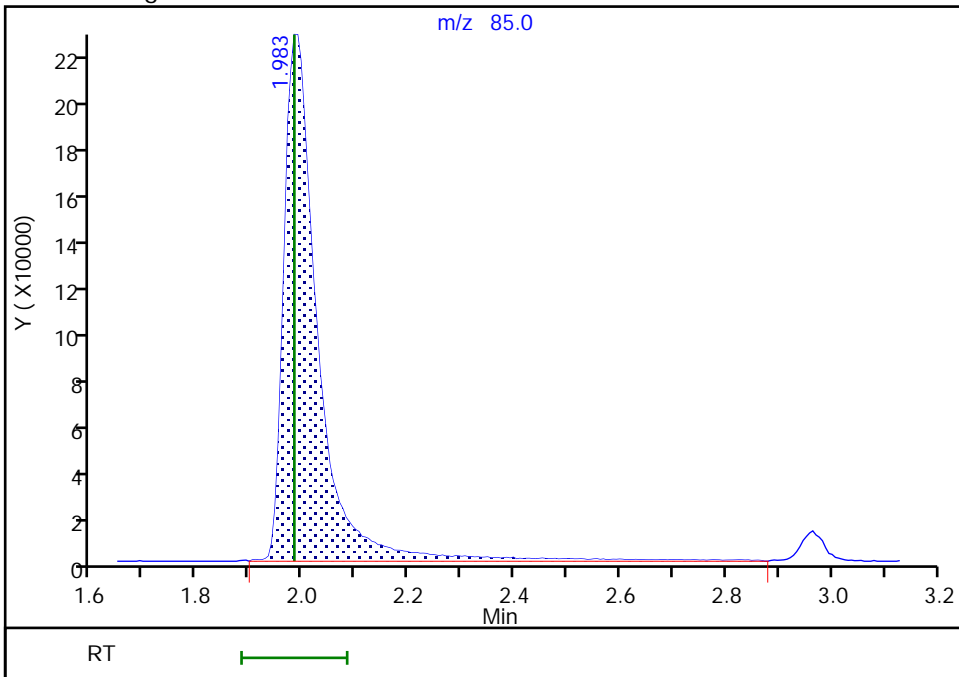
RT: 1.98
Area: 984962
Amount: 10.331427
Amount Units: ug/l

Processing Integration Results



RT: 1.98
Area: 1020389
Amount: 9.307987
Amount Units: ug/l

Manual Integration Results



Reviewer: campbellme, 18-Mar-2020 21:38:47

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

Eurofins Lancaster Laboratories Env, LLC

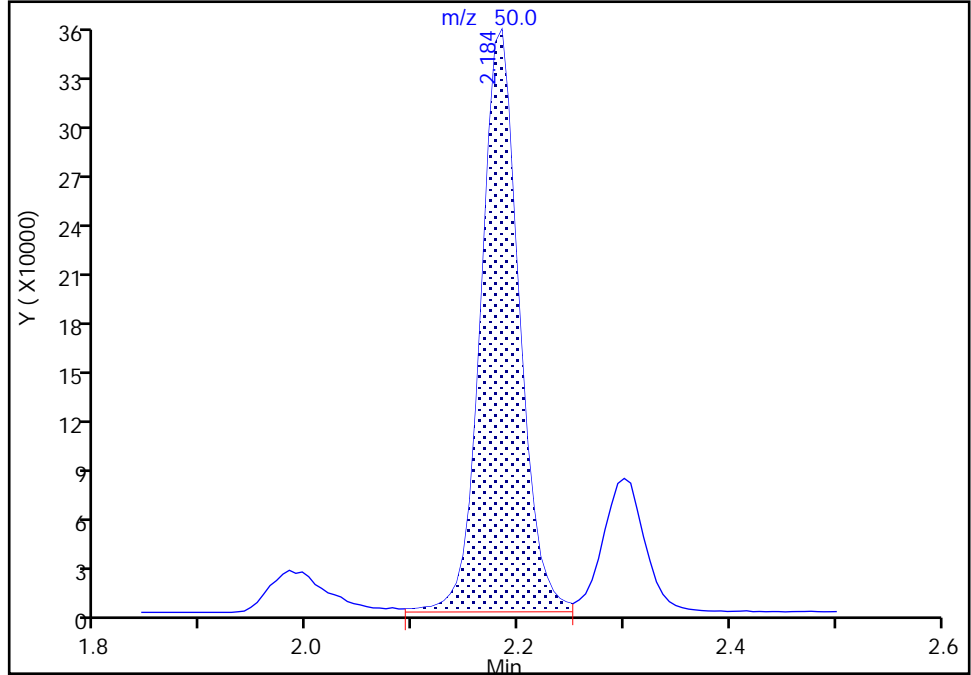
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Injection Date: 16-Mar-2020 16:45:30 Instrument ID: 19930
Lims ID: ICIS - LG
Client ID:
Operator ID: JKH09052 ALS Bottle#: 12 Worklist Smp#: 13
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

4 Chloromethane, CAS: 74-87-3

Signal: 1

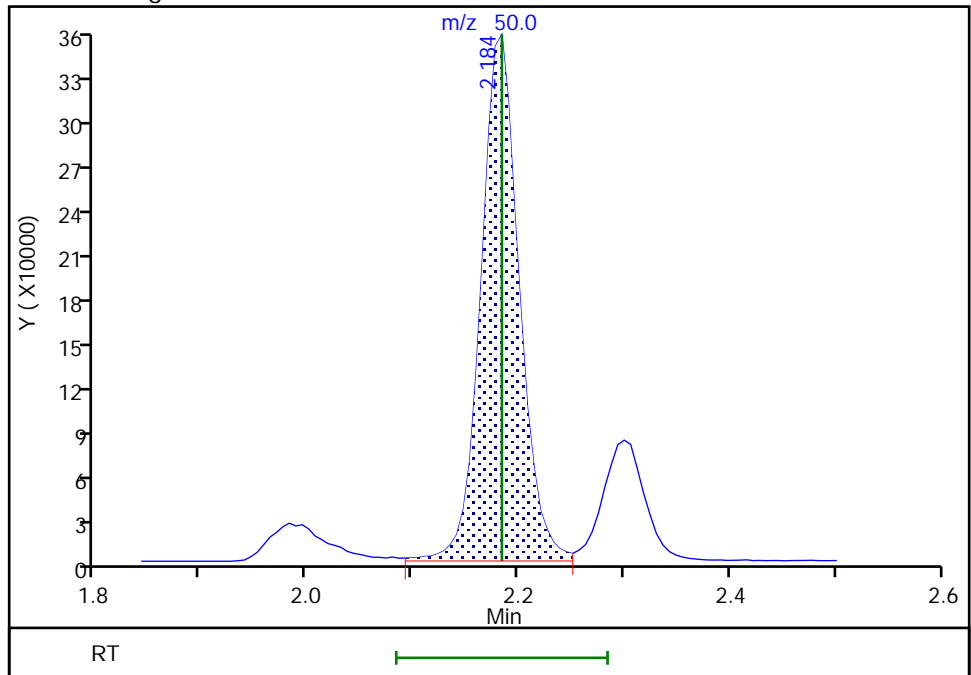
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Area: 897071
Amount: 10.158675
Amount Units: ug/l

Processing Integration Results



RT: 2.18
Area: 898074
Amount: 10.166356
Amount Units: ug/l

Manual Integration Results



Reviewer: campbellme, 18-Mar-2020 21:39:17
Audit Action: Assigned New Baseline

Audit Reason: Baseline

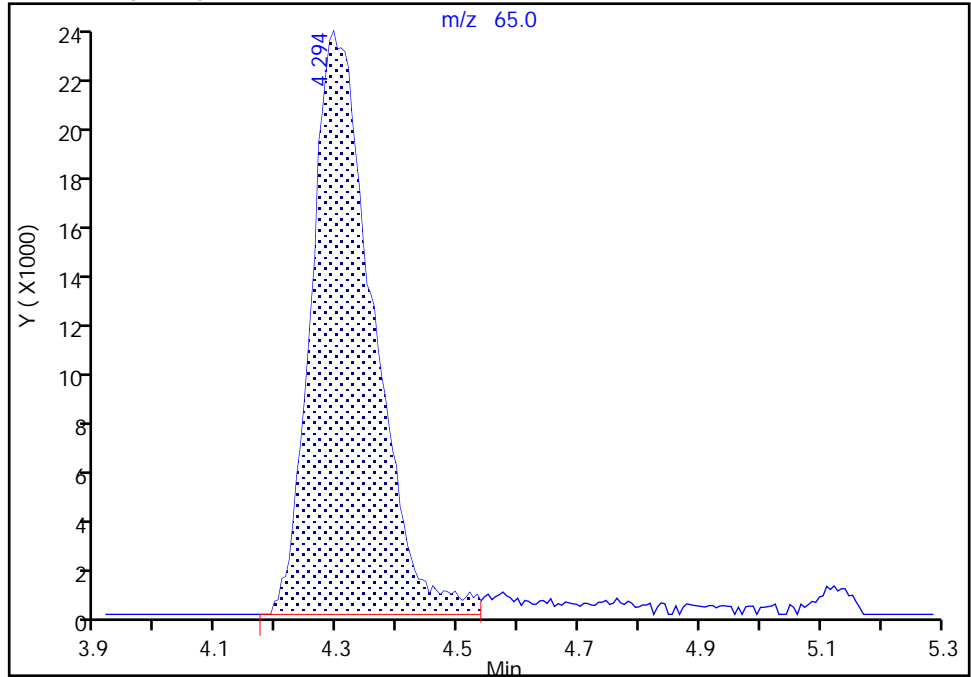
Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\IM16102.D
Injection Date: 16-Mar-2020 16:45:30 Instrument ID: 19930
Lims ID: ICIS - LG
Client ID:
Operator ID: JKH09052 ALS Bottle#: 12 Worklist Smp#: 13
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

* 24 t-Butyl alcohol-d10 (IS), CAS: 53001-22-2
Signal: 1

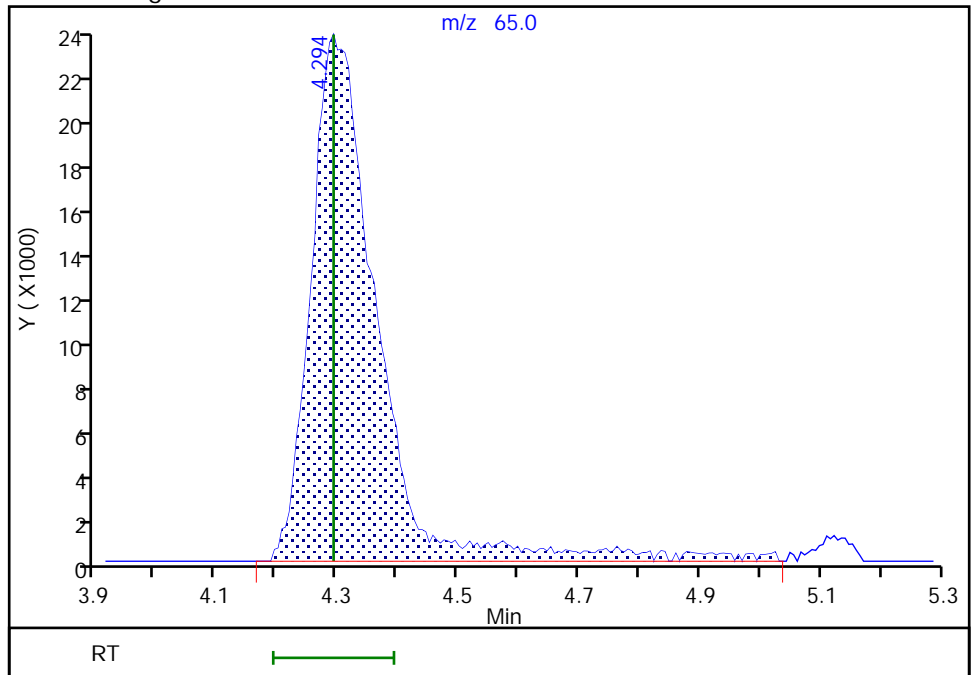
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Area: 163221
Amount: 50.000000
Amount Units: ug/l

Processing Integration Results



RT: 4.29
Area: 174786
Amount: 50.000000
Amount Units: ug/l

Manual Integration Results



Reviewer: campbellme, 18-Mar-2020 21:39:49
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

Eurofins Lancaster Laboratories Env, LLC

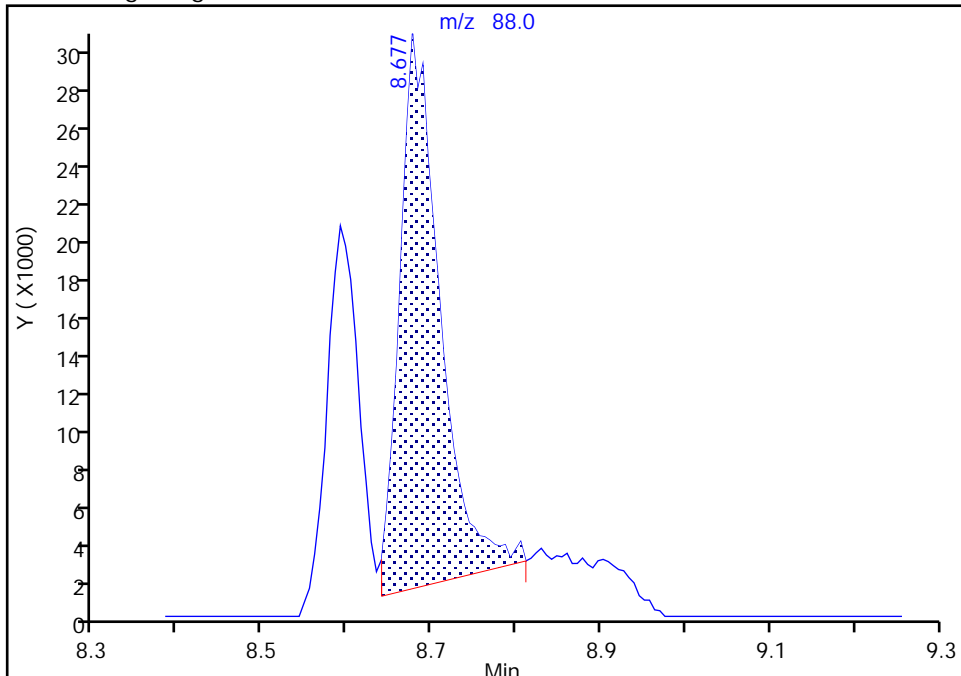
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Injection Date: 16-Mar-2020 16:45:30 Instrument ID: 19930
Lims ID: ICIS - LG
Client ID:
Operator ID: JKH09052 ALS Bottle#: 12 Worklist Smp#: 13
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

65 1,4-Dioxane, CAS: 123-91-1

Signal: 1

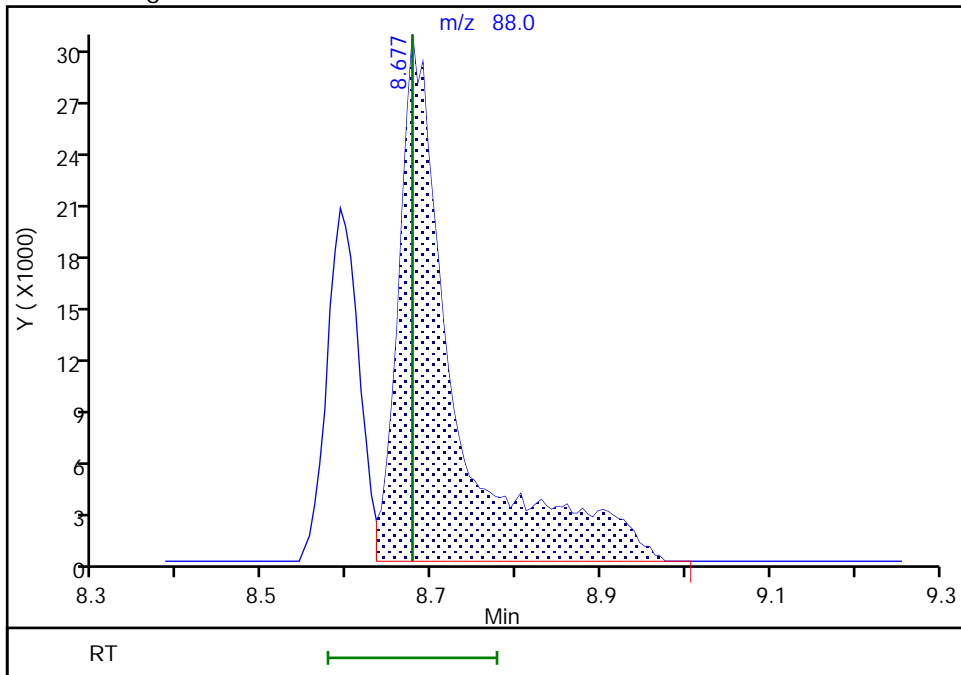
RT: 8.68
Area: 96173
Amount: 502.3752
Amount Units: ug/l

Processing Integration Results



RT: 8.68
Area: 141136
Amount: 571.1522
Amount Units: ug/l

Manual Integration Results



Reviewer: campbellme, 18-Mar-2020 21:40:30
Audit Action: Split an Integrated Peak

Audit Reason: Split Peak

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\IM16I03.D
 Lims ID: IC std5
 Client ID:
 Sample Type: IC Calib Level: 5
 Inject. Date: 16-Mar-2020 17:06:30 ALS Bottle#: 13 Worklist Smp#: 14
 Purge Vol: 25.000 mL Dil. Factor: 1.0000
 Sample Info: VSTD005;VSTD005;1;1;.....
 Misc. Info.: 8260W25.SUB;25;25;...
 Operator ID: JKH09052 Instrument ID: 19930
 Sublist: chrom-8260 25ml HP31*sub2
 Method: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\8260 25ml HP31.m
 Limit Group: MSV - 8260C_D
 Last Update: 13-May-2020 18:30:15 Calib Date: 16-Mar-2020 18:31:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\IM16I07.D
 Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
 Process Host: CTX1007

First Level Reviewer: campbellme Date: 18-Mar-2020 21:42:49

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Dichlorodifluoromethane	85	1.983	1.983	0.000	99	507814	5.00	4.63	M
4 Chloromethane	50	2.184	2.184	0.000	99	449250	5.00	5.08	M
5 Vinyl chloride	62	2.300	2.300	0.000	98	442830	5.00	5.17	
6 Butadiene	39	2.300	2.300	0.000	83	309498	5.00	4.88	M
7 Bromomethane	94	2.629	2.629	0.000	91	310370	5.00	5.17	
8 Chloroethane	64	2.721	2.715	0.006	100	249607	5.00	5.15	
9 Dichlorofluoromethane	67	2.964	2.965	0.000	97	568382	5.00	5.04	
10 Trichlorofluoromethane	101	3.025	3.025	0.000	97	526540	5.00	5.16	
11 Ethyl ether	59	3.288	3.282	0.006	90	223830	5.00	5.10	
12 1,2-Dichloro-1,1,2-trifluoroetha	67	3.367	3.367	0.000	91	338811	5.00	4.90	
13 Acrolein	56	3.464	3.458	0.006	99	1864004	250.0	251.2	
14 1,1-Dichloroethene	96	3.605	3.605	0.000	98	271165	5.00	5.02	
15 Acetone	43	3.635	3.635	0.000	100	441964	50.0	47.5	
16 1,1,2-Trichloro-1,2,2-trifluoroe	101	3.635	3.641	-0.006	90	304860	5.00	5.20	
17 Iodomethane	142	3.806	3.806	0.000	99	521309	5.00	5.06	
18 Ethyl bromide	108	3.830	3.830	0.000	99	235938	5.00	5.14	
19 Carbon disulfide	76	3.916	3.916	0.000	99	766906	5.00	4.97	
21 Methyl acetate	43	4.062	4.062	0.000	97	114270	5.00	4.71	
22 3-Chloro-1-propene	41	4.092	4.092	0.000	90	415708	5.00	5.10	
23 Methylene Chloride	84	4.287	4.281	0.006	90	279336	5.00	4.98	
* 24 t-Butyl alcohol-d10 (IS)	65	4.300	4.294	0.006	0	187359	50.0	50.0	M
25 2-Methyl-2-propanol	59	4.428	4.428	0.000	100	444257	100.0	98.4	
26 Acrylonitrile	53	4.629	4.629	0.000	99	307372	25.0	25.1	
27 Methyl tert-butyl ether	73	4.690	4.696	-0.006	94	713424	5.00	5.15	
28 trans-1,2-Dichloroethene	96	4.702	4.708	-0.006	99	290960	5.00	5.01	
29 Hexane	57	5.129	5.129	0.000	92	430008	5.00	4.92	
31 1,1-Dichloroethane	63	5.373	5.366	0.007	96	521875	5.00	5.06	
32 Isopropyl ether	45	5.421	5.421	0.000	93	872306	5.00	5.05	
33 2-Chloro-1,3-butadiene	53	5.476	5.476	0.000	91	462107	5.00	5.07	
34 Tert-butyl ethyl ether	59	5.958	5.958	0.000	97	859911	5.00	5.06	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
S 35 1,2-Dichloroethene, Total	100				0			10.1	
36 2-Butanone (MEK)	43	6.171	6.171	0.000	99	821747	50.0	50.2	
37 cis-1,2-Dichloroethene	96	6.202	6.196	0.006	81	328795	5.00	5.05	
38 2,2-Dichloropropane	77	6.214	6.208	0.006	85	469089	5.00	5.02	
40 Propionitrile	54	6.269	6.263	0.006	99	450837	100.0	99.0	
42 Methacrylonitrile	67	6.476	6.476	0.000	91	785361	50.0	50.4	
43 Chlorobromomethane	128	6.531	6.531	0.000	89	145894	5.00	5.06	
44 Tetrahydrofuran	71	6.543	6.543	0.000	84	246436	50.0	49.1	
45 Chloroform	83	6.683	6.677	0.006	93	519324	5.00	5.03	
\$ 46 Dibromofluoromethane (Surr)	113	6.897	6.897	0.000	94	489679	10.0	10.1	
47 1,1,1-Trichloroethane	97	6.909	6.909	0.000	98	503133	5.00	5.03	
48 Cyclohexane	56	7.006	7.006	0.000	89	523555	5.00	4.96	
50 Carbon tetrachloride	117	7.116	7.116	0.000	93	452962	5.00	5.10	
51 1,1-Dichloropropene	75	7.116	7.116	0.000	96	417889	5.00	5.05	
52 Isobutyl alcohol	41	7.269	7.269	-0.001	94	321827	250.0	246.7	
\$ 53 1,2-Dichloroethane-d4 (Surr)	102	7.354	7.348	0.006	0	97249	10.0	9.85	
54 Benzene	78	7.384	7.378	0.006	97	1213141	5.00	5.04	
56 1,2-Dichloroethane	62	7.451	7.451	0.000	98	315451	5.00	4.87	
57 Tert-amyl methyl ether	73	7.567	7.567	0.000	98	802048	5.00	5.08	
* 58 Fluorobenzene (IS)	96	7.781	7.781	0.000	99	2018146	10.0	10.0	
59 n-Heptane	43	7.793	7.793	0.000	90	422462	5.00	5.07	
60 n-Butanol	56	8.134	8.134	0.000	87	595233	500.0	516.4	
61 Trichloroethene	95	8.262	8.262	0.000	98	322098	5.00	5.02	
62 Methylcyclohexane	83	8.567	8.567	0.000	93	595183	5.00	5.21	
63 1,2-Dichloropropane	63	8.591	8.591	0.000	88	297311	5.00	5.08	
64 Methyl methacrylate	69	8.671	8.671	0.000	87	159170	5.00	5.04	
65 1,4-Dioxane	88	8.677	8.677	0.000	45	69311	250.0	261.7	M
66 Dibromomethane	93	8.701	8.701	0.000	95	145809	5.00	5.02	
68 Dichlorobromomethane	83	8.933	8.939	-0.006	100	382425	5.00	5.02	
69 2-Nitropropane	41	9.201	9.201	0.000	98	495450	50.0	50.5	
72 1-Bromo-2-chloroethane	63	9.323	9.329	-0.006	99	312286	5.00	5.14	
73 cis-1,3-Dichloropropene	75	9.475	9.475	0.000	96	464109	5.00	5.15	
74 4-Methyl-2-pentanone (MIBK)	43	9.640	9.646	-0.006	96	2060954	50.0	50.9	
\$ 75 Toluene-d8 (Surr)	98	9.780	9.780	0.000	93	1921017	10.0	10.1	
76 Toluene	92	9.853	9.853	0.000	98	776857	5.00	5.09	
S 77 1,3-Dichloropropene, Total	100				0			10.2	
78 trans-1,3-Dichloropropene	75	10.109	10.109	0.000	92	394285	5.00	5.10	
79 Ethyl methacrylate	69	10.164	10.164	0.000	88	335368	5.00	5.09	
80 1,1,2-Trichloroethane	97	10.311	10.311	0.000	91	214127	5.00	5.01	
81 Tetrachloroethene	166	10.396	10.396	0.000	98	372446	5.00	5.11	
82 1,3-Dichloropropane	76	10.469	10.475	-0.006	89	368157	5.00	5.12	
83 2-Hexanone	43	10.518	10.518	0.000	96	1435758	50.0	51.3	
85 Chlorodibromomethane	129	10.682	10.683	-0.001	90	281805	5.00	5.17	
86 Ethylene Dibromide	107	10.798	10.798	0.000	98	208754	5.00	5.17	
* 87 Chlorobenzene-d5 (IS)	117	11.225	11.225	0.000	86	1502563	10.0	10.0	
88 1-Chlorohexane	91	11.231	11.225	0.006	95	464220	5.00	4.95	
S 89 Xylenes, Total	106				0			15.3	
90 Chlorobenzene	112	11.249	11.249	0.000	96	862744	5.00	5.10	
91 1,1,1,2-Tetrachloroethane	131	11.329	11.329	0.000	97	319438	5.00	5.07	
92 Ethylbenzene	91	11.335	11.335	0.000	98	1522716	5.00	5.08	
93 m-Xylene & p-Xylene	106	11.445	11.445	0.000	0	1197162	10.0	10.2	
94 o-Xylene	106	11.774	11.774	0.000	96	587908	5.00	5.05	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
95 Styrene	104	11.786	11.786	0.000	95	955403	5.00	5.15	
96 Bromoform	173	11.944	11.951	-0.007	97	174165	5.00	5.19	
97 Isopropylbenzene	105	12.072	12.072	0.000	95	1587251	5.00	5.15	
\$ 100 4-Bromofluorobenzene (Surr)	95	12.219	12.213	0.006	93	716065	10.0	10.0	
101 1,1,2,2-Tetrachloroethane	83	12.316	12.316	0.000	92	273453	5.00	5.18	
102 Bromobenzene	156	12.335	12.335	0.000	94	362833	5.00	5.12	
103 trans-1,4-Dichloro-2-butene	53	12.341	12.341	0.000	92	722433	50.0	50.7	
104 1,2,3-Trichloropropane	110	12.365	12.365	0.000	83	77402	5.00	5.26	
105 N-Propylbenzene	91	12.402	12.402	0.000	99	1804651	5.00	5.15	
106 2-Chlorotoluene	126	12.475	12.475	0.000	97	362786	5.00	5.13	
107 1,3,5-Trimethylbenzene	105	12.536	12.536	0.000	94	1309251	5.00	5.13	
108 4-Chlorotoluene	126	12.566	12.566	0.000	98	367758	5.00	5.11	
109 tert-Butylbenzene	134	12.774	12.774	0.000	93	295952	5.00	5.18	
110 Pentachloroethane	167	12.810	12.810	0.000	95	249082	5.00	5.16	
111 1,2,4-Trimethylbenzene	105	12.816	12.816	0.000	97	1346411	5.00	5.13	
112 sec-Butylbenzene	105	12.938	12.938	0.000	94	1707579	5.00	5.21	
113 1,3-Dichlorobenzene	146	13.036	13.042	-0.006	98	707528	5.00	5.10	
114 4-Isopropyltoluene	119	13.048	13.048	0.000	97	1467497	5.00	5.19	
* 115 1,4-Dichlorobenzene-d4	152	13.097	13.097	0.000	98	816859	10.0	10.0	
116 1,4-Dichlorobenzene	146	13.115	13.115	0.000	95	693277	5.00	5.05	
117 1,2,3-Trimethylbenzene	120	13.121	13.121	0.000	98	581033	5.00	5.15	
118 Benzyl chloride	126	13.188	13.188	0.000	98	124318	5.00	5.14	
119 n-Butylbenzene	92	13.334	13.334	0.000	97	685755	5.00	5.21	
120 1,2-Dichlorobenzene	146	13.371	13.371	0.000	99	642903	5.00	5.07	
122 1,2-Dibromo-3-Chloropropane	155	13.914	13.914	0.000	88	43766	5.00	5.02	
123 1,3,5-Trichlorobenzene	180	14.042	14.036	0.006	98	511228	5.00	5.09	
124 1,2,4-Trichlorobenzene	180	14.462	14.462	0.000	94	431202	5.00	5.10	
125 Hexachlorobutadiene	225	14.541	14.542	-0.001	97	182926	5.00	5.13	
126 Naphthalene	128	14.645	14.645	0.000	97	844888	5.00	5.07	
127 1,2,3-Trichlorobenzene	180	14.785	14.785	0.000	96	355728	5.00	5.05	
134 Isopropyl alcohol	45		0.000				ND	ND	U
135 p-Diethylbenzene	1		0.000				ND	ND	U
137 2-Methylnaphthalene	142		0.000				ND	ND	U
144 2-ethoxy-2-methyl butane	1		0.000				ND	ND	U

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

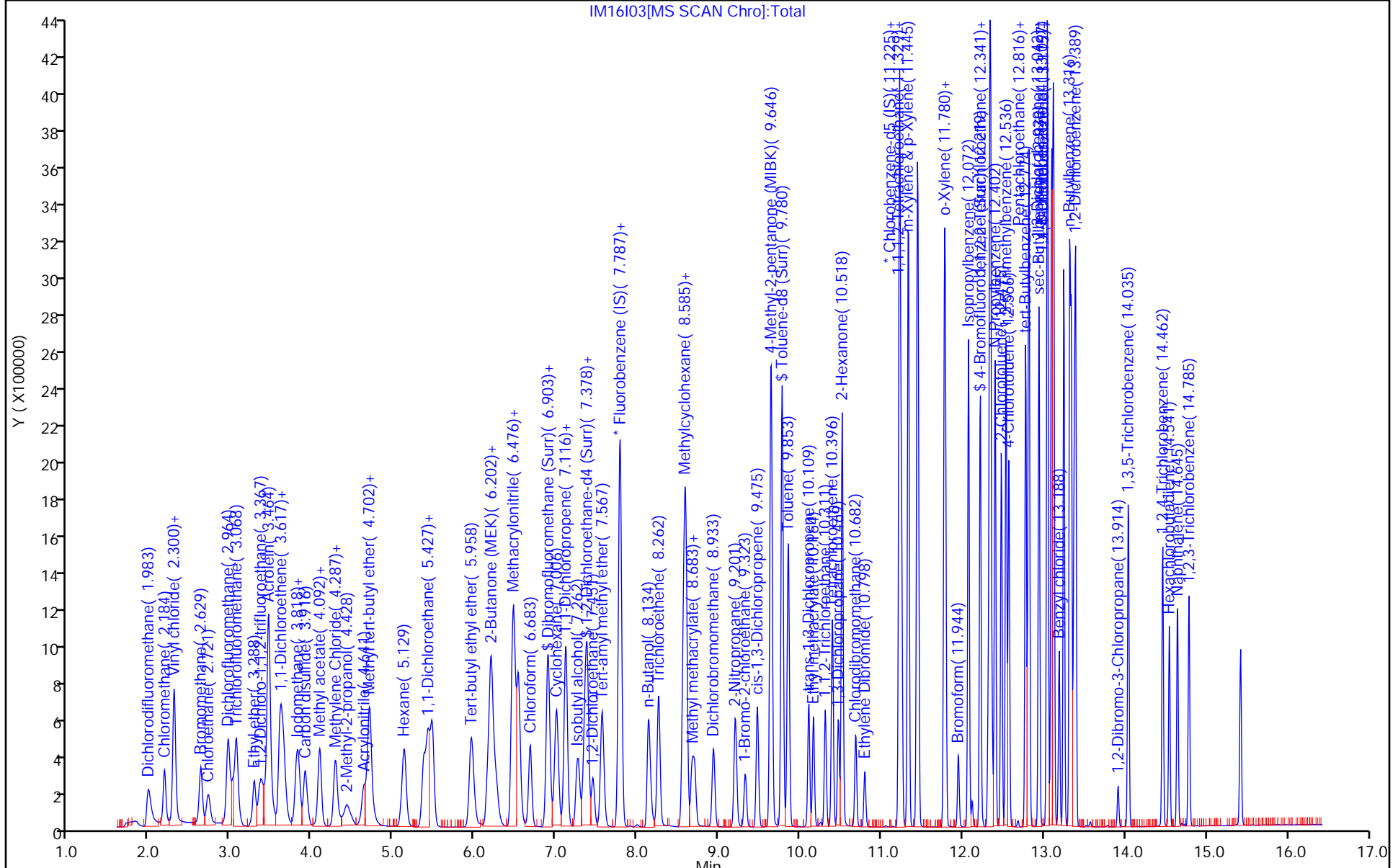
Review Flags

M - Manually Integrated

U - Marked Undetected

Reagents:

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MSV_RV4_826_00009	Amount Added: 5.00	Units: uL	
MSV_RV4GAS826_00022	Amount Added: 5.00	Units: uL	
MSV_31_826ISS_00002	Amount Added: 5.00	Units: uL	Run Reagent



Eurofins Lancaster Laboratories Env, LLC

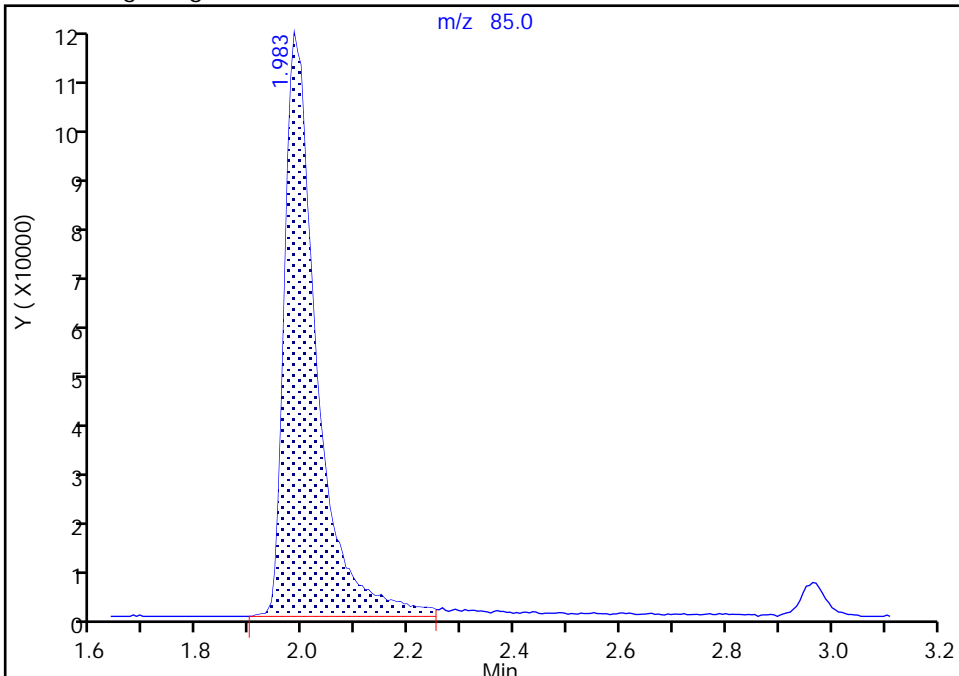
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Lims ID: IC std5
Client ID:
Operator ID: JKH09052 ALS Bottle#: 13 Worklist Smp#: 14
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

1 Dichlorodifluoromethane, CAS: 75-71-8

Signal: 1

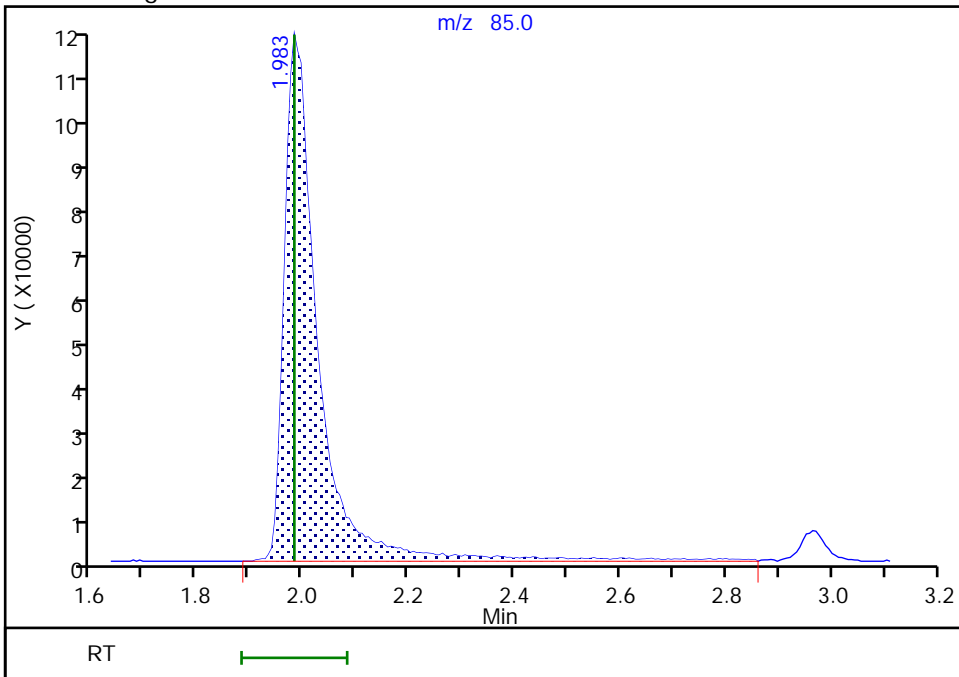
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Area: 484513
Amount: 5.051206
Amount Units: ug/l

Processing Integration Results



RT: 1.98
Area: 507814
Amount: 4.628528
Amount Units: ug/l

Manual Integration Results



Reviewer: campbellme, 18-Mar-2020 21:41:14
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
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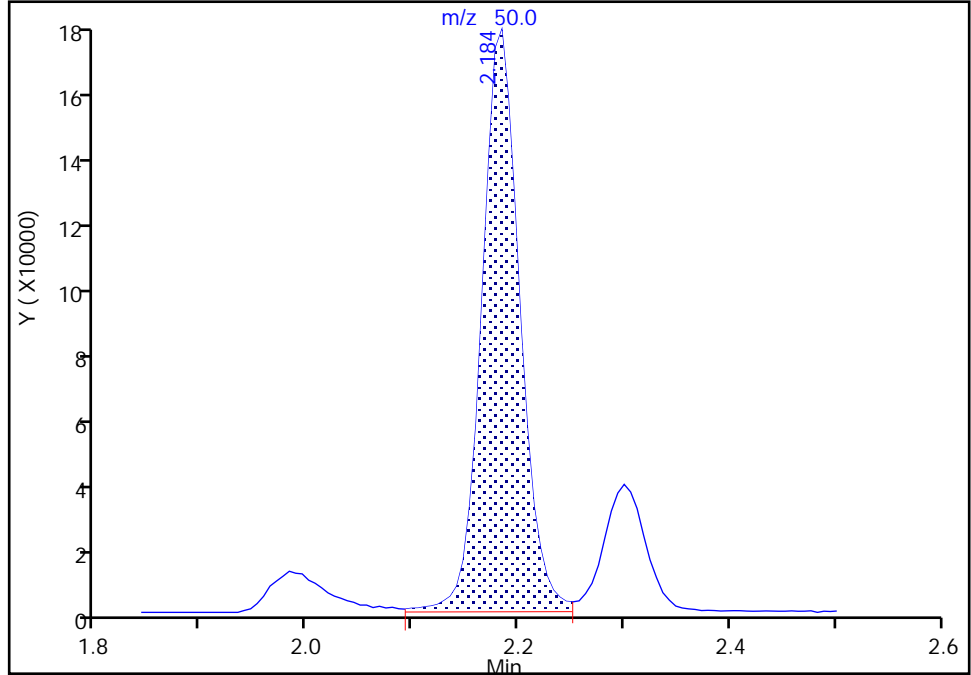
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Lims ID: IC std5
Client ID:
Operator ID: JKH09052 ALS Bottle#: 13 Worklist Smp#: 14
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

4 Chloromethane, CAS: 74-87-3

Signal: 1

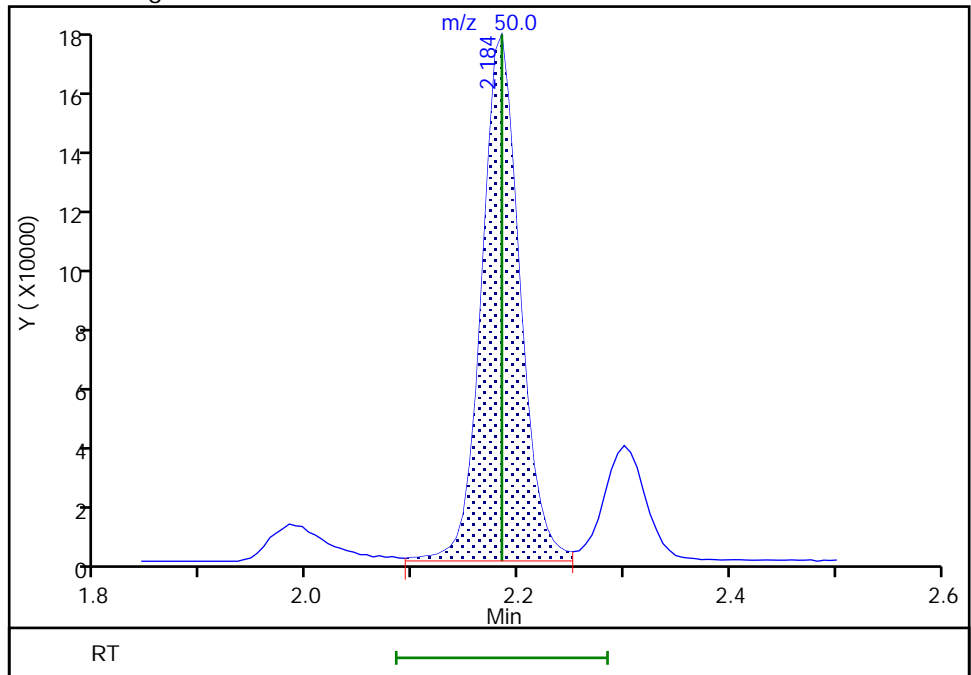
RT: 2.18
Area: 448633
Amount: 5.075505
Amount Units: ug/l

Processing Integration Results



RT: 2.18
Area: 449250
Amount: 5.081472
Amount Units: ug/l

Manual Integration Results



Reviewer: campbellme, 18-Mar-2020 21:41:28
Audit Action: Assigned New Baseline

Audit Reason: Baseline

Eurofins Lancaster Laboratories Env, LLC

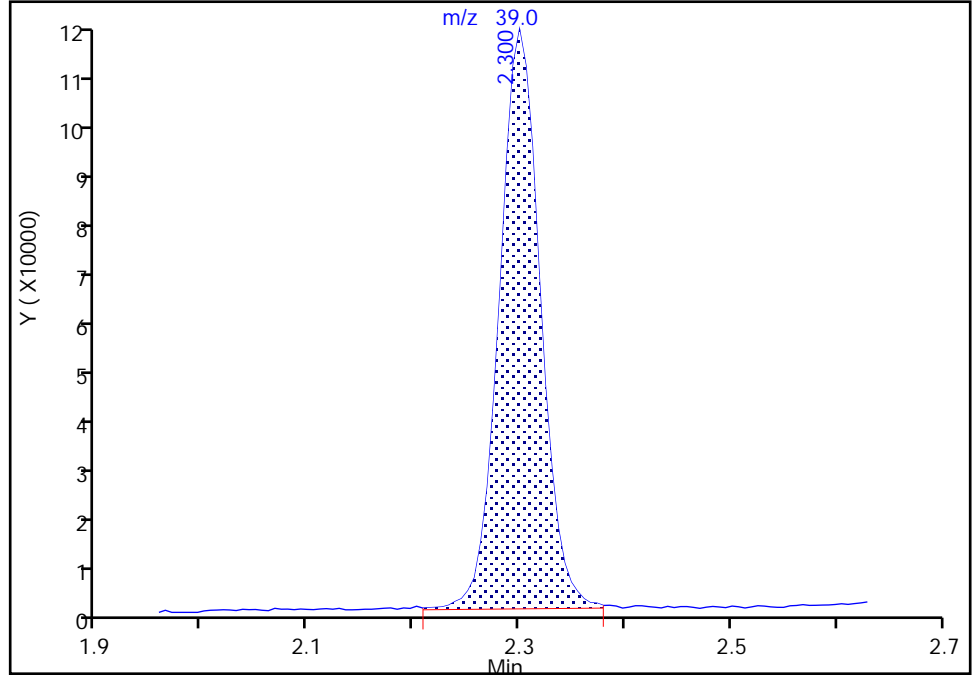
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Injection Date: 16-Mar-2020 17:06:30 Instrument ID: 19930
Lims ID: IC std5
Client ID:
Operator ID: JKH09052 ALS Bottle#: 13 Worklist Smp#: 14
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

6 Butadiene, CAS: 106-99-0

Signal: 1

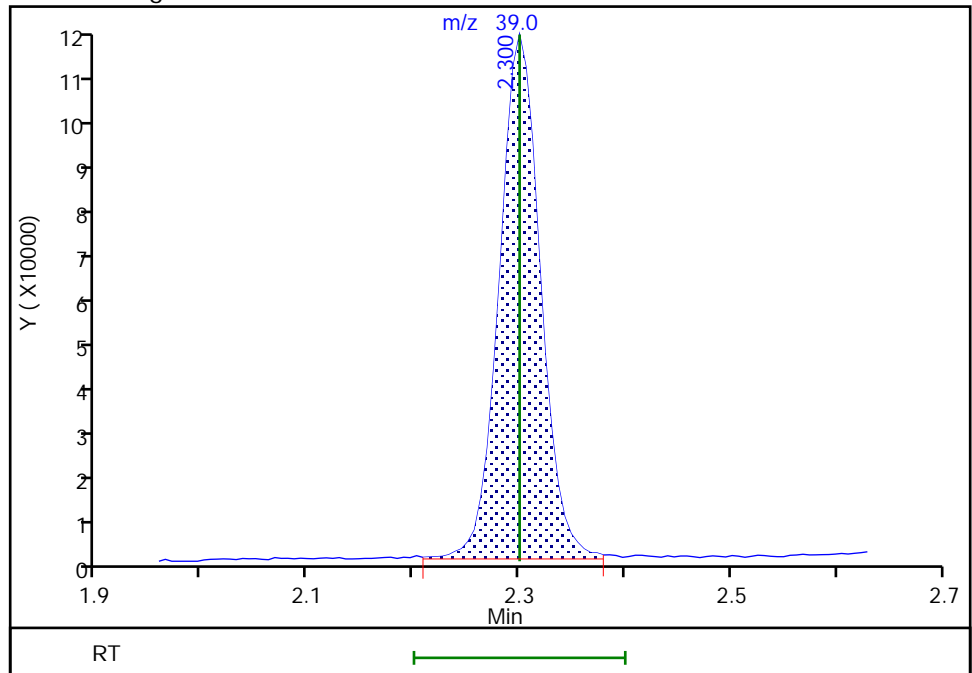
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Area: 307642
Amount: 4.896211
Amount Units: ug/l

Processing Integration Results



RT: 2.30
Area: 309498
Amount: 4.876304
Amount Units: ug/l

Manual Integration Results



Reviewer: campbellme, 18-Mar-2020 21:41:37

Audit Action: Assigned New Baseline

Audit Reason: Baseline

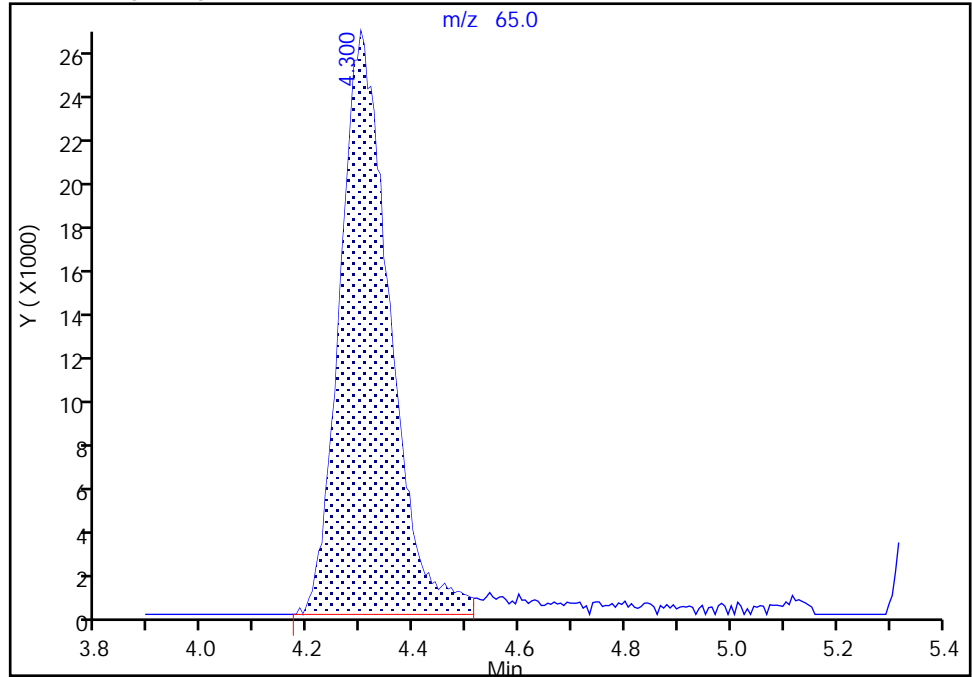
Euofins Lancaster Laboratories Env, LLC

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Injection Date: 16-Mar-2020 17:06:30 Instrument ID: 19930
Lims ID: IC std5
Client ID:
Operator ID: JKH09052 ALS Bottle#: 13 Worklist Smp#: 14
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

* 24 t-Butyl alcohol-d10 (IS), CAS: 53001-22-2
Signal: 1

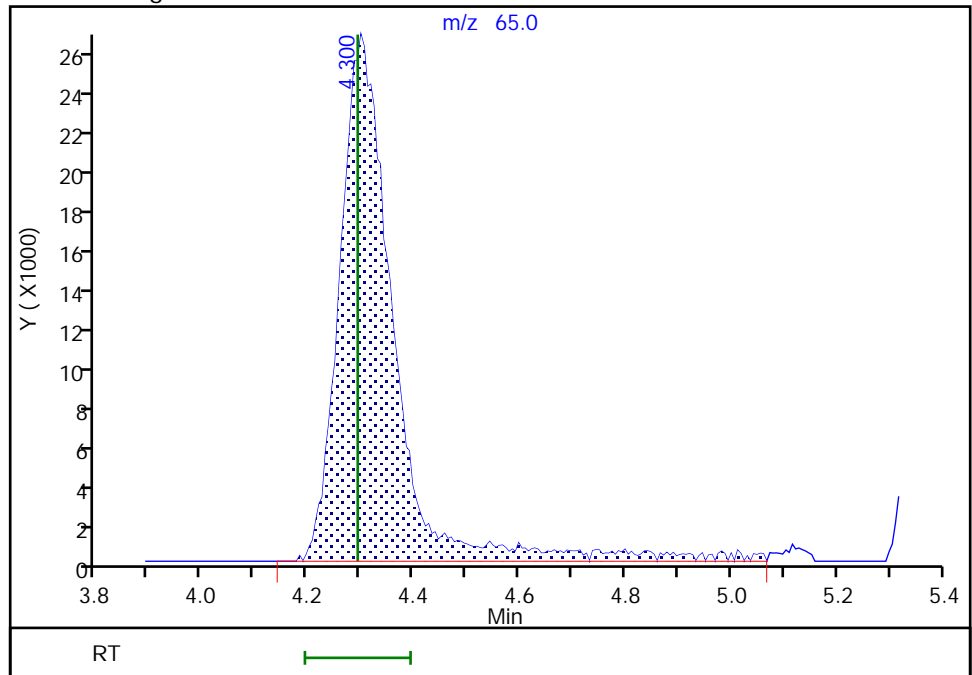
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Area: 173055
Amount: 50.000000
Amount Units: ug/l

Processing Integration Results



RT: 4.30
Area: 187359
Amount: 50.000000
Amount Units: ug/l

Manual Integration Results



Reviewer: campbellme, 18-Mar-2020 21:41:58
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
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Eurofins Lancaster Laboratories Env, LLC

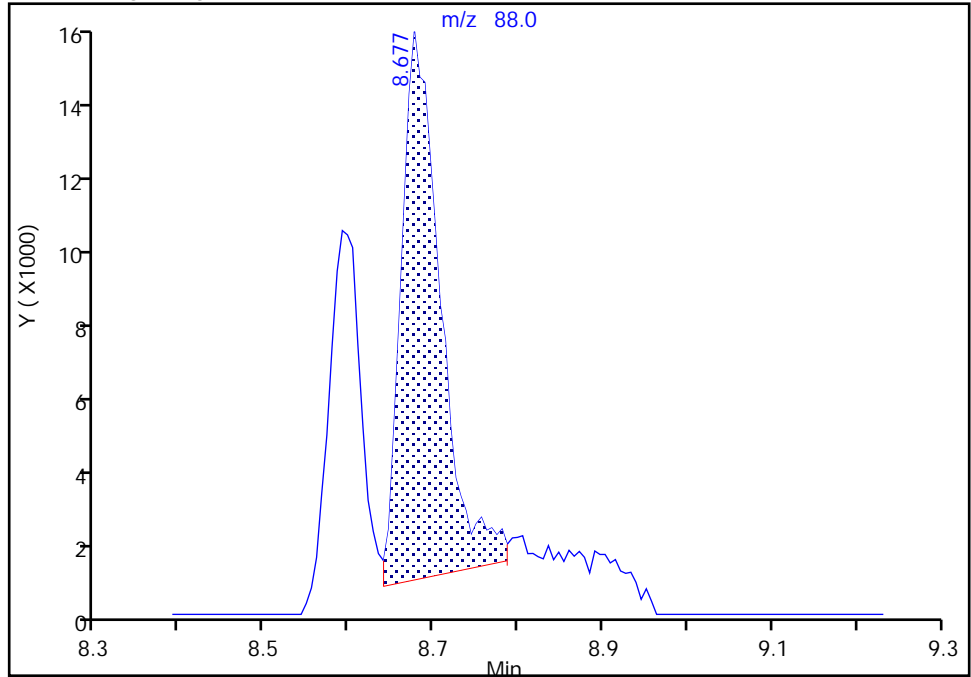
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Injection Date: 16-Mar-2020 17:06:30 Instrument ID: 19930
Lims ID: IC std5
Client ID:
Operator ID: JKH09052 ALS Bottle#: 13 Worklist Smp#: 14
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

65 1,4-Dioxane, CAS: 123-91-1

Signal: 1

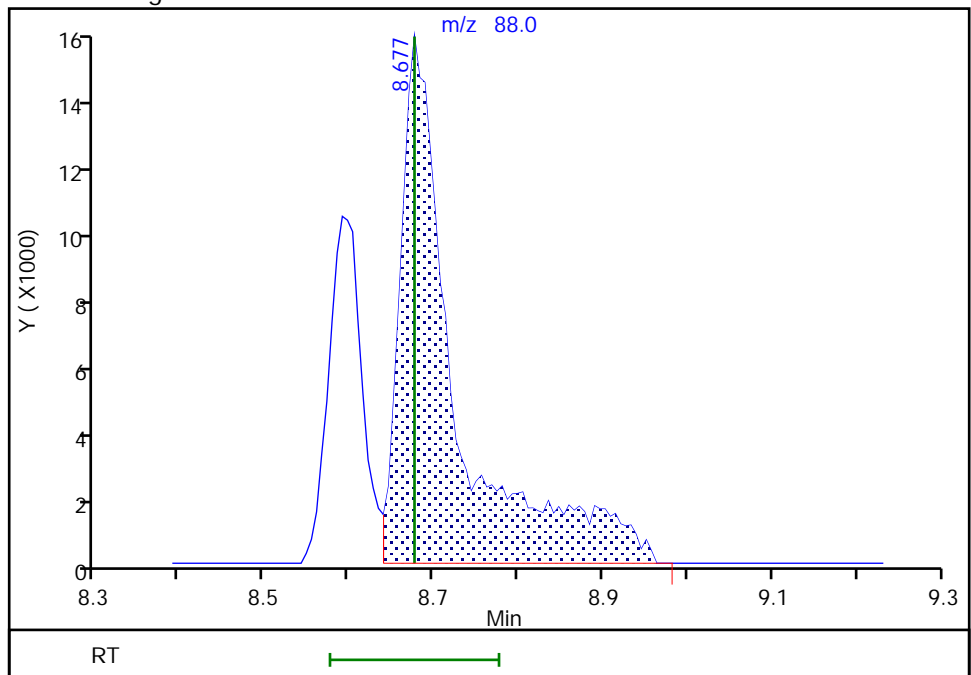
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Area: 45577
Amount: 191.8223
Amount Units: ug/l

Processing Integration Results



RT: 8.68
Area: 69311
Amount: 261.6666
Amount Units: ug/l

Manual Integration Results



Reviewer: campbellme, 18-Mar-2020 21:42:26
Audit Action: Split an Integrated Peak

Audit Reason: Split Peak

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\IM16104.D
 Lims ID: IC std4
 Client ID:
 Sample Type: IC Calib Level: 4
 Inject. Date: 16-Mar-2020 17:27:30 ALS Bottle#: 14 Worklist Smp#: 15
 Purge Vol: 25.000 mL Dil. Factor: 1.0000
 Sample Info: VSTD002;VSTD002;1;1;.....
 Misc. Info.: 8260W25.SUB;25;25;...
 Operator ID: JKH09052 Instrument ID: 19930
 Sublist: chrom-8260 25ml HP31*sub2
 Method: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\8260 25ml HP31.m
 Limit Group: MSV - 8260C_D
 Last Update: 13-May-2020 18:30:26 Calib Date: 16-Mar-2020 18:31:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\IM16107.D
 Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
 Process Host: CTX1007

First Level Reviewer: campbellme

Date: 18-Mar-2020 21:44:46

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Dichlorodifluoromethane	85	1.983	1.983	0.000	99	198151	2.00	1.79	M
4 Chloromethane	50	2.184	2.184	0.000	99	172586	2.00	1.93	
5 Vinyl chloride	62	2.300	2.300	0.000	98	168751	2.00	1.95	M
6 Butadiene	39	2.300	2.300	0.000	85	126126	2.00	1.97	
7 Bromomethane	94	2.629	2.629	0.000	91	117256	2.00	1.93	
8 Chloroethane	64	2.721	2.721	0.000	99	95356	2.00	1.94	
9 Dichlorofluoromethane	67	2.964	2.964	0.000	97	218323	2.00	1.91	M
10 Trichlorofluoromethane	101	3.025	3.025	0.000	97	202528	2.00	1.96	
11 Ethyl ether	59	3.288	3.288	0.000	90	89867	2.00	2.02	
12 1,2-Dichloro-1,1,2-trifluoroetha	67	3.373	3.373	0.000	91	138896	2.00	1.99	
13 Acrolein	56	3.464	3.464	0.000	100	747595	100.0	100.7	
14 1,1-Dichloroethene	96	3.605	3.605	0.000	98	111680	2.00	2.05	
15 Acetone	43	3.635	3.635	0.000	100	184990	20.0	19.9	
16 1,1,2-Trichloro-1,2,2-trifluoroe	101	3.641	3.641	0.000	71	120472	2.00	2.03	
17 Iodomethane	142	3.806	3.806	0.000	99	211652	2.00	2.03	
18 Ethyl bromide	108	3.830	3.830	0.000	99	93851	2.00	2.02	
19 Carbon disulfide	76	3.909	3.909	0.000	99	316449	2.00	2.03	
21 Methyl acetate	43	4.068	4.068	0.000	97	47166	2.00	1.92	
22 3-Chloro-1-propene	41	4.092	4.092	0.000	91	169050	2.00	2.05	
23 Methylene Chloride	84	4.293	4.293	0.000	91	113412	2.00	2.00	
* 24 t-Butyl alcohol-d10 (IS)	65	4.293	4.293	0.000	0	187368	50.0	50.0	M
25 2-Methyl-2-propanol	59	4.428	4.428	0.000	100	185056	40.0	41.0	
26 Acrylonitrile	53	4.629	4.629	0.000	99	122138	10.0	10.0	
27 Methyl tert-butyl ether	73	4.702	4.702	0.000	95	285194	2.00	2.03	
28 trans-1,2-Dichloroethene	96	4.702	4.702	0.000	99	117731	2.00	2.01	
29 Hexane	57	5.129	5.129	0.000	92	174899	2.00	1.98	
31 1,1-Dichloroethane	63	5.366	5.366	0.000	96	213118	2.00	2.04	
32 Isopropyl ether	45	5.421	5.421	0.000	94	355534	2.00	2.04	
33 2-Chloro-1,3-butadiene	53	5.476	5.476	0.000	91	186962	2.00	2.03	
34 Tert-butyl ethyl ether	59	5.958	5.958	0.000	97	354411	2.00	2.06	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
S 35 1,2-Dichloroethene, Total	100				0			4.03	
36 2-Butanone (MEK)	43	6.171	6.171	0.000	99	332028	20.0	20.3	
37 cis-1,2-Dichloroethene	96	6.196	6.196	0.000	82	133056	2.00	2.02	
38 2,2-Dichloropropane	77	6.208	6.208	0.000	87	189959	2.00	2.01	
40 Propionitrile	54	6.263	6.263	0.000	99	187283	40.0	41.1	
42 Methacrylonitrile	67	6.470	6.470	0.000	91	316236	20.0	20.3	
43 Chlorobromomethane	128	6.531	6.531	0.000	75	58764	2.00	2.02	
44 Tetrahydrofuran	71	6.543	6.543	0.000	87	99231	20.0	19.8	
45 Chloroform	83	6.683	6.683	0.000	93	211329	2.00	2.02	
\$ 46 Dibromofluoromethane (Surr)	113	6.897	6.897	0.000	94	490540	10.0	9.96	
47 1,1,1-Trichloroethane	97	6.903	6.903	0.000	97	205071	2.00	2.03	
48 Cyclohexane	56	7.000	7.000	0.000	89	211691	2.00	1.98	
50 Carbon tetrachloride	117	7.116	7.116	0.000	89	182976	2.00	2.04	
51 1,1-Dichloropropene	75	7.116	7.116	0.000	95	171702	2.00	2.05	
52 Isobutyl alcohol	41	7.269	7.269	0.000	94	130668	100.0	100.2	
\$ 53 1,2-Dichloroethane-d4 (Surr)	102	7.354	7.354	0.000	0	100629	10.0	10.1	
54 Benzene	78	7.378	7.378	0.000	96	491839	2.00	2.02	
56 1,2-Dichloroethane	62	7.451	7.451	0.000	98	132744	2.00	2.03	
57 Tert-amyl methyl ether	73	7.561	7.561	0.000	98	322462	2.00	2.02	
* 58 Fluorobenzene (IS)	96	7.781	7.781	0.000	99	2040726	10.0	10.0	
59 n-Heptane	43	7.793	7.793	0.000	94	169759	2.00	2.02	
60 n-Butanol	56	8.140	8.140	0.000	87	238865	200.0	207.2	
61 Trichloroethene	95	8.262	8.262	0.000	98	131079	2.00	2.02	
62 Methylcyclohexane	83	8.567	8.567	0.000	93	237846	2.00	2.06	
63 1,2-Dichloropropane	63	8.591	8.591	0.000	80	118855	2.00	2.01	
64 Methyl methacrylate	69	8.671	8.671	0.000	88	63108	2.00	2.00	
65 1,4-Dioxane	88	8.683	8.683	0.000	45	28575	100.0	107.9	M
66 Dibromomethane	93	8.707	8.707	0.000	94	59862	2.00	2.04	
68 Dichlorobromomethane	83	8.933	8.933	0.000	99	153673	2.00	1.99	
69 2-Nitropropane	41	9.201	9.201	0.000	98	198803	20.0	20.2	
72 1-Bromo-2-chloroethane	63	9.323	9.323	0.000	99	126137	2.00	2.05	
73 cis-1,3-Dichloropropene	75	9.475	9.475	0.000	96	184819	2.00	2.03	
74 4-Methyl-2-pentanone (MIBK)	43	9.640	9.640	0.000	96	824516	20.0	20.4	
\$ 75 Toluene-d8 (Surr)	98	9.780	9.780	0.000	93	1927152	10.0	9.99	
76 Toluene	92	9.853	9.853	0.000	98	317517	2.00	2.06	
S 77 1,3-Dichloropropene, Total	100				0			4.06	
78 trans-1,3-Dichloropropene	75	10.109	10.109	0.000	92	158481	2.00	2.03	
79 Ethyl methacrylate	69	10.164	10.164	0.000	89	134668	2.00	2.02	
80 1,1,2-Trichloroethane	97	10.311	10.311	0.000	91	87162	2.00	2.02	
81 Tetrachloroethene	166	10.396	10.396	0.000	98	150308	2.00	2.04	
82 1,3-Dichloropropane	76	10.475	10.475	0.000	88	148091	2.00	2.04	
83 2-Hexanone	43	10.518	10.518	0.000	96	570518	20.0	20.4	
85 Chlorodibromomethane	129	10.682	10.682	0.000	89	112901	2.00	2.05	
86 Ethylene Dibromide	107	10.798	10.798	0.000	99	82516	2.00	2.02	
* 87 Chlorobenzene-d5 (IS)	117	11.219	11.219	0.000	86	1517778	10.0	10.0	
88 1-Chlorohexane	91	11.231	11.231	0.000	94	188787	2.00	1.99	
S 89 Xylenes, Total	106				0			6.13	
90 Chlorobenzene	112	11.249	11.249	0.000	96	347759	2.00	2.04	
91 1,1,1,2-Tetrachloroethane	131	11.329	11.329	0.000	96	129908	2.00	2.04	
92 Ethylbenzene	91	11.335	11.335	0.000	98	621789	2.00	2.05	
93 m-Xylene & p-Xylene	106	11.445	11.445	0.000	0	487008	4.00	4.11	
94 o-Xylene	106	11.774	11.774	0.000	96	238276	2.00	2.03	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
95 Styrene	104	11.792	11.792	0.000	94	387394	2.00	2.07	
96 Bromoform	173	11.944	11.944	0.000	97	67646	2.00	2.00	
97 Isopropylbenzene	105	12.072	12.072	0.000	95	641937	2.00	2.06	
\$ 100 4-Bromofluorobenzene (Surr)	95	12.219	12.219	0.000	93	723296	10.0	10.0	
101 1,1,2,2-Tetrachloroethane	83	12.316	12.316	0.000	93	107882	2.00	2.01	
102 Bromobenzene	156	12.335	12.335	0.000	93	144735	2.00	2.01	
103 trans-1,4-Dichloro-2-butene	53	12.341	12.341	0.000	92	288778	20.0	20.2	
104 1,2,3-Trichloropropane	110	12.365	12.365	0.000	84	30624	2.00	2.05	
105 N-Propylbenzene	91	12.402	12.402	0.000	99	727660	2.00	2.04	
106 2-Chlorotoluene	126	12.475	12.475	0.000	97	148197	2.00	2.06	
107 1,3,5-Trimethylbenzene	105	12.536	12.536	0.000	94	532706	2.00	2.05	
108 4-Chlorotoluene	126	12.566	12.566	0.000	98	149835	2.00	2.05	
109 tert-Butylbenzene	134	12.780	12.780	0.000	93	118387	2.00	2.04	
110 Pentachloroethane	167	12.810	12.810	0.000	94	99745	2.00	2.03	
111 1,2,4-Trimethylbenzene	105	12.816	12.816	0.000	97	537587	2.00	2.02	
112 sec-Butylbenzene	105	12.938	12.938	0.000	94	685221	2.00	2.06	
113 1,3-Dichlorobenzene	146	13.042	13.042	0.000	98	286238	2.00	2.03	
114 4-Isopropyltoluene	119	13.048	13.048	0.000	97	588295	2.00	2.05	
* 115 1,4-Dichlorobenzene-d4	152	13.097	13.097	0.000	95	830779	10.0	10.0	
116 1,4-Dichlorobenzene	146	13.115	13.115	0.000	96	284244	2.00	2.03	
117 1,2,3-Trimethylbenzene	120	13.121	13.121	0.000	98	233348	2.00	2.03	
118 Benzyl chloride	126	13.188	13.188	0.000	98	48505	2.00	1.97	
119 n-Butylbenzene	92	13.334	13.334	0.000	96	273595	2.00	2.04	
120 1,2-Dichlorobenzene	146	13.371	13.371	0.000	99	263070	2.00	2.04	
122 1,2-Dibromo-3-Chloropropane	155	13.914	13.914	0.000	88	17700	2.00	2.00	
123 1,3,5-Trichlorobenzene	180	14.035	14.035	0.000	98	203146	2.00	1.99	
124 1,2,4-Trichlorobenzene	180	14.462	14.462	0.000	95	166771	2.00	1.94	
125 Hexachlorobutadiene	225	14.541	14.541	0.000	97	71002	2.00	1.96	
126 Naphthalene	128	14.645	14.645	0.000	97	340844	2.00	2.01	
127 1,2,3-Trichlorobenzene	180	14.785	14.785	0.000	96	142435	2.00	1.99	
144 2-ethoxy-2-methyl butane	1		0.000				ND	ND	U
137 2-Methylnaphthalene	142		0.000				ND	ND	U
135 p-Diethylbenzene	1		0.000				ND	ND	U
134 Isopropyl alcohol	45		0.000				ND	ND	U

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

U - Marked Undetected

Reagents:

MSV_RV1_826_00008

Amount Added: 2.00

Units: uL

MSV_RV4_826_00009

Amount Added: 2.00

Units: uL

MSV_RV4GAS826_00022

Amount Added: 2.00

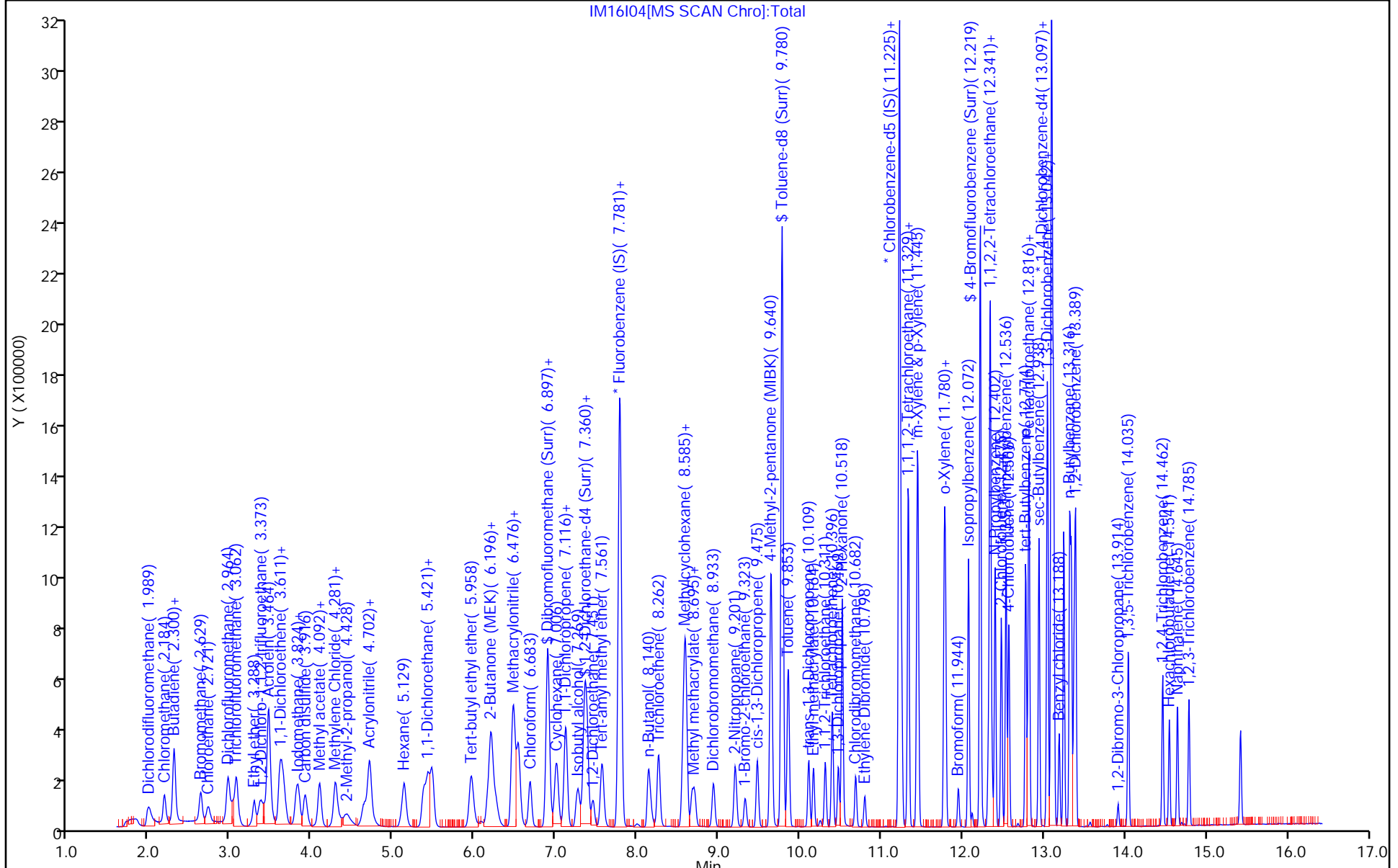
Units: uL

MSV_31_826ISS_00002

Amount Added: 5.00

Units: uL

Run Reagent



Euofins Lancaster Laboratories Env, LLC

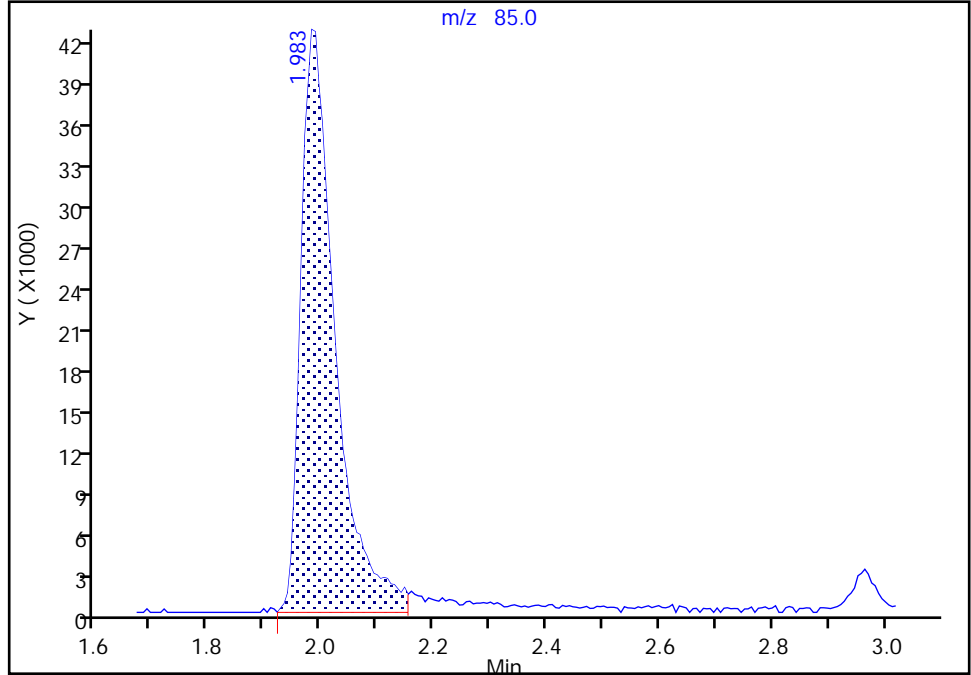
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Injection Date: 16-Mar-2020 17:27:30 Instrument ID: 19930
Lims ID: IC std4
Client ID:
Operator ID: JKH09052 ALS Bottle#: 14 Worklist Smp#: 15
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

1 Dichlorodifluoromethane, CAS: 75-71-8

Signal: 1

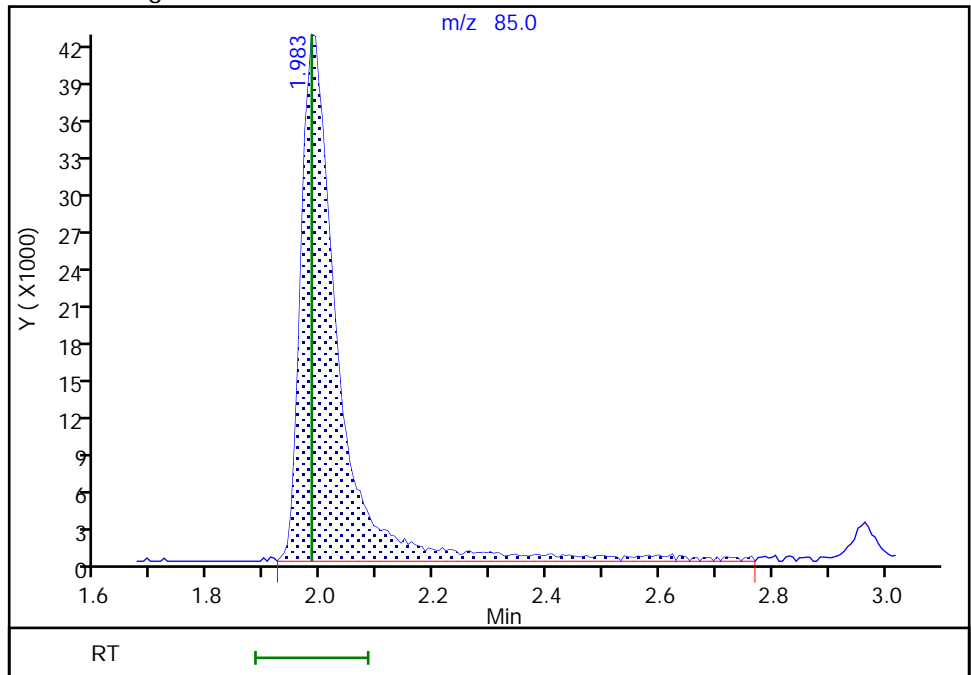
RT: 1.98
Area: 180314
Amount: 1.846219
Amount Units: ug/l

Processing Integration Results



RT: 1.98
Area: 198151
Amount: 1.786086
Amount Units: ug/l

Manual Integration Results



Reviewer: campbellme, 18-Mar-2020 21:43:08
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

Eurofins Lancaster Laboratories Env, LLC

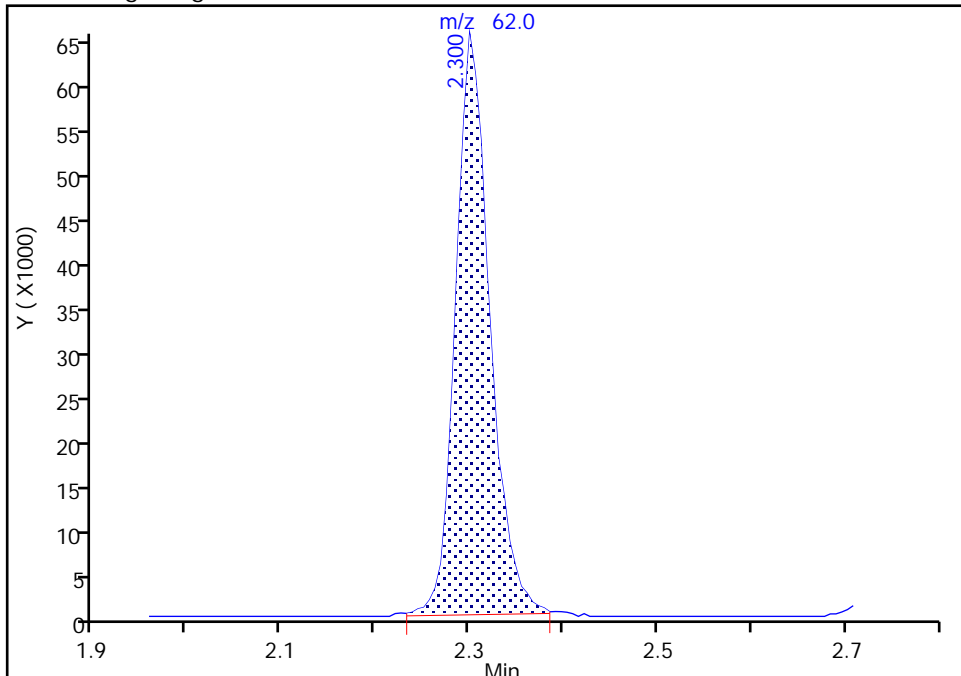
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Injection Date: 16-Mar-2020 17:27:30 Instrument ID: 19930
Lims ID: IC std4
Client ID:
Operator ID: JKH09052 ALS Bottle#: 14 Worklist Smp#: 15
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

5 Vinyl chloride, CAS: 75-01-4

Signal: 1

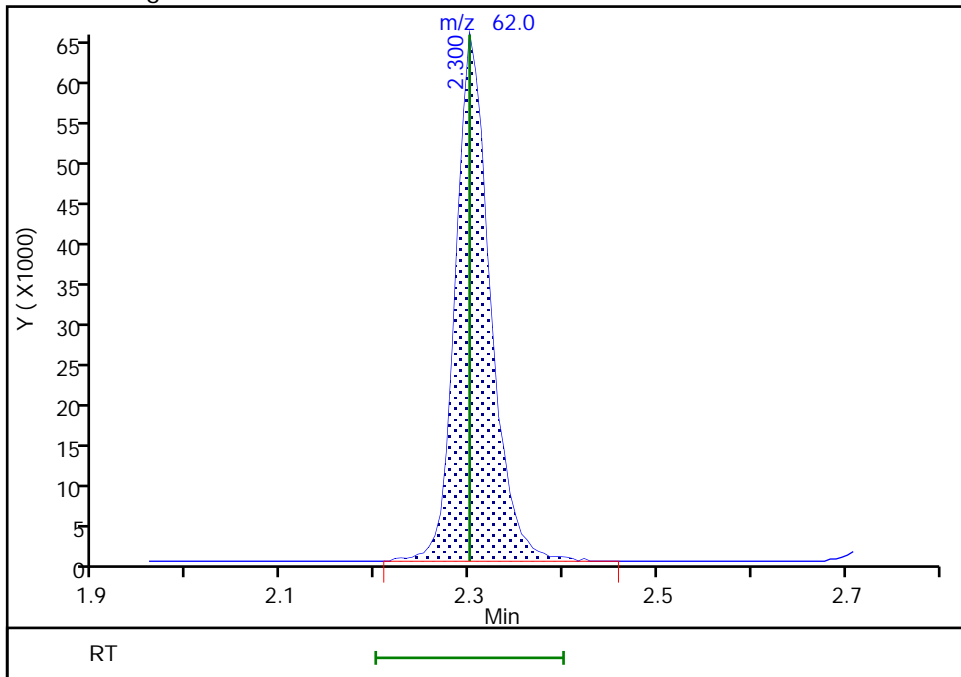
RT: 2.30
Area: 165853
Amount: 1.919230
Amount Units: ug/l

Processing Integration Results



RT: 2.30
Area: 168751
Amount: 1.948099
Amount Units: ug/l

Manual Integration Results



Reviewer: campbellme, 18-Mar-2020 21:43:19
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

Eurofins Lancaster Laboratories Env, LLC

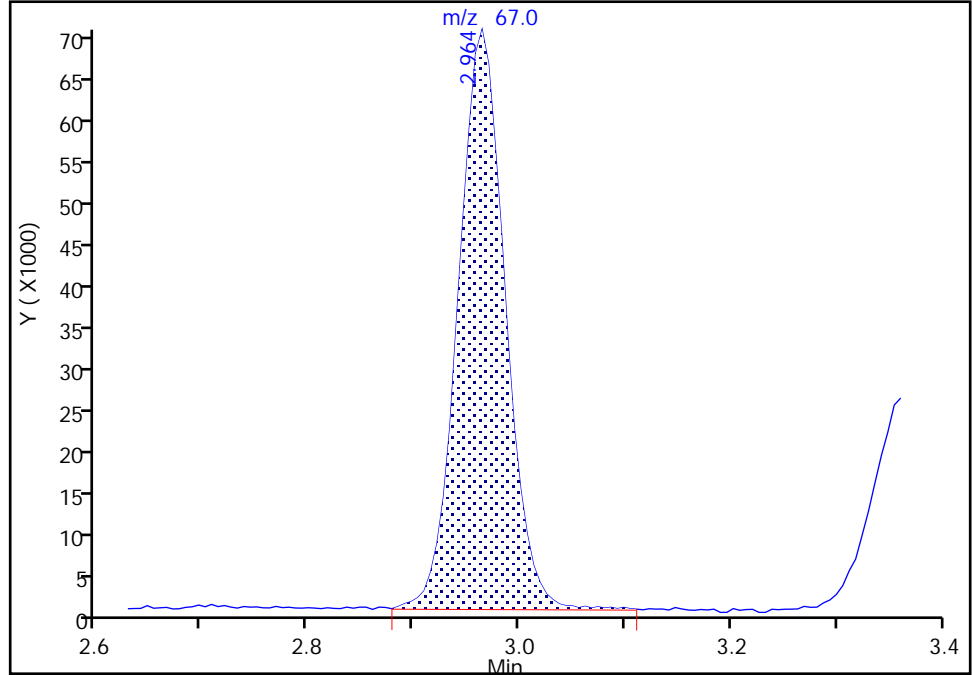
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Injection Date: 16-Mar-2020 17:27:30 Instrument ID: 19930
Lims ID: IC std4
Client ID:
Operator ID: JKH09052 ALS Bottle#: 14 Worklist Smp#: 15
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

9 Dichlorofluoromethane, CAS: 75-43-4

Signal: 1

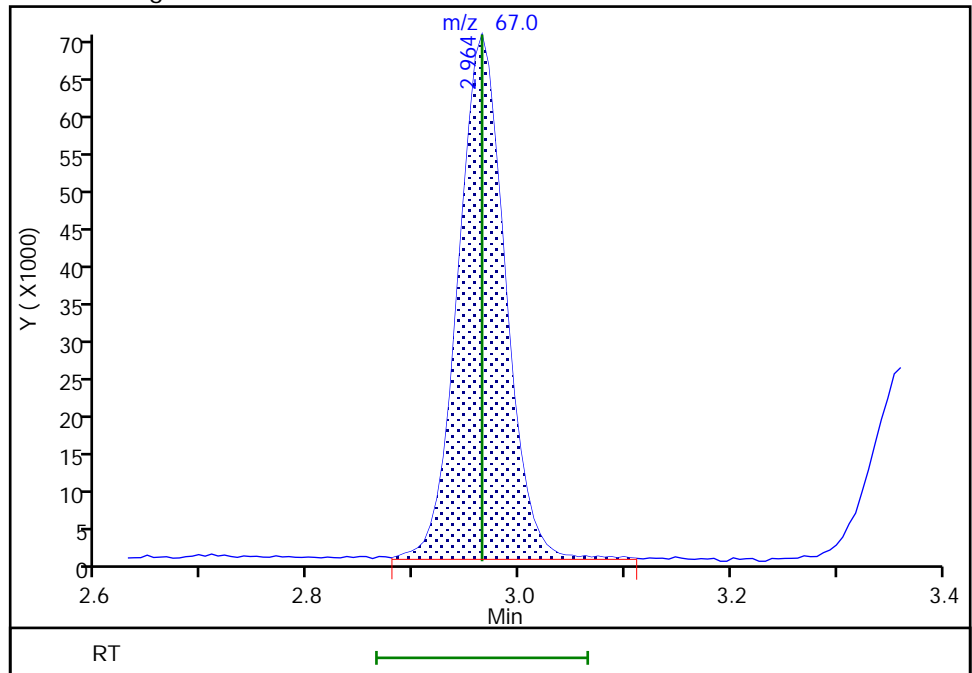
RT: 2.96
Area: 217274
Amount: 1.906529
Amount Units: ug/l

Processing Integration Results



RT: 2.96
Area: 218323
Amount: 1.914475
Amount Units: ug/l

Manual Integration Results



Reviewer: campbellme, 18-Mar-2020 21:43:39
Audit Action: Assigned New Baseline

Audit Reason: Baseline
Page 402 of 519

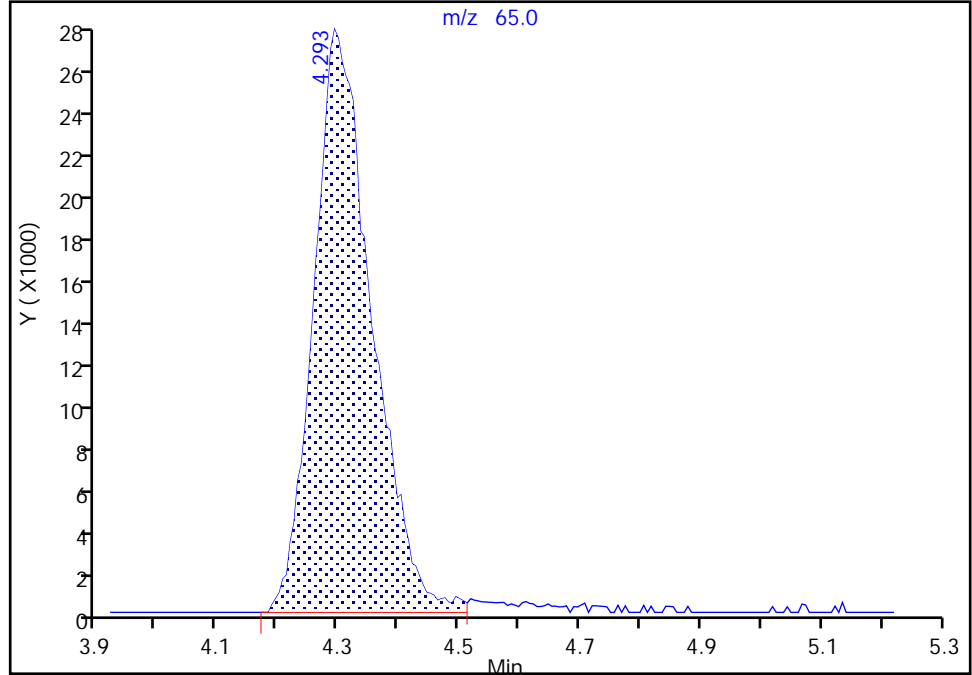
Euofins Lancaster Laboratories Env, LLC

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Injection Date: 16-Mar-2020 17:27:30 Instrument ID: 19930
Lims ID: IC std4
Client ID:
Operator ID: JKH09052 ALS Bottle#: 14 Worklist Smp#: 15
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

* 24 t-Butyl alcohol-d10 (IS), CAS: 53001-22-2
Signal: 1

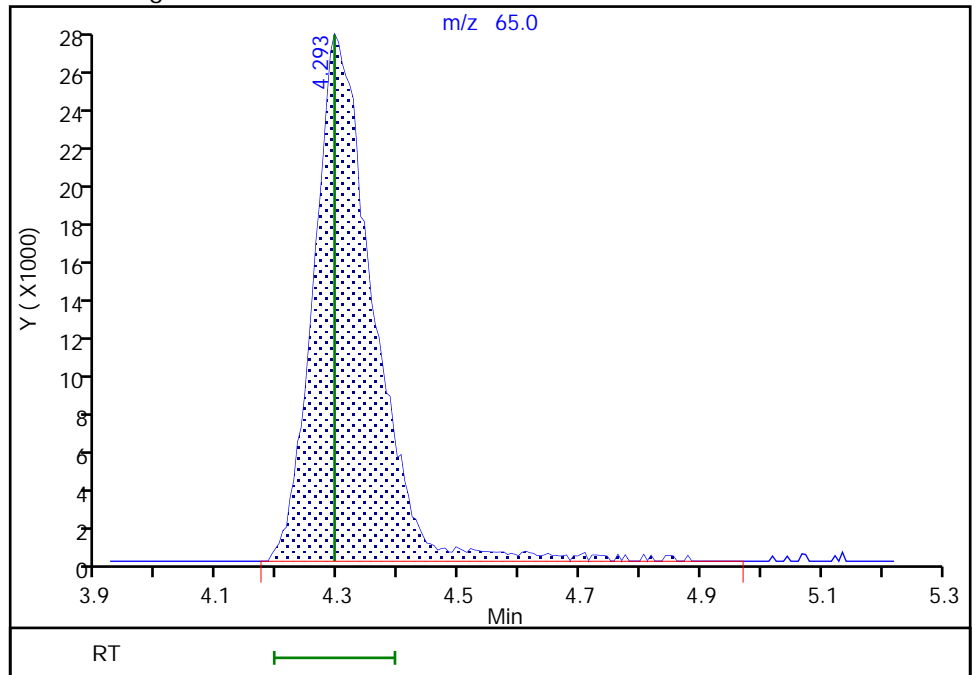
RT: 4.29
Area: 181547
Amount: 50.000000
Amount Units: ug/l

Processing Integration Results



RT: 4.29
Area: 187368
Amount: 50.000000
Amount Units: ug/l

Manual Integration Results



Reviewer: campbellme, 18-Mar-2020 21:43:54
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

Eurofins Lancaster Laboratories Env, LLC

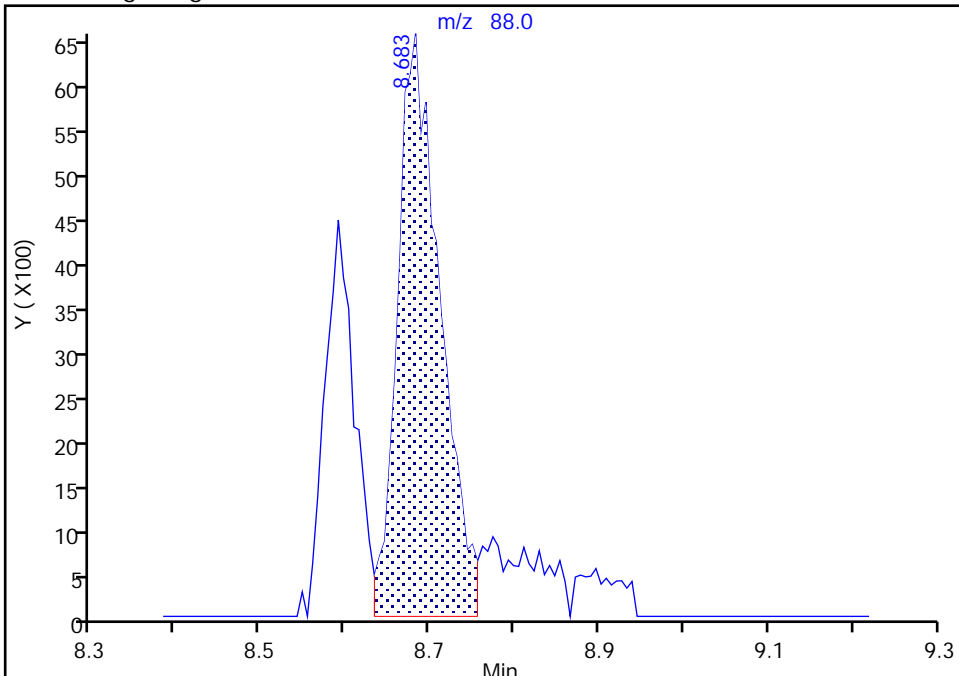
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Injection Date: 16-Mar-2020 17:27:30 Instrument ID: 19930
Lims ID: IC std4
Client ID:
Operator ID: JKH09052 ALS Bottle#: 14 Worklist Smp#: 15
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

65 1,4-Dioxane, CAS: 123-91-1

Signal: 1

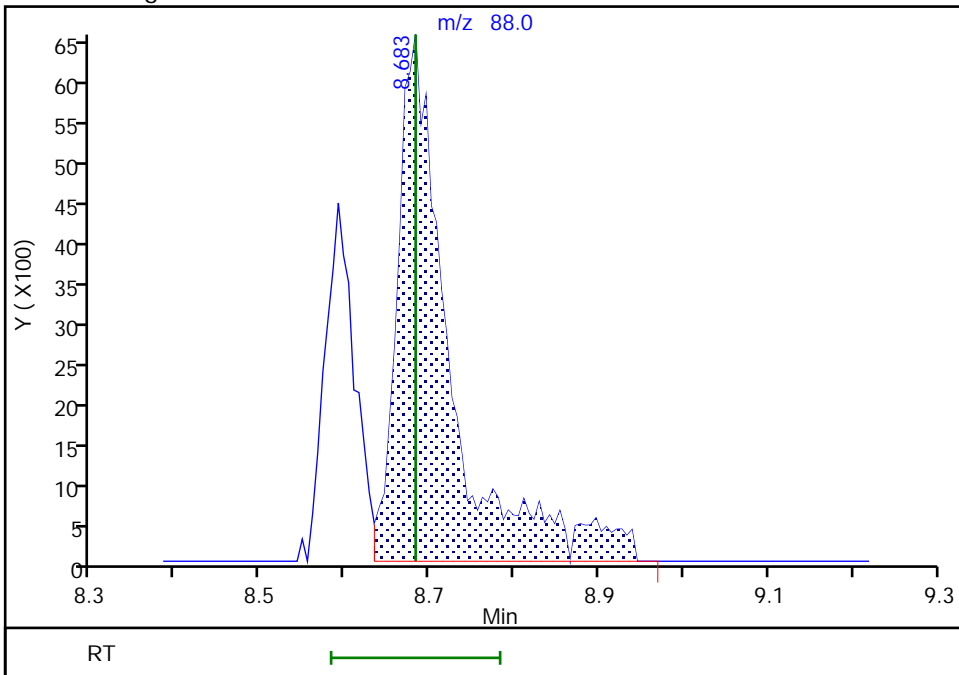
RT: 8.68
Area: 22863
Amount: 66.941775
Amount Units: ug/l

Processing Integration Results



RT: 8.68
Area: 28575
Amount: 107.8727
Amount Units: ug/l

Manual Integration Results



Reviewer: campbellme, 18-Mar-2020 21:44:21
Audit Action: Split an Integrated Peak

Audit Reason: Split Peak

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\IM16105.D
 Lims ID: IC std3
 Client ID:
 Sample Type: IC Calib Level: 3
 Inject. Date: 16-Mar-2020 17:48:30 ALS Bottle#: 15 Worklist Smp#: 16
 Purge Vol: 25.000 mL Dil. Factor: 1.0000
 Sample Info: VSTD001;VSTD001;1;1;.....
 Misc. Info.: 8260W25.SUB;25;25;...
 Operator ID: JKH09052 Instrument ID: 19930
 Sublist: chrom-8260 25ml HP31*sub2
 Method: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\8260 25ml HP31.m
 Limit Group: MSV - 8260C_D
 Last Update: 13-May-2020 18:30:36 Calib Date: 16-Mar-2020 18:31:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\IM16107.D
 Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
 Process Host: CTX1007

First Level Reviewer: campbellme Date: 18-Mar-2020 21:46:39

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Dichlorodifluoromethane	85	1.995	1.983	0.012	99	110058	1.00	0.99	M
4 Chloromethane	50	2.184	2.184	0.000	99	87485	1.00	0.9795	
5 Vinyl chloride	62	2.312	2.300	0.012	97	85852	1.00	0.99	
6 Butadiene	39	2.312	2.300	0.012	87	66790	1.00	1.04	M
7 Bromomethane	94	2.635	2.629	0.006	90	59528	1.00	0.9809	
8 Chloroethane	64	2.727	2.721	0.006	100	49459	1.00	1.01	
9 Dichlorofluoromethane	67	2.971	2.964	0.007	97	111662	1.00	0.9800	
10 Trichlorofluoromethane	101	3.025	3.025	0.000	98	103739	1.00	1.01	
11 Ethyl ether	59	3.294	3.288	0.006	91	42087	1.00	0.9491	
12 1,2-Dichloro-1,1,2-trifluoroetha	67	3.379	3.373	0.006	91	72547	1.00	1.04	
13 Acrolein	56	3.471	3.464	0.007	100	380382	50.0	51.0	M
14 1,1-Dichloroethene	96	3.611	3.605	0.006	98	56192	1.00	1.03	
15 Acetone	43	3.641	3.635	0.006	99	98249	10.0	10.5	
16 1,1,2-Trichloro-1,2,2-trifluoroe	101	3.647	3.641	0.006	82	63078	1.00	1.07	
17 Iodomethane	142	3.812	3.806	0.006	99	106891	1.00	1.03	
18 Ethyl bromide	108	3.842	3.830	0.012	99	45162	1.00	0.9743	
19 Carbon disulfide	76	3.916	3.909	0.007	99	160810	1.00	1.03	
21 Methyl acetate	43	4.074	4.068	0.006	97	22212	1.00	0.9066	
22 3-Chloro-1-propene	41	4.098	4.092	0.006	91	80727	1.00	0.9799	
23 Methylene Chloride	84	4.294	4.293	0.001	91	58139	1.00	1.03	
* 24 t-Butyl alcohol-d10 (IS)	65	4.306	4.293	0.013	0	188421	50.0	50.0	
25 2-Methyl-2-propanol	59	4.434	4.428	0.006	99	98614	20.0	21.7	
26 Acrylonitrile	53	4.641	4.629	0.012	100	62946	5.00	5.12	
27 Methyl tert-butyl ether	73	4.708	4.702	0.006	91	144775	1.00	1.03	
28 trans-1,2-Dichloroethene	96	4.714	4.702	0.012	99	59314	1.00	1.01	
29 Hexane	57	5.135	5.129	0.006	91	88852	1.00	1.01	
31 1,1-Dichloroethane	63	5.373	5.366	0.007	96	107953	1.00	1.04	
32 Isopropyl ether	45	5.434	5.421	0.013	93	180623	1.00	1.04	
33 2-Chloro-1,3-butadiene	53	5.482	5.476	0.006	91	93611	1.00	1.02	
34 Tert-butyl ethyl ether	59	5.964	5.958	0.006	97	179979	1.00	1.05	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
S 35 1,2-Dichloroethene, Total	100				0			2.03	
36 2-Butanone (MEK)	43	6.171	6.171	0.000	99	167561	10.0	10.2	
37 cis-1,2-Dichloroethene	96	6.202	6.196	0.006	86	67279	1.00	1.02	
38 2,2-Dichloropropane	77	6.220	6.208	0.012	88	95753	1.00	1.02	
40 Propionitrile	54	6.275	6.263	0.012	99	95421	20.0	20.8	
42 Methacrylonitrile	67	6.476	6.470	0.006	93	158877	10.0	10.1	
43 Chlorobromomethane	128	6.531	6.531	0.000	89	28121	1.00	0.9657	
44 Tetrahydrofuran	71	6.549	6.543	0.006	87	51676	10.0	10.2	
45 Chloroform	83	6.683	6.683	0.000	93	108176	1.00	1.04	
\$ 46 Dibromofluoromethane (Surr)	113	6.897	6.897	0.000	94	489598	10.0	9.95	
47 1,1,1-Trichloroethane	97	6.909	6.903	0.006	98	105395	1.00	1.04	
48 Cyclohexane	56	7.006	7.000	0.006	89	111385	1.00	1.04	
50 Carbon tetrachloride	117	7.122	7.116	0.006	91	93963	1.00	1.05	
51 1,1-Dichloropropene	75	7.122	7.116	0.006	94	86478	1.00	1.03	
52 Isobutyl alcohol	41	7.275	7.269	0.006	94	66493	50.0	50.7	
\$ 53 1,2-Dichloroethane-d4 (Surr)	102	7.354	7.354	0.000	0	100281	10.0	10.1	
54 Benzene	78	7.384	7.378	0.006	95	249148	1.00	1.02	
56 1,2-Dichloroethane	62	7.458	7.451	0.007	97	66533	1.00	1.02	
57 Tert-amyl methyl ether	73	7.567	7.561	0.006	98	162542	1.00	1.02	
* 58 Fluorobenzene (IS)	96	7.787	7.781	0.006	99	2038932	10.0	10.0	
59 n-Heptane	43	7.793	7.793	0.000	84	86431	1.00	1.03	
60 n-Butanol	56	8.146	8.140	0.006	87	119752	100.0	103.3	
61 Trichloroethene	95	8.262	8.262	0.000	97	66486	1.00	1.03	
62 Methylcyclohexane	83	8.567	8.567	0.000	92	110645	1.00	0.9588	
63 1,2-Dichloropropane	63	8.598	8.591	0.007	71	60450	1.00	1.02	
64 Methyl methacrylate	69	8.677	8.671	0.006	88	32389	1.00	1.02	
65 1,4-Dioxane	88	8.689	8.683	0.006	82	14258	50.0	53.5	M
66 Dibromomethane	93	8.701	8.707	-0.006	95	31570	1.00	1.08	
68 Dichlorobromomethane	83	8.939	8.933	0.006	99	79116	1.00	1.03	
69 2-Nitropropane	41	9.207	9.201	0.006	99	102241	10.0	10.4	
72 1-Bromo-2-chloroethane	63	9.329	9.323	0.006	98	58883	1.00	0.9591	
73 cis-1,3-Dichloropropene	75	9.475	9.475	0.000	96	94232	1.00	1.03	
74 4-Methyl-2-pentanone (MIBK)	43	9.646	9.640	0.006	96	420051	10.0	10.3	
\$ 75 Toluene-d8 (Surr)	98	9.780	9.780	0.000	93	1931273	10.0	10.0	
76 Toluene	92	9.853	9.853	0.000	98	158032	1.00	1.03	
S 77 1,3-Dichloropropene, Total	100				0			2.04	
78 trans-1,3-Dichloropropene	75	10.109	10.109	0.000	93	78583	1.00	1.01	
79 Ethyl methacrylate	69	10.164	10.164	0.000	88	69163	1.00	1.04	
80 1,1,2-Trichloroethane	97	10.311	10.311	0.000	91	43280	1.00	1.00	
81 Tetrachloroethene	166	10.396	10.396	0.000	97	74375	1.00	1.01	
82 1,3-Dichloropropane	76	10.475	10.475	0.000	88	75482	1.00	1.04	
83 2-Hexanone	43	10.518	10.518	0.000	96	289252	10.0	10.3	
85 Chlorodibromomethane	129	10.683	10.682	0.001	90	55626	1.00	1.01	
86 Ethylene Dibromide	107	10.798	10.798	0.000	99	42717	1.00	1.05	
* 87 Chlorobenzene-d5 (IS)	117	11.219	11.219	0.000	86	1516366	10.0	10.0	
88 1-Chlorohexane	91	11.231	11.231	0.000	95	97319	1.00	1.03	
S 89 Xylenes, Total	106				0			3.07	
90 Chlorobenzene	112	11.250	11.249	0.001	95	174405	1.00	1.02	
91 1,1,1,2-Tetrachloroethane	131	11.329	11.329	0.000	95	65818	1.00	1.04	
92 Ethylbenzene	91	11.335	11.335	0.000	98	309286	1.00	1.02	
93 m-Xylene & p-Xylene	106	11.445	11.445	0.000	0	241508	2.00	2.04	
94 o-Xylene	106	11.774	11.774	0.000	96	120712	1.00	1.03	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
95 Styrene	104	11.792	11.792	0.000	95	191061	1.00	1.02	
96 Bromoform	173	11.951	11.944	0.007	97	33797	1.00	1.00	
97 Isopropylbenzene	105	12.073	12.072	0.000	95	323191	1.00	1.04	
\$ 100 4-Bromofluorobenzene (Surr)	95	12.219	12.219	0.000	93	720334	10.0	10.0	
101 1,1,2,2-Tetrachloroethane	83	12.316	12.316	0.000	93	54891	1.00	1.02	
102 Bromobenzene	156	12.335	12.335	0.000	94	72862	1.00	1.01	
103 trans-1,4-Dichloro-2-butene	53	12.341	12.341	0.000	92	145681	10.0	10.2	
104 1,2,3-Trichloropropane	110	12.365	12.365	0.000	84	15995	1.00	1.07	
105 N-Propylbenzene	91	12.402	12.402	0.000	99	364128	1.00	1.02	
106 2-Chlorotoluene	126	12.475	12.475	0.000	97	73314	1.00	1.02	
107 1,3,5-Trimethylbenzene	105	12.536	12.536	0.000	94	262244	1.00	1.01	
108 4-Chlorotoluene	126	12.566	12.566	0.000	98	73872	1.00	1.01	
109 tert-Butylbenzene	134	12.774	12.780	-0.006	93	58801	1.00	1.01	
110 Pentachloroethane	167	12.810	12.810	0.000	80	47192	1.00	0.9593	
111 1,2,4-Trimethylbenzene	105	12.816	12.816	0.000	97	273400	1.00	1.02	
112 sec-Butylbenzene	105	12.938	12.938	0.000	94	338352	1.00	1.01	
113 1,3-Dichlorobenzene	146	13.042	13.042	0.000	97	145246	1.00	1.03	
114 4-Isopropyltoluene	119	13.048	13.048	0.000	97	291668	1.00	1.01	
* 115 1,4-Dichlorobenzene-d4	152	13.097	13.097	0.000	94	833112	10.0	10.0	
116 1,4-Dichlorobenzene	146	13.115	13.115	0.000	96	144468	1.00	1.03	
117 1,2,3-Trimethylbenzene	120	13.121	13.121	0.000	98	111289	1.00	0.9667	
118 Benzyl chloride	126	13.188	13.188	0.000	98	25310	1.00	1.03	
119 n-Butylbenzene	92	13.334	13.334	0.000	96	132791	1.00	0.9887	
120 1,2-Dichlorobenzene	146	13.371	13.371	0.000	98	130781	1.00	1.01	
122 1,2-Dibromo-3-Chloropropane	155	13.914	13.914	0.000	88	9220	1.00	1.04	
123 1,3,5-Trichlorobenzene	180	14.042	14.035	0.007	98	102291	1.00	1.00	
124 1,2,4-Trichlorobenzene	180	14.462	14.462	0.000	93	86977	1.00	1.01	
125 Hexachlorobutadiene	225	14.542	14.541	0.001	98	35400	1.00	0.9725	
126 Naphthalene	128	14.639	14.645	-0.006	97	173964	1.00	1.02	
127 1,2,3-Trichlorobenzene	180	14.785	14.785	0.000	95	72189	1.00	1.00	
134 Isopropyl alcohol	45		0.000				ND	ND	U
135 p-Diethylbenzene	1		0.000				ND	ND	U
137 2-Methylnaphthalene	142		0.000				ND	ND	U
144 2-ethoxy-2-methyl butane	1		0.000				ND	ND	U

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

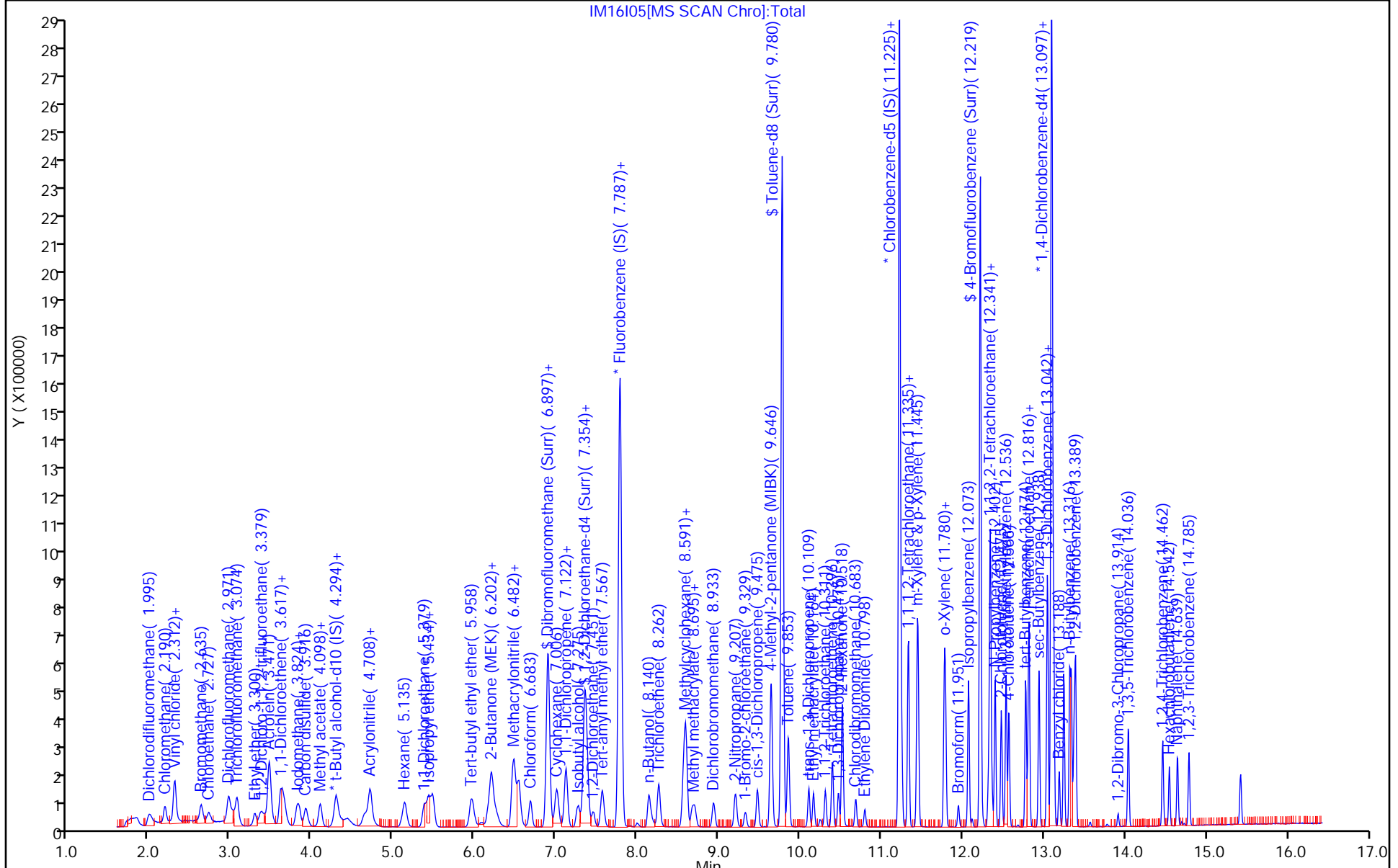
Review Flags

M - Manually Integrated

U - Marked Undetected

Reagents:

MSV_RV1_826_00008	Amount Added: 2.00	Units: uL	
MSV_RV4_826_00009	Amount Added: 2.00	Units: uL	
MSV_RV4GAS826_00022	Amount Added: 2.00	Units: uL	
MSV_31_826ISS_00002	Amount Added: 5.00	Units: uL	Run Reagent



IM16105[MS SCAN Chrom]:Total

Eurofins Lancaster Laboratories Env, LLC

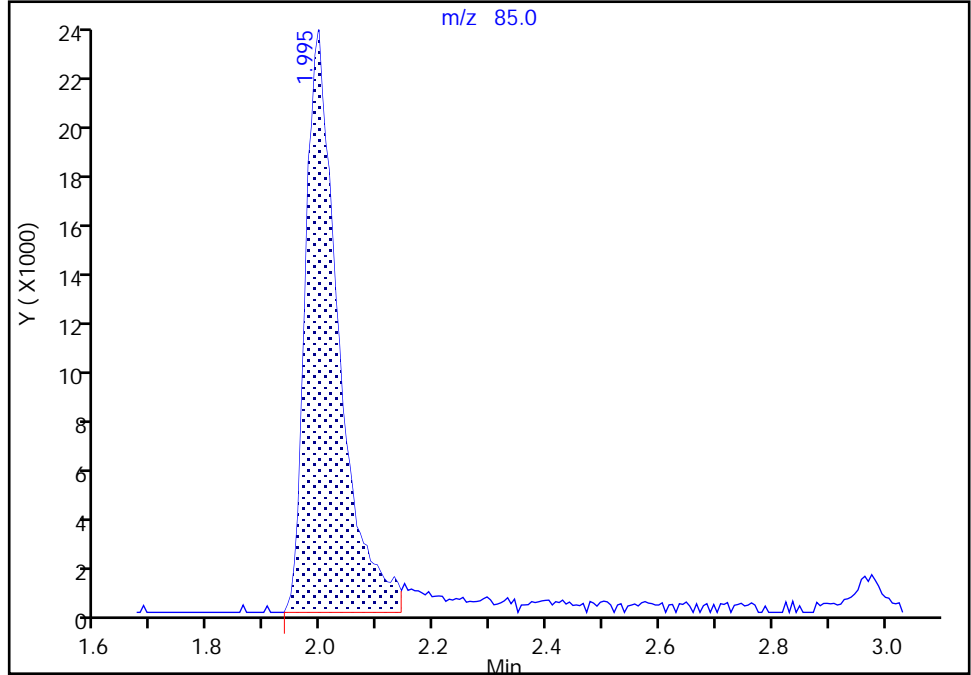
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Injection Date: 16-Mar-2020 17:48:30 Instrument ID: 19930
Lims ID: IC std3
Client ID:
Operator ID: JKH09052 ALS Bottle#: 15 Worklist Smp#: 16
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

1 Dichlorodifluoromethane, CAS: 75-71-8

Signal: 1

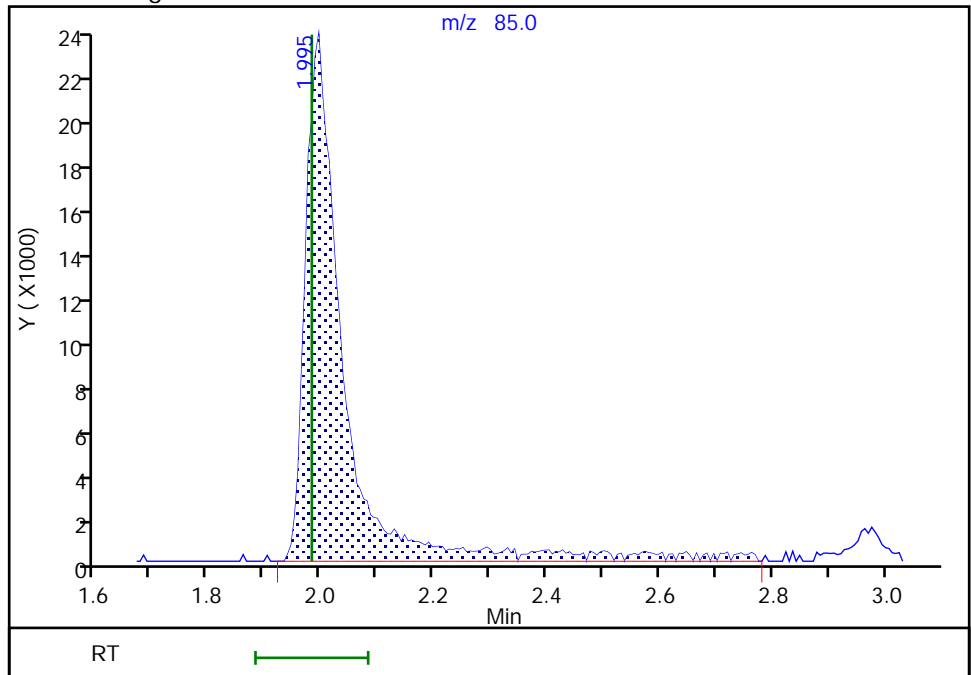
RT: 2.00
Area: 95342
Amount: 0.964475
Amount Units: ug/l

Processing Integration Results



RT: 2.00
Area: 110058
Amount: 0.992910
Amount Units: ug/l

Manual Integration Results



Reviewer: campbellme, 18-Mar-2020 21:45:05
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

Euofins Lancaster Laboratories Env, LLC

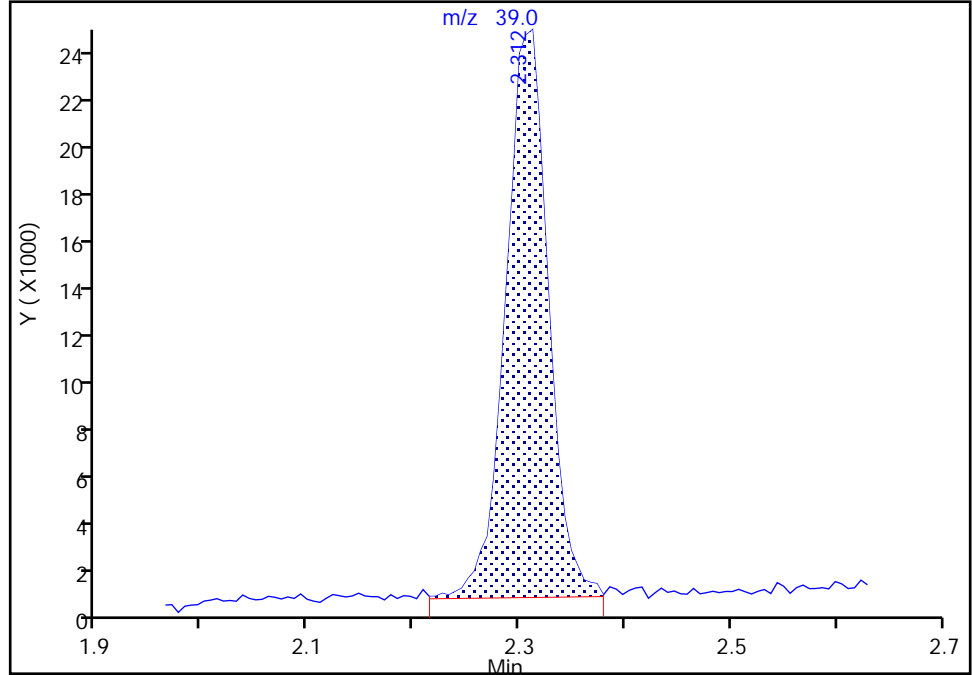
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Injection Date: 16-Mar-2020 17:48:30 Instrument ID: 19930
Lims ID: IC std3
Client ID:
Operator ID: JKH09052 ALS Bottle#: 15 Worklist Smp#: 16
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

6 Butadiene, CAS: 106-99-0

Signal: 1

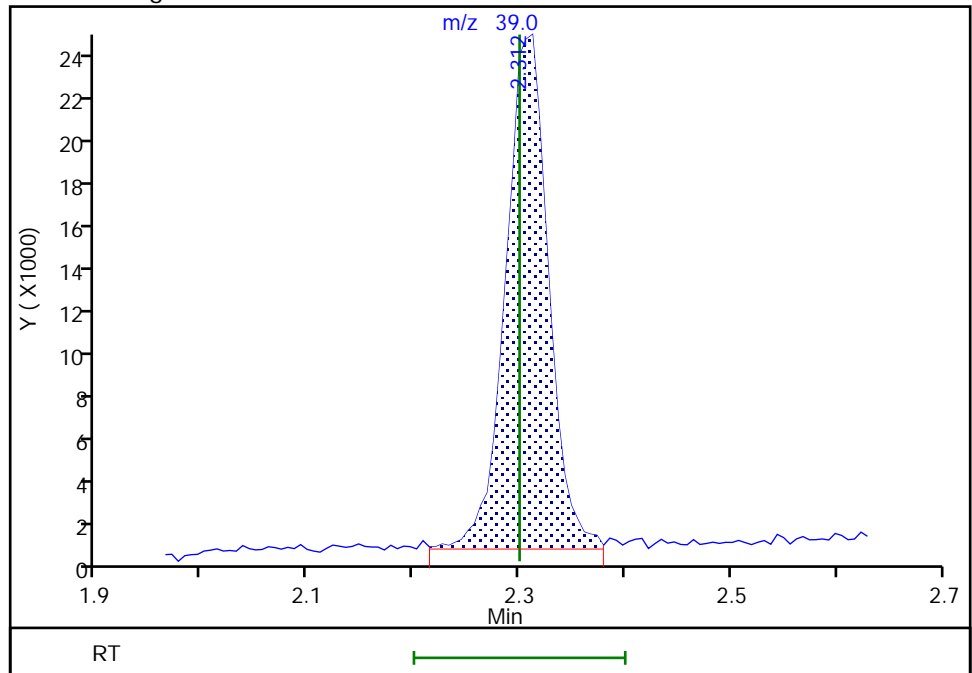
RT: 2.31
Area: 66288
Amount: 1.043357
Amount Units: ug/l

Processing Integration Results



RT: 2.31
Area: 66790
Amount: 1.041584
Amount Units: ug/l

Manual Integration Results



Reviewer: campbellme, 18-Mar-2020 21:45:21
Audit Action: Assigned New Baseline

Audit Reason: Baseline

Euofins Lancaster Laboratories Env, LLC

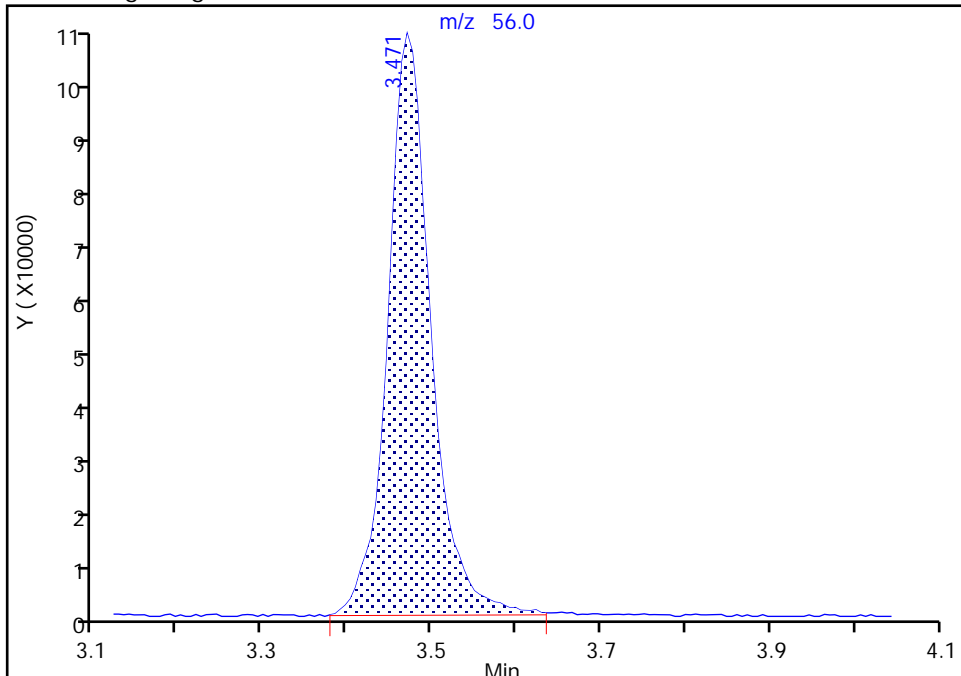
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Injection Date: 16-Mar-2020 17:48:30 Instrument ID: 19930
Lims ID: IC std3
Client ID:
Operator ID: JKH09052 ALS Bottle#: 15 Worklist Smp#: 16
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

13 Acrolein, CAS: 107-02-8

Signal: 1

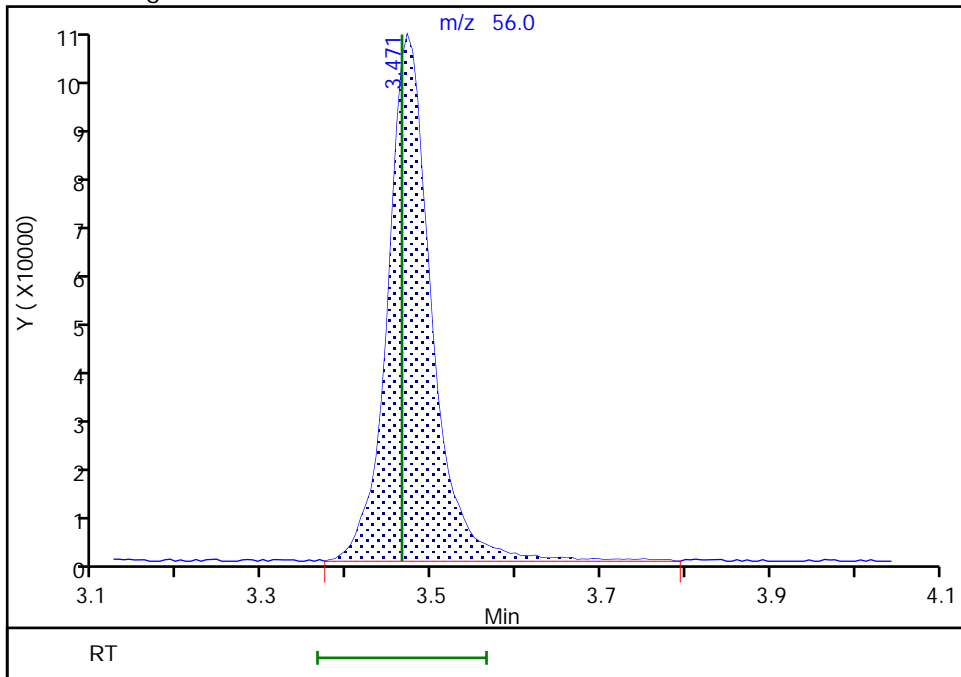
RT: 3.47
Area: 373379
Amount: 49.704668
Amount Units: ug/l

Processing Integration Results



RT: 3.47
Area: 380382
Amount: 50.969503
Amount Units: ug/l

Manual Integration Results



Reviewer: campbellme, 18-Mar-2020 21:45:37

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

Eurofins Lancaster Laboratories Env, LLC

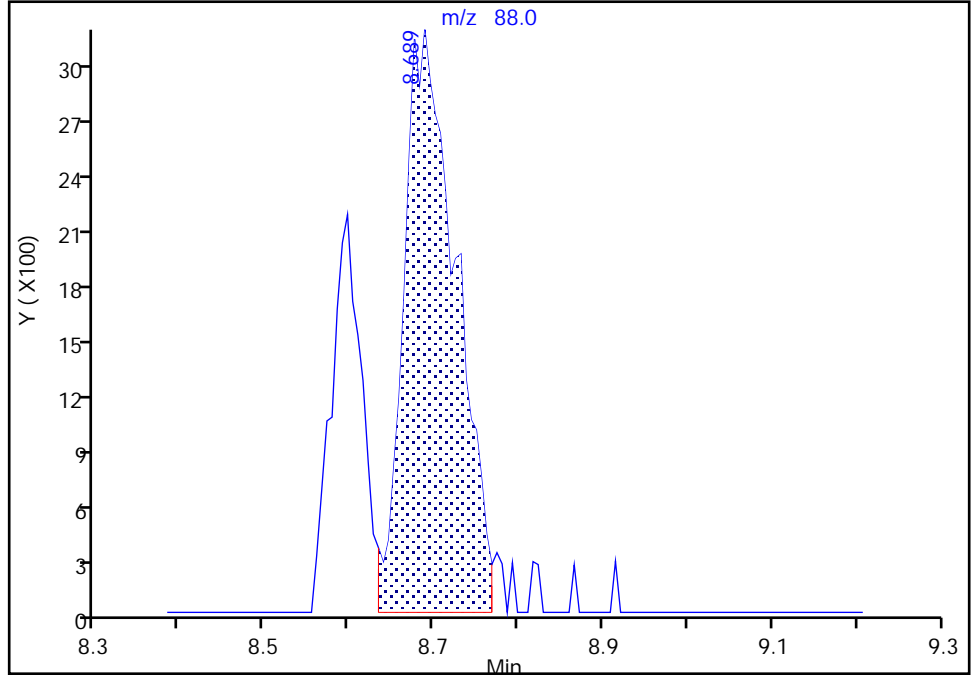
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Injection Date: 16-Mar-2020 17:48:30 Instrument ID: 19930
Lims ID: IC std3
Client ID:
Operator ID: JKH09052 ALS Bottle#: 15 Worklist Smp#: 16
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

65 1,4-Dioxane, CAS: 123-91-1

Signal: 1

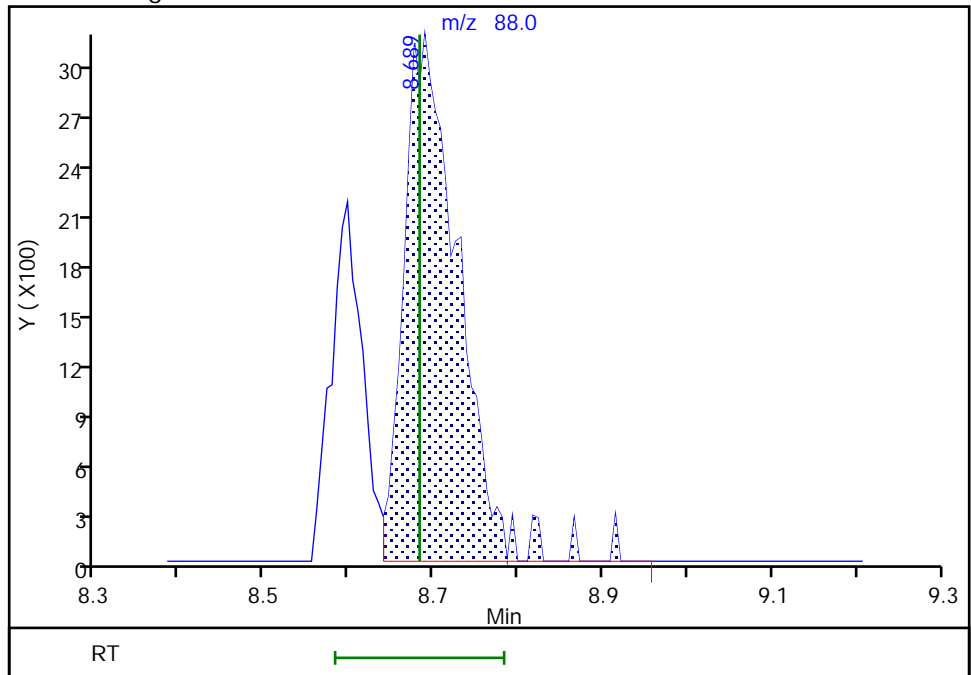
RT: 8.69
Area: 13678
Amount: 17.371619
Amount Units: ug/l

Processing Integration Results



RT: 8.69
Area: 14258
Amount: 53.524177
Amount Units: ug/l

Manual Integration Results



Reviewer: campbellme, 18-Mar-2020 21:46:15
Audit Action: Split an Integrated Peak

Audit Reason: Split Peak

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
S 35 1,2-Dichloroethene, Total	100				0			0.9795	
36 2-Butanone (MEK)	43	6.159	6.171	-0.012	99	81941	5.00	4.63	
37 cis-1,2-Dichloroethene	96	6.196	6.196	0.000	81	32022	0.5000	0.4881	
38 2,2-Dichloropropane	77	6.220	6.208	0.012	88	45857	0.5000	0.4877	
40 Propionitrile	54	6.263	6.263	0.000	99	46096	10.0	9.36	
42 Methacrylonitrile	67	6.464	6.470	-0.006	90	77209	5.00	4.58	
43 Chlorobromomethane	128	6.525	6.531	-0.006	82	15015	0.5000	0.5173	
44 Tetrahydrofuran	71	6.537	6.543	-0.006	85	24939	5.00	4.59	
45 Chloroform	83	6.677	6.683	-0.006	93	51575	0.5000	0.4960	
\$ 46 Dibromofluoromethane (Surr)	113	6.897	6.897	0.000	93	493200	10.0	10.1	
47 1,1,1-Trichloroethane	97	6.903	6.903	0.000	38	49308	0.5000	0.4890	
48 Cyclohexane	56	7.000	7.000	0.000	88	50356	0.5000	0.4737	
50 Carbon tetrachloride	117	7.110	7.116	-0.006	91	42212	0.5000	0.4722	
51 1,1-Dichloropropene	75	7.116	7.116	0.000	95	39847	0.5000	0.4783	
52 Isobutyl alcohol	41	7.269	7.269	0.000	94	33714	25.0	23.9	
\$ 53 1,2-Dichloroethane-d4 (Surr)	102	7.348	7.354	-0.006	0	99319	10.0	10.0	
54 Benzene	78	7.378	7.378	0.000	92	118212	0.5000	0.4874	
56 1,2-Dichloroethane	62	7.451	7.451	0.000	98	32843	0.5000	0.5033	
57 Tert-amyl methyl ether	73	7.567	7.561	0.006	98	79199	0.5000	0.4983	
* 58 Fluorobenzene (IS)	96	7.781	7.781	0.000	99	2032599	10.0	10.0	
59 n-Heptane	43	7.793	7.793	0.000	63	37944	0.5000	0.4525	
60 n-Butanol	56	8.134	8.140	-0.006	87	61312	50.0	49.2	
61 Trichloroethene	95	8.256	8.262	-0.006	98	31278	0.5000	0.4844	
62 Methylcyclohexane	83	8.567	8.567	0.000	91	54220	0.5000	0.4713	
63 1,2-Dichloropropane	63	8.591	8.591	0.000	70	28933	0.5000	0.4908	
64 Methyl methacrylate	69	8.671	8.671	0.000	88	15475	0.5000	0.4530	
65 1,4-Dioxane	88	8.677	8.683	-0.006	44	8556	25.0	29.9	M
66 Dibromomethane	93	8.707	8.707	0.000	93	13976	0.5000	0.4781	
68 Dichlorobromomethane	83	8.933	8.933	0.000	98	37860	0.5000	0.4931	
69 2-Nitropropane	41	9.201	9.201	0.000	99	48823	5.00	4.60	
72 1-Bromo-2-chloroethane	63	9.329	9.323	0.006	98	30408	0.5000	0.4968	
73 cis-1,3-Dichloropropene	75	9.475	9.475	0.000	96	43315	0.5000	0.4769	
74 4-Methyl-2-pentanone (MIBK)	43	9.640	9.640	0.000	96	200214	5.00	4.57	
\$ 75 Toluene-d8 (Surr)	98	9.780	9.780	0.000	93	1928163	10.0	10.1	
76 Toluene	92	9.853	9.853	0.000	98	74368	0.5000	0.4868	
S 77 1,3-Dichloropropene, Total	100				0			0.9588	
78 trans-1,3-Dichloropropene	75	10.109	10.109	0.000	92	37257	0.5000	0.4819	
79 Ethyl methacrylate	69	10.164	10.164	0.000	88	31923	0.5000	0.4843	
80 1,1,2-Trichloroethane	97	10.311	10.311	0.000	91	21660	0.5000	0.5064	
81 Tetrachloroethene	166	10.396	10.396	0.000	98	34794	0.5000	0.4769	
82 1,3-Dichloropropane	76	10.469	10.475	-0.006	89	35276	0.5000	0.4907	
83 2-Hexanone	43	10.518	10.518	0.000	96	137320	5.00	4.54	
85 Chlorodibromomethane	129	10.682	10.682	0.000	90	26432	0.5000	0.4848	
86 Ethylene Dibromide	107	10.798	10.798	0.000	100	19859	0.5000	0.4917	
* 87 Chlorobenzene-d5 (IS)	117	11.219	11.219	0.000	85	1503299	10.0	10.0	
88 1-Chlorohexane	91	11.231	11.231	0.000	93	45065	0.5000	0.4798	
S 89 Xylenes, Total	106				0			1.45	
90 Chlorobenzene	112	11.249	11.249	0.000	96	82189	0.5000	0.4858	
91 1,1,1,2-Tetrachloroethane	131	11.329	11.329	0.000	94	31596	0.5000	0.5016	
92 Ethylbenzene	91	11.335	11.335	0.000	98	144619	0.5000	0.4825	
93 m-Xylene & p-Xylene	106	11.445	11.445	0.000	0	114685	1.00	0.9766	
94 o-Xylene	106	11.774	11.774	0.000	96	55140	0.5000	0.4737	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
95 Styrene	104	11.792	11.792	0.000	93	87686	0.5000	0.4721	
96 Bromoform	173	11.951	11.944	0.007	97	16484	0.5000	0.4913	
97 Isopropylbenzene	105	12.072	12.072	0.000	96	148190	0.5000	0.4808	
\$ 100 4-Bromofluorobenzene (Surr)	95	12.219	12.219	0.000	93	724468	10.0	10.2	
101 1,1,2,2-Tetrachloroethane	83	12.316	12.316	0.000	94	25318	0.5000	0.4684	
102 Bromobenzene	156	12.335	12.335	0.000	93	34868	0.5000	0.4800	
103 trans-1,4-Dichloro-2-butene	53	12.341	12.341	0.000	94	69949	5.00	4.54	
104 1,2,3-Trichloropropane	110	12.365	12.365	0.000	81	7183	0.5000	0.4770	
105 N-Propylbenzene	91	12.402	12.402	0.000	99	170003	0.5000	0.4739	
106 2-Chlorotoluene	126	12.475	12.475	0.000	97	34726	0.5000	0.4792	
107 1,3,5-Trimethylbenzene	105	12.536	12.536	0.000	94	121303	0.5000	0.4644	
108 4-Chlorotoluene	126	12.572	12.566	0.006	97	35210	0.5000	0.4773	
109 tert-Butylbenzene	134	12.780	12.780	0.000	93	26660	0.5000	0.4553	
110 Pentachloroethane	167	12.810	12.810	0.000	80	23433	0.5000	0.4744	
111 1,2,4-Trimethylbenzene	105	12.816	12.816	0.000	97	128514	0.5000	0.4785	
112 sec-Butylbenzene	105	12.938	12.938	0.000	94	155303	0.5000	0.4629	
113 1,3-Dichlorobenzene	146	13.042	13.042	0.000	97	67773	0.5000	0.4768	
114 4-Isopropyltoluene	119	13.048	13.048	0.000	97	133089	0.5000	0.4599	
* 115 1,4-Dichlorobenzene-d4	152	13.097	13.097	0.000	95	836561	10.0	10.0	
116 1,4-Dichlorobenzene	146	13.115	13.115	0.000	95	66463	0.5000	0.4725	
117 1,2,3-Trimethylbenzene	120	13.121	13.121	0.000	98	56015	0.5000	0.4846	
118 Benzyl chloride	126	13.188	13.188	0.000	98	12374	0.5000	0.4994	
119 n-Butylbenzene	92	13.334	13.334	0.000	98	61668	0.5000	0.4572	
120 1,2-Dichlorobenzene	146	13.371	13.371	0.000	98	63385	0.5000	0.4884	
122 1,2-Dibromo-3-Chloropropane	155	13.914	13.914	0.000	85	4756	0.5000	0.5328	
123 1,3,5-Trichlorobenzene	180	14.036	14.035	0.001	97	47689	0.5000	0.4636	
124 1,2,4-Trichlorobenzene	180	14.462	14.462	0.000	94	40997	0.5000	0.4732	
125 Hexachlorobutadiene	225	14.542	14.541	0.001	97	16272	0.5000	0.4452	
126 Naphthalene	128	14.645	14.645	0.000	97	85787	0.5000	0.5025	
127 1,2,3-Trichlorobenzene	180	14.785	14.785	0.000	95	35782	0.5000	0.4959	
144 2-ethoxy-2-methyl butane	1		0.000				ND	ND	U
137 2-Methylnaphthalene	142		0.000				ND	ND	U
135 p-Diethylbenzene	1		0.000				ND	ND	U
134 Isopropyl alcohol	45		0.000				ND	ND	U

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

U - Marked Undetected

Reagents:

MSV_RV1_826_00008

Amount Added: 2.00

Units: uL

MSV_RV4_826_00009

Amount Added: 2.00

Units: uL

MSV_RV4GAS826_00022

Amount Added: 2.00

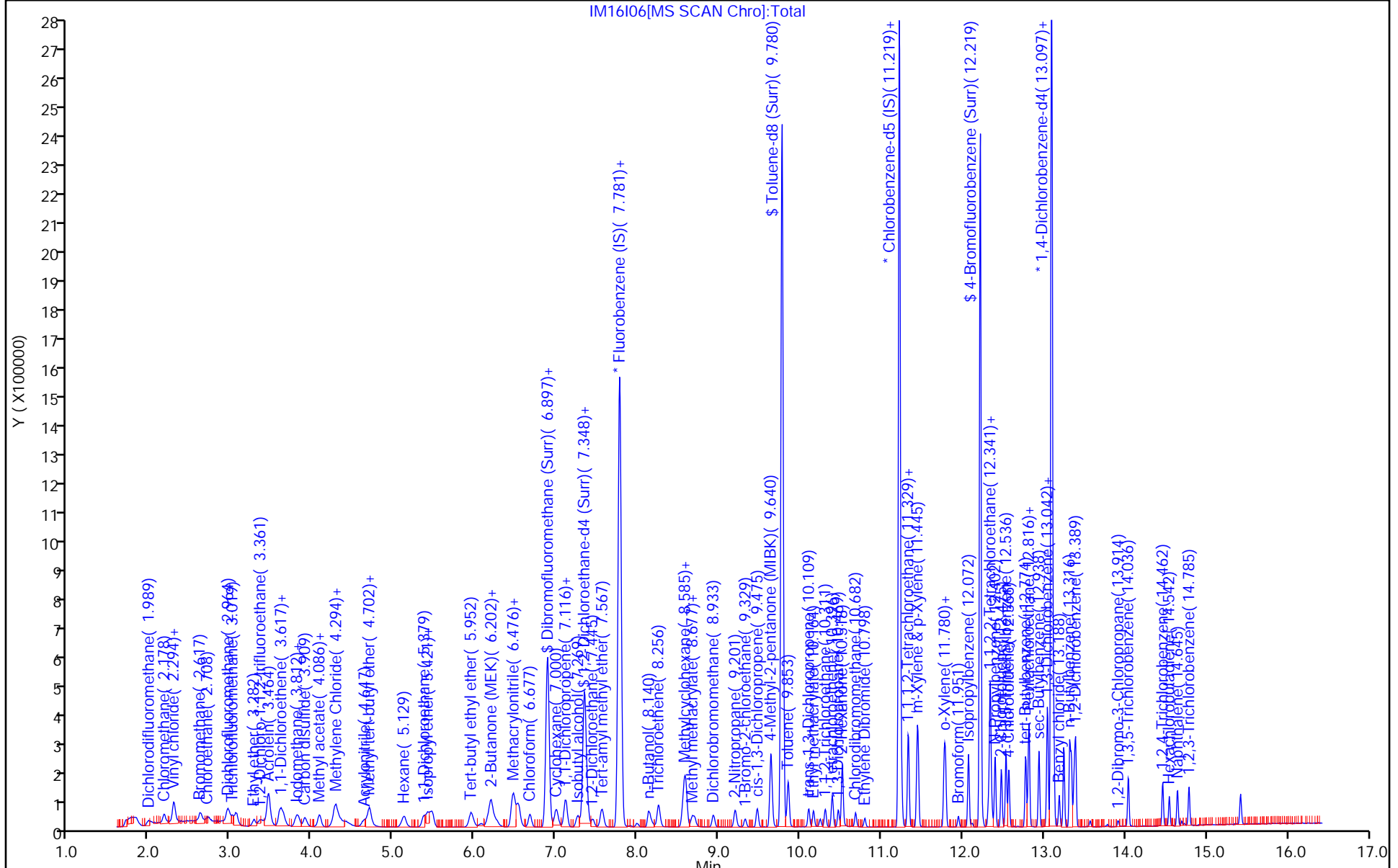
Units: uL

MSV_31_826ISS_00002

Amount Added: 5.00

Units: uL

Run Reagent



Eurofins Lancaster Laboratories Env, LLC

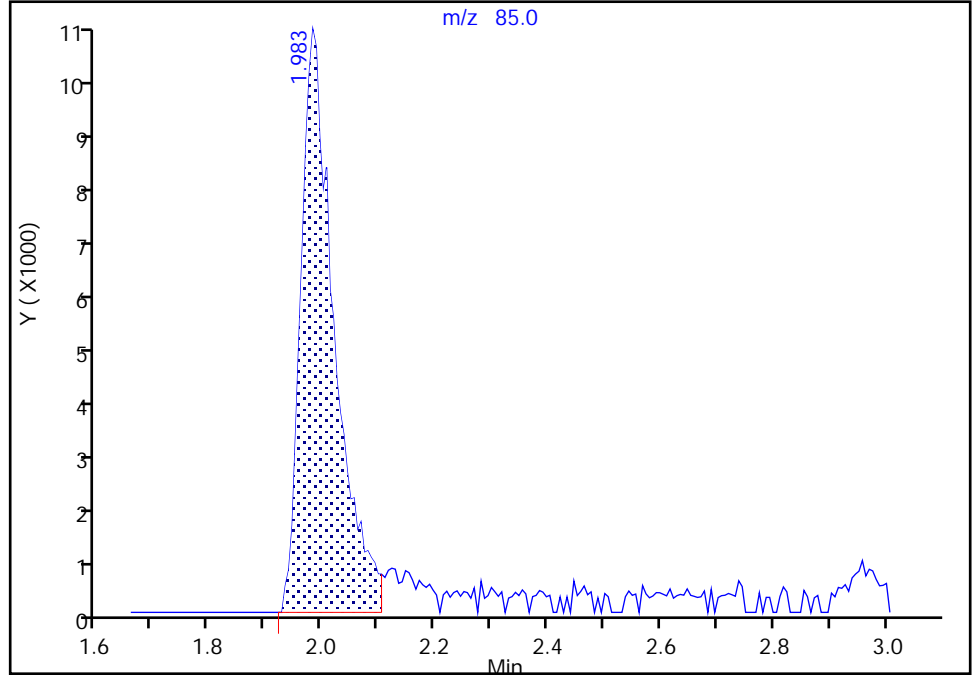
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Injection Date: 16-Mar-2020 18:09:30 Instrument ID: 19930
Lims ID: IC std2
Client ID:
Operator ID: JKH09052 ALS Bottle#: 16 Worklist Smp#: 17
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

1 Dichlorodifluoromethane, CAS: 75-71-8

Signal: 1

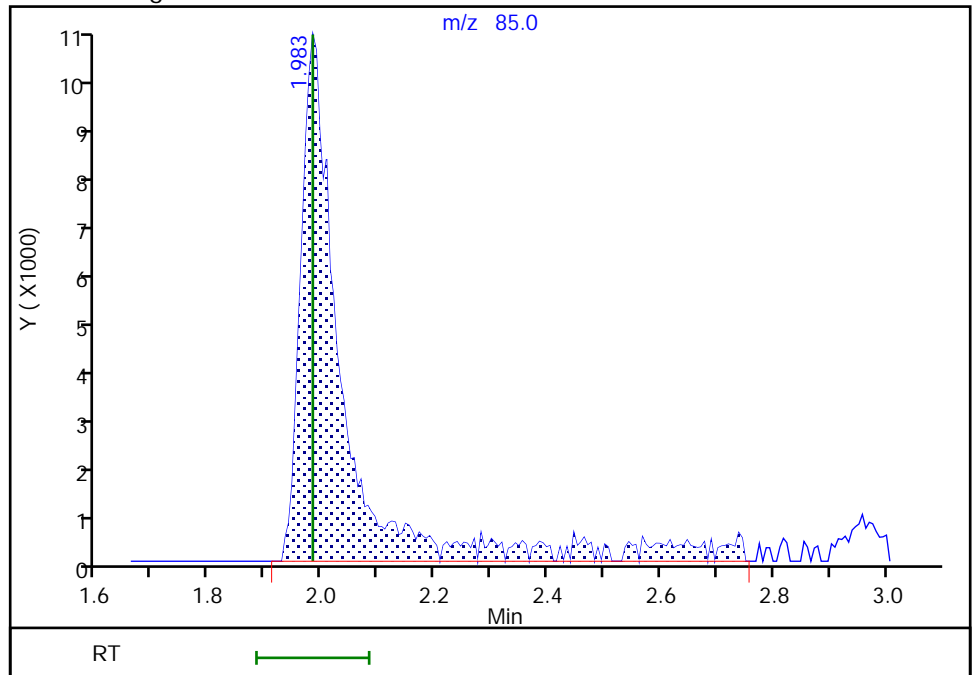
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Area: 42492
Amount: 0.422208
Amount Units: ug/l

Processing Integration Results



RT: 1.98
Area: 54675
Amount: 0.494798
Amount Units: ug/l

Manual Integration Results



Reviewer: campbellme, 18-Mar-2020 21:46:55
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

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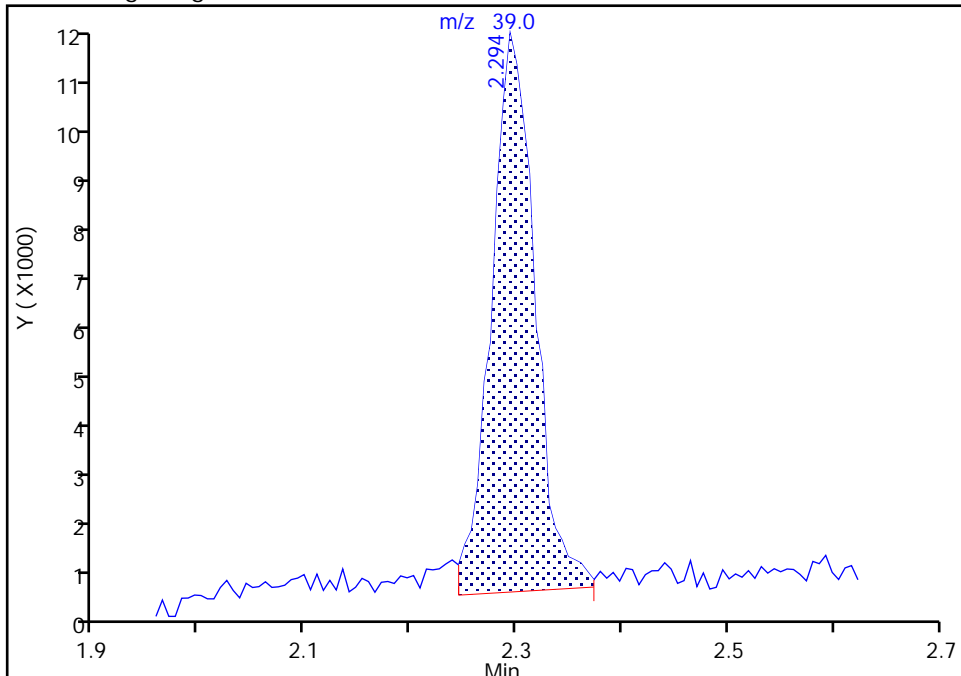
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Lims ID: IC std2
Client ID:
Operator ID: JKH09052 ALS Bottle#: 16 Worklist Smp#: 17
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

6 Butadiene, CAS: 106-99-0

Signal: 1

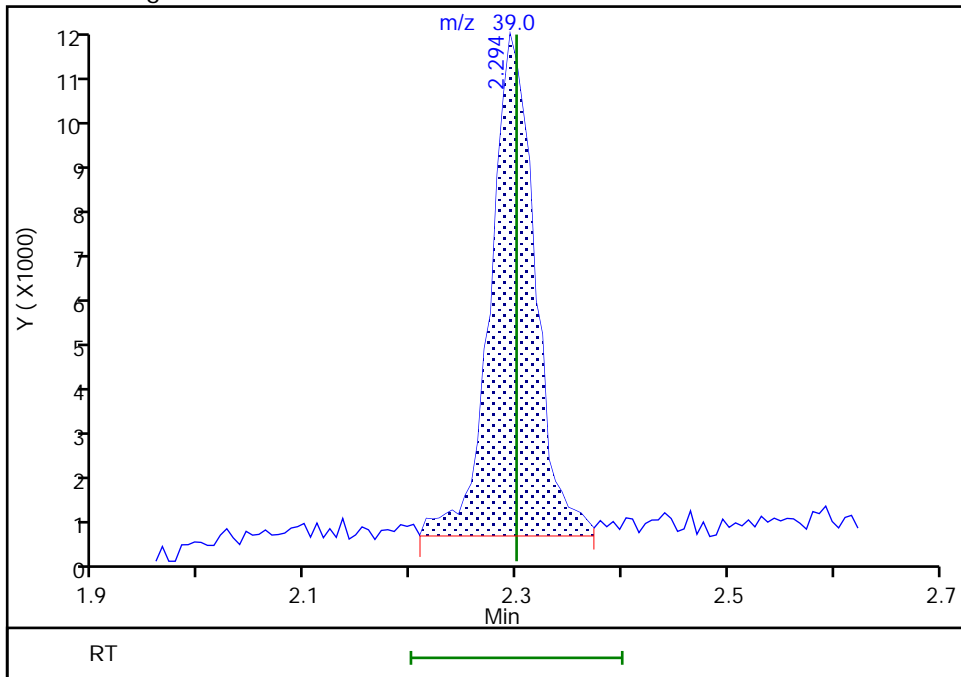
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Amount: 0.495809
Amount Units: ug/l

Processing Integration Results



RT: 2.29
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Amount: 0.497635
Amount Units: ug/l

Manual Integration Results



Reviewer: campbellme, 18-Mar-2020 21:47:16
Audit Action: Assigned New Baseline

Audit Reason: Baseline
Page 418 of 519

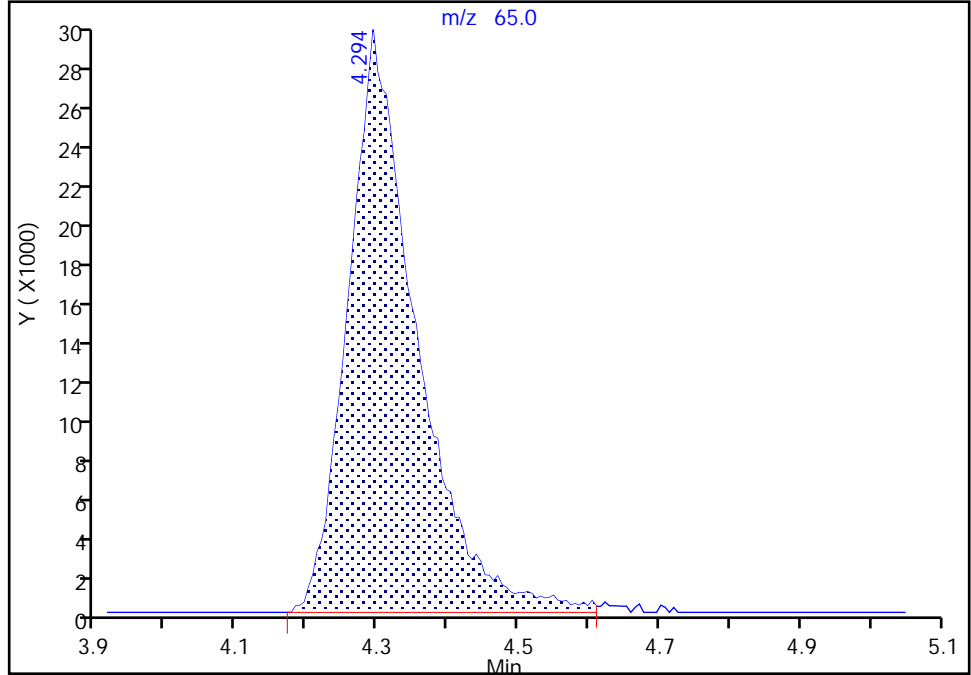
Eurofins Lancaster Laboratories Env, LLC

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Injection Date: 16-Mar-2020 18:09:30 Instrument ID: 19930
Lims ID: IC std2
Client ID:
Operator ID: JKH09052 ALS Bottle#: 16 Worklist Smp#: 17
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

* 24 t-Butyl alcohol-d10 (IS), CAS: 53001-22-2
Signal: 1

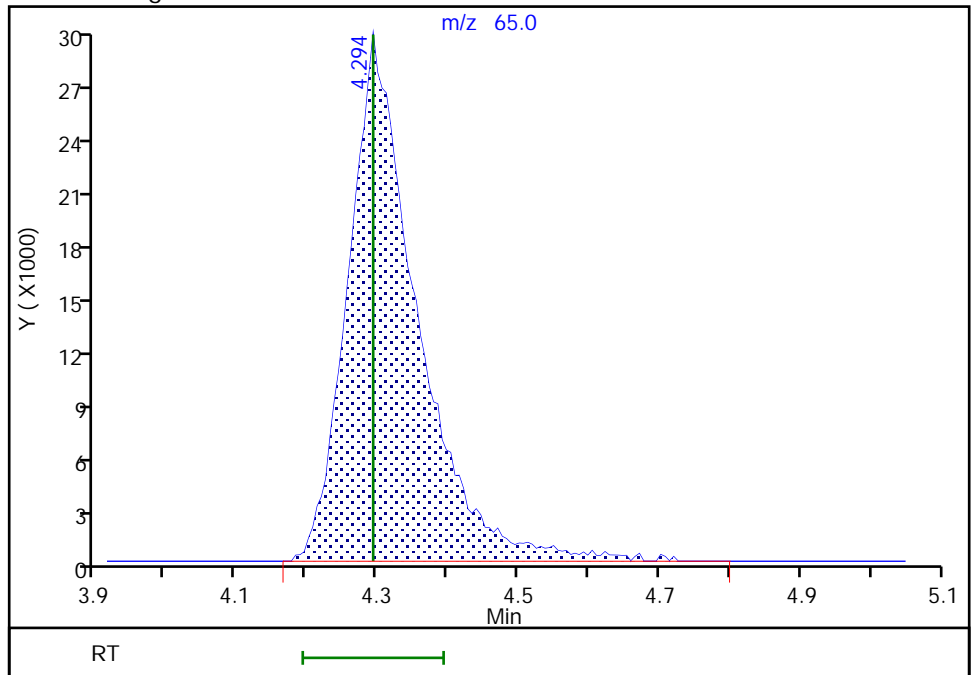
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Amount: 50.000000
Amount Units: ug/l

Processing Integration Results



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Area: 202558
Amount: 50.000000
Amount Units: ug/l

Manual Integration Results



Reviewer: campbellme, 18-Mar-2020 21:47:48
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 419 of 519

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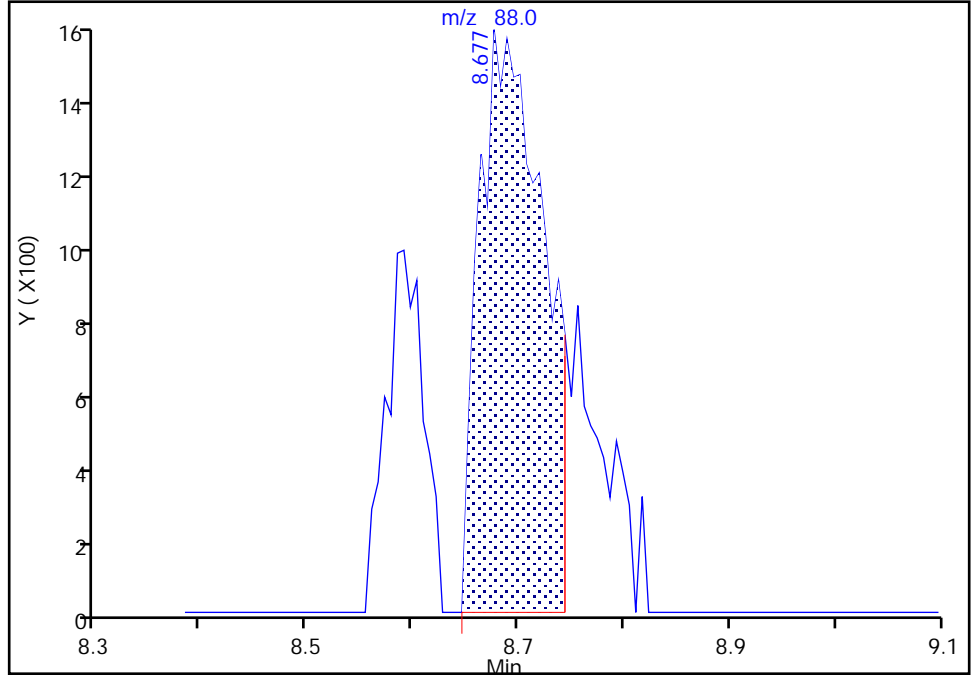
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Lims ID: IC std2
Client ID:
Operator ID: JKH09052 ALS Bottle#: 16 Worklist Smp#: 17
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

65 1,4-Dioxane, CAS: 123-91-1

Signal: 1

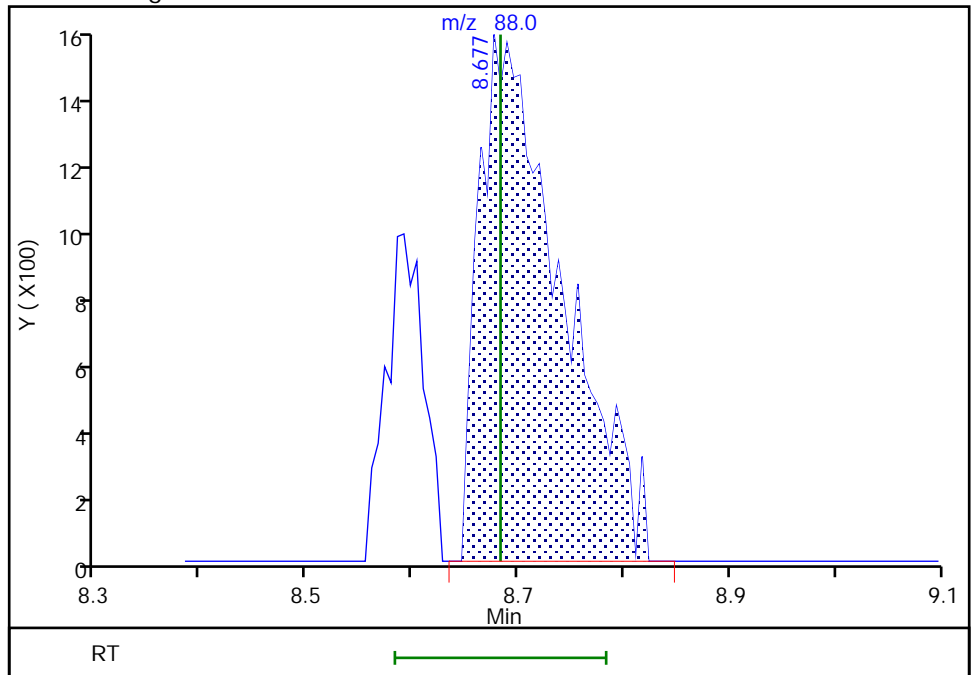
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Area: 6679
Amount: -18.818739
Amount Units: ug/l

Processing Integration Results



RT: 8.68
Area: 8556
Amount: 29.877349
Amount Units: ug/l

Manual Integration Results



Reviewer: campbellme, 18-Mar-2020 21:48:07
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
S 35 1,2-Dichloroethene, Total	100				0			0.3926	
36 2-Butanone (MEK)	43	6.171	6.171	0.000	98	30988	2.00	1.79	
37 cis-1,2-Dichloroethene	96	6.202	6.196	0.006	81	12679	0.2000	0.1934	
38 2,2-Dichloropropane	77	6.220	6.208	0.012	75	18569	0.2000	0.1976	
40 Propionitrile	54	6.281	6.263	0.018	97	17659	4.00	3.67	
42 Methacrylonitrile	67	6.482	6.470	0.012	90	28899	2.00	1.76	
43 Chlorobromomethane	128	6.537	6.531	0.006	82	5852	0.2000	0.2017	
44 Tetrahydrofuran	71	6.543	6.543	0.000	87	10928	2.00	2.06	
45 Chloroform	83	6.677	6.683	-0.006	92	19725	0.2000	0.1898	
\$ 46 Dibromofluoromethane (Surr)	113	6.897	6.897	0.000	93	491181	10.0	10.0	
47 1,1,1-Trichloroethane	97	6.915	6.903	0.012	36	18825	0.2000	0.1868	
48 Cyclohexane	56	7.006	7.000	0.006	89	21564	0.2000	0.2029	M
50 Carbon tetrachloride	117	7.116	7.116	0.000	90	16102	0.2000	0.1802	
51 1,1-Dichloropropene	75	7.122	7.116	0.006	91	15046	0.2000	0.1807	
52 Isobutyl alcohol	41	7.287	7.269	0.018	96	14672	10.0	10.7	
\$ 53 1,2-Dichloroethane-d4 (Surr)	102	7.348	7.354	-0.006	0	99741	10.0	10.0	
54 Benzene	78	7.384	7.378	0.006	95	46030	0.2000	0.1899	
56 1,2-Dichloroethane	62	7.458	7.451	0.007	98	13507	0.2000	0.2071	
57 Tert-amyl methyl ether	73	7.573	7.561	0.012	98	30981	0.2000	0.1950	
* 58 Fluorobenzene (IS)	96	7.787	7.781	0.006	99	2031491	10.0	10.0	
59 n-Heptane	43	7.799	7.793	0.006	37	15403	0.2000	0.1838	
60 n-Butanol	56	8.153	8.140	0.012	87	21535	20.0	17.7	
61 Trichloroethene	95	8.256	8.262	-0.006	96	12251	0.2000	0.1898	M
62 Methylcyclohexane	83	8.567	8.567	0.000	91	21932	0.2000	0.1907	
63 1,2-Dichloropropane	63	8.591	8.591	0.000	69	10960	0.2000	0.1860	
64 Methyl methacrylate	69	8.665	8.671	-0.006	87	5985	0.2000	0.1795	M
65 1,4-Dioxane	88	8.677	8.683	-0.006	51	1950	10.0	6.97	M
66 Dibromomethane	93	8.701	8.707	-0.006	96	5492	0.2000	0.1880	
68 Dichlorobromomethane	83	8.933	8.933	0.000	97	14558	0.2000	0.1897	
69 2-Nitropropane	41	9.207	9.201	0.006	97	17372	2.00	1.68	
72 1-Bromo-2-chloroethane	63	9.323	9.323	0.000	96	11627	0.2000	0.1901	
73 cis-1,3-Dichloropropene	75	9.475	9.475	0.000	95	16020	0.2000	0.1765	
74 4-Methyl-2-pentanone (MIBK)	43	9.646	9.640	0.006	96	74340	2.00	1.74	
\$ 75 Toluene-d8 (Surr)	98	9.780	9.780	0.000	93	1924255	10.0	10.0	
76 Toluene	92	9.853	9.853	0.000	97	27903	0.2000	0.1820	
S 77 1,3-Dichloropropene, Total	100				0			0.3654	
78 trans-1,3-Dichloropropene	75	10.109	10.109	0.000	93	14659	0.2000	0.1889	
79 Ethyl methacrylate	69	10.170	10.164	0.006	90	12586	0.2000	0.1903	
80 1,1,2-Trichloroethane	97	10.311	10.311	0.000	89	8408	0.2000	0.1959	
81 Tetrachloroethene	166	10.402	10.396	0.006	95	13547	0.2000	0.1850	
82 1,3-Dichloropropane	76	10.469	10.475	-0.006	90	13157	0.2000	0.1824	
83 2-Hexanone	43	10.518	10.518	0.000	97	51030	2.00	1.73	
85 Chlorodibromomethane	129	10.689	10.682	0.007	91	9631	0.2000	0.1760	
86 Ethylene Dibromide	107	10.798	10.798	0.000	95	7016	0.2000	0.1731	
* 87 Chlorobenzene-d5 (IS)	117	11.219	11.219	0.000	85	1508640	10.0	10.0	
88 1-Chlorohexane	91	11.231	11.231	0.000	68	19231	0.2000	0.2040	
S 89 Xylenes, Total	106				0			0.5612	
90 Chlorobenzene	112	11.249	11.249	0.000	95	31292	0.2000	0.1843	
91 1,1,1,2-Tetrachloroethane	131	11.329	11.329	0.000	96	10964	0.2000	0.1734	
92 Ethylbenzene	91	11.335	11.335	0.000	98	56876	0.2000	0.1891	
93 m-Xylene & p-Xylene	106	11.445	11.445	0.000	0	43526	0.4000	0.3693	
94 o-Xylene	106	11.774	11.774	0.000	94	22418	0.2000	0.1919	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
95 Styrene	104	11.792	11.792	0.000	94	34270	0.2000	0.1838	
96 Bromoform	173	11.951	11.944	0.007	96	5904	0.2000	0.1753	
97 Isopropylbenzene	105	12.072	12.072	0.000	95	54965	0.2000	0.1777	
\$ 100 4-Bromofluorobenzene (Surr)	95	12.219	12.219	0.000	92	718165	10.0	10.0	
101 1,1,2,2-Tetrachloroethane	83	12.316	12.316	0.000	94	9904	0.2000	0.1855	
102 Bromobenzene	156	12.335	12.335	0.000	94	13246	0.2000	0.1846	
103 trans-1,4-Dichloro-2-butene	53	12.341	12.341	0.000	92	26607	2.00	1.77	
104 1,2,3-Trichloropropane	110	12.365	12.365	0.000	77	2691	0.2000	0.1809	
105 N-Propylbenzene	91	12.402	12.402	0.000	99	66911	0.2000	0.1889	
106 2-Chlorotoluene	126	12.481	12.475	0.006	96	12468	0.2000	0.1742	
107 1,3,5-Trimethylbenzene	105	12.536	12.536	0.000	94	47587	0.2000	0.1845	
108 4-Chlorotoluene	126	12.572	12.566	0.006	96	13573	0.2000	0.1863	
109 tert-Butylbenzene	134	12.780	12.780	0.000	93	10372	0.2000	0.1793	
110 Pentachloroethane	167	12.810	12.810	0.000	88	9252	0.2000	0.1896	
111 1,2,4-Trimethylbenzene	105	12.816	12.816	0.000	97	48121	0.2000	0.1814	
112 sec-Butylbenzene	105	12.938	12.938	0.000	94	58363	0.2000	0.1761	
113 1,3-Dichlorobenzene	146	13.042	13.042	0.000	97	25712	0.2000	0.1832	
114 4-Isopropyltoluene	119	13.048	13.048	0.000	97	50112	0.2000	0.1753	
* 115 1,4-Dichlorobenzene-d4	152	13.097	13.097	0.000	95	826251	10.0	10.0	
116 1,4-Dichlorobenzene	146	13.115	13.115	0.000	93	26261	0.2000	0.1890	
117 1,2,3-Trimethylbenzene	120	13.121	13.121	0.000	97	22215	0.2000	0.1946	
118 Benzyl chloride	126	13.188	13.188	0.000	99	4340	0.2000	0.1773	
119 n-Butylbenzene	92	13.341	13.334	0.006	97	22693	0.2000	0.1704	
120 1,2-Dichlorobenzene	146	13.371	13.371	0.000	98	23812	0.2000	0.1858	
122 1,2-Dibromo-3-Chloropropane	155	13.914	13.914	0.000	86	1491	0.2000	0.1691	
123 1,3,5-Trichlorobenzene	180	14.042	14.035	0.007	96	17479	0.2000	0.1720	
124 1,2,4-Trichlorobenzene	180	14.462	14.462	0.000	95	14677	0.2000	0.1715	
125 Hexachlorobutadiene	225	14.542	14.541	0.001	95	6338	0.2000	0.1756	
126 Naphthalene	128	14.645	14.645	0.000	97	29798	0.2000	0.1767	
127 1,2,3-Trichlorobenzene	180	14.785	14.785	0.000	93	12026	0.2000	0.1687	
134 Isopropyl alcohol	45		0.000				ND	ND	U
135 p-Diethylbenzene	1		0.000				ND	ND	U
137 2-Methylnaphthalene	142		0.000				ND	ND	U
144 2-ethoxy-2-methyl butane	1		0.000				ND	ND	U

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

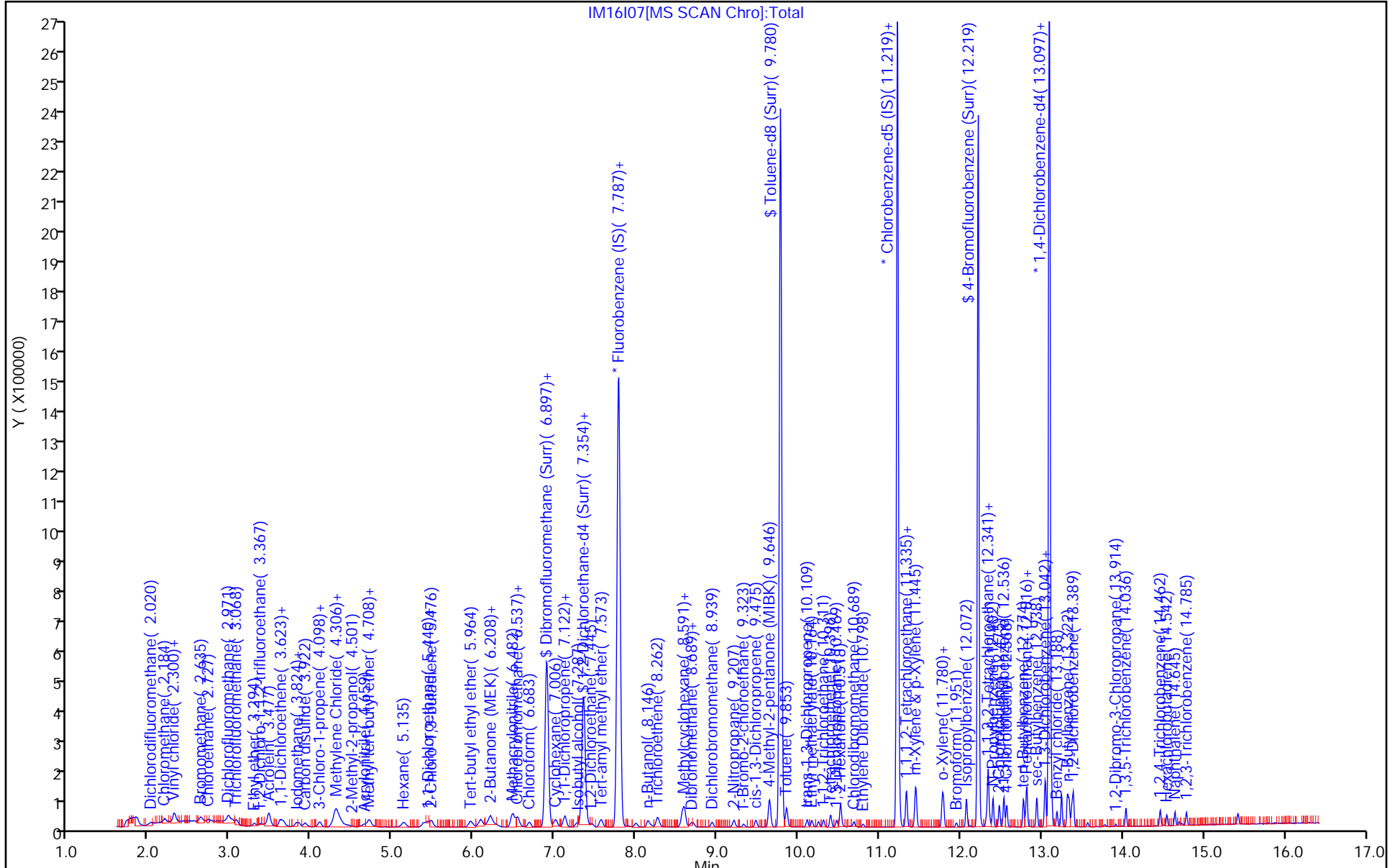
Review Flags

M - Manually Integrated

U - Marked Undetected

Reagents:

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MSV_RV4_826_00009	Amount Added: 2.00	Units: uL	
MSV_RV4GAS826_00022	Amount Added: 2.00	Units: uL	
MSV_31_826ISS_00002	Amount Added: 5.00	Units: uL	Run Reagent



IM16107[MS SCAN Chrom]:Total

Y (X1000000)

Min

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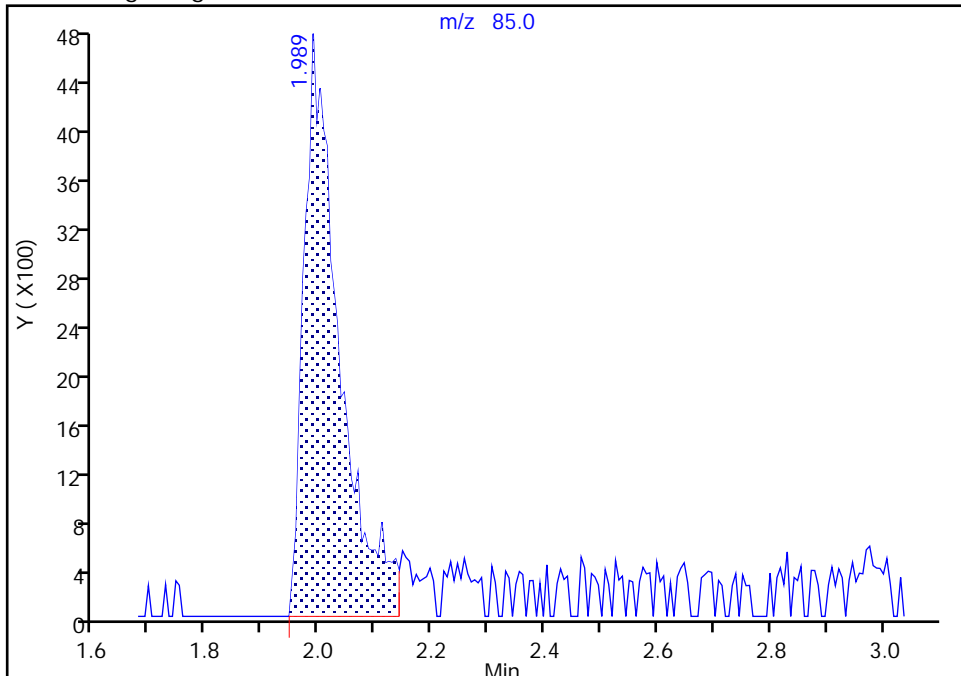
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Lims ID: IC std1
Client ID:
Operator ID: JKH09052 ALS Bottle#: 17 Worklist Smp#: 18
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

1 Dichlorodifluoromethane, CAS: 75-71-8

Signal: 1

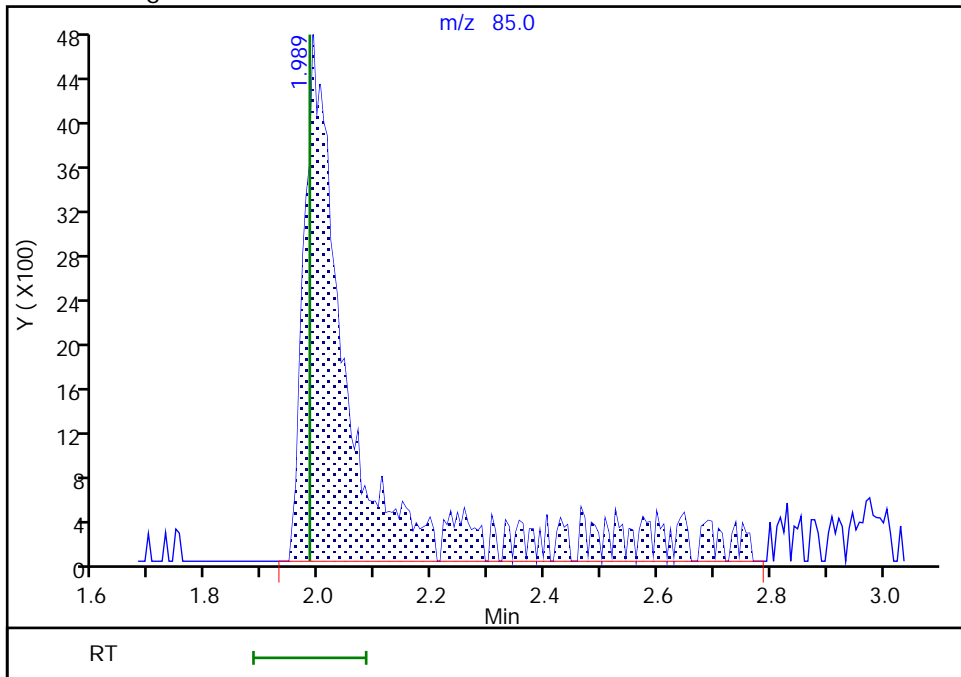
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Area: 20525
Amount: 0.197230
Amount Units: ug/l

Processing Integration Results



RT: 1.99
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Amount: 0.266635
Amount Units: ug/l

Manual Integration Results



Reviewer: campbellme, 18-Mar-2020 21:48:58
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

Eurofins Lancaster Laboratories Env, LLC

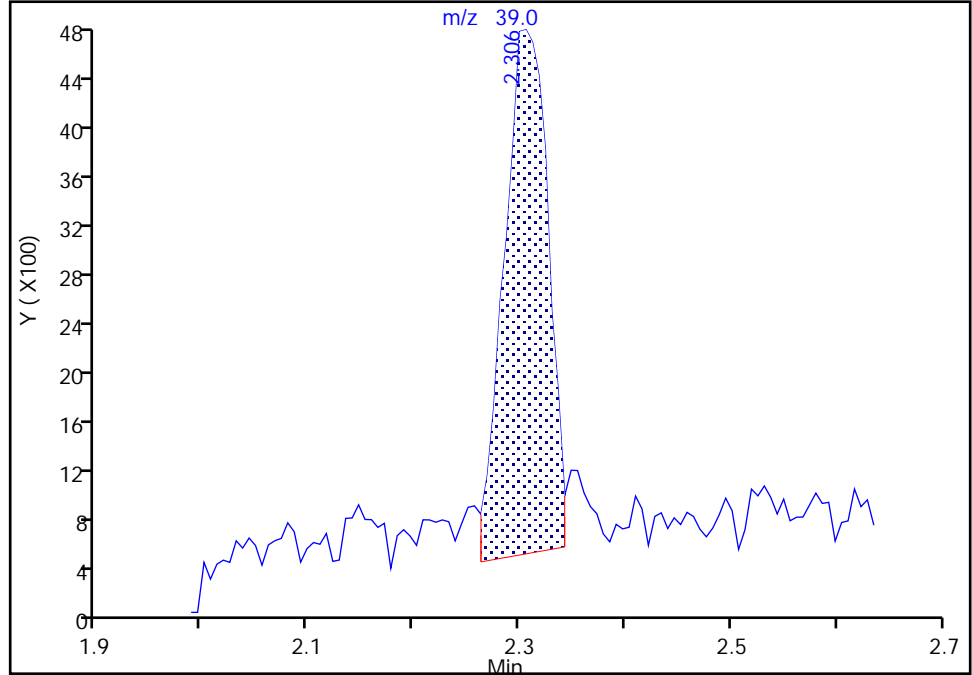
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Lims ID: IC std1
Client ID:
Operator ID: JKH09052 ALS Bottle#: 17 Worklist Smp#: 18
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

6 Butadiene, CAS: 106-99-0

Signal: 1

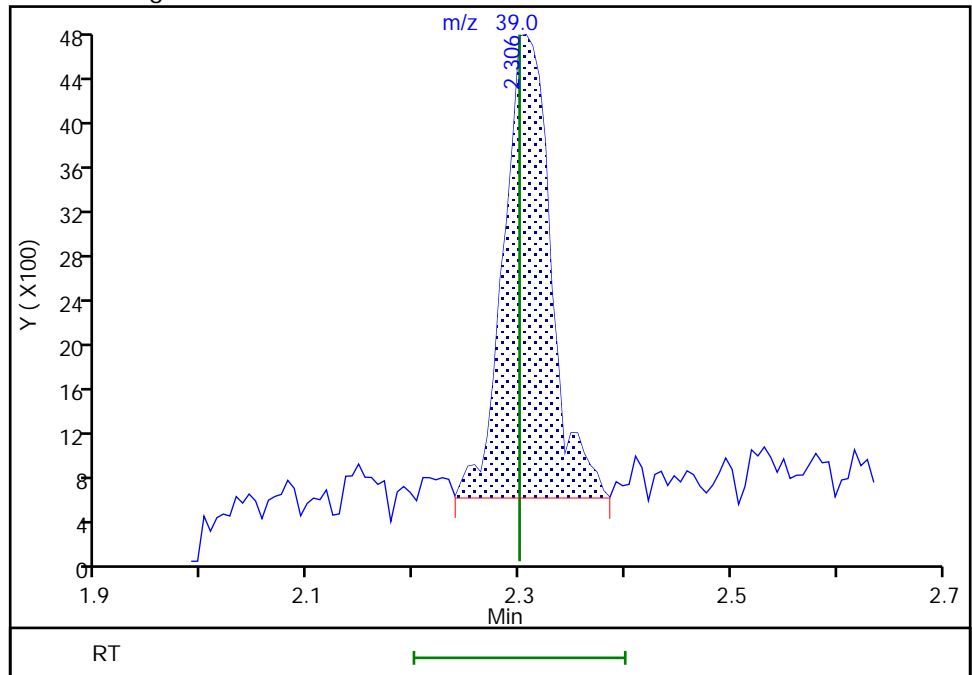
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Area: 12446
Amount: 0.196063
Amount Units: ug/l

Processing Integration Results



RT: 2.31
Area: 13020
Amount: 0.203789
Amount Units: ug/l

Manual Integration Results



Reviewer: campbellme, 18-Mar-2020 21:49:16
Audit Action: Assigned New Baseline

Audit Reason: Baseline
Page 426 of 519

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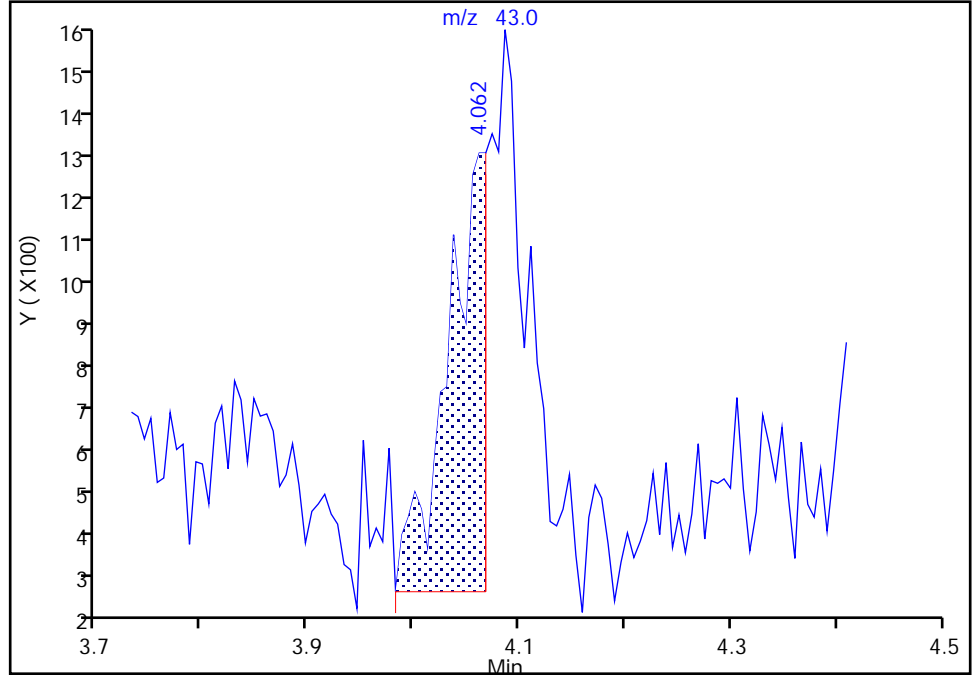
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Lims ID: IC std1
Client ID:
Operator ID: JKH09052 ALS Bottle#: 17 Worklist Smp#: 18
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

21 Methyl acetate, CAS: 79-20-9

Signal: 1

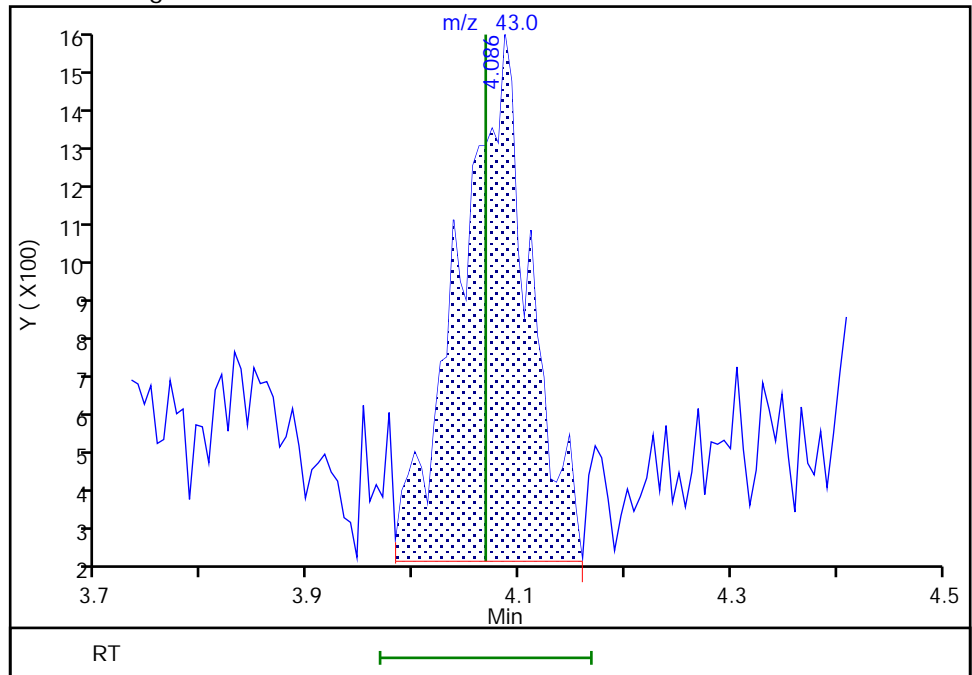
RT: 4.06
Area: 2577
Amount: 0.117869
Amount Units: ug/l

Processing Integration Results



RT: 4.09
Area: 6142
Amount: 0.251621
Amount Units: ug/l

Manual Integration Results



Reviewer: campbellme, 18-Mar-2020 21:49:55
Audit Action: Assigned New Baseline

Audit Reason: Baseline

Eurofins Lancaster Laboratories Env, LLC

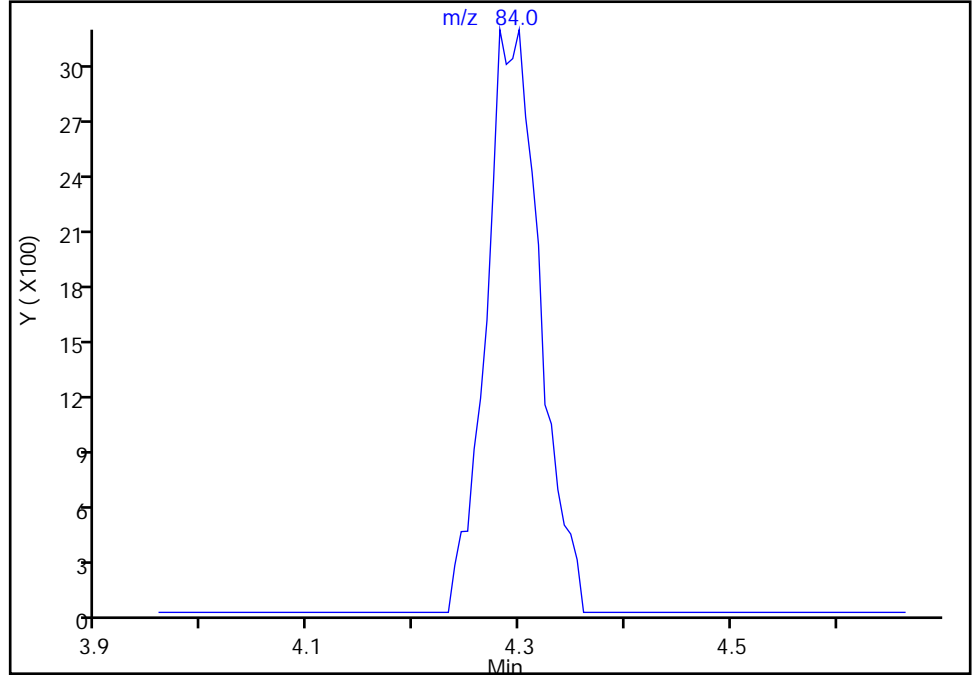
Data File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\IM16107.D
Injection Date: 16-Mar-2020 18:31:30 Instrument ID: 19930
Lims ID: IC std1
Client ID:
Operator ID: JKH09052 ALS Bottle#: 17 Worklist Smp#: 18
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

23 Methylene Chloride, CAS: 75-09-2

Signal: 1

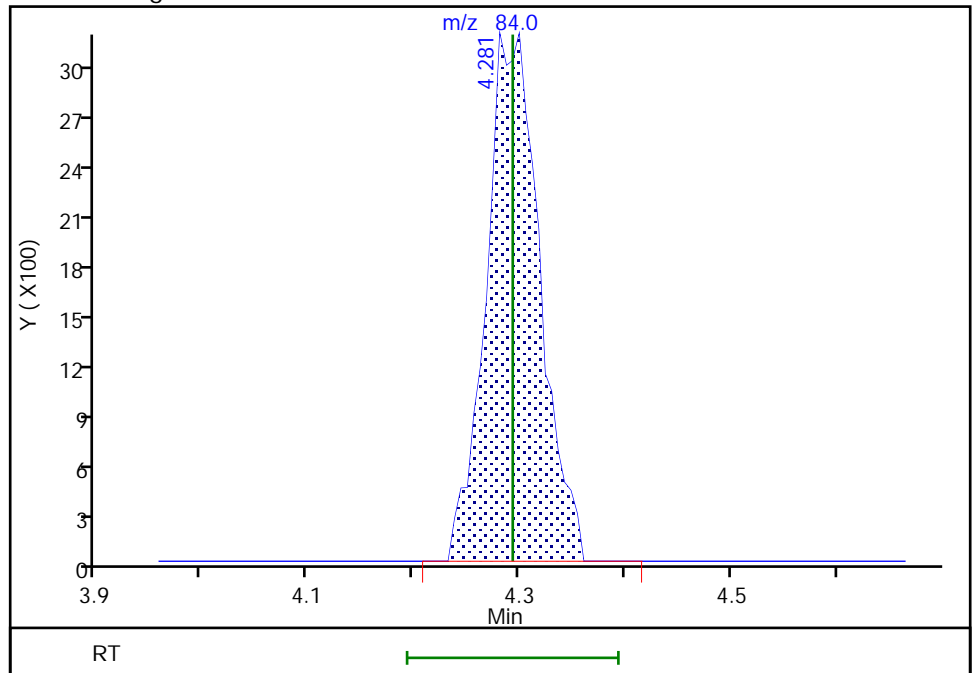
Not Detected
Expected RT: 4.29

Processing Integration Results



Manual Integration Results

RT: 4.28
Area: 10957
Amount: 0.194153
Amount Units: ug/l



Reviewer: campbellme, 18-Mar-2020 21:50:07
Audit Action: Manually Integrated

Audit Reason: Missed Peak

Eurofins Lancaster Laboratories Env, LLC

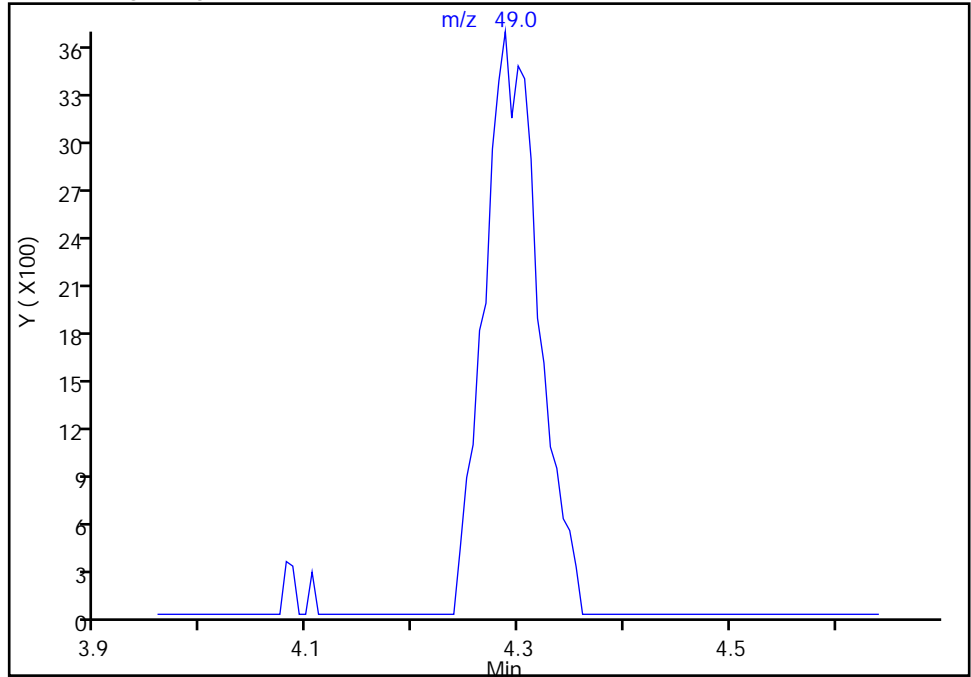
Data File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\1M16107.D
Injection Date: 16-Mar-2020 18:31:30 Instrument ID: 19930
Lims ID: IC std1
Client ID:
Operator ID: JKH09052 ALS Bottle#: 17 Worklist Smp#: 18
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

23 Methylene Chloride, CAS: 75-09-2

Signal: 2

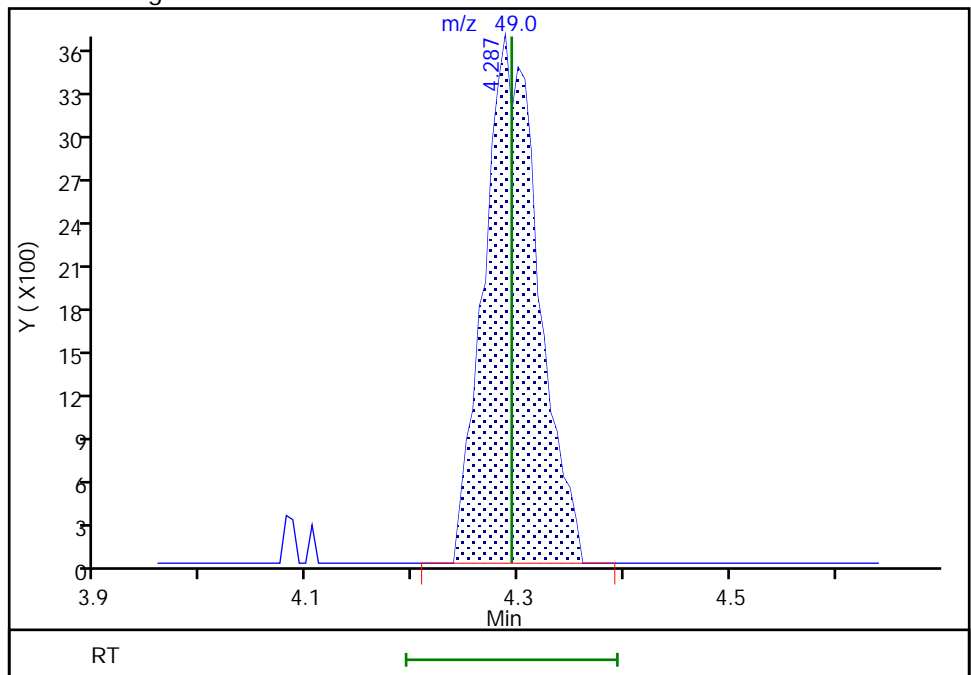
Not Detected
Expected RT: 4.29

Processing Integration Results



Manual Integration Results

RT: 4.29
Area: 13173
Amount: 0.194153
Amount Units: ug/l



Reviewer: campbellme, 18-Mar-2020 21:50:10

Audit Action: Manually Integrated

Audit Reason: Missed Peak

Eurofins Lancaster Laboratories Env, LLC

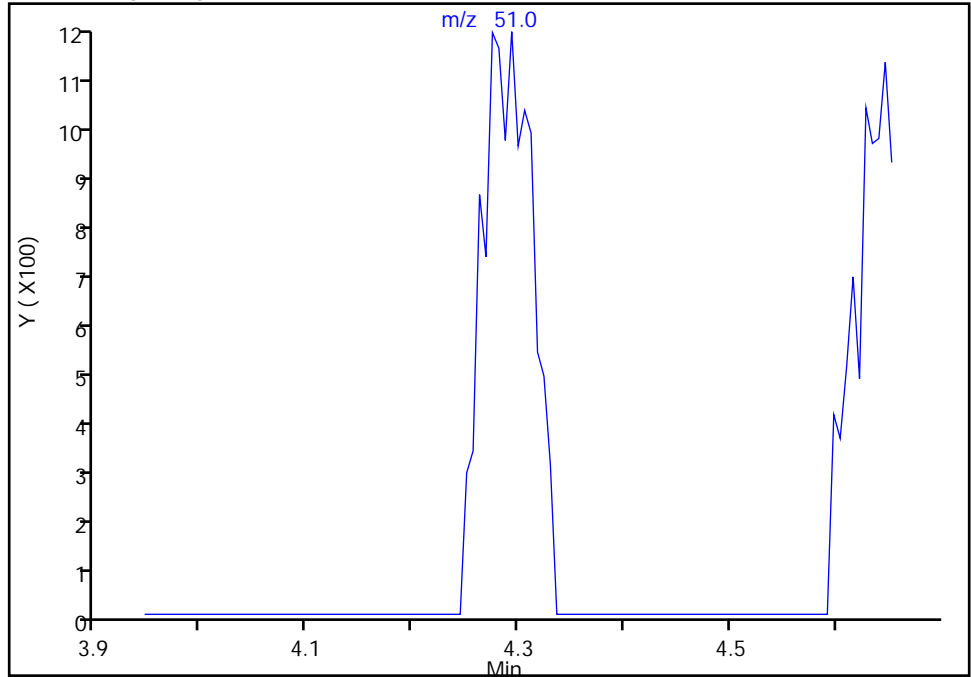
Data File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\1M16107.D
Injection Date: 16-Mar-2020 18:31:30 Instrument ID: 19930
Lims ID: IC std1
Client ID:
Operator ID: JKH09052 ALS Bottle#: 17 Worklist Smp#: 18
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

23 Methylene Chloride, CAS: 75-09-2

Signal: 3

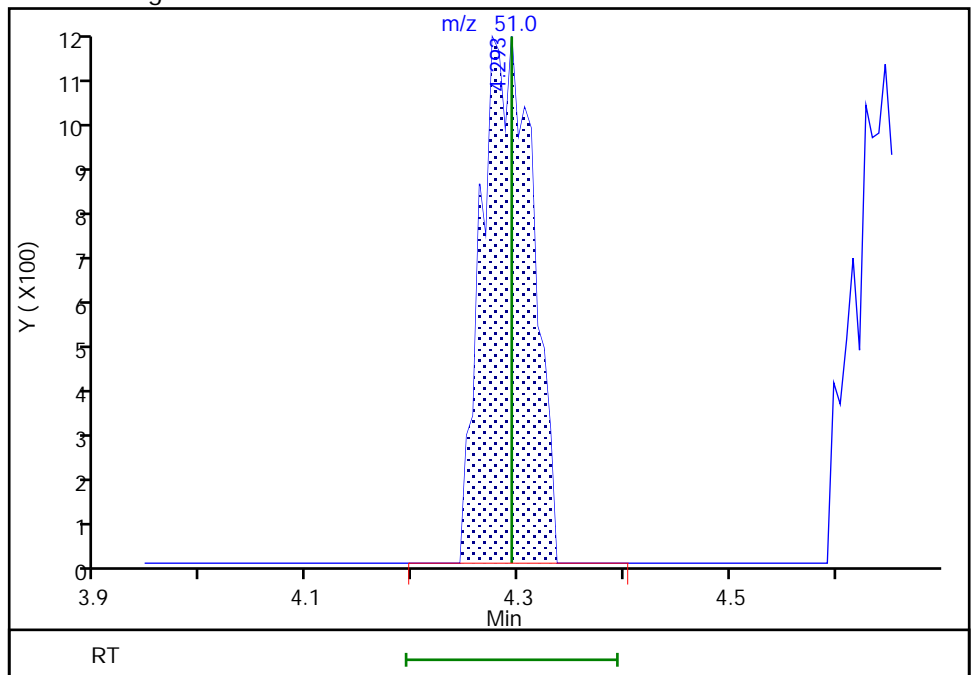
Not Detected
Expected RT: 4.29

Processing Integration Results



Manual Integration Results

RT: 4.29
Area: 3932
Amount: 0.194153
Amount Units: ug/l



Reviewer: campbellme, 18-Mar-2020 21:50:12

Audit Action: Manually Integrated

Audit Reason: Missed Peak

Eurofins Lancaster Laboratories Env, LLC

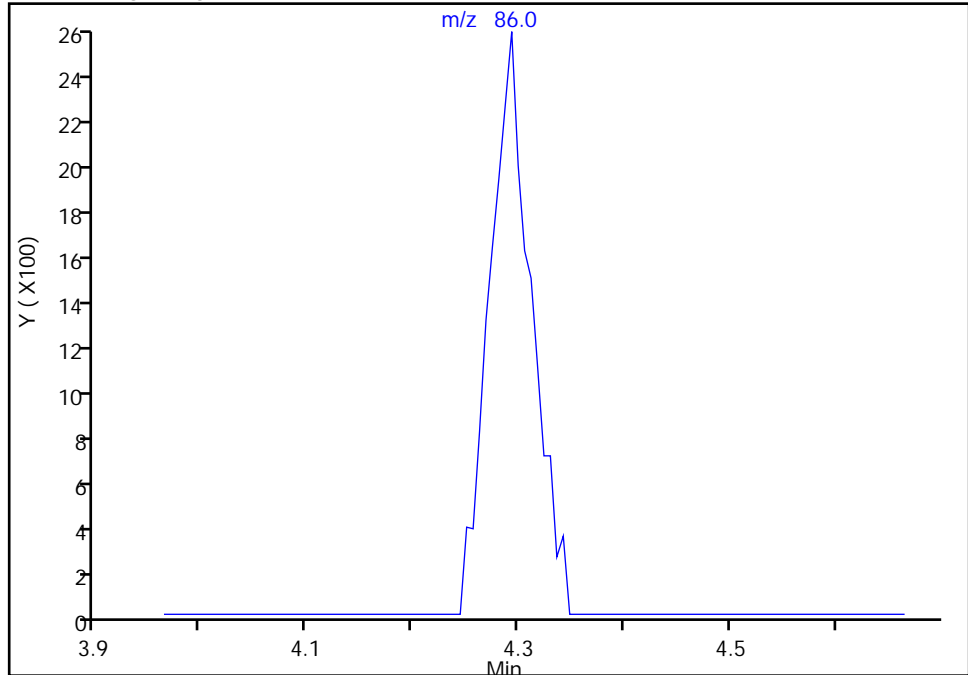
Data File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\1M16107.D
Injection Date: 16-Mar-2020 18:31:30 Instrument ID: 19930
Lims ID: IC std1
Client ID:
Operator ID: JKH09052 ALS Bottle#: 17 Worklist Smp#: 18
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

23 Methylene Chloride, CAS: 75-09-2

Signal: 4

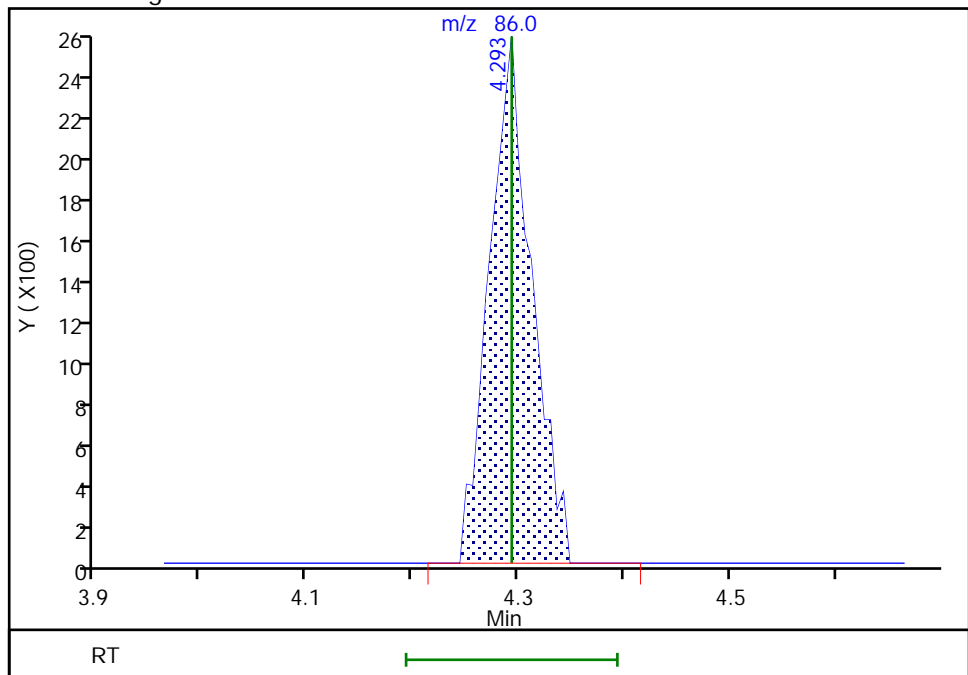
Not Detected
Expected RT: 4.29

Processing Integration Results



Manual Integration Results

RT: 4.29
Area: 7030
Amount: 0.194153
Amount Units: ug/l



Reviewer: campbellme, 18-Mar-2020 21:50:14

Audit Action: Manually Integrated

Audit Reason: Missed Peak

Eurofins Lancaster Laboratories Env, LLC

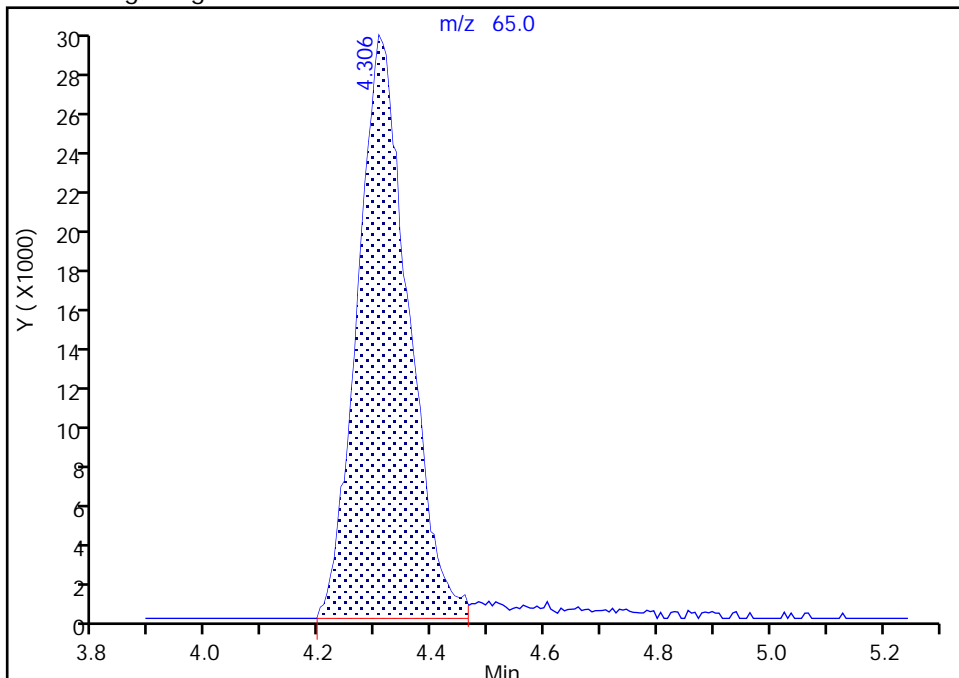
Data File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\1M16107.D
Injection Date: 16-Mar-2020 18:31:30 Instrument ID: 19930
Lims ID: IC std1
Client ID:
Operator ID: JKH09052 ALS Bottle#: 17 Worklist Smp#: 18
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

* 24 t-Butyl alcohol-d10 (IS), CAS: 53001-22-2

Signal: 1

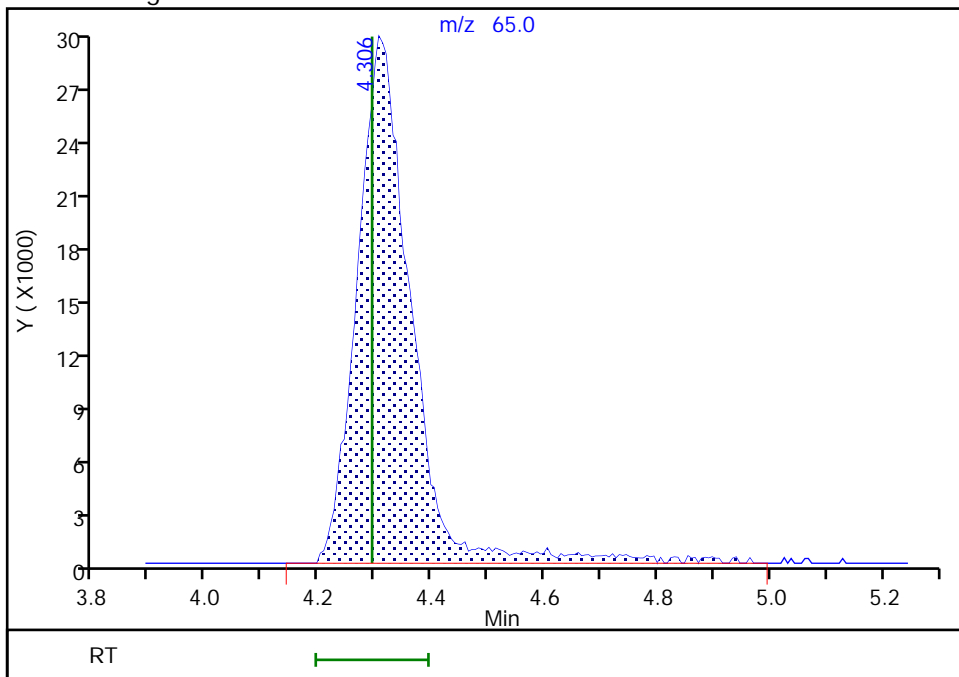
RT: 4.31
Area: 185833
Amount: 50.000000
Amount Units: ug/l

Processing Integration Results



RT: 4.31
Area: 197750
Amount: 50.000000
Amount Units: ug/l

Manual Integration Results



Reviewer: campbellme, 18-Mar-2020 21:50:21
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

Eurofins Lancaster Laboratories Env, LLC

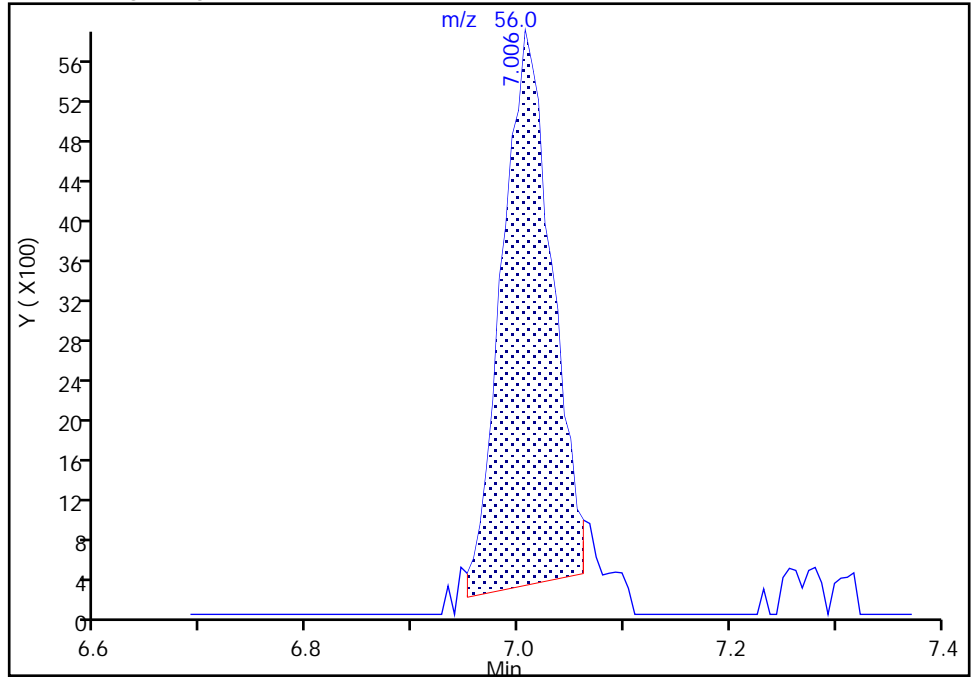
Data File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\IM16107.D
Injection Date: 16-Mar-2020 18:31:30 Instrument ID: 19930
Lims ID: IC std1
Client ID:
Operator ID: JKH09052 ALS Bottle#: 17 Worklist Smp#: 18
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

48 Cyclohexane, CAS: 110-82-7

Signal: 1

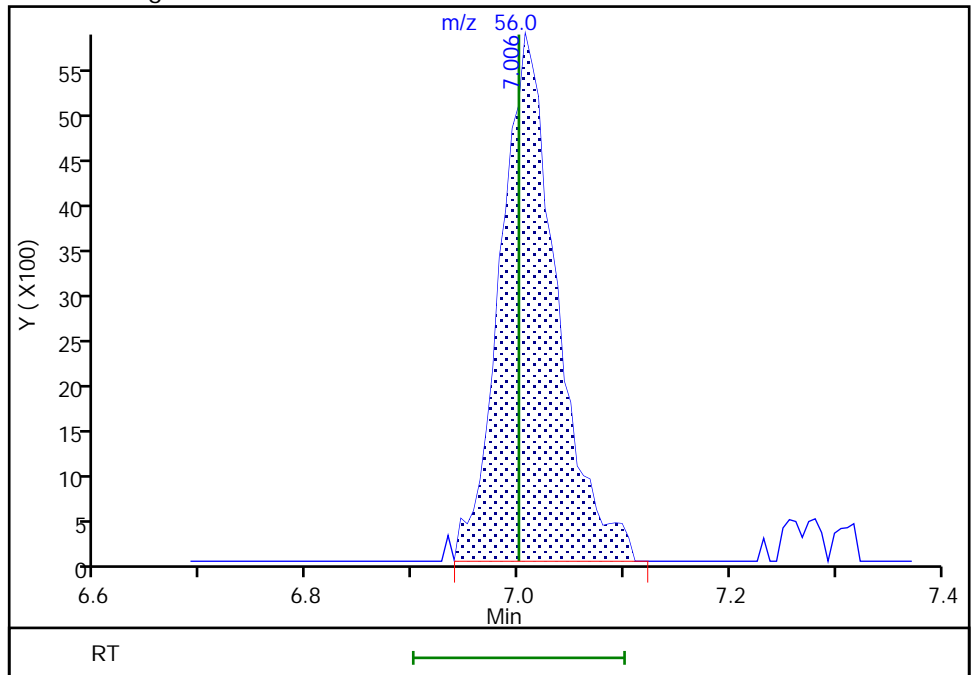
RT: 7.01
Area: 18150
Amount: 0.174831
Amount Units: ug/l

Processing Integration Results



RT: 7.01
Area: 21564
Amount: 0.202949
Amount Units: ug/l

Manual Integration Results



Reviewer: campbellme, 18-Mar-2020 21:50:39
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

Eurofins Lancaster Laboratories Env, LLC

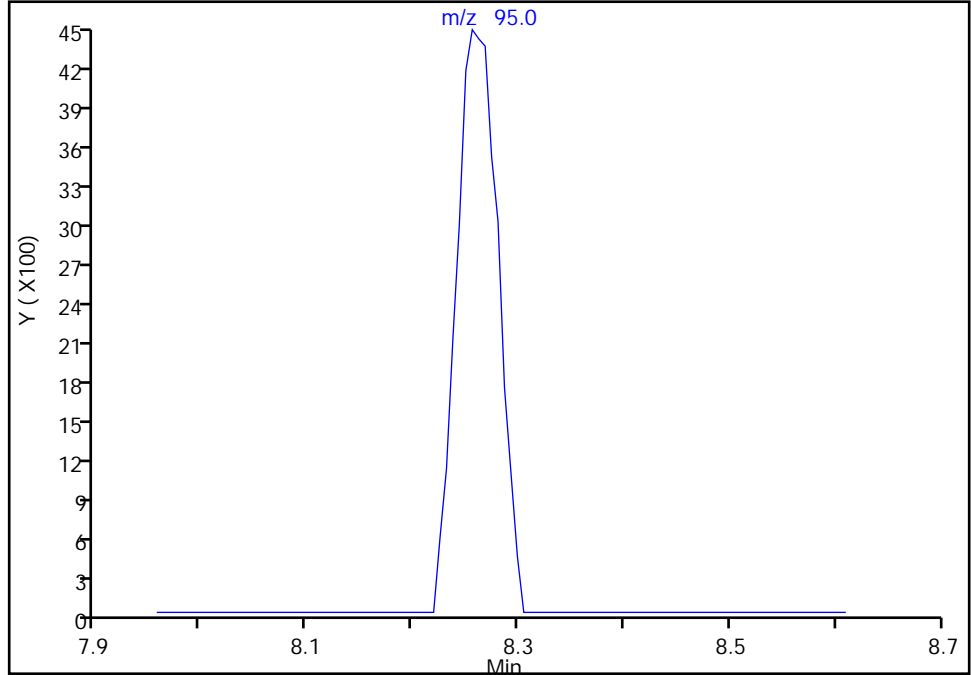
Data File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\IM16107.D
Injection Date: 16-Mar-2020 18:31:30 Instrument ID: 19930
Lims ID: IC std1
Client ID:
Operator ID: JKH09052 ALS Bottle#: 17 Worklist Smp#: 18
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

61 Trichloroethene, CAS: 79-01-6

Signal: 1

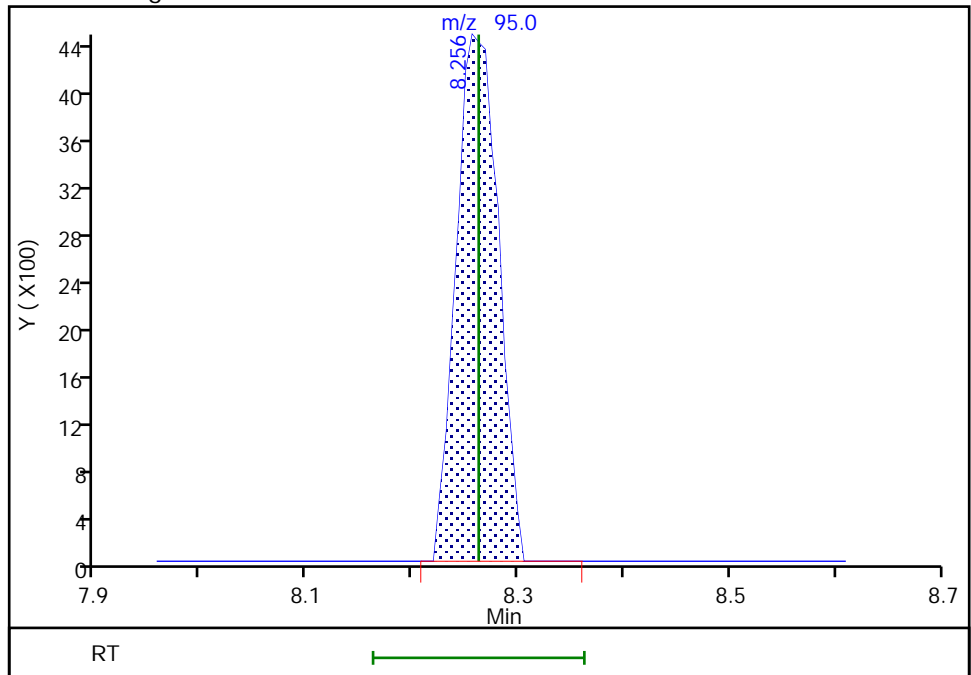
Not Detected
Expected RT: 8.26

Processing Integration Results



Manual Integration Results

RT: 8.26
Area: 12251
Amount: 0.189821
Amount Units: ug/l



Reviewer: campbellme, 18-Mar-2020 21:50:54
Audit Action: Manually Integrated

Audit Reason: Missed Peak

Eurofins Lancaster Laboratories Env, LLC

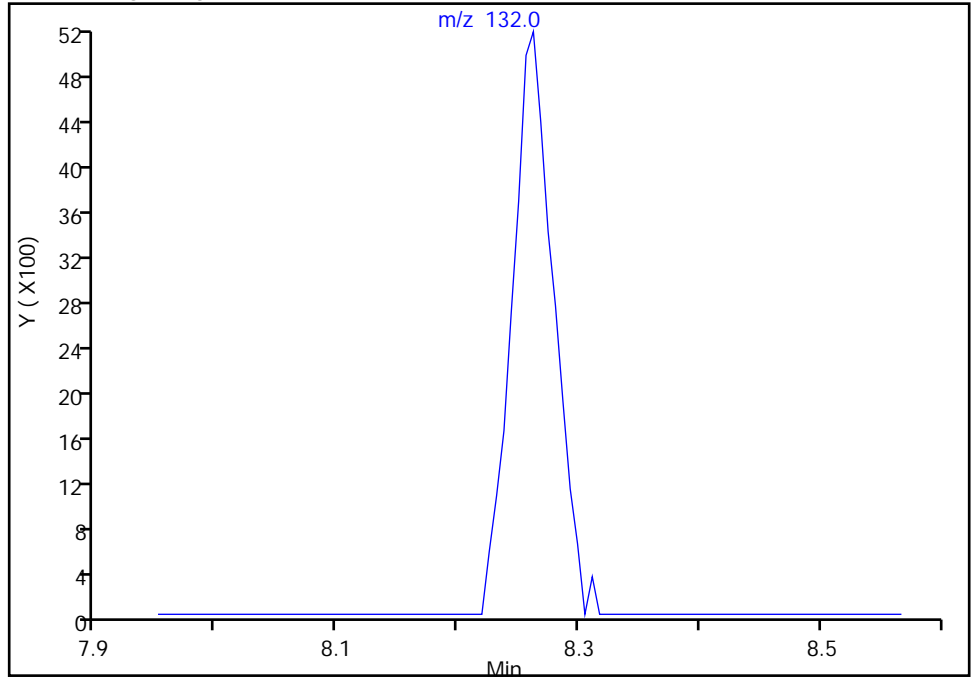
Data File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\IM16107.D
Injection Date: 16-Mar-2020 18:31:30 Instrument ID: 19930
Lims ID: IC std1
Client ID:
Operator ID: JKH09052 ALS Bottle#: 17 Worklist Smp#: 18
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

61 Trichloroethene, CAS: 79-01-6

Signal: 2

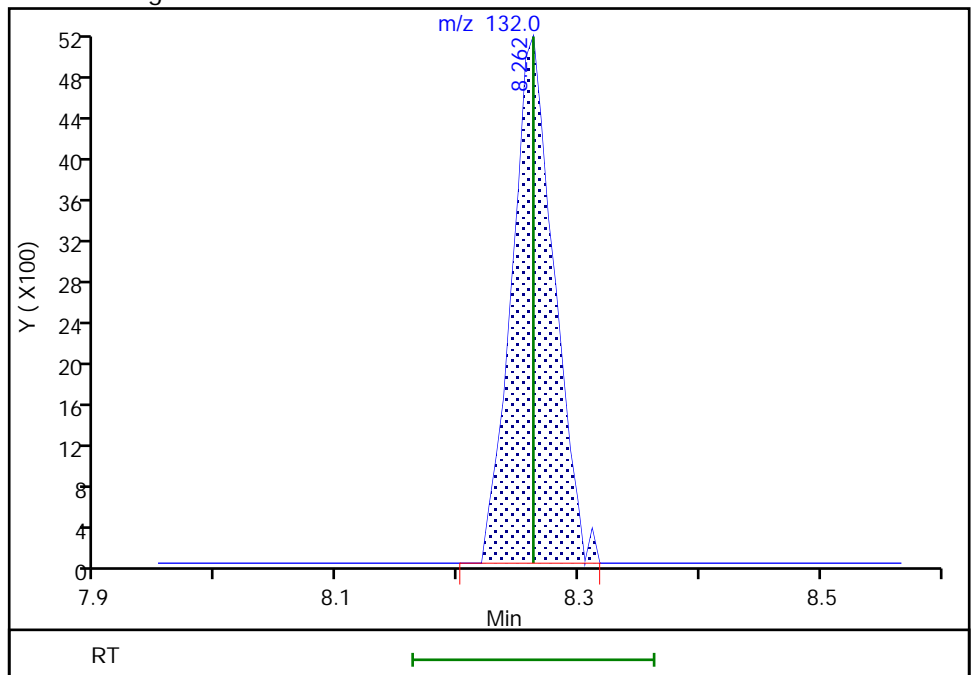
Not Detected
Expected RT: 8.26

Processing Integration Results



Manual Integration Results

RT: 8.26
Area: 12421
Amount: 0.189821
Amount Units: ug/l



Eurofins Lancaster Laboratories Env, LLC

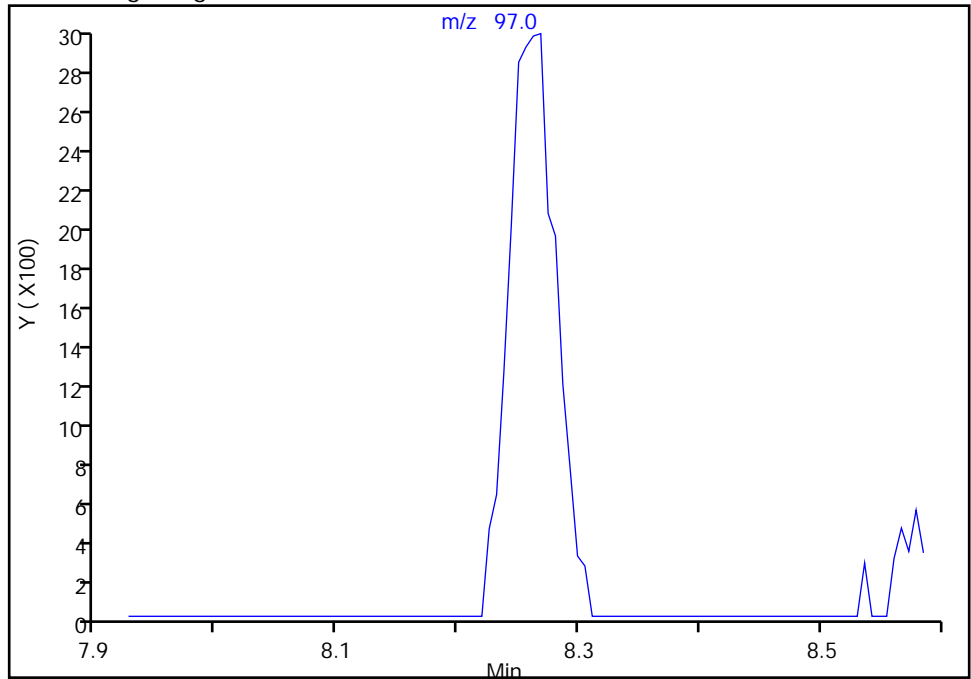
Data File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\IM16107.D
Injection Date: 16-Mar-2020 18:31:30 Instrument ID: 19930
Lims ID: IC std1
Client ID:
Operator ID: JKH09052 ALS Bottle#: 17 Worklist Smp#: 18
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

61 Trichloroethene, CAS: 79-01-6

Signal: 3

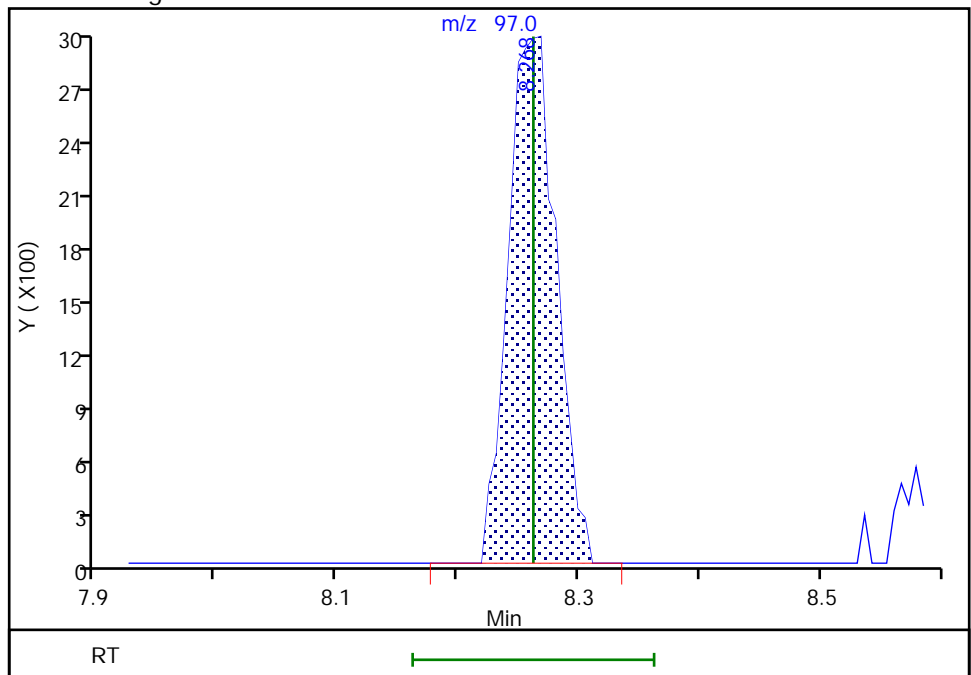
Not Detected
Expected RT: 8.26

Processing Integration Results



Manual Integration Results

RT: 8.27
Area: 8130
Amount: 0.189821
Amount Units: ug/l



Reviewer: campbellme, 18-Mar-2020 21:51:01

Audit Action: Manually Integrated

Audit Reason: Missed Peak

Eurofins Lancaster Laboratories Env, LLC

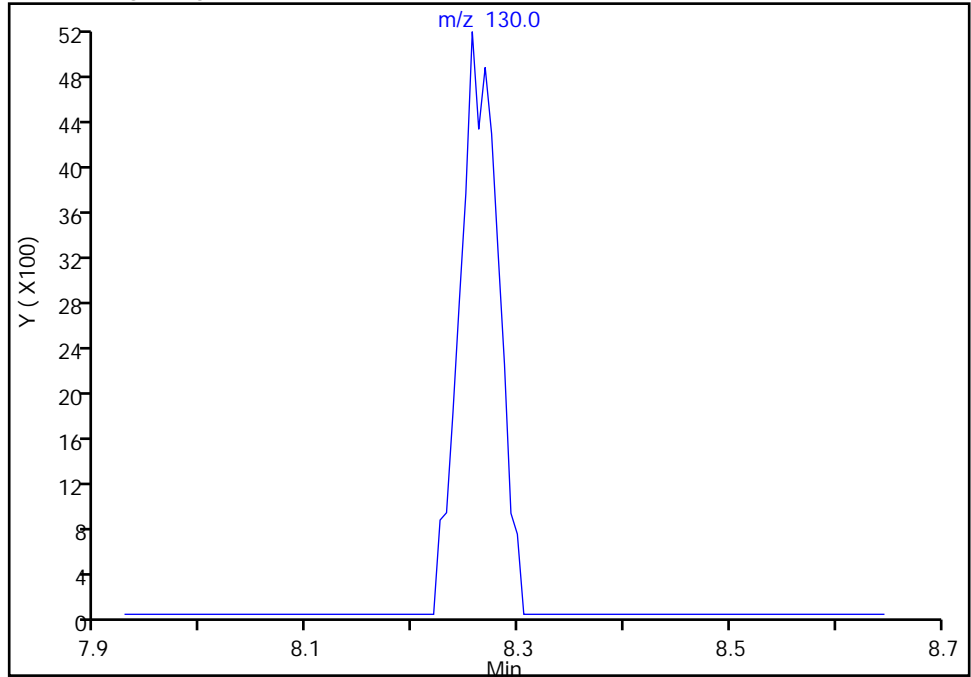
Data File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\1M16107.D
Injection Date: 16-Mar-2020 18:31:30 Instrument ID: 19930
Lims ID: IC std1
Client ID:
Operator ID: JKH09052 ALS Bottle#: 17 Worklist Smp#: 18
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

61 Trichloroethene, CAS: 79-01-6

Signal: 4

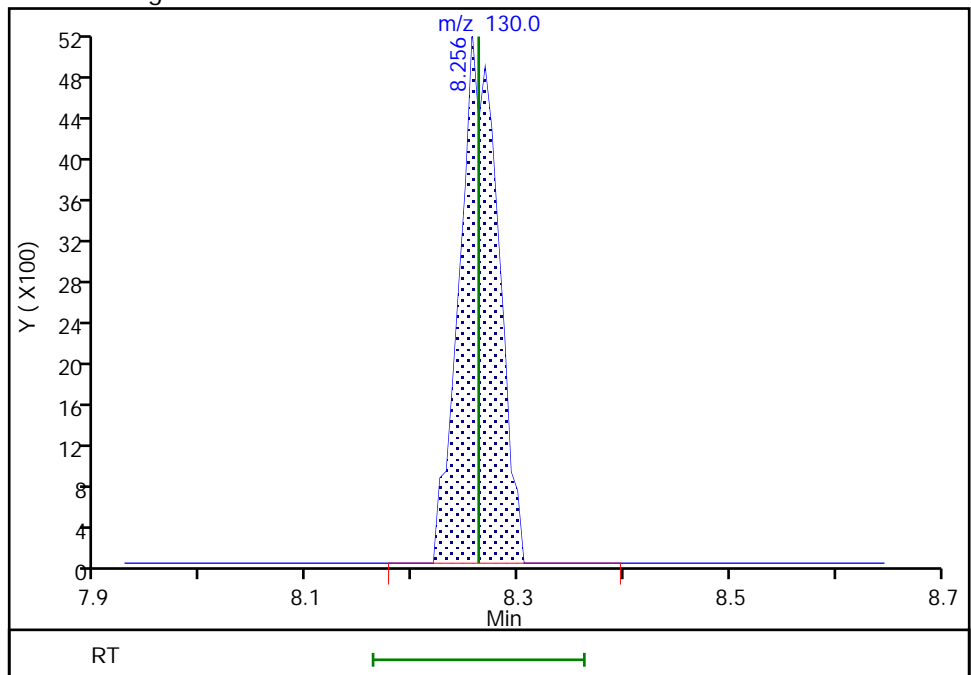
Not Detected
Expected RT: 8.26

Processing Integration Results



Manual Integration Results

RT: 8.26
Area: 12971
Amount: 0.189821
Amount Units: ug/l



Reviewer: campbellme, 18-Mar-2020 21:51:04

Audit Action: Manually Integrated

Audit Reason: Missed Peak

Eurofins Lancaster Laboratories Env, LLC

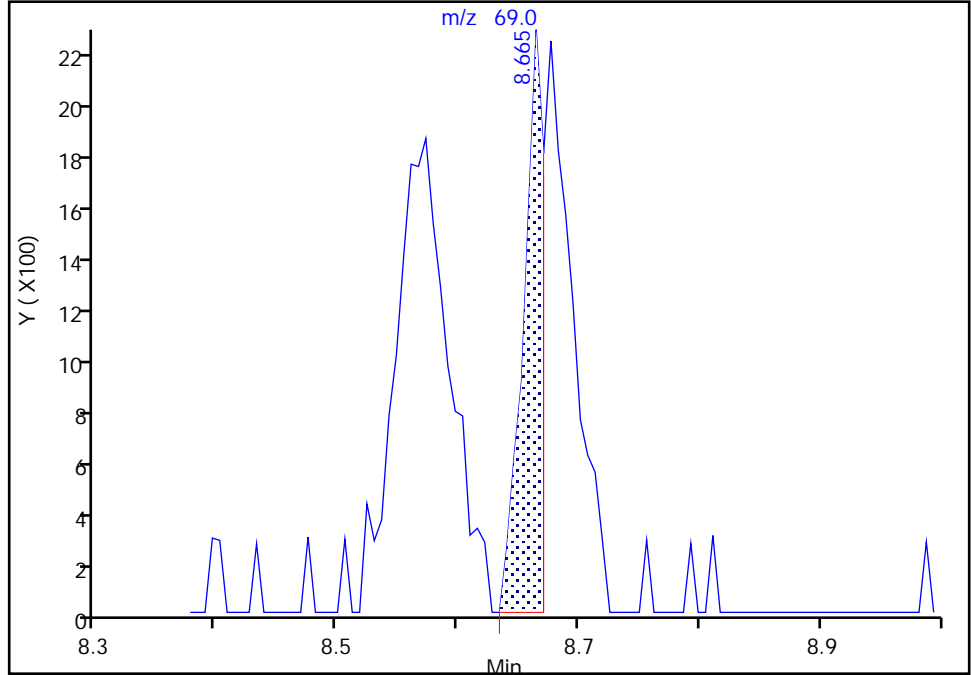
Data File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\IM16107.D
Injection Date: 16-Mar-2020 18:31:30 Instrument ID: 19930
Lims ID: IC std1
Client ID:
Operator ID: JKH09052 ALS Bottle#: 17 Worklist Smp#: 18
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

64 Methyl methacrylate, CAS: 80-62-6

Signal: 1

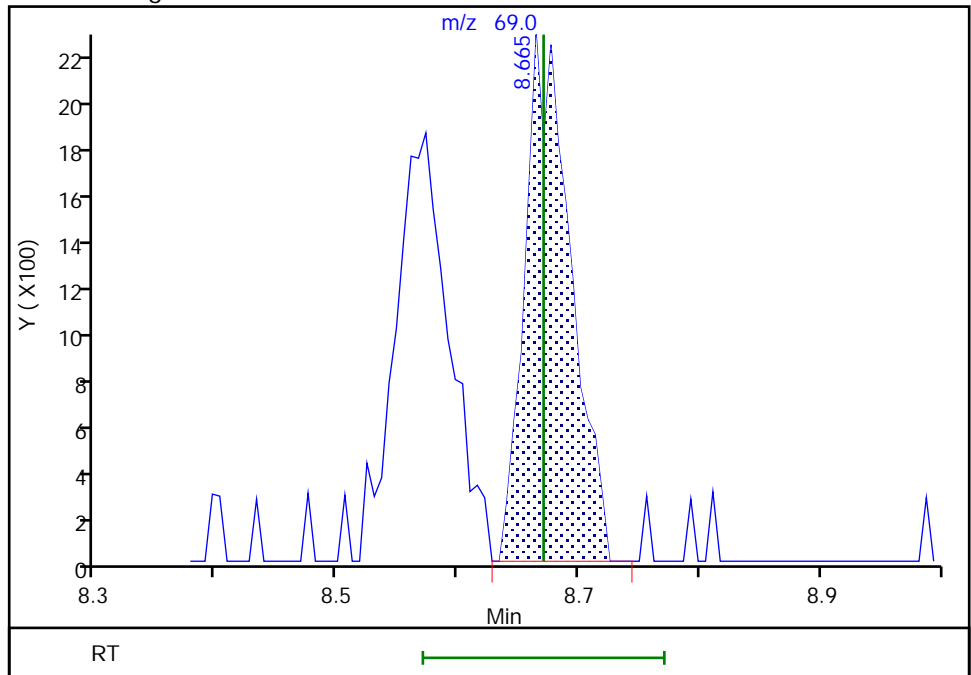
RT: 8.66
Area: 2711
Amount: 0.278318
Amount Units: ug/l

Processing Integration Results



RT: 8.66
Area: 5985
Amount: 0.179460
Amount Units: ug/l

Manual Integration Results



Reviewer: campbellme, 18-Mar-2020 21:51:12
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

Eurofins Lancaster Laboratories Env, LLC

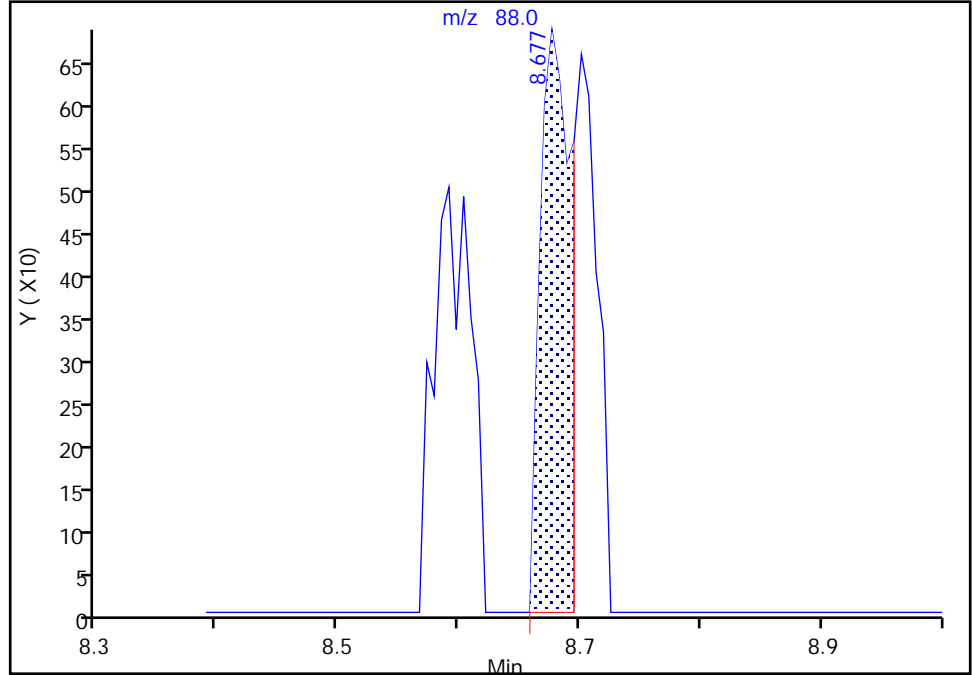
Data File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\IM16107.D
Injection Date: 16-Mar-2020 18:31:30 Instrument ID: 19930
Lims ID: IC std1
Client ID:
Operator ID: JKH09052 ALS Bottle#: 17 Worklist Smp#: 18
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

65 1,4-Dioxane, CAS: 123-91-1

Signal: 1

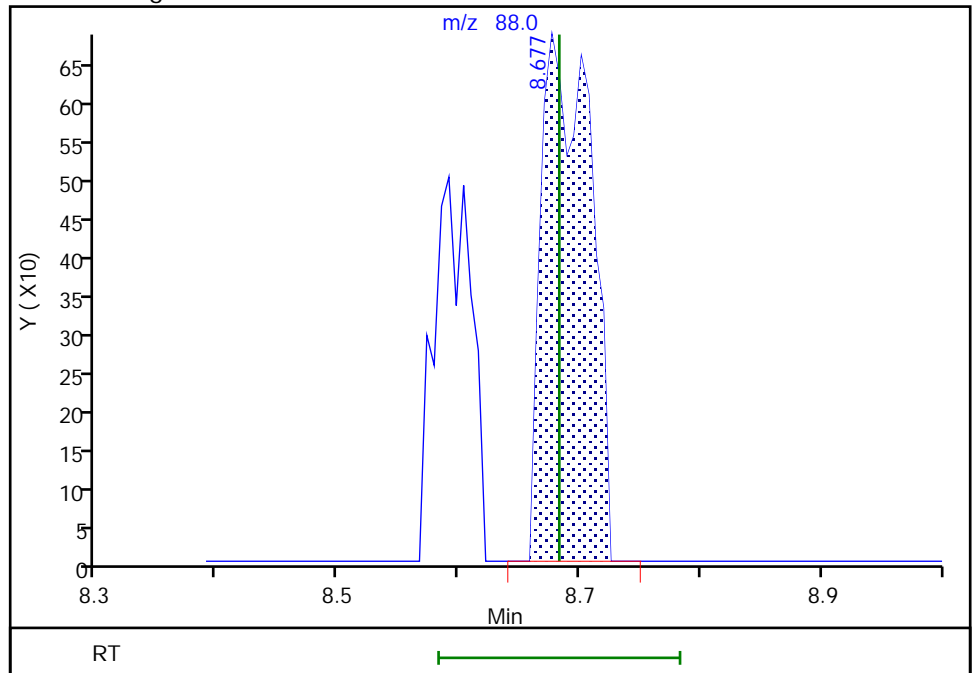
RT: 8.68
Area: 1218
Amount: -44.773165
Amount Units: ug/l

Processing Integration Results



RT: 8.68
Area: 1950
Amount: 6.974913
Amount Units: ug/l

Manual Integration Results



Reviewer: campbellme, 18-Mar-2020 21:51:19
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-2632-1

SDG No.: _____

Lab Sample ID: ICV 410-7691/21 Calibration Date: 03/18/2020 10:28

Instrument ID: 19930 Calib Start Date: 03/16/2020 16:24

GC Column: R-624SilMS 30m ID: 0.25 (mm) Calib End Date: 03/16/2020 18:31

Lab File ID: IM18S01.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	0.5436	0.4009	0.1000	3.69	5.00	-26.3	30.0
Chloromethane	Ave	0.4381	0.4341	0.1000	4.96	5.00	-0.9	30.0
1,3-Butadiene	Ave	0.3145	0.3049		4.85	5.00	-3.1	30.0
Vinyl chloride	Ave	0.4245	0.4275	0.1000	5.04	5.00	0.7	30.0
Bromomethane	Ave	0.2976	0.2949	0.1000	4.95	5.00	-0.9	30.0
Chloroethane	Ave	0.2402	0.2390	0.1000	4.97	5.00	-0.5	30.0
Dichlorofluoromethane	Ave	0.5588	0.5347		4.78	5.00	-4.3	30.0
Trichlorofluoromethane	Ave	0.5061	0.5347	0.1000	5.28	5.00	5.7	30.0
Ethyl ether	Ave	0.2175	0.2029		4.68	5.02	-6.7	30.0
Freon 123a	Ave	0.3424	0.3352		4.89	5.00	-2.1	30.0
Acrolein	Ave	1.980	1.893		35.9	37.5	-4.4	30.0
1,1-Dichloroethene	Ave	0.2676	0.2628	0.1000	4.91	5.00	-1.8	30.0
Acetone	Ave	2.481	2.369	0.1000	35.8	37.5	-4.5	30.0
Freon 113	Ave	0.2904	0.2870	0.1000	4.94	5.00	-1.2	30.0
Methyl iodide	Ave	0.5108	0.4854		4.75	5.00	-5.0	30.0
Ethyl bromide	Ave	0.2273	0.2286		5.10	5.07	0.5	30.0
Carbon disulfide	Ave	0.7646	0.7243	0.1000	4.74	5.00	-5.3	30.0
Methyl acetate	Ave	0.1202	0.1023	0.1000	4.26	5.00	-14.9	30.0
Allyl chloride	Ave	0.4040	0.3985		4.93	5.00	-1.4	30.0
Methylene Chloride	Ave	0.2778	0.2747	0.1000	4.94	5.00	-1.1	30.0
t-Butyl alcohol	Ave	1.204	1.131		46.9	50.0	-6.1	30.0
Acrylonitrile	Ave	3.263	3.316		25.4	25.0	1.6	30.0
Methyl tert-butyl ether	Ave	0.6869	0.6731	0.1000	4.90	5.00	-2.0	30.0
trans-1,2-Dichloroethene	Ave	0.2875	0.2825	0.1000	4.91	5.00	-1.8	30.0
n-Hexane	Ave	0.4330	0.4198		4.85	5.00	-3.1	30.0
1,1-Dichloroethane	Ave	0.5113	0.5128	0.2000	5.01	5.00	0.3	30.0
di-Isopropyl ether	Ave	0.8553	0.8532		4.99	5.00	-0.2	30.0
2-Chloro-1,3-butadiene	Ave	0.4517	0.4505		4.99	5.00	-0.3	30.0
Ethyl t-butyl ether	Ave	0.8417	0.8210		4.88	5.00	-2.5	30.0
2-Butanone (MEK)	Ave	4.369	4.399	0.1000	37.8	37.5	0.7	30.0
cis-1,2-Dichloroethene	Ave	0.3228	0.3383	0.1000	5.24	5.00	4.8	30.0
2,2-Dichloropropane	Ave	0.4626	0.4754		5.14	5.00	2.8	30.0
Propionitrile	Ave	1.216	1.232		38.0	37.5	1.3	30.0
Methacrylonitrile	Ave	4.161	4.373		39.4	37.5	5.1	30.0
Bromochloromethane	Ave	0.1428	0.1381		4.84	5.00	-3.3	30.0
Tetrahydrofuran	Ave	1.340	1.316		24.6	25.0	-1.8	30.0
Chloroform	Ave	0.5116	0.5207	0.2000	5.09	5.00	1.8	30.0
1,1,1-Trichloroethane	Ave	0.4961	0.4865	0.1000	4.90	5.00	-1.9	30.0
Cyclohexane	Ave	0.5230	0.4790	0.1000	4.58	5.00	-8.4	30.0
1,1-Dichloropropene	Ave	0.4099	0.4107		5.01	5.00	0.2	30.0
Carbon tetrachloride	Ave	0.4398	0.4506	0.1000	5.12	5.00	2.5	30.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-2632-1

SDG No.: _____

Lab Sample ID: ICV 410-7691/21 Calibration Date: 03/18/2020 10:28

Instrument ID: 19930 Calib Start Date: 03/16/2020 16:24

GC Column: R-624SilMS 30m ID: 0.25 (mm) Calib End Date: 03/16/2020 18:31

Lab File ID: IM18S01.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
Isobutyl alcohol	Ave	0.3481	0.3220		116	125	-7.5	30.0
Benzene	Ave	1.193	1.180	0.5000	4.94	5.00	-1.1	30.0
1,2-Dichloroethane	Ave	0.3210	0.3101	0.1000	4.83	5.00	-3.4	30.0
t-Amyl methyl ether	Ave	0.7820	0.7616		4.87	5.00	-2.6	30.0
n-Heptane	Ave	0.4125	0.3917		4.75	5.00	-5.1	30.0
n-Butanol	Ave	0.3076	0.2628		214	250	-14.6	30.0
Trichloroethene	Ave	0.3177	0.3187	0.2000	5.02	5.00	0.3	30.0
Methylcyclohexane	Ave	0.5660	0.5322	0.1000	4.70	5.00	-6.0	30.0
1,2-Dichloropropane	Ave	0.2901	0.2910	0.1000	5.02	5.00	0.3	30.0
Methyl methacrylate	Ave	8.432	9.199		5.45	5.00	9.1	30.0
1,4-Dioxane	Ave	0.0707	0.0552	0.0050	97.5	125	-22.0	30.0
Dibromomethane	Ave	0.1438	0.1431		4.98	5.00	-0.5	30.0
Bromodichloromethane	Ave	0.3777	0.3789	0.2000	5.02	5.00	0.3	30.0
2-Nitropropane	Ave	2.620	2.779		5.30	5.00	6.1	30.0
cis-1,3-Dichloropropene	Ave	0.4468	0.4534	0.2000	5.07	5.00	1.5	30.0
4-Methyl-2-pentanone (MIBK)	Ave	10.81	11.26	0.1000	26.0	25.0	4.1	30.0
Toluene	Ave	1.016	1.016	0.4000	5.00	5.00	-0.0	30.0
trans-1,3-Dichloropropene	Ave	0.5143	0.5006	0.1000	4.87	5.00	-2.7	30.0
Ethyl methacrylate	Ave	0.4384	0.3902		4.45	5.00	-11.0	30.0
1,1,2-Trichloroethane	Ave	0.2845	0.2820	0.1000	4.96	5.00	-0.9	30.0
Tetrachloroethene	Ave	0.4853	0.4956	0.2000	5.11	5.00	2.1	30.0
1,3-Dichloropropane	Ave	0.4782	0.4694		4.91	5.00	-1.8	30.0
2-Hexanone	Ave	7.474	7.850	0.1000	26.3	25.0	5.0	30.0
Dibromochloromethane	Ave	0.3627	0.3734		5.15	5.00	3.0	30.0
1,2-Dibromoethane (EDB)	Ave	0.2687	0.2675	0.1000	4.98	5.00	-0.4	30.0
1-Chlorohexane	Ave	0.6248	0.5983		4.79	5.00	-4.2	30.0
Chlorobenzene	Ave	1.125	1.134	0.5000	5.04	5.00	0.7	30.0
1,1,1,2-Tetrachloroethane	Ave	0.4190	0.4228		5.05	5.00	0.9	30.0
Ethylbenzene	Ave	1.994	1.994	0.1000	5.00	5.00	0.0	30.0
m&p-Xylene	Ave	0.7812	0.7907	0.1000	10.1	10.0	1.2	30.0
o-Xylene	Ave	0.7743	0.7721	0.3000	4.99	5.00	-0.3	30.0
Styrene	Ave	1.236	1.251	0.3000	5.06	5.00	1.3	30.0
Bromoform	Ave	0.2232	0.2257	0.1000	5.06	5.00	1.1	30.0
Isopropylbenzene	Ave	2.050	2.104	0.1000	5.13	5.00	2.6	30.0
1,1,2,2-Tetrachloroethane	Ave	0.6462	0.6382	0.3000	4.94	5.00	-1.2	30.0
Bromobenzene	Ave	0.8683	0.8816		5.08	5.00	1.5	30.0
trans-1,4-Dichloro-2-butene	Ave	3.806	4.121		27.1	25.0	8.3	30.0
1,2,3-Trichloropropane	Ave	0.1800	0.1783		4.95	5.00	-1.0	30.0
N-Propylbenzene	Ave	4.288	4.486		5.23	5.00	4.6	30.0
2-Chlorotoluene	Ave	0.8662	0.8927		5.15	5.00	3.1	30.0
1,3,5-Trimethylbenzene	Ave	3.122	3.245		5.20	5.00	3.9	30.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-2632-1
 SDG No.: _____
 Lab Sample ID: ICV 410-7691/21 Calibration Date: 03/18/2020 10:28
 Instrument ID: 19930 Calib Start Date: 03/16/2020 16:24
 GC Column: R-624SilMS 30m ID: 0.25 (mm) Calib End Date: 03/16/2020 18:31
 Lab File ID: IM18S01.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
4-Chlorotoluene	Ave	0.8818	0.8934		5.07	5.00	1.3	30.0
tert-Butylbenzene	Ave	0.7000	0.7227		5.16	5.00	3.2	30.0
Pentachloroethane	Ave	0.5905	0.5999		5.08	5.00	1.6	30.0
1,2,4-Trimethylbenzene	Ave	3.211	3.231		5.03	5.00	0.6	30.0
sec-Butylbenzene	Ave	4.011	4.202		5.24	5.00	4.8	30.0
1,3-Dichlorobenzene	Ave	1.699	1.727	0.6000	5.08	5.00	1.6	30.0
p-Isopropyltoluene	Ave	3.460	3.633		5.25	5.00	5.0	30.0
1,4-Dichlorobenzene	Ave	1.682	1.727	0.5000	5.14	5.00	2.7	30.0
1,2,3-Trimethylbenzene	Ave	1.382	1.411		5.10	5.00	2.1	30.0
Benzyl chloride	Ave	0.2962	0.2643		4.46	5.00	-10.8	30.0
n-Butylbenzene	Ave	1.612	1.689		5.24	5.00	4.8	30.0
1,2-Dichlorobenzene	Ave	1.551	1.588	0.4000	5.12	5.00	2.3	30.0
1,2-Dibromo-3-Chloropropane	Ave	0.1067	0.1047	0.0500	4.91	5.00	-1.9	30.0
1,3,5-Trichlorobenzene	Ave	1.230	1.284		5.22	5.00	4.5	30.0
1,2,4-Trichlorobenzene	Ave	1.036	1.076	0.2000	5.20	5.00	3.9	30.0
Hexachlorobutadiene	Ave	0.4369	0.4717		5.40	5.00	8.0	30.0
Naphthalene	Ave	2.041	1.947		4.77	5.00	-4.6	30.0
1,2,3-Trichlorobenzene	Ave	0.8626	0.8811		5.11	5.00	2.1	30.0
Dibromofluoromethane (Surr)	Ave	0.2414	0.2422		10.0	10.0	0.3	30.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.0489	0.0486		9.93	10.0	-0.7	30.0
Toluene-d8 (Surr)	Ave	1.272	1.271		10.0	10.0	-0.0	30.0
4-Bromofluorobenzene (Surr)	Ave	0.4745	0.4717		9.94	10.0	-0.6	30.0

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\19930\20200424-2093.b\IM18S01.D
 Lims ID: ICV
 Client ID:
 Sample Type: ICV
 Inject. Date: 18-Mar-2020 10:28:30 ALS Bottle#: 4 Worklist Smp#: 21
 Purge Vol: 25.000 mL Dil. Factor: 1.0000
 Sample Info: LCS189;LCS189;1;3;LCS;;;im18b01;
 Misc. Info.: 8260W25.SUB;I200781AA;;25;25;;
 Operator ID: DVV10203 Instrument ID: 19930
 Sublist:

Method: \\chromfs\Lancaster\ChromData\19930\20200424-2093.b\8260 25ml HP31.m
 Limit Group: MSV - 8260C_D
 Last Update: 19-May-2020 23:44:47 Calib Date: 16-Mar-2020 18:31:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\IM16I07.D

Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
 Process Host: CTX1037

First Level Reviewer: campbellme Date: 24-Apr-2020 16:40:14

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Dichlorodifluoromethane	85	1.983	1.983	0.000	99	404104	5.00	3.69	M
4 Chloromethane	50	2.184	2.184	0.000	99	437653	5.00	4.96	
5 Vinyl chloride	62	2.306	2.300	0.006	98	430930	5.00	5.04	
6 Butadiene	39	2.300	2.300	0.000	90	307326	5.00	4.85	
7 Bromomethane	94	2.629	2.629	0.000	90	297264	5.00	4.95	M
8 Chloroethane	64	2.727	2.721	0.006	100	240900	5.00	4.97	
9 Dichlorofluoromethane	67	2.965	2.964	0.001	97	539028	5.00	4.78	
10 Trichlorofluoromethane	101	3.026	3.025	0.001	97	539068	5.00	5.28	
11 Ethyl ether	59	3.288	3.288	0.000	91	205286	5.02	4.68	
12 1,2-Dichloro-1,1,2-trifluoroetha	67	3.367	3.373	-0.006	91	337893	5.00	4.89	
13 Acrolein	56	3.464	3.464	0.000	99	242041	37.5	35.9	
14 1,1-Dichloroethene	96	3.605	3.605	0.000	98	264961	5.00	4.91	
15 Acetone	43	3.635	3.635	0.000	100	302822	37.5	35.8	
16 1,1,2-Trichloro-1,2,2-trifluoroe	101	3.641	3.641	0.000	93	289351	5.00	4.94	
17 Iodomethane	142	3.806	3.806	0.000	99	489334	5.00	4.75	
18 Ethyl bromide	108	3.836	3.830	0.006	98	233560	5.07	5.10	
19 Carbon disulfide	76	3.916	3.909	0.007	99	730180	5.00	4.74	
21 Methyl acetate	43	4.068	4.068	0.000	97	103085	5.00	4.26	
22 3-Chloro-1-propene	41	4.092	4.092	0.000	91	401729	5.00	4.93	
23 Methylene Chloride	84	4.287	4.293	-0.006	92	276886	5.00	4.94	
* 24 t-Butyl alcohol-d10 (IS)	65	4.300	4.293	0.007	0	170420	50.0	50.0	M
25 2-Methyl-2-propanol	59	4.415	4.428	-0.013	100	192735	50.0	46.9	
26 Acrylonitrile	53	4.635	4.629	0.006	100	282549	25.0	25.4	
27 Methyl tert-butyl ether	73	4.696	4.702	-0.006	94	678500	5.00	4.90	
28 trans-1,2-Dichloroethene	96	4.708	4.702	0.006	99	284777	5.00	4.91	
29 Hexane	57	5.129	5.129	0.000	92	423157	5.00	4.85	
31 1,1-Dichloroethane	63	5.373	5.366	0.007	96	516975	5.00	5.01	
32 Isopropyl ether	45	5.427	5.421	0.006	94	860113	5.00	4.99	
33 2-Chloro-1,3-butadiene	53	5.476	5.476	0.000	91	454110	5.00	4.99	
34 Tert-butyl ethyl ether	59	5.958	5.958	0.000	97	827664	5.00	4.88	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
36 2-Butanone (MEK)	43	6.165	6.171	-0.006	99	562303	37.5	37.8	
37 cis-1,2-Dichloroethene	96	6.202	6.196	0.006	82	341025	5.00	5.24	
38 2,2-Dichloropropane	77	6.220	6.208	0.012	86	479210	5.00	5.14	
40 Propionitrile	54	6.263	6.263	0.000	98	157419	37.5	38.0	
42 Methacrylonitrile	67	6.476	6.470	0.006	91	558882	37.5	39.4	
43 Chlorobromomethane	128	6.531	6.531	0.000	92	139230	5.00	4.84	
44 Tetrahydrofuran	71	6.537	6.543	-0.006	81	112127	25.0	24.6	
45 Chloroform	83	6.677	6.683	-0.006	93	524929	5.00	5.09	
\$ 46 Dibromofluoromethane (Surr)	113	6.897	6.897	0.000	94	488293	10.0	10.0	
47 1,1,1-Trichloroethane	97	6.909	6.903	0.006	98	490387	5.00	4.90	
48 Cyclohexane	56	7.006	7.000	0.006	89	482823	5.00	4.58	
50 Carbon tetrachloride	117	7.122	7.116	0.006	95	454285	5.00	5.12	
51 1,1-Dichloropropene	75	7.122	7.116	0.006	96	414063	5.00	5.01	
52 Isobutyl alcohol	41	7.262	7.269	-0.007	94	137191	125.0	115.6	
\$ 53 1,2-Dichloroethane-d4 (Surr)	102	7.348	7.354	-0.006	0	97917	10.0	9.93	
54 Benzene	78	7.384	7.378	0.006	97	1189445	5.00	4.94	
56 1,2-Dichloroethane	62	7.451	7.451	0.000	98	312565	5.00	4.83	
57 Tert-amyl methyl ether	73	7.567	7.561	0.006	98	767781	5.00	4.87	
* 58 Fluorobenzene (IS)	96	7.787	7.781	0.006	99	2016169	10.0	10.0	
59 n-Heptane	43	7.793	7.793	0.000	90	394847	5.00	4.75	
60 n-Butanol	56	8.140	8.140	0.000	88	223911	250.0	213.6	
61 Trichloroethene	95	8.262	8.262	0.000	97	321228	5.00	5.02	
62 Methylcyclohexane	83	8.567	8.567	0.000	93	536524	5.00	4.70	
63 1,2-Dichloropropane	63	8.591	8.591	0.000	72	293345	5.00	5.02	
64 Methyl methacrylate	69	8.671	8.671	0.000	88	156771	5.00	5.45	
65 1,4-Dioxane	88	8.677	8.683	-0.006	32	23496	125.0	97.5	M
66 Dibromomethane	93	8.701	8.707	-0.006	95	144299	5.00	4.98	
68 Dichlorobromomethane	83	8.933	8.933	0.000	99	381979	5.00	5.02	
69 2-Nitropropane	41	9.207	9.201	0.006	98	47365	5.00	5.30	
71 2-Chloroethyl vinyl ether	63		9.293				ND	ND	
72 1-Bromo-2-chloroethane	63	9.329	9.323	0.006	99	312437	5.00	5.15	
73 cis-1,3-Dichloropropene	75	9.475	9.475	0.000	96	457064	5.00	5.07	
74 4-Methyl-2-pentanone (MIBK)	43	9.646	9.640	0.006	96	959083	25.0	26.0	
\$ 75 Toluene-d8 (Surr)	98	9.780	9.780	0.000	93	1924449	10.0	10.0	
76 Toluene	92	9.853	9.853	0.000	98	768894	5.00	5.00	
78 trans-1,3-Dichloropropene	75	10.109	10.109	0.000	92	378998	5.00	4.87	
79 Ethyl methacrylate	69	10.164	10.164	0.000	88	295371	5.00	4.45	
80 1,1,2-Trichloroethane	97	10.311	10.311	0.000	91	213493	5.00	4.96	
81 Tetrachloroethene	166	10.396	10.396	0.000	98	375185	5.00	5.11	
82 1,3-Dichloropropane	76	10.475	10.475	0.000	88	355320	5.00	4.91	
83 2-Hexanone	43	10.518	10.518	0.000	96	668874	25.0	26.3	
85 Chlorodibromomethane	129	10.689	10.682	0.007	90	282705	5.00	5.15	
86 Ethylene Dibromide	107	10.798	10.798	0.000	99	202474	5.00	4.98	
* 87 Chlorobenzene-d5 (IS)	117	11.219	11.219	0.000	85	1514085	10.0	10.0	
88 1-Chlorohexane	91	11.225	11.231	-0.006	96	452970	5.00	4.79	
S 89 Xylenes, Total	106				0		15.0	15.1	
90 Chlorobenzene	112	11.250	11.249	0.001	95	858293	5.00	5.04	
91 1,1,1,2-Tetrachloroethane	131	11.329	11.329	0.000	96	320098	5.00	5.05	
92 Ethylbenzene	91	11.335	11.335	0.000	98	1509851	5.00	5.00	
93 m-Xylene & p-Xylene	106	11.445	11.445	0.000	0	1197117	10.0	10.1	
94 o-Xylene	106	11.774	11.774	0.000	96	584485	5.00	4.99	
95 Styrene	104	11.792	11.792	0.000	95	947320	5.00	5.06	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
96 Bromoform	173	11.951	11.944	0.007	98	170830	5.00	5.06	
97 Isopropylbenzene	105	12.073	12.072	0.001	96	1592927	5.00	5.13	
\$ 100 4-Bromofluorobenzene (Surr)	95	12.213	12.219	-0.006	91	714156	10.0	9.94	
101 1,1,2,2-Tetrachloroethane	83	12.316	12.316	0.000	93	261202	5.00	4.94	
102 Bromobenzene	156	12.335	12.335	0.000	97	360806	5.00	5.08	
103 trans-1,4-Dichloro-2-butene	53	12.341	12.341	0.000	90	351123	25.0	27.1	
104 1,2,3-Trichloropropane	110	12.365	12.365	0.000	84	72960	5.00	4.95	
105 N-Propylbenzene	91	12.402	12.402	0.000	99	1835795	5.00	5.23	
106 2-Chlorotoluene	126	12.475	12.475	0.000	97	365335	5.00	5.15	
107 1,3,5-Trimethylbenzene	105	12.536	12.536	0.000	94	1328220	5.00	5.20	
108 4-Chlorotoluene	126	12.566	12.566	0.000	97	365638	5.00	5.07	
109 tert-Butylbenzene	134	12.774	12.780	-0.006	93	295748	5.00	5.16	
110 Pentachloroethane	167	12.810	12.810	0.000	94	245519	5.00	5.08	
111 1,2,4-Trimethylbenzene	105	12.816	12.816	0.000	97	1322411	5.00	5.03	
112 sec-Butylbenzene	105	12.938	12.938	0.000	94	1719613	5.00	5.24	
113 1,3-Dichlorobenzene	146	13.042	13.042	0.000	98	706697	5.00	5.08	
114 4-Isopropyltoluene	119	13.048	13.048	0.000	97	1486702	5.00	5.25	
* 115 1,4-Dichlorobenzene-d4	152	13.097	13.097	0.000	95	818513	10.0	10.0	
116 1,4-Dichlorobenzene	146	13.115	13.115	0.000	95	706966	5.00	5.14	
117 1,2,3-Trimethylbenzene	120	13.121	13.121	0.000	98	577385	5.00	5.10	
118 Benzyl chloride	126	13.188	13.188	0.000	98	108177	5.00	4.46	
119 n-Butylbenzene	92	13.334	13.334	0.000	97	691258	5.00	5.24	
120 1,2-Dichlorobenzene	146	13.371	13.371	0.000	98	649745	5.00	5.12	
122 1,2-Dibromo-3-Chloropropane	155	13.914	13.914	0.000	89	42856	5.00	4.91	
123 1,3,5-Trichlorobenzene	180	14.036	14.035	0.001	98	525629	5.00	5.22	
124 1,2,4-Trichlorobenzene	180	14.462	14.462	0.000	94	440336	5.00	5.20	
125 Hexachlorobutadiene	225	14.542	14.541	0.001	97	193036	5.00	5.40	
126 Naphthalene	128	14.645	14.645	0.000	97	796649	5.00	4.77	
127 1,2,3-Trichlorobenzene	180	14.785	14.785	0.000	96	360586	5.00	5.11	
144 2-ethoxy-2-methyl butane	1		0.000				ND	ND	
137 2-Methylnaphthalene	142		0.000				ND	ND	
135 p-Diethylbenzene	1		0.000				ND	ND	
134 Isopropyl alcohol	45		0.000				ND	ND	

QC Flag Legend

Processing Flags

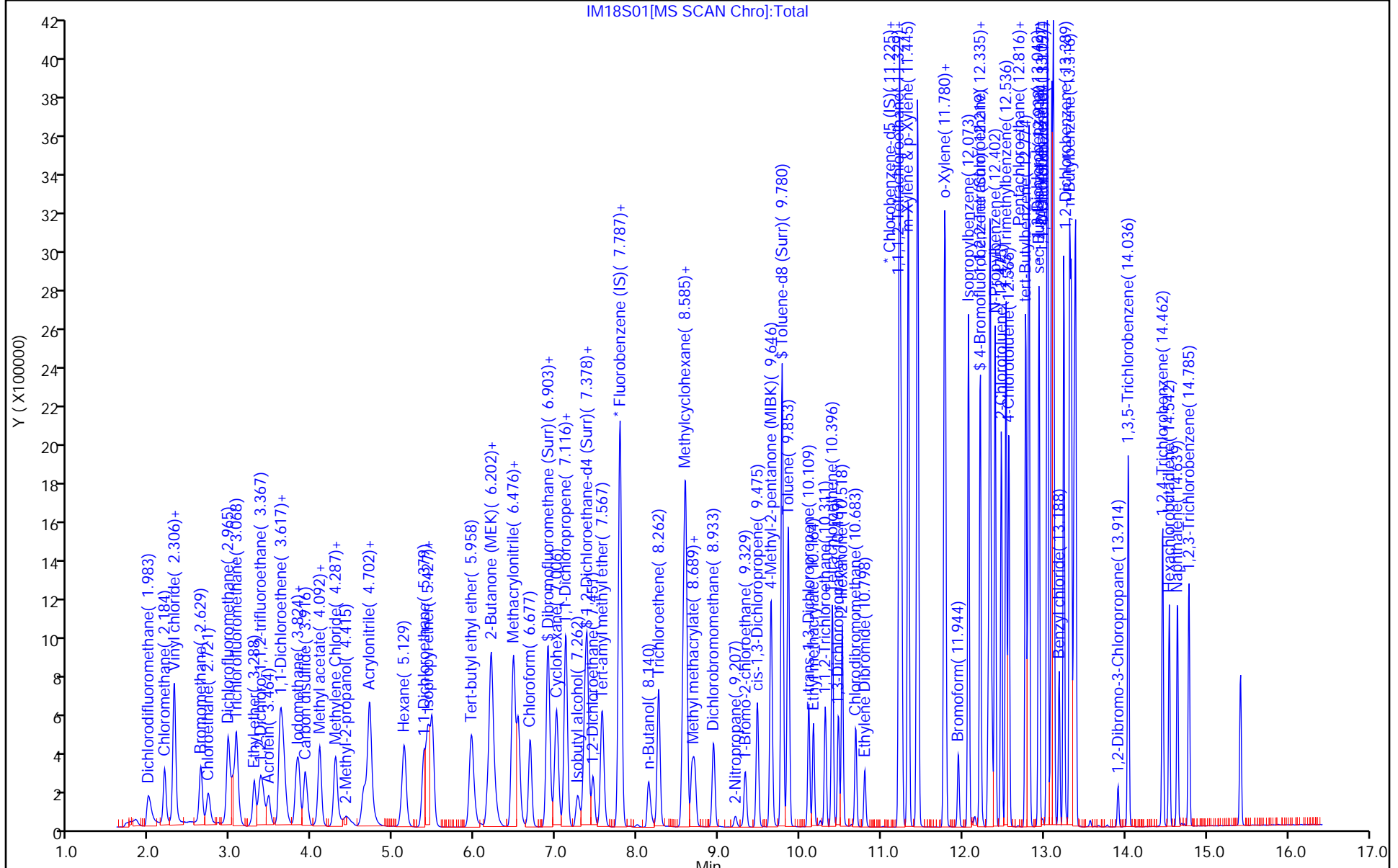
ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

Reagents:

MSV_Q_ETBR_00002	Amount Added: 12.50	Units: uL	
MSV_Q_EE_00001	Amount Added: 12.50	Units: uL	
MSV_Q_QVOA1_00018	Amount Added: 12.50	Units: uL	
MSV_Q_QARC_00018	Amount Added: 12.50	Units: uL	
MSV_Q_QVOA6_00017	Amount Added: 12.50	Units: uL	
MSV_QGAS_826_00022	Amount Added: 12.50	Units: uL	
MSV_31_826ISS_00002	Amount Added: 5.00	Units: uL	Run Reagent



Eurofins Lancaster Laboratories Env, LLC

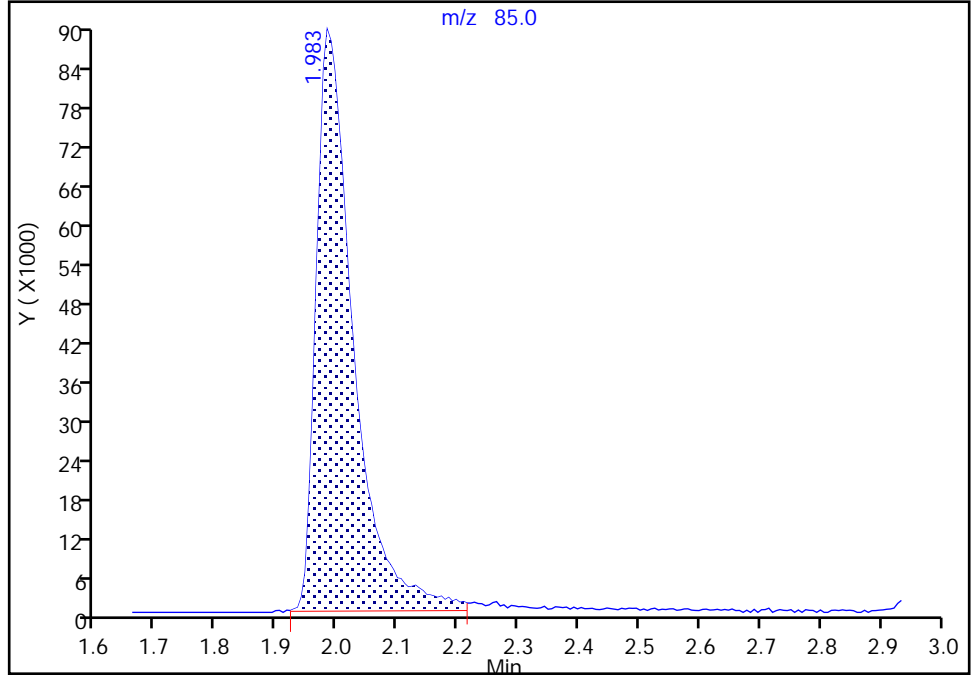
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Injection Date: 18-Mar-2020 10:28:30 Instrument ID: 19930
Lims ID: ICV
Client ID:
Operator ID: DVV10203 ALS Bottle#: 4 Worklist Smp#: 21
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

1 Dichlorodifluoromethane, CAS: 75-71-8

Signal: 1

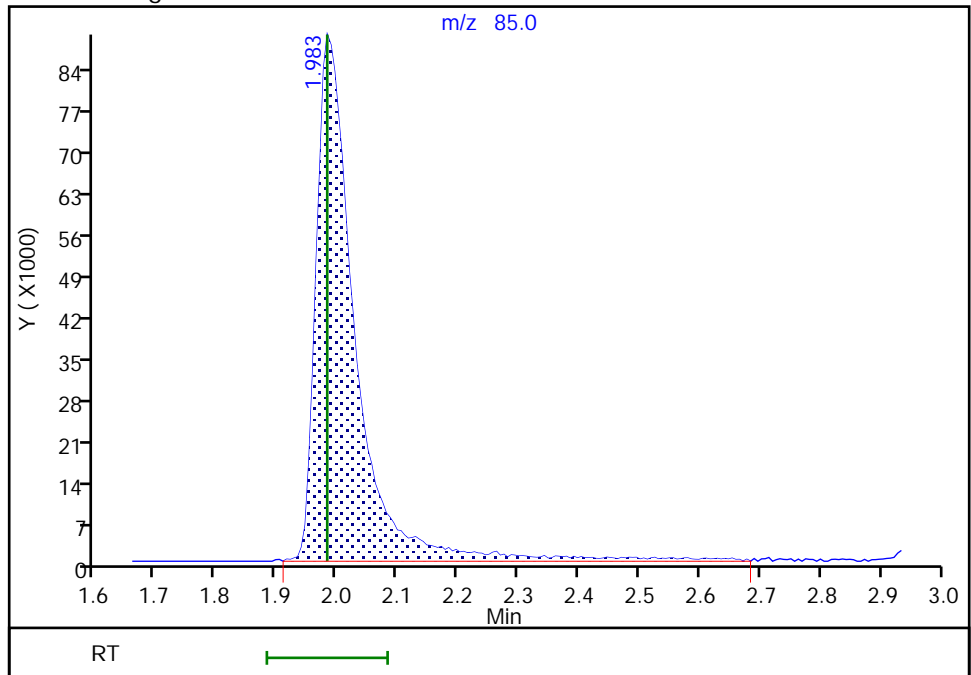
RT: 1.98
Area: 381872
Amount: 3.484029
Amount Units: ug/l

Processing Integration Results



RT: 1.98
Area: 404104
Amount: 3.686863
Amount Units: ug/l

Manual Integration Results



Reviewer: campbellme, 24-Apr-2020 16:38:30
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

Eurofins Lancaster Laboratories Env, LLC

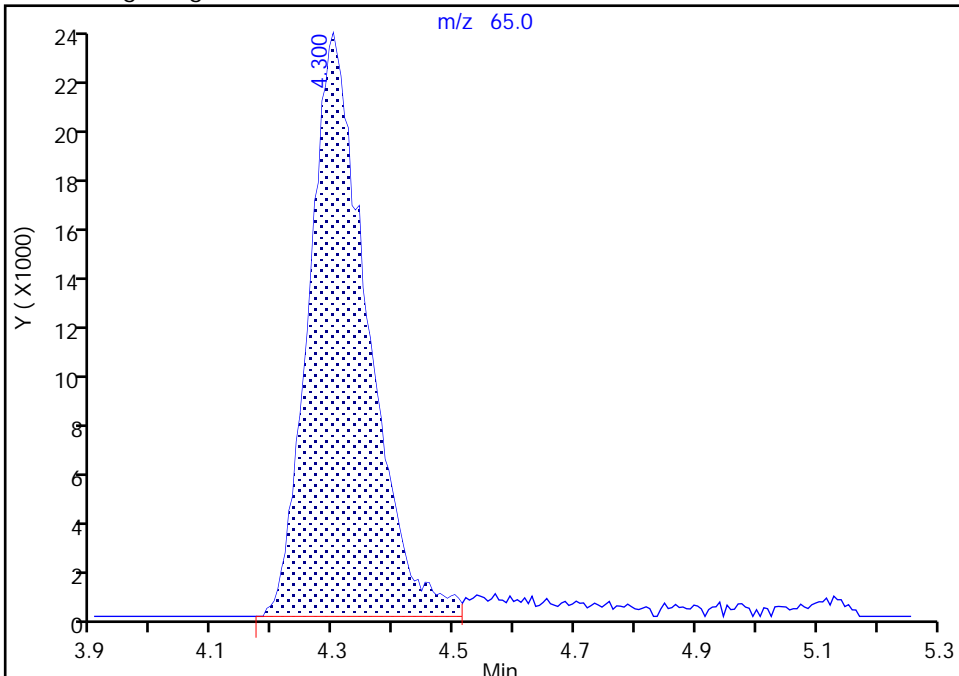
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Injection Date: 18-Mar-2020 10:28:30 Instrument ID: 19930
Lims ID: ICV
Client ID:
Operator ID: DVV10203 ALS Bottle#: 4 Worklist Smp#: 21
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

* 24 t-Butyl alcohol-d10 (IS), CAS: 53001-22-2

Signal: 1

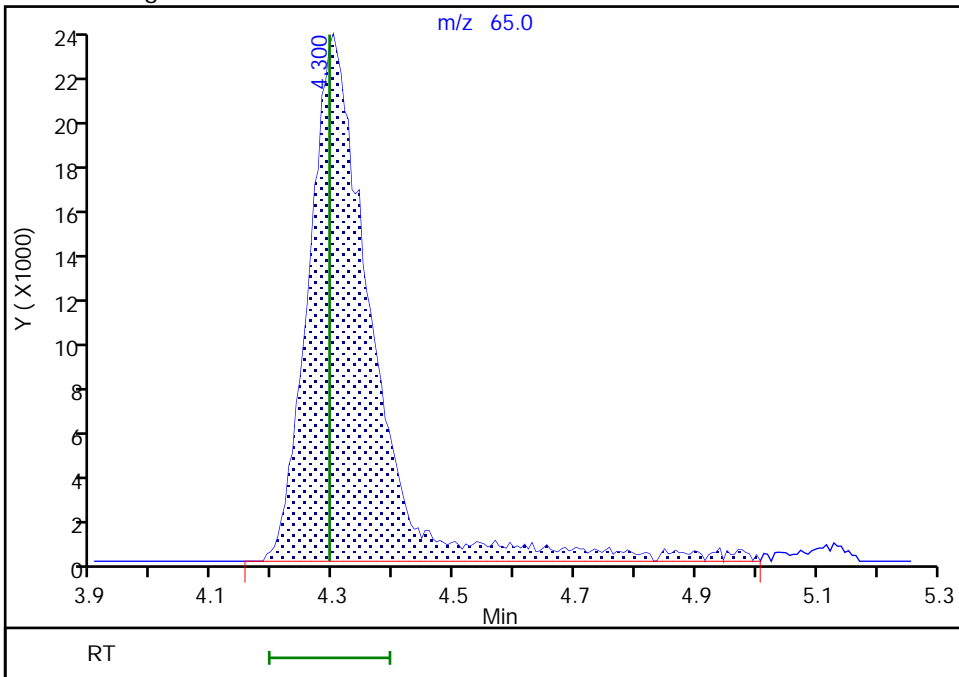
RT: 4.30
Area: 156986
Amount: 50.000000
Amount Units: ug/l

Processing Integration Results



RT: 4.30
Area: 170420
Amount: 50.000000
Amount Units: ug/l

Manual Integration Results



Reviewer: campbellme, 24-Apr-2020 16:39:01
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

Eurofins Lancaster Laboratories Env, LLC

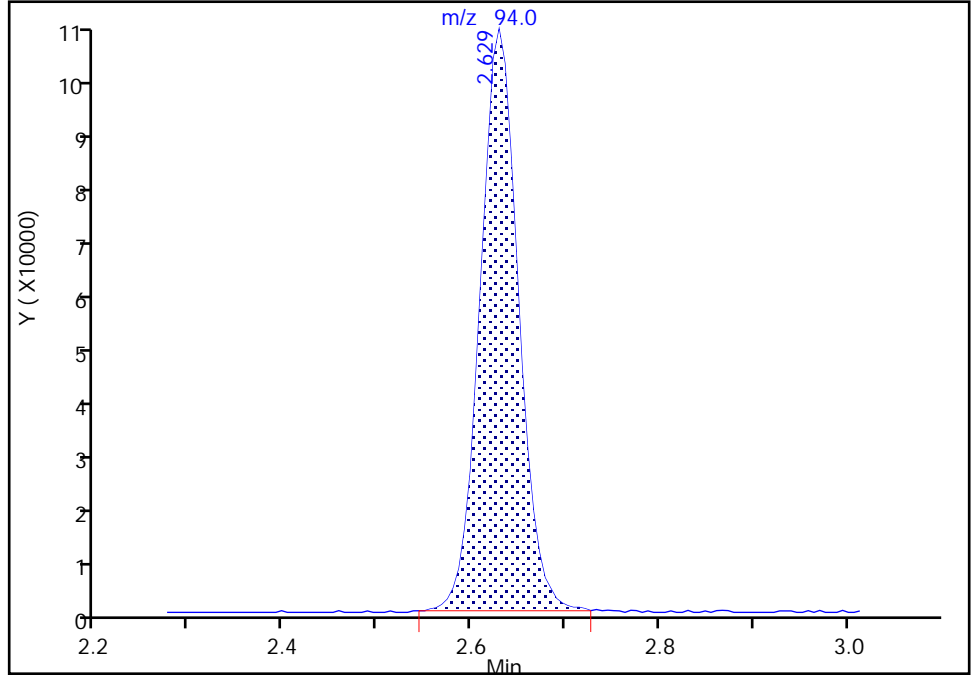
Data File: \\chromfs\Lancaster\ChromData\19930\20200424-2093.b\IM18S01.D
Injection Date: 18-Mar-2020 10:28:30 Instrument ID: 19930
Lims ID: ICV
Client ID:
Operator ID: DVV10203 ALS Bottle#: 4 Worklist Smp#: 21
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

7 Bromomethane, CAS: 74-83-9

Signal: 1

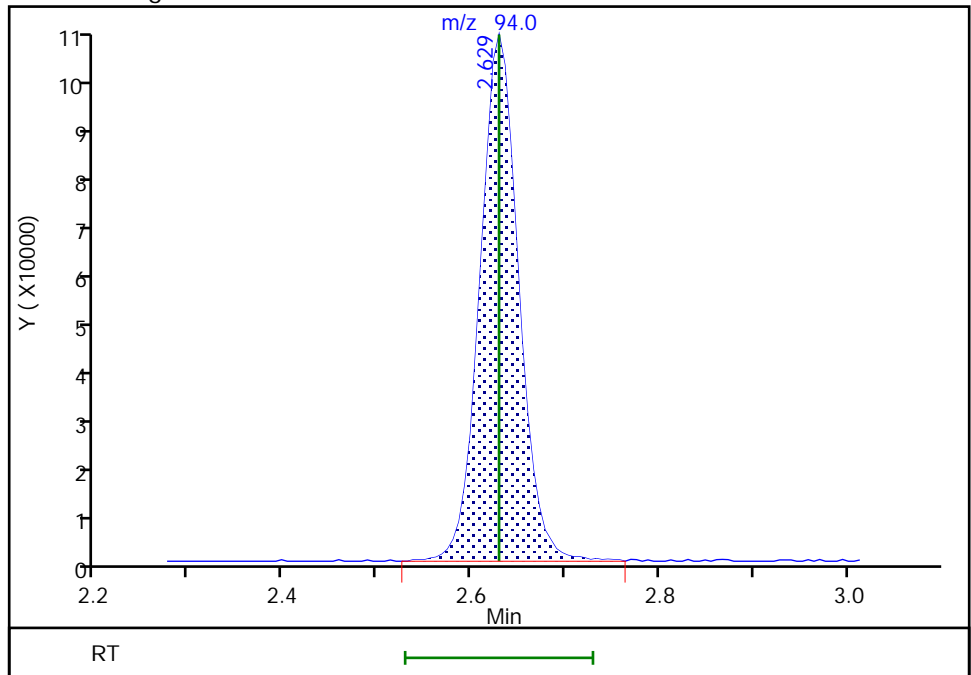
RT: 2.63
Area: 293285
Amount: 4.887379
Amount Units: ug/l

Processing Integration Results



RT: 2.63
Area: 297264
Amount: 4.953686
Amount Units: ug/l

Manual Integration Results



Reviewer: campbellme, 24-Apr-2020 16:38:45
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 450 of 519

Eurofins Lancaster Laboratories Env, LLC

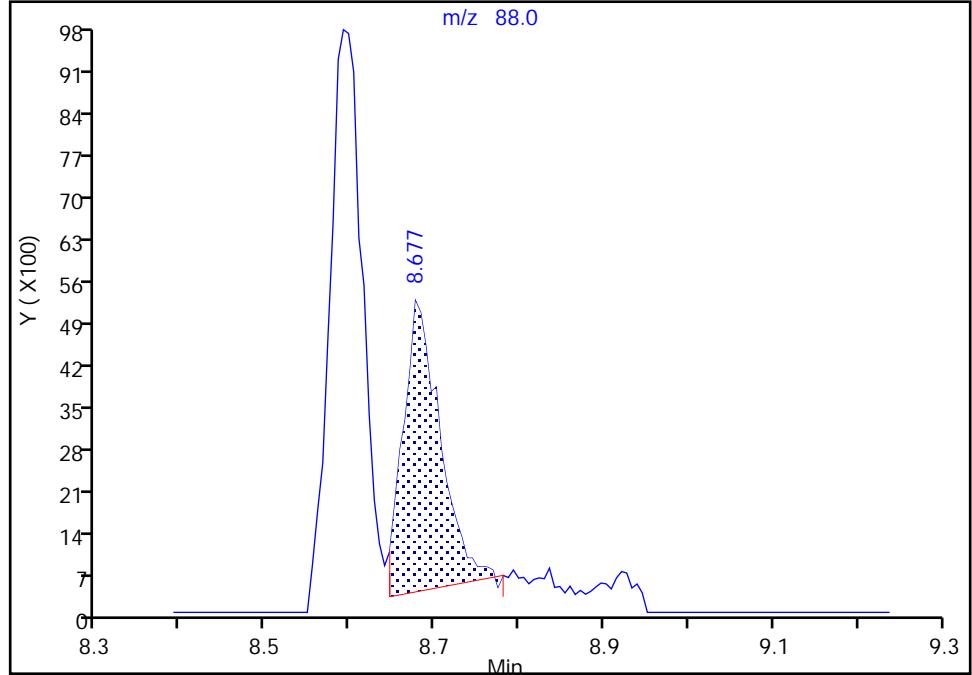
Data File: \\chromfs\Lancaster\ChromData\19930\20200424-2093.b\1M18S01.D
Injection Date: 18-Mar-2020 10:28:30 Instrument ID: 19930
Lims ID: ICV
Client ID:
Operator ID: DVV10203 ALS Bottle#: 4 Worklist Smp#: 21
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

65 1,4-Dioxane, CAS: 123-91-1

Signal: 1

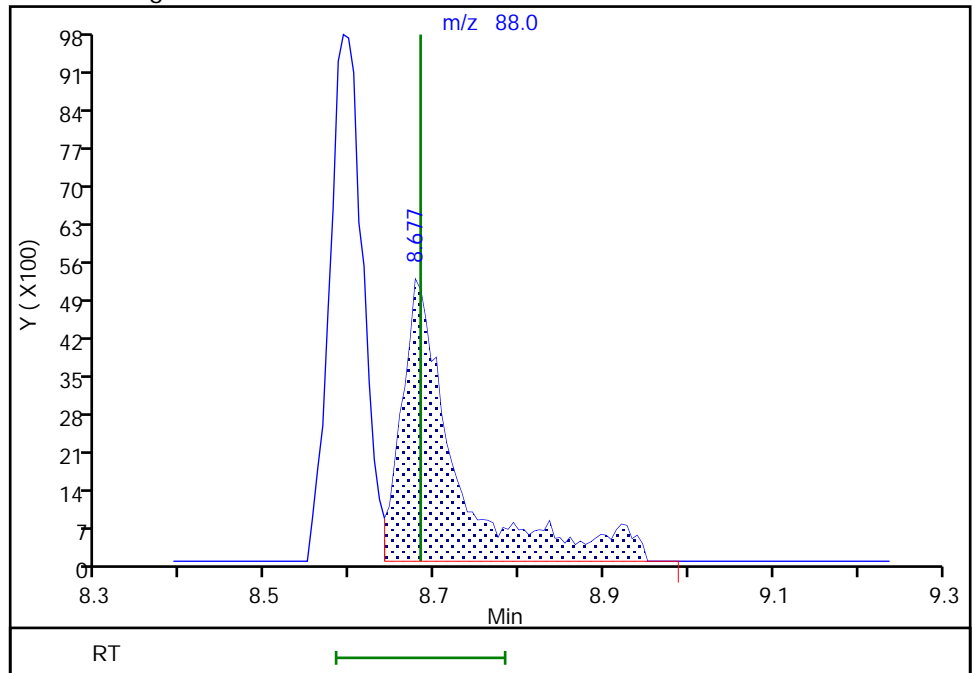
RT: 8.68
Area: 14693
Amount: 60.983256
Amount Units: ug/l

Processing Integration Results



RT: 8.68
Area: 23496
Amount: 97.520083
Amount Units: ug/l

Manual Integration Results



Reviewer: campbellme, 24-Apr-2020 16:39:49
Audit Action: Split an Integrated Peak

Audit Reason: Split Peak

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-2632-1

SDG No.: _____

Lab Sample ID: CCVIS 410-9922/3 Calibration Date: 06/02/2020 08:16

Instrument ID: 19930 Calib Start Date: 03/16/2020 16:24

GC Column: R-624SilMS 30m ID: 0.25 (mm) Calib End Date: 03/16/2020 18:31

Lab File ID: Iu02C01.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	0.5436	0.4565	0.1000	8.40	10.0	-16.0	20.0
Chloromethane	Ave	0.4381	0.5149	0.1000	11.8	10.0	17.5	20.0
Vinyl chloride	Ave	0.4245	0.4761	0.1000	11.2	10.0	12.2	20.0
1,3-Butadiene	Ave	0.3145	0.5201		16.5	10.0	65.4*	20.0
Bromomethane	Ave	0.2976	0.3203	0.1000	10.8	10.0	7.6	20.0
Chloroethane	Ave	0.2402	0.2628	0.1000	10.9	10.0	9.4	20.0
Dichlorofluoromethane	Ave	0.5588	0.5997		10.7	10.0	7.3	20.0
Trichlorofluoromethane	Ave	0.5061	0.5262	0.1000	10.4	10.0	4.0	20.0
Ethyl ether	Ave	0.2175	0.2320		10.7	10.0	6.7	20.0
Freon 123a	Ave	0.3424	0.3350		9.78	10.0	-2.2	20.0
Acrolein	Ave	1.980	1.144		289	500	-42.2*	20.0
1,1-Dichloroethene	Ave	0.2676	0.2571	0.1000	9.61	10.0	-3.9	20.0
Acetone	Ave	2.481	2.222	0.1000	89.5	100	-10.5	20.0
Freon 113	Ave	0.2904	0.2538	0.1000	8.74	10.0	-12.6	20.0
Methyl iodide	Ave	0.5108	0.4870		9.53	10.0	-4.7	20.0
Ethyl bromide	Ave	0.2273	0.2269		9.98	10.0	-0.2	20.0
Carbon disulfide	Ave	0.7646	0.7155	0.1000	9.36	10.0	-6.4	20.0
Methyl acetate	Ave	0.1202	0.1411	0.1000	11.7	10.0	17.4	20.0
Allyl chloride	Ave	0.4040	0.4259		10.5	10.0	5.4	20.0
Methylene Chloride	Ave	0.2778	0.2800	0.1000	10.1	10.0	0.8	20.0
t-Butyl alcohol	Ave	1.204	1.073		178	200	-11.0	20.0
Acrylonitrile	Ave	3.263	2.918		44.7	50.0	-10.6	20.0
Methyl tert-butyl ether	Ave	0.6869	0.7619	0.1000	11.1	10.0	10.9	20.0
trans-1,2-Dichloroethene	Ave	0.2875	0.2825	0.1000	9.83	10.0	-1.7	20.0
n-Hexane	Ave	0.4330	0.3862		8.92	10.0	-10.8	20.0
1,1-Dichloroethane	Ave	0.5113	0.5475	0.2000	10.7	10.0	7.1	20.0
di-Isopropyl ether	Ave	0.8553	0.9138		10.7	10.0	6.8	20.0
2-Chloro-1,3-butadiene	Ave	0.4517	0.4682		10.4	10.0	3.6	20.0
Ethyl t-butyl ether	Ave	0.8417	0.8780		10.4	10.0	4.3	20.0
2-Butanone (MEK)	Ave	4.369	4.215	0.1000	96.5	100	-3.5	20.0
cis-1,2-Dichloroethene	Ave	0.3228	0.3253	0.1000	10.1	10.0	0.8	20.0
2,2-Dichloropropane	Ave	0.4626	0.4781		10.3	10.0	3.4	20.0
Propionitrile	Ave	1.216	1.144		188	200	-5.9	20.0
Methacrylonitrile	Ave	4.161	3.826		91.9	100	-8.1	20.0
Bromochloromethane	Ave	0.1428	0.1426		9.99	10.0	-0.1	20.0
Tetrahydrofuran	Ave	1.340	1.138		85.0	100	-15.0	20.0
Chloroform	Ave	0.5116	0.5270	0.2000	10.3	10.0	3.0	20.0
1,1,1-Trichloroethane	Ave	0.4961	0.4997	0.1000	10.1	10.0	0.7	20.0
Cyclohexane	Ave	0.5230	0.4689	0.1000	8.97	10.0	-10.3	20.0
1,1-Dichloropropene	Ave	0.4099	0.4243		10.4	10.0	3.5	20.0
Carbon tetrachloride	Ave	0.4398	0.4399	0.1000	10.0	10.0	0.0	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-2632-1

SDG No.: _____

Lab Sample ID: CCVIS 410-9922/3 Calibration Date: 06/02/2020 08:16

Instrument ID: 19930 Calib Start Date: 03/16/2020 16:24

GC Column: R-624SilMS 30m ID: 0.25 (mm) Calib End Date: 03/16/2020 18:31

Lab File ID: Iu02C01.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
Isobutyl alcohol	Ave	0.3481	0.3426		492	500	-1.6	20.0
Benzene	Ave	1.193	1.215	0.5000	10.2	10.0	1.8	20.0
1,2-Dichloroethane	Ave	0.3210	0.3439	0.1000	10.7	10.0	7.1	20.0
t-Amyl methyl ether	Ave	0.7820	0.8095		10.4	10.0	3.5	20.0
n-Heptane	Ave	0.4125	0.4183		10.1	10.0	1.4	20.0
n-Butanol	Ave	0.3076	0.3096		1010	1000	0.6	20.0
Trichloroethene	Ave	0.3177	0.3212	0.2000	10.1	10.0	1.1	20.0
Methylcyclohexane	Ave	0.5660	0.5090	0.1000	8.99	10.0	-10.1	20.0
1,2-Dichloropropane	Ave	0.2901	0.3169	0.1000	10.9	10.0	9.3	20.0
Methyl methacrylate	Ave	8.432	7.123		8.45	10.0	-15.5	20.0
1,4-Dioxane	Ave	0.0707	0.0684	0.0050	484	500	-3.3	20.0
Dibromomethane	Ave	0.1438	0.1531		10.6	10.0	6.4	20.0
Bromodichloromethane	Ave	0.3777	0.3981	0.2000	10.5	10.0	5.4	20.0
2-Nitropropane	Ave	2.620	2.399		91.6	100	-8.4	20.0
cis-1,3-Dichloropropene	Ave	0.4468	0.4820	0.2000	10.8	10.0	7.9	20.0
4-Methyl-2-pentanone (MIBK)	Ave	10.81	10.33	0.1000	95.5	100	-4.5	20.0
Toluene	Ave	1.016	1.022	0.4000	10.1	10.0	0.5	20.0
trans-1,3-Dichloropropene	Ave	0.5143	0.5373	0.1000	10.4	10.0	4.5	20.0
Ethyl methacrylate	Ave	0.4384	0.4444		10.1	10.0	1.4	20.0
1,1,2-Trichloroethane	Ave	0.2845	0.2970	0.1000	10.4	10.0	4.4	20.0
Tetrachloroethene	Ave	0.4853	0.4876	0.2000	10.0	10.0	0.5	20.0
1,3-Dichloropropane	Ave	0.4782	0.5073		10.6	10.0	6.1	20.0
2-Hexanone	Ave	7.474	7.405	0.1000	99.1	100	-0.9	20.0
Dibromochloromethane	Ave	0.3627	0.3796		10.5	10.0	4.7	20.0
1,2-Dibromoethane (EDB)	Ave	0.2687	0.2887	0.1000	10.7	10.0	7.5	20.0
1-Chlorohexane	Ave	0.6248	0.5949		9.52	10.0	-4.8	20.0
Chlorobenzene	Ave	1.125	1.129	0.5000	10.0	10.0	0.3	20.0
1,1,1,2-Tetrachloroethane	Ave	0.4190	0.4133		9.86	10.0	-1.4	20.0
Ethylbenzene	Ave	1.994	2.029	0.1000	10.2	10.0	1.8	20.0
m&p-Xylene	Ave	0.7812	0.7744	0.1000	19.8	20.0	-0.9	20.0
o-Xylene	Ave	0.7743	0.7583	0.3000	9.79	10.0	-2.1	20.0
Styrene	Ave	1.236	1.269	0.3000	10.3	10.0	2.7	20.0
Bromoform	Ave	0.2232	0.2427	0.1000	10.9	10.0	8.8	20.0
Isopropylbenzene	Ave	2.050	2.076	0.1000	10.1	10.0	1.2	20.0
1,1,2,2-Tetrachloroethane	Ave	0.6462	0.6860	0.3000	10.6	10.0	6.2	20.0
Bromobenzene	Ave	0.8683	0.8892		10.2	10.0	2.4	20.0
trans-1,4-Dichloro-2-butene	Ave	3.806	2.880		75.7	100	-24.3*	20.0
1,2,3-Trichloropropane	Ave	0.1800	0.1892		10.5	10.0	5.1	20.0
N-Propylbenzene	Ave	4.288	4.451		10.4	10.0	3.8	20.0
2-Chlorotoluene	Ave	0.8662	0.8735		10.1	10.0	0.8	20.0
1,3,5-Trimethylbenzene	Ave	3.122	3.207		10.3	10.0	2.7	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-2632-1
 SDG No.: _____
 Lab Sample ID: CCVIS 410-9922/3 Calibration Date: 06/02/2020 08:16
 Instrument ID: 19930 Calib Start Date: 03/16/2020 16:24
 GC Column: R-624SilMS 30m ID: 0.25 (mm) Calib End Date: 03/16/2020 18:31
 Lab File ID: Iu02C01.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
4-Chlorotoluene	Ave	0.8818	0.8907		10.1	10.0	1.0	20.0
tert-Butylbenzene	Ave	0.7000	0.6892		9.85	10.0	-1.5	20.0
Pentachloroethane	Ave	0.5905	0.6186		10.5	10.0	4.8	20.0
1,2,4-Trimethylbenzene	Ave	3.211	3.286		10.2	10.0	2.4	20.0
sec-Butylbenzene	Ave	4.011	4.232		10.6	10.0	5.5	20.0
1,3-Dichlorobenzene	Ave	1.699	1.743	0.6000	10.3	10.0	2.6	20.0
p-Isopropyltoluene	Ave	3.460	3.613		10.4	10.0	4.4	20.0
1,4-Dichlorobenzene	Ave	1.682	1.711	0.5000	10.2	10.0	1.8	20.0
1,2,3-Trimethylbenzene	Ave	1.382	1.403		10.2	10.0	1.6	20.0
Benzyl chloride	Ave	0.2962	0.2995		10.1	10.0	1.1	20.0
n-Butylbenzene	Ave	1.612	1.774		11.0	10.0	10.1	20.0
1,2-Dichlorobenzene	Ave	1.551	1.574	0.4000	10.1	10.0	1.5	20.0
1,2-Dibromo-3-Chloropropane	Ave	0.1067	0.1066	0.0500	9.99	10.0	-0.0	20.0
1,3,5-Trichlorobenzene	Ave	1.230	1.300		10.6	10.0	5.8	20.0
1,2,4-Trichlorobenzene	Ave	1.036	1.030	0.2000	9.95	10.0	-0.5	20.0
Hexachlorobutadiene	Ave	0.4369	0.4953		11.3	10.0	13.4	20.0
Naphthalene	Ave	2.041	1.781		8.73	10.0	-12.7	20.0
1,2,3-Trichlorobenzene	Ave	0.8626	0.7654		8.87	10.0	-11.3	20.0
Dibromofluoromethane (Surr)	Ave	0.2414	0.2448		10.1	10.0	1.4	20.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.0489	0.0516		10.6	10.0	5.5	20.0
Toluene-d8 (Surr)	Ave	1.272	1.247		9.80	10.0	-2.0	20.0
4-Bromofluorobenzene (Surr)	Ave	0.4745	0.4704		9.91	10.0	-0.9	20.0

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\lu02C01.D
 Lims ID: CCVIS
 Client ID:
 Sample Type: CCVIS
 Inject. Date: 02-Jun-2020 08:16:30 ALS Bottle#: 2 Worklist Smp#: 3
 Purge Vol: 25.000 mL Dil. Factor: 1.0000
 Sample Info: 410-0002623-003
 Misc. Info.: CCVIS
 Operator ID: JKH09052 Instrument ID: 19930
 Sublist: chrom-8260 25ml HP31*sub2

Method: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\8260 25ml HP31.m
 Limit Group: MSV - 8260C_D
 Last Update: 02-Jun-2020 12:51:07 Calib Date: 16-Mar-2020 18:31:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\IM16107.D

Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
 Process Host: CTX1002

First Level Reviewer: howej

Date: 02-Jun-2020 09:15:55

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Dichlorodifluoromethane	85	1.983	1.983	0.000	99	878412	10.0	8.40	M
4 Chloromethane	50	2.190	2.190	0.000	99	990810	10.0	11.8	
5 Vinyl chloride	62	2.300	2.300	0.000	98	916279	10.0	11.2	
6 Butadiene	39	2.306	2.306	0.000	94	1000869	10.0	16.5	
7 Bromomethane	94	2.642	2.642	0.000	92	616404	10.0	10.8	
8 Chloroethane	64	2.727	2.727	0.000	100	505783	10.0	10.9	
9 Dichlorofluoromethane	67	2.971	2.971	0.000	97	1154108	10.0	10.7	
10 Trichlorofluoromethane	101	3.032	3.032	0.000	97	1012567	10.0	10.4	
11 Ethyl ether	59	3.282	3.282	0.000	91	446382	10.0	10.7	
12 1,2-Dichloro-1,1,2-trifluoroetha	67	3.361	3.361	0.000	92	644728	10.0	9.78	
13 Acrolein	56	3.459	3.459	0.000	99	2486947	500.0	288.9	
14 1,1-Dichloroethene	96	3.599	3.599	0.000	98	494688	10.0	9.61	
15 Acetone	43	3.629	3.629	0.000	100	965739	100.0	89.5	
16 112TCTFE	101	3.648	3.648	0.000	91	488329	10.0	8.74	
17 Iodomethane	142	3.800	3.800	0.000	99	937090	10.0	9.53	
18 Ethyl bromide	108	3.830	3.830	0.000	99	436815	10.0	9.98	
19 Carbon disulfide	76	3.910	3.910	0.000	99	1376896	10.0	9.36	
21 Methyl acetate	43	4.056	4.056	0.000	98	271514	10.0	11.7	
22 3-Chloro-1-propene	41	4.093	4.093	0.000	93	819617	10.0	10.5	
23 Methylene Chloride	84	4.288	4.288	0.000	93	538853	10.0	10.1	
* 24 t-Butyl alcohol-d10 (IS)	65	4.300	4.300	0.000	0	217314	50.0	50.0	M
25 2-Methyl-2-propanol	59	4.416	4.416	0.000	99	932314	200.0	178.1	
26 Acrylonitrile	53	4.623	4.623	0.000	98	634178	50.0	44.7	
27 Methyl tert-butyl ether	73	4.696	4.696	0.000	89	1466163	10.0	11.1	
28 trans-1,2-Dichloroethene	96	4.702	4.702	0.000	99	543716	10.0	9.83	
29 Hexane	57	5.129	5.129	0.000	93	743269	10.0	8.92	
31 1,1-Dichloroethane	63	5.367	5.367	0.000	96	1053682	10.0	10.7	
32 Isopropyl ether	45	5.422	5.422	0.000	94	1758396	10.0	10.7	
33 2-Chloro-1,3-butadiene	53	5.476	5.476	0.000	91	900973	10.0	10.4	
34 Tert-butyl ethyl ether	59	5.958	5.958	0.000	98	1689610	10.0	10.4	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
36 2-Butanone (MEK)	43	6.165	6.165	0.000	100	1831981	100.0	96.5	
37 cis-1,2-Dichloroethene	96	6.196	6.196	0.000	82	626010	10.0	10.1	
38 2,2-Dichloropropane	77	6.208	6.208	0.000	87	920016	10.0	10.3	
40 Propionitrile	54	6.257	6.257	0.000	99	994532	200.0	188.2	
42 Methacrylonitrile	67	6.470	6.470	0.000	92	1662803	100.0	91.9	
43 Chlorobromomethane	128	6.525	6.525	0.000	88	274468	10.0	9.99	
44 Tetrahydrofuran	71	6.537	6.537	0.000	92	494699	100.0	85.0	
45 Chloroform	83	6.677	6.677	0.000	93	1014195	10.0	10.3	
\$ 46 Dibromofluoromethane (Surr)	113	6.885	6.885	0.000	94	471032	10.0	10.1	
47 1,1,1-Trichloroethane	97	6.903	6.903	0.000	99	961614	10.0	10.1	
48 Cyclohexane	56	7.001	7.001	0.000	91	902347	10.0	8.97	
50 Carbon tetrachloride	117	7.110	7.110	0.000	96	846463	10.0	10.0	
51 1,1-Dichloropropene	75	7.110	7.110	0.000	95	816513	10.0	10.4	
52 Isobutyl alcohol	41	7.263	7.263	0.000	95	744593	500.0	492.2	
\$ 53 1,2-Dichloroethane-d4 (Surr)	102	7.342	7.342	0.000	0	99312	10.0	10.6	
54 Benzene	78	7.378	7.378	0.000	96	2337248	10.0	10.2	
56 1,2-Dichloroethane	62	7.452	7.452	0.000	98	661696	10.0	10.7	
57 Tert-amyl methyl ether	73	7.561	7.561	0.000	99	1557716	10.0	10.4	
* 58 Fluorobenzene (IS)	96	7.775	7.775	0.000	99	1924381	10.0	10.0	
59 n-Heptane	43	7.787	7.787	0.000	92	804962	10.0	10.1	
60 n-Butanol	56	8.134	8.134	0.000	88	1345524	1000.0	1006.4	
61 Trichloroethene	95	8.256	8.256	0.000	98	618163	10.0	10.1	
62 Methylcyclohexane	83	8.561	8.561	0.000	94	979477	10.0	8.99	
63 1,2-Dichloropropane	63	8.586	8.586	0.000	85	609816	10.0	10.9	
64 Methyl methacrylate	69	8.665	8.665	0.000	91	309568	10.0	8.45	
65 1,4-Dioxane	88	8.671	8.671	0.000	44	148594	500.0	483.7	M
66 Dibromomethane	93	8.701	8.701	0.000	94	294555	10.0	10.6	
68 Dichlorobromomethane	83	8.927	8.927	0.000	100	766040	10.0	10.5	
69 2-Nitropropane	41	9.201	9.201	0.000	98	1042726	100.0	91.6	
72 1-Bromo-2-chloroethane	63	9.317	9.317	0.000	98	676782	10.0	11.7	
73 cis-1,3-Dichloropropene	75	9.470	9.470	0.000	96	927519	10.0	10.8	
74 4-Methyl-2-pentanone (MIBK)	43	9.634	9.634	0.000	97	4489684	100.0	95.5	
\$ 75 Toluene-d8 (Surr)	98	9.774	9.774	0.000	94	1883250	10.0	9.80	
76 Toluene	92	9.854	9.854	0.000	98	1543226	10.0	10.1	
78 trans-1,3-Dichloropropene	75	10.104	10.104	0.000	92	811664	10.0	10.4	
79 Ethyl methacrylate	69	10.158	10.158	0.000	89	671334	10.0	10.1	
80 1,1,2-Trichloroethane	97	10.305	10.305	0.000	91	448749	10.0	10.4	
81 Tetrachloroethene	166	10.396	10.396	0.000	98	736659	10.0	10.0	
82 1,3-Dichloropropane	76	10.469	10.469	0.000	90	766433	10.0	10.6	
83 2-Hexanone	43	10.512	10.512	0.000	97	3218579	100.0	99.1	
85 Chlorodibromomethane	129	10.683	10.683	0.000	89	573437	10.0	10.5	
86 Ethylene Dibromide	107	10.792	10.792	0.000	99	436153	10.0	10.7	
* 87 Chlorobenzene-d5 (IS)	117	11.219	11.219	0.000	85	1510724	10.0	10.0	
88 1-Chlorohexane	91	11.225	11.225	0.000	98	898750	10.0	9.52	
90 Chlorobenzene	112	11.244	11.244	0.000	95	1705811	10.0	10.0	
91 1,1,1,2-Tetrachloroethane	131	11.323	11.323	0.000	95	624335	10.0	9.86	
92 Ethylbenzene	91	11.329	11.329	0.000	98	3065425	10.0	10.2	
93 m-Xylene & p-Xylene	106	11.445	11.445	0.000	0	2339912	20.0	19.8	
94 o-Xylene	106	11.768	11.768	0.000	96	1145510	10.0	9.79	
95 Styrene	104	11.786	11.786	0.000	95	1917778	10.0	10.3	
96 Bromoform	173	11.945	11.945	0.000	98	366713	10.0	10.9	
97 Isopropylbenzene	105	12.067	12.067	0.000	96	3135942	10.0	10.1	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
\$ 100 4-Bromofluorobenzene (Surr)	95	12.213	12.213	0.000	92	710695	10.0	9.91	
101 1,1,2,2-Tetrachloroethane	83	12.310	12.310	0.000	92	561157	10.0	10.6	
102 Bromobenzene	156	12.329	12.329	0.000	96	727339	10.0	10.2	
103 trans-1,4-Dichloro-2-butene	53	12.335	12.335	0.000	94	1251665	100.0	75.7	
104 1,2,3-Trichloropropane	110	12.359	12.359	0.000	83	154731	10.0	10.5	
105 N-Propylbenzene	91	12.396	12.396	0.000	99	3641021	10.0	10.4	
106 2-Chlorotoluene	126	12.475	12.475	0.000	97	714533	10.0	10.1	
107 1,3,5-Trimethylbenzene	105	12.530	12.530	0.000	94	2622905	10.0	10.3	
108 4-Chlorotoluene	126	12.567	12.567	0.000	97	728580	10.0	10.1	
109 tert-Butylbenzene	134	12.774	12.774	0.000	93	563752	10.0	9.85	
110 Pentachloroethane	167	12.804	12.804	0.000	94	505995	10.0	10.5	
111 1,2,4-Trimethylbenzene	105	12.816	12.816	0.000	97	2688058	10.0	10.2	
112 sec-Butylbenzene	105	12.938	12.938	0.000	94	3461441	10.0	10.6	
113 1,3-Dichlorobenzene	146	13.036	13.036	0.000	98	1425879	10.0	10.3	
114 4-Isopropyltoluene	119	13.042	13.042	0.000	97	2955373	10.0	10.4	
* 115 1,4-Dichlorobenzene-d4	152	13.091	13.091	0.000	94	817994	10.0	10.0	
116 1,4-Dichlorobenzene	146	13.109	13.109	0.000	94	1399833	10.0	10.2	
117 1,2,3-Trimethylbenzene	120	13.115	13.115	0.000	98	1147950	10.0	10.2	
118 Benzyl chloride	126	13.182	13.182	0.000	99	244982	10.0	10.1	
119 n-Butylbenzene	92	13.335	13.335	0.000	97	1451454	10.0	11.0	
120 1,2-Dichlorobenzene	146	13.365	13.365	0.000	98	1287865	10.0	10.1	
122 1,2-Dibromo-3-Chloropropane	155	13.908	13.908	0.000	87	87212	10.0	10.0	
123 1,3,5-Trichlorobenzene	180	14.036	14.036	0.000	97	1063688	10.0	10.6	
124 1,2,4-Trichlorobenzene	180	14.456	14.456	0.000	94	842664	10.0	9.95	
125 Hexachlorobutadiene	225	14.542	14.542	0.000	95	405127	10.0	11.3	
126 Naphthalene	128	14.639	14.639	0.000	97	1457042	10.0	8.73	
127 1,2,3-Trichlorobenzene	180	14.779	14.779	0.000	95	626088	10.0	8.87	
144 2-ethoxy-2-methyl butane	1		0.000				ND	ND	
137 2-Methylnaphthalene	142		0.000				ND	ND	
135 p-Diethylbenzene	1		0.000				ND	ND	
134 Isopropyl alcohol	45		0.000				ND	ND	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

Reagents:

MSV_RV1_826_00014	Amount Added: 10.00	Units: uL	
MSV_RV4_826_00015	Amount Added: 10.00	Units: uL	
MSV_RV4GAS826_00044	Amount Added: 10.00	Units: uL	
MSV_31_826ISS_00002	Amount Added: 5.00	Units: uL	Run Reagent

Data File: \\chromf\Lancaster\ChromData\19930\20200602-2623.b\lu02C01.D

Injection Date: 02-Jun-2020 08:16:30

Instrument ID: 19930

Operator ID: JKH09052

Lims ID: CCVIS

Worklist Smp#: 3

Client ID:

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

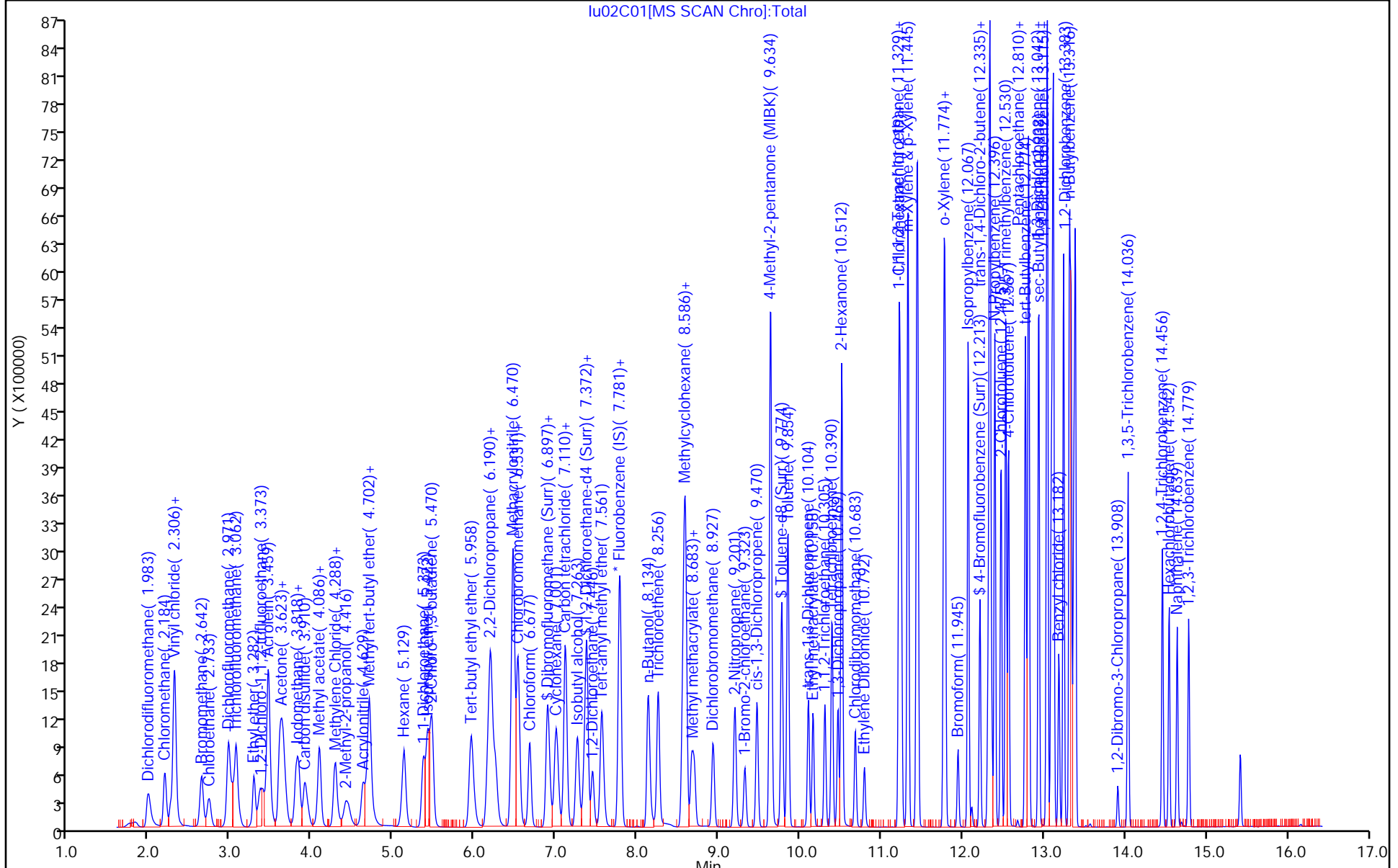
ALS Bottle#: 2

Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25 mm)

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



lu02C01[MS SCAN Chrom]:Total

Y (X100000)

Min

Eurofins Lancaster Laboratories Env, LLC

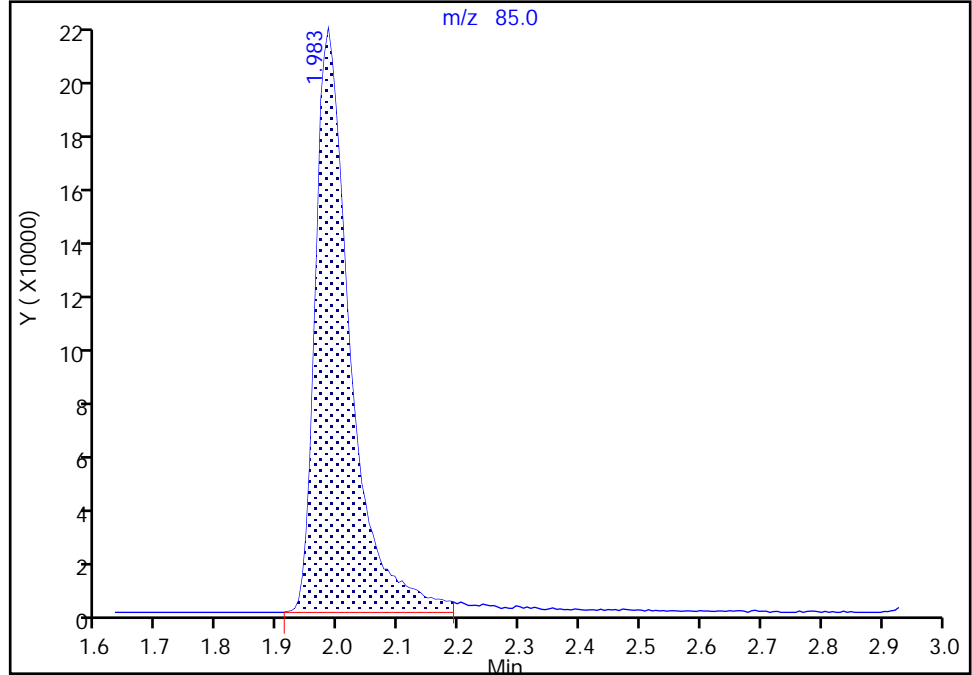
Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\lu02C01.D
Injection Date: 02-Jun-2020 08:16:30 Instrument ID: 19930
Lims ID: CCVIS
Client ID:
Operator ID: JKH09052 ALS Bottle#: 2 Worklist Smp#: 3
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

1 Dichlorodifluoromethane, CAS: 75-71-8

Signal: 1

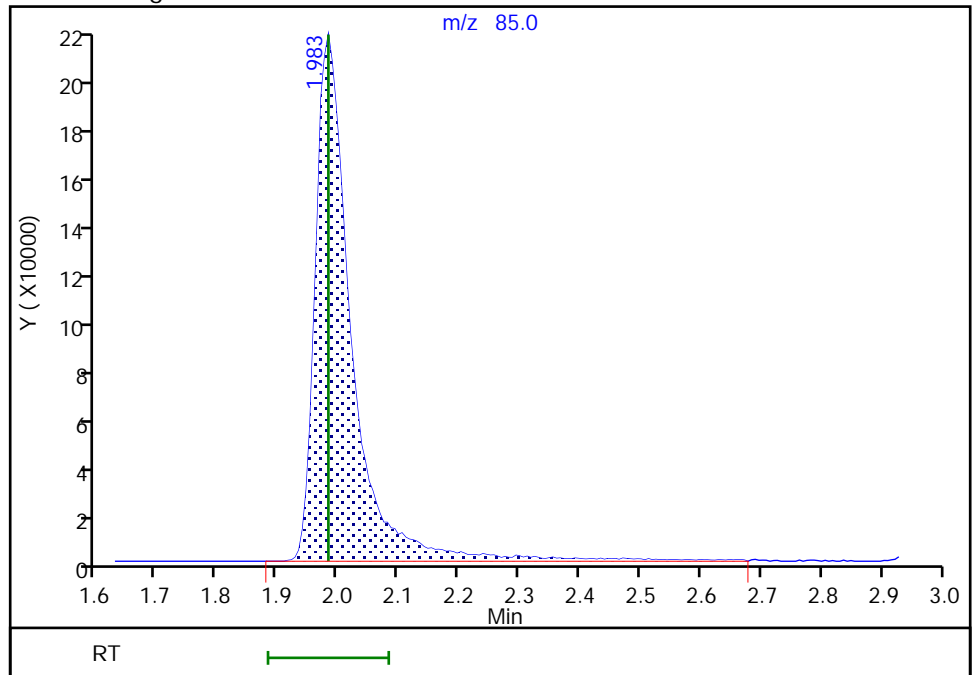
RT: 1.98
Area: 844223
Amount: 8.069692
Amount Units: ug/l

Processing Integration Results



RT: 1.98
Area: 878412
Amount: 8.396495
Amount Units: ug/l

Manual Integration Results



Reviewer: howej, 02-Jun-2020 08:49:45
Audit Action: Manually Integrated

Audit Reason: Other

Eurofins Lancaster Laboratories Env, LLC

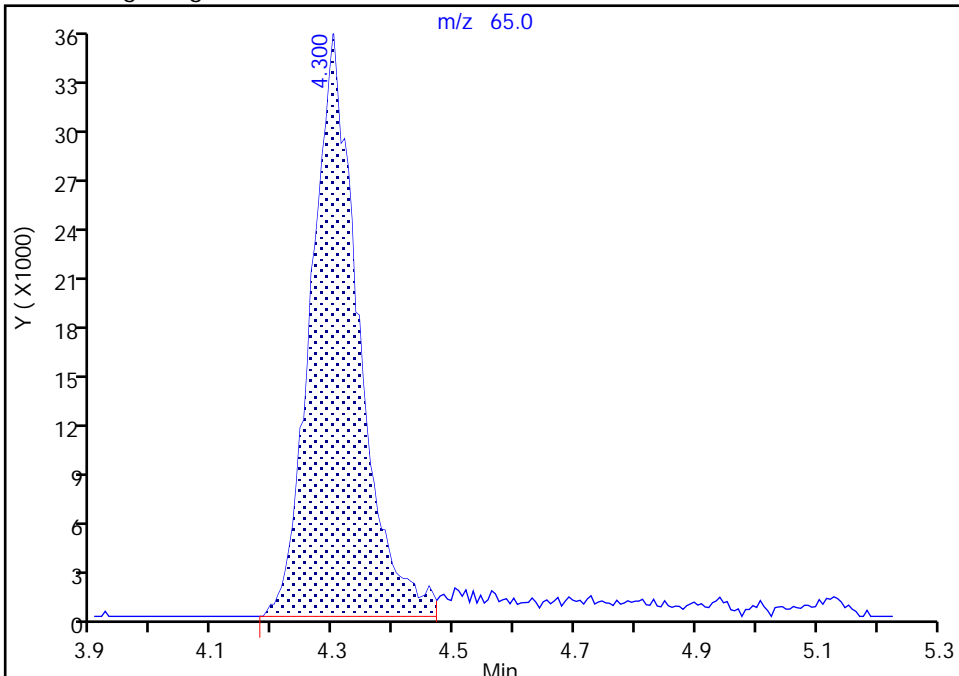
Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\lu02C01.D
Injection Date: 02-Jun-2020 08:16:30 Instrument ID: 19930
Lims ID: CCVIS
Client ID:
Operator ID: JKH09052 ALS Bottle#: 2 Worklist Smp#: 3
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

* 24 t-Butyl alcohol-d10 (IS), CAS: 53001-22-2

Signal: 1

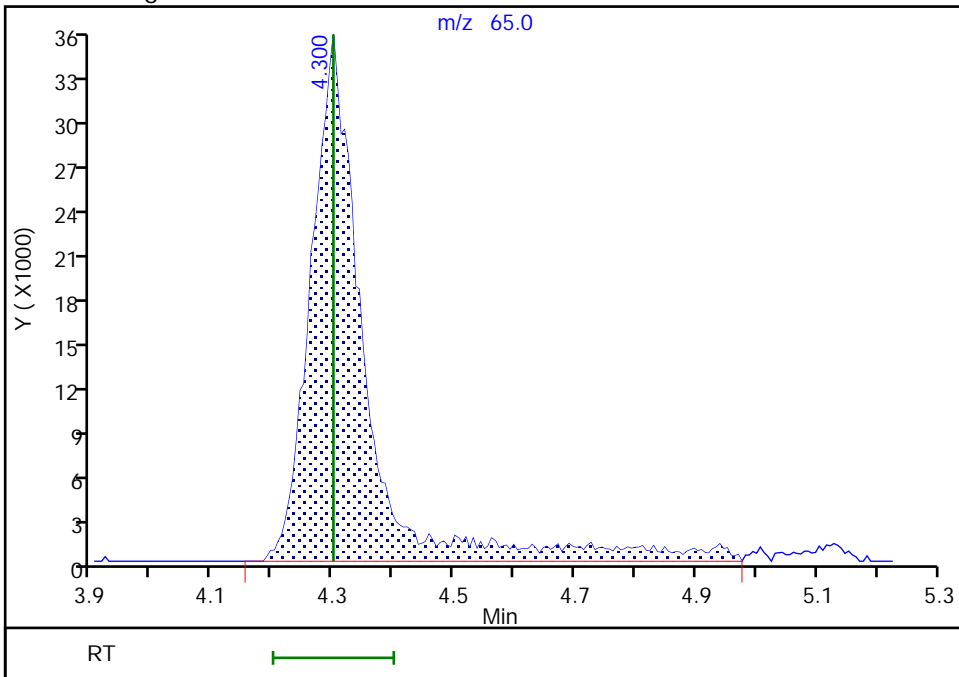
RT: 4.30
Area: 190487
Amount: 50.000000
Amount Units: ug/l

Processing Integration Results



RT: 4.30
Area: 217314
Amount: 50.000000
Amount Units: ug/l

Manual Integration Results



Reviewer: howej, 02-Jun-2020 08:50:11
Audit Action: Manually Integrated

Audit Reason: Other

Eurofins Lancaster Laboratories Env, LLC

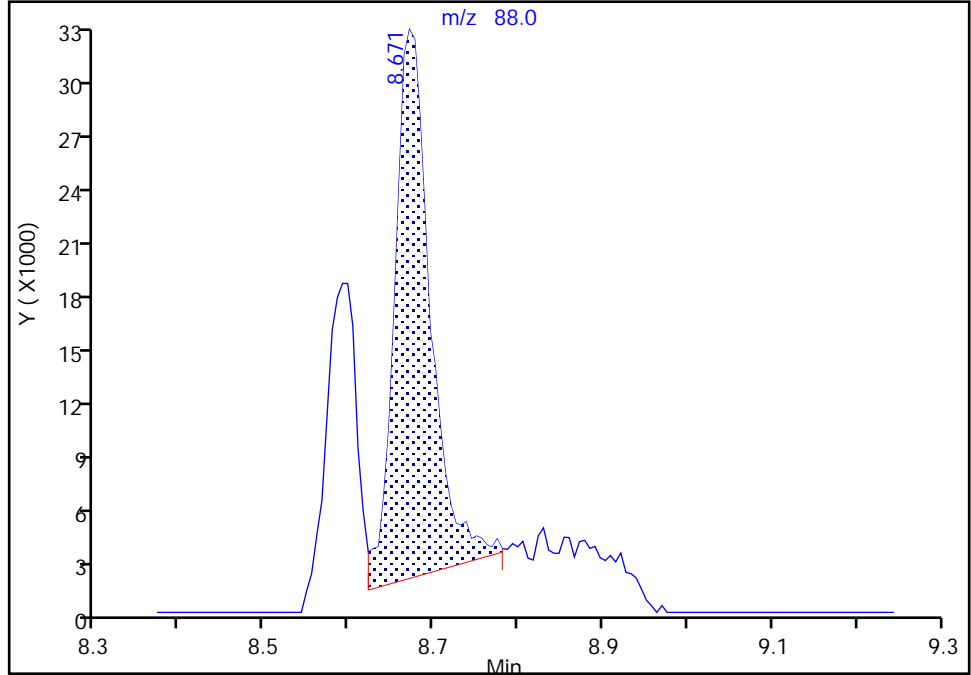
Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\lu02C01.D
Injection Date: 02-Jun-2020 08:16:30 Instrument ID: 19930
Lims ID: CCVIS
Client ID:
Operator ID: JKH09052 ALS Bottle#: 2 Worklist Smp#: 3
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

65 1,4-Dioxane, CAS: 123-91-1

Signal: 1

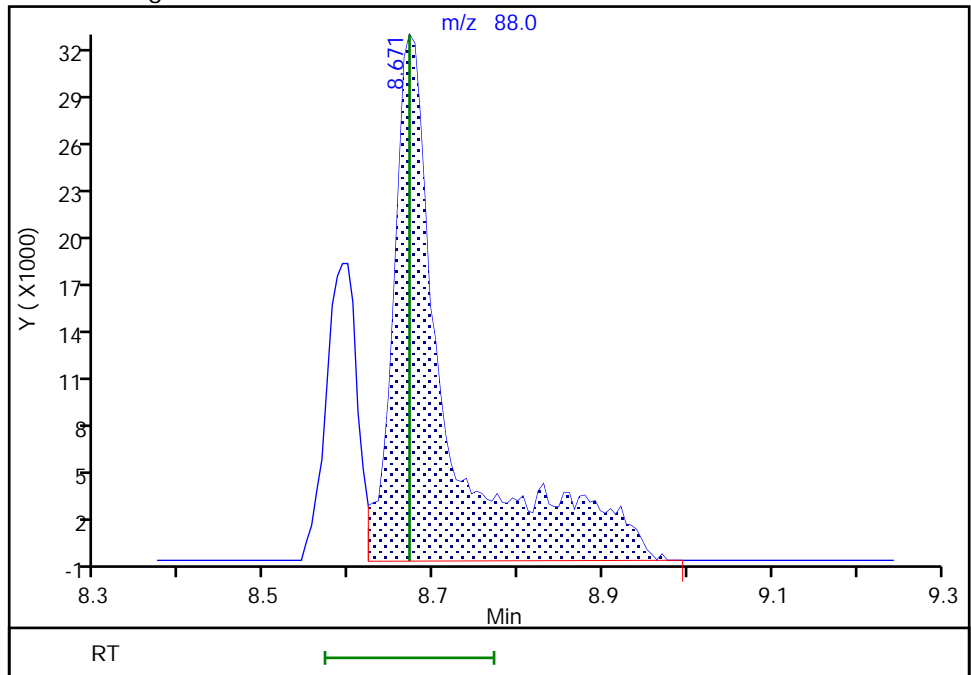
RT: 8.67
Area: 91443
Amount: 297.6346
Amount Units: ug/l

Processing Integration Results



RT: 8.67
Area: 148594
Amount: 483.6534
Amount Units: ug/l

Manual Integration Results



Reviewer: howej, 02-Jun-2020 08:51:14
Audit Action: Assigned New Baseline

Audit Reason: Other

Lancaster, PA
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\Im16T01.D
 Lims ID: bfb
 Client ID:
 Sample Type: BFB
 Inject. Date: 16-Mar-2020 12:37:30 ALS Bottle#: 1 Worklist Smp#: 1
 Injection Vol: 1.0 uL Dil. Factor: 1.0000
 Sample Info: JAN28 2020 BFB;50NGBFB;1;3;.....
 Misc. Info.: ;1193434AA;;25;25;;
 Operator ID: JKH09052 Instrument ID: 19930
 Method: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\8260 25ml HP31.m
 Limit Group: MSV - 8260C_D
 Last Update: 28-Apr-2020 17:05:23 Calib Date: 16-Mar-2020 18:31:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\IM16I07.D
 Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
 Process Host: CTX1031

First Level Reviewer: campbellme Date: 17-Mar-2020 22:40:53

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
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\$ 145 BFB	95	5.215	5.215	0.000	89	486511	NR	NR	
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QC Flag Legend

Processing Flags

NR - Missing Quant Standard

Reagents:

MSV_V_BFB_00002

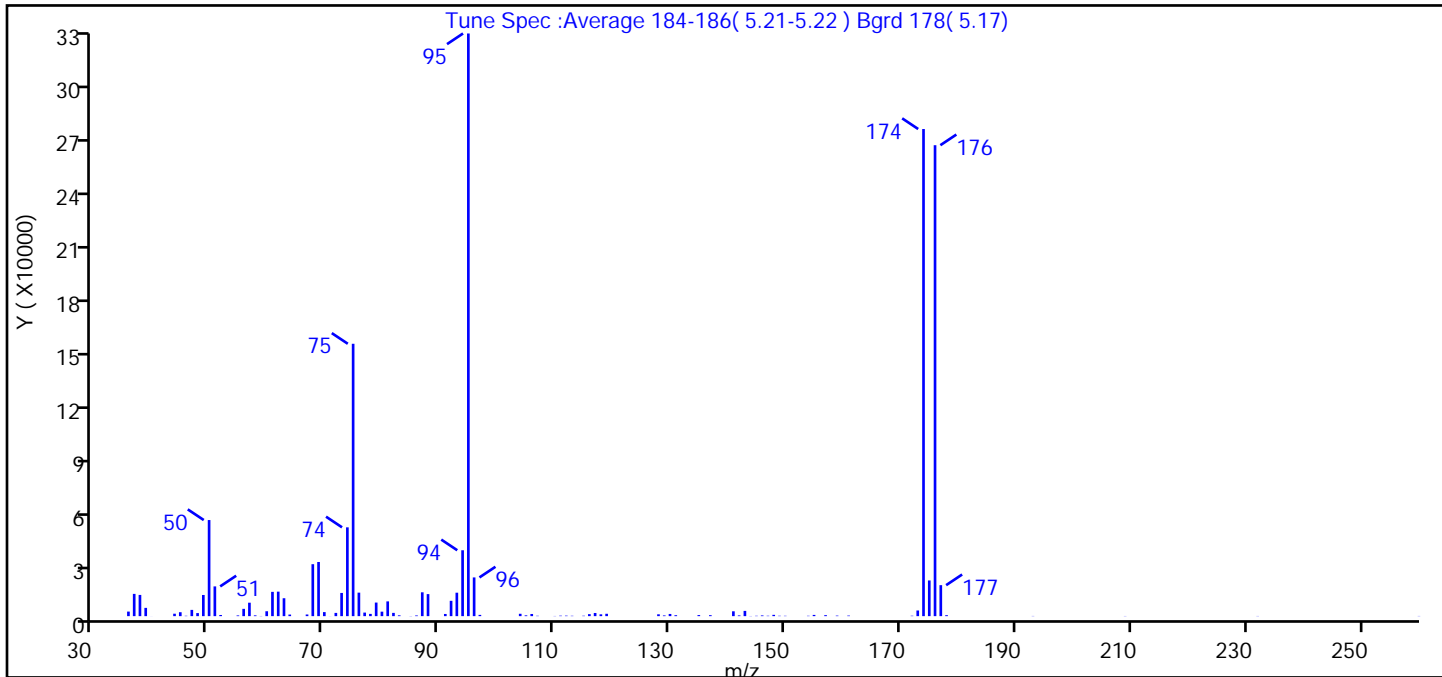
Amount Added: 1.00

Units: uL

Lancaster, PA

Data File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\lm16T01.D
 Injection Date: 16-Mar-2020 12:37:30 Instrument ID: 19930
 Lims ID: bfb
 Client ID:
 Operator ID: JKH09052 ALS Bottle#: 1 Worklist Smp#: 1
 Injection Vol: 1.0 uL Dil. Factor: 1.0000
 Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
 Tune Method: BFB Method 8260

\$ 145 BFB



m/z	Ion Abundance Criteria	% Relative Abundance
95	Base peak, 100% relative abundance	100.0
50	15 to 40% of m/z 95	16.5
75	30 to 60% of m/z 95	46.7
96	5 to 9% of m/z 95	6.6
173	Less than 2% of m/z 174	1.0 (1.2)
174	50 to 120% of m/z 95	83.6
175	5 to 9% of m/z 174	6.1 (7.3)
176	Greater than 95% but less than 101% of m/z 174	80.8 (96.7)
177	5 to 9% of m/z 176	5.3 (6.6)

Data File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\lm16T01.D\8260 25ml HP31.rslt\spectra.d
Injection Date: 16-Mar-2020 12:37:30
Spectrum: Tune Spec :Average 184-186(5.21-5.22) Bgrd 178(5.17)
Base Peak: 95.00
Minimum % Base Peak: 0
Number of Points: 97

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	2578	68.00	29368	96.00	21888	145.00	198
37.00	12584	69.00	30616	97.00	715	146.00	401
38.00	11995	70.00	2282	104.00	1336	147.00	219
39.00	4674	71.00	37	105.00	449	148.00	737
40.00	24	72.00	1830	106.00	1221	149.00	207
44.00	1375	73.00	13115	107.00	200	150.00	191
45.00	2223	74.00	50208	110.00	101	154.00	199
46.00	205	75.00	153984	111.00	268	155.00	697
47.00	3535	76.00	13289	112.00	281	157.00	550
48.00	1729	77.00	2010	113.00	205	159.00	302
49.00	11966	78.00	1275	115.00	231	161.00	316
50.00	54328	79.00	7677	116.00	1136	172.00	226
51.00	16816	80.00	2535	117.00	1783	173.00	3197
52.00	655	81.00	8343	118.00	1026	174.00	275392
55.00	403	82.00	1843	119.00	1336	175.00	20176
56.00	4122	83.00	453	128.00	1039	176.00	266240
57.00	7603	85.00	84	129.00	401	177.00	17512
58.00	445	86.00	386	130.00	1235	178.00	538
59.00	93	87.00	13476	131.00	526	193.00	107
60.00	2772	88.00	12459	135.00	598	209.00	92
61.00	13729	91.00	1231	137.00	535	232.00	98
62.00	13850	92.00	8669	141.00	2741	260.00	105
63.00	10129	93.00	13252	142.00	411		
64.00	897	94.00	37248	143.00	2964		
67.00	936	95.00	329408	144.00	90		

Lancaster, PA

Data File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\lm16T01.D

Injection Date: 16-Mar-2020 12:37:30

Instrument ID: 19930

Operator ID: JKH09052

Lims ID: bfb

Worklist Smp#: 1

Client ID:

Injection Vol: 1.0 uL

Dil. Factor: 1.0000

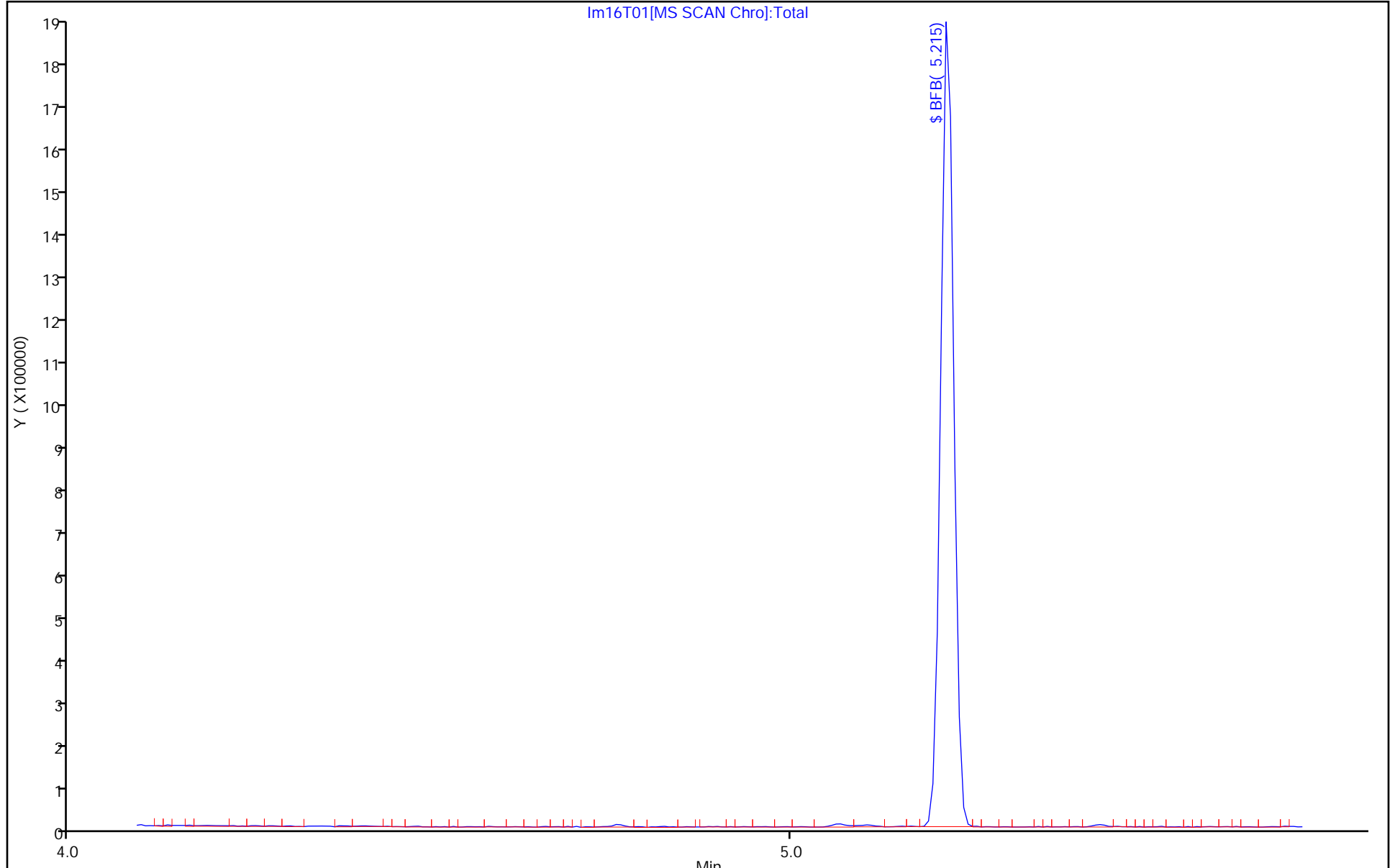
ALS Bottle#: 1

Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25 mm)

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\19930\20200424-2093.b\IM18T01.D
 Lims ID: bfb
 Client ID:
 Sample Type: BFB
 Inject. Date: 18-Mar-2020 09:11:30 ALS Bottle#: 2 Worklist Smp#: 20
 Injection Vol: 1.0 uL Dil. Factor: 1.0000
 Sample Info: BFB JAN28-20;50NGBFB;1;3;.....
 Misc. Info.: ;;;25;25;;;
 Operator ID: DVV10203 Instrument ID: 19930
 Method: \\chromfs\Lancaster\ChromData\19930\20200424-2093.b\8260 25ml HP31.m
 Limit Group: MSV - 8260C_D
 Last Update: 19-May-2020 23:44:47 Calib Date: 16-Mar-2020 18:31:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\IM16I07.D
 Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
 Process Host: CTX1037

First Level Reviewer: campbellme Date: 24-Apr-2020 16:49:14

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
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\$ 145 BFB	95	5.215	5.215	0.000	88	294667	NR	NR	
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QC Flag Legend

Processing Flags

NR - Missing Quant Standard

Reagents:

MSV_V_BFB_00002

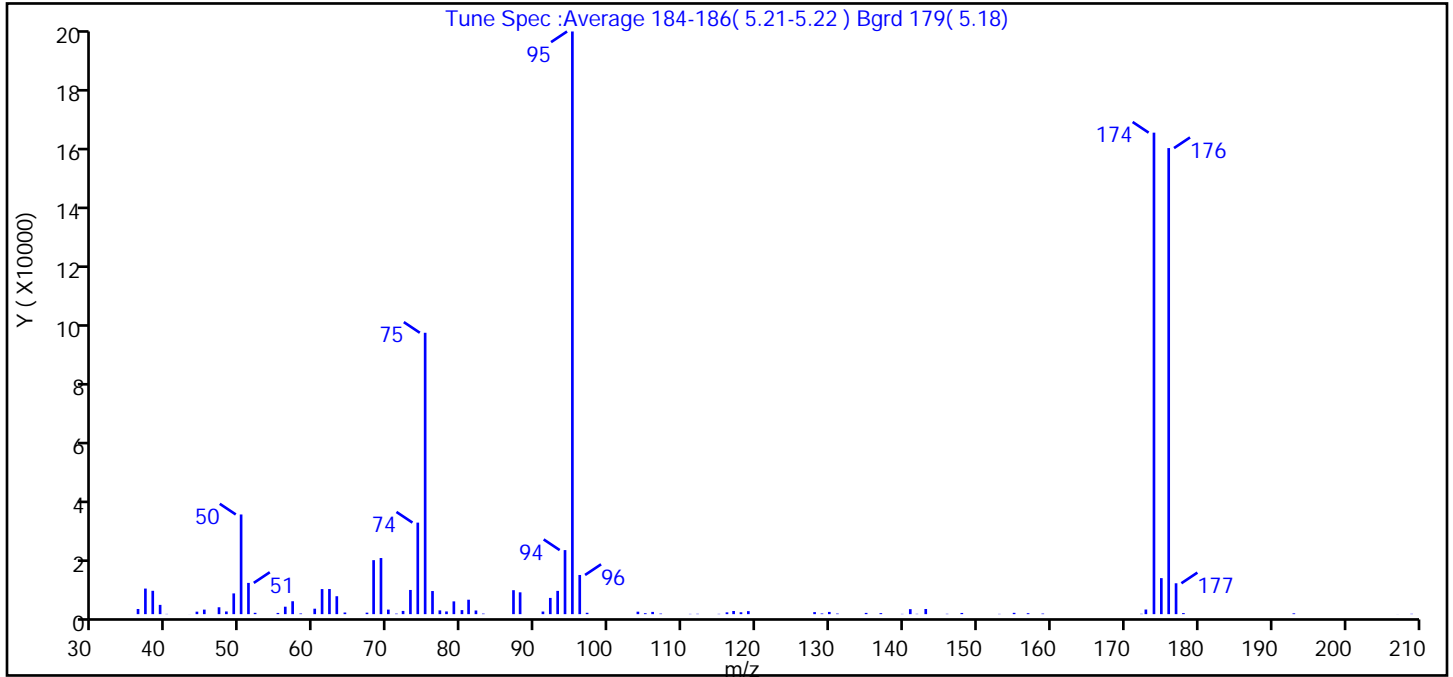
Amount Added: 1.00

Units: uL

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200424-2093.b\IM18T01.D
 Injection Date: 18-Mar-2020 09:11:30 Instrument ID: 19930
 Lims ID: bfb
 Client ID:
 Operator ID: DVV10203 ALS Bottle#: 2 Worklist Smp#: 20
 Injection Vol: 1.0 uL Dil. Factor: 1.0000
 Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
 Tune Method: BFB Method 8260

\$ 145 BFB



m/z	Ion Abundance Criteria	% Relative Abundance
95	Base peak, 100% relative abundance	100.0
50	15 to 40% of m/z 95	17.1
75	30 to 60% of m/z 95	48.3
96	5 to 9% of m/z 95	6.7
173	Less than 2% of m/z 174	0.8 (1.0)
174	50 to 120% of m/z 95	82.6
175	5 to 9% of m/z 174	6.2 (7.5)
176	Greater than 95% but less than 101% of m/z 174	80.0 (96.8)
177	5 to 9% of m/z 176	5.3 (6.6)

Data File: \\chromfs\Lancaster\ChromData\19930\20200424-2093.b\IM18T01.D\8260 25ml HP31.rslt\spectra.d
 Injection Date: 18-Mar-2020 09:11:30
 Spectrum: Tune Spec :Average 184-186(5.21-5.22) Bgrd 179(5.18)
 Base Peak: 95.00
 Minimum % Base Peak: 0
 Number of Points: 86

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	1730	64.00	547	93.00	7815	140.00	87
37.00	8590	67.00	498	94.00	21512	141.00	1675
38.00	7842	68.00	18136	95.00	195712	142.00	107
39.00	3111	69.00	18848	96.00	13157	143.00	1731
40.00	80	70.00	1527	97.00	456	146.00	114
43.00	17	71.00	174	104.00	828	148.00	402
44.00	833	72.00	1081	105.00	314	153.00	89
45.00	1521	73.00	8123	106.00	754	155.00	441
47.00	2309	74.00	30744	107.00	189	157.00	324
48.00	901	75.00	94512	111.00	86	159.00	192
49.00	6967	76.00	7761	112.00	116	172.00	115
50.00	33480	77.00	1268	115.00	96	173.00	1554
51.00	10494	78.00	908	116.00	606	174.00	161728
52.00	447	79.00	4289	117.00	1060	175.00	12097
55.00	405	80.00	1358	118.00	633	176.00	156544
56.00	2499	81.00	4848	119.00	1010	177.00	10372
57.00	4334	82.00	1225	128.00	684	178.00	352
58.00	222	83.00	180	129.00	227	193.00	269
60.00	1830	87.00	8044	130.00	743	207.00	19
61.00	8417	88.00	7332	131.00	199	209.00	112
62.00	8437	91.00	877	135.00	419		
63.00	6018	92.00	5453	137.00	341		

Euofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200424-2093.b\IM18T01.D

Injection Date: 18-Mar-2020 09:11:30

Instrument ID: 19930

Operator ID: DVV10203

Lims ID: bfb

Worklist Smp#: 20

Client ID:

Injection Vol: 1.0 uL

Dil. Factor: 1.0000

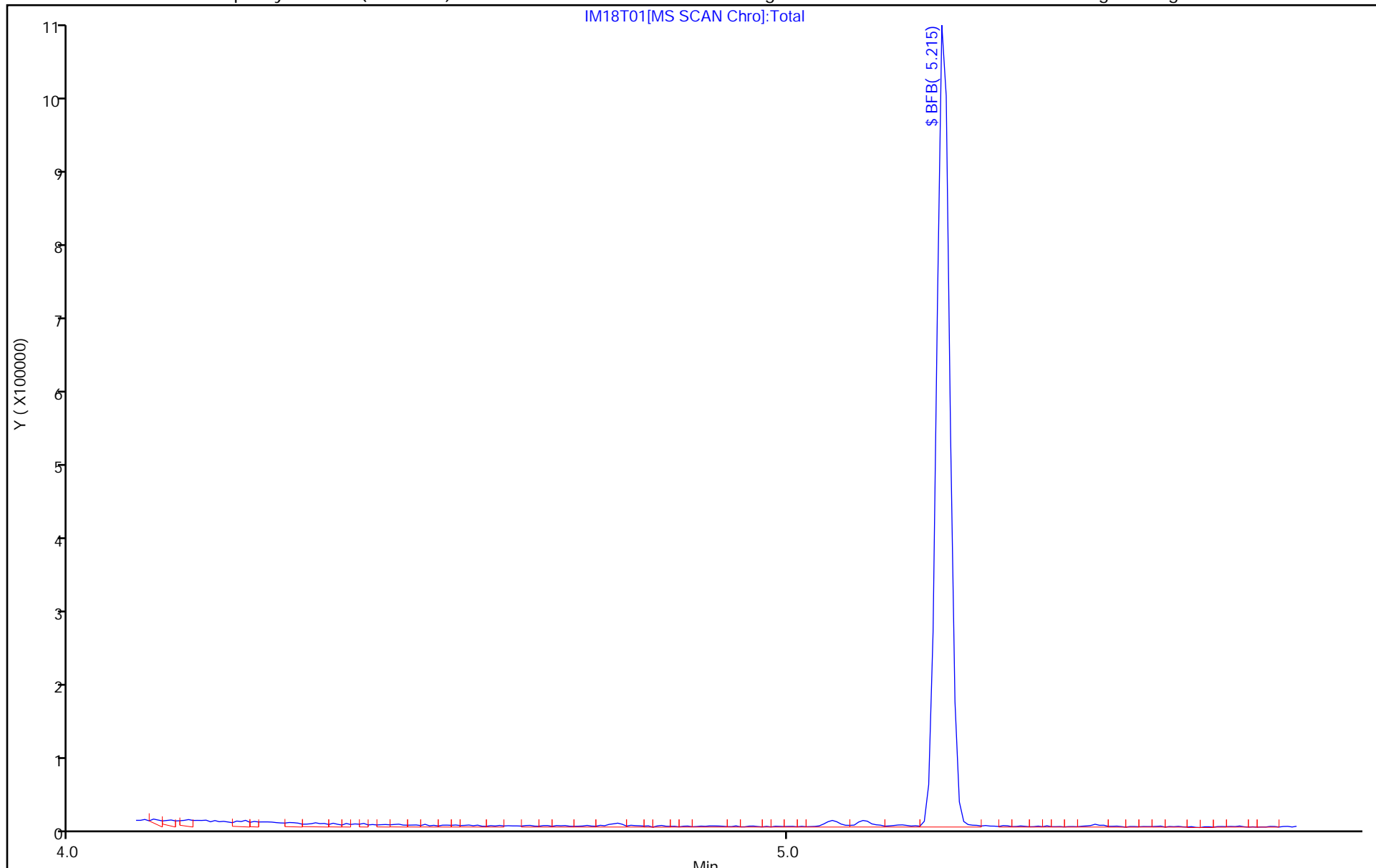
ALS Bottle#: 2

Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25 mm)

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Eurofins Lancaster Laboratories Env, LLC
 Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\lu02T01.D
 Lims ID: bfb
 Client ID:
 Sample Type: BFB
 Inject. Date: 02-Jun-2020 07:40:30 ALS Bottle#: 1 Worklist Smp#: 1
 Injection Vol: 1.0 uL Dil. Factor: 1.0000
 Sample Info: 410-0002623-001
 Misc. Info.: BFB
 Operator ID: JKH09052 Instrument ID: 19930
 Method: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\8260 25ml HP31.m
 Limit Group: MSV - 8260C_D
 Last Update: 02-Jun-2020 12:51:30 Calib Date: 16-Mar-2020 18:31:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\IM16107.D
 Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
 Process Host: CTX1002

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
\$ 145 BFB	95	5.215	5.215	0.000	90	332198	NR	NR	

QC Flag Legend

Processing Flags
 NR - Missing Quant Standard

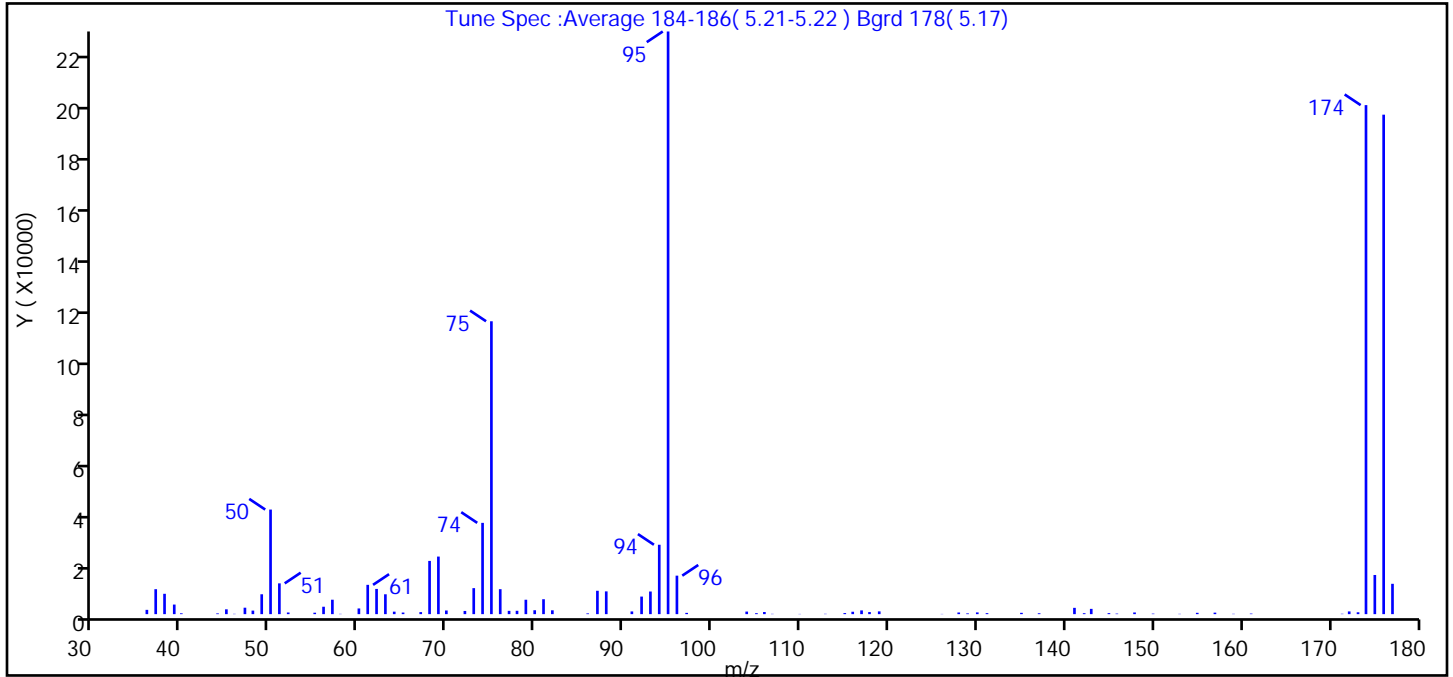
Reagents:

MSV_V_BFB_00002 Amount Added: 1.00 Units: uL

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\lu02T01.D
 Injection Date: 02-Jun-2020 07:40:30 Instrument ID: 19930
 Lims ID: bfb
 Client ID:
 Operator ID: JKH09052 ALS Bottle#: 1 Worklist Smp#: 1
 Injection Vol: 1.0 uL Dil. Factor: 1.0000
 Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
 Tune Method: BFB Method 8260

\$ 145 BFB



m/z	Ion Abundance Criteria	% Relative Abundance
95	Base peak, 100% relative abundance	100.0
50	15 to 40% of m/z 95	17.9
75	30 to 60% of m/z 95	50.3
96	5 to 9% of m/z 95	6.6
173	Less than 2% of m/z 174	0.3 (0.4)
174	50 to 120% of m/z 95	87.4
175	5 to 9% of m/z 174	6.7 (7.7)
176	Greater than 95% but less than 101% of m/z 174	85.7 (98.1)
177	5 to 9% of m/z 176	5.2 (6.1)

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\lu02T01.D\8260 25ml HP31.rsl\spectra.d
 Injection Date: 02-Jun-2020 07:40:30
 Spectrum: Tune Spec :Average 184-186(5.21-5.22) Bgrd 178(5.17)
 Base Peak: 95.00
 Minimum % Base Peak: 0
 Number of Points: 86

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	1666	64.00	969	93.00	8792	137.00	343
37.00	9692	65.00	620	94.00	26960	141.00	2447
38.00	7905	67.00	790	95.00	226368	142.00	364
39.00	3726	68.00	20680	96.00	14953	143.00	2047
40.00	326	69.00	22368	97.00	494	145.00	395
44.00	289	70.00	1419	104.00	998	146.00	210
45.00	1879	72.00	1239	105.00	374	148.00	649
46.00	118	73.00	10101	106.00	825	150.00	199
47.00	2502	74.00	35464	107.00	114	153.00	115
48.00	1380	75.00	113784	110.00	84	155.00	518
49.00	7724	76.00	9697	113.00	129	157.00	581
50.00	40632	77.00	1280	115.00	418	159.00	127
51.00	11960	78.00	1302	116.00	933	161.00	218
52.00	641	79.00	5597	117.00	1453	171.00	145
55.00	556	80.00	1515	118.00	808	172.00	1056
56.00	2878	81.00	5796	119.00	1074	173.00	724
57.00	5605	82.00	1495	126.00	84	174.00	197760
58.00	111	86.00	290	128.00	644	175.00	15213
60.00	2210	87.00	9078	129.00	293	176.00	194048
61.00	11385	88.00	8845	130.00	677	177.00	11786
62.00	9798	91.00	1055	131.00	387		
63.00	7718	92.00	6825	135.00	515		

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\lu02T01.D

Injection Date: 02-Jun-2020 07:40:30

Instrument ID: 19930

Operator ID: JKH09052

Lims ID: bfb

Worklist Smp#: 1

Client ID:

Injection Vol: 1.0 uL

Dil. Factor: 1.0000

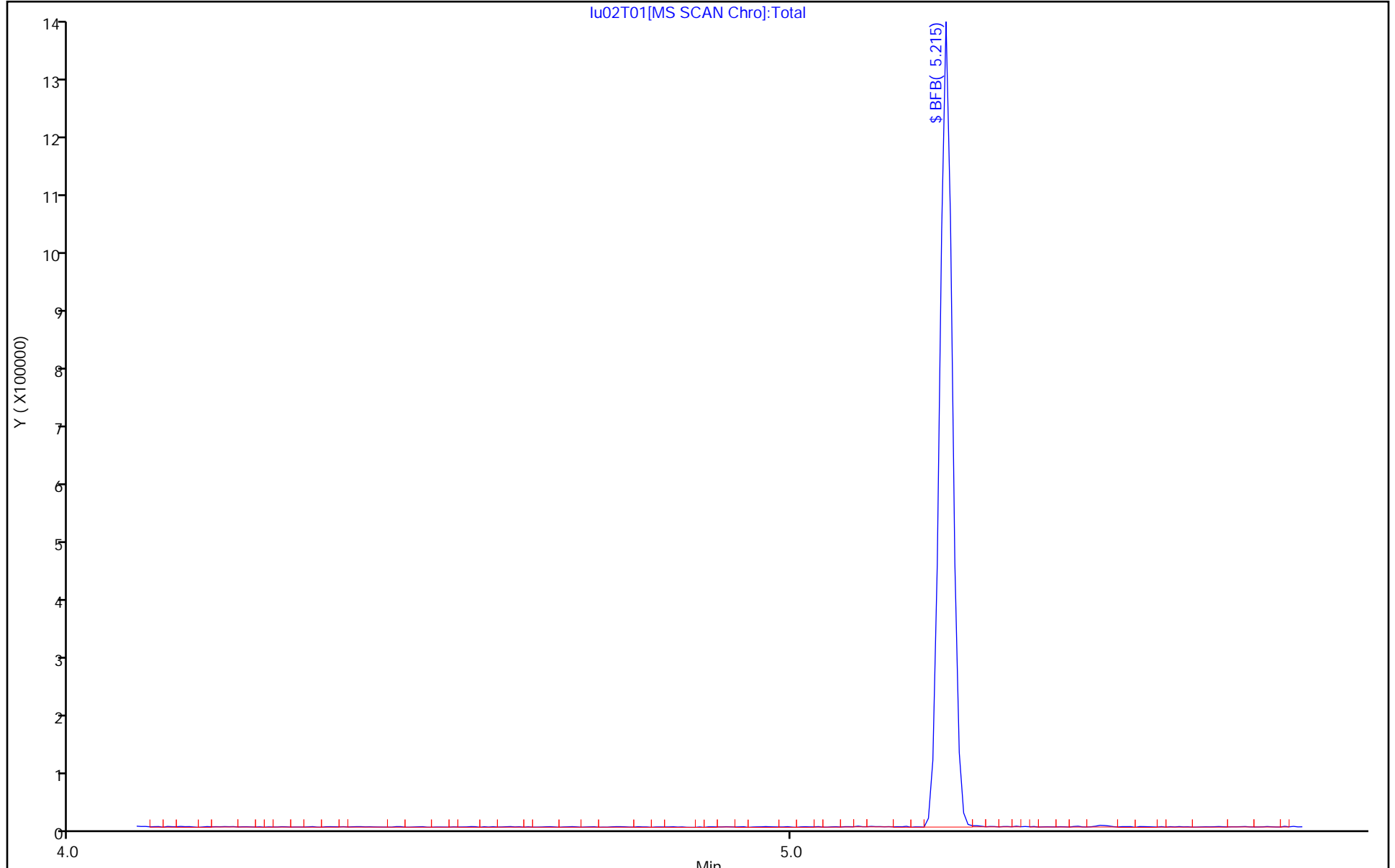
ALS Bottle#: 1

Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25 mm)

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-2632-1
 SDG No.: _____
 Client Sample ID: _____ Lab Sample ID: MB 410-9922/6
 Matrix: Water Lab File ID: Iu02B01.D
 Analysis Method: 8260C LL Date Collected: _____
 Sample wt/vol: 25 (mL) Date Analyzed: 06/02/2020 09:19
 Soil Aliquot Vol: _____ Dilution Factor: 1
 Soil Extract Vol.: _____ GC Column: R-624SilMS 30m ID: 0.25 (mm)
 % Moisture: _____ Level: (low/med) Low
 Analysis Batch No.: 9922 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	ND		0.50	0.070
71-55-6	1,1,1-Trichloroethane	ND		0.50	0.060
79-34-5	1,1,2,2-Tetrachloroethane	ND		0.50	0.070
79-00-5	1,1,2-Trichloroethane	ND		0.50	0.060
75-34-3	1,1-Dichloroethane	ND		0.50	0.070
75-35-4	1,1-Dichloroethene	ND		0.50	0.060
106-93-4	1,2-Dibromoethane (EDB)	ND		0.50	0.060
107-06-2	1,2-Dichloroethane	ND		0.50	0.050
78-87-5	1,2-Dichloropropane	ND		0.50	0.060
78-93-3	2-Butanone (MEK)	ND		5.0	0.60
591-78-6	2-Hexanone	ND		5.0	0.60
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		5.0	0.70
67-64-1	Acetone	ND		5.0	0.90
107-13-1	Acrylonitrile	ND		5.0	0.40
71-43-2	Benzene	ND		0.50	0.050
74-97-5	Bromochloromethane	ND		0.50	0.050
75-27-4	Bromodichloromethane	ND		0.50	0.050
75-25-2	Bromoform	ND		1.0	0.30
74-83-9	Bromomethane	ND		0.50	0.070
75-15-0	Carbon disulfide	ND		1.0	0.060
56-23-5	Carbon tetrachloride	ND		0.50	0.070
108-90-7	Chlorobenzene	ND		0.50	0.060
75-00-3	Chloroethane	ND		0.50	0.070
67-66-3	Chloroform	ND		0.50	0.090
74-87-3	Chloromethane	ND		0.50	0.060
156-59-2	cis-1,2-Dichloroethene	ND		0.50	0.050
10061-01-5	cis-1,3-Dichloropropene	ND		0.50	0.050
124-48-1	Dibromochloromethane	ND		0.50	0.070
100-41-4	Ethylbenzene	ND		0.50	0.060
1634-04-4	Methyl tert-butyl ether	ND		0.50	0.050
75-09-2	Methylene Chloride	ND		0.50	0.070
100-42-5	Styrene	ND		0.50	0.050
127-18-4	Tetrachloroethene	ND		0.50	0.060
108-88-3	Toluene	ND		0.50	0.070
156-60-5	trans-1,2-Dichloroethene	ND		0.50	0.060
10061-02-6	trans-1,3-Dichloropropene	ND		0.50	0.060

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-2632-1
 SDG No.: _____
 Client Sample ID: _____ Lab Sample ID: MB 410-9922/6
 Matrix: Water Lab File ID: Iu02B01.D
 Analysis Method: 8260C LL Date Collected: _____
 Sample wt/vol: 25 (mL) Date Analyzed: 06/02/2020 09:19
 Soil Aliquot Vol: _____ Dilution Factor: 1
 Soil Extract Vol.: _____ GC Column: R-624SilMS 30m ID: 0.25 (mm)
 % Moisture: _____ Level: (low/med) Low
 Analysis Batch No.: 9922 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
79-01-6	Trichloroethene	ND		0.50	0.060
75-01-4	Vinyl chloride	ND		0.50	0.10
1330-20-7	Xylenes, Total	ND		1.0	0.15

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	104		80-120
1868-53-7	Dibromofluoromethane (Surr)	101		80-120
2037-26-5	Toluene-d8 (Surr)	99		80-120
460-00-4	4-Bromofluorobenzene (Surr)	97		80-120

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\lu02B01.D
 Lims ID: MB
 Client ID:
 Sample Type: MB
 Inject. Date: 02-Jun-2020 09:19:30 ALS Bottle#: 5 Worklist Smp#: 6
 Purge Vol: 25.000 mL Dil. Factor: 1.0000
 Sample Info: 410-0002623-006
 Misc. Info.: MB
 Operator ID: JKH09052 Instrument ID: 19930
 Method: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\8260 25ml HP31.m
 Limit Group: MSV - 8260C_D
 Last Update: 02-Jun-2020 12:51:30 Calib Date: 16-Mar-2020 18:31:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\IM16107.D
 Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
 Process Host: CTX1002

First Level Reviewer: howej Date: 02-Jun-2020 12:32:01

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Dichlorodifluoromethane	85		1.983					ND	
2 Chlorodifluoromethane	51		2.014					ND	
3 Dimethyl ether	45		2.068					ND	
4 Chloromethane	50		2.190					ND	
5 Vinyl chloride	62		2.300					ND	
6 Butadiene	39		2.306					ND	U
7 Bromomethane	94		2.642					ND	
8 Chloroethane	64		2.727					ND	
9 Dichlorofluoromethane	67		2.971					ND	
10 Trichlorofluoromethane	101		3.032					ND	
11 Ethyl ether	59		3.282					ND	
12 1,2-Dichloro-1,1,2-trifluoroetha	67		3.361					ND	
13 Acrolein	56		3.459					ND	U
14 1,1-Dichloroethene	96		3.599					ND	
15 Acetone	43	3.647	3.629	0.018	69	3114		0.2856	
16 112TCTFE	101		3.648					ND	
17 Iodomethane	142		3.800					ND	
18 Ethyl bromide	108		3.830					ND	
19 Carbon disulfide	76		3.910					ND	U
20 Acetonitrile	41		4.031					ND	
21 Methyl acetate	43		4.056					ND	
22 3-Chloro-1-propene	41		4.093					ND	
23 Methylene Chloride	84		4.288					ND	
* 24 t-Butyl alcohol-d10 (IS)	65	4.306	4.300	0.006	0	219716	50.0	50.0	
25 2-Methyl-2-propanol	59		4.416					ND	
26 Acrylonitrile	53		4.623					ND	
27 Methyl tert-butyl ether	73		4.696					ND	
28 trans-1,2-Dichloroethene	96		4.702					ND	
29 Hexane	57		5.129					ND	
31 1,1-Dichloroethane	63		5.367					ND	
30 Vinyl acetate	43		5.373					ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
32 Isopropyl ether	45		5.422					ND	
33 2-Chloro-1,3-butadiene	53		5.476					ND	
34 Tert-butyl ethyl ether	59		5.958					ND	U
S 35 1,2-Dichloroethene, Total	100		6.155					ND	
36 2-Butanone (MEK)	43		6.165					ND	
37 cis-1,2-Dichloroethene	96		6.196					ND	
38 2,2-Dichloropropane	77		6.208					ND	
39 Ethyl acetate	43		6.238					ND	U
40 Propionitrile	54		6.257					ND	
41 Methyl acrylate	55		6.305					ND	
42 Methacrylonitrile	67		6.470					ND	
43 Chlorobromomethane	128		6.525					ND	
44 Tetrahydrofuran	71		6.537					ND	
45 Chloroform	83		6.677					ND	
\$ 46 Dibromofluoromethane (Surr)	113	6.897	6.885	0.012	93	466549	10.0	10.1	
47 1,1,1-Trichloroethane	97		6.903					ND	
48 Cyclohexane	56		7.001					ND	
49 1-Chlorobutane	56		7.067					ND	
50 Carbon tetrachloride	117		7.110					ND	
51 1,1-Dichloropropene	75		7.110					ND	
52 Isobutyl alcohol	41		7.263					ND	
\$ 53 1,2-Dichloroethane-d4 (Surr)	102	7.348	7.342	0.006	0	96816	10.0	10.4	
54 Benzene	78		7.378					ND	
56 1,2-Dichloroethane	62		7.452					ND	
55 Isopropyl acetate	43		7.464					ND	
57 Tert-amyl methyl ether	73		7.561					ND	
* 58 Fluorobenzene (IS)	96	7.781	7.775	0.006	99	1908947	10.0	10.0	
59 n-Heptane	43		7.787					ND	
60 n-Butanol	56		8.134					ND	
61 Trichloroethene	95		8.256					ND	
62 Methylcyclohexane	83		8.561					ND	
63 1,2-Dichloropropane	63		8.586					ND	
64 Methyl methacrylate	69		8.665					ND	
65 1,4-Dioxane	88		8.671					ND	
66 Dibromomethane	93		8.701					ND	
67 n-Propyl acetate	43		8.750					ND	
68 Dichlorobromomethane	83		8.927					ND	
69 2-Nitropropane	41		9.201					ND	
70 Chloroacetonitrile	75		9.274					ND	
71 2-Chloroethyl vinyl ether	63		9.293					ND	
72 1-Bromo-2-chloroethane	63		9.317					ND	
73 cis-1,3-Dichloropropene	75		9.470					ND	
74 4-Methyl-2-pentanone (MIBK)	43		9.634					ND	U
\$ 75 Toluene-d8 (Surr)	98	9.780	9.774	0.006	94	1864034	10.0	9.91	
76 Toluene	92		9.854					ND	U
S 77 1,3-Dichloropropene, Total	100		10.060					ND	
78 trans-1,3-Dichloropropene	75		10.104					ND	
79 Ethyl methacrylate	69		10.158					ND	
80 1,1,2-Trichloroethane	97		10.305					ND	
81 Tetrachloroethene	166		10.396					ND	
82 1,3-Dichloropropane	76		10.469					ND	
83 2-Hexanone	43		10.512					ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
84 n-Butyl acetate	43		10.640					ND	
85 Chlorodibromomethane	129		10.683					ND	
86 Ethylene Dibromide	107		10.792					ND	
* 87 Chlorobenzene-d5 (IS)	117	11.219	11.219	0.000	86	1479506	10.0	10.0	
88 1-Chlorohexane	91		11.225					ND	U
90 Chlorobenzene	112		11.244					ND	
S 89 Xylenes, Total	106		11.245					ND	
91 1,1,1,2-Tetrachloroethane	131		11.323					ND	
92 Ethylbenzene	91		11.329					ND	
93 m-Xylene & p-Xylene	106		11.445					ND	
94 o-Xylene	106		11.768					ND	
95 Styrene	104		11.786					ND	
96 Bromoform	173		11.945					ND	
97 Isopropylbenzene	105		12.067					ND	
98 cis-1,4-Dichloro-2-butene	88		12.115					ND	U
99 Cyclohexanone	55		12.152					ND	
\$ 100 4-Bromofluorobenzene (Surr)	95	12.213	12.213	0.000	92	683080	10.0	9.73	
101 1,1,2,2-Tetrachloroethane	83		12.310					ND	
102 Bromobenzene	156		12.329					ND	
103 trans-1,4-Dichloro-2-butene	53		12.335					ND	
104 1,2,3-Trichloropropane	110		12.359					ND	
105 N-Propylbenzene	91		12.396					ND	
106 2-Chlorotoluene	126		12.475					ND	
107 1,3,5-Trimethylbenzene	105		12.530					ND	
108 4-Chlorotoluene	126		12.567					ND	
109 tert-Butylbenzene	134		12.774					ND	
110 Pentachloroethane	167		12.804					ND	
111 1,2,4-Trimethylbenzene	105		12.816					ND	
112 sec-Butylbenzene	105		12.938					ND	
113 1,3-Dichlorobenzene	146		13.036					ND	
114 4-Isopropyltoluene	119		13.042					ND	U
* 115 1,4-Dichlorobenzene-d4	152	13.091	13.091	0.000	95	816884	10.0	10.0	
116 1,4-Dichlorobenzene	146		13.109					ND	U
117 1,2,3-Trimethylbenzene	120		13.115					ND	U
118 Benzyl chloride	126		13.182					ND	
119 n-Butylbenzene	92		13.335					ND	
120 1,2-Dichlorobenzene	146		13.365					ND	
121 Hexachloroethane	117		13.572					ND	
122 1,2-Dibromo-3-Chloropropane	155		13.908					ND	
123 1,3,5-Trichlorobenzene	180		14.036					ND	U
124 1,2,4-Trichlorobenzene	180		14.456					ND	U
125 Hexachlorobutadiene	225		14.542					ND	U
126 Naphthalene	128		14.639					ND	U
127 1,2,3-Trichlorobenzene	180		14.779					ND	U
128 Dodecane	57		0.000					ND	
156 2,3-Dibromopropene TIC	1		0.000					ND	
155 Ethylene oxide TIC	1		0.000					ND	
154 2-Bromo-3-chloropropene TIC	1		0.000					ND	
153 Epichlorohydrin TIC	1		0.000					ND	
152 Vinyl bromide TIC	1		0.000					ND	
151 Chloroacetaldehyde TIC	1		0.000					ND	
150 Epibromohydrin TIC	1		0.000					ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
149 2-Chloroethanol TIC	1		0.000					ND	
148 Monochloroacetic acid TIC	1		0.000					ND	
147 2-Bromoethanol TIC	1		0.000					ND	
146 2,3-Dibromo-1-propanol TIC	1		0.000					ND	
144 2-ethoxy-2-methyl butane	1		0.000					ND	
143 n-Decane	57		0.000					ND	
142 2-Bromo-1-chloropropane	1		0.000					ND	
157 3-Chloro-1,2-propanediol TIC	1		0.000					ND	
139 1-Bromo-3-Chloropropane	1		0.000					ND	
138 1,1-Dichloro-1-fluoroethane	1		0.000					ND	
137 2-Methylnaphthalene	142		0.000					ND	
136 2-Chloro-1,1,1-Trifluoroethane	1		0.000					ND	
135 p-Diethylbenzene	1		0.000					ND	
134 Isopropyl alcohol	45		0.000					ND	
133 t-Amyl alcohol	1		0.000					ND	
132 Methylal	1		0.000					ND	
131 tert-Butyl Formate	1		0.000					ND	
130 Chlorotrifluoroethene	1		0.000					ND	
129 Propene oxide	1		0.000					ND	
141 1-Chloropropane	1		0.000					ND	
140 Ethanol	45		3.288					ND	

QC Flag Legend

Review Flags

U - Marked Undetected

Reagents:

MSV_31_826ISS_00002

Amount Added: 5.00

Units: uL

Run Reagent

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\lu02B01.D

Injection Date: 02-Jun-2020 09:19:30

Instrument ID: 19930

Operator ID: JKH09052

Lims ID: MB

Worklist Smp#: 6

Client ID:

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

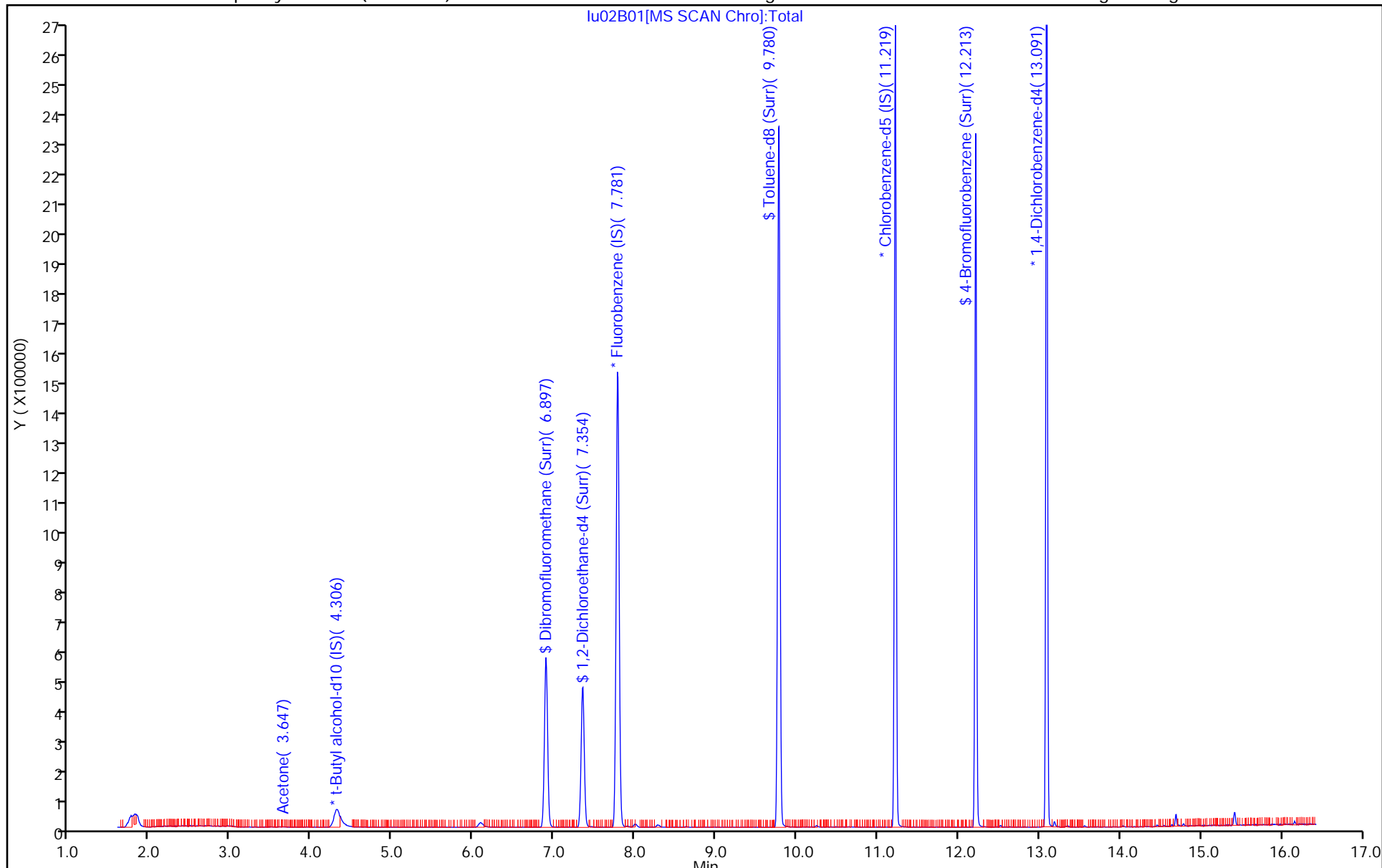
ALS Bottle#: 5

Method: 8260 25ml HP31

Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25 mm)

Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Eurofins Lancaster Laboratories Env, LLC
Recovery Report

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\lu02B01.D
 Lims ID: MB
 Client ID:
 Sample Type: MB
 Inject. Date: 02-Jun-2020 09:19:30 ALS Bottle#: 5 Worklist Smp#: 6
 Purge Vol: 25.000 mL Dil. Factor: 1.0000
 Sample Info: 410-0002623-006
 Misc. Info.: MB
 Operator ID: JKH09052 Instrument ID: 19930
 Method: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\8260 25ml HP31.m
 Limit Group: MSV - 8260C_D
 Last Update: 02-Jun-2020 12:51:30 Calib Date: 16-Mar-2020 18:31:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\IM16107.D
 Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
 Process Host: CTX1002

First Level Reviewer: howej

Date: 02-Jun-2020 12:32:01

Compound	Amount Added	Amount Recovered	% Rec.
\$ 46 Dibromofluoromethane (Surr)	10.0	10.1	101.26
\$ 53 1,2-Dichloroethane-d4 (Surr)	10.0	10.4	103.70
\$ 75 Toluene-d8 (Surr)	10.0	9.91	99.08
\$ 100 4-Bromofluorobenzene (Surr)	10.0	9.73	97.30

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\lu02B01.D

Injection Date: 02-Jun-2020 09:19:30

Instrument ID: 19930

Lims ID: MB

Client ID:

Operator ID: JKH09052

ALS Bottle#: 5

Worklist Smp#: 6

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

Method: 8260 25ml HP31

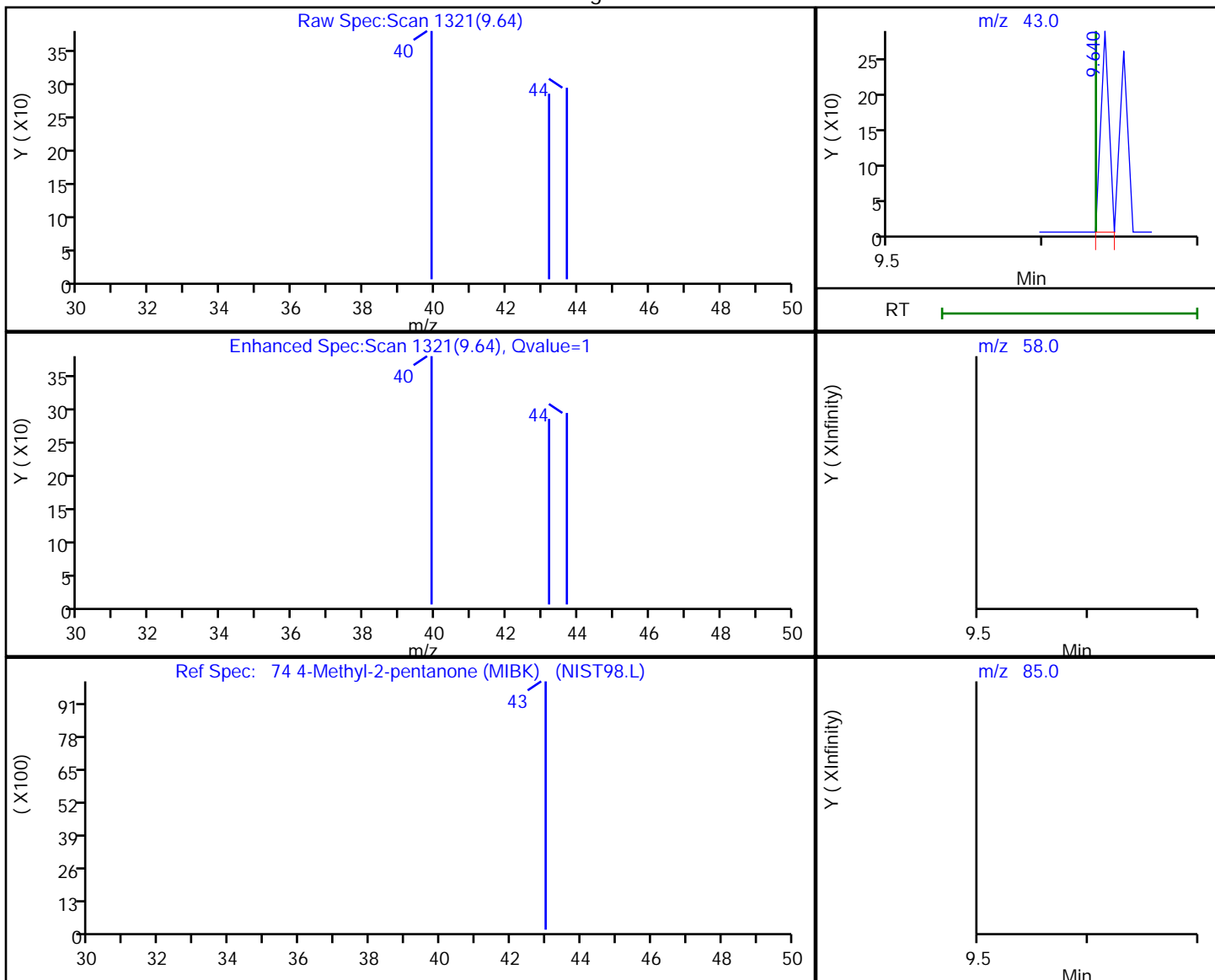
Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25mm ID)

MS Quad

74 4-Methyl-2-pentanone (MIBK), CAS: 108-10-1

Processing Results



RT	Mass	Response	Amount
9.64	43.00	103	0.002168
9.63	58.00	0	
9.63	85.00	0	
9.63	100.00	0	

Reviewer: howej, 02-Jun-2020 09:47:29

Audit Action: Marked Compound Undetected

Audit Reason: Invalid Compound ID

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\lu02B01.D

Injection Date: 02-Jun-2020 09:19:30

Instrument ID: 19930

Lims ID: MB

Client ID:

Operator ID: JKH09052

ALS Bottle#: 5

Worklist Smp#: 6

Purge Vol: 25.000 mL

Dil. Factor: 1.0000

Method: 8260 25ml HP31

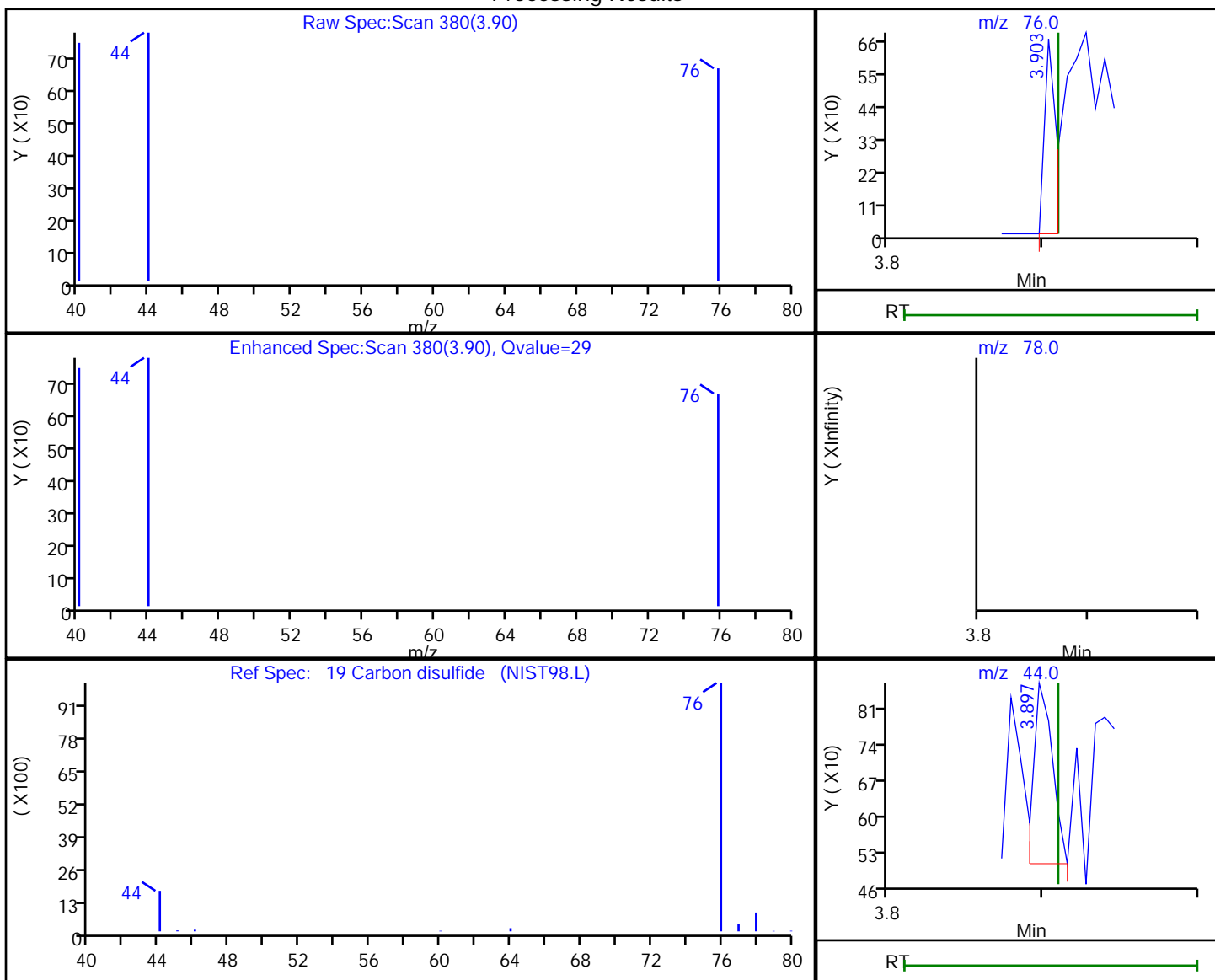
Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25mm ID)

MS Quad

19 Carbon disulfide, CAS: 75-15-0

Processing Results



RT	Mass	Response	Amount
3.90	76.00	351	0.002405
3.90	44.00	290	
3.91	78.00	0	

Reviewer: howej, 02-Jun-2020 09:47:18

Audit Action: Marked Compound Undetected

Audit Reason: Invalid Compound ID

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\lu02B01.D

Injection Date: 02-Jun-2020 09:19:30 Instrument ID: 19930

Lims ID: MB

Client ID:

Operator ID: JKH09052 ALS Bottle#: 5 Worklist Smp#: 6

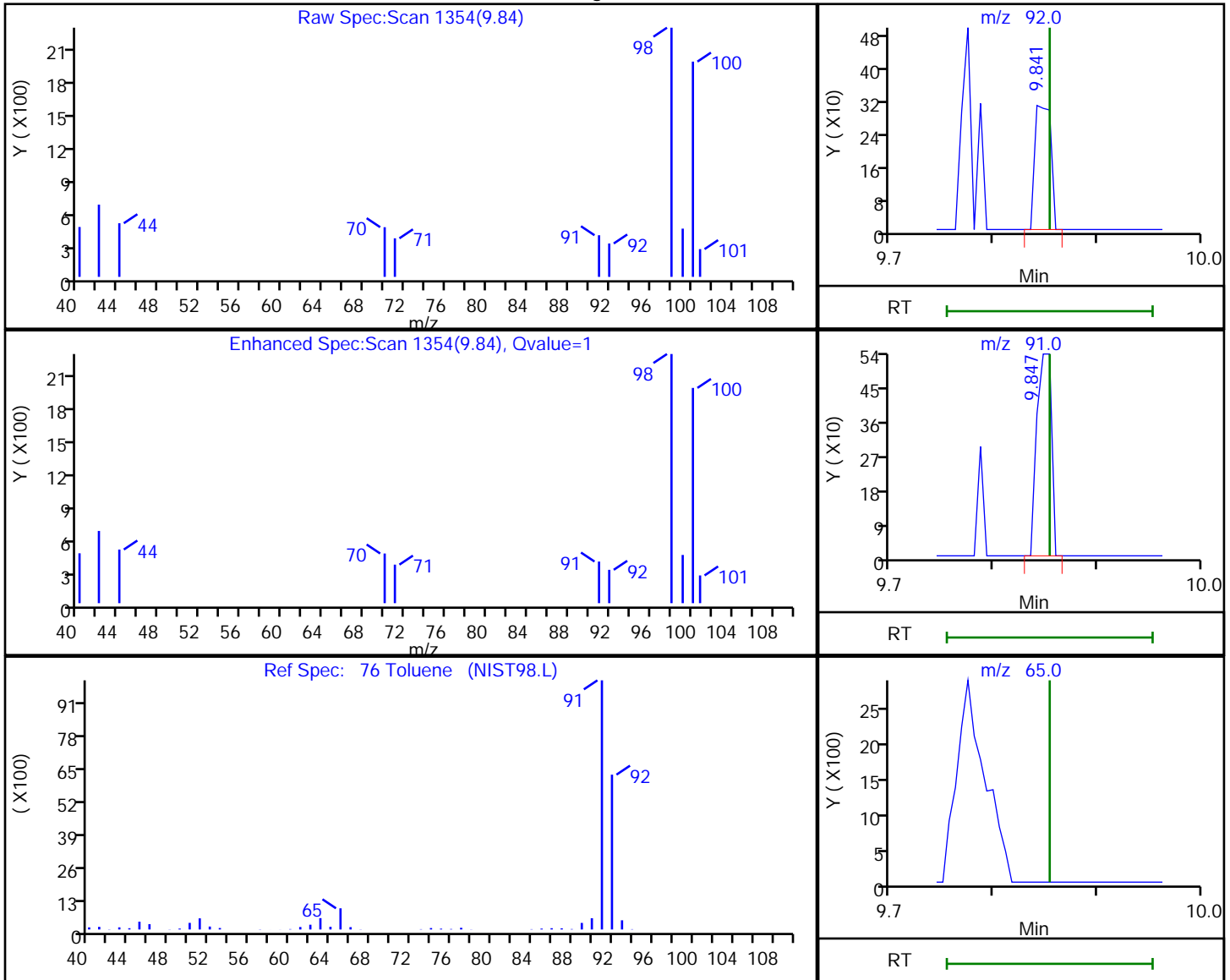
Purge Vol: 25.000 mL Dil. Factor: 1.0000

Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

76 Toluene, CAS: 108-88-3

Processing Results



RT	Mass	Response	Amount
9.84	92.00	326	0.002168
9.85	91.00	531	
9.85	65.00	0	
9.85	39.00	0	

Reviewer: howej, 02-Jun-2020 09:47:31

Audit Action: Marked Compound Undetected

Audit Reason: Invalid Compound ID

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-2632-1
 SDG No.: _____
 Client Sample ID: _____ Lab Sample ID: LCS 410-9922/4
 Matrix: Water Lab File ID: Iu02L01.D
 Analysis Method: 8260C LL Date Collected: _____
 Sample wt/vol: 25 (mL) Date Analyzed: 06/02/2020 08:37
 Soil Aliquot Vol: _____ Dilution Factor: 1
 Soil Extract Vol.: _____ GC Column: R-624SilMS 30m ID: 0.25 (mm)
 % Moisture: _____ Level: (low/med) Low
 Analysis Batch No.: 9922 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	5.16		0.50	0.070
71-55-6	1,1,1-Trichloroethane	5.22		0.50	0.060
79-34-5	1,1,2,2-Tetrachloroethane	5.33		0.50	0.070
79-00-5	1,1,2-Trichloroethane	5.55		0.50	0.060
75-34-3	1,1-Dichloroethane	5.52		0.50	0.070
75-35-4	1,1-Dichloroethene	5.13		0.50	0.060
106-93-4	1,2-Dibromoethane (EDB)	5.65		0.50	0.060
107-06-2	1,2-Dichloroethane	5.61		0.50	0.050
78-87-5	1,2-Dichloropropane	5.77		0.50	0.060
78-93-3	2-Butanone (MEK)	36.1		5.0	0.60
591-78-6	2-Hexanone	24.6		5.0	0.60
108-10-1	4-Methyl-2-pentanone (MIBK)	23.5		5.0	0.70
67-64-1	Acetone	34.5		5.0	0.90
107-13-1	Acrylonitrile	22.9		5.0	0.40
71-43-2	Benzene	5.42		0.50	0.050
74-97-5	Bromochloromethane	5.08		0.50	0.050
75-27-4	Bromodichloromethane	5.46		0.50	0.050
75-25-2	Bromoform	5.48		1.0	0.30
74-83-9	Bromomethane	5.69		0.50	0.070
75-15-0	Carbon disulfide	5.09		1.0	0.060
56-23-5	Carbon tetrachloride	5.39		0.50	0.070
108-90-7	Chlorobenzene	5.30		0.50	0.060
75-00-3	Chloroethane	5.84		0.50	0.070
67-66-3	Chloroform	5.45		0.50	0.090
74-87-3	Chloromethane	5.88		0.50	0.060
156-59-2	cis-1,2-Dichloroethene	5.56		0.50	0.050
10061-01-5	cis-1,3-Dichloropropene	5.60		0.50	0.050
124-48-1	Dibromochloromethane	5.53		0.50	0.070
100-41-4	Ethylbenzene	5.34		0.50	0.060
1634-04-4	Methyl tert-butyl ether	5.52		0.50	0.050
75-09-2	Methylene Chloride	5.35		0.50	0.070
100-42-5	Styrene	5.27		0.50	0.050
127-18-4	Tetrachloroethene	5.33		0.50	0.060
108-88-3	Toluene	5.33		0.50	0.070
156-60-5	trans-1,2-Dichloroethene	5.17		0.50	0.060
10061-02-6	trans-1,3-Dichloropropene	5.27		0.50	0.060

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-2632-1
 SDG No.: _____
 Client Sample ID: _____ Lab Sample ID: LCS 410-9922/4
 Matrix: Water Lab File ID: Iu02L01.D
 Analysis Method: 8260C LL Date Collected: _____
 Sample wt/vol: 25 (mL) Date Analyzed: 06/02/2020 08:37
 Soil Aliquot Vol.: _____ Dilution Factor: 1
 Soil Extract Vol.: _____ GC Column: R-624SilMS 30m ID: 0.25 (mm)
 % Moisture: _____ Level: (low/med) Low
 Analysis Batch No.: 9922 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
79-01-6	Trichloroethene	5.38		0.50	0.060
75-01-4	Vinyl chloride	5.74		0.50	0.10
1330-20-7	Xylenes, Total	15.7		1.0	0.15

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	105		80-120
1868-53-7	Dibromofluoromethane (Surr)	103		80-120
2037-26-5	Toluene-d8 (Surr)	100		80-120
460-00-4	4-Bromofluorobenzene (Surr)	100		80-120

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\lu02L01.D
 Lims ID: LCS
 Client ID:
 Sample Type: LCS
 Inject. Date: 02-Jun-2020 08:37:30 ALS Bottle#: 3 Worklist Smp#: 4
 Purge Vol: 25.000 mL Dil. Factor: 1.0000
 Sample Info: 410-0002623-004
 Misc. Info.: LCS
 Operator ID: JKH09052 Instrument ID: 19930
 Method: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\8260 25ml HP31.m
 Limit Group: MSV - 8260C_D
 Last Update: 03-Jun-2020 12:51:21 Calib Date: 16-Mar-2020 18:31:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\IM16107.D
 Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
 Process Host: CTX1023

First Level Reviewer: howej

Date: 02-Jun-2020 09:18:18

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Dichlorodifluoromethane	85	1.989	1.983	0.006	99	379225	5.00	3.67	M
4 Chloromethane	50	2.197	2.190	0.007	99	489686	5.00	5.88	
5 Vinyl chloride	62	2.312	2.300	0.012	98	463401	5.00	5.74	
6 Butadiene	39	2.318	2.306	0.012	94	453485	5.00	7.58	
7 Bromomethane	94	2.648	2.642	0.006	91	322164	5.00	5.69	
8 Chloroethane	64	2.745	2.727	0.018	100	266664	5.00	5.84	
9 Dichlorofluoromethane	67	2.983	2.971	0.012	97	609844	5.00	5.74	
10 Trichlorofluoromethane	101	3.044	3.032	0.012	96	578723	5.00	6.01	
11 Ethyl ether	59	3.300	3.282	0.018	91	227938	5.01	5.51	
12 1,2-Dichloro-1,1,2-trifluoroethane	67	3.385	3.361	0.024	92	352283	5.00	5.41	
13 Acrolein	56	3.471	3.459	0.012	99	217755	37.5	24.7	M
14 1,1-Dichloroethene	96	3.611	3.599	0.012	98	261285	5.00	5.13	
15 Acetone	43	3.641	3.629	0.012	100	381521	37.5	34.5	
16 112TCTFE	101	3.660	3.648	0.012	89	258477	5.00	4.68	
17 Iodomethane	142	3.812	3.800	0.012	99	471599	5.00	4.85	
18 Ethyl bromide	108	3.843	3.830	0.013	98	226680	4.93	5.24	
19 Carbon disulfide	76	3.922	3.910	0.012	99	740379	5.00	5.09	
21 Methyl acetate	43	4.074	4.056	0.018	97	133351	5.00	5.83	
22 3-Chloro-1-propene	41	4.105	4.093	0.012	92	429080	5.00	5.58	
23 Methylene Chloride	84	4.294	4.288	0.006	92	282776	5.00	5.35	
* 24 t-Butyl alcohol-d10 (IS)	65	4.306	4.300	0.006	0	222628	50.0	50.0	M
25 2-Methyl-2-propanol	59	4.440	4.416	0.024	99	265007	50.0	49.4	
26 Acrylonitrile	53	4.635	4.623	0.012	98	333335	25.0	22.9	
27 Methyl tert-butyl ether	73	4.702	4.696	0.006	96	720827	5.00	5.52	
28 trans-1,2-Dichloroethene	96	4.720	4.702	0.018	99	282563	5.00	5.17	
29 Hexane	57	5.135	5.129	0.006	93	406331	5.00	4.93	
31 1,1-Dichloroethane	63	5.379	5.367	0.012	96	537189	5.00	5.52	
32 Isopropyl ether	45	5.434	5.422	0.012	96	904308	5.00	5.56	
33 2-Chloro-1,3-butadiene	53	5.476	5.476	0.000	91	470290	5.00	5.47	
34 Tert-butyl ethyl ether	59	5.964	5.958	0.006	97	867192	5.00	5.42	
36 2-Butanone (MEK)	43	6.171	6.165	0.006	100	701463	37.5	36.1	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
37 cis-1,2-Dichloroethene	96	6.202	6.196	0.006	82	341471	5.00	5.56	
38 2,2-Dichloropropane	77	6.220	6.208	0.012	85	494884	5.00	5.62	
40 Propionitrile	54	6.263	6.257	0.006	98	200365	37.5	37.0	
42 Methacrylonitrile	67	6.482	6.470	0.012	91	636694	37.5	34.4	
43 Chlorobromomethane	128	6.537	6.525	0.012	90	138052	5.00	5.08	
44 Tetrahydrofuran	71	6.543	6.537	0.006	92	131058	25.0	22.0	
45 Chloroform	83	6.683	6.677	0.006	93	530076	5.00	5.45	
\$ 46 Dibromofluoromethane (Surr)	113	6.897	6.885	0.012	93	471931	10.0	10.3	
47 1,1,1-Trichloroethane	97	6.909	6.903	0.006	98	492906	5.00	5.22	
48 Cyclohexane	56	7.007	7.001	0.006	91	497342	5.00	5.00	
50 Carbon tetrachloride	117	7.122	7.110	0.012	86	450714	5.00	5.39	
51 1,1-Dichloropropene	75	7.122	7.110	0.012	95	425996	5.00	5.46	
52 Isobutyl alcohol	41	7.269	7.263	0.006	95	209974	125.0	135.5	
\$ 53 1,2-Dichloroethane-d4 (Surr)	102	7.348	7.342	0.006	0	97567	10.0	10.5	
54 Benzene	78	7.385	7.378	0.007	97	1230365	5.00	5.42	
56 1,2-Dichloroethane	62	7.458	7.452	0.006	98	342655	5.00	5.61	
57 Tert-amyl methyl ether	73	7.567	7.561	0.006	99	801009	5.00	5.39	
* 58 Fluorobenzene (IS)	96	7.787	7.775	0.012	98	1902044	10.0	10.0	
59 n-Heptane	43	7.793	7.787	0.006	93	442662	5.00	5.64	
60 n-Butanol	56	8.141	8.134	0.007	88	367891	250.0	268.6	
61 Trichloroethene	95	8.256	8.256	0.000	98	324991	5.00	5.38	
62 Methylcyclohexane	83	8.567	8.561	0.006	94	521690	5.00	4.85	
63 1,2-Dichloropropane	63	8.592	8.586	0.006	73	318425	5.00	5.77	
64 Methyl methacrylate	69	8.671	8.665	0.006	90	166360	5.00	4.43	
65 1,4-Dioxane	88	8.683	8.671	0.012	37	46030	125.0	146.2	M
66 Dibromomethane	93	8.701	8.701	0.000	93	154263	5.00	5.64	
68 Dichlorobromomethane	83	8.933	8.927	0.006	99	392467	5.00	5.46	
69 2-Nitropropane	41	9.201	9.201	0.000	96	48567	5.00	4.16	
71 2-Chloroethyl vinyl ether	63		9.293				ND	ND	
72 1-Bromo-2-chloroethane	63	9.323	9.317	0.006	98	345726	5.00	6.04	
73 cis-1,3-Dichloropropene	75	9.476	9.470	0.006	96	475966	5.00	5.60	
74 4-Methyl-2-pentanone (MIBK)	43	9.640	9.634	0.006	97	1131601	25.0	23.5	
\$ 75 Toluene-d8 (Surr)	98	9.780	9.774	0.006	94	1879486	10.0	9.98	
76 Toluene	92	9.854	9.854	0.000	98	802085	5.00	5.33	
78 trans-1,3-Dichloropropene	75	10.104	10.104	0.000	93	400989	5.00	5.27	
79 Ethyl methacrylate	69	10.165	10.158	0.006	89	341510	5.00	5.26	
80 1,1,2-Trichloroethane	97	10.305	10.305	0.000	91	233940	5.00	5.55	
81 Tetrachloroethene	166	10.396	10.396	0.000	98	383298	5.00	5.33	
82 1,3-Dichloropropane	76	10.469	10.469	0.000	91	389783	5.00	5.51	
83 2-Hexanone	43	10.518	10.512	0.006	97	817255	25.0	24.6	
85 Chlorodibromomethane	129	10.683	10.683	0.000	90	296963	5.00	5.53	
86 Ethylene Dibromide	107	10.792	10.792	0.000	98	224717	5.00	5.65	
* 87 Chlorobenzene-d5 (IS)	117	11.219	11.219	0.000	86	1480579	10.0	10.0	
88 1-Chlorohexane	91	11.225	11.225	0.000	98	456158	5.00	4.93	
90 Chlorobenzene	112	11.244	11.244	0.000	95	882698	5.00	5.30	
91 1,1,1,2-Tetrachloroethane	131	11.329	11.323	0.006	96	320041	5.00	5.16	
92 Ethylbenzene	91	11.329	11.329	0.000	98	1576298	5.00	5.34	
93 m-Xylene & p-Xylene	106	11.445	11.445	0.000	0	1224325	10.0	10.6	
94 o-Xylene	106	11.768	11.768	0.000	97	587794	5.00	5.13	
95 Styrene	104	11.786	11.786	0.000	94	963387	5.00	5.27	
96 Bromoform	173	11.945	11.945	0.000	97	181057	5.00	5.48	
97 Isopropylbenzene	105	12.067	12.067	0.000	96	1624989	5.00	5.35	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
\$ 100 4-Bromofluorobenzene (Surr)	95	12.213	12.213	0.000	92	702636	10.0	10.0	
101 1,1,2,2-Tetrachloroethane	83	12.310	12.310	0.000	94	278520	5.00	5.33	
102 Bromobenzene	156	12.329	12.329	0.000	97	374773	5.00	5.34	
103 trans-1,4-Dichloro-2-butene	53	12.335	12.335	0.000	91	315078	25.0	18.6	
104 1,2,3-Trichloropropane	110	12.359	12.359	0.000	84	80411	5.00	5.52	
105 N-Propylbenzene	91	12.396	12.396	0.000	99	1919909	5.00	5.54	
106 2-Chlorotoluene	126	12.475	12.475	0.000	96	367517	5.00	5.25	
107 1,3,5-Trimethylbenzene	105	12.530	12.530	0.000	94	1333231	5.00	5.28	
108 4-Chlorotoluene	126	12.566	12.567	0.000	98	370233	5.00	5.19	
109 tert-Butylbenzene	134	12.774	12.774	0.000	93	290078	5.00	5.13	
110 Pentachloroethane	167	12.804	12.804	0.000	92	253003	5.00	5.30	
111 1,2,4-Trimethylbenzene	105	12.816	12.816	0.000	97	1356805	5.00	5.23	
112 sec-Butylbenzene	105	12.938	12.938	0.000	94	1781908	5.00	5.50	
113 1,3-Dichlorobenzene	146	13.036	13.036	0.000	98	724323	5.00	5.27	
114 4-Isopropyltoluene	119	13.042	13.042	0.000	97	1532726	5.00	5.48	
* 115 1,4-Dichlorobenzene-d4	152	13.091	13.091	0.000	94	808540	10.0	10.0	
116 1,4-Dichlorobenzene	146	13.109	13.109	0.000	95	724970	5.00	5.33	
117 1,2,3-Trimethylbenzene	120	13.115	13.115	0.000	99	602821	5.00	5.40	
118 Benzyl chloride	126	13.182	13.182	0.000	98	125523	5.00	5.24	
119 n-Butylbenzene	92	13.335	13.335	0.000	97	723518	5.00	5.55	
120 1,2-Dichlorobenzene	146	13.371	13.365	0.006	98	661606	5.00	5.27	
122 1,2-Dibromo-3-Chloropropane	155	13.908	13.908	0.000	87	42564	5.00	4.93	
123 1,3,5-Trichlorobenzene	180	14.036	14.036	0.000	98	534509	5.00	5.38	
124 1,2,4-Trichlorobenzene	180	14.456	14.456	0.000	94	442236	5.00	5.28	
125 Hexachlorobutadiene	225	14.542	14.542	0.000	95	211738	5.00	5.99	
126 Naphthalene	128	14.639	14.639	0.000	97	797239	5.00	4.83	
127 1,2,3-Trichlorobenzene	180	14.779	14.779	0.000	96	363013	5.00	5.20	
144 2-ethoxy-2-methyl butane	1		0.000				ND	ND	
137 2-Methylnaphthalene	142		0.000				ND	ND	
135 p-Diethylbenzene	1		0.000				ND	ND	
134 Isopropyl alcohol	45		0.000				ND	ND	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

Reagents:

MSV_Q_QVOA6_00028	Amount Added: 12.50	Units: uL	
MSV_Q_ETBR_00003	Amount Added: 12.50	Units: uL	
MSV_Q_EE_00002	Amount Added: 12.50	Units: uL	
MSV_Q_QVOA1_00031	Amount Added: 12.50	Units: uL	
MSV_Q_QARC_00030	Amount Added: 12.50	Units: uL	
MSV_QGAS_826_00042	Amount Added: 12.50	Units: uL	
MSV_31_826ISS_00002	Amount Added: 5.00	Units: uL	Run Reagent

Eurofins Lancaster Laboratories Env, LLC
Recovery Report

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\lu02L01.D
 Lims ID: LCS
 Client ID:
 Sample Type: LCS
 Inject. Date: 02-Jun-2020 08:37:30 ALS Bottle#: 3 Worklist Smp#: 4
 Purge Vol: 25.000 mL Dil. Factor: 1.0000
 Sample Info: 410-0002623-004
 Misc. Info.: LCS
 Operator ID: JKH09052 Instrument ID: 19930
 Method: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\8260 25ml HP31.m
 Limit Group: MSV - 8260C_D
 Last Update: 03-Jun-2020 12:51:21 Calib Date: 16-Mar-2020 18:31:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\IM16I07.D
 Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
 Process Host: CTX1023

First Level Reviewer: howej

Date: 02-Jun-2020 09:18:18

Compound	Amount Added	Amount Recovered	% Rec.
\$ 46 Dibromofluoromethane (Surr)	10.0	10.3	102.80
\$ 53 1,2-Dichloroethane-d4 (Surr)	10.0	10.5	104.88
\$ 75 Toluene-d8 (Surr)	10.0	9.98	99.83
\$ 100 4-Bromofluorobenzene (Surr)	10.0	10.0	100.01

Eurofins Lancaster Laboratories Env, LLC

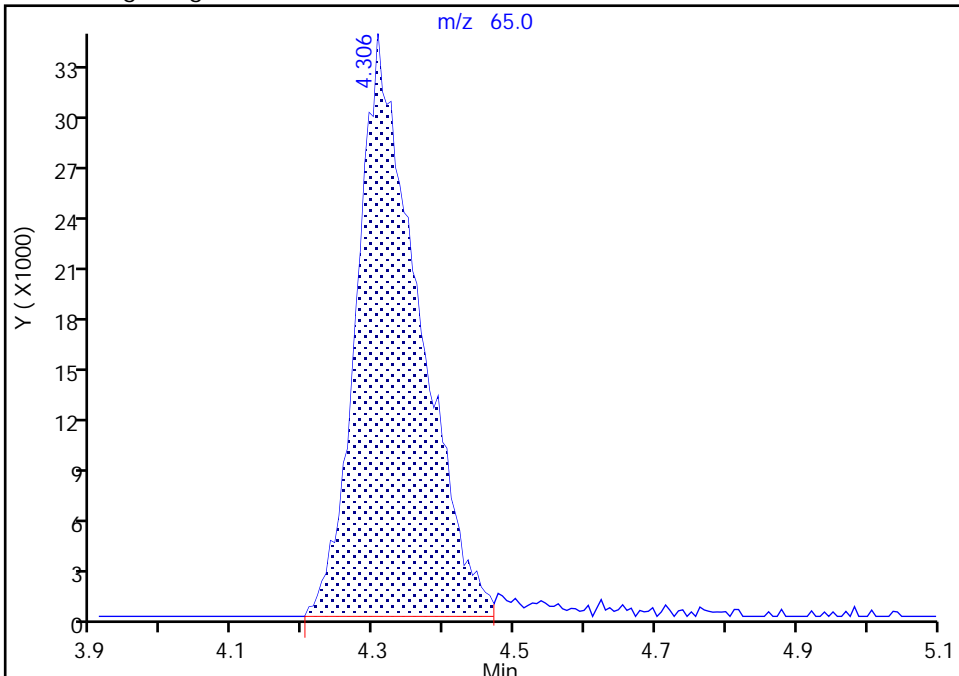
Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\lu02L01.D
Injection Date: 02-Jun-2020 08:37:30 Instrument ID: 19930
Lims ID: LCS
Client ID:
Operator ID: JKH09052 ALS Bottle#: 3 Worklist Smp#: 4
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

* 24 t-Butyl alcohol-d10 (IS), CAS: 53001-22-2

Signal: 1

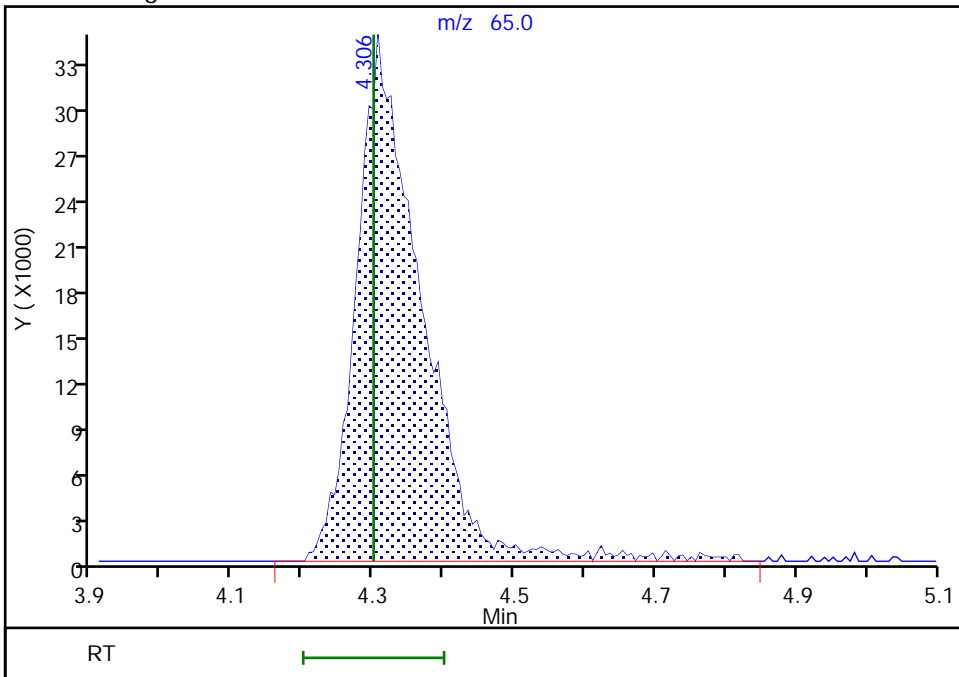
RT: 4.31
Area: 212643
Amount: 50.000000
Amount Units: ug/l

Processing Integration Results



RT: 4.31
Area: 222628
Amount: 50.000000
Amount Units: ug/l

Manual Integration Results



Reviewer: howej, 02-Jun-2020 09:17:10
Audit Action: Manually Integrated

Audit Reason: Other

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-2632-1
 SDG No.: _____
 Client Sample ID: HD-COD-SW-15-0/1-0 MS Lab Sample ID: 410-2632-6 MS
 Matrix: Water Lab File ID: iU02s15.D
 Analysis Method: 8260C LL Date Collected: 05/26/2020 12:55
 Sample wt/vol: 25 (mL) Date Analyzed: 06/02/2020 14:50
 Soil Aliquot Vol: _____ Dilution Factor: 1
 Soil Extract Vol.: _____ GC Column: R-624SilMS 30m ID: 0.25 (mm)
 % Moisture: _____ Level: (low/med) Low
 Analysis Batch No.: 9922 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	5.37		0.50	0.070
71-55-6	1,1,1-Trichloroethane	5.89		0.50	0.060
79-34-5	1,1,2,2-Tetrachloroethane	5.20		0.50	0.070
79-00-5	1,1,2-Trichloroethane	5.59		0.50	0.060
75-34-3	1,1-Dichloroethane	5.81		0.50	0.070
75-35-4	1,1-Dichloroethene	5.59		0.50	0.060
106-93-4	1,2-Dibromoethane (EDB)	5.62		0.50	0.060
107-06-2	1,2-Dichloroethane	6.01		0.50	0.050
78-87-5	1,2-Dichloropropane	5.82		0.50	0.060
78-93-3	2-Butanone (MEK)	37.4		5.0	0.60
591-78-6	2-Hexanone	26.0		5.0	0.60
108-10-1	4-Methyl-2-pentanone (MIBK)	24.6		5.0	0.70
67-64-1	Acetone	37.6		5.0	0.90
107-13-1	Acrylonitrile	23.9		5.0	0.40
71-43-2	Benzene	5.67		0.50	0.050
74-97-5	Bromochloromethane	5.35		0.50	0.050
75-27-4	Bromodichloromethane	5.75		0.50	0.050
75-25-2	Bromoform	5.36		1.0	0.30
74-83-9	Bromomethane	5.27		0.50	0.070
75-15-0	Carbon disulfide	5.34		1.0	0.060
56-23-5	Carbon tetrachloride	6.17		0.50	0.070
108-90-7	Chlorobenzene	5.54		0.50	0.060
75-00-3	Chloroethane	5.23		0.50	0.070
67-66-3	Chloroform	6.16		0.50	0.090
74-87-3	Chloromethane	5.49		0.50	0.060
156-59-2	cis-1,2-Dichloroethene	6.70		0.50	0.050
10061-01-5	cis-1,3-Dichloropropene	5.59		0.50	0.050
124-48-1	Dibromochloromethane	5.54		0.50	0.070
100-41-4	Ethylbenzene	5.60		0.50	0.060
1634-04-4	Methyl tert-butyl ether	5.74		0.50	0.050
75-09-2	Methylene Chloride	5.58		0.50	0.070
100-42-5	Styrene	5.52		0.50	0.050
127-18-4	Tetrachloroethene	8.86		0.50	0.060
108-88-3	Toluene	5.53		0.50	0.070
156-60-5	trans-1,2-Dichloroethene	5.46		0.50	0.060
10061-02-6	trans-1,3-Dichloropropene	5.18		0.50	0.060

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-2632-1
 SDG No.: _____
 Client Sample ID: HD-COD-SW-15-0/1-0 MS Lab Sample ID: 410-2632-6 MS
 Matrix: Water Lab File ID: iU02s15.D
 Analysis Method: 8260C LL Date Collected: 05/26/2020 12:55
 Sample wt/vol: 25 (mL) Date Analyzed: 06/02/2020 14:50
 Soil Aliquot Vol.: _____ Dilution Factor: 1
 Soil Extract Vol.: _____ GC Column: R-624SilMS 30m ID: 0.25 (mm)
 % Moisture: _____ Level: (low/med) Low
 Analysis Batch No.: 9922 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
79-01-6	Trichloroethene	6.75		0.50	0.060
75-01-4	Vinyl chloride	5.49		0.50	0.10
1330-20-7	Xylenes, Total	16.5		1.0	0.15

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	105		80-120
1868-53-7	Dibromofluoromethane (Surr)	103		80-120
2037-26-5	Toluene-d8 (Surr)	98		80-120
460-00-4	4-Bromofluorobenzene (Surr)	101		80-120

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s15.D
 Lims ID: 410-2632-A-6 MS
 Client ID: HD-COD-SW-15-0/1-0
 Sample Type: MS
 Inject. Date: 02-Jun-2020 14:50:30 ALS Bottle#: 20 Worklist Smp#: 21
 Purge Vol: 25.000 mL Dil. Factor: 1.0000
 Sample Info: 410-0002623-021
 Misc. Info.: 410-2632-A-6 MS
 Operator ID: JKH09052 Instrument ID: 19930
 Method: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\8260 25ml HP31.m
 Limit Group: MSV - 8260C_D
 Last Update: 03-Jun-2020 12:53:08 Calib Date: 16-Mar-2020 18:31:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\IM16107.D
 Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
 Process Host: CTX1046

First Level Reviewer: howej

Date: 03-Jun-2020 12:32:50

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Dichlorodifluoromethane	85	1.989	1.983	0.006	99	359914	5.00	4.29	M
4 Chloromethane	50	2.190	2.190	0.000	99	370530	5.00	5.49	
5 Vinyl chloride	62	2.306	2.300	0.006	98	359019	5.00	5.49	
6 Butadiene	39	2.306	2.306	0.000	95	408418	5.00	8.42	
7 Bromomethane	94	2.635	2.642	-0.007	93	242017	5.00	5.27	
8 Chloroethane	64	2.727	2.727	0.000	99	193775	5.00	5.23	
9 Dichlorofluoromethane	67	2.971	2.971	0.000	97	452707	5.00	5.25	
10 Trichlorofluoromethane	101	3.032	3.032	0.000	96	501447	5.00	6.43	
11 Ethyl ether	59	3.288	3.282	0.006	91	176512	5.01	5.26	
12 1,2-Dichloro-1,1,2-trifluoroethane	67	3.373	3.361	0.012	92	304903	5.00	5.77	
13 Acrolein	56	3.464	3.459	0.005	99	139561	37.5	21.2	
14 1,1-Dichloroethene	96	3.598	3.599	-0.001	97	230573	5.00	5.59	
15 Acetone	43	3.635	3.629	0.006	99	310760	37.5	37.6	
16 112TCTFE	101	3.641	3.648	-0.007	86	250121	5.00	5.59	
17 Iodomethane	142	3.800	3.800	0.000	100	415346	5.00	5.27	
18 Ethyl bromide	108	3.830	3.830	0.000	98	188470	4.94	5.38	
19 Carbon disulfide	76	3.916	3.910	0.006	99	630015	5.00	5.34	
21 Methyl acetate	43	4.068	4.056	0.012	97	102461	5.00	5.53	
22 3-Chloro-1-propene	41	4.092	4.093	-0.001	91	339292	5.00	5.45	
23 Methylene Chloride	84	4.281	4.288	-0.007	91	238978	5.00	5.58	
* 24 t-Butyl alcohol-d10 (IS)	65	4.300	4.300	0.000	0	166556	50.0	50.0	
25 2-Methyl-2-propanol	59	4.428	4.416	0.012	98	208539	50.0	52.0	
26 Acrylonitrile	53	4.629	4.623	0.006	99	259739	25.0	23.9	
27 Methyl tert-butyl ether	73	4.702	4.696	0.006	99	608339	5.00	5.74	
28 trans-1,2-Dichloroethene	96	4.714	4.702	0.012	99	242283	5.00	5.46	
29 Hexane	57	5.135	5.129	0.006	93	390766	5.00	5.85	
31 1,1-Dichloroethane	63	5.373	5.367	0.006	96	458241	5.00	5.81	
32 Isopropyl ether	45	5.427	5.422	0.005	94	732381	5.00	5.55	
33 2-Chloro-1,3-butadiene	53	5.476	5.476	0.000	92	415609	5.00	5.97	
34 Tert-butyl ethyl ether	59	5.958	5.958	0.000	98	706481	5.00	5.44	
36 2-Butanone (MEK)	43	6.171	6.165	0.006	100	544704	37.5	37.4	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
37 cis-1,2-Dichloroethene	96	6.202	6.196	0.006	82	333500	5.00	6.70	
38 2,2-Dichloropropane	77	6.214	6.208	0.006	86	429510	5.00	6.02	
40 Propionitrile	54	6.263	6.257	0.006	98	157380	37.5	38.9	
42 Methacrylonitrile	67	6.470	6.470	0.000	92	508592	37.5	36.7	
43 Chlorobromomethane	128	6.531	6.525	0.006	90	117772	5.00	5.35	
44 Tetrahydrofuran	71	6.537	6.537	0.000	93	103188	25.0	23.1	
45 Chloroform	83	6.677	6.677	0.000	93	485802	5.00	6.16	
\$ 46 Dibromofluoromethane (Surr)	113	6.897	6.885	0.012	94	383357	10.0	10.3	
47 1,1,1-Trichloroethane	97	6.903	6.903	0.000	98	450396	5.00	5.89	
48 Cyclohexane	56	7.000	7.001	-0.001	91	470843	5.00	5.84	
50 Carbon tetrachloride	117	7.116	7.110	0.006	87	418702	5.00	6.17	
51 1,1-Dichloropropene	75	7.116	7.110	0.006	95	377553	5.00	5.97	
52 Isobutyl alcohol	41	7.269	7.263	0.005	95	164553	125.1	141.9	
\$ 53 1,2-Dichloroethane-d4 (Surr)	102	7.348	7.342	0.006	0	78968	10.0	10.5	
54 Benzene	78	7.378	7.378	0.000	97	1042781	5.00	5.67	
56 1,2-Dichloroethane	62	7.451	7.452	-0.001	98	297720	5.00	6.01	
57 Tert-amyl methyl ether	73	7.567	7.561	0.006	98	659032	5.00	5.47	
* 58 Fluorobenzene (IS)	96	7.781	7.775	0.006	99	1542007	10.0	10.0	
59 n-Heptane	43	7.787	7.787	0.000	90	420371	5.00	6.61	
60 n-Butanol	56	8.134	8.134	0.000	91	279588	250.2	272.9	
61 Trichloroethene	95	8.256	8.256	0.000	98	330584	5.00	6.75	
62 Methylcyclohexane	83	8.561	8.561	0.000	94	479045	5.00	5.49	
63 1,2-Dichloropropane	63	8.585	8.586	-0.001	72	260395	5.00	5.82	
64 Methyl methacrylate	69	8.665	8.665	0.000	90	131371	5.00	4.68	
65 1,4-Dioxane	88	8.683	8.671	0.012	34	44219	125.1	187.8	M
66 Dibromomethane	93	8.701	8.701	0.000	93	127515	5.00	5.75	
68 Dichlorobromomethane	83	8.933	8.927	0.006	99	334859	5.00	5.75	
69 2-Nitropropane	41	9.201	9.201	0.000	97	40698	5.00	4.66	
71 2-Chloroethyl vinyl ether	63		9.293				ND	ND	
72 1-Bromo-2-chloroethane	63	9.323	9.317	0.006	99	268951	5.00	5.79	
73 cis-1,3-Dichloropropene	75	9.475	9.470	0.005	95	384814	5.00	5.59	
74 4-Methyl-2-pentanone (MIBK)	43	9.640	9.634	0.006	97	884954	25.0	24.6	
\$ 75 Toluene-d8 (Surr)	98	9.774	9.774	0.000	94	1519701	10.0	9.83	
76 Toluene	92	9.847	9.854	-0.007	98	683471	5.00	5.53	
78 trans-1,3-Dichloropropene	75	10.103	10.104	-0.001	93	324194	5.00	5.18	
79 Ethyl methacrylate	69	10.164	10.158	0.006	89	269939	5.00	5.06	
80 1,1,2-Trichloroethane	97	10.305	10.305	-0.001	90	193306	5.00	5.59	
81 Tetrachloroethene	166	10.396	10.396	0.000	98	523051	5.00	8.86	
82 1,3-Dichloropropane	76	10.469	10.469	0.000	89	325597	5.00	5.60	
83 2-Hexanone	43	10.512	10.512	0.000	98	646720	25.0	26.0	
85 Chlorodibromomethane	129	10.682	10.683	-0.001	90	244550	5.00	5.54	
86 Ethylene Dibromide	107	10.792	10.792	0.000	99	183687	5.00	5.62	
* 87 Chlorobenzene-d5 (IS)	117	11.219	11.219	0.000	86	1216225	10.0	10.0	
88 1-Chlorohexane	91	11.225	11.225	0.000	97	395451	5.00	5.20	
90 Chlorobenzene	112	11.243	11.244	-0.001	94	758827	5.00	5.54	
91 1,1,1,2-Tetrachloroethane	131	11.323	11.323	0.000	95	273473	5.00	5.37	
92 Ethylbenzene	91	11.329	11.329	0.000	98	1358708	5.00	5.60	
93 m-Xylene & p-Xylene	106	11.445	11.445	0.000	0	1066130	10.0	11.2	
94 o-Xylene	106	11.768	11.768	0.000	97	503274	5.00	5.34	
95 Styrene	104	11.786	11.786	0.000	94	829840	5.00	5.52	
96 Bromoform	173	11.944	11.945	-0.001	97	145534	5.00	5.36	
97 Isopropylbenzene	105	12.066	12.067	-0.001	96	1420921	5.00	5.70	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
\$ 100 4-Bromofluorobenzene (Surr)	95	12.213	12.213	0.000	93	581213	10.0	10.1	
101 1,1,2,2-Tetrachloroethane	83	12.310	12.310	0.000	94	228347	5.00	5.20	
102 Bromobenzene	156	12.329	12.329	-0.001	96	328230	5.00	5.56	
103 trans-1,4-Dichloro-2-butene	53	12.335	12.335	0.000	94	254902	25.0	20.1	
104 1,2,3-Trichloropropane	110	12.359	12.359	0.000	84	67868	5.00	5.55	
105 N-Propylbenzene	91	12.396	12.396	0.000	99	1652731	5.00	5.67	
106 2-Chlorotoluene	126	12.475	12.475	0.000	97	317584	5.00	5.39	
107 1,3,5-Trimethylbenzene	105	12.530	12.530	0.000	93	1168462	5.00	5.51	
108 4-Chlorotoluene	126	12.566	12.567	0.000	98	322473	5.00	5.38	
109 tert-Butylbenzene	134	12.774	12.774	0.000	93	257292	5.00	5.41	
110 Pentachloroethane	167	12.804	12.804	0.000	93	212900	5.00	5.30	
111 1,2,4-Trimethylbenzene	105	12.816	12.816	0.000	97	1181264	5.00	5.41	
112 sec-Butylbenzene	105	12.938	12.938	0.000	94	1566940	5.00	5.75	
113 1,3-Dichlorobenzene	146	13.036	13.036	0.000	98	629337	5.00	5.45	
114 4-Isopropyltoluene	119	13.042	13.042	0.000	97	1335386	5.00	5.68	
* 115 1,4-Dichlorobenzene-d4	152	13.091	13.091	0.000	94	679734	10.0	10.0	
116 1,4-Dichlorobenzene	146	13.109	13.109	0.000	95	636476	5.00	5.57	
117 1,2,3-Trimethylbenzene	120	13.121	13.115	0.006	98	507854	5.00	5.41	
118 Benzyl chloride	126	13.188	13.182	0.006	99	100046	5.00	4.97	
119 n-Butylbenzene	92	13.334	13.335	-0.001	98	643175	5.00	5.87	
120 1,2-Dichlorobenzene	146	13.365	13.365	0.000	98	577619	5.00	5.48	
122 1,2-Dibromo-3-Chloropropane	155	13.914	13.908	0.006	85	35542	5.00	4.90	
123 1,3,5-Trichlorobenzene	180	14.035	14.036	-0.001	98	468248	5.00	5.60	
124 1,2,4-Trichlorobenzene	180	14.456	14.456	0.000	94	372947	5.00	5.30	
125 Hexachlorobutadiene	225	14.541	14.542	-0.001	93	192023	5.00	6.47	
126 Naphthalene	128	14.639	14.639	0.000	97	599576	5.00	4.32	
127 1,2,3-Trichlorobenzene	180	14.779	14.779	0.000	96	276572	5.00	4.72	
144 2-ethoxy-2-methyl butane	1		0.000				ND	ND	
137 2-Methylnaphthalene	142		0.000				ND	ND	
135 p-Diethylbenzene	1		0.000				ND	ND	
134 Isopropyl alcohol	45		0.000				ND	ND	

QC Flag Legend

Processing Flags

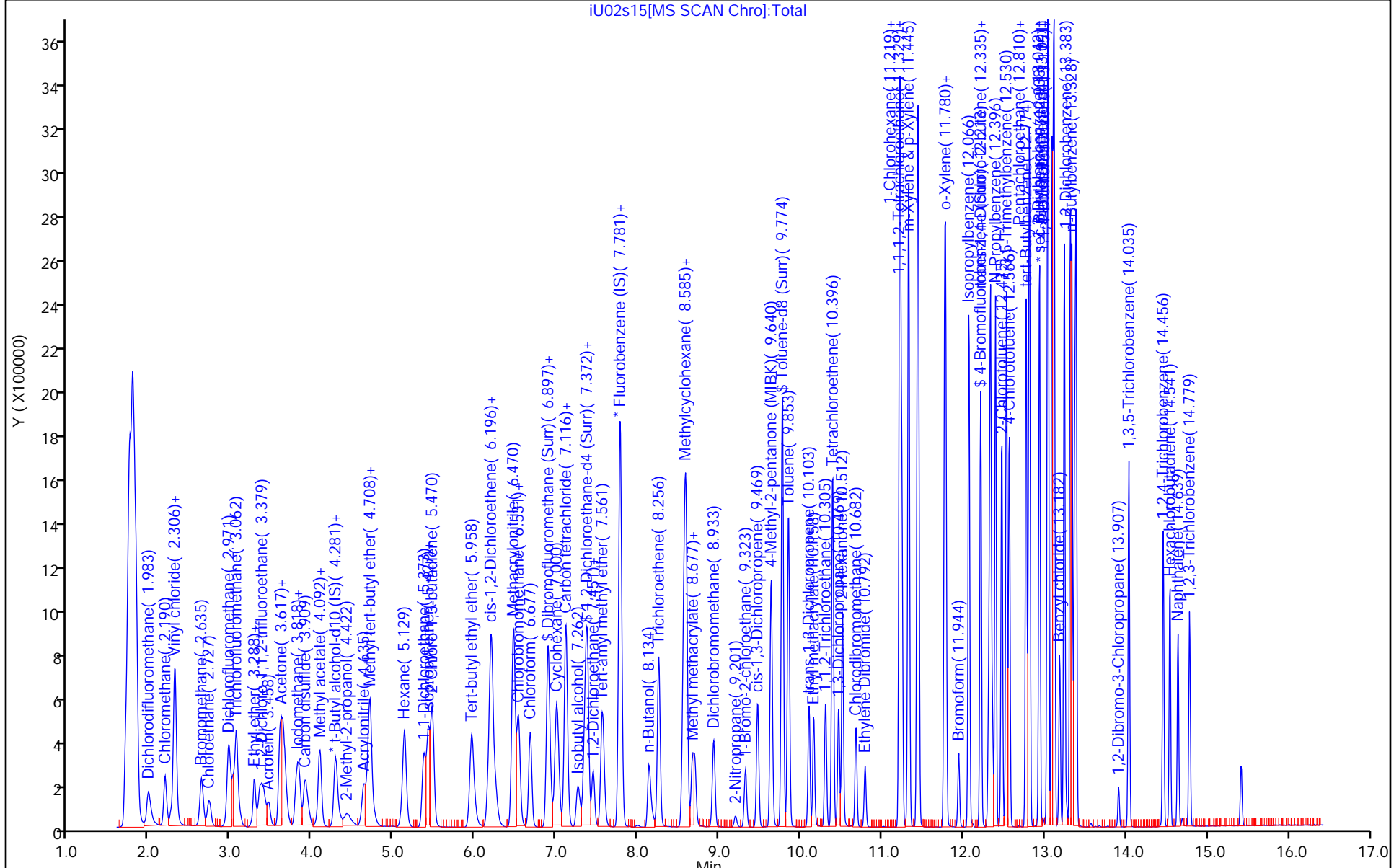
ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

Reagents:

MSV_Q_QVOA1_00031	Amount Added: 5.38	Units: uL	
MSV_Q_QARC_00030	Amount Added: 5.38	Units: uL	
MSV_Q_QVOA6_00028	Amount Added: 5.38	Units: uL	
MSV_Q_EE_00002	Amount Added: 5.38	Units: uL	
MSV_Q_ETBR_00003	Amount Added: 5.38	Units: uL	
MSV_QGAS_826_00042	Amount Added: 5.38	Units: uL	
MSV_31_826ISS_00002	Amount Added: 5.00	Units: uL	Run Reagent



iU02s15[MS SCAN Chrom]:Total

Eurofins Lancaster Laboratories Env, LLC
Recovery Report

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s15.D
 Lims ID: 410-2632-A-6 MS
 Client ID: HD-COD-SW-15-0/1-0
 Sample Type: MS
 Inject. Date: 02-Jun-2020 14:50:30 ALS Bottle#: 20 Worklist Smp#: 21
 Purge Vol: 25.000 mL Dil. Factor: 1.0000
 Sample Info: 410-0002623-021
 Misc. Info.: 410-2632-A-6 MS
 Operator ID: JKH09052 Instrument ID: 19930
 Method: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\8260 25ml HP31.m
 Limit Group: MSV - 8260C_D
 Last Update: 03-Jun-2020 12:53:08 Calib Date: 16-Mar-2020 18:31:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\IM16107.D
 Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
 Process Host: CTX1046

First Level Reviewer: howej Date: 03-Jun-2020 12:32:50

Compound	Amount Added	Amount Recovered	% Rec.
\$ 46 Dibromofluoromethane (Surr)	10.0	10.3	103.00
\$ 53 1,2-Dichloroethane-d4 (Surr)	10.0	10.5	104.71
\$ 75 Toluene-d8 (Surr)	10.0	9.83	98.26
\$ 100 4-Bromofluorobenzene (Surr)	10.0	10.1	100.71

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-2632-1
 SDG No.: _____
 Client Sample ID: HD-COD-SW-15-0/1-0 MSD Lab Sample ID: 410-2632-6 MSD
 Matrix: Water Lab File ID: iU02s16.D
 Analysis Method: 8260C LL Date Collected: 05/26/2020 12:55
 Sample wt/vol: 25 (mL) Date Analyzed: 06/02/2020 15:11
 Soil Aliquot Vol: _____ Dilution Factor: 1
 Soil Extract Vol.: _____ GC Column: R-624SilMS 30m ID: 0.25 (mm)
 % Moisture: _____ Level: (low/med) Low
 Analysis Batch No.: 9922 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
630-20-6	1,1,1,2-Tetrachloroethane	5.56		0.50	0.070
71-55-6	1,1,1-Trichloroethane	6.09		0.50	0.060
79-34-5	1,1,2,2-Tetrachloroethane	5.47		0.50	0.070
79-00-5	1,1,2-Trichloroethane	5.74		0.50	0.060
75-34-3	1,1-Dichloroethane	6.02		0.50	0.070
75-35-4	1,1-Dichloroethene	5.81		0.50	0.060
106-93-4	1,2-Dibromoethane (EDB)	5.77		0.50	0.060
107-06-2	1,2-Dichloroethane	6.19		0.50	0.050
78-87-5	1,2-Dichloropropane	5.95		0.50	0.060
78-93-3	2-Butanone (MEK)	38.0		5.0	0.60
591-78-6	2-Hexanone	26.1		5.0	0.60
108-10-1	4-Methyl-2-pentanone (MIBK)	24.7		5.0	0.70
67-64-1	Acetone	37.4		5.0	0.90
107-13-1	Acrylonitrile	23.8		5.0	0.40
71-43-2	Benzene	5.74		0.50	0.050
74-97-5	Bromochloromethane	5.42		0.50	0.050
75-27-4	Bromodichloromethane	5.79		0.50	0.050
75-25-2	Bromoform	5.65		1.0	0.30
74-83-9	Bromomethane	5.71		0.50	0.070
75-15-0	Carbon disulfide	5.69		1.0	0.060
56-23-5	Carbon tetrachloride	6.20		0.50	0.070
108-90-7	Chlorobenzene	5.67		0.50	0.060
75-00-3	Chloroethane	5.82		0.50	0.070
67-66-3	Chloroform	6.19		0.50	0.090
74-87-3	Chloromethane	6.03		0.50	0.060
156-59-2	cis-1,2-Dichloroethene	6.88		0.50	0.050
10061-01-5	cis-1,3-Dichloropropene	5.77		0.50	0.050
124-48-1	Dibromochloromethane	5.71		0.50	0.070
100-41-4	Ethylbenzene	5.71		0.50	0.060
1634-04-4	Methyl tert-butyl ether	5.72		0.50	0.050
75-09-2	Methylene Chloride	5.64		0.50	0.070
100-42-5	Styrene	5.65		0.50	0.050
127-18-4	Tetrachloroethene	9.07		0.50	0.060
108-88-3	Toluene	5.72		0.50	0.070
156-60-5	trans-1,2-Dichloroethene	5.69		0.50	0.060
10061-02-6	trans-1,3-Dichloropropene	5.38		0.50	0.060

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-2632-1
 SDG No.: _____
 Client Sample ID: HD-COD-SW-15-0/1-0 MSD Lab Sample ID: 410-2632-6 MSD
 Matrix: Water Lab File ID: iU02s16.D
 Analysis Method: 8260C LL Date Collected: 05/26/2020 12:55
 Sample wt/vol: 25 (mL) Date Analyzed: 06/02/2020 15:11
 Soil Aliquot Vol.: _____ Dilution Factor: 1
 Soil Extract Vol.: _____ GC Column: R-624SilMS 30m ID: 0.25 (mm)
 % Moisture: _____ Level: (low/med) Low
 Analysis Batch No.: 9922 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
79-01-6	Trichloroethene	6.83		0.50	0.060
75-01-4	Vinyl chloride	6.06		0.50	0.10
1330-20-7	Xylenes, Total	17.0		1.0	0.15

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	101		80-120
1868-53-7	Dibromofluoromethane (Surr)	102		80-120
2037-26-5	Toluene-d8 (Surr)	99		80-120
460-00-4	4-Bromofluorobenzene (Surr)	100		80-120

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s16.D
 Lims ID: 410-2632-A-6 MSD
 Client ID: HD-COD-SW-15-0/1-0
 Sample Type: MSD
 Inject. Date: 02-Jun-2020 15:11:30 ALS Bottle#: 21 Worklist Smp#: 22
 Purge Vol: 25.000 mL Dil. Factor: 1.0000
 Sample Info: 410-0002623-022
 Misc. Info.: 410-2632-A-6 MSD
 Operator ID: JKH09052 Instrument ID: 19930
 Method: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\8260 25ml HP31.m
 Limit Group: MSV - 8260C_D
 Last Update: 03-Jun-2020 12:45:06 Calib Date: 16-Mar-2020 18:31:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\IM16107.D
 Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
 Process Host: CTX1023

First Level Reviewer: howej

Date: 03-Jun-2020 12:38:17

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Dichlorodifluoromethane	85	1.983	1.983	0.000	99	386533	5.00	4.64	M
4 Chloromethane	50	2.184	2.190	-0.006	99	405002	5.00	6.03	
5 Vinyl chloride	62	2.306	2.300	0.006	98	394127	5.00	6.06	
6 Butadiene	39	2.306	2.306	0.000	96	432570	5.00	8.98	
7 Bromomethane	94	2.635	2.642	-0.007	92	260169	5.00	5.71	
8 Chloroethane	64	2.727	2.727	0.000	100	214131	5.00	5.82	
9 Dichlorofluoromethane	67	2.971	2.971	0.000	97	487537	5.00	5.69	
10 Trichlorofluoromethane	101	3.032	3.032	0.000	96	543938	5.00	7.02	
11 Ethyl ether	59	3.282	3.282	0.000	91	182014	5.01	5.46	
12 1,2-Dichloro-1,1,2-trifluoroethane	67	3.379	3.361	0.018	92	311839	5.00	5.94	
13 Acrolein	56	3.465	3.459	0.006	99	142494	37.5	21.5	
14 1,1-Dichloroethene	96	3.599	3.599	0.000	97	238178	5.00	5.81	
15 Acetone	43	3.635	3.629	0.006	99	310674	37.5	37.4	
16 112TCTFE	101	3.647	3.648	-0.001	91	258035	5.00	5.80	
17 Iodomethane	142	3.800	3.800	0.000	100	427788	5.00	5.47	
18 Ethyl bromide	108	3.836	3.830	0.006	99	189184	4.94	5.43	
19 Carbon disulfide	76	3.916	3.910	0.006	99	666087	5.00	5.69	
21 Methyl acetate	43	4.062	4.056	0.006	98	98280	5.00	5.34	
22 3-Chloro-1-propene	41	4.086	4.093	-0.007	91	347558	5.00	5.61	
23 Methylene Chloride	84	4.281	4.288	-0.007	92	239870	5.00	5.64	
* 24 t-Butyl alcohol-d10 (IS)	65	4.294	4.300	-0.006	0	167514	50.0	50.0	M
25 2-Methyl-2-propanol	59	4.434	4.416	0.018	100	205968	50.0	51.0	
26 Acrylonitrile	53	4.629	4.623	0.006	97	260057	25.0	23.8	
27 Methyl tert-butyl ether	73	4.696	4.696	0.000	95	601680	5.00	5.72	
28 trans-1,2-Dichloroethene	96	4.708	4.702	0.006	99	250488	5.00	5.69	
29 Hexane	57	5.129	5.129	0.000	94	386376	5.00	5.82	
31 1,1-Dichloroethane	63	5.367	5.367	0.000	96	471284	5.00	6.02	
32 Isopropyl ether	45	5.421	5.422	-0.001	94	745947	5.00	5.69	
33 2-Chloro-1,3-butadiene	53	5.476	5.476	0.000	92	420179	5.00	6.07	
34 Tert-butyl ethyl ether	59	5.952	5.958	-0.006	98	722776	5.00	5.60	
36 2-Butanone (MEK)	43	6.165	6.165	0.000	100	556804	37.5	38.0	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
37 cis-1,2-Dichloroethene	96	6.196	6.196	0.000	80	340115	5.00	6.88	
38 2,2-Dichloropropane	77	6.214	6.208	0.006	87	435149	5.00	6.14	
40 Propionitrile	54	6.257	6.257	0.000	99	158589	37.5	38.9	
42 Methacrylonitrile	67	6.470	6.470	0.000	93	511005	37.5	36.7	
43 Chlorobromomethane	128	6.525	6.525	0.000	94	118487	5.00	5.42	
44 Tetrahydrofuran	71	6.531	6.537	-0.006	88	103928	25.0	23.2	
45 Chloroform	83	6.677	6.677	0.000	93	485399	5.00	6.19	
\$ 46 Dibromofluoromethane (Surr)	113	6.891	6.885	0.006	93	378666	10.0	10.2	
47 1,1,1-Trichloroethane	97	6.903	6.903	0.000	98	462656	5.00	6.09	
48 Cyclohexane	56	7.000	7.001	-0.001	90	481063	5.00	6.00	
50 Carbon tetrachloride	117	7.116	7.110	0.006	95	417451	5.00	6.20	
51 1,1-Dichloropropene	75	7.116	7.110	0.006	96	378732	5.00	6.03	
52 Isobutyl alcohol	41	7.263	7.263	0.000	94	158734	125.1	136.1	
\$ 53 1,2-Dichloroethane-d4 (Surr)	102	7.342	7.342	0.000	0	75406	10.0	10.1	
54 Benzene	78	7.378	7.378	0.000	97	1049363	5.00	5.74	
56 1,2-Dichloroethane	62	7.452	7.452	0.000	98	304467	5.00	6.19	
57 Tert-amyl methyl ether	73	7.567	7.561	0.006	98	670222	5.00	5.59	
* 58 Fluorobenzene (IS)	96	7.775	7.775	0.000	98	1532100	10.0	10.0	
59 n-Heptane	43	7.787	7.787	0.000	93	419080	5.00	6.63	
60 n-Butanol	56	8.134	8.134	0.000	89	281802	250.2	273.4	
61 Trichloroethene	95	8.256	8.256	0.000	97	332666	5.00	6.83	
62 Methylcyclohexane	83	8.561	8.561	0.000	93	503400	5.00	5.81	
63 1,2-Dichloropropane	63	8.592	8.586	0.006	71	264504	5.00	5.95	
64 Methyl methacrylate	69	8.671	8.665	0.006	90	132965	5.00	4.71	
65 1,4-Dioxane	88	8.671	8.671	0.000	35	38747	125.1	163.6	M
66 Dibromomethane	93	8.701	8.701	0.000	93	127583	5.00	5.79	
68 Dichlorobromomethane	83	8.933	8.927	0.006	99	335005	5.00	5.79	
69 2-Nitropropane	41	9.201	9.201	0.000	97	43070	5.00	4.91	
71 2-Chloroethyl vinyl ether	63		9.293				ND	ND	
72 1-Bromo-2-chloroethane	63	9.323	9.317	0.006	99	290187	5.00	6.29	
73 cis-1,3-Dichloropropene	75	9.469	9.470	-0.001	95	394914	5.00	5.77	
74 4-Methyl-2-pentanone (MIBK)	43	9.640	9.634	0.006	96	896481	25.0	24.7	
\$ 75 Toluene-d8 (Surr)	98	9.774	9.774	0.000	94	1514737	10.0	9.92	
76 Toluene	92	9.847	9.854	-0.007	98	698075	5.00	5.72	
78 trans-1,3-Dichloropropene	75	10.103	10.104	-0.001	93	332213	5.00	5.38	
79 Ethyl methacrylate	69	10.158	10.158	0.000	89	278617	5.00	5.29	
80 1,1,2-Trichloroethane	97	10.305	10.305	0.000	91	196058	5.00	5.74	
81 Tetrachloroethene	166	10.396	10.396	0.000	98	528473	5.00	9.07	
82 1,3-Dichloropropane	76	10.463	10.469	-0.006	90	326224	5.00	5.68	
83 2-Hexanone	43	10.512	10.512	0.000	98	654039	25.0	26.1	
85 Chlorodibromomethane	129	10.683	10.683	0.000	89	248614	5.00	5.71	
86 Ethylene Dibromide	107	10.792	10.792	0.000	99	186130	5.00	5.77	
* 87 Chlorobenzene-d5 (IS)	117	11.219	11.219	0.000	86	1200992	10.0	10.0	
88 1-Chlorohexane	91	11.225	11.225	0.000	96	403074	5.00	5.37	
90 Chlorobenzene	112	11.244	11.244	0.000	95	765930	5.00	5.67	
91 1,1,1,2-Tetrachloroethane	131	11.329	11.323	0.006	96	279859	5.00	5.56	
92 Ethylbenzene	91	11.329	11.329	0.000	98	1366799	5.00	5.71	
93 m-Xylene & p-Xylene	106	11.445	11.445	0.000	0	1072554	10.0	11.4	
94 o-Xylene	106	11.768	11.768	0.000	96	517727	5.00	5.57	
95 Styrene	104	11.786	11.786	0.000	95	838421	5.00	5.65	
96 Bromoform	173	11.945	11.945	0.000	98	151397	5.00	5.65	
97 Isopropylbenzene	105	12.067	12.067	-0.001	96	1450118	5.00	5.89	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
\$ 100 4-Bromofluorobenzene (Surr)	95	12.213	12.213	0.000	93	570220	10.0	10.0	
101 1,1,2,2-Tetrachloroethane	83	12.310	12.310	0.000	94	236826	5.00	5.47	
102 Bromobenzene	156	12.329	12.329	0.000	95	330654	5.00	5.68	
103 trans-1,4-Dichloro-2-butene	53	12.335	12.335	0.000	94	254089	25.0	19.9	
104 1,2,3-Trichloropropane	110	12.359	12.359	0.000	84	67538	5.00	5.60	
105 N-Propylbenzene	91	12.396	12.396	0.000	99	1671713	5.00	5.82	
106 2-Chlorotoluene	126	12.475	12.475	0.000	96	322378	5.00	5.55	
107 1,3,5-Trimethylbenzene	105	12.530	12.530	0.000	94	1181107	5.00	5.64	
108 4-Chlorotoluene	126	12.566	12.567	0.000	97	330806	5.00	5.60	
109 tert-Butylbenzene	134	12.774	12.774	0.000	93	260440	5.00	5.55	
110 Pentachloroethane	167	12.804	12.804	0.000	93	218833	5.00	5.53	
111 1,2,4-Trimethylbenzene	105	12.816	12.816	0.000	97	1180016	5.00	5.48	
112 sec-Butylbenzene	105	12.938	12.938	0.000	94	1577019	5.00	5.87	
113 1,3-Dichlorobenzene	146	13.036	13.036	0.000	98	631297	5.00	5.54	
114 4-Isopropyltoluene	119	13.042	13.042	0.000	98	1361320	5.00	5.87	
* 115 1,4-Dichlorobenzene-d4	152	13.091	13.091	0.000	94	670232	10.0	10.0	
116 1,4-Dichlorobenzene	146	13.109	13.109	0.000	95	640358	5.00	5.68	
117 1,2,3-Trimethylbenzene	120	13.115	13.115	0.000	98	530017	5.00	5.72	
118 Benzyl chloride	126	13.182	13.182	0.000	99	102284	5.00	5.15	
119 n-Butylbenzene	92	13.335	13.335	0.000	98	639772	5.00	5.92	
120 1,2-Dichlorobenzene	146	13.365	13.365	0.000	98	583128	5.00	5.61	
122 1,2-Dibromo-3-Chloropropane	155	13.908	13.908	0.000	84	37781	5.00	5.28	
123 1,3,5-Trichlorobenzene	180	14.036	14.036	0.000	98	474857	5.00	5.76	
124 1,2,4-Trichlorobenzene	180	14.456	14.456	0.000	93	375589	5.00	5.41	
125 Hexachlorobutadiene	225	14.542	14.542	0.000	95	196811	5.00	6.72	
126 Naphthalene	128	14.639	14.639	0.000	97	648433	5.00	4.74	
127 1,2,3-Trichlorobenzene	180	14.779	14.779	0.000	95	303504	5.00	5.25	
144 2-ethoxy-2-methyl butane	1		0.000				ND	ND	
137 2-Methylnaphthalene	142		0.000				ND	ND	
135 p-Diethylbenzene	1		0.000				ND	ND	
134 Isopropyl alcohol	45		0.000				ND	ND	

QC Flag Legend

Processing Flags

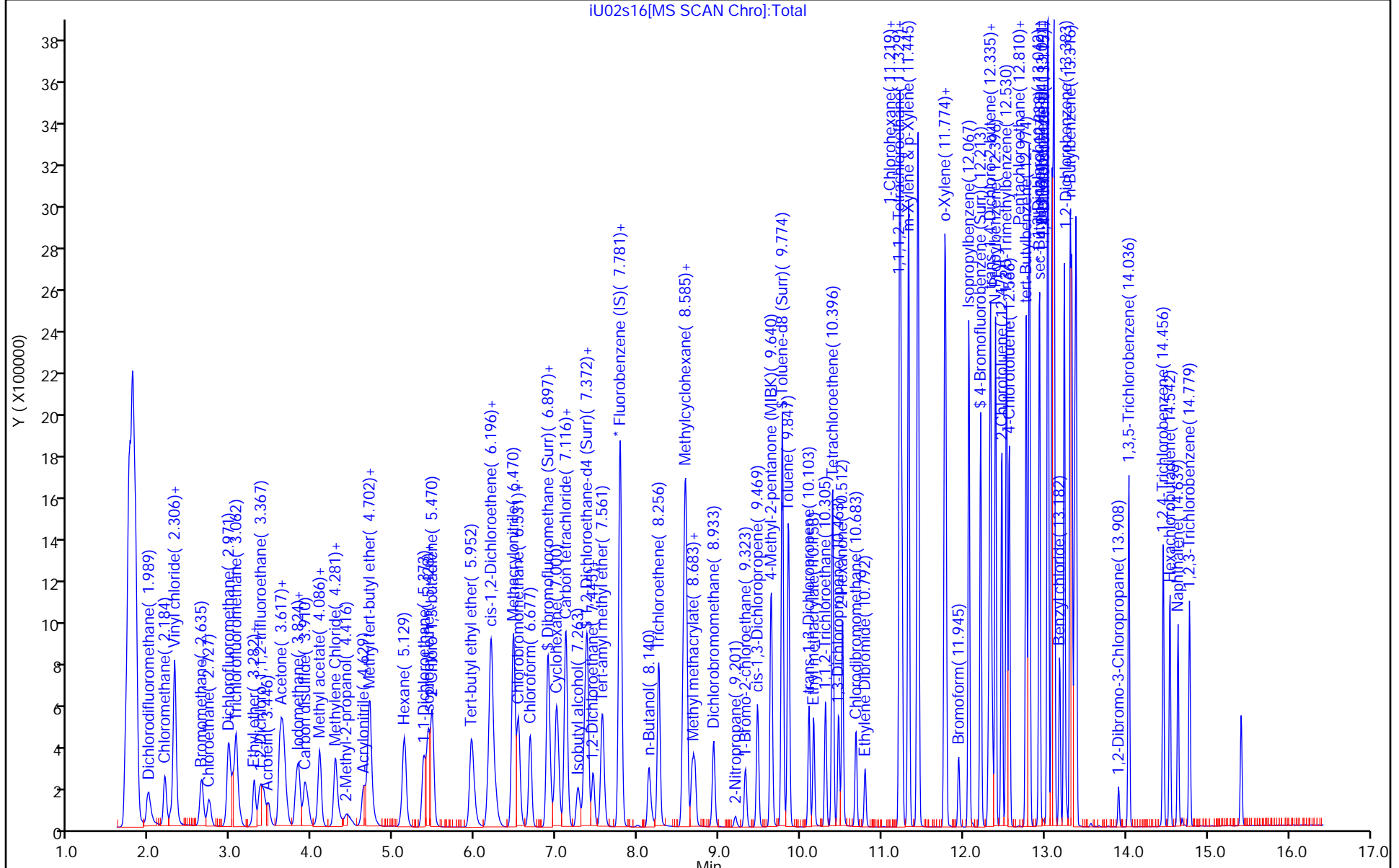
ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

Reagents:

MSV_Q_QVOA1_00031	Amount Added: 5.38	Units: uL	
MSV_Q_QARC_00030	Amount Added: 5.38	Units: uL	
MSV_Q_QVOA6_00028	Amount Added: 5.38	Units: uL	
MSV_Q_EE_00002	Amount Added: 5.38	Units: uL	
MSV_Q_ETBR_00003	Amount Added: 5.38	Units: uL	
MSV_QGAS_826_00042	Amount Added: 5.38	Units: uL	
MSV_31_826ISS_00002	Amount Added: 5.00	Units: uL	Run Reagent



iU02s16[MS SCAN Chrom]:Total

Y (X100000)

Min

Eurofins Lancaster Laboratories Env, LLC
Recovery Report

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s16.D
 Lims ID: 410-2632-A-6 MSD
 Client ID: HD-COD-SW-15-0/1-0
 Sample Type: MSD
 Inject. Date: 02-Jun-2020 15:11:30 ALS Bottle#: 21 Worklist Smp#: 22
 Purge Vol: 25.000 mL Dil. Factor: 1.0000
 Sample Info: 410-0002623-022
 Misc. Info.: 410-2632-A-6 MSD
 Operator ID: JKH09052 Instrument ID: 19930
 Method: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\8260 25ml HP31.m
 Limit Group: MSV - 8260C_D
 Last Update: 03-Jun-2020 12:45:06 Calib Date: 16-Mar-2020 18:31:30
 Integrator: RTE ID Type: Deconvolution ID
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Lancaster\ChromData\19930\20200317-1775.b\IM16107.D
 Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
 Process Host: CTX1023

First Level Reviewer: howej Date: 03-Jun-2020 12:38:17

Compound	Amount Added	Amount Recovered	% Rec.
\$ 46 Dibromofluoromethane (Surr)	10.0	10.2	102.40
\$ 53 1,2-Dichloroethane-d4 (Surr)	10.0	10.1	100.63
\$ 75 Toluene-d8 (Surr)	10.0	9.92	99.18
\$ 100 4-Bromofluorobenzene (Surr)	10.0	10.0	100.06

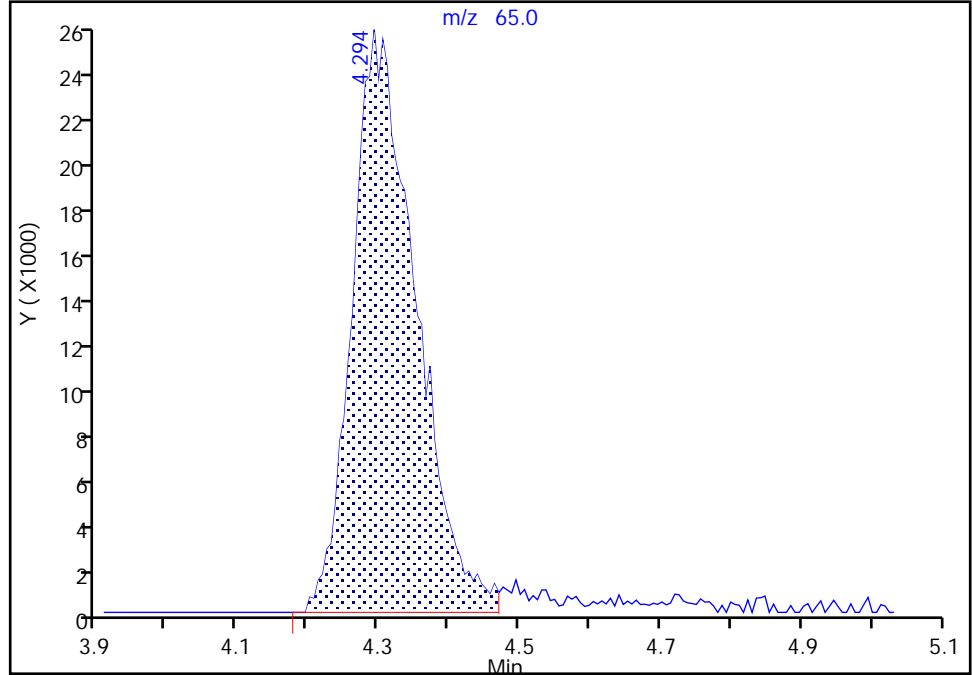
Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19930\20200602-2623.b\iU02s16.D
Injection Date: 02-Jun-2020 15:11:30 Instrument ID: 19930
Lims ID: 410-2632-A-6 MSD
Client ID: HD-COD-SW-15-0/1-0
Operator ID: JKH09052 ALS Bottle#: 21 Worklist Smp#: 22
Purge Vol: 25.000 mL Dil. Factor: 1.0000
Method: 8260 25ml HP31 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm ID) Detector: MS Quad

* 24 t-Butyl alcohol-d10 (IS), CAS: 53001-22-2
Signal: 1

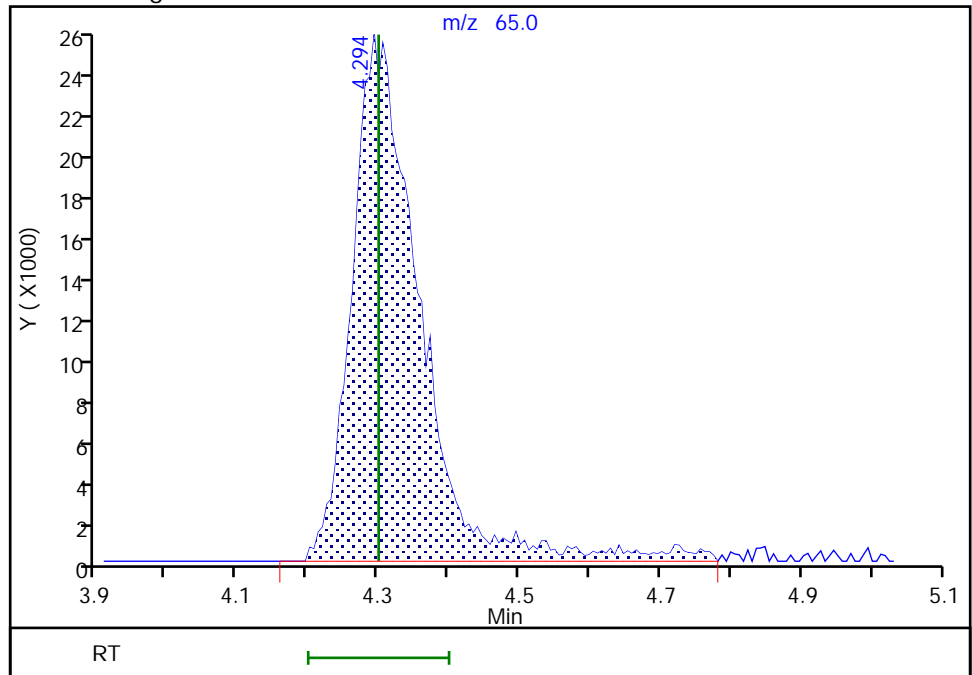
RT: 4.29
Area: 157520
Amount: 50.000000
Amount Units: ug/l

Processing Integration Results



RT: 4.29
Area: 167514
Amount: 50.000000
Amount Units: ug/l

Manual Integration Results



Reviewer: howej, 03-Jun-2020 12:37:28
Audit Action: Manually Integrated

Audit Reason: Other

GC/MS VOA ANALYSIS RUN LOG

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-2632-1

SDG No.: _____

Instrument ID: 19930Start Date: 03/16/2020 12:37Analysis Batch Number: 6388End Date: 03/16/2020 18:31

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 410-6388/1		03/16/2020 12:37	1	Im16T01.D	R-624SilMS 30m 0.25 (mm)
IC 410-6388/3		03/16/2020 13:13	1		R-624SilMS 30m 0.25 (mm)
IC 410-6388/4		03/16/2020 13:34	1		R-624SilMS 30m 0.25 (mm)
IC 410-6388/5		03/16/2020 13:55	1		R-624SilMS 30m 0.25 (mm)
IC 410-6388/6		03/16/2020 14:16	1		R-624SilMS 30m 0.25 (mm)
IC 410-6388/7		03/16/2020 14:38	1		R-624SilMS 30m 0.25 (mm)
IC 410-6388/8		03/16/2020 14:59	1		R-624SilMS 30m 0.25 (mm)
IC 410-6388/9		03/16/2020 15:20	1		R-624SilMS 30m 0.25 (mm)
IC 410-6388/12		03/16/2020 16:24	1	IM16I01.D	R-624SilMS 30m 0.25 (mm)
ICIS 410-6388/13		03/16/2020 16:45	1	IM16I02.D	R-624SilMS 30m 0.25 (mm)
IC 410-6388/14		03/16/2020 17:06	1	IM16I03.D	R-624SilMS 30m 0.25 (mm)
IC 410-6388/15		03/16/2020 17:27	1	IM16I04.D	R-624SilMS 30m 0.25 (mm)
IC 410-6388/16		03/16/2020 17:48	1	IM16I05.D	R-624SilMS 30m 0.25 (mm)
IC 410-6388/17		03/16/2020 18:09	1	IM16I06.D	R-624SilMS 30m 0.25 (mm)
IC 410-6388/18		03/16/2020 18:31	1	IM16I07.D	R-624SilMS 30m 0.25 (mm)

GC/MS VOA ANALYSIS RUN LOG

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-2632-1

SDG No.: _____

Instrument ID: 19930 Start Date: 03/18/2020 09:11Analysis Batch Number: 7691 End Date: 03/18/2020 11:11

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 410-7691/20		03/18/2020 09:11	1	IM18T01.D	R-624SilMS 30m 0.25 (mm)
ICV 410-7691/21		03/18/2020 10:28	1	IM18S01.D	R-624SilMS 30m 0.25 (mm)
ICV 410-7691/22		03/18/2020 11:11	1		R-624SilMS 30m 0.25 (mm)

GC/MS VOA ANALYSIS RUN LOG

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-2632-1

SDG No.: _____

Instrument ID: 19930Start Date: 06/02/2020 07:40Analysis Batch Number: 9922End Date: 06/02/2020 17:41

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 410-9922/1		06/02/2020 07:40	1	Iu02T01.D	R-624SilMS 30m 0.25 (mm)
CCVIS 410-9922/3		06/02/2020 08:16	1	Iu02C01.D	R-624SilMS 30m 0.25 (mm)
LCS 410-9922/4		06/02/2020 08:37	1	Iu02L01.D	R-624SilMS 30m 0.25 (mm)
MB 410-9922/6		06/02/2020 09:19	1	Iu02B01.D	R-624SilMS 30m 0.25 (mm)
410-2632-14		06/02/2020 09:50	1	iU02s01.D	R-624SilMS 30m 0.25 (mm)
ZZZZZ		06/02/2020 10:11	20		R-624SilMS 30m 0.25 (mm)
ZZZZZ		06/02/2020 10:33	20		R-624SilMS 30m 0.25 (mm)
ZZZZZ		06/02/2020 10:54	10		R-624SilMS 30m 0.25 (mm)
ZZZZZ		06/02/2020 11:16	10		R-624SilMS 30m 0.25 (mm)
ZZZZZ		06/02/2020 11:37	100		R-624SilMS 30m 0.25 (mm)
ZZZZZ		06/02/2020 11:59	10		R-624SilMS 30m 0.25 (mm)
ZZZZZ		06/02/2020 12:20	10		R-624SilMS 30m 0.25 (mm)
410-2632-1		06/02/2020 12:41	1	iU02s09.D	R-624SilMS 30m 0.25 (mm)
410-2632-2		06/02/2020 13:03	1	iU02s10.D	R-624SilMS 30m 0.25 (mm)
410-2632-3		06/02/2020 13:24	1	iU02s11.D	R-624SilMS 30m 0.25 (mm)
410-2632-4		06/02/2020 13:46	1	iU02s12.D	R-624SilMS 30m 0.25 (mm)
410-2632-5		06/02/2020 14:07	1	iU02s13.D	R-624SilMS 30m 0.25 (mm)
410-2632-6		06/02/2020 14:29	1	iU02s14.D	R-624SilMS 30m 0.25 (mm)
410-2632-6 MS		06/02/2020 14:50	1	iU02s15.D	R-624SilMS 30m 0.25 (mm)
410-2632-6 MSD		06/02/2020 15:11	1	iU02s16.D	R-624SilMS 30m 0.25 (mm)
410-2632-7		06/02/2020 15:33	1	iU02s17.D	R-624SilMS 30m 0.25 (mm)
410-2632-8		06/02/2020 15:54	1	iU02s18.D	R-624SilMS 30m 0.25 (mm)
410-2632-9		06/02/2020 16:15	1	iU02s19.D	R-624SilMS 30m 0.25 (mm)
410-2632-10		06/02/2020 16:36	1	iU02s20.D	R-624SilMS 30m 0.25 (mm)
410-2632-11		06/02/2020 16:58	1	iU02s21.D	R-624SilMS 30m 0.25 (mm)
410-2632-12		06/02/2020 17:19	1	iU02s22.D	R-624SilMS 30m 0.25 (mm)
410-2632-13		06/02/2020 17:41	1	iU02s23.D	R-624SilMS 30m 0.25 (mm)

GC/MS VOA BATCH WORKSHEET

Lab Name: Eurofins Lancaster Laboratorie Job No.: 410-2632-1

SDG No.: _____

Batch Number: 6388 Batch Start Date: 03/16/20 12:37 Batch Analyst: Campbell, Miranda E

Batch Method: 8260C LL Batch End Date: _____

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MSV_31_826ISS 00002	MSV_RV1_826 00008	MSV_RV4_826 00009	MSV_RV4GAS826 00022
BFB 410-6388/1		8260C LL		1 uL	1 uL				
IC 410-6388/12		8260C LL		25 mL	25 mL	5 uL	25 uL	25 uL	25 uL
ICIS 410-6388/13		8260C LL		25 mL	25 mL	5 uL	10 uL	10 uL	10 uL
IC 410-6388/14		8260C LL		25 mL	25 mL	5 uL	5 uL	5 uL	5 uL
IC 410-6388/15		8260C LL		25 mL	25 mL	5 uL	2 uL	2 uL	2 uL
IC 410-6388/16		8260C LL		25 mL	25 mL	5 uL	2 uL	2 uL	2 uL
IC 410-6388/17		8260C LL		25 mL	25 mL	5 uL	2 uL	2 uL	2 uL
IC 410-6388/18		8260C LL		25 mL	25 mL	5 uL	2 uL	2 uL	2 uL

Lab Sample ID	Client Sample ID	Method Chain	Basis	MSV_V_BFB 00002					
BFB 410-6388/1		8260C LL		1 uL					
IC 410-6388/12		8260C LL							
ICIS 410-6388/13		8260C LL							
IC 410-6388/14		8260C LL							
IC 410-6388/15		8260C LL							
IC 410-6388/16		8260C LL							
IC 410-6388/17		8260C LL							
IC 410-6388/18		8260C LL							

Batch Notes	

Basis	Basis Description

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 Lancaster Laboratorie Job No.: 410-2632-1

SDG No.: _____

Batch Number: 7691 Batch Start Date: 03/18/20 09:11 Batch Analyst: Campbell, Miranda E

Batch Method: 8260C LL Batch End Date: _____

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MSV_31_826ISS 00002	MSV_Q_EE 00001	MSV_Q_ETBR 00002	MSV_Q_QARC 00018
BFB 410-7691/20		8260C LL		1 uL	1 uL				
ICV 410-7691/21		8260C LL		25 mL	25 mL	5 uL	12.5 uL	12.5 uL	12.5 uL

Lab Sample ID	Client Sample ID	Method Chain	Basis	MSV_Q_QVOA1 00018	MSV_Q_QVOA6 00017	MSV_QGAS_826 00022	MSV_V_BFB 00002		
BFB 410-7691/20		8260C LL					1 uL		
ICV 410-7691/21		8260C LL		12.5 uL	12.5 uL	12.5 uL			

Batch Notes	

Basis	Basis Description

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 Lancaster Laboratorie Job No.: 410-2632-1

SDG No.: _____

Batch Number: 9922 Batch Start Date: 06/02/20 07:40 Batch Analyst: Howe, Jennifer K

Batch Method: 8260C LL Batch End Date: _____

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	Initial pH	ResidualChloChe ck	MSV_31_826ISS 00002	MSV_Q_EE 00002
BFB 410-9922/1		8260C LL		1 uL	1 uL				
CCVIS 410-9922/3		8260C LL		25 mL	25 mL			5 uL	
LCS 410-9922/4		8260C LL		25 mL	25 mL			5 uL	12.5 uL
MB 410-9922/6		8260C LL		25 mL	25 mL			5 uL	
410-2632-A-14	HD-QC1-0/1-2	8260C LL	T	25 mL	25 mL	<2 SU	N	5 uL	
410-2632-A-1	HD-COD-SW-6-0/1-0	8260C LL	T	25 mL	25 mL	<2 SU	N	5 uL	
410-2632-A-2	HD-COD-SW-7-0/1-0	8260C LL	T	25 mL	25 mL	<2 SU	N	5 uL	
410-2632-A-3	HD-COD-SW-8-0/1-0	8260C LL	T	25 mL	25 mL	<2 SU	N	5 uL	
410-2632-A-4	HD-COD-SW-9-0/1-0	8260C LL	T	25 mL	25 mL	<2 SU	N	5 uL	
410-2632-A-5	HD-COD-SW-13-0/1-0	8260C LL	T	25 mL	25 mL	<2 SU	N	5 uL	
410-2632-A-6	HD-COD-SW-15-0/1-0	8260C LL	T	25 mL	25 mL	<2 SU	N	5 uL	
410-2632-A-6 MS	HD-COD-SW-15-0/1-0	8260C LL	T	25 mL	25 mL	<2 SU	N	5 uL	5.38 uL
410-2632-A-6 MSD	HD-COD-SW-15-0/1-0	8260C LL	T	25 mL	25 mL	<2 SU	N	5 uL	5.38 uL
410-2632-A-7	HD-COD-SW-16-0/1-0	8260C LL	T	25 mL	25 mL	<2 SU	N	5 uL	
410-2632-A-8	HD-COD-SW-17-0/1-0	8260C LL	T	25 mL	25 mL	<2 SU	N	5 uL	
410-2632-A-9	HD-COD-SW-26-0/1-0	8260C LL	T	25 mL	25 mL	<2 SU	N	5 uL	
410-2632-A-10	HD-COD-SW-27-0/1-0	8260C LL	T	25 mL	25 mL	<2 SU	N	5 uL	
410-2632-A-11	HD-COD-SW-28-0/1-0	8260C LL	T	25 mL	25 mL	<2 SU	N	5 uL	
410-2632-A-12	HD-COD-SW-29-0/1-0	8260C LL	T	25 mL	25 mL	<2 SU	N	5 uL	
410-2632-A-13	HD-QC1-0/1-1	8260C LL	T	25 mL	25 mL	<2 SU	N	5 uL	

Lab Sample ID	Client Sample ID	Method Chain	Basis	MSV_Q_ETBR 00003	MSV_Q_QARC 00030	MSV_Q_QVOA1 00031	MSV_Q_QVOA6 00028	MSV_QGAS_826 00042	MSV_RV1_826 00014
BFB 410-9922/1		8260C LL							

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 Lancaster Laboratorie Job No.: 410-2632-1

SDG No.: _____

Batch Number: 9922 Batch Start Date: 06/02/20 07:40 Batch Analyst: Howe, Jennifer K

Batch Method: 8260C LL Batch End Date: _____

Lab Sample ID	Client Sample ID	Method Chain	Basis	MSV_Q_ETBR 00003	MSV_Q_QARC 00030	MSV_Q_QVOA1 00031	MSV_Q_QVOA6 00028	MSV_QGAS_826 00042	MSV_RV1_826 00014
CCVIS 410-9922/3		8260C LL							10 uL
LCS 410-9922/4		8260C LL		12.5 uL	12.5 uL	12.5 uL	12.5 uL	12.5 uL	
MB 410-9922/6		8260C LL							
410-2632-A-14	HD-QC1-0/1-2	8260C LL	T						
410-2632-A-1	HD-COD-SW-6-0/1-0	8260C LL	T						
410-2632-A-2	HD-COD-SW-7-0/1-0	8260C LL	T						
410-2632-A-3	HD-COD-SW-8-0/1-0	8260C LL	T						
410-2632-A-4	HD-COD-SW-9-0/1-0	8260C LL	T						
410-2632-A-5	HD-COD-SW-13-0/1-0	8260C LL	T						
410-2632-A-6	HD-COD-SW-15-0/1-0	8260C LL	T						
410-2632-A-6 MS	HD-COD-SW-15-0/1-0	8260C LL	T	5.38 uL	5.38 uL	5.38 uL	5.38 uL	5.38 uL	
410-2632-A-6 MSD	HD-COD-SW-15-0/1-0	8260C LL	T	5.38 uL	5.38 uL	5.38 uL	5.38 uL	5.38 uL	
410-2632-A-7	HD-COD-SW-16-0/1-0	8260C LL	T						
410-2632-A-8	HD-COD-SW-17-0/1-0	8260C LL	T						
410-2632-A-9	HD-COD-SW-26-0/1-0	8260C LL	T						
410-2632-A-10	HD-COD-SW-27-0/1-0	8260C LL	T						
410-2632-A-11	HD-COD-SW-28-0/1-0	8260C LL	T						
410-2632-A-12	HD-COD-SW-29-0/1-0	8260C LL	T						
410-2632-A-13	HD-QC1-0/1-1	8260C LL	T						

Lab Sample ID	Client Sample ID	Method Chain	Basis	MSV_RV4_826 00015	MSV_RV4GAS826 00044	MSV_V_BFB 00002			
BFB 410-9922/1		8260C LL				1 uL			
CCVIS 410-9922/3		8260C LL		10 uL	10 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 Lancaster Laboratorie Job No.: 410-2632-1

SDG No.: _____

Batch Number: 9922 Batch Start Date: 06/02/20 07:40 Batch Analyst: Howe, Jennifer K

Batch Method: 8260C LL Batch End Date: _____

Lab Sample ID	Client Sample ID	Method Chain	Basis	MSV_RV4_826 00015	MSV_RV4GAS826 00044	MSV_V_BFB 00002			
LCS 410-9922/4		8260C LL							
MB 410-9922/6		8260C LL							
410-2632-A-14	HD-QC1-0/1-2	8260C LL	T						
410-2632-A-1	HD-COD-SW-6-0/1-0	8260C LL	T						
410-2632-A-2	HD-COD-SW-7-0/1-0	8260C LL	T						
410-2632-A-3	HD-COD-SW-8-0/1-0	8260C LL	T						
410-2632-A-4	HD-COD-SW-9-0/1-0	8260C LL	T						
410-2632-A-5	HD-COD-SW-13-0/1-0	8260C LL	T						
410-2632-A-6	HD-COD-SW-15-0/1-0	8260C LL	T						
410-2632-A-6 MS	HD-COD-SW-15-0/1-0	8260C LL	T						
410-2632-A-6 MSD	HD-COD-SW-15-0/1-0	8260C LL	T						
410-2632-A-7	HD-COD-SW-16-0/1-0	8260C LL	T						
410-2632-A-8	HD-COD-SW-17-0/1-0	8260C LL	T						
410-2632-A-9	HD-COD-SW-26-0/1-0	8260C LL	T						
410-2632-A-10	HD-COD-SW-27-0/1-0	8260C LL	T						
410-2632-A-11	HD-COD-SW-28-0/1-0	8260C LL	T						
410-2632-A-12	HD-COD-SW-29-0/1-0	8260C LL	T						
410-2632-A-13	HD-QC1-0/1-1	8260C LL	T						

Batch Notes	

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



#267

2 of 2

Lancaster Laboratories
Environmental

Acct. # _____ Group # _____ Sample # _____

Client: Groundwater Sciences Corporation				Matrix			Analyses Requested						For Lab Use Only	
Project Name/#: FYNOP Monthly Surface Water		Site ID #: FYNOP, York PA		<input type="checkbox"/> Tissue	<input type="checkbox"/> Ground	<input checked="" type="checkbox"/> Surface	Preservation Codes						SF #: _____	
Project Manager: Chris O'Neil		P.O. #: 10012.42		<input type="checkbox"/> Potable	<input type="checkbox"/> NPDES	Other: Trip Blank							SCR #: _____	
Sampler: Casey Littlefield		PWSID #: N/A		<input type="checkbox"/> Water										
Phone #: (717) 901-8176 / (717) 756-1246		Quote #:		<input type="checkbox"/> Soil	<input type="checkbox"/> Sediment	Total # of Containers	Aqueous VOCs via 8260C (low level) - 25 ml purge)						Preservation Codes	
State where samples were collected: York, PA		For Compliance: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>											H = HCl T = Thiosulfate N = HNO ₃ B = NaOH S = H ₂ SO ₄ P = H ₃ PO ₄ O = Other	
Sample Identification				Collection		Composite							Remarks	
		Date	Time	Grab										
HD-COD-SW-26-0/1-0		5/26/20	1210	X			X	3	X					
HD-COD-SW-27-0/1-0			1245	X			X	3	X					
HD-COD-SW-28-0/1-0			1345	X			X	3	X					
HD-COD-SW-29-0/1-0			1015	X			X	3	X					
HD-QC1-0/1-1			1200	X			X	3	X					
HD-QC1-0/1-2			—	X		Trip	X	2	X					
EVP 5/26/20														
Turnaround Time Requested (TAT) (please check):				Standard <input checked="" type="checkbox"/> Rush <input type="checkbox"/>		Relinquished by:		Date	Time	Received by:		Date	Time	
(Rush TAT is subject to laboratory approval and surcharges.)						[Signature]		5/26/20	1440	[Signature]		5/26/20	1440	
Date results are needed:						Relinquished by:		Date	Time	Received by:		Date	Time	
Rush results requested by (please check):				E-Mail <input type="checkbox"/> Phone <input type="checkbox"/>		[Signature]		5/26/20	1450	[Signature]		5/26/20	1450	
E-mail Address:						Relinquished by:		Date	Time	Received by:		Date	Time	
Phone:						[Signature]				[Signature]				
Data Package Options (please check if required)						Relinquished by:		Date	Time	Received by:		Date	Time	
Type I (Validation/non-CLP)	<input type="checkbox"/>	MA MCP	<input type="checkbox"/>			[Signature]				[Signature]		5/26/20	1600	
Type III (Reduced non-CLP)	<input type="checkbox"/>	CT RCP	<input type="checkbox"/>			Relinquished by:		Date	Time	Received by:		Date	Time	
Type VI (Raw Data Only)	<input type="checkbox"/>	TX TRRP-13	<input type="checkbox"/>			[Signature]				[Signature]				
NJ DKQP	<input type="checkbox"/>	NYSDEC Category	<input type="checkbox"/> A or <input type="checkbox"/> B			Relinquished by Commercial Carrier:				Temperature upon receipt		5.2	°C	
EDD Required? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				If yes, format: _____		CLP Like Deliverables, Project Specific Analyte List		UPS _____ FedEx _____ Other _____						

Login Sample Receipt Checklist

Client: Groundwater Sciences Corporation

Job Number: 410-2632-1

Login Number: 2632

List Source: Eurofins Lancaster Laboratories Env

List Number: 1

Creator: Cyms, Carolyn M

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal is intact.	N/A	
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 ($\leq 6^{\circ}\text{C}$, not frozen).	True	
Cooler Temperature is recorded.	True	
WV: Container Temperature is acceptable ($\leq 6^{\circ}\text{C}$, not frozen).	N/A	
WV: Container Temperature is recorded.	N/A	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
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	
There is sufficient vol. for all requested analyses.	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Is the Field Sampler's name present on COC?	True	
Sample Preservation Verified.	N/A	
Residual Chlorine Checked.	N/A	
Sample custody seals are intact.	N/A	