New Jersey
ACCUTEST LABORATORIES

06/22/15

Technical Report for

Anderson, Mulholland & Associates

BMSMC, Building 5 Area, PR

SM04.00.06

Accutest Job Number: JB96432

Sampling Dates: 06/03/15 - 06/05/15

Report to:

Anderson, Mulholland & Associates
2700 Westchester Avenue Suite 417
Purchase, NY 10577
ttaylor@amaiconsult.com

ATTN: Terry Taylor

Total number of pages in report: **394**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Nancy Cole
Laboratory Director

Client Service contact: Tammy McCloskey 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, DE, FL, IL, IN, KS, KY, LA, MA, MD, MI, MT, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TN, VA, WV, DoD ELAP (L-A-B L2248)

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Sample Summary

Anderson, Mulholland & Associates

Job No: JB96432

BMSMC, Building 5 Area, PR
Project No: SM04.00.06

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
JB96432-1	06/03/15	13:42	NMR	06/06/15	AQ	Ground Water	S-33
JB96432-1D	06/03/15	13:58	NMR	06/06/15	AQ	Water Dup/MSD	S-33 MSD
JB96432-1S	06/03/15	13:51	NMR	06/06/15	AQ	Water Matrix Spike	S-33 MS
JB96432-2	06/03/15	15:12	NMR	06/06/15	AQ	Ground Water	S-32
JB96432-3	06/03/15	17:11	NMR	06/06/15	AQ	Ground Water	G-1R(3)
JB96432-4	06/04/15	14:00	NMR	06/06/15	AQ	Ground Water	A-1R(4)
JB96432-5	06/04/15	16:40	NMR	06/06/15	AQ	Ground Water	A-2R(2)
JB96432-6	06/05/15	13:01	NMR	06/06/15	AQ	Ground Water	S-31R(2)
JB96432-7	06/05/15	13:13	NMR	06/06/15	AQ	Ground Water	S-31R(2)D
JB96432-8	06/05/15	15:11	NMR	06/06/15	AQ	Ground Water	VP-1
JB96432-9	06/05/15	15:11	NMR	06/06/15	AQ	Trip Blank Water	TB060515

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	Anderson, Mulholland & Associates	**Job No**	JB96432
Site:	BMSMC, Building 5 Area, PR	**Report Date**	6/22/2015 11:25:07 A

On 06/06/2015, 8 Sample(s), 1 Trip Blank(s) and 0 Field Blank(s) were received at Accutest Laboratories at a maximum corrected temperature of 4 C. Samples were intact and chemically preserved, unless noted below. An Accutest Job Number of JB96432 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Volatiles by GCMS By Method SW846 8260C

Matrix: AQ **Batch ID:** VU9037

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JB96432-1MS, JB96432-1MSD were used as the QC samples indicated.
- RPD(s) for MSD for Acetone are outside control limits for sample JB96432-1MSD. Outside control limits due to matrix interference.

Matrix: AQ **Batch ID:** VU9038

- All samples were analyzed within the recommended method holding time.
- Sample(s) JB96173-3MS, JB96173-3MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Matrix: AQ **Batch ID:** VU9040

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JB96432-7MS, JB96432-7MSD were used as the QC samples indicated.

Matrix: AQ **Batch ID:** VU9043

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JB96432-6MS, JB96432-6MSD were used as the QC samples indicated.

Matrix: AQ **Batch ID:** VU9047

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JB96878-3MS, JB96878-3MSD were used as the QC samples indicated.

Volatiles by GC By Method SW846-8015C (DAI)

Matrix: AQ	**Batch ID:** GGH4888

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JB96432-1MS, JB96432-1MSD were used as the QC samples indicated.

Matrix: AQ	**Batch ID:** GGH4889

- All samples were analyzed within the recommended method holding time.
- Sample(s) JB96432-5MS, JB96432-5MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- JB96432-8 for Methanol: More than 40 % RPD for detected concentrations between the two GC columns.

Accutest certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting Accutest's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

Accutest Laboratories is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by Accutest Laboratories indicated via signature on the report cover

Summary of Hits

Job Number: JB96432
Account: Anderson, Mulholland & Associates
Project: BMSMC, Building 5 Area, PR
Collected: 06/03/15 thru 06/05/15

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Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JB96432-1	**S-33**					
No hits reported in this sample.						
JB96432-2	**S-32**					
Ethylbenzene		44500	2000	540	ug/l	SW846 8260C
Toluene		68.5 J	200	32	ug/l	SW846 8260C
Xylene (total)		81800	2000	330	ug/l	SW846 8260C
JB96432-3	**G-1R(3)**					
Ethylbenzene		27200	200	54	ug/l	SW846 8260C
Toluene		154 J	200	32	ug/l	SW846 8260C
Xylene (total)		87200	2000	330	ug/l	SW846 8260C
JB96432-4	**A-1R(4)**					
Acetone		14.8 J	40	13	ug/l	SW846 8260C
Benzene		4.9	2.0	0.94	ug/l	SW846 8260C
Ethylbenzene		356	4.0	1.1	ug/l	SW846 8260C
Toluene		1.1 J	4.0	0.65	ug/l	SW846 8260C
Xylene (total)		1210	4.0	0.66	ug/l	SW846 8260C
JB96432-5	**A-2R(2)**					
Ethylbenzene		3.6	1.0	0.27	ug/l	SW846 8260C
Xylene (total)		7.1	1.0	0.17	ug/l	SW846 8260C
JB96432-6	**S-31R(2)**					
Ethylbenzene		5660	200	54	ug/l	SW846 8260C
JB96432-7	**S-31R(2)D**					
Ethylbenzene		4740	100	27	ug/l	SW846 8260C
JB96432-8	**VP-1**					
Acetone		5.2 J	10	3.3	ug/l	SW846 8260C
Ethylbenzene		0.31 J	1.0	0.27	ug/l	SW846 8260C
Xylene (total)		0.89 J	1.0	0.17	ug/l	SW846 8260C
Isopropyl Alcohol		1070	100	25	ug/l	SW846-8015C (DAI)
Methanol [a]		602	200	45	ug/l	SW846-8015C (DAI)

Summary of Hits

Job Number: JB96432
Account: Anderson, Mulholland & Associates
Project: BMSMC, Building 5 Area, PR
Collected: 06/03/15 thru 06/05/15

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JB96432-9	**TB060515**					

No hits reported in this sample.

(a) More than 40 % RPD for detected concentrations between the two GC columns.

New Jersey

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Sample Results

Report of Analysis

Accutest Laboratories

Report of Analysis

Client Sample ID:	S-33		
Lab Sample ID:	JB96432-1	**Date Sampled:**	06/03/15
Matrix:	AQ - Ground Water	**Date Received:**	06/06/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U195959.D	1	06/11/15	NH	n/a	n/a	VU9037
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	3.3	ug/l	
71-43-2	Benzene	ND	0.50	0.24	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.27	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	1.0	ug/l	
108-88-3	Toluene	ND	1.0	0.16	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.17	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		76-120%
17060-07-0	1,2-Dichloroethane-D4	101%		73-122%
2037-26-5	Toluene-D8	99%		84-119%
460-00-4	4-Bromofluorobenzene	99%		78-117%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	S-33		
Lab Sample ID:	JB96432-1	**Date Sampled:**	06/03/15
Matrix:	AQ - Ground Water	**Date Received:**	06/06/15
Method:	SW846-8015C (DAI)	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GH100304.D	1	06/08/15	XPL	n/a	n/a	GGH4888
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
67-63-0	Isopropyl Alcohol	ND	100	25	ug/l	
67-56-1	Methanol	ND	200	45	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
111-27-3	Hexanol	86%		48-150%
111-27-3	Hexanol	88%		48-150%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID:	S-32		
Lab Sample ID:	JB96432-2	**Date Sampled:**	06/03/15
Matrix:	AQ - Ground Water	**Date Received:**	06/06/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U195986.D	200	06/11/15	NH	n/a	n/a	VU9038
Run #2	U195963.D	2000	06/11/15	NH	n/a	n/a	VU9037

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	2000	660	ug/l	
71-43-2	Benzene	ND	100	47	ug/l	
100-41-4	Ethylbenzene	44500 [a]	2000	540	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	1000	200	ug/l	
108-88-3	Toluene	68.5	200	32	ug/l	J
1330-20-7	Xylene (total)	81800 [a]	2000	330	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%	100%	76-120%
17060-07-0	1,2-Dichloroethane-D4	101%	102%	73-122%
2037-26-5	Toluene-D8	100%	99%	84-119%
460-00-4	4-Bromofluorobenzene	95%	100%	78-117%

(a) Result is from Run# 2

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	S-32		
Lab Sample ID:	JB96432-2	**Date Sampled:**	06/03/15
Matrix:	AQ - Ground Water	**Date Received:**	06/06/15
Method:	SW846-8015C (DAI)	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GH100307.D	1	06/08/15	XPL	n/a	n/a	GGH4888
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
67-63-0	Isopropyl Alcohol	ND	100	25	ug/l	
67-56-1	Methanol	ND	200	45	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
111-27-3	Hexanol	103%		48-150%
111-27-3	Hexanol	81%		48-150%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G-1R(3)		
Lab Sample ID:	JB96432-3	**Date Sampled:**	06/03/15
Matrix:	AQ - Ground Water	**Date Received:**	06/06/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U195987.D	200	06/11/15	NH	n/a	n/a	VU9038
Run #2	U195965.D	2000	06/11/15	NH	n/a	n/a	VU9037

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	2000	660	ug/l	
71-43-2	Benzene	ND	100	47	ug/l	
100-41-4	Ethylbenzene	27200	200	54	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	1000	200	ug/l	
108-88-3	Toluene	154	200	32	ug/l	J
1330-20-7	Xylene (total)	87200 [a]	2000	330	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%	103%	76-120%
17060-07-0	1,2-Dichloroethane-D4	102%	101%	73-122%
2037-26-5	Toluene-D8	100%	99%	84-119%
460-00-4	4-Bromofluorobenzene	96%	99%	78-117%

(a) Result is from Run# 2

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G-1R(3)		
Lab Sample ID:	JB96432-3	**Date Sampled:**	06/03/15
Matrix:	AQ - Ground Water	**Date Received:**	06/06/15
Method:	SW846-8015C (DAI)	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GH100308.D	1	06/08/15	XPL	n/a	n/a	GGH4888
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
67-63-0	Isopropyl Alcohol	ND	100	25	ug/l	
67-56-1	Methanol	ND	200	45	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
111-27-3	Hexanol	124%		48-150%
111-27-3	Hexanol	81%		48-150%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	A-1R(4)		
Lab Sample ID:	JB96432-4	**Date Sampled:**	06/04/15
Matrix:	AQ - Ground Water	**Date Received:**	06/06/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U196212.D	4	06/17/15	NH	n/a	n/a	VU9047
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	14.8	40	13	ug/l	J
71-43-2	Benzene	4.9	2.0	0.94	ug/l	
100-41-4	Ethylbenzene	356	4.0	1.1	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	20	4.0	ug/l	
108-88-3	Toluene	1.1	4.0	0.65	ug/l	J
1330-20-7	Xylene (total)	1210	4.0	0.66	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		76-120%
17060-07-0	1,2-Dichloroethane-D4	94%		73-122%
2037-26-5	Toluene-D8	93%		84-119%
460-00-4	4-Bromofluorobenzene	87%		78-117%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	A-1R(4)		
Lab Sample ID:	JB96432-4	**Date Sampled:**	06/04/15
Matrix:	AQ - Ground Water	**Date Received:**	06/06/15
Method:	SW846-8015C (DAI)	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GH100309.D	1	06/08/15	XPL	n/a	n/a	GGH4888
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
67-63-0	Isopropyl Alcohol	ND	100	25	ug/l	
67-56-1	Methanol	ND	200	45	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
111-27-3	Hexanol	97%		48-150%
111-27-3	Hexanol	98%		48-150%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	A-2R(2)		
Lab Sample ID:	JB96432-5	**Date Sampled:**	06/04/15
Matrix:	AQ - Ground Water	**Date Received:**	06/06/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U195961.D	1	06/11/15	NH	n/a	n/a	VU9037
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	3.3	ug/l	
71-43-2	Benzene	ND	0.50	0.24	ug/l	
100-41-4	Ethylbenzene	3.6	1.0	0.27	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	1.0	ug/l	
108-88-3	Toluene	ND	1.0	0.16	ug/l	
1330-20-7	Xylene (total)	7.1	1.0	0.17	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		76-120%
17060-07-0	1,2-Dichloroethane-D4	102%		73-122%
2037-26-5	Toluene-D8	99%		84-119%
460-00-4	4-Bromofluorobenzene	99%		78-117%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	A-2R(2)		
Lab Sample ID:	JB96432-5	**Date Sampled:**	06/04/15
Matrix:	AQ - Ground Water	**Date Received:**	06/06/15
Method:	SW846-8015C (DAI)	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GH100322.D	1	06/09/15	XPL	n/a	n/a	GGH4889
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
67-63-0	Isopropyl Alcohol	ND	100	25	ug/l	
67-56-1	Methanol	ND	200	45	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
111-27-3	Hexanol	95%		48-150%
111-27-3	Hexanol	95%		48-150%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	S-31R(2)		
Lab Sample ID:	JB96432-6	**Date Sampled:**	06/05/15
Matrix:	AQ - Ground Water	**Date Received:**	06/06/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U196112.D	20	06/15/15	NH	n/a	n/a	VU9043
Run #2	U196117.D	200	06/15/15	NH	n/a	n/a	VU9043

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	200	66	ug/l	
71-43-2	Benzene	ND	10	4.7	ug/l	
100-41-4	Ethylbenzene	5660 [a]	200	54	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	100	20	ug/l	
108-88-3	Toluene	ND	20	3.2	ug/l	
1330-20-7	Xylene (total)	ND	20	3.3	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%	104%	76-120%
17060-07-0	1,2-Dichloroethane-D4	100%	102%	73-122%
2037-26-5	Toluene-D8	100%	99%	84-119%
460-00-4	4-Bromofluorobenzene	97%	98%	78-117%

(a) Result is from Run# 2

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	S-31R(2)		
Lab Sample ID:	JB96432-6	**Date Sampled:**	06/05/15
Matrix:	AQ - Ground Water	**Date Received:**	06/06/15
Method:	SW846-8015C (DAI)	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GH100325.D	1	06/09/15	XPL	n/a	n/a	GGH4889
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
67-63-0	Isopropyl Alcohol	ND	100	25	ug/l	
67-56-1	Methanol	ND	200	45	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
111-27-3	Hexanol	106%		48-150%
111-27-3	Hexanol	101%		48-150%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	S-31R(2)D		
Lab Sample ID:	JB96432-7	**Date Sampled:**	06/05/15
Matrix:	AQ - Ground Water	**Date Received:**	06/06/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U196033.D	20	06/12/15	NH	n/a	n/a	VU9040
Run #2	U195994.D	100	06/11/15	NH	n/a	n/a	VU9038

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	200	66	ug/l	
71-43-2	Benzene	ND	10	4.7	ug/l	
100-41-4	Ethylbenzene	4740 [a]	100	27	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	100	20	ug/l	
108-88-3	Toluene	ND	20	3.2	ug/l	
1330-20-7	Xylene (total)	ND	20	3.3	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%	103%	76-120%
17060-07-0	1,2-Dichloroethane-D4	102%	102%	73-122%
2037-26-5	Toluene-D8	99%	100%	84-119%
460-00-4	4-Bromofluorobenzene	96%	97%	78-117%

(a) Result is from Run# 2

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	S-31R(2)D		
Lab Sample ID:	JB96432-7	**Date Sampled:**	06/05/15
Matrix:	AQ - Ground Water	**Date Received:**	06/06/15
Method:	SW846-8015C (DAI)	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GH100326.D	1	06/09/15	XPL	n/a	n/a	GGH4889
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
67-63-0	Isopropyl Alcohol	ND	100	25	ug/l	
67-56-1	Methanol	ND	200	45	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
111-27-3	Hexanol	113%		48-150%
111-27-3	Hexanol	107%		48-150%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	VP-1		
Lab Sample ID:	JB96432-8	**Date Sampled:**	06/05/15
Matrix:	AQ - Ground Water	**Date Received:**	06/06/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U195962.D	1	06/11/15	NH	n/a	n/a	VU9037
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	5.2	10	3.3	ug/l	J
71-43-2	Benzene	ND	0.50	0.24	ug/l	
100-41-4	Ethylbenzene	0.31	1.0	0.27	ug/l	J
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	1.0	ug/l	
108-88-3	Toluene	ND	1.0	0.16	ug/l	
1330-20-7	Xylene (total)	0.89	1.0	0.17	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		76-120%
17060-07-0	1,2-Dichloroethane-D4	102%		73-122%
2037-26-5	Toluene-D8	99%		84-119%
460-00-4	4-Bromofluorobenzene	99%		78-117%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	VP-1		
Lab Sample ID:	JB96432-8	**Date Sampled:**	06/05/15
Matrix:	AQ - Ground Water	**Date Received:**	06/06/15
Method:	SW846-8015C (DAI)	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GH100327.D	1	06/09/15	XPL	n/a	n/a	GGH4889
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
67-63-0	Isopropyl Alcohol	1070	100	25	ug/l	
67-56-1	Methanol [a]	602	200	45	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
111-27-3	Hexanol	121%		48-150%
111-27-3	Hexanol	122%		48-150%

(a) More than 40 % RPD for detected concentrations between the two GC columns.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	TB060515		
Lab Sample ID:	JB96432-9	**Date Sampled:**	06/05/15
Matrix:	AQ - Trip Blank Water	**Date Received:**	06/06/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	BMSMC, Building 5 Area, PR		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U195960.D	1	06/11/15	NH	n/a	n/a	VU9037
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	3.3	ug/l	
71-43-2	Benzene	ND	0.50	0.24	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.27	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	1.0	ug/l	
108-88-3	Toluene	ND	1.0	0.16	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.17	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		76-120%
17060-07-0	1,2-Dichloroethane-D4	101%		73-122%
2037-26-5	Toluene-D8	99%		84-119%
460-00-4	4-Bromofluorobenzene	100%		78-117%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

New Jersey

ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- Sample Tracking Chronicle
- Internal Chain of Custody

GW
WTB

CHAIN OF CUSTODY

Fresh Ponds Corporate Village, Building B
2235 Route 130, Dayton, NJ 08810
732-329-0200 FAX: 732-329-3499/3480

Accutest Job #: JB96432
Accutest Quote #:

Client Information
Anderson Mulholland & Associates
Name: 2700 Westchester Avenue
Address: Purchase NY 10577
City / State / Zip
Terry Taylor
Send Report to:
Phone #: 914-251-0400

Facility Information
Anderson Mulholland and Associates Inc.
Project Name
Location
Project/PO #: BMS: Building 5 Area
FAX #: 914-251-1286

Analytical Information

Field ID / Point of Collection	Collection Date	Collection Time	Sampled By	Matrix	# of bottles	Preservation HCL	NaOH	HNO3	H2SO4	None	VOCs (Special List 3)
S-33	6/3/15	1342	NMR	GW	6	X					X
-1 S-33 MS		1351	NMR	GW	6	X					X
S-33 MSD		1358	NMR	GW	6	X					X
-2 S-32		1512	NMR	GW	6	X					X
-3 G-1R(3)	6/3/15	1711	NMR	GW	6	X					X
-4 A-1R(4)	6/4/15	1400	NMR	GW	6	X					X
-5 A-2R(2)	6/4/15	1640	NMR	GW	6	X					X
-6 S-31R(2)	6/5/15	1301	NMR	GW	6	X					X
-7 S-31R(2) D		1313	NMR	GW	6	X					X
-8 UP-1		1511	NMR	GW	6	X					X
-9 TB060515	6/5/15	1511	NMR	QC	2	X					X

V150

INITIAL ASESSMENT 3B DOM
LABEL VERIFICATION JK

Turnaround Information
- [X] 21 Day Standard — Approved By:
- [ ] 14 Day
- [ ] 7 Days *EMERGENCY*
- [ ] Other _____ (Days)

RUSH TAT is for FAX data unless previously approved.

Data Deliverable Information
- [ ] NJ Reduced
- [X] NJ Full
- [ ] FULL CLP
- [ ] Disk Deliverable
- [ ] Other (Specify)
- [ ] Commercial "A"
- [ ] Commercial "B"
- [ ] ASP Category B
- [ ] State Forms

Comments / Remarks

Federal Express ID # 801219534541
Lab Trip Blank Date 6/1/15 Time 1500
VOC's samples collected in 40 ml. glass vials, provided by the lab. Analyze for Special List 3 compounds (acetone, benzene, ethylbencene, toluene, MIBK, xylene, IPA and methanol). Also, please provide report on CD ROM.

Sample Custody must be documented below each time samples change possesion, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 Nesta M Brown	6/5/15 1622	1 FX	2 FX	6/6/15 10:10	2
3		3	4		4
5		5			

Seal # 786 Preserved where applical yes On Ice: yes 4.3°C

JB96432: Chain of Custody
Page 1 of 2

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: JB96432 **Client:** **Project:**

Date / Time Received: 6/6/2015 10:10:00 AM **Delivery Method:** **Airbill #'s:**

Cooler Temps (Raw Measured) °C: Cooler 1: (4.3);

Cooler Temps (Corrected) °C: Cooler 1: (4.0);

Cooler Security	Y	N		Y	N
1. Custody Seals Present:	☑	☐	3. COC Present:	☑	☐
2. Custody Seals Intact:	☑	☐	4. Smpl Dates/Time OK	☑	☐

Cooler Temperature	Y	N
1. Temp criteria achieved:	☑	☐
2. Cooler temp verification:	IR Gun	
3. Cooler media:	Ice (Bag)	
4. No. Coolers:	1	

Quality Control Preservation	Y	N	N/A
1. Trip Blank present / cooler:	☑	☐	☐
2. Trip Blank listed on COC:	☑	☐	☐
3. Samples preserved properly:	☑	☐	
4. VOCs headspace free:	☑	☐	☐

Sample Integrity - Documentation	Y	N
1. Sample labels present on bottles:	☑	☐
2. Container labeling complete:	☑	☐
3. Sample container label / COC agree:	☑	☐

Sample Integrity - Condition	Y	N
1. Sample recvd within HT:	☑	☐
2. All containers accounted for:	☑	☐
3. Condition of sample:	Intact	

Sample Integrity - Instructions	Y	N	N/A
1. Analysis requested is clear:	☑	☐	
2. Bottles received for unspecified tests	☐	☑	
3. Sufficient volume recvd for analysis:	☑	☐	
4. Compositing instructions clear:	☐	☐	☑
5. Filtering instructions clear:	☐	☐	☑

Comments

Accutest Laboratories
V:732.329.0200

2235 US Highway 130
F: 732.329.3499

Dayton, New Jersey
www/accutest.com

JB96432: Chain of Custody
Page 2 of 2

Internal Sample Tracking Chronicle

Anderson, Mulholland & Associates

Job No: JB96432

BMSMC, Building 5 Area, PR
Project No: SM04.00.06

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JB96432-1 S-33	Collected: 03-JUN-15 13:42 By: NMR		Received: 06-JUN-15 By: DG			
JB96432-1	SW846-8015C (DAI)	08-JUN-15 12:02	XPL			D8015IPA,DGC+ METH
JB96432-1	SW846 8260C	11-JUN-15 00:42	NH			V8260SL3
JB96432-2 S-32	Collected: 03-JUN-15 15:12 By: NMR		Received: 06-JUN-15 By: DG			
JB96432-2	SW846-8015C (DAI)	08-JUN-15 12:45	XPL			D8015IPA,DGC+ METH
JB96432-2	SW846 8260C	11-JUN-15 02:40	NH			V8260SL3
JB96432-2	SW846 8260C	11-JUN-15 14:29	NH			V8260SL3
JB96432-3 G-1R(3)	Collected: 03-JUN-15 17:11 By: NMR		Received: 06-JUN-15 By: DG			
JB96432-3	SW846-8015C (DAI)	08-JUN-15 12:59	XPL			D8015IPA,DGC+ METH
JB96432-3	SW846 8260C	11-JUN-15 03:37	NH			V8260SL3
JB96432-3	SW846 8260C	11-JUN-15 14:59	NH			V8260SL3
JB96432-4 A-1R(4)	Collected: 04-JUN-15 14:00 By: NMR		Received: 06-JUN-15 By: DG			
JB96432-4	SW846-8015C (DAI)	08-JUN-15 13:14	XPL			D8015IPA,DGC+ METH
JB96432-4	SW846 8260C	17-JUN-15 13:57	NH			V8260SL3
JB96432-5 A-2R(2)	Collected: 04-JUN-15 16:40 By: NMR		Received: 06-JUN-15 By: DG			
JB96432-5	SW846-8015C (DAI)	09-JUN-15 11:12	XPL			D8015IPA,DGC+ METH
JB96432-5	SW846 8260C	11-JUN-15 01:41	NH			V8260SL3
JB96432-6 S-31R(2)	Collected: 05-JUN-15 13:01 By: NMR		Received: 06-JUN-15 By: DG			
JB96432-6	SW846-8015C (DAI)	09-JUN-15 11:56	XPL			D8015IPA,DGC+ METH
JB96432-6	SW846 8260C	15-JUN-15 11:55	NH			V8260SL3
JB96432-6	SW846 8260C	15-JUN-15 14:21	NH			V8260SL3

Internal Sample Tracking Chronicle

Anderson, Mulholland & Associates

Job No: JB96432

BMSMC, Building 5 Area, PR
Project No: SM04.00.06

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JB96432-7 S-31R(2)D	Collected: 05-JUN-15 13:13 By: NMR		Received: 06-JUN-15 By: DG			
JB96432-7	SW846-8015C (DAI)	09-JUN-15 12:10	XPL			D8015IPA,DGC+ METH
JB96432-7	SW846 8260C	11-JUN-15 18:28	NH			V8260SL3
JB96432-7	SW846 8260C	12-JUN-15 14:22	NH			V8260SL3
JB96432-8 VP-1	Collected: 05-JUN-15 15:11 By: NMR		Received: 06-JUN-15 By: DG			
JB96432-8	SW846-8015C (DAI)	09-JUN-15 12:25	XPL			D8015IPA,DGC+ METH
JB96432-8	SW846 8260C	11-JUN-15 02:11	NH			V8260SL3
JB96432-9 TB060515	Collected: 05-JUN-15 15:11 By: NMR		Received: 06-JUN-15 By: DG			
JB96432-9	SW846 8260C	11-JUN-15 01:11	NH			V8260SL3

Accutest Internal Chain of Custody

Job Number: JB96432
Account: AMANYWP Anderson, Mulholland & Associates
Project: BMSMC, Building 5 Area, PR
Received: 06/06/15

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB96432-1.5	Secured Storage	Nicole Horvath	06/10/15 15:53	Retrieve from Storage
JB96432-1.5	Nicole Horvath	GCMSU	06/10/15 15:53	Load on Instrument
JB96432-1.5	GCMSU	Nicole Horvath	06/11/15 11:04	Unload from Instrument
JB96432-1.5	Nicole Horvath	Secured Storage	06/11/15 11:04	Return to Storage
JB96432-1.11	Secured Storage	Nicole Horvath	06/10/15 15:53	Retrieve from Storage
JB96432-1.11	Nicole Horvath	GCMSU	06/10/15 15:53	Load on Instrument
JB96432-1.11	GCMSU	Nicole Horvath	06/11/15 11:04	Unload from Instrument
JB96432-1.11	Nicole Horvath	Secured Storage	06/11/15 11:04	Return to Storage
JB96432-1.13	Secured Storage	Nicole Horvath	06/10/15 15:53	Retrieve from Storage
JB96432-1.13	Nicole Horvath	GCMSU	06/10/15 15:53	Load on Instrument
JB96432-1.13	GCMSU	Nicole Horvath	06/11/15 11:04	Unload from Instrument
JB96432-1.13	Nicole Horvath	Secured Storage	06/11/15 11:04	Return to Storage
JB96432-1.16	Secured Storage	Xu Liu	06/08/15 10:18	Retrieve from Storage
JB96432-1.16	Xu Liu	Secured Storage	06/08/15 15:01	Return to Storage
JB96432-2.1	Secured Storage	Xu Liu	06/08/15 10:18	Retrieve from Storage
JB96432-2.1	Xu Liu	Secured Storage	06/08/15 15:01	Return to Storage
JB96432-2.4	Secured Storage	Nicole Horvath	06/10/15 11:22	Retrieve from Storage
JB96432-2.4	Nicole Horvath	Secured Storage	06/10/15 11:22	Return to Storage
JB96432-3.2	Secured Storage	Xu Liu	06/08/15 10:18	Retrieve from Storage
JB96432-3.2	Xu Liu	Secured Storage	06/08/15 15:01	Return to Storage
JB96432-3.3	Secured Storage	Nicole Horvath	06/10/15 11:22	Retrieve from Storage
JB96432-3.3	Nicole Horvath	Secured Storage	06/10/15 11:22	Return to Storage
JB96432-4.1	Secured Storage	Xu Liu	06/08/15 10:18	Retrieve from Storage
JB96432-4.1	Xu Liu	Secured Storage	06/08/15 15:01	Return to Storage
JB96432-4.3	Secured Storage	Nicole Horvath	06/12/15 12:03	Retrieve from Storage
JB96432-4.3	Nicole Horvath	Secured Storage	06/12/15 12:03	Return to Storage
JB96432-4.5	Secured Storage	Nicole Horvath	06/10/15 11:22	Retrieve from Storage
JB96432-4.5	Nicole Horvath	Secured Storage	06/10/15 11:22	Return to Storage
JB96432-5.3	Secured Storage	Xu Liu	06/08/15 10:18	Retrieve from Storage
JB96432-5.3	Xu Liu	Secured Storage	06/08/15 15:01	Return to Storage
JB96432-5.4	Secured Storage	Nicole Horvath	06/10/15 15:53	Retrieve from Storage
JB96432-5.4	Nicole Horvath	GCMSU	06/10/15 15:53	Load on Instrument

Accutest Internal Chain of Custody

Job Number: JB96432
Account: AMANYWP Anderson, Mulholland & Associates
Project: BMSMC, Building 5 Area, PR
Received: 06/06/15

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB96432-5.4	GCMSU	Nicole Horvath	06/11/15 11:04	Unload from Instrument
JB96432-5.4	Nicole Horvath	Secured Storage	06/11/15 11:04	Return to Storage
JB96432-6.1	Secured Storage	Nicole Horvath	06/10/15 11:22	Retrieve from Storage
JB96432-6.1	Nicole Horvath	Secured Storage	06/10/15 11:22	Return to Storage
JB96432-6.3	Secured Storage	Xu Liu	06/08/15 10:18	Retrieve from Storage
JB96432-6.3	Xu Liu	Secured Storage	06/08/15 15:01	Return to Storage
JB96432-6.5	Secured Storage	Nicole Horvath	06/12/15 12:03	Retrieve from Storage
JB96432-6.5	Nicole Horvath	Secured Storage	06/12/15 12:03	Return to Storage
JB96432-7.1	Secured Storage	Nicole Horvath	06/10/15 11:22	Retrieve from Storage
JB96432-7.1	Nicole Horvath	Secured Storage	06/10/15 11:22	Return to Storage
JB96432-7.3	Secured Storage	Nicole Horvath	06/12/15 12:03	Retrieve from Storage
JB96432-7.3	Nicole Horvath	Secured Storage	06/12/15 12:03	Return to Storage
JB96432-7.5	Secured Storage	Xu Liu	06/08/15 10:18	Retrieve from Storage
JB96432-7.5	Xu Liu	Secured Storage	06/08/15 15:01	Return to Storage
JB96432-8.1	Secured Storage	Nicole Horvath	06/10/15 15:53	Retrieve from Storage
JB96432-8.1	Nicole Horvath	GCMSU	06/10/15 15:53	Load on Instrument
JB96432-8.1	GCMSU	Nicole Horvath	06/11/15 11:04	Unload from Instrument
JB96432-8.1	Nicole Horvath	Secured Storage	06/11/15 11:04	Return to Storage
JB96432-8.5	Secured Storage	Xu Liu	06/08/15 10:18	Retrieve from Storage
JB96432-8.5	Xu Liu	Secured Storage	06/08/15 15:01	Return to Storage
JB96432-9.1	Secured Storage	Nicole Horvath	06/10/15 15:53	Retrieve from Storage
JB96432-9.1	Nicole Horvath	GCMSU	06/10/15 15:53	Load on Instrument
JB96432-9.1	GCMSU	Nicole Horvath	06/11/15 11:04	Unload from Instrument
JB96432-9.1	Nicole Horvath	Secured Storage	06/11/15 11:04	Return to Storage

New Jersey
ACCUTEST LABORATORIES

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Instrument Performance Checks (BFB)
- Internal Standard Area Summaries
- Surrogate Recovery Summaries
- Initial and Continuing Calibration Summaries

Method Blank Summary

Job Number: JB96432
Account: AMANYWP Anderson, Mulholland & Associates
Project: BMSMC, Building 5 Area, PR

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VU9037-MB	U195954.D	1	06/10/15	NH	n/a	n/a	VU9037

The QC reported here applies to the following samples: **Method:** SW846 8260C

JB96432-1, JB96432-2, JB96432-3, JB96432-5, JB96432-8, JB96432-9

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	3.3	ug/l	
71-43-2	Benzene	ND	0.50	0.24	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.27	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	1.0	ug/l	
108-88-3	Toluene	ND	1.0	0.16	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.17	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	103%	76-120%
17060-07-0	1,2-Dichloroethane-D4	103%	73-122%
2037-26-5	Toluene-D8	99%	84-119%
460-00-4	4-Bromofluorobenzene	99%	78-117%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

Method Blank Summary

Job Number: JB96432
Account: AMANYWP Anderson, Mulholland & Associates
Project: BMSMC, Building 5 Area, PR

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VU9038-MB	U195982.D	1	06/11/15	NH	n/a	n/a	VU9038

The QC reported here applies to the following samples: **Method:** SW846 8260C

JB96432-2, JB96432-3, JB96432-7

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	3.3	ug/l	
71-43-2	Benzene	ND	0.50	0.24	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.27	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	1.0	ug/l	
108-88-3	Toluene	ND	1.0	0.16	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	104%	76-120%
17060-07-0	1,2-Dichloroethane-D4	102%	73-122%
2037-26-5	Toluene-D8	99%	84-119%
460-00-4	4-Bromofluorobenzene	95%	78-117%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

Method Blank Summary

Job Number: JB96432
Account: AMANYWP Anderson, Mulholland & Associates
Project: BMSMC, Building 5 Area, PR

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VU9040-MB	U196026.D	1	06/12/15	NH	n/a	n/a	VU9040

The QC reported here applies to the following samples: **Method:** SW846 8260C

JB96432-7

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	3.3	ug/l	
71-43-2	Benzene	ND	0.50	0.24	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	1.0	ug/l	
108-88-3	Toluene	ND	1.0	0.16	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.17	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	102%	76-120%
17060-07-0	1,2-Dichloroethane-D4	100%	73-122%
2037-26-5	Toluene-D8	100%	84-119%
460-00-4	4-Bromofluorobenzene	97%	78-117%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

Method Blank Summary

Job Number: JB96432
Account: AMANYWP Anderson, Mulholland & Associates
Project: BMSMC, Building 5 Area, PR

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VU9043-MB	U196109.D	1	06/15/15	NH	n/a	n/a	VU9043

The QC reported here applies to the following samples: **Method:** SW846 8260C

JB96432-6

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	3.3	ug/l	
71-43-2	Benzene	ND	0.50	0.24	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.27	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	1.0	ug/l	
108-88-3	Toluene	ND	1.0	0.16	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.17	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	103%	76-120%
17060-07-0	1,2-Dichloroethane-D4	100%	73-122%
2037-26-5	Toluene-D8	100%	84-119%
460-00-4	4-Bromofluorobenzene	98%	78-117%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

Method Blank Summary

Job Number: JB96432
Account: AMANYWP Anderson, Mulholland & Associates
Project: BMSMC, Building 5 Area, PR

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VU9047-MB	U196203.D	1	06/17/15	NH	n/a	n/a	VU9047

The QC reported here applies to the following samples: **Method:** SW846 8260C

JB96432-4

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	3.3	ug/l	
71-43-2	Benzene	ND	0.50	0.24	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.27	ug/l	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	1.0	ug/l	
108-88-3	Toluene	ND	1.0	0.16	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.17	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	95%	76-120%
17060-07-0	1,2-Dichloroethane-D4	93%	73-122%
2037-26-5	Toluene-D8	91%	84-119%
460-00-4	4-Bromofluorobenzene	91%	78-117%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

Blank Spike Summary

Job Number: JB96432
Account: AMANYWP Anderson, Mulholland & Associates
Project: BMSMC, Building 5 Area, PR

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VU9037-BS	U195955.D	1	06/10/15	NH	n/a	n/a	VU9037

The QC reported here applies to the following samples: **Method:** SW846 8260C

JB96432-1, JB96432-2, JB96432-3, JB96432-5, JB96432-8, JB96432-9

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	50	47.8	96	47-144
71-43-2	Benzene	50	50.6	101	81-119
100-41-4	Ethylbenzene	50	51.7	103	80-118
108-10-1	4-Methyl-2-pentanone(MIBK)	50	48.6	97	73-129
108-88-3	Toluene	50	51.6	103	80-122
1330-20-7	Xylene (total)	150	162	108	82-119

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	103%	76-120%
17060-07-0	1,2-Dichloroethane-D4	103%	73-122%
2037-26-5	Toluene-D8	100%	84-119%
460-00-4	4-Bromofluorobenzene	95%	78-117%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JB96432
Account: AMANYWP Anderson, Mulholland & Associates
Project: BMSMC, Building 5 Area, PR

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VU9038-BS	U195983.D	1	06/11/15	NH	n/a	n/a	VU9038

The QC reported here applies to the following samples: **Method:** SW846 8260C

JB96432-2, JB96432-3, JB96432-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	50	44.9	90	47-144
71-43-2	Benzene	50	51.2	102	81-119
100-41-4	Ethylbenzene	50	51.4	103	80-118
108-10-1	4-Methyl-2-pentanone(MIBK)	50	49.0	98	73-129
108-88-3	Toluene	50	52.0	104	80-122

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	103%	76-120%
17060-07-0	1,2-Dichloroethane-D4	103%	73-122%
2037-26-5	Toluene-D8	99%	84-119%
460-00-4	4-Bromofluorobenzene	95%	78-117%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JB96432
Account: AMANYWP Anderson, Mulholland & Associates
Project: BMSMC, Building 5 Area, PR

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VU9040-BS	U196027.D	1	06/12/15	NH	n/a	n/a	VU9040

The QC reported here applies to the following samples: **Method:** SW846 8260C

JB96432-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	50	50.2	100	47-144
71-43-2	Benzene	50	50.3	101	81-119
108-10-1	4-Methyl-2-pentanone(MIBK)	50	49.3	99	73-129
108-88-3	Toluene	50	51.4	103	80-122
1330-20-7	Xylene (total)	150	160	107	82-119

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	103%	76-120%
17060-07-0	1,2-Dichloroethane-D4	102%	73-122%
2037-26-5	Toluene-D8	101%	84-119%
460-00-4	4-Bromofluorobenzene	93%	78-117%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JB96432
Account: AMANYWP Anderson, Mulholland & Associates
Project: BMSMC, Building 5 Area, PR

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VU9043-BS	U196110.D	1	06/15/15	NH	n/a	n/a	VU9043

The QC reported here applies to the following samples: **Method:** SW846 8260C

JB96432-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	50	41.5	83	47-144
71-43-2	Benzene	50	50.3	101	81-119
100-41-4	Ethylbenzene	50	50.9	102	80-118
108-10-1	4-Methyl-2-pentanone(MIBK)	50	47.2	94	73-129
108-88-3	Toluene	50	51.1	102	80-122
1330-20-7	Xylene (total)	150	159	106	82-119

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	104%	76-120%
17060-07-0	1,2-Dichloroethane-D4	103%	73-122%
2037-26-5	Toluene-D8	100%	84-119%
460-00-4	4-Bromofluorobenzene	95%	78-117%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JB96432
Account: AMANYWP Anderson, Mulholland & Associates
Project: BMSMC, Building 5 Area, PR

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VU9047-BS	U196204.D	1	06/17/15	NH	n/a	n/a	VU9047

The QC reported here applies to the following samples: **Method:** SW846 8260C

JB96432-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	50	49.0	98	47-144
71-43-2	Benzene	50	51.6	103	81-119
100-41-4	Ethylbenzene	50	52.1	104	80-118
108-10-1	4-Methyl-2-pentanone(MIBK)	50	48.7	97	73-129
108-88-3	Toluene	50	52.4	105	80-122
1330-20-7	Xylene (total)	150	164	109	82-119

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	96%	76-120%
17060-07-0	1,2-Dichloroethane-D4	94%	73-122%
2037-26-5	Toluene-D8	93%	84-119%
460-00-4	4-Bromofluorobenzene	88%	78-117%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB96432
Account: AMANYWP Anderson, Mulholland & Associates
Project: BMSMC, Building 5 Area, PR

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB96432-1MS	U195956.D	1	06/10/15	NH	n/a	n/a	VU9037
JB96432-1MSD	U195957.D	1	06/10/15	NH	n/a	n/a	VU9037
JB96432-1	U195959.D	1	06/11/15	NH	n/a	n/a	VU9037

The QC reported here applies to the following samples: **Method:** SW846 8260C

JB96432-1, JB96432-2, JB96432-3, JB96432-5, JB96432-8, JB96432-9

CAS No.	Compound	JB96432-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		50	45.0	90	50	57.0	114	24* [a]	33-158/19
71-43-2	Benzene	ND		50	50.9	102	50	50.0	100	2	43-138/12
100-41-4	Ethylbenzene	ND		50	55.9	112	50	55.4	111	1	38-139/12
108-10-1	4-Methyl-2-pentanone(MIBK)	ND		50	47.8	96	50	47.4	95	1	68-139/12
108-88-3	Toluene	ND		50	54.3	109	50	53.6	107	1	51-136/13
1330-20-7	Xylene (total)	ND		150	173	115	150	171	114	1	46-137/12

CAS No.	Surrogate Recoveries	MS	MSD	JB96432-1	Limits
1868-53-7	Dibromofluoromethane	104%	102%	102%	76-120%
17060-07-0	1,2-Dichloroethane-D4	103%	101%	101%	73-122%
2037-26-5	Toluene-D8	100%	100%	99%	84-119%
460-00-4	4-Bromofluorobenzene	96%	95%	99%	78-117%

(a) Outside control limits due to matrix interference.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB96432
Account: AMANYWP Anderson, Mulholland & Associates
Project: BMSMC, Building 5 Area, PR

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB96173-3MS	U195989.D	20	06/11/15	NH	n/a	n/a	VU9038
JB96173-3MSD	U195990.D	20	06/11/15	NH	n/a	n/a	VU9038
JB96173-3	U195985.D	20	06/11/15	NH	n/a	n/a	VU9038
JB96173-3	U195992.D	50	06/11/15	NH	n/a	n/a	VU9038

The QC reported here applies to the following samples: **Method:** SW846 8260C

JB96432-2, JB96432-3, JB96432-7

CAS No.	Compound	JB96173-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		1000	848	85	1000	836	84	1	33-158/19
71-43-2	Benzene	ND		1000	988	99	1000	972	97	2	43-138/12
100-41-4	Ethylbenzene	ND		1000	1130	113	1000	1100	110	3	38-139/12
108-10-1	4-Methyl-2-pentanone(MIBK)	ND		1000	1000	100	1000	1020	102	2	68-139/12
108-88-3	Toluene	ND		1000	1080	108	1000	1060	106	2	51-136/13

CAS No.	Surrogate Recoveries	MS	MSD	JB96173-3	JB96173-3	Limits
1868-53-7	Dibromofluoromethane	103%	103%	102%	102%	76-120%
17060-07-0	1,2-Dichloroethane-D4	103%	102%	101%	101%	73-122%
2037-26-5	Toluene-D8	100%	100%	100%	99%	84-119%
460-00-4	4-Bromofluorobenzene	93%	95%	97%	95%	78-117%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB96432
Account: AMANYWP Anderson, Mulholland & Associates
Project: BMSMC, Building 5 Area, PR

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB96432-7MS	U196035.D	20	06/12/15	NH	n/a	n/a	VU9040
JB96432-7MSD	U196036.D	20	06/12/15	NH	n/a	n/a	VU9040
JB96432-7	U196033.D	20	06/12/15	NH	n/a	n/a	VU9040

The QC reported here applies to the following samples: **Method:** SW846 8260C

JB96432-7

CAS No.	Compound	JB96432-7 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		1000	856	86	1000	849	85	1	33-158/19
71-43-2	Benzene	ND		1000	1000	100	1000	1010	101	1	43-138/12
108-10-1	4-Methyl-2-pentanone(MIBK)	ND		1000	944	94	1000	949	95	1	68-139/12
108-88-3	Toluene	ND		1000	1050	105	1000	1050	105	0	51-136/13
1330-20-7	Xylene (total)	ND		3000	3240	108	3000	3300	110	2	46-137/12

CAS No.	Surrogate Recoveries	MS	MSD	JB96432-7	Limits
1868-53-7	Dibromofluoromethane	102%	104%	103%	76-120%
17060-07-0	1,2-Dichloroethane-D4	102%	102%	102%	73-122%
2037-26-5	Toluene-D8	99%	99%	99%	84-119%
460-00-4	4-Bromofluorobenzene	94%	94%	96%	78-117%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB96432
Account: AMANYWP Anderson, Mulholland & Associates
Project: BMSMC, Building 5 Area, PR

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB96432-6MS	U196121.D	20	06/15/15	NH	n/a	n/a	VU9043
JB96432-6MSD	U196122.D	20	06/15/15	NH	n/a	n/a	VU9043
JB96432-6	U196112.D	20	06/15/15	NH	n/a	n/a	VU9043
JB96432-6	U196117.D	200	06/15/15	NH	n/a	n/a	VU9043

The QC reported here applies to the following samples: **Method:** SW846 8260C

JB96432-6

CAS No.	Compound	JB96432-6 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		1000	900	90	1000	884	88	2	33-158/19
71-43-2	Benzene	ND		1000	1030	103	1000	1020	102	1	43-138/12
100-41-4	Ethylbenzene	5660 [a]		1000	6430	49	1000	6420	48	0	38-139/12
108-10-1	4-Methyl-2-pentanone(MIBK)	ND		1000	989	99	1000	950	95	4	68-139/12
108-88-3	Toluene	ND		1000	1070	107	1000	1060	106	1	51-136/13
1330-20-7	Xylene (total)	ND		3000	3250	108	3000	3280	109	1	46-137/12

CAS No.	Surrogate Recoveries	MS	MSD	JB96432-6	JB96432-6	Limits
1868-53-7	Dibromofluoromethane	105%	104%	103%	104%	76-120%
17060-07-0	1,2-Dichloroethane-D4	103%	102%	100%	102%	73-122%
2037-26-5	Toluene-D8	101%	100%	100%	99%	84-119%
460-00-4	4-Bromofluorobenzene	93%	95%	97%	98%	78-117%

(a) Result is from Run #2.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB96432
Account: AMANYWP Anderson, Mulholland & Associates
Project: BMSMC, Building 5 Area, PR

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB96878-3MS	U196222.D	1	06/17/15	NH	n/a	n/a	VU9047
JB96878-3MSD	U196223.D	1	06/17/15	NH	n/a	n/a	VU9047
JB96878-3	U196213.D	1	06/17/15	NH	n/a	n/a	VU9047

The QC reported here applies to the following samples: **Method:** SW846 8260C

JB96432-4

CAS No.	Compound	JB96878-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		50	39.9	80	50	41.1	82	3	33-158/19
71-43-2	Benzene	1.6		50	53.7	104	50	54.7	106	2	43-138/12
100-41-4	Ethylbenzene	ND		50	53.8	108	50	54.3	109	1	38-139/12
108-10-1	4-Methyl-2-pentanone(MIBK)	ND		50	41.2	82	50	44.0	88	7	68-139/12
108-88-3	Toluene	ND		50	54.5	109	50	55.0	110	1	51-136/13
1330-20-7	Xylene (total)	ND		150	166	111	150	168	112	1	46-137/12

CAS No.	Surrogate Recoveries	MS	MSD	JB96878-3	Limits
1868-53-7	Dibromofluoromethane	94%	96%	96%	76-120%
17060-07-0	1,2-Dichloroethane-D4	91%	92%	94%	73-122%
2037-26-5	Toluene-D8	92%	93%	91%	84-119%
460-00-4	4-Bromofluorobenzene	88%	86%	89%	78-117%

* = Outside of Control Limits.

Instrument Performance Check (BFB)

Job Number: JB96432
Account: AMANYWP Anderson, Mulholland & Associates
Project: BMSMC, Building 5 Area, PR

Sample: VU8988-BFB
Lab File ID: U194814.D
Instrument ID: GCMSU
Injection Date: 05/01/15
Injection Time: 10:03

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	10557	16.4		Pass
75	30.0 - 60.0% of mass 95	28893	44.9		Pass
95	Base peak, 100% relative abundance	64296	100.0		Pass
96	5.0 - 9.0% of mass 95	4247	6.61		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	66064	102.7		Pass
175	5.0 - 9.0% of mass 174	5120	7.96	(7.75) [a]	Pass
176	95.0 - 101.0% of mass 174	64296	100.0	(97.3) [a]	Pass
177	5.0 - 9.0% of mass 176	4382	6.82	(6.82) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VU8988-IC8988	U194815.D	05/01/15	11:27	01:24	Initial cal 0.2
VU8988-IC8988	U194816.D	05/01/15	11:57	01:54	Initial cal 0.5
VU8988-IC8988	U194817.D	05/01/15	12:26	02:23	Initial cal 1
VU8988-IC8988	U194818.D	05/01/15	12:55	02:52	Initial cal 2
VU8988-IC8988	U194819.D	05/01/15	13:24	03:21	Initial cal 5
VU8988-IC8988	U194820.D	05/01/15	13:54	03:51	Initial cal 10
VU8988-IC8988	U194821.D	05/01/15	14:23	04:20	Initial cal 20
VU8988-ICC8988	U194822.D	05/01/15	14:52	04:49	Initial cal 50
VU8988-IC8988	U194823.D	05/01/15	15:22	05:19	Initial cal 100
VU8988-IC8988	U194824.D	05/01/15	15:51	05:48	Initial cal 200
VU8988-ICV8988	U194827.D	05/01/15	17:20	07:17	Initial cal verification 50

Instrument Performance Check (BFB)

Job Number: JB96432
Account: AMANYWP Anderson, Mulholland & Associates
Project: BMSMC, Building 5 Area, PR

Sample: VU9037-BFB
Lab File ID: U195951.D
Instrument ID: GCMSU
Injection Date: 06/10/15
Injection Time: 20:47

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	14369	18.5		Pass
75	30.0 - 60.0% of mass 95	37224	47.9		Pass
95	Base peak, 100% relative abundance	77736	100.0		Pass
96	5.0 - 9.0% of mass 95	5430	6.99		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	83792	107.8		Pass
175	5.0 - 9.0% of mass 174	6453	8.30	(7.70) [a]	Pass
176	95.0 - 101.0% of mass 174	81458	104.8	(97.2) [a]	Pass
177	5.0 - 9.0% of mass 176	5491	7.06	(6.74) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VU9037-CC8988	U195952.D	06/10/15	21:16	00:29	Continuing cal 50
VU9037-MB	U195954.D	06/10/15	22:15	01:28	Method Blank
VU9037-BS	U195955.D	06/10/15	22:45	01:58	Blank Spike
JB96432-1MS	U195956.D	06/10/15	23:14	02:27	Matrix Spike
JB96432-1MSD	U195957.D	06/10/15	23:44	02:57	Matrix Spike Duplicate
JB96432-1	U195959.D	06/11/15	00:42	03:55	S-33
JB96432-9	U195960.D	06/11/15	01:11	04:24	TB060515
JB96432-5	U195961.D	06/11/15	01:41	04:54	A-2R(2)
JB96432-8	U195962.D	06/11/15	02:11	05:24	VP-1
JB96432-2	U195963.D	06/11/15	02:40	05:53	S-32
JB96432-3	U195965.D	06/11/15	03:37	06:50	G-1R(3)
ZZZZZZ	U195968.D	06/11/15	05:05	08:18	(unrelated sample)
ZZZZZZ	U195970.D	06/11/15	06:03	09:16	(unrelated sample)
ZZZZZZ	U195972.D	06/11/15	07:02	10:15	(unrelated sample)
ZZZZZZ	U195973.D	06/11/15	07:31	10:44	(unrelated sample)
ZZZZZZ	U195974.D	06/11/15	08:00	11:13	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: JB96432
Account: AMANYWP Anderson, Mulholland & Associates
Project: BMSMC, Building 5 Area, PR

Sample: VU9038-BFB
Lab File ID: U195978.D
Instrument ID: GCMSU
Injection Date: 06/11/15
Injection Time: 10:23

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	14446	17.9		Pass
75	30.0 - 60.0% of mass 95	38216	47.3		Pass
95	Base peak, 100% relative abundance	80832	100.0		Pass
96	5.0 - 9.0% of mass 95	5798	7.17		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	85573	105.9		Pass
175	5.0 - 9.0% of mass 174	6437	7.96	(7.52) [a]	Pass
176	95.0 - 101.0% of mass 174	83672	103.5	(97.8) [a]	Pass
177	5.0 - 9.0% of mass 176	5574	6.90	(6.66) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VU9038-CC8988	U195980.D	06/11/15	11:23	01:00	Continuing cal 20
VU9038-MB	U195982.D	06/11/15	12:31	02:08	Method Blank
VU9038-BS	U195983.D	06/11/15	13:01	02:38	Blank Spike
JB96173-3	U195985.D	06/11/15	14:00	03:37	(used for QC only; not part of job JB96432)
JB96432-2	U195986.D	06/11/15	14:29	04:06	S-32
JB96432-3	U195987.D	06/11/15	14:59	04:36	G-1R(3)
JB96173-3MS	U195989.D	06/11/15	15:59	05:36	Matrix Spike
JB96173-3MSD	U195990.D	06/11/15	16:29	06:06	Matrix Spike Duplicate
JB96173-3	U195992.D	06/11/15	17:28	07:05	(used for QC only; not part of job JB96432)
JB96432-7	U195994.D	06/11/15	18:28	08:05	S-31R(2)D
ZZZZZZ	U195996.D	06/11/15	19:27	09:04	(unrelated sample)
ZZZZZZ	U195997.D	06/11/15	19:56	09:33	(unrelated sample)
ZZZZZZ	U195999.D	06/11/15	20:55	10:32	(unrelated sample)
ZZZZZZ	U196001.D	06/11/15	21:54	11:31	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: JB96432
Account: AMANYWP Anderson, Mulholland & Associates
Project: BMSMC, Building 5 Area, PR

Sample: VU9040-BFB
Lab File ID: U196022.D
Instrument ID: GCMSU
Injection Date: 06/12/15
Injection Time: 08:10

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	14059	18.3		Pass
75	30.0 - 60.0% of mass 95	36706	47.7		Pass
95	Base peak, 100% relative abundance	77021	100.0		Pass
96	5.0 - 9.0% of mass 95	5297	6.88		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	81912	106.4		Pass
175	5.0 - 9.0% of mass 174	6426	8.34	(7.85) [a]	Pass
176	95.0 - 101.0% of mass 174	79429	103.1	(97.0) [a]	Pass
177	5.0 - 9.0% of mass 176	5366	6.97	(6.76) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VU9040-CC8988	U196024.D	06/12/15	09:28	01:18	Continuing cal 20
VU9040-MB	U196026.D	06/12/15	10:42	02:32	Method Blank
VU9040-BS	U196027.D	06/12/15	11:15	03:05	Blank Spike
ZZZZZZ	U196028.D	06/12/15	11:54	03:44	(unrelated sample)
ZZZZZZ	U196029.D	06/12/15	12:24	04:14	(unrelated sample)
ZZZZZZ	U196030.D	06/12/15	12:53	04:43	(unrelated sample)
ZZZZZZ	U196031.D	06/12/15	13:23	05:13	(unrelated sample)
ZZZZZZ	U196032.D	06/12/15	13:53	05:43	(unrelated sample)
JB96432-7	U196033.D	06/12/15	14:22	06:12	S-31R(2)D
ZZZZZZ	U196034.D	06/12/15	14:52	06:42	(unrelated sample)
JB96432-7MS	U196035.D	06/12/15	15:21	07:11	Matrix Spike
JB96432-7MSD	U196036.D	06/12/15	15:51	07:41	Matrix Spike Duplicate
ZZZZZZ	U196037.D	06/12/15	16:21	08:11	(unrelated sample)
ZZZZZZ	U196038.D	06/12/15	16:50	08:40	(unrelated sample)
ZZZZZZ	U196039.D	06/12/15	17:20	09:10	(unrelated sample)
ZZZZZZ	U196040.D	06/12/15	17:50	09:40	(unrelated sample)
ZZZZZZ	U196041.D	06/12/15	18:20	10:10	(unrelated sample)
ZZZZZZ	U196042.D	06/12/15	18:50	10:40	(unrelated sample)
ZZZZZZ	U196043.D	06/12/15	19:20	11:10	(unrelated sample)
ZZZZZZ	U196044.D	06/12/15	19:50	11:40	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: JB96432
Account: AMANYWP Anderson, Mulholland & Associates
Project: BMSMC, Building 5 Area, PR

Sample: VU9043-BFB
Lab File ID: U196106.D
Instrument ID: GCMSU
Injection Date: 06/15/15
Injection Time: 08:43

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	13459	18.0		Pass
75	30.0 - 60.0% of mass 95	35536	47.5		Pass
95	Base peak, 100% relative abundance	74816	100.0		Pass
96	5.0 - 9.0% of mass 95	5302	7.09		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	79858	106.7		Pass
175	5.0 - 9.0% of mass 174	6211	8.30	(7.78) [a]	Pass
176	95.0 - 101.0% of mass 174	77752	103.9	(97.4) [a]	Pass
177	5.0 - 9.0% of mass 176	5222	6.98	(6.72) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VU9043-CC8988	U196107.D	06/15/15	09:18	00:35	Continuing cal 20
VU9043-MB	U196109.D	06/15/15	10:16	01:33	Method Blank
VU9043-BS	U196110.D	06/15/15	10:46	02:03	Blank Spike
ZZZZZZ	U196111.D	06/15/15	11:25	02:42	(unrelated sample)
JB96432-6	U196112.D	06/15/15	11:55	03:12	S-31R(2)
ZZZZZZ	U196113.D	06/15/15	12:24	03:41	(unrelated sample)
ZZZZZZ	U196114.D	06/15/15	12:53	04:10	(unrelated sample)
ZZZZZZ	U196115.D	06/15/15	13:23	04:40	(unrelated sample)
ZZZZZZ	U196116.D	06/15/15	13:52	05:09	(unrelated sample)
JB96432-6	U196117.D	06/15/15	14:21	05:38	S-31R(2)
ZZZZZZ	U196118.D	06/15/15	14:51	06:08	(unrelated sample)
ZZZZZZ	U196119.D	06/15/15	15:20	06:37	(unrelated sample)
ZZZZZZ	U196120.D	06/15/15	15:50	07:07	(unrelated sample)
JB96432-6MS	U196121.D	06/15/15	16:29	07:46	Matrix Spike
JB96432-6MSD	U196122.D	06/15/15	16:58	08:15	Matrix Spike Duplicate
ZZZZZZ	U196124.D	06/15/15	17:57	09:14	(unrelated sample)
ZZZZZZ	U196125.D	06/15/15	18:27	09:44	(unrelated sample)
ZZZZZZ	U196126.D	06/15/15	18:57	10:14	(unrelated sample)
ZZZZZZ	U196127.D	06/15/15	19:26	10:43	(unrelated sample)
ZZZZZZ	U196128.D	06/15/15	19:55	11:12	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: JB96432
Account: AMANYWP Anderson, Mulholland & Associates
Project: BMSMC, Building 5 Area, PR

Sample: VU9047-BFB
Lab File ID: U196200.D
Instrument ID: GCMSU
Injection Date: 06/17/15
Injection Time: 08:11

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	11904	18.4		Pass
75	30.0 - 60.0% of mass 95	31216	48.2		Pass
95	Base peak, 100% relative abundance	64741	100.0		Pass
96	5.0 - 9.0% of mass 95	4488	6.93		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	68784	106.2		Pass
175	5.0 - 9.0% of mass 174	5456	8.43	(7.93) [a]	Pass
176	95.0 - 101.0% of mass 174	67392	104.1	(98.0) [a]	Pass
177	5.0 - 9.0% of mass 176	4577	7.07	(6.79) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VU9047-CC8988	U196201.D	06/17/15	08:46	00:35	Continuing cal 20
VU9047-MB	U196203.D	06/17/15	09:51	01:40	Method Blank
VU9047-BS	U196204.D	06/17/15	10:20	02:09	Blank Spike
ZZZZZZ	U196205.D	06/17/15	10:50	02:39	(unrelated sample)
ZZZZZZ	U196206.D	06/17/15	11:19	03:08	(unrelated sample)
ZZZZZZ	U196207.D	06/17/15	11:48	03:37	(unrelated sample)
ZZZZZZ	U196208.D	06/17/15	12:18	04:07	(unrelated sample)
ZZZZZZ	U196210.D	06/17/15	12:47	04:36	(unrelated sample)
ZZZZZZ	U196211.D	06/17/15	13:16	05:05	(unrelated sample)
JB96432-4	U196212.D	06/17/15	13:57	05:46	A-1R(4)
JB96878-3	U196213.D	06/17/15	14:26	06:15	(used for QC only; not part of job JB96432)
ZZZZZZ	U196214.D	06/17/15	14:56	06:45	(unrelated sample)
ZZZZZZ	U196215.D	06/17/15	15:25	07:14	(unrelated sample)
ZZZZZZ	U196219.D	06/17/15	17:26	09:15	(unrelated sample)
ZZZZZZ	U196220.D	06/17/15	17:55	09:44	(unrelated sample)
ZZZZZZ	U196221.D	06/17/15	18:24	10:13	(unrelated sample)
JB96878-3MS	U196222.D	06/17/15	18:54	10:43	Matrix Spike
JB96878-3MSD	U196223.D	06/17/15	19:45	11:34	Matrix Spike Duplicate

Volatile Internal Standard Area Summary

Job Number: JB96432
Account: AMANYWP Anderson, Mulholland & Associates
Project: BMSMC, Building 5 Area, PR

Check Std:	VU9037-CC8988	**Injection Date:**	06/10/15
Lab File ID:	U195952.D	**Injection Time:**	21:16
Instrument ID:	GCMSU	**Method:**	SW846 8260C

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	101074	7.88	329384	10.08	371918	11.00	337963	14.32	194854	16.90
Upper Limit [a]	202148	8.38	658768	10.58	743836	11.50	675926	14.82	389708	17.40
Lower Limit [b]	50537	7.38	164692	9.58	185959	10.50	168982	13.82	97427	16.40

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
VU9037-MB	98877	7.88	332093	10.08	374873	11.00	332562	14.32	183699	16.90
VU9037-BS	101723	7.89	337549	10.08	379887	11.00	341200	14.32	193455	16.90
JB96432-1MS	93919	7.88	342812	10.08	384910	11.00	347248	14.32	198466	16.90
JB96432-1MSD	98752	7.87	351208	10.07	394290	11.00	352888	14.33	204011	16.90
JB96432-1	99311	7.87	359908	10.08	397866	11.00	355119	14.32	192083	16.90
JB96432-9	102401	7.87	354111	10.08	397684	11.00	349310	14.33	188257	16.90
JB96432-5	95974	7.87	352793	10.08	395321	11.00	347444	14.32	187401	16.90
JB96432-8	98102	7.87	346997	10.08	389566	11.00	345154	14.32	185591	16.90
JB96432-2	100391	7.87	351210	10.08	393156	11.00	347503	14.32	184873	16.90
JB96432-3	98701	7.87	335456	10.08	379249	11.00	336332	14.32	182951	16.90
ZZZZZZ	84716	7.89	334595	10.07	377943	11.00	338258	14.32	194903	16.90
ZZZZZZ	107787	7.87	349970	10.08	394846	11.00	352787	14.32	195801	16.90
ZZZZZZ	99931	7.87	366615	10.08	407305	11.00	358776	14.32	193616	16.90
ZZZZZZ	98259	7.87	353332	10.08	396956	11.00	350740	14.32	189106	16.90
ZZZZZZ	96064	7.87	350178	10.08	391780	11.00	346977	14.33	192598	16.90

IS 1 = Tert Butyl Alcohol-D9
IS 2 = Pentafluorobenzene
IS 3 = 1,4-Difluorobenzene
IS 4 = Chlorobenzene-D5
IS 5 = 1,4-Dichlorobenzene-d4

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Volatile Internal Standard Area Summary

Job Number: JB96432
Account: AMANYWP Anderson, Mulholland & Associates
Project: BMSMC, Building 5 Area, PR

Check Std:	VU9038-CC8988	**Injection Date:**	06/11/15
Lab File ID:	U195980.D	**Injection Time:**	11:23
Instrument ID:	GCMSU	**Method:**	SW846 8260C

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	104286	7.88	350940	10.08	391316	11.00	350116	14.32	199682	16.90
Upper Limit [a]	208572	8.38	701880	10.58	782632	11.50	700232	14.82	399364	17.40
Lower Limit [b]	52143	7.38	175470	9.58	195658	10.50	175058	13.82	99841	16.40

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
VU9038-MB	100471	7.88	326747	10.08	366169	11.00	327008	14.32	185674	16.90
VU9038-BS	103236	7.88	344923	10.08	387317	11.00	350535	14.32	202310	16.90
JB96173-3	101145	7.88	348601	10.08	390376	11.00	342439	14.32	192486	16.90
JB96432-2	95984	7.88	341300	10.08	381187	11.00	341322	14.32	195348	16.90
JB96432-3	88131	7.88	335587	10.08	379843	11.00	339022	14.32	193828	16.90
JB96173-3MS	97158	7.89	319493	10.08	361374	11.00	313060	14.32	192016	16.90
JB96173-3MSD	106803	7.88	347179	10.08	389996	11.00	350249	14.33	202184	16.90
JB96173-3	89509	7.88	336420	10.08	375916	11.00	334863	14.32	193108	16.90
JB96432-7	93777	7.88	337728	10.07	379712	11.00	338806	14.33	189873	16.90
ZZZZZZ	95669	7.88	334101	10.08	378975	11.00	338543	14.32	193185	16.90
ZZZZZZ	105377	7.87	342342	10.08	387159	11.00	344366	14.32	198474	16.90
ZZZZZZ	106176	7.88	342549	10.08	384765	11.00	341817	14.33	188222	16.90
ZZZZZZ	100758	7.87	339090	10.08	379373	11.00	340132	14.32	194099	16.90

IS 1 = Tert Butyl Alcohol-D9
IS 2 = Pentafluorobenzene
IS 3 = 1,4-Difluorobenzene
IS 4 = Chlorobenzene-D5
IS 5 = 1,4-Dichlorobenzene-d4

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Volatile Internal Standard Area Summary

Job Number: JB96432
Account: AMANYWP Anderson, Mulholland & Associates
Project: BMSMC, Building 5 Area, PR

Check Std:	VU9040-CC8988	**Injection Date:**	06/12/15
Lab File ID:	U196024.D	**Injection Time:**	09:28
Instrument ID:	GCMSU	**Method:**	SW846 8260C

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	96626	7.87	315580	10.07	353549	10.99	322909	14.32	190316	16.90
Upper Limit [a]	193252	8.37	631160	10.57	707098	11.49	645818	14.82	380632	17.40
Lower Limit [b]	48313	7.37	157790	9.57	176775	10.49	161455	13.82	95158	16.40

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
VU9040-MB	84600	7.88	327774	10.07	363054	10.99	325297	14.32	182129	16.90
VU9040-BS	96035	7.88	315067	10.07	352516	11.00	323332	14.33	193526	16.90
ZZZZZZ	96549	7.88	320825	10.08	357430	11.00	320190	14.32	183999	16.90
ZZZZZZ	87067	7.88	334666	10.07	370768	11.00	331982	14.32	184106	16.90
ZZZZZZ	90617	7.88	331834	10.08	374145	11.00	333502	14.32	180346	16.90
ZZZZZZ	98426	7.87	334798	10.08	378236	11.00	335309	14.32	187476	16.90
ZZZZZZ	98178	7.88	339865	10.08	382420	11.00	339648	14.32	186599	16.90
JB96432-7	96709	7.88	335630	10.08	378964	11.00	338614	14.32	187312	16.90
ZZZZZZ	98041	7.88	334323	10.08	373865	11.00	345891	14.32	201097	16.90
JB96432-7MS	101039	7.88	351310	10.08	393745	11.00	356604	14.33	208221	16.90
JB96432-7MSD	98102	7.88	350008	10.08	393353	11.00	351148	14.33	206886	16.90
ZZZZZZ	98964	7.87	366900	10.08	410000	11.00	361792	14.32	199235	16.90
ZZZZZZ	95985	7.87	356241	10.08	398191	11.00	354018	14.32	196103	16.90
ZZZZZZ	95842	7.88	348238	10.08	393545	11.00	348746	14.32	189612	16.90
ZZZZZZ	96889	7.88	346460	10.08	391759	11.00	343239	14.33	187893	16.90
ZZZZZZ	94339	7.88	340562	10.08	380826	11.00	337137	14.32	185182	16.90
ZZZZZZ	94792	7.87	335967	10.08	379031	11.00	335584	14.32	182892	16.90
ZZZZZZ	91873	7.88	333354	10.08	376271	11.00	332334	14.32	182546	16.90
ZZZZZZ	90273	7.87	336084	10.08	380615	11.00	334426	14.33	182145	16.90

IS 1 = Tert Butyl Alcohol-D9
IS 2 = Pentafluorobenzene
IS 3 = 1,4-Difluorobenzene
IS 4 = Chlorobenzene-D5
IS 5 = 1,4-Dichlorobenzene-d4

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Volatile Internal Standard Area Summary

Job Number: JB96432
Account: AMANYWP Anderson, Mulholland & Associates
Project: BMSMC, Building 5 Area, PR

Check Std:	VU9043-CC8988	**Injection Date:**	06/15/15
Lab File ID:	U196107.D	**Injection Time:**	09:18
Instrument ID:	GCMSU	**Method:**	SW846 8260C

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	78498	7.87	306565	10.08	346763	11.00	318508	14.32	187194	16.90
Upper Limit [a]	156996	8.37	613130	10.58	693526	11.50	637016	14.82	374388	17.40
Lower Limit [b]	39249	7.37	153283	9.58	173382	10.50	159254	13.82	93597	16.40

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
VU9043-MB	88796	7.88	327363	10.08	369235	11.00	330964	14.33	179998	16.90
VU9043-BS	86747	7.88	322417	10.08	364567	11.00	334035	14.32	192554	16.90
ZZZZZZ	83022	7.87	311854	10.07	351839	11.00	318769	14.33	182621	16.90
JB96432-6	83365	7.87	325679	10.08	369607	11.00	332138	14.32	184222	16.90
ZZZZZZ	95830	7.88	324598	10.08	369406	11.00	329743	14.32	183462	16.90
ZZZZZZ	98122	7.87	320102	10.08	363125	11.00	330970	14.32	182835	16.90
ZZZZZZ	95996	7.87	322066	10.08	365230	11.00	327056	14.32	166696	16.90
ZZZZZZ	88381	7.87	321449	10.08	365046	11.00	323788	14.32	149393	16.90
JB96432-6	89458	7.87	325965	10.08	371786	11.00	333765	14.32	184336	16.90
ZZZZZZ	98759	7.87	325540	10.08	368280	11.00	332655	14.32	188421	16.90
ZZZZZZ	95389	7.87	319977	10.08	361928	11.00	333449	14.32	200771	16.90
ZZZZZZ	98799	7.87	331114	10.08	373773	11.00	332051	14.32	190821	16.90
JB96432-6MS	96620	7.88	313641	10.08	355548	11.00	329080	14.32	194509	16.90
JB96432-6MSD	97773	7.87	339384	10.08	385834	11.00	348309	14.33	201648	16.90
ZZZZZZ	92681	7.87	339275	10.08	380705	11.00	343399	14.32	188444	16.90
ZZZZZZ	86446	7.87	330331	10.08	375792	11.00	336498	14.33	185284	16.90
ZZZZZZ	87698	7.87	328903	10.08	371623	11.00	335446	14.32	182709	16.90
ZZZZZZ	84402	7.87	321608	10.08	365382	11.00	328440	14.32	183921	16.90
ZZZZZZ	84534	7.88	326005	10.08	372041	11.00	331846	14.32	183908	16.90

IS 1 = Tert Butyl Alcohol-D9
IS 2 = Pentafluorobenzene
IS 3 = 1,4-Difluorobenzene
IS 4 = Chlorobenzene-D5
IS 5 = 1,4-Dichlorobenzene-d4

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Volatile Internal Standard Area Summary

Job Number: JB96432
Account: AMANYWP Anderson, Mulholland & Associates
Project: BMSMC, Building 5 Area, PR

Check Std:	VU9047-CC8988	**Injection Date:**	06/17/15
Lab File ID:	U196201.D	**Injection Time:**	08:46
Instrument ID:	GCMSU	**Method:**	SW846 8260C

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	78616	7.88	299744	10.07	336312	11.00	310904	14.32	180606	16.89
Upper Limit [a]	157232	8.38	599488	10.57	672624	11.50	621808	14.82	361212	17.39
Lower Limit [b]	39308	7.38	149872	9.57	168156	10.50	155452	13.82	90303	16.39

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
VU9047-MB	85858	7.87	313197	10.08	356717	11.00	319968	14.32	174141	16.90
VU9047-BS	85728	7.88	310400	10.08	350388	11.00	320929	14.32	185801	16.90
ZZZZZZ	84560	7.87	320471	10.08	361630	11.00	323139	14.32	180160	16.90
ZZZZZZ	77994	7.88	320290	10.07	357613	11.00	319646	14.33	176445	16.90
ZZZZZZ	92791	7.87	304464	10.07	348064	11.00	314557	14.32	177966	16.90
ZZZZZZ	80643	7.87	312873	10.08	352837	11.00	317145	14.32	176216	16.90
ZZZZZZ	78386	7.87	290224	10.08	327321	11.00	295887	14.32	170497	16.90
ZZZZZZ	81285	7.88	310440	10.08	350695	11.00	316201	14.32	173593	16.90
JB96432-4	74822	7.87	275999	10.07	324217	11.00	299393	14.32	172949	16.90
JB96878-3	80709	7.87	304853	10.08	347958	11.00	312290	14.32	171022	16.90
ZZZZZZ	81048	7.87	308483	10.08	349881	11.00	310293	14.32	170481	16.90
ZZZZZZ	82120	7.87	301243	10.08	341810	11.00	306395	14.32	169373	16.90
ZZZZZZ	85177	7.87	315725	10.08	354546	11.00	317293	14.32	174168	16.90
ZZZZZZ	81861	7.88	309928	10.08	350570	11.00	315297	14.32	180574	16.90
ZZZZZZ	86312	7.87	324281	10.08	362752	11.00	329235	14.32	185381	16.90
JB96878-3MS	83001	7.87	327168	10.08	365993	11.00	333570	14.33	191613	16.90
JB96878-3MSD	81457	7.87	310374	10.07	347243	11.00	321824	14.32	190845	16.90

IS 1 = Tert Butyl Alcohol-D9
IS 2 = Pentafluorobenzene
IS 3 = 1,4-Difluorobenzene
IS 4 = Chlorobenzene-D5
IS 5 = 1,4-Dichlorobenzene-d4

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Volatile Surrogate Recovery Summary

Job Number: JB96432
Account: AMANYWP Anderson, Mulholland & Associates
Project: BMSMC, Building 5 Area, PR

Method: SW846 8260C **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4
JB96432-1	U195959.D	102	101	99	99
JB96432-2	U195986.D	102	101	100	95
JB96432-2	U195963.D	100	102	99	100
JB96432-3	U195987.D	103	102	100	96
JB96432-3	U195965.D	103	101	99	99
JB96432-4	U196212.D	99	94	93	87
JB96432-5	U195961.D	102	102	99	99
JB96432-6	U196112.D	103	100	100	97
JB96432-6	U196117.D	104	102	99	98
JB96432-7	U196033.D	103	102	99	96
JB96432-7	U195994.D	103	102	100	97
JB96432-8	U195962.D	102	102	99	99
JB96432-9	U195960.D	102	101	99	100
JB96173-3MS	U195989.D	103	103	100	93
JB96173-3MSD	U195990.D	103	102	100	95
JB96432-1MS	U195956.D	104	103	100	96
JB96432-1MSD	U195957.D	102	101	100	95
JB96432-6MS	U196121.D	105	103	101	93
JB96432-6MSD	U196122.D	104	102	100	95
JB96432-7MS	U196035.D	102	102	99	94
JB96432-7MSD	U196036.D	104	102	99	94
JB96878-3MS	U196222.D	94	91	92	88
JB96878-3MSD	U196223.D	96	92	93	86
VU9037-BS	U195955.D	103	103	100	95
VU9037-MB	U195954.D	103	103	99	99
VU9038-BS	U195983.D	103	103	99	95
VU9038-MB	U195982.D	104	102	99	95
VU9040-BS	U196027.D	103	102	101	93
VU9040-MB	U196026.D	102	100	100	97
VU9043-BS	U196110.D	104	103	100	95
VU9043-MB	U196109.D	103	100	100	98
VU9047-BS	U196204.D	96	94	93	88
VU9047-MB	U196203.D	95	93	91	91

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	76-120%
S2 = 1,2-Dichloroethane-D4	73-122%
S3 = Toluene-D8	84-119%

Volatile Surrogate Recovery Summary

Job Number: JB96432
Account: AMANYWP Anderson, Mulholland & Associates
Project: BMSMC, Building 5 Area, PR

Method: SW846 8260C **Matrix:** AQ

Samples and QC shown here apply to the above method

Surrogate Compounds	Recovery Limits
S4 = 4-Bromofluorobenzene	78-117%

Initial Calibration Summary

Job Number: JB96432
Account: AMANYWP Anderson, Mulholland & Associates
Project: BMSMC, Building 5 Area, PR
Sample: VU8988-ICC8988
Lab FileID: U194822.D

```
                        Response Factor Report  MSU

Method       : C:\MSDCHEM\1\METHODS\MU8988.M (RTE Integrator)
Title        : SW-846  8260B, ZB624  60m x 250um x 1.40um
Last Update  : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Calibration Files
5   =u194819.D   2   =u194818.D   20  =u194821.D   50  =u194822.D
100 =u194823.D   1   =u194817.D   200 =u194824.D   10  =u194820.D
0.5 =u194816.D   0.2 =u194815.D       =                =

Compound
        5     2     20    50    100   1     200   10    0.5   0.2    Avg   %RSD
-------------------------------------------------------------------------------

1) I   Tert Butyl Alcohol-d9 ----------------ISTD---------------------
2)  tertiary butyl alcohol
     0.962 0.990 1.231 1.222 1.191       1.120 1.129              1.120    9.62
3)  Ethanol
                                                                   0.000   -1.00
4)  1,4-dioxane
     0.076       0.109 0.108 0.116       0.102 0.092              0.101   14.21

5) I   pentafluorobenzene    ----------------ISTD---------------------
6)  freon 115
                                                                   0.000   -1.00
7)  freon 23
                                                                   0.000   -1.00
8)  freon 143A
                                                                   0.000   -1.00
9)  freon 152A
                                                                   0.000   -1.00
10)  chlorotrifluoroethene
                                                                   0.000   -1.00
11)  chlorodifluoromethane
     0.316 0.311 0.352 0.394 0.387       0.380 0.344              0.355    9.43
12)  dichlorodifluoromethane
     0.309 0.263 0.393 0.434 0.471       0.439 0.433              0.392   19.61
13)  freon 142B
                                                                   0.000   -1.00
14)  freon 114
                                                                   0.000   -1.00
15)  chloromethane
     0.398 0.371 0.451 0.451 0.482 0.391 0.454 0.496 0.385        0.431   10.52
16)  vinyl chloride
     0.357 0.321 0.420 0.429 0.459 0.314 0.434 0.455              0.399   14.79
17)  acetaldehyde
                                                                   0.000   -1.00
18)  bromomethane
     0.267 0.266 0.306 0.303 0.323 0.273 0.285 0.330              0.294    8.54
19)  chloroethane
     0.180 0.158 0.221 0.223 0.239 0.147 0.223 0.231              0.203   17.62
20)  trichlorofluoromethane
     0.388 0.321 0.487 0.521 0.563 0.337 0.527 0.531              0.459   20.80
           ----- Linear regression -----  Coefficient =  0.9988
             Response Ratio = -0.00445 + 0.53463 *A

21)  pentane
                                                                   0.000   -1.00
```

Initial Calibration Summary

Job Number: JB96432 **Sample:** VU8988-ICC8988
Account: AMANYWP Anderson, Mulholland & Associates **Lab FileID:** U194822.D
Project: BMSMC, Building 5 Area, PR

```
22)  freon 123A
                                                                    0.000   -1.00
23)  ethyl ether
      0.162 0.150 0.198 0.207 0.205       0.201 0.191               0.188   12.02
24)  2-CHLOROPROPANE
      0.571 0.601 0.611 0.659 0.642 0.658 0.627 0.598               0.621    5.03
25)  freon 141B
                                                                    0.000   -1.00
26)  freon 123
                                                                    0.000   -1.00
27)  acrolein
      0.061 0.062 0.059 0.060       0.059       0.053 0.044         0.057   11.40
28)  1,1-dichloroethene
      0.279 0.271 0.330 0.351 0.348 0.270 0.340 0.326 0.294         0.312   10.69
29)  acetone
                  0.029 0.030 0.030       0.027 0.025               0.028    7.32
30)  allyl chloride
      0.166 0.148 0.192 0.203 0.201 0.128 0.195 0.190               0.178   15.54
31)  acetonitrile
      0.021 0.024 0.024 0.028 0.028 0.019 0.027 0.024               0.024   13.41
32)  iodomethane
      0.568 0.530 0.684 0.730 0.712 0.507 0.705 0.666 0.456         0.618   16.63
33)  carbon disulfide
      0.934 0.917 1.111 1.188 1.171 0.836 1.154 1.091 0.873 0.819   1.009   14.58
34)  1-CHLOROPROPANE
      0.021       0.031 0.031 0.032       0.031 0.029               0.029   13.64
35)  methylene chloride
      0.364 0.466 0.382 0.397 0.386       0.379 0.387               0.395    8.42
36)  methyl acetate
      0.258 0.262 0.263 0.263 0.257       0.246 0.255               0.258    2.45
37)  methyl tert butyl ether
      0.893 0.858 1.078 1.113 1.083 0.862 1.069 1.021 0.848         0.981   11.47
38)  trans-1,2-dichloroethene
      0.323 0.313 0.375 0.394 0.384 0.313 0.378 0.367 0.306         0.350   10.15
39)  di-isopropyl ether
      1.011 1.030 1.151 1.197 1.166 0.842 1.146 1.085 1.004         1.070   10.42
40)  ethyl tert-butyl ether
      1.006 0.992 1.150 1.204 1.177 0.830 1.161 1.079 0.955 0.887   1.044   12.46
41)  2-butanone
      0.026       0.043 0.043 0.043       0.040 0.041               0.039   16.61
42)  1,1-dichloroethane
      0.549 0.522 0.658 0.689 0.664 0.492 0.662 0.641 0.430         0.590   15.80
43)  chloroprene
      0.459 0.458 0.520 0.560 0.551 0.362 0.539 0.499 0.431         0.487   13.32
44)  acrylonitrile
      0.095 0.090 0.117 0.121 0.118 0.085 0.114 0.111               0.106   13.30
45)  vinyl acetate
      0.050       0.065 0.069 0.068       0.066 0.057               0.062   12.33
46)  ethyl acetate
      0.040       0.048 0.050 0.048       0.046 0.046               0.046    7.30
47)  2,2-dichloropropane
      0.477 0.465 0.547 0.577 0.562 0.444 0.545 0.550 0.466         0.515    9.83
48)  cis-1,2-dichloroethene
      0.355 0.340 0.414 0.435 0.422 0.333 0.418 0.398 0.359         0.386   10.15
49)  methyl acrylate
      0.043       0.055 0.059 0.058       0.056 0.051               0.054   10.66
50)  propionitrile
      0.038 0.036 0.047 0.049 0.047 0.033 0.045 0.045               0.043   13.67
51)  bromochloromethane
      0.175 0.159 0.213 0.226 0.221 0.149 0.218 0.205               0.196   15.49
```

Initial Calibration Summary

Job Number: JB96432 **Sample:** VU8988-ICC8988
Account: AMANYWP Anderson, Mulholland & Associates **Lab FileID:** U194822.D
Project: BMSMC, Building 5 Area, PR

```
52)  tetrahydrofuran
      0.115 0.111 0.124 0.127 0.120       0.117 0.128              0.120    5.34
53)  chloroform
      0.552 0.537 0.651 0.682 0.666 0.536 0.655 0.636 0.547 0.676  0.614   10.17
54)  tert-butyl Formate
      0.270 0.266 0.329 0.348 0.348 0.195 0.342 0.301              0.300   17.93
55)  iso-butyl alcohol
      0.016 0.020 0.016 0.017 0.016 0.019 0.014 0.015              0.017   11.44
56)  dibromofluoromethane (s)
      0.339 0.341 0.339 0.342 0.342 0.337 0.344 0.338 0.336 0.342  0.340    0.76
57)  1,2-dichloroethane-d4 (s)
      0.359 0.358 0.359 0.361 0.367 0.356 0.373 0.358 0.353 0.353  0.360    1.74
58)  freon 113
      0.202 0.219 0.250 0.298 0.302       0.282 0.243              0.257   15.12
59)  methacrylonitrile
      0.184 0.200 0.210 0.221 0.212 0.216 0.207 0.204              0.207    5.45
60)  1,1,1-trichloroethane
      0.488 0.454 0.568 0.607 0.604 0.420 0.595 0.559 0.419        0.524   15.03
61)  tert amyl alcohol
                                                                   0.000   -1.00
62)  tert-amyl methyl ether
      0.226 0.222 0.264 0.277 0.269       0.263 0.249              0.253    8.44
63)  iso-octane
      0.895 1.069 1.056 1.332 1.361 0.766 1.232 1.093 1.090 0.840  1.073   18.55

64) I   1,4-difluorobenzene   ----------------ISTD---------------------
65)  Di-isobutylene
                                                                   0.000   -1.00
66)  epichlorohydrin
      0.025 0.024 0.031 0.031 0.031       0.029 0.028              0.029    9.91
67)  n-butyl alcohol
      0.008 0.007 0.009 0.010 0.009 0.006 0.008 0.009 0.007        0.008   15.33
68)  Cyclohexane
      0.361 0.345 0.435 0.492 0.507       0.471 0.438              0.436   14.28
69)  carbon tetrachloride
      0.374 0.353 0.453 0.485 0.487 0.328 0.470 0.435 0.328        0.413   16.16
70)  1,1-dichloropropene
      0.365 0.354 0.430 0.460 0.460 0.311 0.442 0.423 0.290        0.393   16.45
71)  hexane
      0.270 0.305 0.325 0.391 0.398 0.237 0.356 0.323 0.358        0.329   16.20
72)  benzene
      1.096 1.090 1.278 1.330 1.300 1.106 1.266 1.237 1.157        1.207    7.87
73)  heptane
      0.160 0.195 0.189 0.236 0.241       0.214 0.198              0.205   13.79
74)  isopropyl acetate
      0.484 0.555 0.576 0.574 0.563 0.481 0.562 0.530 0.574        0.544    6.94
75)  1,2-dichloroethane
      0.347 0.342 0.425 0.437 0.427 0.315 0.413 0.409 0.270        0.376   15.75
76)  ethyl acrylate
                                                                   0.000   -1.00
77)  tert amyl ethyl ether
                                                                   0.000   -1.00
78)  trichloroethene
      0.298 0.273 0.349 0.362 0.359 0.258 0.353 0.338 0.239        0.314   15.18
79)  methylcyclohexane
      0.402 0.450 0.484 0.570 0.576 0.338 0.535 0.476 0.441        0.475   16.45
80)  2-nitropropane
      0.110 0.119 0.119 0.124 0.125 0.103 0.117 0.115 0.105        0.115    6.64
81)  2-chloroethyl vinyl ether
      0.134 0.132 0.167 0.184 0.190       0.187 0.149              0.163   15.26
```

Initial Calibration Summary

Job Number: JB96432 **Sample:** VU8988-ICC8988
Account: AMANYWP Anderson, Mulholland & Associates **Lab FileID:** U194822.D
Project: BMSMC, Building 5 Area, PR

```
 82)  methyl methacrylate
       0.068 0.066 0.090 0.093 0.092       0.089 0.085              0.083   13.98
 83)  1,2-dichloropropane
       0.270 0.266 0.330 0.343 0.335 0.256 0.328 0.320 0.213        0.296   15.37
 84)  propyl acetate
       0.056 0.057 0.062 0.063 0.061       0.058 0.058              0.059    4.43
 85)  dibromomethane
       0.173 0.159 0.209 0.218 0.215 0.163 0.210 0.197              0.193   12.53
 86)  bromodichloromethane
       0.381 0.367 0.458 0.483 0.474 0.348 0.468 0.436 0.324        0.415   14.57
 87)  cis-1,3-dichloropropene
       0.463 0.463 0.570 0.601 0.592 0.436 0.582 0.552 0.391 0.407  0.506   16.17
 88)  toluene-d8 (s)
       1.138 1.135 1.152 1.152 1.151 1.144 1.155 1.133 1.133 1.141  1.143    0.75
 89)  4-methyl-2-pentanone
       0.097 0.089 0.123 0.125 0.121       0.116 0.115              0.112   12.36
 90)  toluene
       0.712 0.686 0.841 0.889 0.879 0.673 0.861 0.816 0.695 0.675  0.773   11.90
 91)  3-methyl-1-butanol
       0.014 0.014 0.016 0.016 0.015 0.013 0.013 0.015              0.014    9.10
 92)  trans-1,3-dichloropropene
       0.428 0.415 0.529 0.559 0.542 0.400 0.530 0.506 0.364 0.345  0.462   17.31
 93)  ethyl methacrylate
       0.343 0.331 0.422 0.439 0.429 0.334 0.418 0.398 0.316        0.381   12.89
 94)  1,1,2-trichloroethane
       0.208 0.207 0.255 0.265 0.261 0.200 0.255 0.245 0.162        0.229   15.60
 95)  2-hexanone
       0.097 0.086 0.120 0.123 0.120       0.112 0.111              0.110   12.44

 96) I   chlorobenzene-d5      ----------------ISTD---------------------
 97)  cyclohexanone       ***This compound does not meet initial criteria***
       0.031 0.034 0.033 0.036 0.041 0.047 0.028 0.039              0.036   16.55
 98)  tetrachloroethene
       0.342 0.312 0.390 0.412 0.404 0.306 0.392 0.386 0.291        0.359   13.03
 99)  1,3-dichloropropane
       0.458 0.428 0.561 0.584 0.567 0.428 0.555 0.538 0.388        0.501   14.89
100)  butyl acetate
       0.200 0.201 0.232 0.239 0.229 0.176 0.219 0.222 0.188        0.212   10.23
101)  dibromochloromethane
       0.362 0.339 0.446 0.478 0.468 0.318 0.464 0.430 0.294        0.400   17.86
102)  1,2-dibromoethane
       0.309 0.288 0.363 0.382 0.373 0.280 0.369 0.352 0.259        0.330   14.12
103)  3,3-dimethyl-1-Butanol
       0.033 0.031 0.039 0.040 0.036 0.026 0.030 0.036 0.032        0.034   13.11
104)  n-butyl ether
       1.388 1.348 1.653 1.753 1.706 1.327 1.685 1.625 1.310 1.243  1.504   13.06
105)  chlorobenzene
       0.935 0.918 1.118 1.177 1.153 0.885 1.131 1.098 0.901 0.821  1.014   13.16
106)  1,1,1,2-tetrachloroethane
       0.355 0.336 0.426 0.446 0.436 0.331 0.424 0.411 0.290        0.384   14.69
107)  ethylbenzene
       1.550 1.488 1.824 1.931 1.896 1.475 1.848 1.797 1.515 1.569  1.689   10.94
108)  m,p-xylene
       0.616 0.599 0.731 0.768 0.753 0.573 0.720 0.711 0.573 0.578  0.662   12.27
109)  o-xylene
       0.623 0.582 0.730 0.761 0.740 0.571 0.719 0.714 0.556 0.525  0.652   13.69
110)  styrene
       1.031 0.994 1.247 1.303 1.272 0.961 1.234 1.215 0.960 0.971  1.119   13.05
111)  bromoform
       0.272 0.255 0.341 0.362 0.356 0.239 0.351 0.323              0.312   15.80
```

Initial Calibration Summary

Job Number: JB96432 **Sample:** VU8988-ICC8988
Account: AMANYWP Anderson, Mulholland & Associates **Lab FileID:** U194822.D
Project: BMSMC, Building 5 Area, PR

```
112) I   1,4-dichlorobenzene-d ----------------ISTD---------------------
113)  isopropylbenzene
       2.821 2.754 3.379 3.569 3.525 2.704 3.446 3.326 2.634 2.497  3.066   13.64
114)  4-bromofluorobenzene (s)
       0.883 0.889 0.890 0.878 0.880 0.882 0.886 0.893 0.891 0.884  0.886    0.57
115)  bromobenzene
       0.812 0.791 0.978 1.024 0.991 0.822 0.976 0.951 0.740 0.688  0.877   13.66
116)  1,1,2,2-tetrachloroethane
       0.651 0.642 0.803 0.847 0.835 0.634 0.817 0.773 0.592        0.733   13.79
117)  trans-1,4-dichloro-2-butene
       0.175 0.168 0.225 0.238 0.236       0.230 0.207              0.211   13.82
118)  1,2,3-trichloropropane
       0.194 0.174 0.227 0.236 0.228 0.185 0.221 0.225              0.211   11.02
119)  n-propylbenzene
       3.229 3.111 3.757 4.017 3.908 3.092 3.834 3.745 2.937 3.023  3.465   12.15
120)  2-chlorotoluene
       0.708 0.696 0.855 0.902 0.876 0.695 0.851 0.840 0.681        0.789   11.58
121)  4-chlorotoluene
       2.024 2.019 2.397 2.512 2.462 1.942 2.435 2.370 1.944 1.987  2.209   10.97
122)  p-Ethyltoluene
                                                                    0.000   -1.00
123)  1,3,5-trimethylbenzene
       2.383 2.325 2.859 3.020 2.959 2.261 2.876 2.810 2.256 2.385  2.614   12.06
124)  tert-butylbenzene
       2.140 2.131 2.525 2.695 2.633 2.013 2.574 2.486 2.076 1.937  2.321   12.37
125)  pentachloroethane
       0.436 0.445 0.564 0.608 0.609 0.398 0.608 0.537              0.526   16.53
126)  1,2,4-trimethylbenzene
       2.365 2.302 2.803 2.936 2.879 2.228 2.812 2.771 2.161 2.346  2.560   11.86
127)  1,2,3-trimethylbenzene
                                                                    0.000   -1.00
128)  sec-butylbenzene
       3.101 2.942 3.636 3.863 3.855 2.877 3.716 3.592 2.854 2.829  3.327   13.28
129)  1,3-dichlorobenzene
       1.519 1.447 1.802 1.900 1.865 1.417 1.828 1.780 1.385 1.422  1.636   13.09
130)  p-isopropyltoluene
       2.721 2.665 3.199 3.386 3.349 2.566 3.229 3.170 2.528 2.424  2.924   12.83
131)  1,4-dichlorobenzene
       1.528 1.495 1.808 1.908 1.867 1.436 1.825 1.759 1.400 1.514  1.654   11.86
132)  benzyl chloride
       1.430 1.431 1.637 1.703 1.655 1.299 1.595 1.551 1.571 1.582  1.545    7.97
133)  1,2-dichlorobenzene
       1.414 1.355 1.692 1.786 1.740 1.295 1.710 1.657 1.257 1.167  1.507   15.39
134)  p-Diethylbenzene
                                                                    0.000   -1.00
135)  n-butylbenzene
       1.233 1.179 1.476 1.595 1.588 1.159 1.522 1.468 1.148        1.374   13.88
136)  1,2,4,5-Tetramethylbenzene
                                                                    0.000   -1.00
137)  1,2-dibromo-3-chloropropane
       0.155 0.139 0.195 0.204 0.201       0.196 0.186              0.182   13.80
138)  1,3,5-trichlorobenzene
       1.215 1.153 1.472 1.569 1.565 1.105 1.513 1.449 1.117 1.092  1.325   15.44
139)  1,2,4-trichlorobenzene
       1.022 0.982 1.284 1.366 1.355 0.884 1.326 1.229 0.874 0.955  1.128   17.95
140)  hexachlorobutadiene
       0.625 0.602 0.729 0.794 0.797 0.557 0.751 0.725 0.498        0.675   15.97
141)  naphthalene
       1.954 1.819 2.467 2.584 2.518 1.789 2.432 2.329 1.696 2.005  2.159   15.75
```

Initial Calibration Summary

Job Number: JB96432 **Sample:** VU8988-ICC8988
Account: AMANYWP Anderson, Mulholland & Associates **Lab FileID:** U194822.D
Project: BMSMC, Building 5 Area, PR

```
142)  INDANE
                                                                    0.000   -1.00
143)  1,2,3-trichlorobenzene
       0.853 0.808 1.081 1.148 1.113 0.801 1.075 1.026              0.988   14.54
144)  hexachloroethane
       0.510 0.484 0.625 0.678 0.677 0.431 0.670 0.604              0.585   16.59
145)  MMT
                                                                    0.000   -1.00
146)  Bis(chloromethyl)ether
                                                                    0.000   -1.00
147)  Ethylenimine
                                                                    0.000   -1.00
 ---------------------------------------------------------------------------
 (#) = Out of Range  ###  Number of calibration levels exceeded format  ###

           MU8988.M          Mon May 04 09:49:46 2015   U_CORE
```

Initial Calibration Verification

Job Number: JB96432
Account: AMANYWP Anderson, Mulholland & Associates
Project: BMSMC, Building 5 Area, PR
Sample: VU8988-ICV8988
Lab FileID: U194827.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\u194827.D Vial: 15
Acq On : 1 May 2015 5:20 pm Operator: NicoleH1
Sample : icv8988-50 Inst : MSU
Misc : ms84282,vu8988,5.0,,,,1 Multiplr: 1.00
MS Integration Params: rtenox2.p

Method : C:\MSDCHEM\1\METHODS\MU8988.M (RTE Integrator)
Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
Last Update : Mon May 04 09:25:27 2015
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	Tert Butyl Alcohol-d9	1.000	1.000	0.0	100	0.00	7.88
2	M	tertiary butyl alcohol	1.120	1.198	-7.0	98	0.00	8.00
3		Ethanol		----------NA----------				
4	m	1,4-dioxane	0.101	0.099	2.0	91	0.00	11.74
5	I	pentafluorobenzene	1.000	1.000	0.0	102	0.00	10.08
6	M	freon 115		----------NA----------				
7	M	freon 23		----------NA----------				
8	M	freon 143A		----------NA----------				
9	M	freon 152A		----------NA----------				
10	M	chlorotrifluoroethene		----------NA----------				
11	M	chlorodifluoromethane	0.355	0.354	0.3	92	0.00	4.40
12	M	dichlorodifluoromethane	0.392	0.369	5.9	87	0.00	4.36
13	M	freon 142B		----------NA----------				
14	M	freon 114		----------NA----------				
15	M	chloromethane	0.431	0.427	0.9	96	0.00	4.77
16	M	vinyl chloride	0.399	0.397	0.5	94	0.00	5.04
17	M	acetaldehyde		----------NA----------				
18	M	bromomethane	0.294	0.305	-3.7	103	0.00	5.71
19	M	chloroethane	0.203	0.245	-20.7	112	0.00	5.88
		----------	True	Calc.	% Drift	----------		
20	M	trichlorofluoromethane	50.000	46.950	6.1	97	0.00	6.32
		----------	AvgRF	CCRF	% Dev	----------		
21	M	pentane		----------NA----------				
22	M	freon 123A		----------NA----------				
23	M	ethyl ether	0.188	0.202	-7.4	99	0.00	6.76
24		2-CHLOROPROPANE	0.621	0.497	20.0	77	0.00	6.98
25	M	freon 141B		----------NA----------				
26	M	freon 123		----------NA----------				
27	M	acrolein	0.057	0.070	-22.8	120	0.00	7.05
28	M	1,1-dichloroethene	0.312	0.335	-7.4	97	0.00	7.20
29	M	acetone	0.028	0.029	-3.6	98	0.00	7.27
30	M	allyl chloride	0.178	0.215	-20.8	108	0.00	7.74
31	M	acetonitrile	0.024	0.027	-12.5	97	0.00	7.73
32	M	iodomethane	0.618	0.684	-10.7	95	0.00	7.50
33	M	carbon disulfide	1.009	1.103	-9.3	95	0.00	7.63
34		1-CHLOROPROPANE	0.029	0.031	-6.9	102	0.00	7.96
35	M	methylene chloride	0.395	0.377	4.6	97	0.00	7.94
36	M	methyl acetate	0.258	0.250	3.1	97	0.00	7.72
37	M	methyl tert butyl ether	0.981	1.040	-6.0	95	0.00	8.23

Initial Calibration Verification

Job Number: JB96432 **Sample:** VU8988-ICV8988
Account: AMANYWP Anderson, Mulholland & Associates **Lab FileID:** U194827.D
Project: BMSMC, Building 5 Area, PR

38	M	trans-1,2-dichloroethene	0.350	0.368	-5.1	95	0.00	8.29
39	M	di-isopropyl ether	1.070	1.143	-6.8	97	0.00	8.81
40	M	ethyl tert-butyl ether	1.044	1.122	-7.5	95	0.00	9.27
41	M	2-butanone	0.039	0.041	-5.1	97	0.00	9.56
42	M	1,1-dichloroethane	0.590	0.662	-12.2	98	0.00	8.87
43	M	chloroprene	0.487	0.501	-2.9	91	0.00	8.96
44	M	acrylonitrile	0.106	0.125	-17.9	106	0.00	8.28
45	M	vinyl acetate	0.062	0.068	-9.7	100	0.00	8.83
46	M	ethyl acetate	0.046	0.048	-4.3	97	0.00	9.55
47	M	2,2-dichloropropane	0.515	0.572	-11.1	101	0.00	9.59
48	M	cis-1,2-dichloroethene	0.386	0.408	-5.7	96	0.00	9.60
49	M	methyl acrylate	0.054	0.055	-1.9	96	0.00	9.64
50	M	propionitrile	0.043	0.048	-11.6	101	0.00	9.69
51	M	bromochloromethane	0.196	0.211	-7.7	95	0.00	9.91
52	M	tetrahydrofuran	0.120	0.121	-0.8	97	0.00	9.94
53	M	chloroform	0.614	0.648	-5.5	97	0.00	9.96
54		tert-butyl Formate	0.300	0.338	-12.7	99	0.00	9.98
55	M	iso-butyl alcohol	0.017	0.015	11.8	90	0.00	10.38
56	S	dibromofluoromethane (s)	0.340	0.340	0.0	101	0.00	10.16
57	S	1,2-dichloroethane-d4 (s)	0.360	0.360	0.0	102	0.00	10.58
58	M	freon 113	0.257	0.313	-21.8	107	0.00	7.16
59	M	methacrylonitrile	0.207	0.209	-1.0	96	0.00	9.85
60	M	1,1,1-trichloroethane	0.524	0.583	-11.3	98	0.00	10.20
61	M	tert amyl alcohol		----------NA----------				
62	M	tert-amyl methyl ether	0.253	0.259	-2.4	95	0.00	10.65
63		iso-octane	1.073	1.343	-25.2	103	0.00	10.61
64	I	1,4-difluorobenzene	1.000	1.000	0.0	101	0.00	11.00
65	M	Di-isobutylene		----------NA----------				
66	M	epichlorohydrin	0.029	0.030	-3.4	98	0.00	12.30
67	M	n-butyl alcohol	0.008	0.009	-12.5	95	0.00	11.12
68	M	Cyclohexane	0.436	0.493	-13.1	102	0.00	10.27
69	M	carbon tetrachloride	0.413	0.470	-13.8	98	0.00	10.40
70	M	1,1-dichloropropene	0.393	0.458	-16.5	101	0.00	10.37
71	M	hexane	0.329	0.375	-14.0	97	0.00	8.56
72	M	benzene	1.207	1.282	-6.2	98	0.00	10.64
73	M	heptane	0.205	0.258	-25.9	111	0.00	10.76
74	M	isopropyl acetate	0.544	0.578	-6.2	102	0.00	10.53
75	M	1,2-dichloroethane	0.376	0.416	-10.6	97	0.00	10.67
76	M	ethyl acrylate		----------NA----------				
77		tert amyl ethyl ether		----------NA----------				
78	M	trichloroethene	0.314	0.350	-11.5	98	0.00	11.35
79	M	methylcyclohexane	0.475	0.573	-20.6	102	0.00	11.56
80	M	2-nitropropane	0.115	0.126	-9.6	103	0.00	12.15
81	M	2-chloroethyl vinyl ether	0.163	0.191	-17.2	105	0.00	12.15
82	M	methyl methacrylate	0.083	0.091	-9.6	99	0.00	11.60
83	M	1,2-dichloropropane	0.296	0.332	-12.2	98	0.00	11.63
84	M	propyl acetate	0.059	0.061	-3.4	99	0.00	11.64
85	M	dibromomethane	0.193	0.206	-6.7	96	0.00	11.80
86	M	bromodichloromethane	0.415	0.454	-9.4	95	0.00	11.92
87	M	cis-1,3-dichloropropene	0.506	0.576	-13.8	97	0.00	12.39
88	S	toluene-d8 (s)	1.143	1.143	0.0	101	0.00	12.68
89	M	4-methyl-2-pentanone	0.112	0.120	-7.1	97	0.00	12.48
90	M	toluene	0.773	0.850	-10.0	97	0.00	12.76
91	M	3-methyl-1-butanol	0.014	0.015	-7.1	91	0.00	12.49
92	M	trans-1,3-dichloropropene	0.462	0.519	-12.3	94	0.00	12.98
93	M	ethyl methacrylate	0.381	0.407	-6.8	94	0.00	12.94
94	M	1,1,2-trichloroethane	0.229	0.250	-9.2	95	0.00	13.22
95	M	2-hexanone	0.110	0.120	-9.1	98	0.00	13.38

Initial Calibration Verification

Job Number: JB96432 **Sample:** VU8988-ICV8988
Account: AMANYWP Anderson, Mulholland & Associates **Lab FileID:** U194827.D
Project: BMSMC, Building 5 Area, PR

96	I	chlorobenzene-d5	1.000	1.000	0.0	101	0.00	14.33
97	M	cyclohexanone	0.036	0.014	61.1#	41#	0.00	15.59
98	M	tetrachloroethene	0.359	0.394	-9.7	96	0.00	13.38
99	M	1,3-dichloropropane	0.501	0.558	-11.4	96	0.00	13.41
100	M	butyl acetate	0.212	0.226	-6.6	95	0.00	13.44
101	M	dibromochloromethane	0.400	0.450	-12.5	95	0.00	13.70
102	M	1,2-dibromoethane	0.330	0.364	-10.3	96	0.00	13.87
103		3,3-dimethyl-1-Butanol	0.034	0.034	0.0	87	0.00	13.57
104		n-butyl ether	1.504	1.888	-25.5	109	0.00	14.21
105	M	chlorobenzene	1.014	1.129	-11.3	97	0.00	14.36
106	M	1,1,1,2-tetrachloroethane	0.384	0.423	-10.2	96	0.00	14.42
107	M	ethylbenzene	1.689	1.844	-9.2	96	0.00	14.41
108	M	m,p-xylene	0.662	0.742	-12.1	97	0.00	14.52
109	M	o-xylene	0.652	0.728	-11.7	97	0.00	14.99
110	M	styrene	1.119	1.251	-11.8	97	0.00	15.00
111	M	bromoform	0.312	0.340	-9.0	95	0.00	15.32
112	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	98	0.00	16.90
113	M	isopropylbenzene	3.066	3.550	-15.8	97	0.00	15.36
114	S	4-bromofluorobenzene (s)	0.886	0.915	-3.3	102	0.00	15.60
115	M	bromobenzene	0.877	1.022	-16.5	98	0.00	15.83
116	M	1,1,2,2-tetrachloroethane	0.733	0.802	-9.4	93	0.00	15.72
117	M	trans-1,4-dichloro-2-bute	0.211	0.239	-13.3	98	0.00	15.77
118	M	1,2,3-trichloropropane	0.211	0.228	-8.1	95	0.00	15.81
119	M	n-propylbenzene	3.465	4.209	-21.5	103	0.00	15.81
120	M	2-chlorotoluene	0.789	0.899	-13.9	98	0.00	15.99
121	M	4-chlorotoluene	2.209	2.518	-14.0	98	0.00	16.10
122		p-Ethyltoluene		----------NA----------				
123	M	1,3,5-trimethylbenzene	2.614	3.002	-14.8	97	0.00	15.98
124	M	tert-butylbenzene	2.321	2.735	-17.8	99	0.00	16.37
125	M	pentachloroethane	0.526	0.609	-15.8	98	0.00	16.48
126	M	1,2,4-trimethylbenzene	2.560	3.049	-19.1	102	0.00	16.42
127		1,2,3-trimethylbenzene		----------NA----------				
128	M	sec-butylbenzene	3.327	3.895	-17.1	99	0.00	16.61
129	M	1,3-dichlorobenzene	1.636	1.785	-9.1	92	0.00	16.84
130	M	p-isopropyltoluene	2.924	3.463	-18.4	100	0.00	16.73
131	M	1,4-dichlorobenzene	1.654	1.815	-9.7	93	0.00	16.93
132	M	benzyl chloride	1.545	1.807	-17.0	104	0.00	17.06
133	M	1,2-dichlorobenzene	1.507	1.720	-14.1	94	0.00	17.37
134		p-Diethylbenzene		----------NA----------				
135	M	n-butylbenzene	1.374	1.617	-17.7	99	0.00	17.19
136		1,2,4,5-Tetramethylbenzen		----------NA----------				
137	M	1,2-dibromo-3-chloropropa	0.182	0.201	-10.4	96	0.00	18.23
138		1,3,5-trichlorobenzene	1.325	1.569	-18.4	98	0.00	18.42
139	M	1,2,4-trichlorobenzene	1.128	1.351	-19.8	97	0.00	19.15
140	M	hexachlorobutadiene	0.675	0.793	-17.5	98	0.00	19.26
141	M	naphthalene	2.159	2.501	-15.8	95	0.00	19.48
142		INDANE	0.000	0.000	0.0	98	0.00	16.90
143	M	1,2,3-trichlorobenzene	0.988	1.114	-12.8	95	0.00	19.76
144	M	hexachloroethane	0.585	0.671	-14.7	97	0.00	17.65
145	M	MMT		----------NA----------				
146	M	Bis(chloromethyl)ether		----------NA----------				
147	M	Ethylenimine		----------NA----------				

(#) = Out of Range SPCC's out = 0 CCC's out = 0
u194822.D MU8988.M Mon May 04 09:50:14 2015 U_CORE

Continuing Calibration Summary

Job Number: JB96432 **Sample:** VU9037-CC8988
Account: AMANYWP Anderson, Mulholland & Associates **Lab FileID:** U195952.D
Project: BMSMC, Building 5 Area, PR

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\u195952.D                    Vial: 26
Acq On    : 10 Jun 2015   9:16 pm                     Operator: NicoleH1
Sample    : cc8988-50                                 Inst    : MSU
Misc      : ms86318,vu9037,5.0,,,,1                   Multiplr: 1.00
MS Integration Params: rtenox2.p

Method       : C:\MSDCHEM\1\METHODS\MU8988.M (RTE Integrator)
Title        : SW-846  8260B, ZB624  60m x 250um x 1.40um
Last Update  : Mon May 04 09:25:27 2015
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  20%     Max. Rel. Area : 200%
```

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	Tert Butyl Alcohol-d9	1.000	1.000	0.0	112	0.00	7.88
2	M	tertiary butyl alcohol	1.120	1.211	-8.1	111	0.00	7.99
3		Ethanol		----------NA----------				
4	m	1,4-dioxane	0.101	0.112	-10.9	117	0.00	11.74
5	I	pentafluorobenzene	1.000	1.000	0.0	119	0.00	10.08
6	M	freon 115		----------NA----------				
7	M	freon 23		----------NA----------				
8	M	freon 143A		----------NA----------				
9	M	freon 152A		----------NA----------				
10	M	chlorotrifluoroethene		----------NA----------				
11	M	chlorodifluoromethane	0.355	0.355	0.0	107	0.00	4.40
12	M	dichlorodifluoromethane	0.392	0.413	-5.4	113	0.00	4.37
13	M	freon 142B		----------NA----------				
14	M	freon 114		----------NA----------				
15	M	chloromethane	0.431	0.414	3.9	109	0.00	4.78
16	M	vinyl chloride	0.399	0.411	-3.0	114	0.00	5.04
17	M	acetaldehyde		----------NA----------				
18	M	bromomethane	0.294	0.315	-7.1	124	0.00	5.71
19	M	chloroethane	0.203	0.227	-11.8	121	0.00	5.89
		----------	True	Calc.	% Drift	----------		
20	M	trichlorofluoromethane	50.000	49.735	0.5	120	0.00	6.32
		----------	AvgRF	CCRF	% Dev	----------		
21	M	pentane		----------NA----------				
22	M	freon 123A		----------NA----------				
23	M	ethyl ether	0.188	0.171	9.0	98	0.00	6.76
24		2-CHLOROPROPANE	0.621	0.537	13.5	97	0.00	6.97
25	M	freon 141B		----------NA----------				
26	M	freon 123		----------NA----------				
27	M	acrolein	0.057	0.053	7.0	106	0.00	7.05
28	M	1,1-dichloroethene	0.312	0.290	7.1	98	0.00	7.20
29	M	acetone	0.028	0.027	3.6	104	0.00	7.27
30	M	allyl chloride	0.178	0.167	6.2	98	0.00	7.74
31	M	acetonitrile	0.024	0.025	-4.2	107	0.00	7.74
32	M	iodomethane	0.618	0.611	1.1	99	0.00	7.50
33	M	carbon disulfide	1.009	0.873	13.5	87	0.00	7.62
34		1-CHLOROPROPANE	0.029	0.028	3.4	105	0.00	7.96
35	M	methylene chloride	0.395	0.340	13.9	102	0.00	7.94
36	M	methyl acetate	0.258	0.236	8.5	107	0.00	7.72
37	M	methyl tert butyl ether	0.981	0.963	1.8	103	0.00	8.23

Continuing Calibration Summary

Job Number: JB96432 **Sample:** VU9037-CC8988
Account: AMANYWP Anderson, Mulholland & Associates **Lab FileID:** U195952.D
Project: BMSMC, Building 5 Area, PR

38	M	trans-1,2-dichloroethene	0.350	0.343	2.0	104	0.00	8.30
39	M	di-isopropyl ether	1.070	1.038	3.0	103	0.00	8.80
40	M	ethyl tert-butyl ether	1.044	1.081	-3.5	107	0.00	9.27
41	M	2-butanone	0.039	0.040	-2.6	110	0.00	9.56
42	M	1,1-dichloroethane	0.590	0.592	-0.3	102	0.00	8.87
43	M	chloroprene	0.487	0.511	-4.9	108	0.00	8.96
44	M	acrylonitrile	0.106	0.103	2.8	101	0.00	8.28
45	M	vinyl acetate	0.062	0.061	1.6	104	0.00	8.83
46	M	ethyl acetate	0.046	0.042	8.7	100	0.00	9.56
47	M	2,2-dichloropropane	0.515	0.508	1.4	105	0.00	9.59
48	M	cis-1,2-dichloroethene	0.386	0.393	-1.8	107	0.00	9.59
49	M	methyl acrylate	0.054	0.053	1.9	107	0.00	9.64
50	M	propionitrile	0.043	0.042	2.3	103	0.00	9.68
51	M	bromochloromethane	0.196	0.213	-8.7	112	0.00	9.91
52	M	tetrahydrofuran	0.120	0.106	11.7	99	0.00	9.94
53	M	chloroform	0.614	0.644	-4.9	112	0.00	9.96
54		tert-butyl Formate	0.300	0.303	-1.0	103	0.00	9.98
55	M	iso-butyl alcohol	0.017	0.014	17.6	101	0.00	10.37
56	S	dibromofluoromethane (s)	0.340	0.352	-3.5	122	0.00	10.16
57	S	1,2-dichloroethane-d4 (s)	0.360	0.370	-2.8	122	0.00	10.58
58	M	freon 113	0.257	0.302	-17.5	121	0.00	7.16
59	M	methacrylonitrile	0.207	0.184	11.1	99	0.00	9.85
60	M	1,1,1-trichloroethane	0.524	0.575	-9.7	113	0.00	10.20
61	M	tert amyl alcohol		----------NA----------				
62	M	tert-amyl methyl ether	0.253	0.258	-2.0	111	0.00	10.65
63		iso-octane		----------NA----------				
64	I	1,4-difluorobenzene	1.000	1.000	0.0	115	0.00	11.00
65	M	Di-isobutylene		----------NA----------				
66	M	epichlorohydrin	0.029	0.025	13.8	93	0.00	12.30
67	M	n-butyl alcohol	0.008	0.008	0.0	97	0.00	11.12
68	M	Cyclohexane	0.436	0.447	-2.5	105	0.00	10.26
69	M	carbon tetrachloride	0.413	0.482	-16.7	114	0.00	10.40
70	M	1,1-dichloropropene	0.393	0.426	-8.4	107	0.00	10.37
71	M	hexane	0.329	0.376	-14.3	111	0.00	8.56
72	M	benzene	1.207	1.212	-0.4	105	0.00	10.64
73	M	heptane	0.205	0.214	-4.4	104	0.00	10.76
74	M	isopropyl acetate	0.544	0.517	5.0	104	0.00	10.53
75	M	1,2-dichloroethane	0.376	0.435	-15.7	114	0.00	10.67
76	M	ethyl acrylate		----------NA----------				
77		tert amyl ethyl ether		----------NA----------				
78	M	trichloroethene	0.314	0.341	-8.6	108	0.00	11.34
79	M	methylcyclohexane	0.475	0.546	-14.9	110	0.00	11.55
80	M	2-nitropropane	0.115	0.129	-12.2	120	0.00	12.15
81	M	2-chloroethyl vinyl ether	0.163	0.163	0.0	102	0.00	12.15
82	M	methyl methacrylate	0.083	0.084	-1.2	104	0.00	11.59
83	M	1,2-dichloropropane	0.296	0.315	-6.4	106	0.00	11.63
84	M	propyl acetate	0.059	0.059	0.0	108	0.00	11.63
85	M	dibromomethane	0.193	0.215	-11.4	114	0.00	11.80
86	M	bromodichloromethane	0.415	0.471	-13.5	112	0.00	11.92
87	M	cis-1,3-dichloropropene	0.506	0.555	-9.7	106	0.00	12.38
88	S	toluene-d8 (s)	1.143	1.148	-0.4	115	0.00	12.68
89	M	4-methyl-2-pentanone	0.112	0.116	-3.6	106	0.00	12.47
90	M	toluene	0.773	0.827	-7.0	107	0.00	12.76
91	M	3-methyl-1-butanol	0.014	0.014	0.0	100	0.00	12.49
92	M	trans-1,3-dichloropropene	0.462	0.528	-14.3	109	0.00	12.98
93	M	ethyl methacrylate	0.381	0.406	-6.6	106	0.00	12.94
94	M	1,1,2-trichloroethane	0.229	0.257	-12.2	112	0.00	13.22
95	M	2-hexanone	0.110	0.113	-2.7	106	0.00	13.38

Continuing Calibration Summary

Job Number: JB96432 **Sample:** VU9037-CC8988
Account: AMANYWP Anderson, Mulholland & Associates **Lab FileID:** U195952.D
Project: BMSMC, Building 5 Area, PR

96	I	chlorobenzene-d5	1.000	1.000	0.0	116	0.00	14.32
97	M	cyclohexanone	0.036	0.027	25.0#	88	0.00	15.58
98	M	tetrachloroethene	0.359	0.407	-13.4	115	0.00	13.38
99	M	1,3-dichloropropane	0.501	0.548	-9.4	109	0.00	13.41
100	M	butyl acetate	0.212	0.205	3.3	100	0.00	13.44
101	M	dibromochloromethane	0.400	0.477	-19.2	116	0.00	13.70
102	M	1,2-dibromoethane	0.330	0.369	-11.8	113	0.00	13.87
103		3,3-dimethyl-1-Butanol	0.034	0.036	-5.9	104	0.00	13.56
104		n-butyl ether	1.504	1.564	-4.0	104	0.00	14.21
105	M	chlorobenzene	1.014	1.135	-11.9	112	0.00	14.36
106	M	1,1,1,2-tetrachloroethane	0.384	0.452	-17.7	118	0.00	14.42
107	M	ethylbenzene	1.689	1.845	-9.2	111	0.00	14.40
108	M	m,p-xylene	0.662	0.742	-12.1	112	0.00	14.52
109	M	o-xylene	0.652	0.743	-14.0	114	0.00	14.99
110	M	styrene	1.119	1.254	-12.1	112	0.00	15.00
111	M	bromoform	0.312	0.377	-20.8#	121	0.00	15.32
112	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	121	0.00	16.90
113	M	isopropylbenzene	3.066	3.345	-9.1	113	0.00	15.36
114	S	4-bromofluorobenzene (s)	0.886	0.842	5.0	116	0.00	15.60
115	M	bromobenzene	0.877	1.008	-14.9	119	0.00	15.82
116	M	1,1,2,2-tetrachloroethane	0.733	0.817	-11.5	116	0.00	15.72
117	M	trans-1,4-dichloro-2-bute	0.211	0.203	3.8	103	0.00	15.76
118	M	1,2,3-trichloropropane	0.211	0.233	-10.4	119	0.00	15.81
119	M	n-propylbenzene	3.465	3.743	-8.0	112	0.00	15.81
120	M	2-chlorotoluene	0.789	0.874	-10.8	117	0.00	15.99
121	M	4-chlorotoluene	2.209	2.337	-5.8	112	0.00	16.10
122		p-Ethyltoluene		----------NA----------				
123	M	1,3,5-trimethylbenzene	2.614	2.820	-7.9	113	0.00	15.98
124	M	tert-butylbenzene	2.321	2.508	-8.1	112	0.00	16.37
125	M	pentachloroethane	0.526	0.603	-14.6	120	0.00	16.48
126	M	1,2,4-trimethylbenzene	2.560	2.762	-7.9	113	0.00	16.42
127		1,2,3-trimethylbenzene		----------NA----------				
128	M	sec-butylbenzene	3.327	3.658	-9.9	114	0.00	16.60
129	M	1,3-dichlorobenzene	1.636	1.854	-13.3	118	0.00	16.84
130	M	p-isopropyltoluene	2.924	3.193	-9.2	114	0.00	16.73
131	M	1,4-dichlorobenzene	1.654	1.851	-11.9	117	0.00	16.93
132	M	benzyl chloride	1.545	1.459	5.6	103	0.00	17.06
133	M	1,2-dichlorobenzene	1.507	1.743	-15.7	118	0.00	17.37
134		p-Diethylbenzene		----------NA----------				
135	M	n-butylbenzene	1.374	1.471	-7.1	111	0.00	17.19
136		1,2,4,5-Tetramethylbenzen		----------NA----------				
137	M	1,2-dibromo-3-chloropropa	0.182	0.194	-6.6	115	0.00	18.23
138		1,3,5-trichlorobenzene	1.325	1.509	-13.9	116	0.00	18.41
139	M	1,2,4-trichlorobenzene	1.128	1.287	-14.1	114	0.00	19.15
140	M	hexachlorobutadiene	0.675	0.760	-12.6	116	0.00	19.26
141	M	naphthalene	2.159	2.300	-6.5	107	0.00	19.48
142		INDANE		----------NA----------				
143	M	1,2,3-trichlorobenzene	0.988	1.093	-10.6	115	0.00	19.76
144	M	hexachloroethane	0.585	0.662	-13.2	118	0.00	17.65
145	M	MMT		----------NA----------				
146	M	Bis(chloromethyl)ether		----------NA----------				
147	M	Ethylenimine		----------NA----------				

(#) = Out of Range SPCC's out = 0 CCC's out = 0
u194822.D MU8988.M Thu Jun 11 12:59:30 2015 U_CORE

Continuing Calibration Summary

Job Number: JB96432 **Sample:** VU9038-CC8988
Account: AMANYWP Anderson, Mulholland & Associates **Lab FileID:** U195980.D
Project: BMSMC, Building 5 Area, PR

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\u195980.D                    Vial: 3
Acq On    : 11 Jun 2015  11:23 am                     Operator: NicoleH1
Sample    : cc8988-20                                 Inst    : MSU
Misc      : ms86316,vu9038,5.0,,,,1                   Multiplr: 1.00
MS Integration Params: rtenox2.p

Method       : C:\MSDCHEM\1\METHODS\MU8988.M (RTE Integrator)
Title        : SW-846  8260B, ZB624  60m x 250um x 1.40um
Last Update  : Mon May 04 09:25:27 2015
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  20%     Max. Rel. Area : 200%
```

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	Tert Butyl Alcohol-d9	1.000	1.000	0.0	116	0.00	7.88
2	M	tertiary butyl alcohol	1.120	1.177	-5.1	111	0.00	7.99
3		Ethanol		----------NA----------				
4	m	1,4-dioxane	0.101	0.110	-8.9	117	0.00	11.74
5	I	pentafluorobenzene	1.000	1.000	0.0	126	0.00	10.08
6	M	freon 115		----------NA----------				
7	M	freon 23		----------NA----------				
8	M	freon 143A		----------NA----------				
9	M	freon 152A		----------NA----------				
10	M	chlorotrifluoroethene		----------NA----------				
11	M	chlorodifluoromethane	0.355	0.342	3.7	122	0.00	4.40
12	M	dichlorodifluoromethane	0.392	0.385	1.8	123	0.00	4.37
13	M	freon 142B		----------NA----------				
14	M	freon 114		----------NA----------				
15	M	chloromethane	0.431	0.430	0.2	119	0.00	4.78
16	M	vinyl chloride	0.399	0.422	-5.8	126	0.00	5.05
17	M	acetaldehyde		----------NA----------				
18	M	bromomethane	0.294	0.323	-9.9	132	0.00	5.72
19	M	chloroethane	0.203	0.224	-10.3	127	0.02	5.90
		----------	True	Calc.	% Drift	----------		
20	M	trichlorofluoromethane	20.000	20.080	-0.4	136	0.00	6.33
		----------	AvgRF	CCRF	% Dev	----------		
21	M	pentane		----------NA----------				
22	M	freon 123A		----------NA----------				
23	M	ethyl ether	0.188	0.178	5.3	113	0.00	6.76
24		2-CHLOROPROPANE	0.621	0.593	4.5	122	0.00	6.98
25	M	freon 141B		----------NA----------				
26	M	freon 123		----------NA----------				
27	M	acrolein	0.057	0.051	10.5	108	0.00	7.06
28	M	1,1-dichloroethene	0.312	0.317	-1.6	121	0.00	7.21
29	M	acetone	0.028	0.025	10.7	108	0.00	7.27
30	M	allyl chloride	0.178	0.171	3.9	112	0.00	7.74
31	M	acetonitrile	0.024	0.023	4.2	119	0.00	7.73
32	M	iodomethane	0.618	0.677	-9.5	124	0.00	7.51
33	M	carbon disulfide	1.009	1.055	-4.6	119	0.00	7.62
34		1-CHLOROPROPANE	0.029	0.028	3.4	111	0.00	7.96
35	M	methylene chloride	0.395	0.349	11.6	115	0.00	7.94
36	M	methyl acetate	0.258	0.221	14.3	105	0.00	7.72
37	M	methyl tert butyl ether	0.981	0.973	0.8	113	0.00	8.23

Continuing Calibration Summary

Job Number: JB96432 **Sample:** VU9038-CC8988
Account: AMANYWP Anderson, Mulholland & Associates **Lab FileID:** U195980.D
Project: BMSMC, Building 5 Area, PR

38	M	trans-1,2-dichloroethene	0.350	0.358	-2.3	120	0.00	8.30
39	M	di-isopropyl ether	1.070	0.960	10.3	105	0.00	8.80
40	M	ethyl tert-butyl ether	1.044	0.990	5.2	108	0.00	9.27
41	M	2-butanone	0.039	0.037	5.1	110	0.00	9.56
42	M	1,1-dichloroethane	0.590	0.609	-3.2	116	0.00	8.87
43	M	chloroprene	0.487	0.474	2.7	114	0.00	8.97
44	M	acrylonitrile	0.106	0.100	5.7	108	0.00	8.28
45	M	vinyl acetate	0.062	0.055	11.3	107	0.00	8.84
46	M	ethyl acetate	0.046	0.038	17.4	100	0.00	9.56
47	M	2,2-dichloropropane	0.515	0.558	-8.3	128	0.00	9.59
48	M	cis-1,2-dichloroethene	0.386	0.389	-0.8	118	0.00	9.60
49	M	methyl acrylate	0.054	0.050	7.4	113	0.00	9.64
50	M	propionitrile	0.043	0.040	7.0	107	0.00	9.68
51	M	bromochloromethane	0.196	0.208	-6.1	123	0.00	9.91
52	M	tetrahydrofuran	0.120	0.104	13.3	105	0.00	9.94
53	M	chloroform	0.614	0.623	-1.5	120	0.00	9.96
54		tert-butyl Formate	0.300	0.276	8.0	105	0.00	9.98
55	M	iso-butyl alcohol	0.017	0.013	23.5#	103	0.00	10.37
56	S	dibromofluoromethane (s)	0.340	0.347	-2.1	128	0.00	10.16
57	S	1,2-dichloroethane-d4 (s)	0.360	0.365	-1.4	127	0.00	10.58
58	M	freon 113	0.257	0.271	-5.4	136	0.00	7.16
59	M	methacrylonitrile	0.207	0.172	16.9	103	0.00	9.85
60	M	1,1,1-trichloroethane	0.524	0.567	-8.2	125	0.00	10.20
61	M	tert amyl alcohol		----------NA----------				
62	M	tert-amyl methyl ether	0.253	0.238	5.9	113	0.00	10.64
63		iso-octane		----------NA----------				
64	I	1,4-difluorobenzene	1.000	1.000	0.0	122	0.00	11.00
65	M	Di-isobutylene		----------NA----------				
66	M	epichlorohydrin	0.029	0.024	17.2	94	0.00	12.30
67	M	n-butyl alcohol	0.008	0.007	12.5	95	0.00	11.12
68	M	Cyclohexane	0.436	0.449	-3.0	125	0.00	10.26
69	M	carbon tetrachloride	0.413	0.479	-16.0	129	0.00	10.40
70	M	1,1-dichloropropene	0.393	0.426	-8.4	121	0.00	10.37
71	M	hexane	0.329	0.347	-5.5	130	0.01	8.57
72	M	benzene	1.207	1.203	0.3	114	0.00	10.64
73	M	heptane	0.205	0.193	5.9	124	0.00	10.76
74	M	isopropyl acetate		----------NA----------				
75	M	1,2-dichloroethane	0.376	0.427	-13.6	122	0.00	10.67
76	M	ethyl acrylate		----------NA----------				
77		tert amyl ethyl ether		----------NA----------				
78	M	trichloroethene	0.314	0.334	-6.4	117	0.00	11.34
79	M	methylcyclohexane	0.475	0.490	-3.2	123	0.00	11.55
80	M	2-nitropropane	0.115	0.117	-1.7	119	0.00	12.16
81	M	2-chloroethyl vinyl ether	0.163	0.141	13.5	103	0.00	12.14
82	M	methyl methacrylate	0.083	0.079	4.8	107	0.00	11.60
83	M	1,2-dichloropropane	0.296	0.304	-2.7	112	0.00	11.63
84	M	propyl acetate	0.059	0.057	3.4	111	0.00	11.64
85	M	dibromomethane	0.193	0.207	-7.3	121	0.00	11.80
86	M	bromodichloromethane	0.415	0.438	-5.5	116	0.00	11.92
87	M	cis-1,3-dichloropropene	0.506	0.526	-4.0	112	0.00	12.39
88	S	toluene-d8 (s)	1.143	1.142	0.1	121	0.00	12.68
89	M	4-methyl-2-pentanone	0.112	0.108	3.6	108	0.00	12.47
90	M	toluene	0.773	0.793	-2.6	115	0.00	12.76
91	M	3-methyl-1-butanol	0.014	0.013	7.1	99	0.00	12.49
92	M	trans-1,3-dichloropropene	0.462	0.495	-7.1	114	0.00	12.98
93	M	ethyl methacrylate	0.381	0.368	3.4	106	0.00	12.94
94	M	1,1,2-trichloroethane	0.229	0.239	-4.4	114	0.00	13.22
95	M	2-hexanone	0.110	0.102	7.3	103	0.00	13.38

Continuing Calibration Summary

Job Number: JB96432 **Sample:** VU9038-CC8988
Account: AMANYWP Anderson, Mulholland & Associates **Lab FileID:** U195980.D
Project: BMSMC, Building 5 Area, PR

96	I	chlorobenzene-d5	1.000	1.000	0.0	121	0.00	14.32
97	M	cyclohexanone	0.036	0.030	16.7	107	0.00	15.58
98	M	tetrachloroethene	0.359	0.391	-8.9	121	0.00	13.38
99	M	1,3-dichloropropane	0.501	0.516	-3.0	111	0.00	13.41
100	M	butyl acetate	0.212	0.197	7.1	103	0.00	13.44
101	M	dibromochloromethane	0.400	0.432	-8.0	117	0.00	13.70
102	M	1,2-dibromoethane	0.330	0.343	-3.9	115	0.00	13.87
103		3,3-dimethyl-1-Butanol	0.034	0.032	5.9	100	0.00	13.56
104		n-butyl ether	1.504	1.473	2.1	108	0.00	14.22
105	M	chlorobenzene	1.014	1.084	-6.9	117	0.00	14.36
106	M	1,1,1,2-tetrachloroethane	0.384	0.421	-9.6	120	0.00	14.42
107	M	ethylbenzene	1.689	1.766	-4.6	117	0.00	14.40
108	M	m,p-xylene	0.662	0.706	-6.6	117	0.00	14.52
109	M	o-xylene	0.652	0.695	-6.6	115	0.00	14.98
110	M	styrene	1.119	1.145	-2.3	111	0.00	15.00
111	M	bromoform	0.312	0.328	-5.1	117	0.00	15.32
112	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	123	0.00	16.90
113	M	isopropylbenzene	3.066	3.173	-3.5	116	0.00	15.35
114	S	4-bromofluorobenzene (s)	0.886	0.853	3.7	118	0.00	15.60
115	M	bromobenzene	0.877	0.957	-9.1	121	0.00	15.83
116	M	1,1,2,2-tetrachloroethane	0.733	0.760	-3.7	117	0.00	15.72
117	M	trans-1,4-dichloro-2-bute	0.211	0.187	11.4	103	0.00	15.77
118	M	1,2,3-trichloropropane	0.211	0.217	-2.8	118	0.00	15.80
119	M	n-propylbenzene	3.465	3.567	-2.9	117	0.00	15.81
120	M	2-chlorotoluene	0.789	0.826	-4.7	119	0.00	15.99
121	M	4-chlorotoluene	2.209	2.223	-0.6	115	0.00	16.10
122		p-Ethyltoluene		----------NA----------				
123	M	1,3,5-trimethylbenzene	2.614	2.646	-1.2	114	0.00	15.97
124	M	tert-butylbenzene	2.321	2.397	-3.3	117	0.00	16.37
125	M	pentachloroethane	0.526	0.580	-10.3	127	0.00	16.48
126	M	1,2,4-trimethylbenzene	2.560	2.602	-1.6	115	0.00	16.42
127		1,2,3-trimethylbenzene		----------NA----------				
128	M	sec-butylbenzene	3.327	3.441	-3.4	117	0.00	16.60
129	M	1,3-dichlorobenzene	1.636	1.745	-6.7	120	0.00	16.83
130	M	p-isopropyltoluene	2.924	2.993	-2.4	116	0.00	16.73
131	M	1,4-dichlorobenzene	1.654	1.735	-4.9	118	0.00	16.93
132	M	benzyl chloride	1.545	1.581	-2.3	119	0.00	17.06
133	M	1,2-dichlorobenzene	1.507	1.614	-7.1	118	0.00	17.37
134		p-Diethylbenzene		----------NA----------				
135	M	n-butylbenzene	1.374	1.367	0.5	114	0.00	17.20
136		1,2,4,5-Tetramethylbenzen		----------NA----------				
137	M	1,2-dibromo-3-chloropropa	0.182	0.174	4.4	110	0.00	18.23
138		1,3,5-trichlorobenzene	1.325	1.412	-6.6	118	0.00	18.41
139	M	1,2,4-trichlorobenzene	1.128	1.163	-3.1	112	0.00	19.16
140	M	hexachlorobutadiene	0.675	0.714	-5.8	121	0.00	19.27
141	M	naphthalene	2.159	2.034	5.8	102	0.00	19.48
142		INDANE		----------NA----------				
143	M	1,2,3-trichlorobenzene	0.988	0.969	1.9	111	0.00	19.76
144	M	hexachloroethane	0.585	0.597	-2.1	118	0.00	17.65
145	M	MMT		----------NA----------				
146	M	Bis(chloromethyl)ether		----------NA----------				
147	M	Ethylenimine		----------NA----------				

(#) = Out of Range SPCC's out = 0 CCC's out = 0
u194821.D MU8988.M Thu Jun 11 17:16:07 2015 U_CORE

Continuing Calibration Summary

Job Number: JB96432 **Sample:** VU9040-CC8988
Account: AMANYWP Anderson, Mulholland & Associates **Lab FileID:** U196024.D
Project: BMSMC, Building 5 Area, PR

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\u196024.D                    Vial: 2
Acq On    : 12 Jun 2015   9:28 am                     Operator: NicoleH1
Sample    : cc8988-20                                 Inst    : MSU
Misc      : ms86419,vu9040,5.0,,,,1                   Multiplr: 1.00
MS Integration Params: rtenox2.p

Method       : C:\MSDCHEM\1\METHODS\MU8988.M (RTE Integrator)
Title        : SW-846  8260B, ZB624  60m x 250um x 1.40um
Last Update  : Mon May 04 09:25:27 2015
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  20%     Max. Rel. Area : 200%
```

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	Tert Butyl Alcohol-d9	1.000	1.000	0.0	107	-0.01	7.87
2	M	tertiary butyl alcohol	1.120	1.158	-3.4	101	-0.01	7.99
3		Ethanol		----------NA----------				
4	m	1,4-dioxane	0.101	0.111	-9.9	109	-0.01	11.73
5	I	pentafluorobenzene	1.000	1.000	0.0	113	0.00	10.07
6	M	freon 115		----------NA----------				
7	M	freon 23		----------NA----------				
8	M	freon 143A		----------NA----------				
9	M	freon 152A		----------NA----------				
10	M	chlorotrifluoroethene		----------NA----------				
11	M	chlorodifluoromethane	0.355	0.385	-8.5	124	0.01	4.41
12	M	dichlorodifluoromethane	0.392	0.368	6.1	106	0.00	4.37
13	M	freon 142B		----------NA----------				
14	M	freon 114		----------NA----------				
15	M	chloromethane	0.431	0.462	-7.2	115	0.00	4.76
16	M	vinyl chloride	0.399	0.443	-11.0	119	0.00	5.05
17	M	acetaldehyde		----------NA----------				
18	M	bromomethane	0.294	0.344	-17.0	127	0.00	5.72
19	M	chloroethane	0.203	0.235	-15.8	120	0.01	5.89
		----------	True	Calc.	% Drift	----------		
20	M	trichlorofluoromethane	20.000	19.680	1.6	119	0.00	6.32
		----------	AvgRF	CCRF	% Dev	----------		
21	M	pentane		----------NA----------				
22	M	freon 123A		----------NA----------				
23	M	ethyl ether	0.188	0.177	5.9	101	0.00	6.76
24		2-CHLOROPROPANE	0.621	0.594	4.3	110	0.00	6.98
25	M	freon 141B		----------NA----------				
26	M	freon 123		----------NA----------				
27	M	acrolein	0.057	0.050	12.3	95	0.00	7.05
28	M	1,1-dichloroethene	0.312	0.318	-1.9	109	0.00	7.20
29	M	acetone	0.028	0.027	3.6	108	0.00	7.28
30	M	allyl chloride	0.178	0.187	-5.1	110	0.00	7.74
31	M	acetonitrile	0.024	0.023	4.2	107	0.00	7.73
32	M	iodomethane	0.618	0.703	-13.8	116	0.00	7.50
33	M	carbon disulfide	1.009	1.094	-8.4	111	0.00	7.62
34		1-CHLOROPROPANE	0.029	0.027	6.9	98	0.00	7.96
35	M	methylene chloride	0.395	0.360	8.9	107	0.00	7.94
36	M	methyl acetate	0.258	0.220	14.7	94	0.00	7.71
37	M	methyl tert butyl ether	0.981	0.973	0.8	102	0.00	8.23

Continuing Calibration Summary

Job Number: JB96432 **Sample:** VU9040-CC8988
Account: AMANYWP Anderson, Mulholland & Associates **Lab FileID:** U196024.D
Project: BMSMC, Building 5 Area, PR

38	M	trans-1,2-dichloroethene	0.350	0.360	-2.9	108	0.00	8.30
39	M	di-isopropyl ether	1.070	0.987	7.8	97	0.00	8.80
40	M	ethyl tert-butyl ether	1.044	1.024	1.9	100	0.00	9.26
41	M	2-butanone	0.039	0.038	2.6	99	0.00	9.56
42	M	1,1-dichloroethane	0.590	0.613	-3.9	105	0.00	8.86
43	M	chloroprene	0.487	0.470	3.5	102	0.00	8.96
44	M	acrylonitrile	0.106	0.098	7.5	94	0.00	8.27
45	M	vinyl acetate	0.062	0.056	9.7	97	0.00	8.83
46	M	ethyl acetate	0.046	0.037	19.6	87	0.00	9.55
47	M	2,2-dichloropropane	0.515	0.568	-10.3	117	0.00	9.59
48	M	cis-1,2-dichloroethene	0.386	0.389	-0.8	106	0.00	9.59
49	M	methyl acrylate	0.054	0.045	16.7	93	0.00	9.65
50	M	propionitrile	0.043	0.040	7.0	95	0.00	9.68
51	M	bromochloromethane	0.196	0.210	-7.1	111	0.00	9.91
52	M	tetrahydrofuran	0.120	0.098	18.3	89	0.00	9.93
53	M	chloroform	0.614	0.626	-2.0	108	0.00	9.95
54		tert-butyl Formate	0.300	0.279	7.0	96	0.00	9.98
55	M	iso-butyl alcohol	0.017	0.013	23.5#	87	-0.01	10.37
56	S	dibromofluoromethane (s)	0.340	0.352	-3.5	117	0.00	10.16
57	S	1,2-dichloroethane-d4 (s)	0.360	0.363	-0.8	114	0.00	10.58
58	M	freon 113	0.257	0.290	-12.8	131	0.00	7.16
59	M	methacrylonitrile	0.207	0.166	19.8	90	0.00	9.85
60	M	1,1,1-trichloroethane	0.524	0.571	-9.0	113	0.00	10.20
61	M	tert amyl alcohol		----------NA----------				
62	M	tert-amyl methyl ether	0.253	0.241	4.7	103	0.00	10.64
63		iso-octane		----------NA----------				
64	I	1,4-difluorobenzene	1.000	1.000	0.0	110	0.00	10.99
65	M	Di-isobutylene		----------NA----------				
66	M	epichlorohydrin	0.029	0.023	20.7#	82	0.00	12.30
67	M	n-butyl alcohol	0.008	0.008	0.0	89	0.00	11.12
68	M	Cyclohexane	0.436	0.451	-3.4	114	0.00	10.26
69	M	carbon tetrachloride	0.413	0.482	-16.7	117	0.00	10.39
70	M	1,1-dichloropropene	0.393	0.421	-7.1	108	0.00	10.37
71	M	hexane	0.329	0.340	-3.3	115	0.00	8.56
72	M	benzene	1.207	1.204	0.2	103	0.00	10.64
73	M	heptane	0.205	0.193	5.9	112	0.00	10.76
74	M	isopropyl acetate	0.544	0.468	14.0	89	0.00	10.53
75	M	1,2-dichloroethane	0.376	0.424	-12.8	109	0.00	10.67
76	M	ethyl acrylate		----------NA----------				
77		tert amyl ethyl ether		----------NA----------				
78	M	trichloroethene	0.314	0.335	-6.7	105	0.00	11.34
79	M	methylcyclohexane	0.475	0.502	-5.7	114	0.00	11.55
80	M	2-nitropropane	0.115	0.111	3.5	102	0.00	12.15
81	M	2-chloroethyl vinyl ether	0.163	0.137	16.0	90	0.00	12.14
82	M	methyl methacrylate	0.083	0.076	8.4	94	0.00	11.60
83	M	1,2-dichloropropane	0.296	0.304	-2.7	101	0.00	11.63
84	M	propyl acetate	0.059	0.053	10.2	94	0.00	11.63
85	M	dibromomethane	0.193	0.204	-5.7	107	0.00	11.79
86	M	bromodichloromethane	0.415	0.437	-5.3	105	0.00	11.92
87	M	cis-1,3-dichloropropene	0.506	0.524	-3.6	101	0.00	12.39
88	S	toluene-d8 (s)	1.143	1.143	0.0	109	0.00	12.68
89	M	4-methyl-2-pentanone	0.112	0.100	10.7	89	0.00	12.47
90	M	toluene	0.773	0.795	-2.8	104	0.00	12.76
91	M	3-methyl-1-butanol	0.014	0.013	7.1	90	0.00	12.48
92	M	trans-1,3-dichloropropene	0.462	0.491	-6.3	102	0.00	12.97
93	M	ethyl methacrylate	0.381	0.346	9.2	90	0.00	12.94
94	M	1,1,2-trichloroethane	0.229	0.234	-2.2	101	0.00	13.21
95	M	2-hexanone	0.110	0.098	10.9	89	0.00	13.38

Continuing Calibration Summary

Job Number: JB96432 **Sample:** VU9040-CC8988
Account: AMANYWP Anderson, Mulholland & Associates **Lab FileID:** U196024.D
Project: BMSMC, Building 5 Area, PR

96	I	chlorobenzene-d5	1.000	1.000	0.0	112	0.00	14.32
97	M	cyclohexanone	0.036	0.030	16.7	101	0.00	15.58
98	M	tetrachloroethene	0.359	0.379	-5.6	109	0.00	13.38
99	M	1,3-dichloropropane	0.501	0.502	-0.2	100	0.00	13.41
100	M	butyl acetate	0.212	0.185	12.7	89	0.00	13.44
101	M	dibromochloromethane	0.400	0.419	-4.7	105	0.00	13.70
102	M	1,2-dibromoethane	0.330	0.336	-1.8	104	0.00	13.87
103		3,3-dimethyl-1-Butanol	0.034	0.032	5.9	92	0.00	13.56
104		n-butyl ether	1.504	1.430	4.9	97	0.00	14.21
105	M	chlorobenzene	1.014	1.068	-5.3	107	0.00	14.36
106	M	1,1,1,2-tetrachloroethane	0.384	0.422	-9.9	111	0.00	14.42
107	M	ethylbenzene	1.689	1.712	-1.4	105	0.00	14.40
108	M	m,p-xylene	0.662	0.692	-4.5	106	0.00	14.52
109	M	o-xylene	0.652	0.697	-6.9	107	0.00	14.98
110	M	styrene	1.119	1.136	-1.5	102	0.00	15.00
111	M	bromoform	0.312	0.319	-2.2	105	0.00	15.32
112	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	118	0.00	16.90
113	M	isopropylbenzene	3.066	3.081	-0.5	107	0.00	15.35
114	S	4-bromofluorobenzene (s)	0.886	0.820	7.4	108	0.00	15.60
115	M	bromobenzene	0.877	0.932	-6.3	112	0.00	15.83
116	M	1,1,2,2-tetrachloroethane	0.733	0.719	1.9	105	0.00	15.72
117	M	trans-1,4-dichloro-2-bute	0.211	0.175	17.1	91	0.00	15.76
118	M	1,2,3-trichloropropane	0.211	0.204	3.3	106	0.00	15.81
119	M	n-propylbenzene	3.465	3.483	-0.5	109	0.00	15.81
120	M	2-chlorotoluene	0.789	0.820	-3.9	113	0.00	15.99
121	M	4-chlorotoluene	2.209	2.182	1.2	107	0.00	16.10
122		p-Ethyltoluene		----------NA----------				
123	M	1,3,5-trimethylbenzene	2.614	2.615	-0.0	108	0.00	15.97
124	M	tert-butylbenzene	2.321	2.370	-2.1	110	0.00	16.36
125	M	pentachloroethane	0.526	0.578	-9.9	120	0.00	16.48
126	M	1,2,4-trimethylbenzene	2.560	2.577	-0.7	108	0.00	16.42
127		1,2,3-trimethylbenzene		----------NA----------				
128	M	sec-butylbenzene	3.327	3.370	-1.3	109	0.00	16.60
129	M	1,3-dichlorobenzene	1.636	1.743	-6.5	114	0.00	16.83
130	M	p-isopropyltoluene	2.924	2.945	-0.7	108	0.00	16.73
131	M	1,4-dichlorobenzene	1.654	1.731	-4.7	113	0.00	16.93
132	M	benzyl chloride	1.545	1.553	-0.5	112	0.00	17.06
133	M	1,2-dichlorobenzene	1.507	1.596	-5.9	111	0.00	17.37
134		p-Diethylbenzene		----------NA----------				
135	M	n-butylbenzene	1.374	1.366	0.6	109	0.00	17.19
136		1,2,4,5-Tetramethylbenzen		----------NA----------				
137	M	1,2-dibromo-3-chloropropa	0.182	0.164	9.9	99	0.00	18.23
138		1,3,5-trichlorobenzene	1.325	1.395	-5.3	112	0.00	18.41
139	M	1,2,4-trichlorobenzene	1.128	1.139	-1.0	104	0.00	19.15
140	M	hexachlorobutadiene	0.675	0.719	-6.5	116	0.00	19.26
141	M	naphthalene	2.159	1.925	10.8	92	0.00	19.48
142		INDANE	0.000	0.000	0.0	112	0.00	16.90
143	M	1,2,3-trichlorobenzene	0.988	0.952	3.6	104	0.00	19.76
144	M	hexachloroethane	0.585	0.601	-2.7	113	0.00	17.65
145	M	MMT		----------NA----------				
146	M	Bis(chloromethyl)ether		----------NA----------				
147	M	Ethylenimine		----------NA----------				

(#) = Out of Range SPCC's out = 0 CCC's out = 0
u194821.D MU8988.M Fri Jun 12 16:06:02 2015 U_CORE

Continuing Calibration Summary

Job Number: JB96432 **Sample:** VU9043-CC8988
Account: AMANYWP Anderson, Mulholland & Associates **Lab FileID:** U196107.D
Project: BMSMC, Building 5 Area, PR

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\u196107.D                    Vial: 2
Acq On    : 15 Jun 2015   9:18 am                     Operator: NicoleH1
Sample    : cc8988-20                                 Inst    : MSU
Misc      : ms86321,vu9043,5.0,,,,1                   Multiplr: 1.00
MS Integration Params: rtenox2.p

Method       : C:\MSDCHEM\1\METHODS\MU8988.M (RTE Integrator)
Title        : SW-846  8260B, ZB624  60m x 250um x 1.40um
Last Update  : Mon May 04 09:25:27 2015
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  20%     Max. Rel. Area : 200%
```

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	Tert Butyl Alcohol-d9	1.000	1.000	0.0	87	-0.01	7.87
2	M	tertiary butyl alcohol	1.120	1.146	-2.3	81	0.00	7.99
3		Ethanol		----------NA----------				
4	m	1,4-dioxane	0.101	0.101	0.0	81	0.00	11.74
5	I	pentafluorobenzene	1.000	1.000	0.0	110	0.00	10.08
6	M	freon 115		----------NA----------				
7	M	freon 23		----------NA----------				
8	M	freon 143A		----------NA----------				
9	M	freon 152A		----------NA----------				
10	M	chlorotrifluoroethene		----------NA----------				
11	M	chlorodifluoromethane	0.355	0.383	-7.9	119	0.00	4.40
12	M	dichlorodifluoromethane	0.392	0.387	1.3	108	0.00	4.37
13	M	freon 142B		----------NA----------				
14	M	freon 114		----------NA----------				
15	M	chloromethane	0.431	0.434	-0.7	105	0.00	4.77
16	M	vinyl chloride	0.399	0.414	-3.8	108	0.00	5.05
17	M	acetaldehyde		----------NA----------				
18	M	bromomethane	0.294	0.321	-9.2	115	0.00	5.72
19	M	chloroethane	0.203	0.225	-10.8	112	0.01	5.89
		----------	True	Calc.	% Drift	----------		
20	M	trichlorofluoromethane	20.000	19.173	4.1	113	0.00	6.33
		----------	AvgRF	CCRF	% Dev	----------		
21	M	pentane		----------NA----------				
22	M	freon 123A		----------NA----------				
23	M	ethyl ether	0.188	0.190	-1.1	105	0.00	6.76
24		2-CHLOROPROPANE	0.621	0.629	-1.3	113	0.00	6.98
25	M	freon 141B		----------NA----------				
26	M	freon 123		----------NA----------				
27	M	acrolein	0.057	0.048	15.8	90	0.00	7.06
28	M	1,1-dichloroethene	0.312	0.344	-10.3	115	0.00	7.20
29	M	acetone	0.028	0.026	7.1	100	-0.01	7.27
30	M	allyl chloride	0.178	0.195	-9.6	112	0.00	7.74
31	M	acetonitrile	0.024	0.024	0.0	105	0.00	7.74
32	M	iodomethane	0.618	0.741	-19.9	119	0.00	7.51
33	M	carbon disulfide	1.009	1.179	-16.8	116	0.00	7.63
34		1-CHLOROPROPANE	0.029	0.029	0.0	102	0.00	7.97
35	M	methylene chloride	0.395	0.386	2.3	111	0.00	7.94
36	M	methyl acetate	0.258	0.215	16.7	89	0.00	7.72
37	M	methyl tert butyl ether	0.981	1.038	-5.8	106	0.00	8.23

Continuing Calibration Summary

Job Number: JB96432 **Sample:** VU9043-CC8988
Account: AMANYWP Anderson, Mulholland & Associates **Lab FileID:** U196107.D
Project: BMSMC, Building 5 Area, PR

38	M	trans-1,2-dichloroethene	0.350	0.386	-10.3	113	0.00	8.30
39	M	di-isopropyl ether	1.070	0.995	7.0	95	0.00	8.80
40	M	ethyl tert-butyl ether	1.044	1.029	1.4	98	0.00	9.27
41	M	2-butanone	0.039	0.038	2.6	96	0.00	9.56
42	M	1,1-dichloroethane	0.590	0.661	-12.0	110	0.00	8.87
43	M	chloroprene	0.487	0.484	0.6	102	0.00	8.96
44	M	acrylonitrile	0.106	0.104	1.9	98	0.00	8.28
45	M	vinyl acetate	0.062	0.056	9.7	94	0.00	8.83
46	M	ethyl acetate	0.046	0.037	19.6	85	0.00	9.55
47	M	2,2-dichloropropane	0.515	0.612	-18.8	123	0.00	9.59
48	M	cis-1,2-dichloroethene	0.386	0.422	-9.3	112	0.00	9.60
49	M	methyl acrylate	0.054	0.051	5.6	102	0.00	9.65
50	M	propionitrile	0.043	0.040	7.0	93	0.00	9.68
51	M	bromochloromethane	0.196	0.226	-15.3	117	0.00	9.91
52	M	tetrahydrofuran	0.120	0.103	14.2	91	0.00	9.94
53	M	chloroform	0.614	0.672	-9.4	113	0.00	9.96
54		tert-butyl Formate	0.300	0.281	6.3	94	0.00	9.98
55	M	iso-butyl alcohol	0.017	0.011	35.3#	76	-0.01	10.37
56	S	dibromofluoromethane (s)	0.340	0.357	-5.0	115	0.00	10.16
57	S	1,2-dichloroethane-d4 (s)	0.360	0.364	-1.1	111	0.00	10.58
58	M	freon 113	0.257	0.299	-16.3	131	0.00	7.17
59	M	methacrylonitrile	0.207	0.178	14.0	93	0.00	9.85
60	M	1,1,1-trichloroethane	0.524	0.620	-18.3	120	0.00	10.20
61	M	tert amyl alcohol		----------NA----------				
62	M	tert-amyl methyl ether	0.253	0.244	3.6	102	0.00	10.65
63		iso-octane		----------NA----------				
64	I	1,4-difluorobenzene	1.000	1.000	0.0	108	0.00	11.00
65	M	Di-isobutylene		----------NA----------				
66	M	epichlorohydrin	0.029	0.022	24.1#	78	0.00	12.30
67	M	n-butyl alcohol	0.008	0.006	25.0#	68	0.00	11.12
68	M	Cyclohexane	0.436	0.486	-11.5	120	0.00	10.26
69	M	carbon tetrachloride	0.413	0.519	-25.7#	123	0.00	10.40
70	M	1,1-dichloropropene	0.393	0.452	-15.0	113	0.00	10.37
71	M	hexane	0.329	0.357	-8.5	119	0.00	8.56
72	M	benzene	1.207	1.288	-6.7	109	0.00	10.64
73	M	heptane	0.205	0.200	2.4	114	0.00	10.76
74	M	isopropyl acetate		----------NA----------				
75	M	1,2-dichloroethane	0.376	0.449	-19.4	114	0.00	10.67
76	M	ethyl acrylate		----------NA----------				
77		tert amyl ethyl ether		----------NA----------				
78	M	trichloroethene	0.314	0.350	-11.5	108	0.00	11.34
79	M	methylcyclohexane	0.475	0.508	-6.9	113	0.00	11.55
80	M	2-nitropropane	0.115	0.116	-0.9	105	0.00	12.15
81	M	2-chloroethyl vinyl ether	0.163	0.136	16.6	88	0.00	12.14
82	M	methyl methacrylate	0.083	0.081	2.4	98	0.00	11.60
83	M	1,2-dichloropropane	0.296	0.325	-9.8	106	0.00	11.63
84	M	propyl acetate	0.059	0.054	8.5	93	0.00	11.63
85	M	dibromomethane	0.193	0.218	-13.0	113	0.00	11.79
86	M	bromodichloromethane	0.415	0.468	-12.8	110	0.00	11.92
87	M	cis-1,3-dichloropropene	0.506	0.566	-11.9	107	0.00	12.38
88	S	toluene-d8 (s)	1.143	1.144	-0.1	107	0.00	12.68
89	M	4-methyl-2-pentanone	0.112	0.104	7.1	91	0.00	12.48
90	M	toluene	0.773	0.846	-9.4	108	0.00	12.76
91	M	3-methyl-1-butanol	0.014	0.010	28.6#	67	0.00	12.49
92	M	trans-1,3-dichloropropene	0.462	0.528	-14.3	108	0.00	12.98
93	M	ethyl methacrylate	0.381	0.372	2.4	95	0.00	12.94
94	M	1,1,2-trichloroethane	0.229	0.251	-9.6	106	0.00	13.21
95	M	2-hexanone	0.110	0.096	12.7	86	0.00	13.38

Continuing Calibration Summary

Job Number: JB96432 **Sample:** VU9043-CC8988
Account: AMANYWP Anderson, Mulholland & Associates **Lab FileID:** U196107.D
Project: BMSMC, Building 5 Area, PR

96	I	chlorobenzene-d5	1.000	1.000	0.0	110	0.00	14.32
97	M	cyclohexanone	0.036	0.023	36.1#	75	0.00	15.58
98	M	tetrachloroethene	0.359	0.402	-12.0	114	0.00	13.38
99	M	1,3-dichloropropane	0.501	0.538	-7.4	106	0.00	13.41
100	M	butyl acetate	0.212	0.182	14.2	86	0.00	13.44
101	M	dibromochloromethane	0.400	0.457	-14.2	113	0.00	13.70
102	M	1,2-dibromoethane	0.330	0.358	-8.5	109	0.00	13.87
103		3,3-dimethyl-1-Butanol	0.034	0.022	35.3#	63	0.00	13.56
104		n-butyl ether	1.504	1.517	-0.9	101	0.00	14.21
105	M	chlorobenzene	1.014	1.142	-12.6	112	0.00	14.36
106	M	1,1,1,2-tetrachloroethane	0.384	0.445	-15.9	115	0.00	14.42
107	M	ethylbenzene	1.689	1.828	-8.2	110	0.00	14.40
108	M	m,p-xylene	0.662	0.740	-11.8	112	0.00	14.52
109	M	o-xylene	0.652	0.733	-12.4	111	0.00	14.99
110	M	styrene	1.119	1.209	-8.0	107	0.00	15.00
111	M	bromoform	0.312	0.352	-12.8	114	0.00	15.32
112	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	116	0.00	16.90
113	M	isopropylbenzene	3.066	3.255	-6.2	111	0.00	15.36
114	S	4-bromofluorobenzene (s)	0.886	0.826	6.8	107	0.00	15.60
115	M	bromobenzene	0.877	0.992	-13.1	117	0.00	15.82
116	M	1,1,2,2-tetrachloroethane	0.733	0.769	-4.9	111	0.00	15.72
117	M	trans-1,4-dichloro-2-bute	0.211	0.221	-4.7	114	0.00	15.77
118	M	1,2,3-trichloropropane	0.211	0.218	-3.3	112	0.00	15.81
119	M	n-propylbenzene	3.465	3.670	-5.9	113	0.00	15.81
120	M	2-chlorotoluene	0.789	0.852	-8.0	115	0.00	15.99
121	M	4-chlorotoluene	2.209	2.298	-4.0	111	0.00	16.10
122		p-Ethyltoluene		----------NA----------				
123	M	1,3,5-trimethylbenzene	2.614	2.744	-5.0	111	0.00	15.98
124	M	tert-butylbenzene	2.321	2.760	-18.9	127	0.00	16.37
125	M	pentachloroethane	0.526	0.605	-15.0	124	0.00	16.48
126	M	1,2,4-trimethylbenzene	2.560	2.709	-5.8	112	0.00	16.42
127		1,2,3-trimethylbenzene		----------NA----------				
128	M	sec-butylbenzene	3.327	3.538	-6.3	113	0.00	16.61
129	M	1,3-dichlorobenzene	1.636	1.813	-10.8	117	0.00	16.84
130	M	p-isopropyltoluene	2.924	3.128	-7.0	113	0.00	16.73
131	M	1,4-dichlorobenzene	1.654	1.828	-10.5	117	0.00	16.93
132	M	benzyl chloride	1.545	1.569	-1.6	111	0.00	17.06
133	M	1,2-dichlorobenzene	1.507	1.678	-11.3	115	0.00	17.37
134		p-Diethylbenzene		----------NA----------				
135	M	n-butylbenzene	1.374	1.441	-4.9	113	0.00	17.19
136		1,2,4,5-Tetramethylbenzen		----------NA----------				
137	M	1,2-dibromo-3-chloropropa	0.182	0.171	6.0	102	0.00	18.24
138		1,3,5-trichlorobenzene	1.325	1.458	-10.0	115	0.00	18.42
139	M	1,2,4-trichlorobenzene	1.128	1.204	-6.7	109	0.00	19.16
140	M	hexachlorobutadiene	0.675	0.743	-10.1	118	0.00	19.26
141	M	naphthalene	2.159	2.058	4.7	97	0.00	19.48
142		INDANE		----------NA----------				
143	M	1,2,3-trichlorobenzene	0.988	1.008	-2.0	108	0.00	19.76
144	M	hexachloroethane	0.585	0.633	-8.2	117	0.00	17.65
145	M	MMT		----------NA----------				
146	M	Bis(chloromethyl)ether		----------NA----------				
147	M	Ethylenimine		----------NA----------				

(#) = Out of Range SPCC's out = 0 CCC's out = 0
u194821.D MU8988.M Mon Jun 15 16:46:33 2015 U_CORE

Continuing Calibration Summary

Job Number: JB96432 **Sample:** VU9047-CC8988
Account: AMANYWP Anderson, Mulholland & Associates **Lab FileID:** U196201.D
Project: BMSMC, Building 5 Area, PR

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\u196201.D                    Vial: 2
Acq On    : 17 Jun 2015   8:46 am                     Operator: NicoleH1
Sample    : cc8988-20                                 Inst    : MSU
Misc      : ms86730,vu9047,5.0,,,,1                   Multiplr: 1.00
MS Integration Params: rtenox2.p

Method       : C:\MSDCHEM\1\METHODS\MU8988.M (RTE Integrator)
Title        : SW-846  8260B, ZB624  60m x 250um x 1.40um
Last Update  : Mon May 04 09:25:27 2015
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  20%     Max. Rel. Area : 200%
```

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	Tert Butyl Alcohol-d9	1.000	1.000	0.0	87	-0.01	7.88
2	M	tertiary butyl alcohol	1.120	1.186	-5.9	84	-0.01	7.99
3		Ethanol		----------NA----------				
4	m	1,4-dioxane	0.101	0.115	-13.9	93	-0.01	11.73
5	I	pentafluorobenzene	1.000	1.000	0.0	107	-0.01	10.07
6	M	freon 115		----------NA----------				
7	M	freon 23		----------NA----------				
8	M	freon 143A		----------NA----------				
9	M	freon 152A		----------NA----------				
10	M	chlorotrifluoroethene		----------NA----------				
11	M	chlorodifluoromethane	0.355	0.388	-9.3	118	0.01	4.40
12	M	dichlorodifluoromethane	0.392	0.390	0.5	106	0.01	4.38
13	M	freon 142B		----------NA----------				
14	M	freon 114		----------NA----------				
15	M	chloromethane	0.431	0.445	-3.2	106	0.00	4.77
16	M	vinyl chloride	0.399	0.447	-12.0	114	0.00	5.05
17	M	acetaldehyde		----------NA----------				
18	M	bromomethane	0.294	0.333	-13.3	117	0.00	5.71
19	M	chloroethane	0.203	0.240	-18.2	116	0.01	5.89
		----------	True	Calc.	% Drift		----------	
20	M	trichlorofluoromethane	20.000	20.510	-2.6	118	0.00	6.32
		----------	AvgRF	CCRF	% Dev		----------	
21	M	pentane		----------NA----------				
22	M	freon 123A		----------NA----------				
23	M	ethyl ether	0.188	0.174	7.4	94	0.00	6.76
24		2-CHLOROPROPANE	0.621	0.583	6.1	102	0.00	6.97
25	M	freon 141B		----------NA----------				
26	M	freon 123		----------NA----------				
27	M	acrolein	0.057	0.050	12.3	91	0.00	7.05
28	M	1,1-dichloroethene	0.312	0.325	-4.2	106	0.00	7.21
29	M	acetone	0.028	0.026	7.1	96	0.00	7.27
30	M	allyl chloride	0.178	0.174	2.2	98	0.00	7.73
31	M	acetonitrile	0.024	0.023	4.2	102	0.00	7.73
32	M	iodomethane	0.618	0.686	-11.0	107	0.00	7.50
33	M	carbon disulfide	1.009	1.074	-6.4	104	0.00	7.62
34		1-CHLOROPROPANE	0.029	0.028	3.4	95	0.00	7.96
35	M	methylene chloride	0.395	0.358	9.4	100	0.00	7.93
36	M	methyl acetate	0.258	0.211	18.2	86	0.00	7.71
37	M	methyl tert butyl ether	0.981	0.943	3.9	94	-0.01	8.23

Continuing Calibration Summary

Job Number: JB96432 **Sample:** VU9047-CC8988
Account: AMANYWP Anderson, Mulholland & Associates **Lab FileID:** U196201.D
Project: BMSMC, Building 5 Area, PR

38	M	trans-1,2-dichloroethene	0.350	0.357	-2.0	102	0.00	8.29
39	M	di-isopropyl ether	1.070	1.001	6.4	93	0.00	8.80
40	M	ethyl tert-butyl ether	1.044	1.033	1.1	96	0.00	9.26
41	M	2-butanone	0.039	0.036	7.7	89	0.00	9.55
42	M	1,1-dichloroethane	0.590	0.611	-3.6	100	0.00	8.86
43	M	chloroprene	0.487	0.485	0.4	100	0.00	8.96
44	M	acrylonitrile	0.106	0.093	12.3	86	0.00	8.27
45	M	vinyl acetate	0.062	0.057	8.1	94	0.00	8.83
46	M	ethyl acetate	0.046	0.036	21.7#	81	0.00	9.55
47	M	2,2-dichloropropane	0.515	0.565	-9.7	111	0.00	9.59
48	M	cis-1,2-dichloroethene	0.386	0.392	-1.6	101	0.00	9.59
49	M	methyl acrylate	0.054	0.045	16.7	88	0.00	9.64
50	M	propionitrile	0.043	0.037	14.0	85	-0.01	9.67
51	M	bromochloromethane	0.196	0.205	-4.6	104	0.00	9.90
52	M	tetrahydrofuran	0.120	0.094	21.7#	81	0.00	9.94
53	M	chloroform	0.614	0.628	-2.3	103	0.00	9.95
54		tert-butyl Formate	0.300	0.279	7.0	91	0.00	9.97
55	M	iso-butyl alcohol	0.017	0.012	29.4#	77	-0.01	10.37
56	S	dibromofluoromethane (s)	0.340	0.326	4.1	103	0.00	10.16
57	S	1,2-dichloroethane-d4 (s)	0.360	0.330	8.3	98	0.00	10.57
58	M	freon 113	0.257	0.287	-11.7	123	0.00	7.16
59	M	methacrylonitrile	0.207	0.161	22.2#	83	0.00	9.85
60	M	1,1,1-trichloroethane	0.524	0.569	-8.6	107	0.00	10.20
61	M	tert amyl alcohol		----------NA----------				
62	M	tert-amyl methyl ether	0.253	0.247	2.4	100	0.00	10.64
63		iso-octane		----------NA----------				
64	I	1,4-difluorobenzene	1.000	1.000	0.0	105	0.00	11.00
65	M	Di-isobutylene		----------NA----------				
66	M	epichlorohydrin	0.029	0.023	20.7#	77	0.00	12.29
67	M	n-butyl alcohol	0.008	0.007	12.5	74	0.00	11.12
68	M	Cyclohexane	0.436	0.447	-2.5	107	0.00	10.26
69	M	carbon tetrachloride	0.413	0.473	-14.5	109	0.00	10.40
70	M	1,1-dichloropropene	0.393	0.423	-7.6	103	0.00	10.37
71	M	hexane	0.329	0.344	-4.6	111	0.00	8.56
72	M	benzene	1.207	1.202	0.4	98	0.00	10.64
73	M	heptane	0.205	0.194	5.4	107	0.00	10.76
74	M	isopropyl acetate	0.544	0.464	14.7	84	0.00	10.53
75	M	1,2-dichloroethane	0.376	0.412	-9.6	101	-0.01	10.66
76	M	ethyl acrylate		----------NA----------				
77		tert amyl ethyl ether		----------NA----------				
78	M	trichloroethene	0.314	0.331	-5.4	99	0.00	11.34
79	M	methylcyclohexane	0.475	0.506	-6.5	109	0.00	11.56
80	M	2-nitropropane	0.115	0.110	4.3	96	0.00	12.15
81	M	2-chloroethyl vinyl ether	0.163	0.140	14.1	88	0.00	12.14
82	M	methyl methacrylate	0.083	0.075	9.6	88	0.00	11.60
83	M	1,2-dichloropropane	0.296	0.310	-4.7	98	0.00	11.62
84	M	propyl acetate	0.059	0.052	11.9	89	0.00	11.64
85	M	dibromomethane	0.193	0.204	-5.7	102	0.00	11.80
86	M	bromodichloromethane	0.415	0.440	-6.0	100	0.00	11.92
87	M	cis-1,3-dichloropropene	0.506	0.521	-3.0	95	0.00	12.38
88	S	toluene-d8 (s)	1.143	1.067	6.6	97	0.00	12.68
89	M	4-methyl-2-pentanone	0.112	0.098	12.5	84	-0.01	12.47
90	M	toluene	0.773	0.807	-4.4	100	0.00	12.76
91	M	3-methyl-1-butanol	0.014	0.011	21.4#	71	0.00	12.49
92	M	trans-1,3-dichloropropene	0.462	0.490	-6.1	97	0.00	12.97
93	M	ethyl methacrylate	0.381	0.348	8.7	86	0.00	12.94
94	M	1,1,2-trichloroethane	0.229	0.238	-3.9	98	0.00	13.21
95	M	2-hexanone	0.110	0.092	16.4	80	0.00	13.38

Continuing Calibration Summary

Job Number: JB96432 **Sample:** VU9047-CC8988
Account: AMANYWP Anderson, Mulholland & Associates **Lab FileID:** U196201.D
Project: BMSMC, Building 5 Area, PR

96	I	chlorobenzene-d5	1.000	1.000	0.0	107	0.00	14.32
97	M	cyclohexanone	0.036	0.029	19.4	94	-0.01	15.58
98	M	tetrachloroethene	0.359	0.378	-5.3	104	0.00	13.38
99	M	1,3-dichloropropane	0.501	0.501	0.0	96	0.00	13.41
100	M	butyl acetate	0.212	0.181	14.6	84	0.00	13.44
101	M	dibromochloromethane	0.400	0.415	-3.7	100	0.00	13.70
102	M	1,2-dibromoethane	0.330	0.330	0.0	98	0.00	13.87
103		3,3-dimethyl-1-Butanol	0.034	0.025	26.5#	70	0.00	13.56
104		n-butyl ether	1.504	1.434	4.7	93	0.00	14.21
105	M	chlorobenzene	1.014	1.070	-5.5	103	-0.01	14.35
106	M	1,1,1,2-tetrachloroethane	0.384	0.418	-8.9	106	0.00	14.42
107	M	ethylbenzene	1.689	1.722	-2.0	102	0.00	14.40
108	M	m,p-xylene	0.662	0.694	-4.8	102	0.00	14.52
109	M	o-xylene	0.652	0.695	-6.6	102	0.00	14.98
110	M	styrene	1.119	1.140	-1.9	98	0.00	15.00
111	M	bromoform	0.312	0.302	3.2	95	0.00	15.32
112	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	112	0.00	16.89
113	M	isopropylbenzene	3.066	3.100	-1.1	102	0.00	15.35
114	S	4-bromofluorobenzene (s)	0.886	0.771	13.0	97	0.00	15.60
115	M	bromobenzene	0.877	0.938	-7.0	107	0.00	15.82
116	M	1,1,2,2-tetrachloroethane	0.733	0.714	2.6	99	0.00	15.72
117	M	trans-1,4-dichloro-2-bute	0.211	0.172	18.5	85	0.00	15.76
118	M	1,2,3-trichloropropane	0.211	0.204	3.3	100	0.00	15.81
119	M	n-propylbenzene	3.465	3.525	-1.7	105	0.00	15.81
120	M	2-chlorotoluene	0.789	0.817	-3.5	107	0.00	15.99
121	M	4-chlorotoluene	2.209	2.189	0.9	102	0.00	16.10
122		p-Ethyltoluene		----------NA----------				
123	M	1,3,5-trimethylbenzene	2.614	2.607	0.3	102	0.00	15.97
124	M	tert-butylbenzene	2.321	2.655	-14.4	117	0.00	16.37
125	M	pentachloroethane	0.526	0.567	-7.8	112	0.00	16.48
126	M	1,2,4-trimethylbenzene	2.560	2.594	-1.3	103	0.00	16.42
127		1,2,3-trimethylbenzene		----------NA----------				
128	M	sec-butylbenzene	3.327	3.381	-1.6	104	0.00	16.60
129	M	1,3-dichlorobenzene	1.636	1.730	-5.7	107	0.00	16.84
130	M	p-isopropyltoluene	2.924	2.996	-2.5	105	0.00	16.73
131	M	1,4-dichlorobenzene	1.654	1.743	-5.4	108	0.00	16.93
132	M	benzyl chloride	1.545	1.547	-0.1	106	0.00	17.06
133	M	1,2-dichlorobenzene	1.507	1.600	-6.2	106	-0.01	17.36
134		p-Diethylbenzene		----------NA----------				
135	M	n-butylbenzene	1.374	1.367	0.5	103	0.00	17.19
136		1,2,4,5-Tetramethylbenzen		----------NA----------				
137	M	1,2-dibromo-3-chloropropa	0.182	0.154	15.4	88	0.00	18.23
138		1,3,5-trichlorobenzene	1.325	1.381	-4.2	105	0.00	18.41
139	M	1,2,4-trichlorobenzene	1.128	1.130	-0.2	98	0.00	19.15
140	M	hexachlorobutadiene	0.675	0.701	-3.9	107	0.00	19.26
141	M	naphthalene	2.159	1.910	11.5	86	-0.01	19.48
142		INDANE		----------NA----------				
143	M	1,2,3-trichlorobenzene	0.988	0.927	6.2	96	0.00	19.75
144	M	hexachloroethane	0.585	0.581	0.7	104	0.00	17.65
145	M	MMT		----------NA----------				
146	M	Bis(chloromethyl)ether		----------NA----------				
147	M	Ethylenimine		----------NA----------				

(#) = Out of Range SPCC's out = 0 CCC's out = 0
u194821.D MU8988.M Wed Jun 17 11:45:11 2015 U_CORE

New Jersey

ACCUTEST LABORATORIES

GC/MS Volatiles

Raw Data

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u195959.D
Acq On : 11 Jun 2015 12:42 am
Operator : NicoleH1
Sample : jb96432-1
Misc : ms86322,vu9037,5.0,,,,1
ALS Vial : 33 Sample Multiplier: 1

Quant Time: Jun 11 13:04:28 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.873	65	99311	500.00	ug/L	-0.01
5) pentafluorobenzene	10.079	168	359908	50.00	ug/L	0.00
64) 1,4-difluorobenzene	11.000	114	397866	50.00	ug/L	0.00
96) chlorobenzene-d5	14.325	117	355119	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.902	152	192083	50.00	ug/L	0.00

System Monitoring Compounds						
56) dibromofluoromethane (s)	10.158	113	124511	50.88	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 101.76%			
57) 1,2-dichloroethane-d4 (s)	10.581	65	130308	50.32	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 100.64%			
88) toluene-d8 (s)	12.683	98	452519	49.73	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 99.46%			
114) 4-bromofluorobenzene (s)	15.600	95	168487	49.52	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 99.04%			

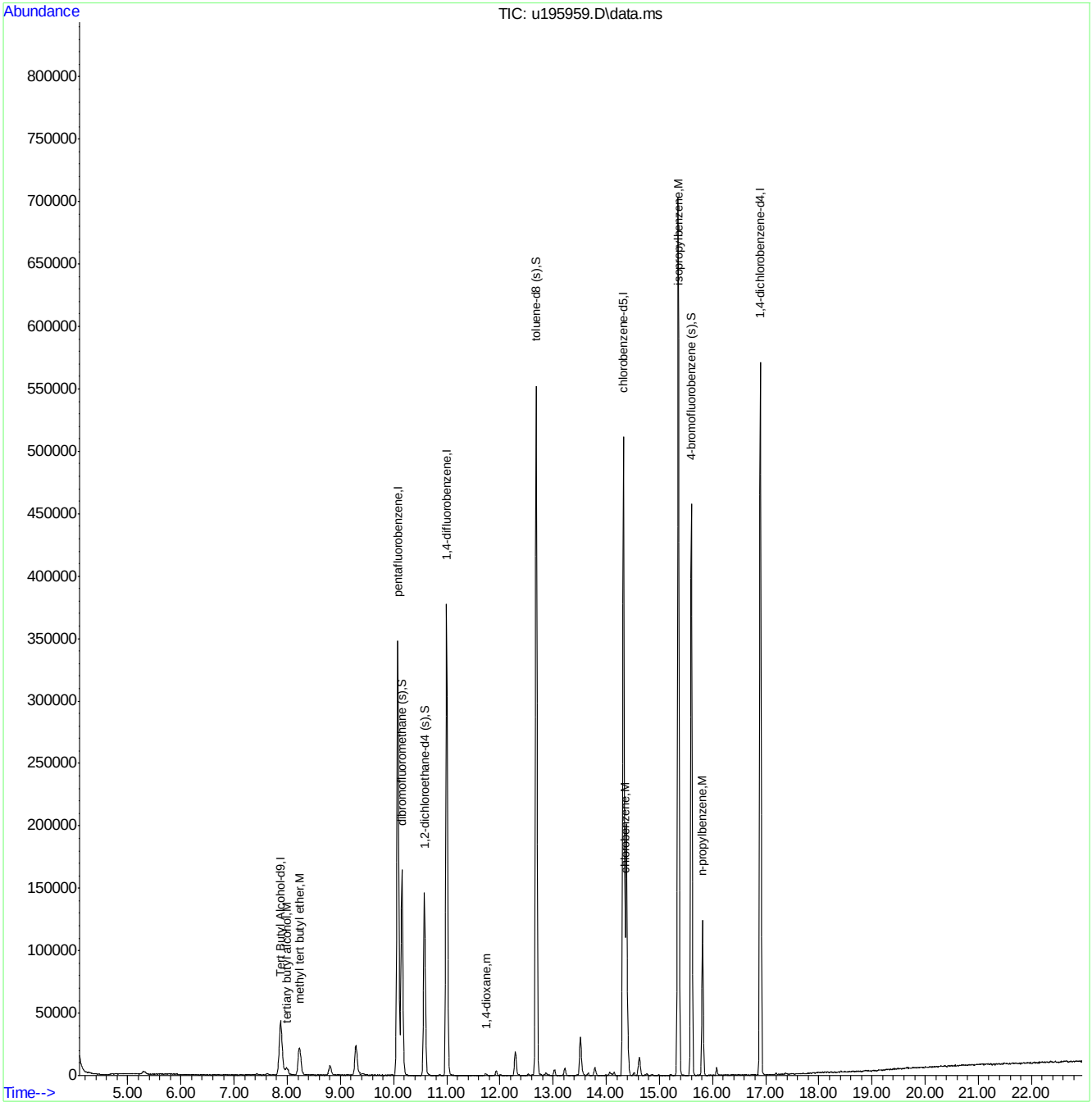
Target Compounds						Qvalue
2) tertiary butyl alcohol	7.988	59	11281	50.69	ug/L	85
4) 1,4-dioxane	11.737	88	1669	83.61	ug/L #	84
37) methyl tert butyl ether	8.234	73	42519	6.02	ug/L	98
105) chlorobenzene	14.356	112	3457	0.48	ug/L	93
113) isopropylbenzene	15.354	105	599406	50.90	ug/L	100
119) n-propylbenzene	15.815	91	120487	9.05	ug/L	99

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

Quantitation Report (QT Reviewed)

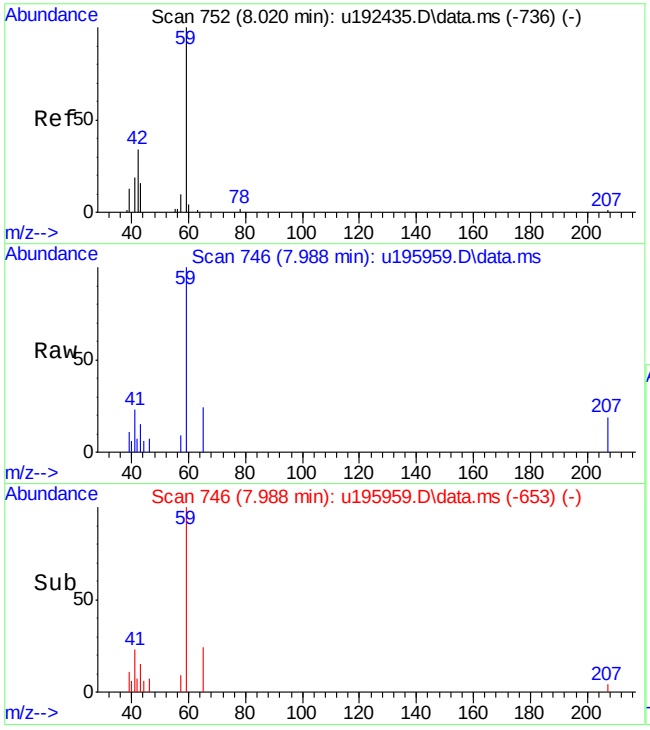
Data Path : C:\msdchem\1\DATA\
Data File : u195959.D
Acq On : 11 Jun 2015 12:42 am
Operator : NicoleH1
Sample : jb96432-1
Misc : ms86322,vu9037,5.0,,,,1
ALS Vial : 33 Sample Multiplier: 1

Quant Time: Jun 11 13:04:28 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration



MU8988.M Thu Jun 11 13:04:38 2015 U_CORE

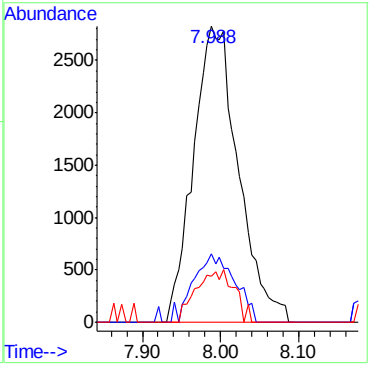
Page: 2

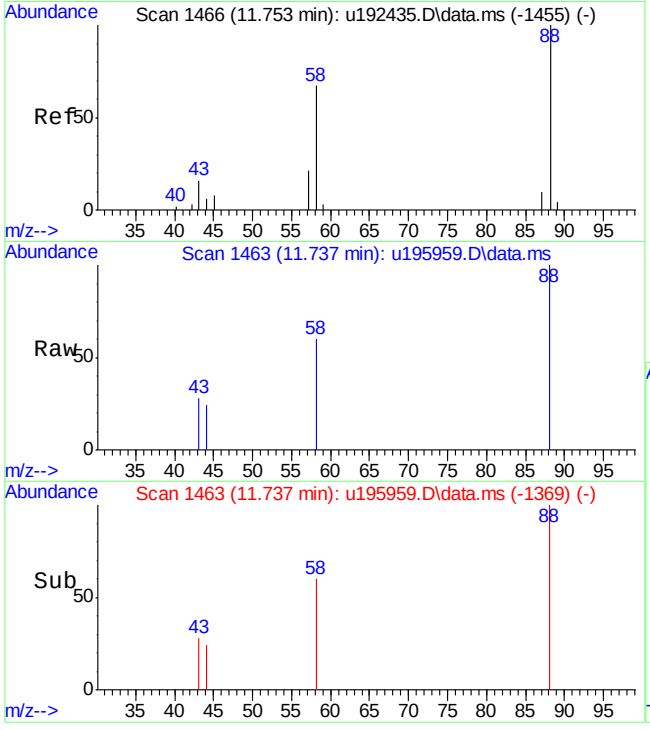


#2
tertiary butyl alcohol
Concen: 50.69 ug/L
RT: 7.988 min Scan# 746
Delta R.T. -0.013 min
Lab File: u195959.D
Acq: 11 Jun 2015 12:42 am

Tgt Ion: 59 Resp: 11281

Ion	Ratio	Lower	Upper
59	100		
41	23.0	3.3	63.3
43	15.5	0.0	50.3

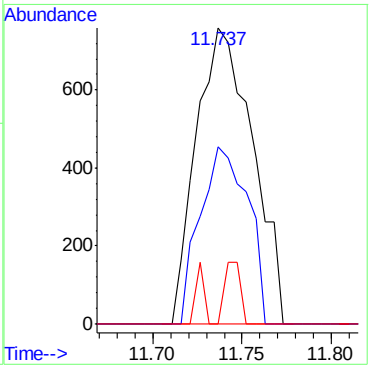




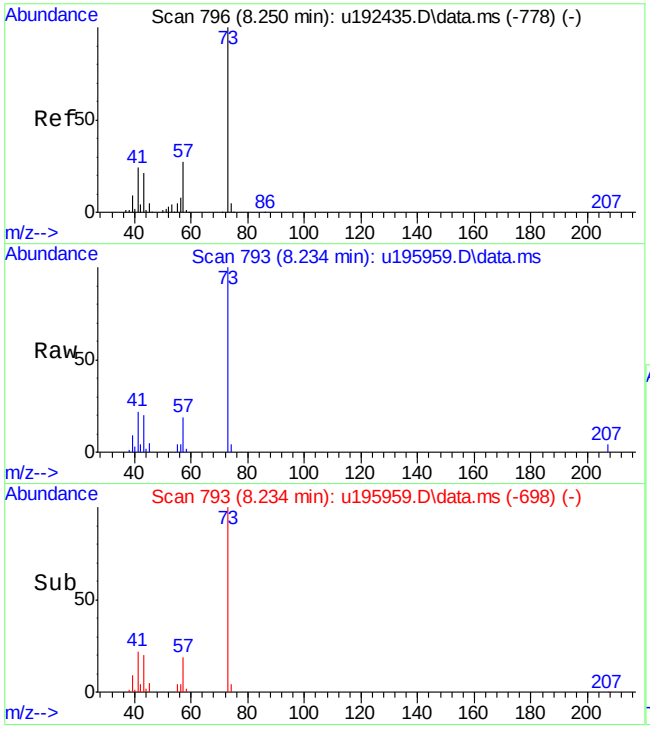
#4
1,4-dioxane
Concen: 83.61 ug/L
RT: 11.737 min Scan# 1463
Delta R.T. -0.008 min
Lab File: u195959.D
Acq: 11 Jun 2015 12:42 am

Tgt Ion: 88 Resp: 1669

Ion	Ratio	Lower	Upper
88	100		
58	50.3	40.7	75.7
57	5.9	14.7	27.3#



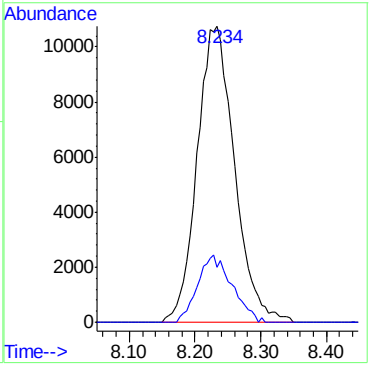
7.11
7

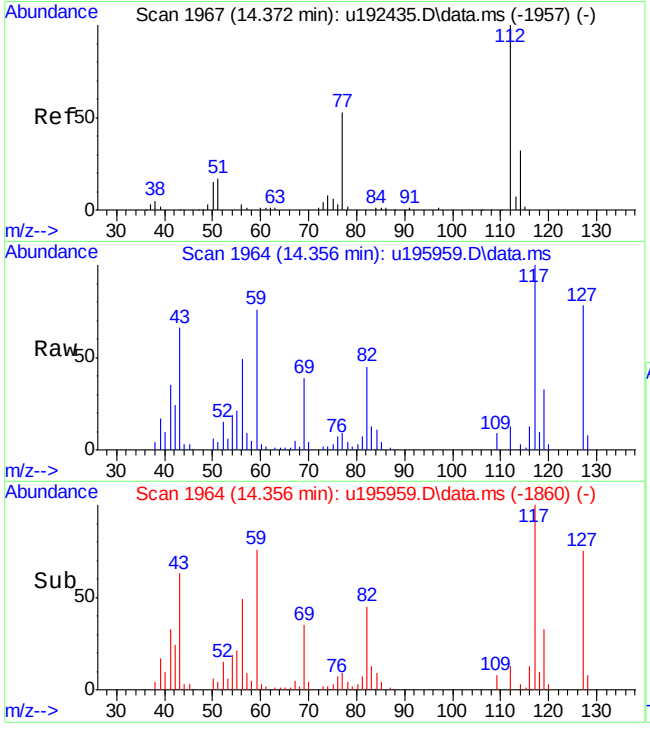


#37
methyl tert butyl ether
Concen: 6.02 ug/L
RT: 8.234 min Scan# 793
Delta R.T. -0.003 min
Lab File: u195959.D
Acq: 11 Jun 2015 12:42 am

Tgt Ion: 73 Resp: 42519

Ion	Ratio	Lower	Upper
73	100		
57	20.7	0.0	51.9

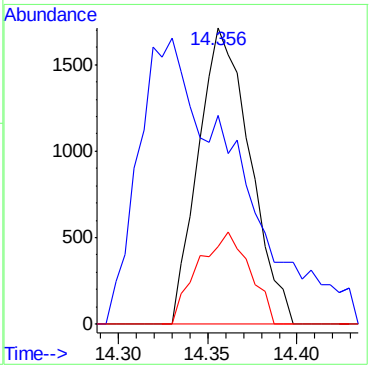


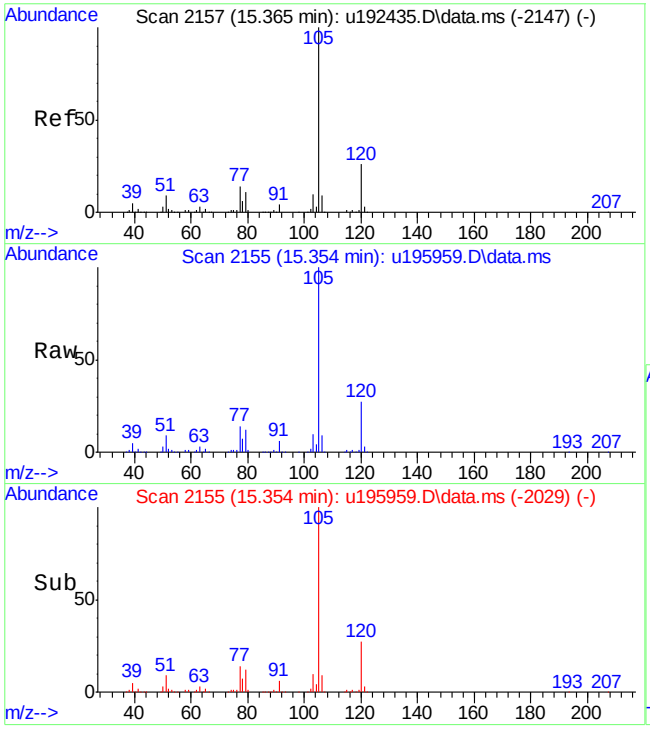


#105
chlorobenzene
Concen: 0.48 ug/L
RT: 14.356 min Scan# 1964
Delta R.T. -0.008 min
Lab File: u195959.D
Acq: 11 Jun 2015 12:42 am

Tgt Ion:112 Resp: 3457

Ion	Ratio	Lower	Upper
112	100		
77	49.8	22.8	82.8
114	26.1	2.9	62.9

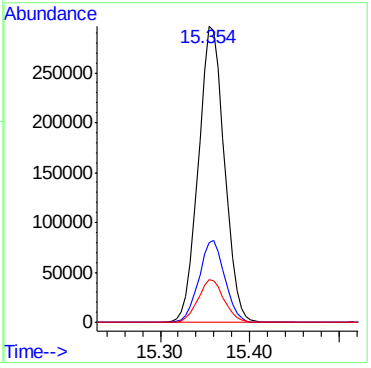


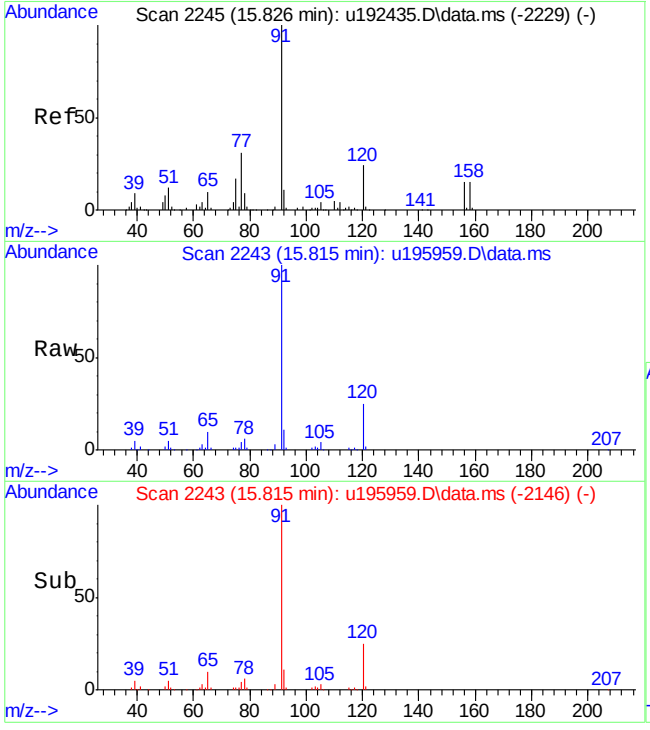


#113
isopropylbenzene
Concen: 50.90 ug/L
RT: 15.354 min Scan# 2155
Delta R.T. -0.003 min
Lab File: u195959.D
Acq: 11 Jun 2015 12:42 am

Tgt Ion:105 Resp: 599406

Ion	Ratio	Lower	Upper
105	100		
120	26.8	0.0	56.7
77	14.5	0.0	44.2

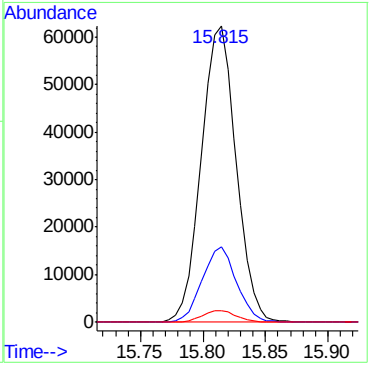




#119
n-propylbenzene
Concen: 9.05 ug/L
RT: 15.815 min Scan# 2243
Delta R.T. -0.003 min
Lab File: u195959.D
Acq: 11 Jun 2015 12:42 am

Tgt Ion: 91 Resp: 120487

Ion	Ratio	Lower	Upper
91	100		
120	25.4	0.0	54.6
105	3.9	0.0	34.0



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u195963.D
Acq On : 11 Jun 2015 2:40 am
Operator : NicoleH1
Sample : jb96432-2
Misc : ms86322,vu9037,5.0,,,,2000
ALS Vial : 37 Sample Multiplier: 1

Quant Time: Jun 11 13:09:36 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.873	65	100391	500.00	ug/L	-0.01
5) pentafluorobenzene	10.080	168	351210	50.00	ug/L	0.00
64) 1,4-difluorobenzene	11.000	114	393156	50.00	ug/L	0.00
96) chlorobenzene-d5	14.325	117	347503	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.902	152	184873	50.00	ug/L	0.00

System Monitoring Compounds

56) dibromofluoromethane (s)	10.158	113	118977	49.82	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 99.64%			
57) 1,2-dichloroethane-d4 (s)	10.576	65	129093	51.09	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 102.18%			
88) toluene-d8 (s)	12.683	98	445304	49.53	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 99.06%			
114) 4-bromofluorobenzene (s)	15.600	95	163328	49.88	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 99.76%			

Target Compounds						Qvalue
107) ethylbenzene	14.403	91	260980	22.23	ug/L	98
108) m,p-xylene	14.518	106	178789	38.85	ug/L	99
109) o-xylene	14.989	106	9328	2.06	ug/L	99

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

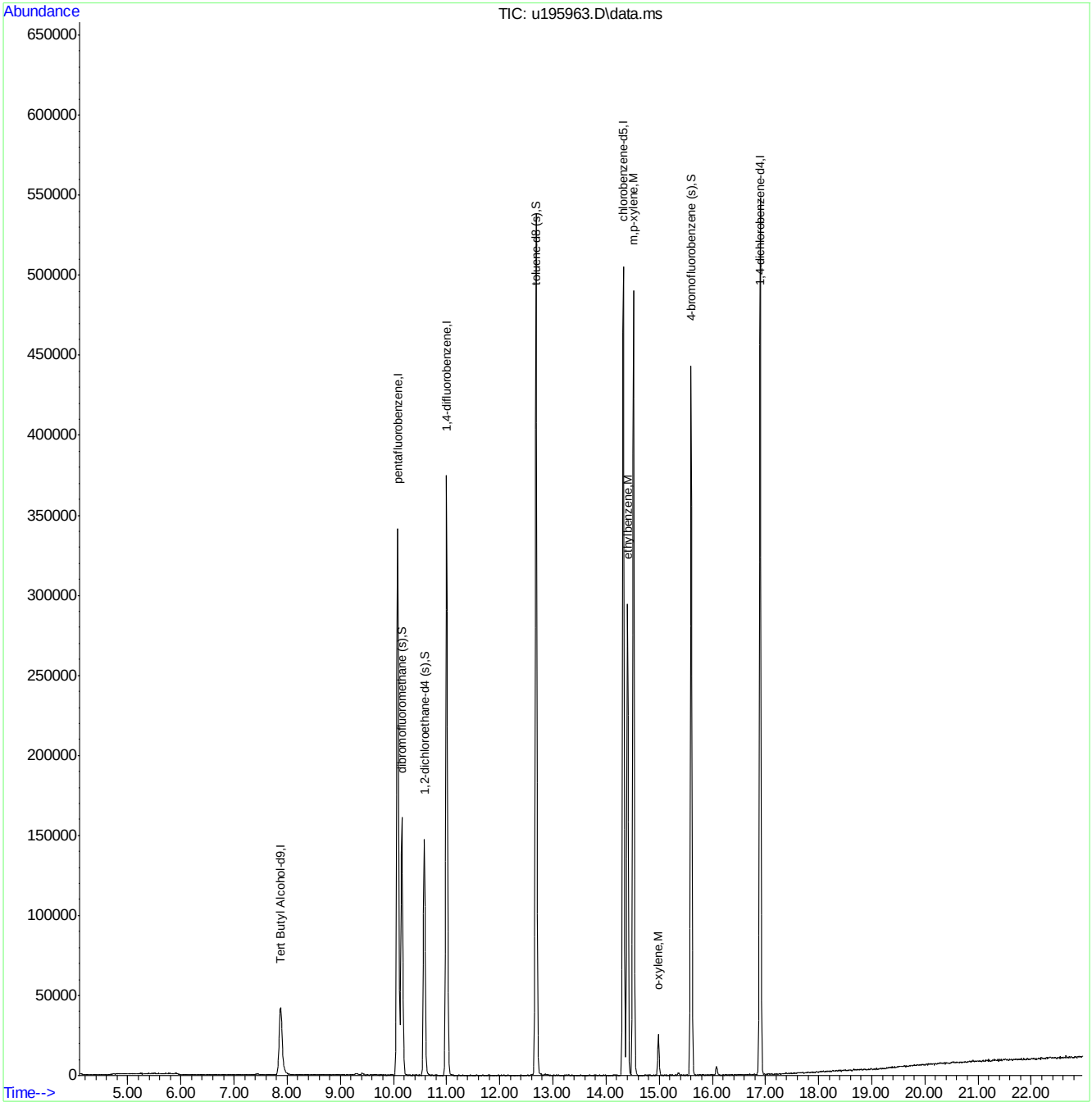
7.1.2

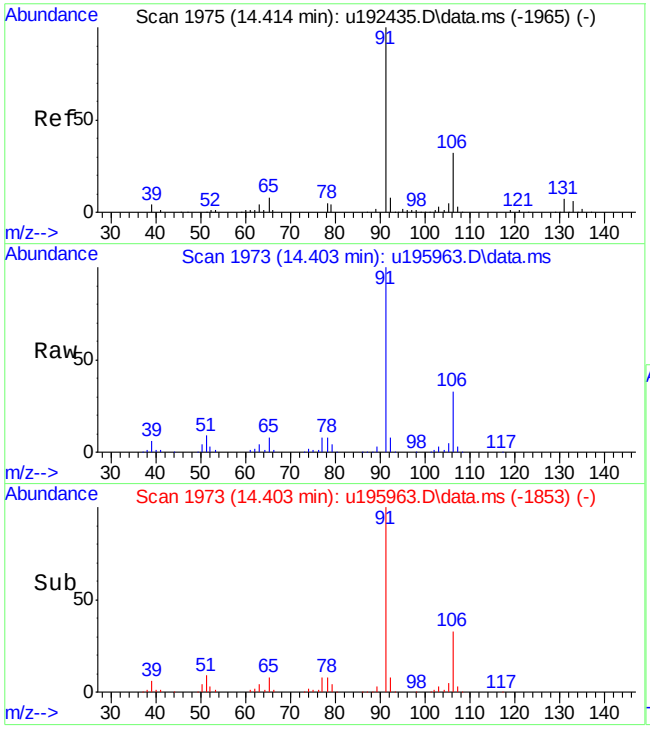
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u195963.D
Acq On : 11 Jun 2015 2:40 am
Operator : NicoleH1
Sample : jb96432-2
Misc : ms86322,vu9037,5.0,,,,2000
ALS Vial : 37 Sample Multiplier: 1

Quant Time: Jun 11 13:09:36 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

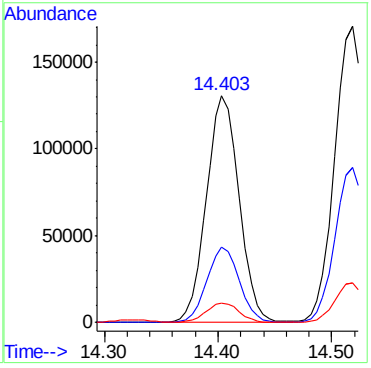


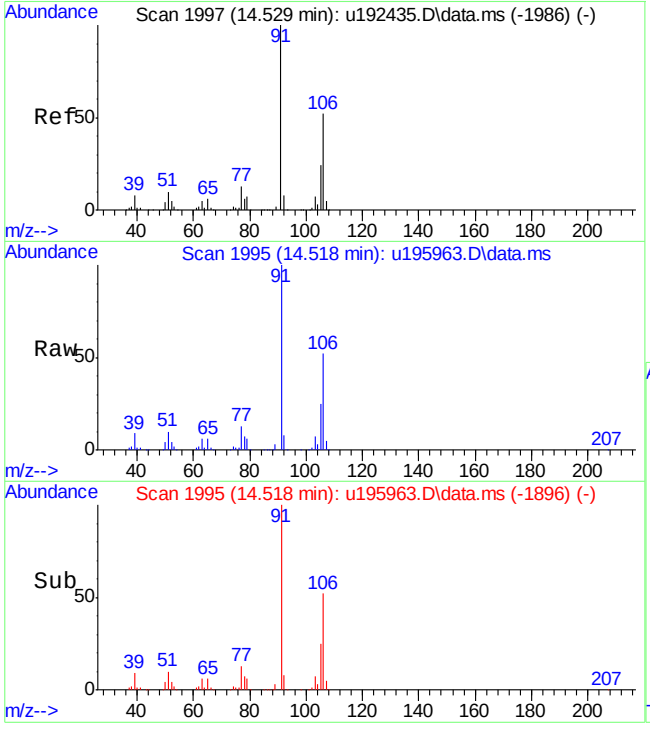


#107
ethylbenzene
Concen: 22.23 ug/L
RT: 14.403 min Scan# 1973
Delta R.T. -0.002 min
Lab File: u195963.D
Acq: 11 Jun 2015 2:40 am

Tgt Ion: 91 Resp: 260980

Ion	Ratio	Lower	Upper
91	100		
106	33.0	2.0	62.0
77	8.3	0.0	38.1

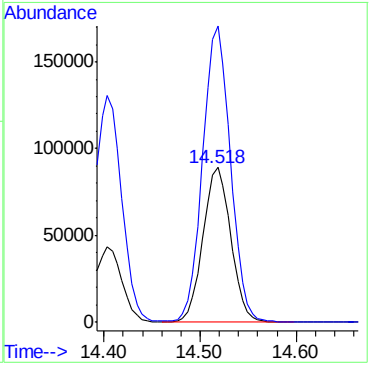




#108
m,p-xylene
Concen: 38.85 ug/L
RT: 14.518 min Scan# 1995
Delta R.T. -0.002 min
Lab File: u195963.D
Acq: 11 Jun 2015 2:40 am

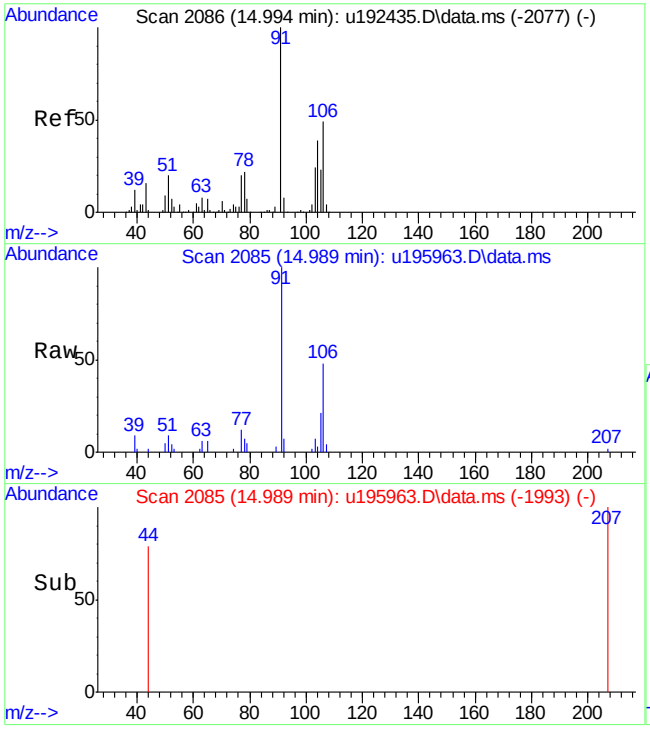
Tgt Ion:106 Resp: 178789

Ion	Ratio	Lower	Upper
106	100		
91	191.6	163.3	223.3



7.1.2

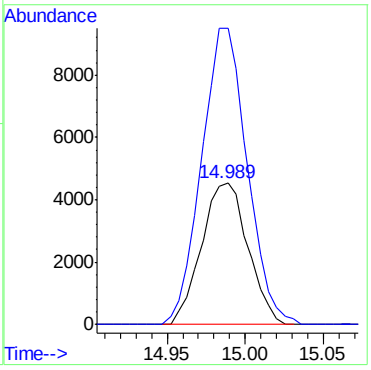
7



#109
o-xylene
Concen: 2.06 ug/L
RT: 14.989 min Scan# 2085
Delta R.T. 0.003 min
Lab File: u195963.D
Acq: 11 Jun 2015 2:40 am

Tgt Ion:106 Resp: 9328

Ion	Ratio	Lower	Upper
106	100		
91	209.7	177.8	237.8



7.1.2

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u195986.D
Acq On : 11 Jun 2015 2:29 pm
Operator : NicoleH1
Sample : jb96432-2
Misc : ms86322,vu9038,5.0,,,,200
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jun 11 17:23:01 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.883	65	95984	500.00	ug/L	0.00
5) pentafluorobenzene	10.079	168	341300	50.00	ug/L	0.00
64) 1,4-difluorobenzene	10.999	114	381187	50.00	ug/L	0.00
96) chlorobenzene-d5	14.324	117	341322	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.901	152	195348	50.00	ug/L	0.00

System Monitoring Compounds

56) dibromofluoromethane (s)	10.157	113	118109	50.90	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 101.80%			
57) 1,2-dichloroethane-d4 (s)	10.575	65	123547	50.31	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 100.62%			
88) toluene-d8 (s)	12.682	98	434257	49.81	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 99.62%			
114) 4-bromofluorobenzene (s)	15.600	95	165179	47.74	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 95.48%			

Target Compounds

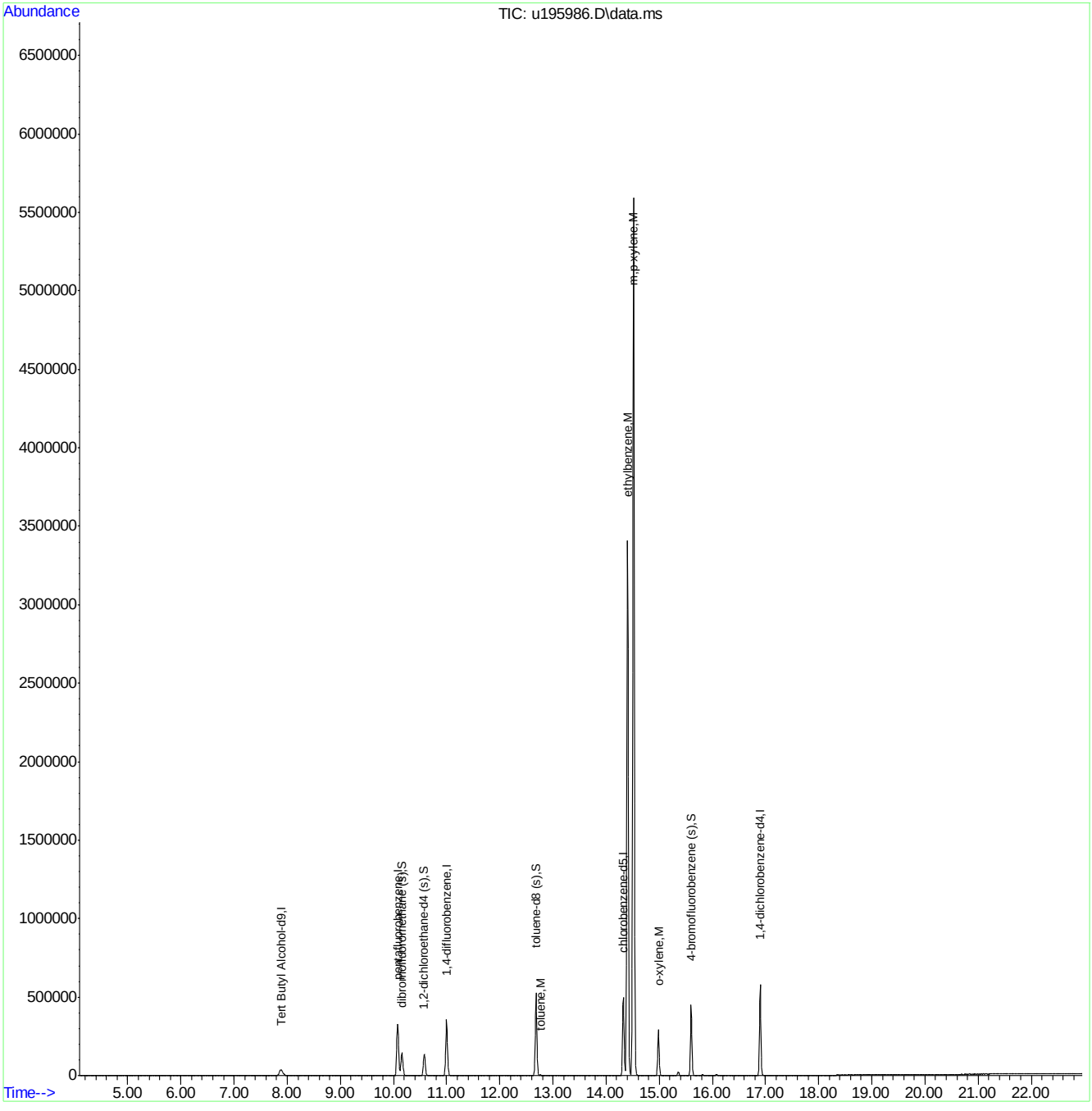
						Qvalue
90) toluene	12.761	92	2018	0.34	ug/L	87
107) ethylbenzene	14.402	91	2951109	255.92	ug/L	99
108) m,p-xylene	14.517	106	2011288	445.00	ug/L	99
109) o-xylene	14.988	106	104171	23.40	ug/L	95

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u195986.D
Acq On : 11 Jun 2015 2:29 pm
Operator : NicoleH1
Sample : jb96432-2
Misc : ms86322,vu9038,5.0,,,,200
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jun 11 17:23:01 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration



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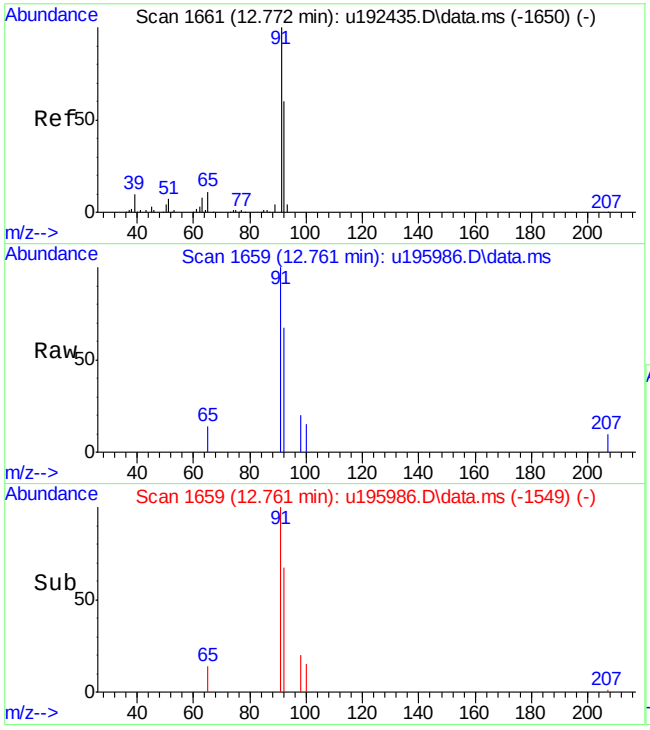
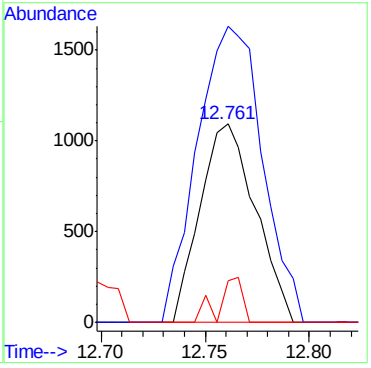
Page: 2

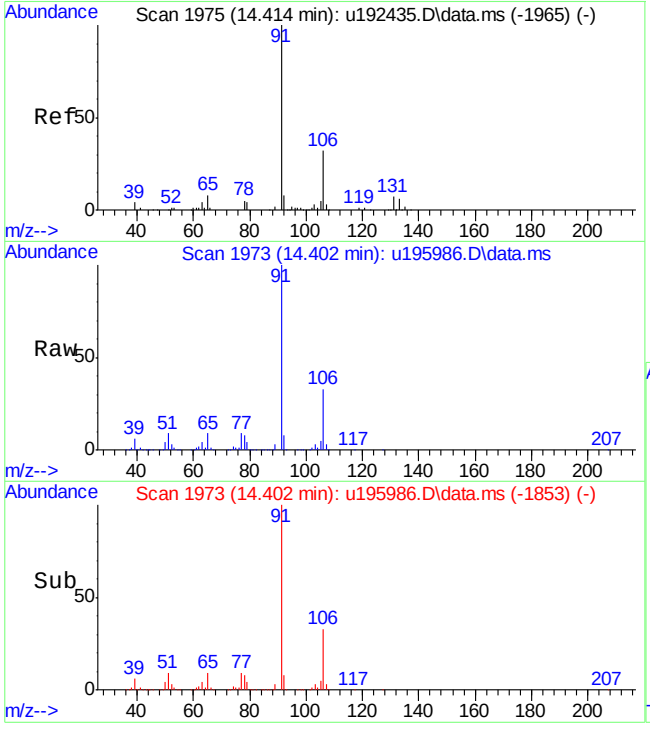


#90
toluene
Concen: 0.34 ug/L
RT: 12.761 min Scan# 1659
Delta R.T. -0.003 min
Lab File: u195986.D
Acq: 11 Jun 2015 2:29 pm

Tgt Ion: 92 Resp: 2018

Ion	Ratio	Lower	Upper
92	100		
91	149.3	137.2	197.2
65	21.0	0.0	48.1

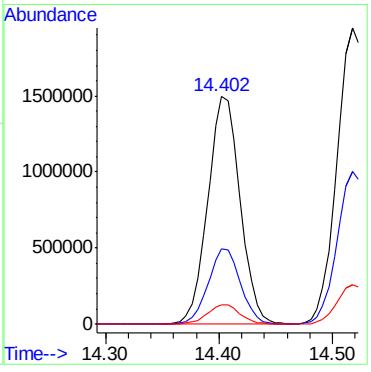


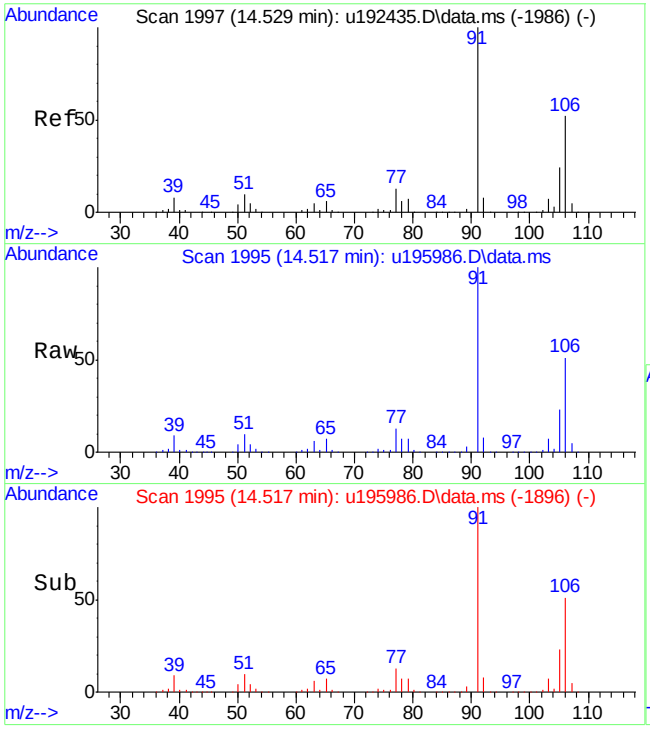


#107
ethylbenzene
Concen: 255.92 ug/L
RT: 14.402 min Scan# 1973
Delta R.T. -0.003 min
Lab File: u195986.D
Acq: 11 Jun 2015 2:29 pm

Tgt Ion: 91 Resp: 2951109

Ion	Ratio	Lower	Upper
91	100		
106	32.8	2.0	62.0
77	8.6	0.0	38.1

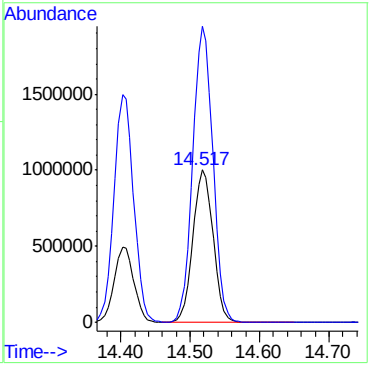


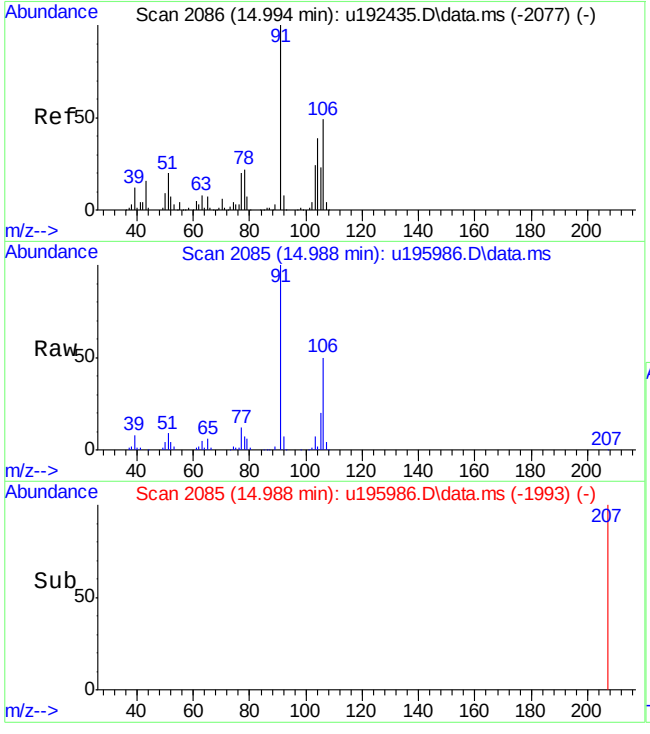


#108
m,p-xylene
Concen: 445.00 ug/L
RT: 14.517 min Scan# 1995
Delta R.T. -0.003 min
Lab File: u195986.D
Acq: 11 Jun 2015 2:29 pm

Tgt Ion:106 Resp: 2011288

Ion	Ratio	Lower	Upper
106	100		
91	194.1	163.3	223.3

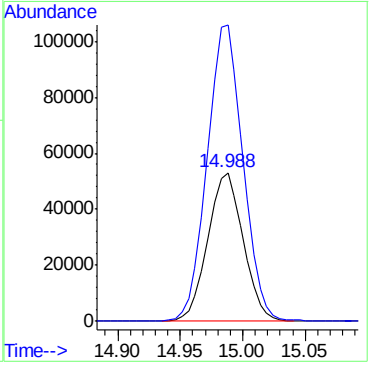




#109
o-xylene
Concen: 23.40 ug/L
RT: 14.988 min Scan# 2085
Delta R.T. 0.002 min
Lab File: u195986.D
Acq: 11 Jun 2015 2:29 pm

Tgt Ion:106 Resp: 104171

Ion	Ratio	Lower	Upper
106	100		
91	199.7	177.8	237.8



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u195965.D
Acq On : 11 Jun 2015 3:37 am
Operator : NicoleH1
Sample : jb96432-3
Misc : ms86322,vu9037,5.0,,,,2000
ALS Vial : 39 Sample Multiplier: 1

Quant Time: Jun 11 13:10:35 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.872	65	98701	500.00	ug/L	-0.01
5) pentafluorobenzene	10.078	168	335456	50.00	ug/L	0.00
64) 1,4-difluorobenzene	10.999	114	379249	50.00	ug/L	0.00
96) chlorobenzene-d5	14.324	117	336332	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.901	152	182951	50.00	ug/L	0.00

System Monitoring Compounds						
56) dibromofluoromethane (s)	10.157	113	117414	51.48	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 102.96%			
57) 1,2-dichloroethane-d4 (s)	10.580	65	122481	50.75	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 101.50%			
88) toluene-d8 (s)	12.682	98	428082	49.36	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 98.72%			
114) 4-bromofluorobenzene (s)	15.599	95	161172	49.74	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 99.48%			

Target Compounds						Qvalue
107) ethylbenzene	14.402	91	139173	12.25	ug/L	97
108) m,p-xylene	14.517	106	177746	39.91	ug/L	99
109) o-xylene	14.988	106	16163	3.68	ug/L	90

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

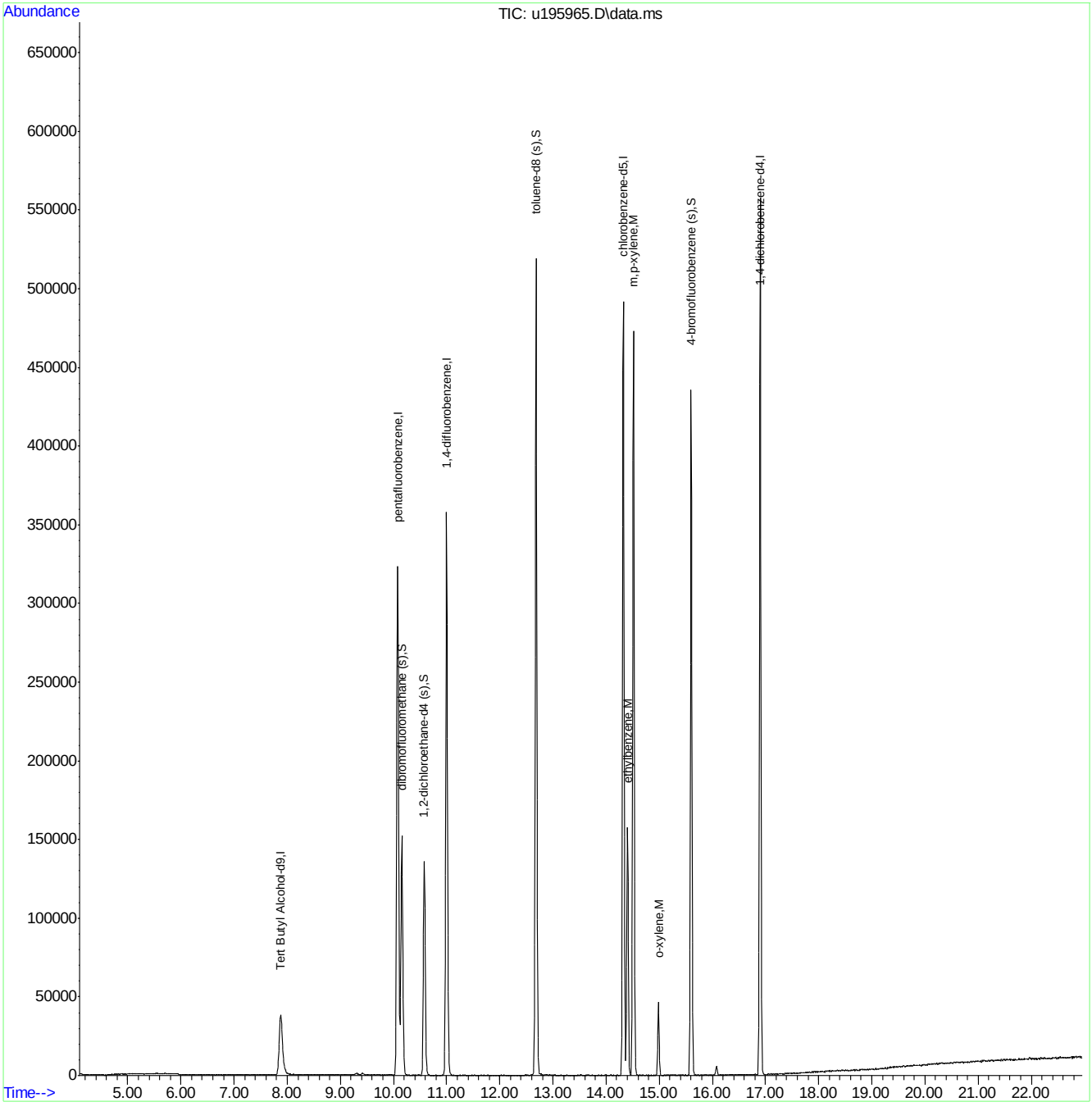
7.1.4

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u195965.D
Acq On : 11 Jun 2015 3:37 am
Operator : NicoleH1
Sample : jb96432-3
Misc : ms86322,vu9037,5.0,,,,2000
ALS Vial : 39 Sample Multiplier: 1

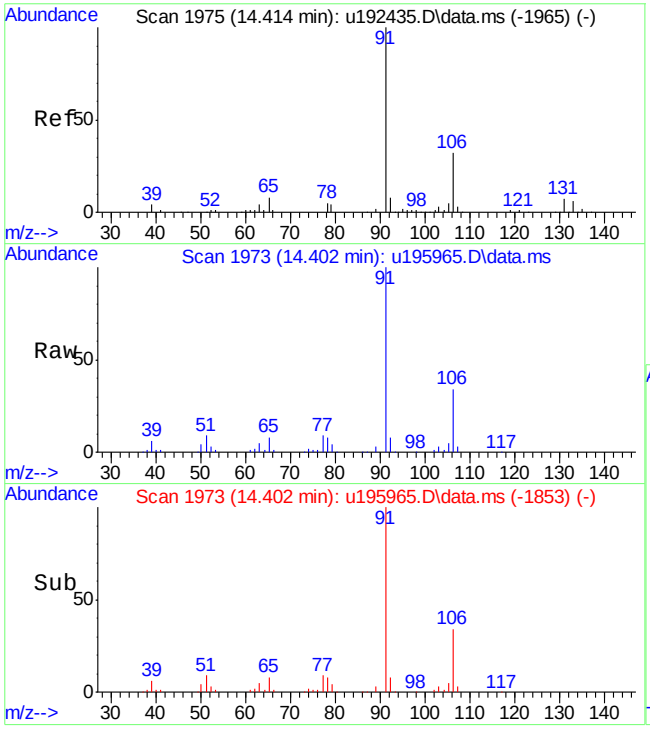
Quant Time: Jun 11 13:10:35 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration



MU8988.M Thu Jun 11 13:10:56 2015 U_CORE

7.1.4

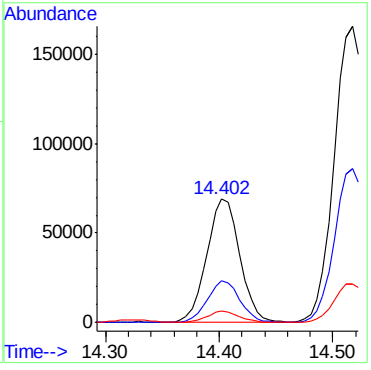
7

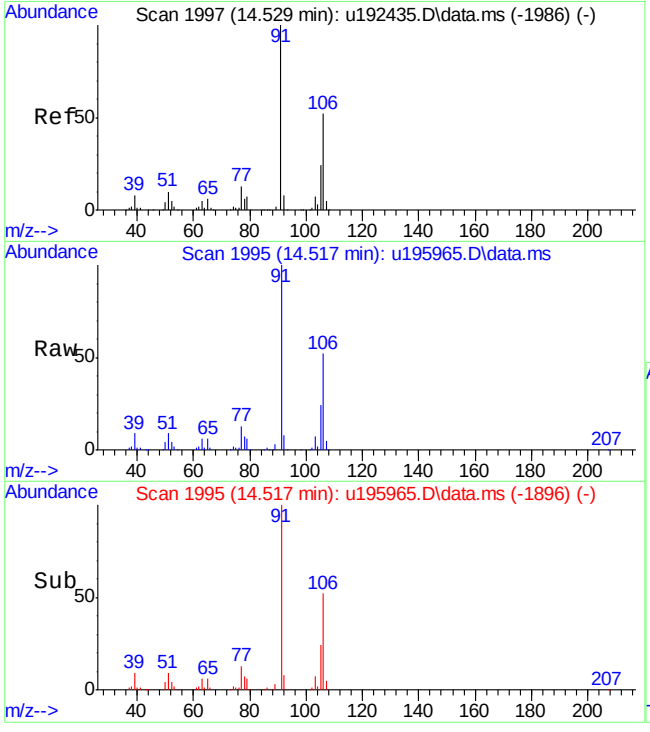


#107
ethylbenzene
Concen: 12.25 ug/L
RT: 14.402 min Scan# 1973
Delta R.T. -0.004 min
Lab File: u195965.D
Acq: 11 Jun 2015 3:37 am

Tgt Ion: 91 Resp: 139173

Ion	Ratio	Lower	Upper
91	100		
106	33.7	2.0	62.0
77	9.0	0.0	38.1

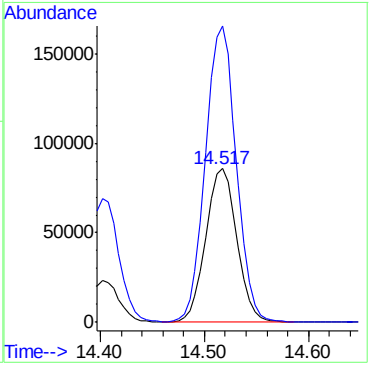




#108
m,p-xylene
Concen: 39.91 ug/L
RT: 14.517 min Scan# 1995
Delta R.T. -0.004 min
Lab File: u195965.D
Acq: 11 Jun 2015 3:37 am

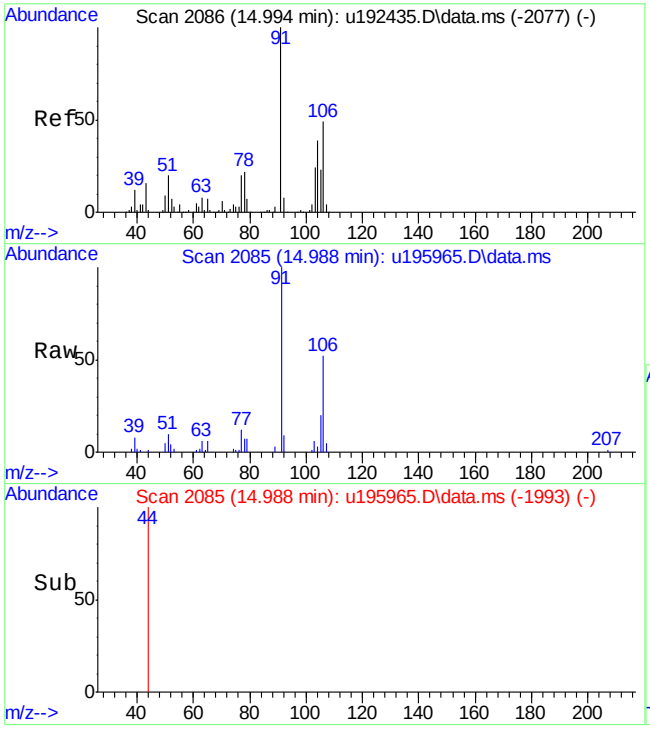
Tgt Ion:106 Resp: 177746

Ion	Ratio	Lower	Upper
106	100		
91	192.5	163.3	223.3



7.1.4

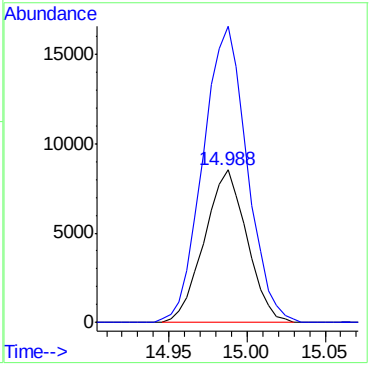
7



#109
o-xylene
Concen: 3.68 ug/L
RT: 14.988 min Scan# 2085
Delta R.T. 0.002 min
Lab File: u195965.D
Acq: 11 Jun 2015 3:37 am

Tgt Ion:106 Resp: 16163

Ion	Ratio	Lower	Upper
106	100		
91	192.2	177.8	237.8



7.1.4

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u195987.D
Acq On : 11 Jun 2015 2:59 pm
Operator : NicoleH1
Sample : jb96432-3
Misc : ms86322,vu9038,5.0,,,,200
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jun 11 17:23:48 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.878	65	88131	500.00	ug/L	0.00
5) pentafluorobenzene	10.079	168	335587	50.00	ug/L	0.00
64) 1,4-difluorobenzene	10.999	114	379843	50.00	ug/L	0.00
96) chlorobenzene-d5	14.324	117	339022	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.901	152	193828	50.00	ug/L	0.00

System Monitoring Compounds

56) dibromofluoromethane (s)	10.157	113	117437	51.47	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 102.94%			
57) 1,2-dichloroethane-d4 (s)	10.581	65	123235	51.04	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 102.08%			
88) toluene-d8 (s)	12.682	98	432310	49.77	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 99.54%			
114) 4-bromofluorobenzene (s)	15.599	95	164042	47.78	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 95.56%			

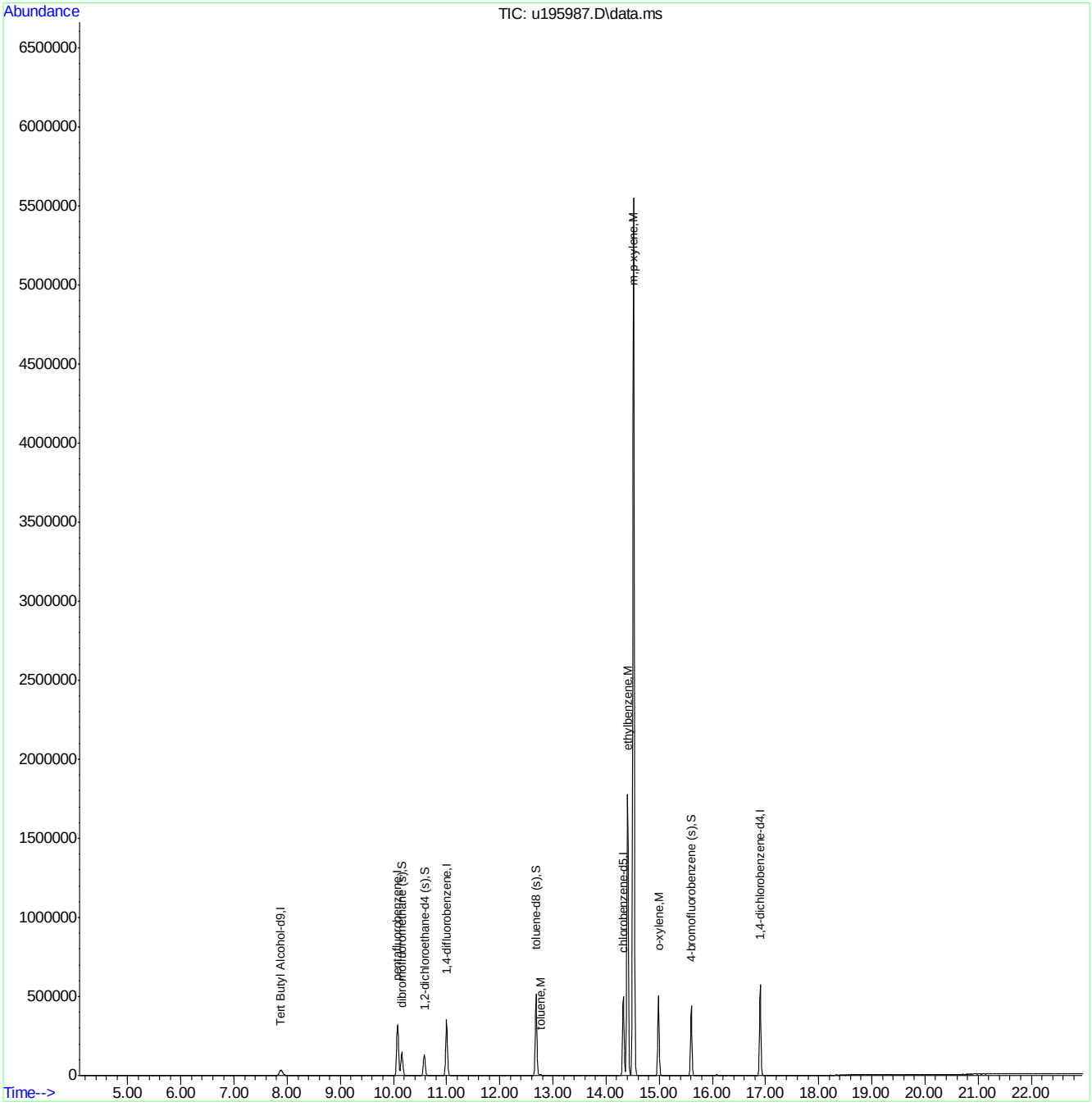
Target Compounds						Qvalue
90) toluene	12.761	92	4506	0.77	ug/L	98
107) ethylbenzene	14.402	91	1560344	136.23	ug/L	99
108) m,p-xylene	14.517	106	1991091	443.52	ug/L	99
109) o-xylene	14.988	106	178509	40.37	ug/L	95

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

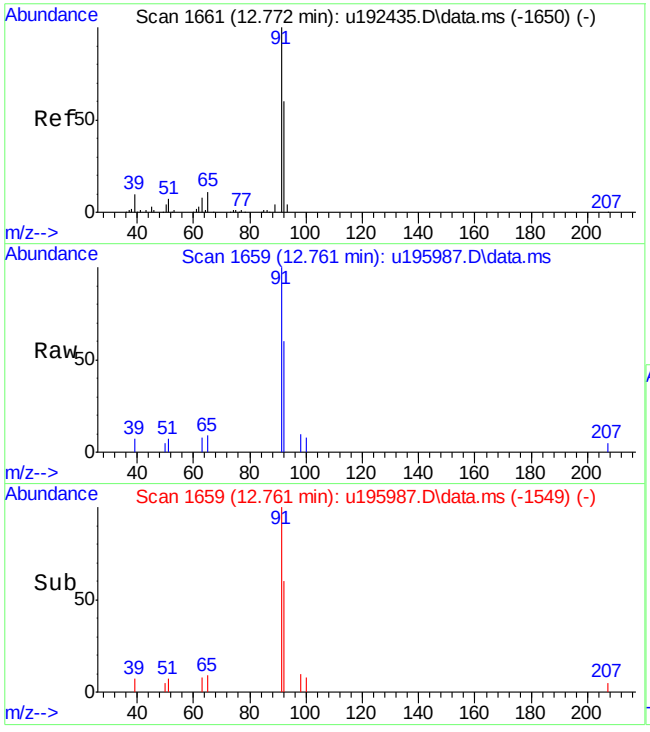
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u195987.D
Acq On : 11 Jun 2015 2:59 pm
Operator : NicoleH1
Sample : jb96432-3
Misc : ms86322,vu9038,5.0,,,,200
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jun 11 17:23:48 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration



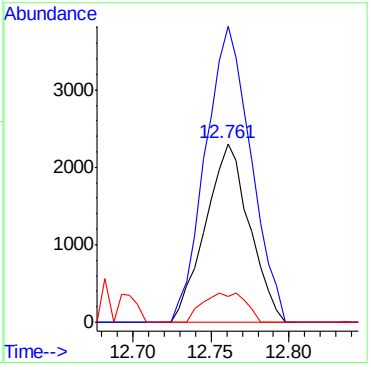
ACCUTEST LABORATORIES JB96432

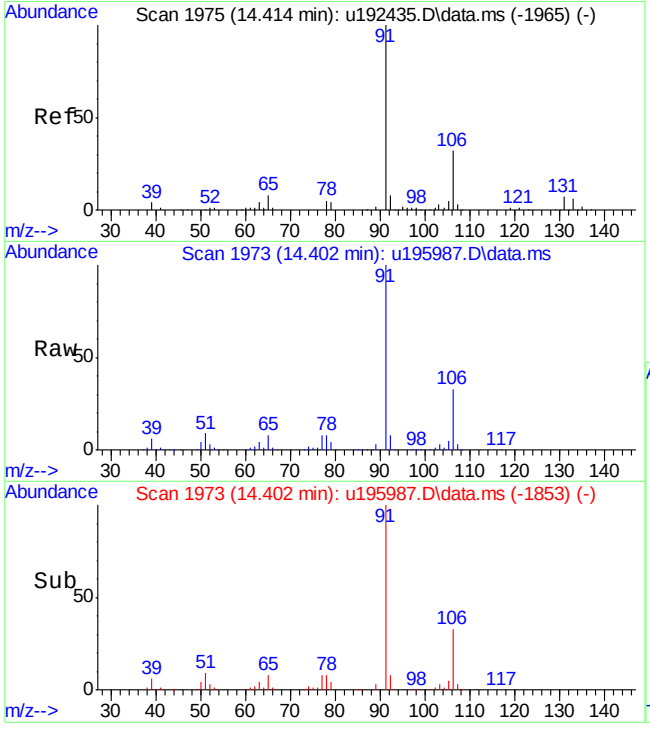


#90
toluene
Concen: 0.77 ug/L
RT: 12.761 min Scan# 1659
Delta R.T. -0.003 min
Lab File: u195987.D
Acq: 11 Jun 2015 2:59 pm

Tgt Ion: 92 Resp: 4506

Ion	Ratio	Lower	Upper
92	100		
91	165.8	137.2	197.2
65	14.2	0.0	48.1

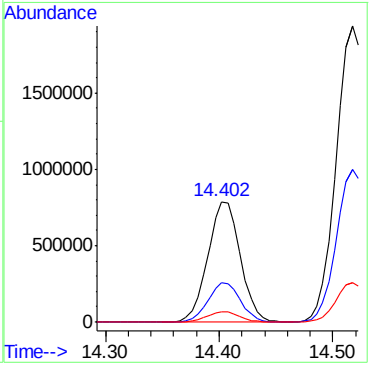


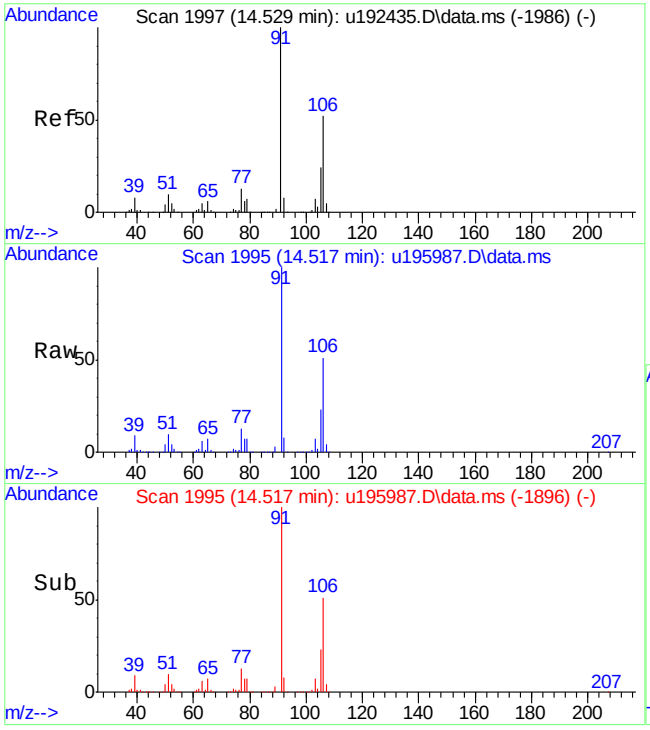


#107
ethylbenzene
Concen: 136.23 ug/L
RT: 14.402 min Scan# 1973
Delta R.T. -0.003 min
Lab File: u195987.D
Acq: 11 Jun 2015 2:59 pm

Tgt Ion: 91 Resp: 1560344

Ion	Ratio	Lower	Upper
91	100		
106	32.6	2.0	62.0
77	8.5	0.0	38.1

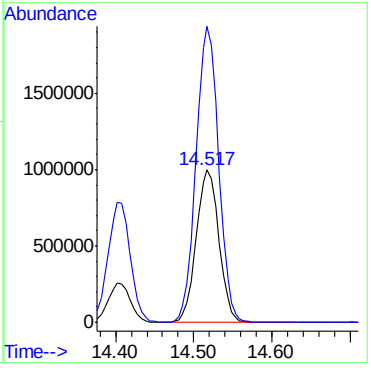


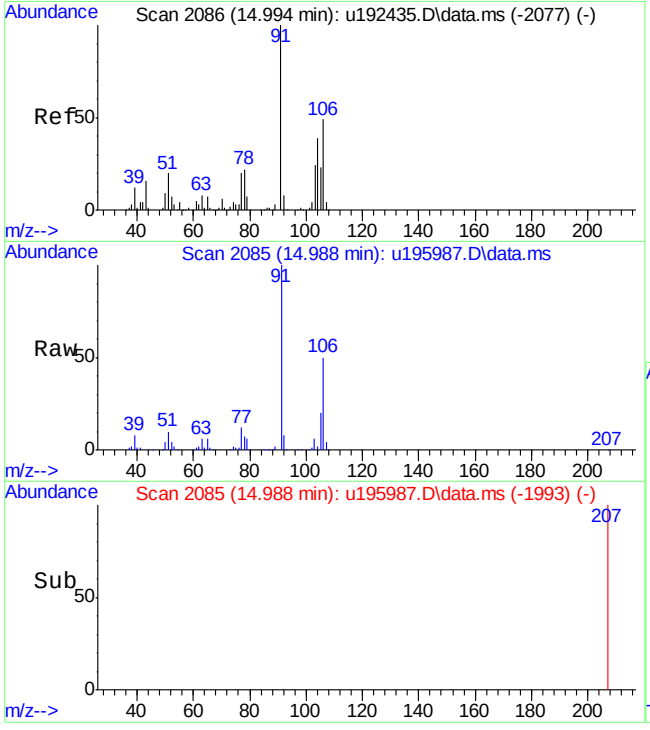


#108
m,p-xylene
Concen: 443.52 ug/L
RT: 14.517 min Scan# 1995
Delta R.T. -0.003 min
Lab File: u195987.D
Acq: 11 Jun 2015 2:59 pm

Tgt Ion:106 Resp: 1991091

Ion	Ratio	Lower	Upper
106	100		
91	194.7	163.3	223.3

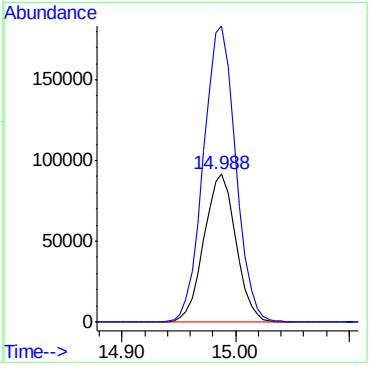




#109
o-xylene
Concen: 40.37 ug/L
RT: 14.988 min Scan# 2085
Delta R.T. 0.002 min
Lab File: u195987.D
Acq: 11 Jun 2015 2:59 pm

Tgt Ion:106 Resp: 178509

Ion	Ratio	Lower	Upper
106	100		
91	199.8	177.8	237.8



Manual Integrations APPROVED (compounds with "m" flag)
Kanya Veerawat 06/22/15 03:02

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u196212.D
Acq On : 17 Jun 2015 1:57 pm
Operator : NicoleH1
Sample : jb96432-4
Misc : ms86322,vu9047,5.0,,,,4
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jun 17 17:07:40 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.868	65	74822	500.00	ug/L	-0.02
5) pentafluorobenzene	10.074	168	275999	50.00	ug/L	0.00
64) 1,4-difluorobenzene	10.999	114	324217	50.00	ug/L	0.00
96) chlorobenzene-d5	14.324	117	299393	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.896	152	172949	50.00	ug/L	0.00

System Monitoring Compounds

56) dibromofluoromethane (s)	10.152	113	92567	49.33	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 98.66%			
57) 1,2-dichloroethane-d4 (s)	10.576	65	93639	47.16	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 94.32%			
88) toluene-d8 (s)	12.683	98	346310	46.71	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 93.42%			
114) 4-bromofluorobenzene (s)	15.600	95	133488	43.58	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 87.16%			

Target Compounds

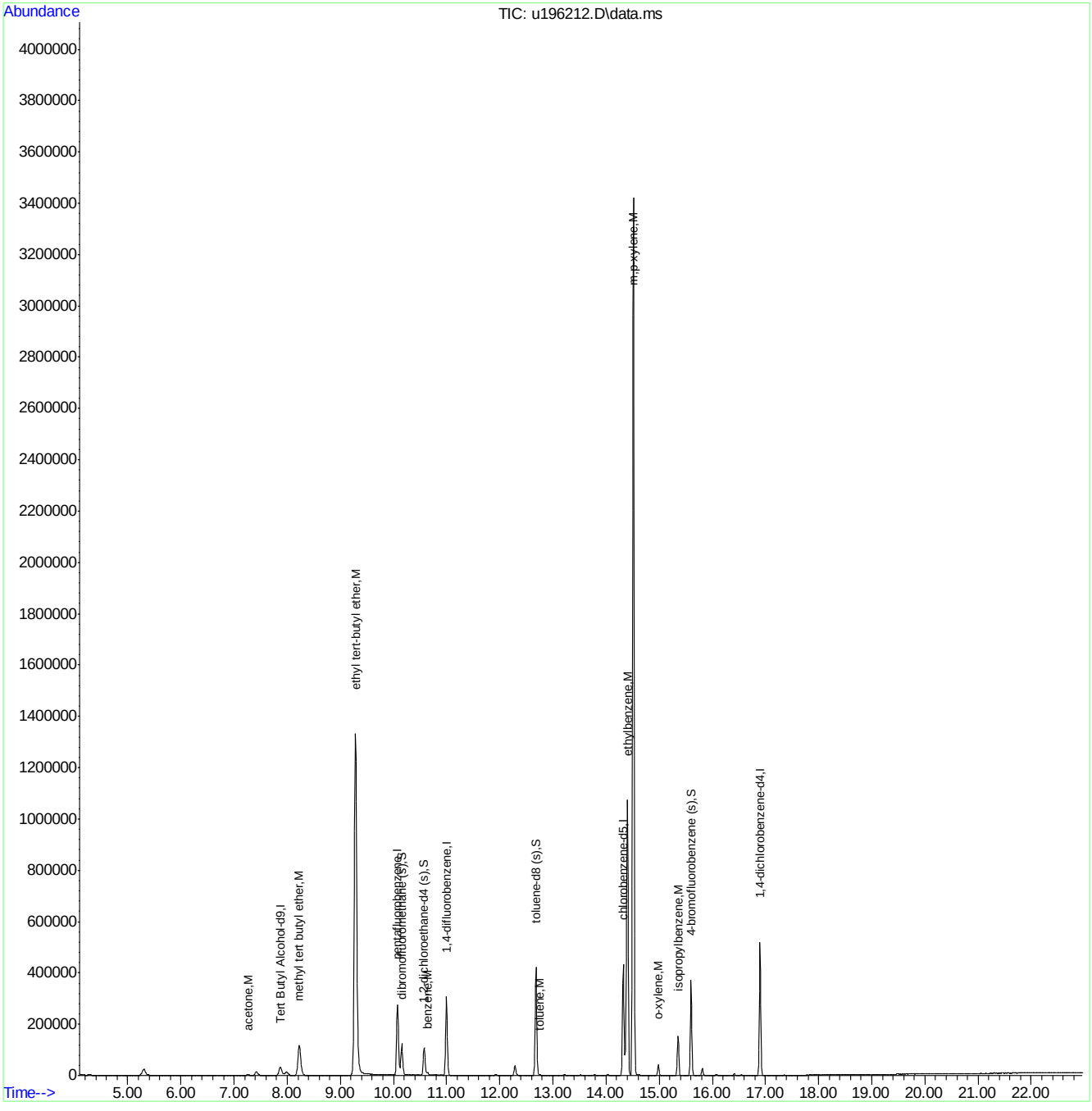
						Qvalue
29) acetone	7.266	58	581	3.70	ug/L #	31
37) methyl tert butyl ether	8.223	73	224474	41.47	ug/L	98
40) ethyl tert-butyl ether	9.290	59	67257	11.67	ug/L #	49
72) benzene	10.644	78	9661	1.23	ug/L	99
90) toluene	12.761	92	1428	0.28	ug/L	85
107) ethylbenzene	14.403	91	900683	89.05	ug/L	99
108) m,p-xylene	14.512	106	1184729	298.83	ug/L	100
109) o-xylene	14.983	106	15354m	3.93	ug/L	
113) isopropylbenzene	15.354	105	130181	12.28	ug/L	98

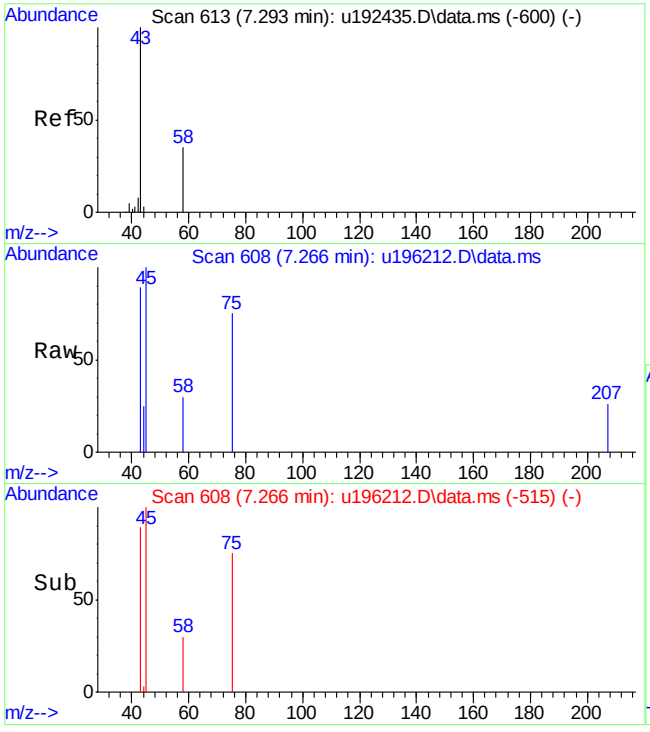
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u196212.D
Acq On : 17 Jun 2015 1:57 pm
Operator : NicoleH1
Sample : jb96432-4
Misc : ms86322,vu9047,5.0,,,,4
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jun 17 17:07:40 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

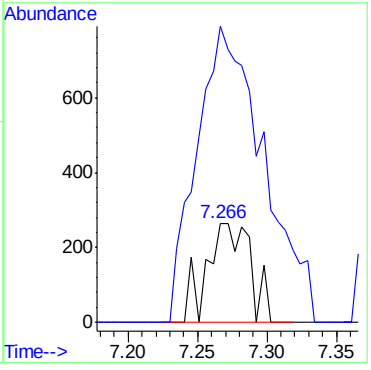


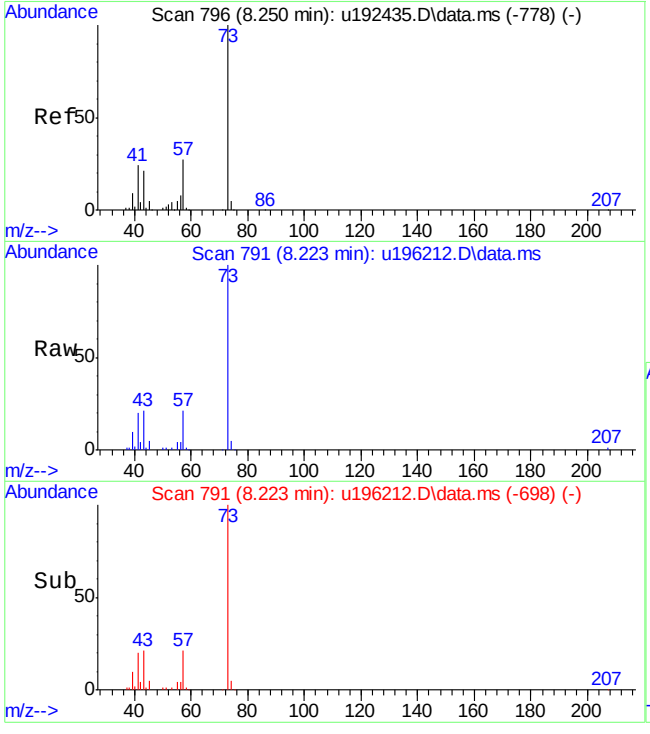


#29
acetone
Concen: 3.70 ug/L
RT: 7.266 min Scan# 608
Delta R.T. -0.013 min
Lab File: u196212.D
Acq: 17 Jun 2015 1:57 pm

Tgt Ion: 58 Resp: 581

Ion	Ratio	Lower	Upper
58	100		
43	456.5	285.8	345.8#

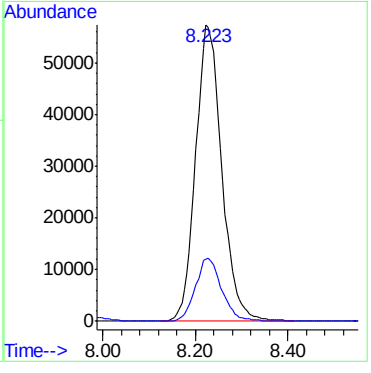


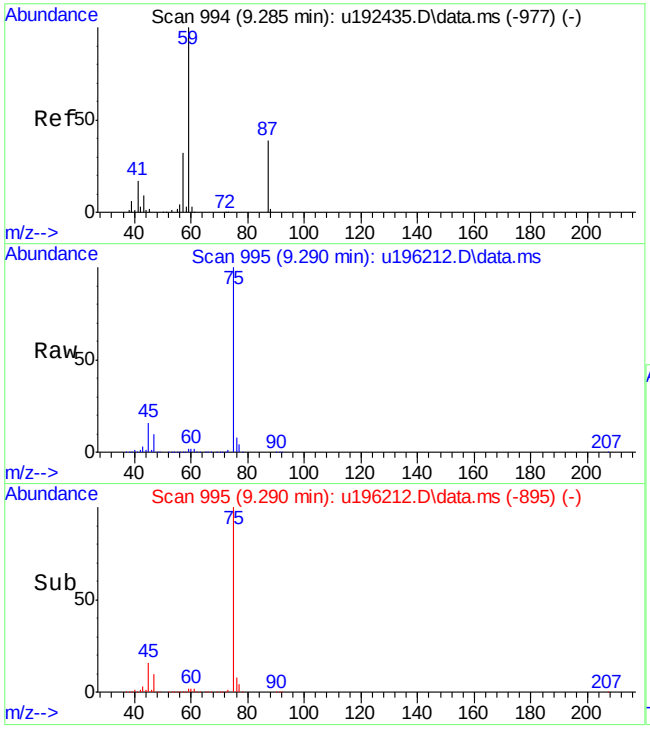


#37
methyl tert butyl ether
Concen: 41.47 ug/L
RT: 8.223 min Scan# 791
Delta R.T. -0.013 min
Lab File: u196212.D
Acq: 17 Jun 2015 1:57 pm

Tgt Ion: 73 Resp: 224474

Ion	Ratio	Lower	Upper
73	100		
57	21.1	0.0	51.9

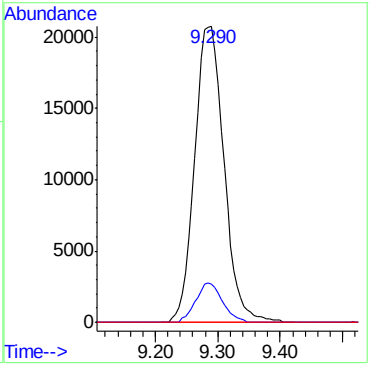


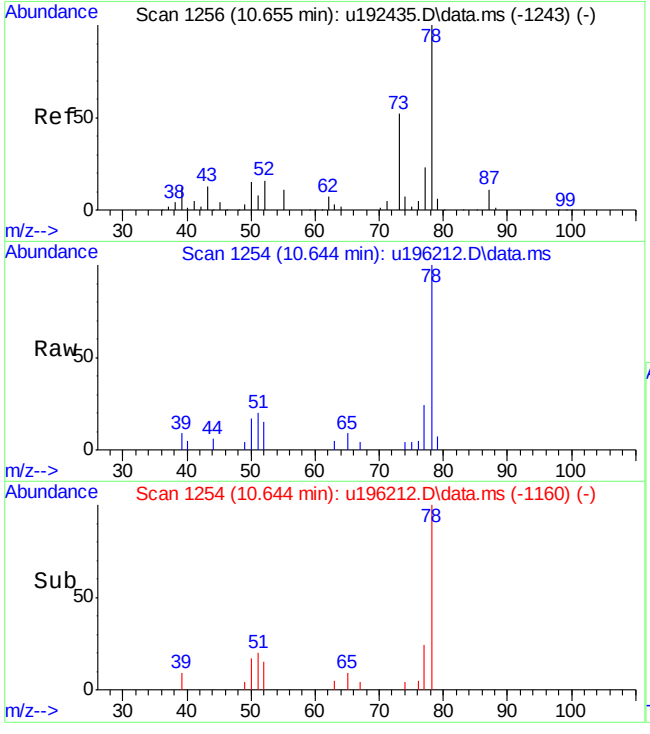


#40
ethyl tert-butyl ether
Concen: 11.67 ug/L
RT: 9.290 min Scan# 995
Delta R.T. 0.023 min
Lab File: u196212.D
Acq: 17 Jun 2015 1:57 pm

Tgt Ion: 59 Resp: 67257

Ion	Ratio	Lower	Upper
59	100		
57	12.9	1.1	61.1
87	0.0	10.8	70.8#

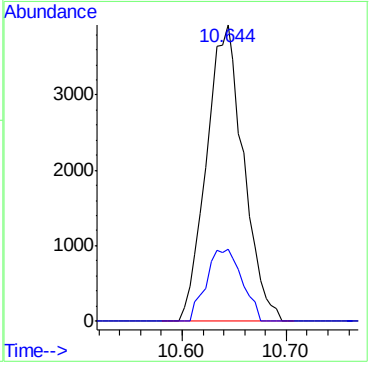


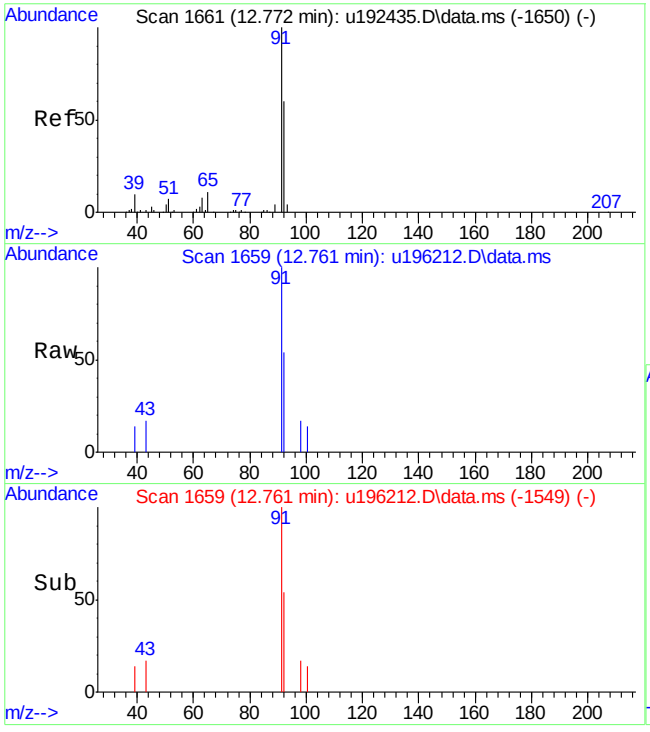


#72
benzene
Concen: 1.23 ug/L
RT: 10.644 min Scan# 1254
Delta R.T. 0.003 min
Lab File: u196212.D
Acq: 17 Jun 2015 1:57 pm

Tgt Ion: 78 Resp: 9661

Ion	Ratio	Lower	Upper
78	100		
77	24.4	0.0	53.9

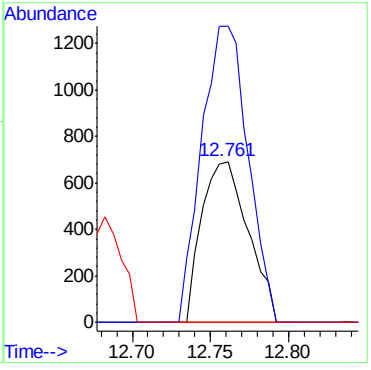


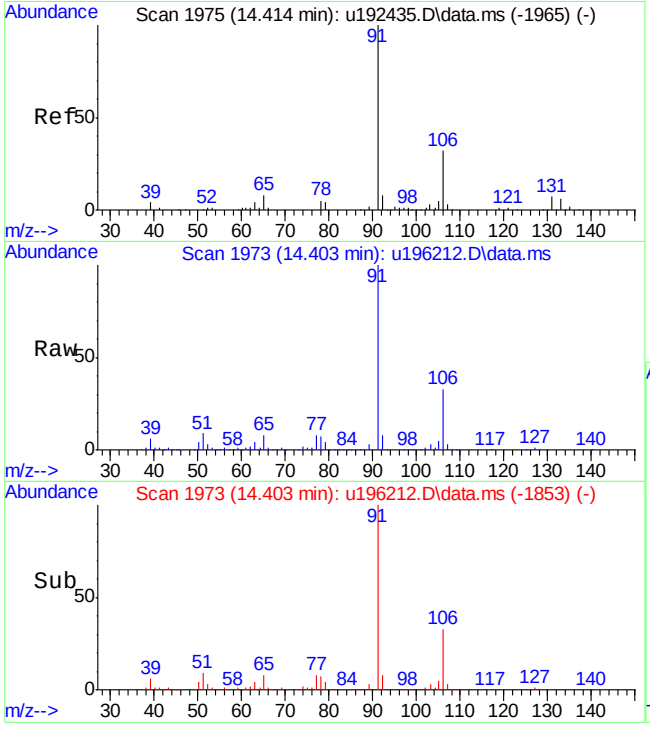


#90
toluene
Concen: 0.28 ug/L
RT: 12.761 min Scan# 1659
Delta R.T. -0.003 min
Lab File: u196212.D
Acq: 17 Jun 2015 1:57 pm

Tgt Ion: 92 Resp: 1428

Ion	Ratio	Lower	Upper
92	100		
91	184.4	137.2	197.2
65	0.0	0.0	48.1

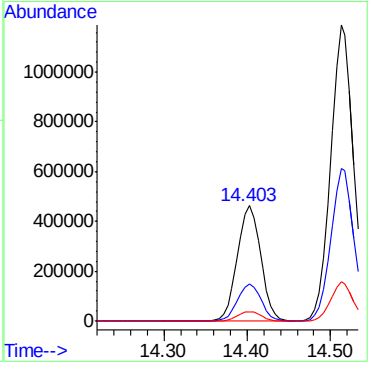


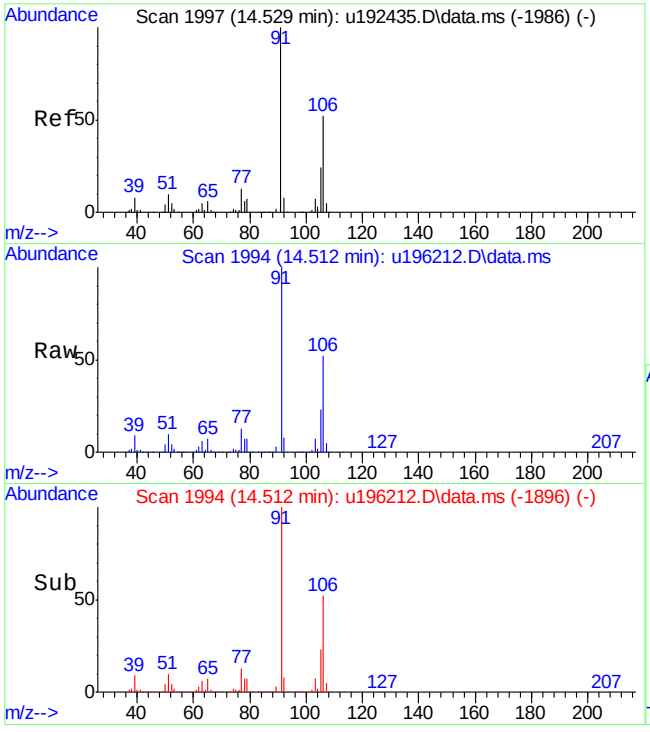


#107
ethylbenzene
Concen: 89.05 ug/L
RT: 14.403 min Scan# 1973
Delta R.T. -0.003 min
Lab File: u196212.D
Acq: 17 Jun 2015 1:57 pm

Tgt Ion: 91 Resp: 900683

Ion	Ratio	Lower	Upper
91	100		
106	32.5	2.0	62.0
77	8.3	0.0	38.1

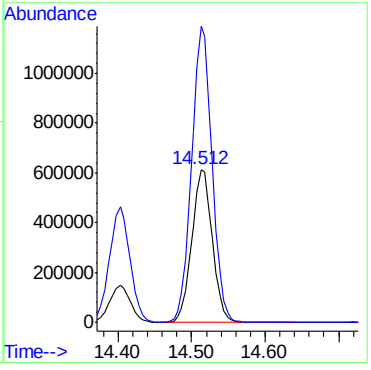


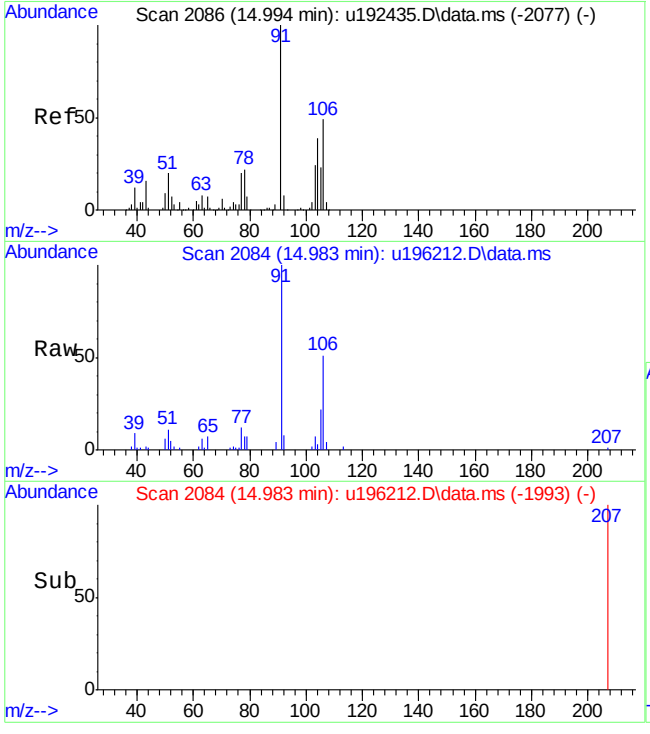


#108
m,p-xylene
Concen: 298.83 ug/L
RT: 14.512 min Scan# 1994
Delta R.T. -0.008 min
Lab File: u196212.D
Acq: 17 Jun 2015 1:57 pm

Tgt Ion:106 Resp: 1184729

Ion	Ratio	Lower	Upper
106	100		
91	193.8	163.3	223.3

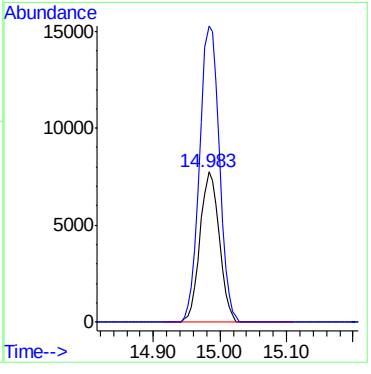


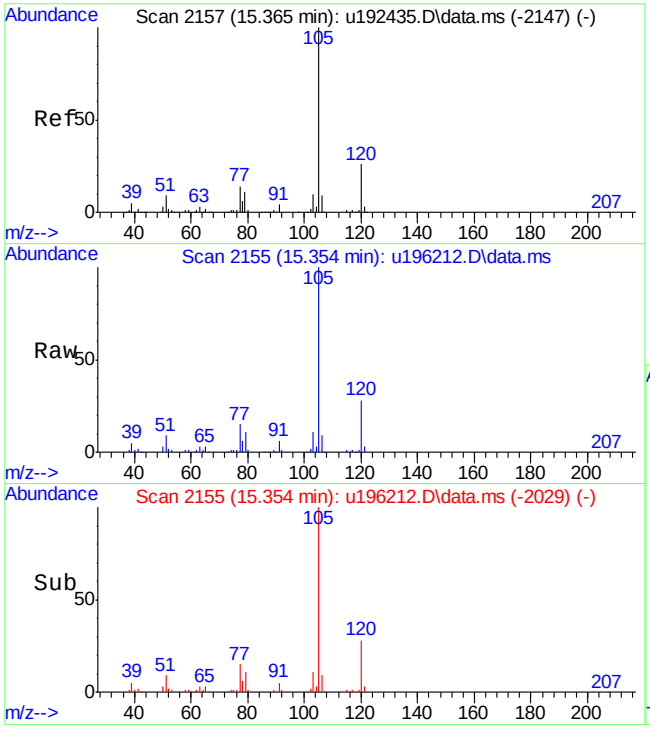


#109
o-xylene
Concen: 3.93 ug/L m
RT: 14.983 min Scan# 2084
Delta R.T. -0.003 min
Lab File: u196212.D
Acq: 17 Jun 2015 1:57 pm

Tgt Ion:106 Resp: 15354

Ion	Ratio	Lower	Upper
106	100		
91	197.2	177.8	237.8

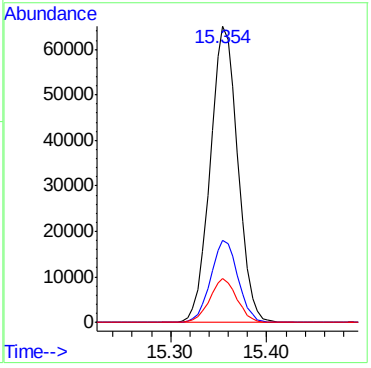




#113
isopropylbenzene
Concen: 12.28 ug/L
RT: 15.354 min Scan# 2155
Delta R.T. -0.003 min
Lab File: u196212.D
Acq: 17 Jun 2015 1:57 pm

Tgt Ion:105 Resp: 130181

Ion	Ratio	Lower	Upper
105	100		
120	27.6	0.0	56.7
77	14.8	0.0	44.2



Manual Integration Approval Summary

Sample Number:	JB96432-4	**Method:**	SW846 8260C
Lab FileID:	U196212.D	**Analyst approved:**	06/17/15 17:13 Ying Li
Injection Time:	06/17/15 13:57	**Supervisor approved:**	06/22/15 03:02 Kanya Veerawat

Parameter	CAS	Sig#	R.T. (min.)	Reason
o-Xylene	95-47-6		14.98	Poor instrument integration

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u195961.D
Acq On : 11 Jun 2015 1:41 am
Operator : NicoleH1
Sample : jb96432-5
Misc : ms86322,vu9037,5.0,,,,1
ALS Vial : 35 Sample Multiplier: 1

Quant Time: Jun 11 13:06:56 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.872	65	95974	500.00	ug/L	-0.01
5) pentafluorobenzene	10.079	168	352793	50.00	ug/L	0.00
64) 1,4-difluorobenzene	10.999	114	395321	50.00	ug/L	0.00
96) chlorobenzene-d5	14.324	117	347444	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.901	152	187401	50.00	ug/L	0.00

System Monitoring Compounds						
56) dibromofluoromethane (s)	10.157	113	122180	50.94	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 101.88%			
57) 1,2-dichloroethane-d4 (s)	10.581	65	128918	50.79	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 101.58%			
88) toluene-d8 (s)	12.682	98	445569	49.29	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 98.58%			
114) 4-bromofluorobenzene (s)	15.599	95	163737	49.33	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 98.66%			

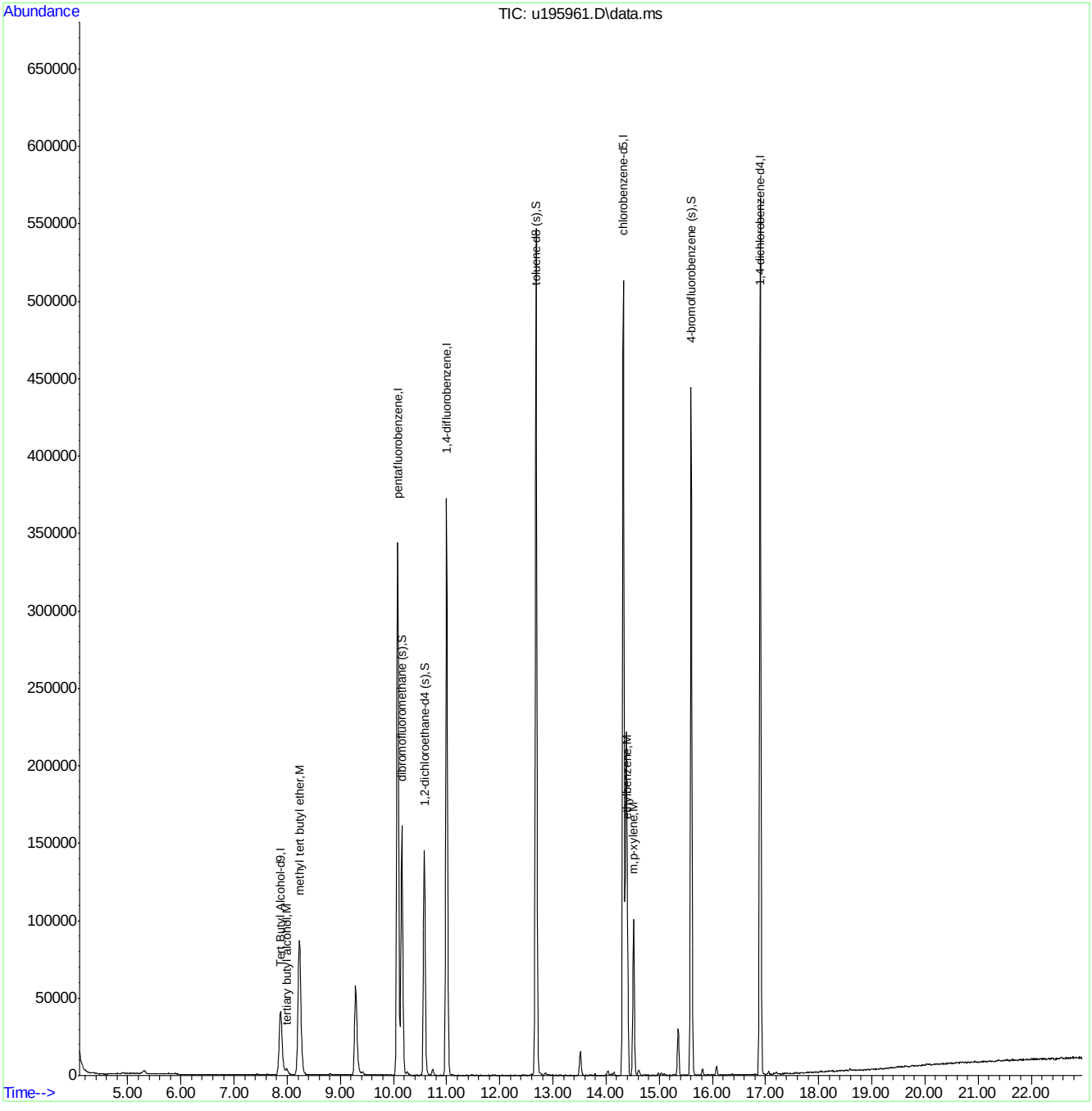
Target Compounds						Qvalue
2) tertiary butyl alcohol	7.998	59	6411	29.81	ug/L	81
37) methyl tert butyl ether	8.228	73	167316	24.18	ug/L	99
107) ethylbenzene	14.402	91	42093	3.59	ug/L	98
108) m,p-xylene	14.517	106	32586	7.08	ug/L	99

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

Quantitation Report (QT Reviewed)

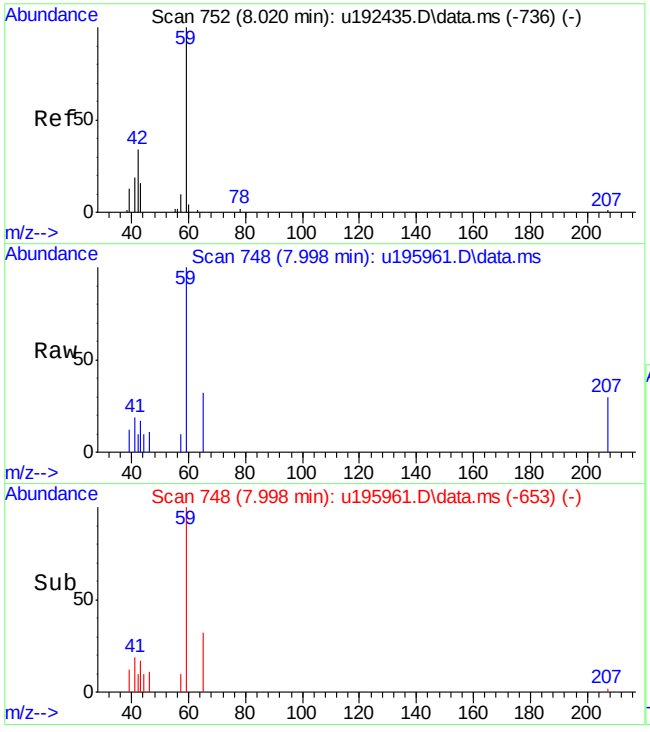
Data Path : C:\msdchem\1\DATA\
Data File : u195961.D
Acq On : 11 Jun 2015 1:41 am
Operator : NicoleH1
Sample : jb96432-5
Misc : ms86322,vu9037,5.0,,,,1
ALS Vial : 35 Sample Multiplier: 1

Quant Time: Jun 11 13:06:56 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration



MU8988.M Thu Jun 11 13:07:19 2015 U_CORE

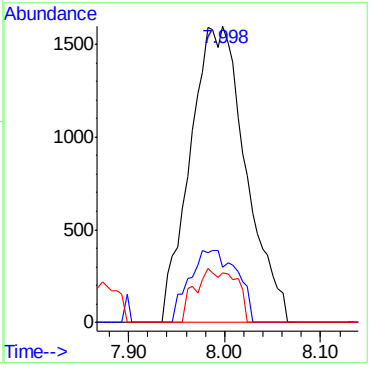
ACCUTEST LABORATORIES
JB96432

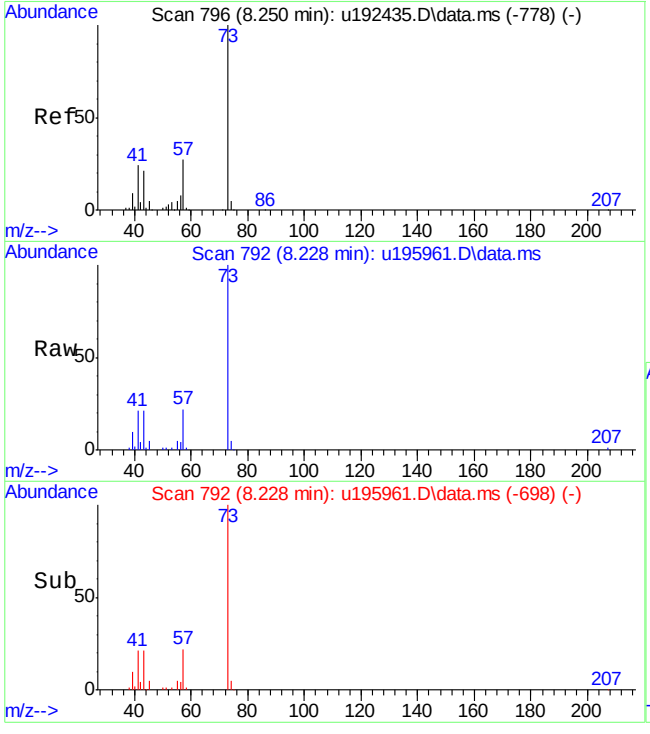


#2
tertiary butyl alcohol
Concen: 29.81 ug/L
RT: 7.998 min Scan# 748
Delta R.T. -0.003 min
Lab File: u195961.D
Acq: 11 Jun 2015 1:41 am

Tgt Ion: 59 Resp: 6411

Ion	Ratio	Lower	Upper
59	100		
41	18.6	3.3	63.3
43	16.8	0.0	50.3

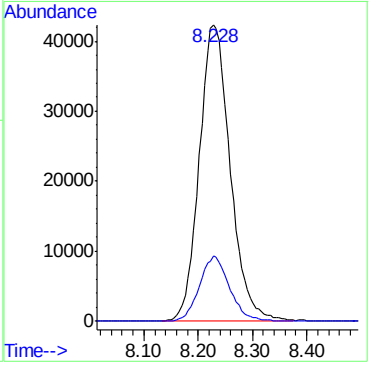


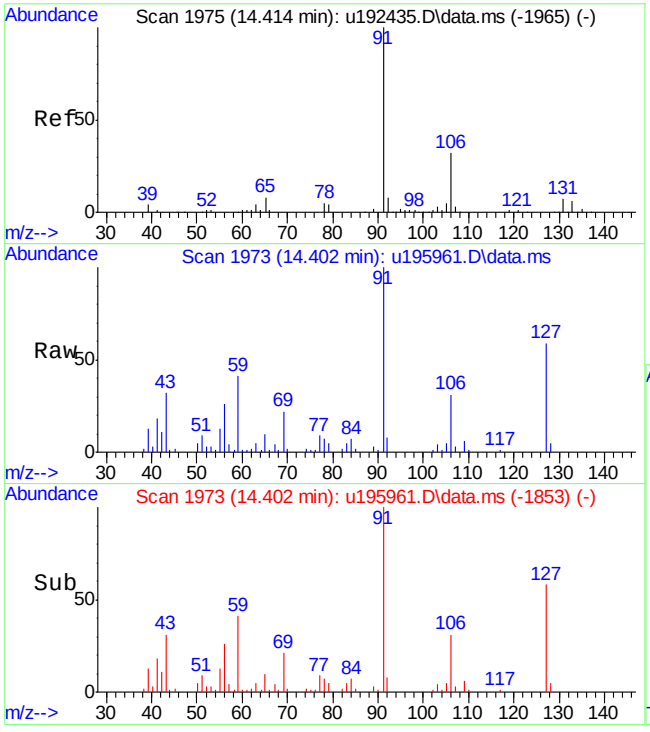


#37
methyl tert butyl ether
Concen: 24.18 ug/L
RT: 8.228 min Scan# 792
Delta R.T. -0.009 min
Lab File: u195961.D
Acq: 11 Jun 2015 1:41 am

Tgt Ion: 73 Resp: 167316

Ion	Ratio	Lower	Upper
73	100		
57	21.2	0.0	51.9

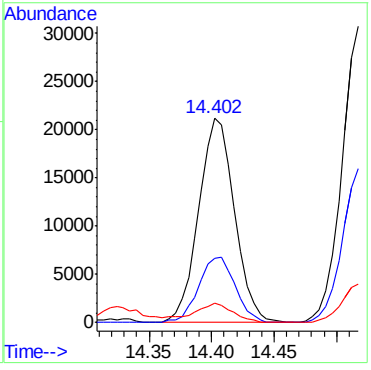


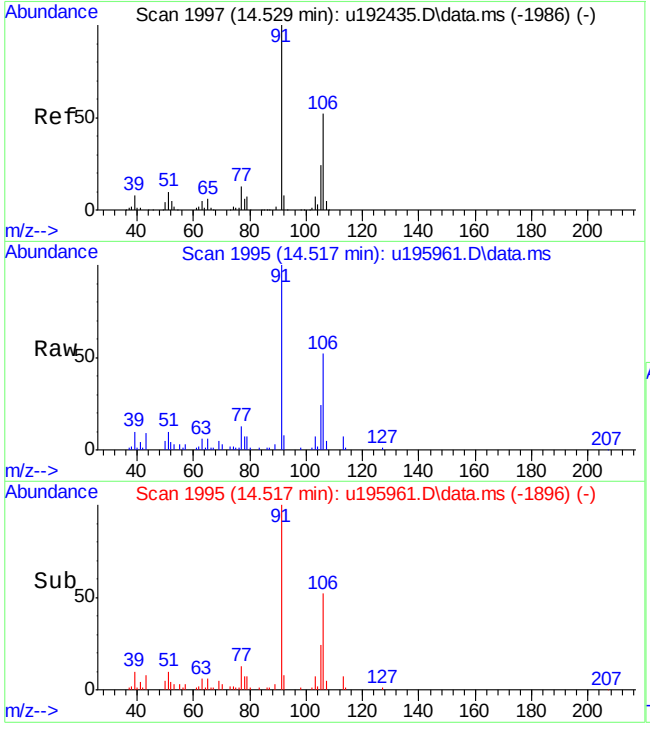


#107
ethylbenzene
Concen: 3.59 ug/L
RT: 14.402 min Scan# 1973
Delta R.T. -0.003 min
Lab File: u195961.D
Acq: 11 Jun 2015 1:41 am

Tgt Ion: 91 Resp: 42093

Ion	Ratio	Lower	Upper
91	100		
106	31.3	2.0	62.0
77	9.2	0.0	38.1

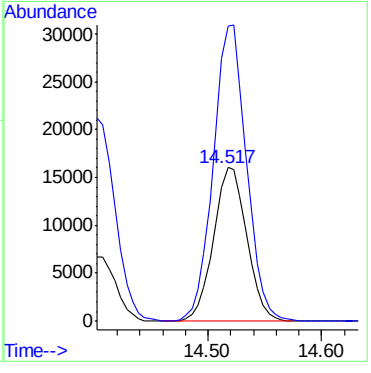




#108
m,p-xylene
Concen: 7.08 ug/L
RT: 14.517 min Scan# 1995
Delta R.T. -0.003 min
Lab File: u195961.D
Acq: 11 Jun 2015 1:41 am

Tgt Ion:106 Resp: 32586

Ion	Ratio	Lower	Upper
106	100		
91	191.9	163.3	223.3



7.1.7

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9043-9044\
Data File : u196112.D
Acq On : 15 Jun 2015 11:55 am
Operator : NicoleH1
Sample : jb96432-6
Misc : ms86322,vu9043,5.0,,,,20
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jun 16 09:14:04 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

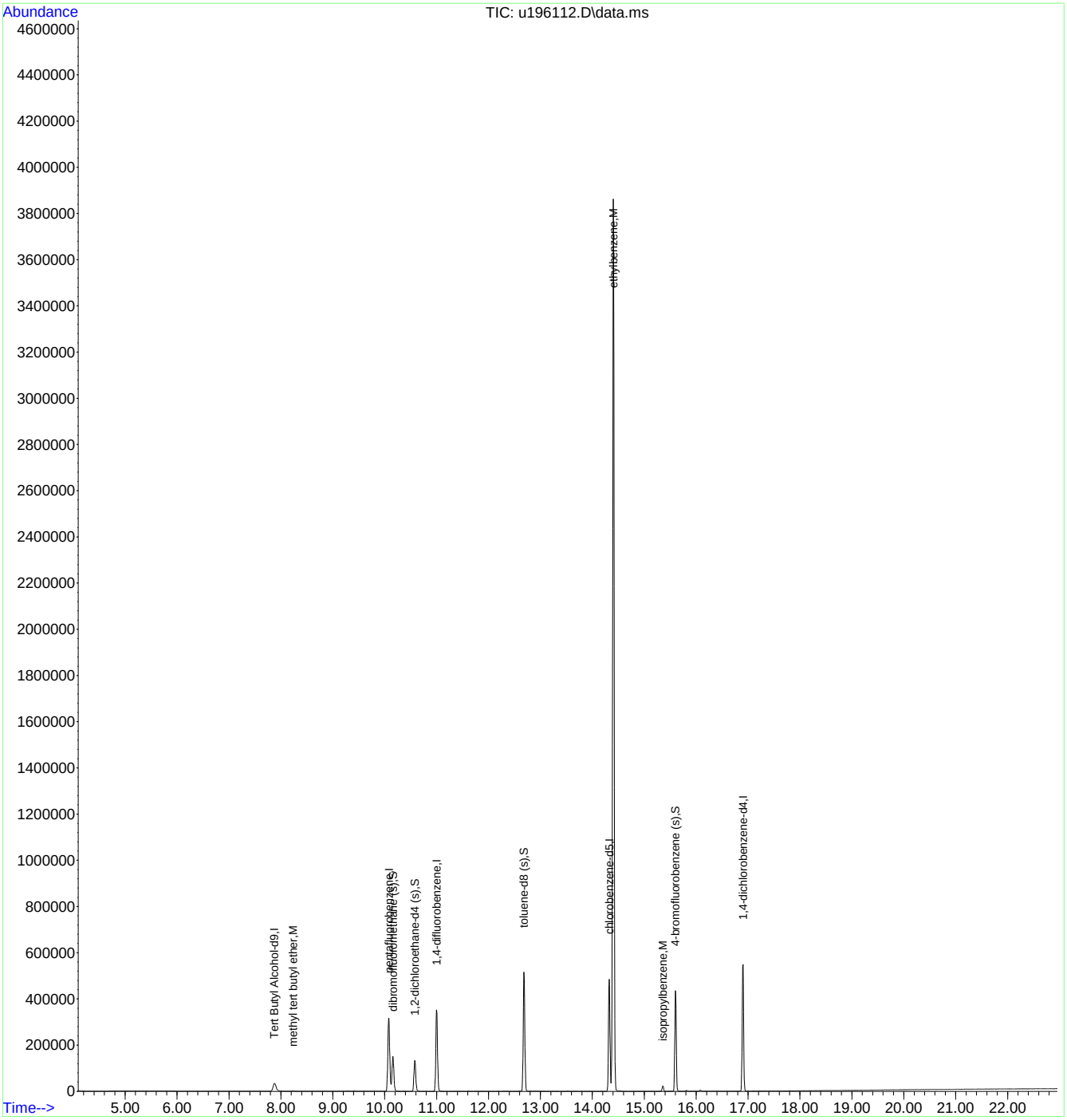
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.873	65	83365	500.00	ug/L	-0.01
5) pentafluorobenzene	10.079	168	325679	50.00	ug/L	0.00
64) 1,4-difluorobenzene	10.999	114	369607	50.00	ug/L	0.00
96) chlorobenzene-d5	14.324	117	332138	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.901	152	184222	50.00	ug/L	0.00
System Monitoring Compounds						
56) dibromofluoromethane (s)	10.157	113	113509	51.26	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 102.52%			
57) 1,2-dichloroethane-d4 (s)	10.581	65	117670	50.22	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 100.44%			
88) toluene-d8 (s)	12.682	98	420571	49.76	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 99.52%			
114) 4-bromofluorobenzene (s)	15.600	95	157746	48.35	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 96.70%			
Target Compounds						Qvalue
37) methyl tert butyl ether	8.233	73	2517	0.39	ug/L #	54
107) ethylbenzene	14.402	91	3333279	297.06	ug/L	99
113) isopropylbenzene	15.359	105	20357	1.80	ug/L	99

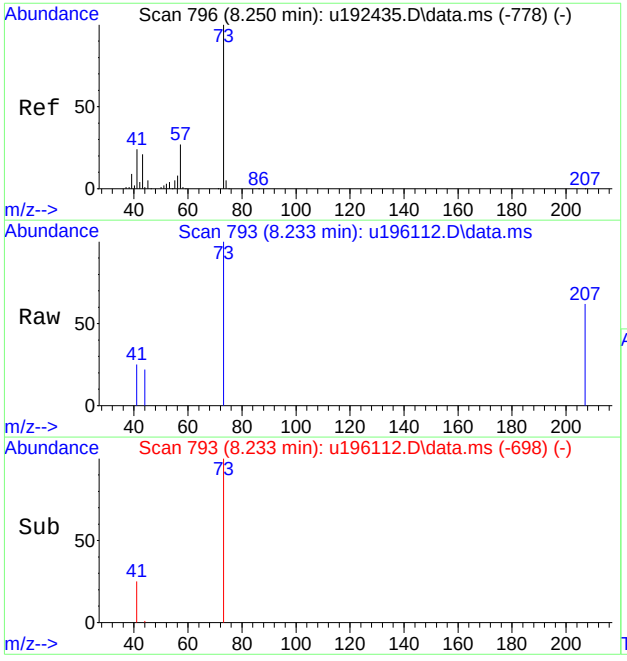
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9043-9044\
Data File : u196112.D
Acq On : 15 Jun 2015 11:55 am
Operator : NicoleH1
Sample : jb96432-6
Misc : ms86322,vu9043,5.0,,,,20
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jun 16 09:14:04 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

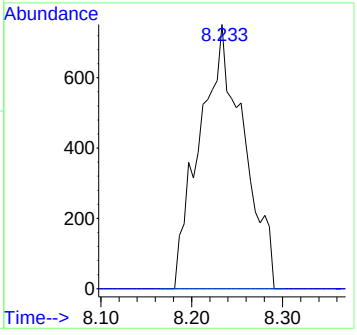


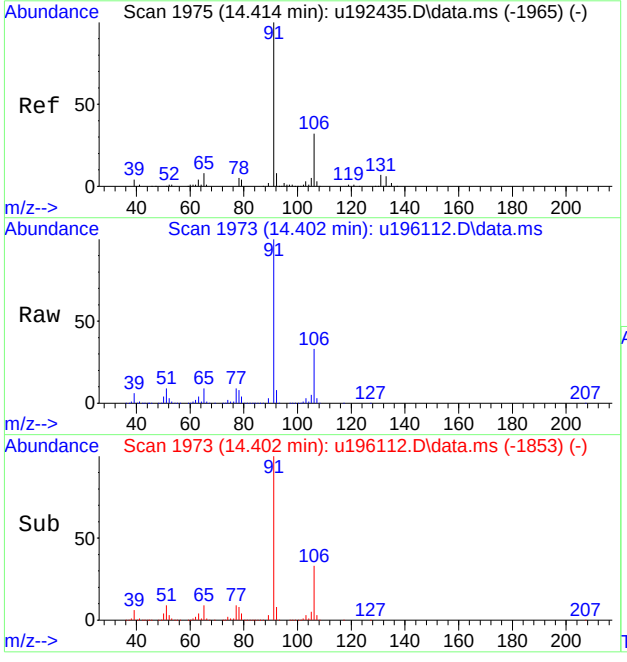


#37
methyl tert butyl ether
Concen: 0.39 ug/L
RT: 8.233 min Scan# 793
Delta R.T. -0.003 min
Lab File: u196112.D
Acq: 15 Jun 2015 11:55 am

Tgt Ion: 73 Resp: 2517

Ion	Ratio	Lower	Upper
73	100		
57	0.0	0.0	51.9

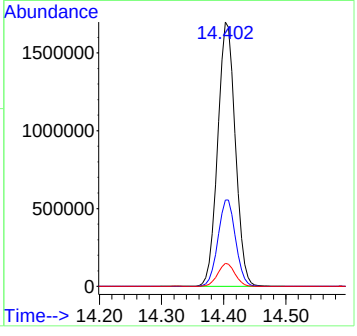


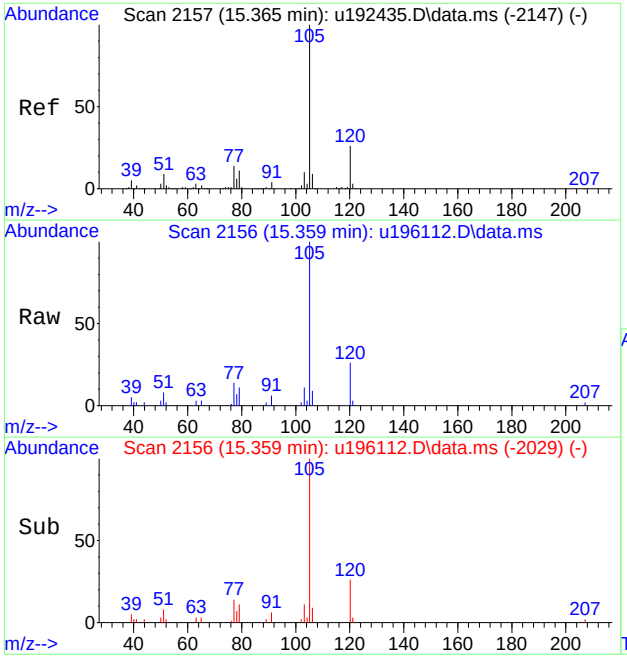


#107
ethylbenzene
Concen: 297.06 ug/L
RT: 14.402 min Scan# 1973
Delta R.T. -0.003 min
Lab File: u196112.D
Acq: 15 Jun 2015 11:55 am

Tgt Ion: 91 Resp: 3333279

Ion	Ratio	Lower	Upper
91	100		
106	32.6	2.0	62.0
77	8.7	0.0	38.1

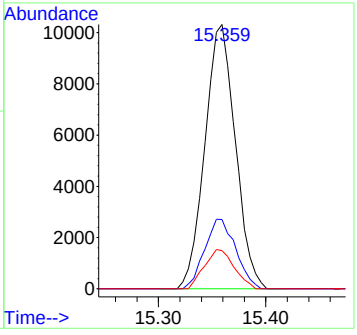




#113
isopropylbenzene
Concen: 1.80 ug/L
RT: 15.359 min Scan# 2156
Delta R.T. 0.002 min
Lab File: u196112.D
Acq: 15 Jun 2015 11:55 am

Tgt Ion:105 Resp: 20357

Ion	Ratio	Lower	Upper
105	100		
120	26.2	0.0	56.7
77	14.5	0.0	44.2



7.1.8

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9043-9044\
Data File : u196117.D
Acq On : 15 Jun 2015 2:21 pm
Operator : NicoleH1
Sample : jb96432-6
Misc : ms86322,vu9043,5.0,,,,200
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jun 16 09:15:40 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Tert Butyl Alcohol-d9	7.873	65	89458	500.00 ug/L	-0.01
5) pentafluorobenzene	10.079	168	325965	50.00 ug/L	0.00
64) 1,4-difluorobenzene	10.999	114	371786	50.00 ug/L	0.00
96) chlorobenzene-d5	14.324	117	333765	50.00 ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.902	152	184336	50.00 ug/L	0.00
System Monitoring Compounds					
56) dibromofluoromethane (s)	10.158	113	115133	51.95 ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 103.90%		
57) 1,2-dichloroethane-d4 (s)	10.581	65	119161	50.81 ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 101.62%		
88) toluene-d8 (s)	12.683	98	420365	49.44 ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 98.88%		
114) 4-bromofluorobenzene (s)	15.600	95	159274	48.78 ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 97.56%		
Target Compounds					Qvalue
107) ethylbenzene	14.403	91	319127	28.30 ug/L	99

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

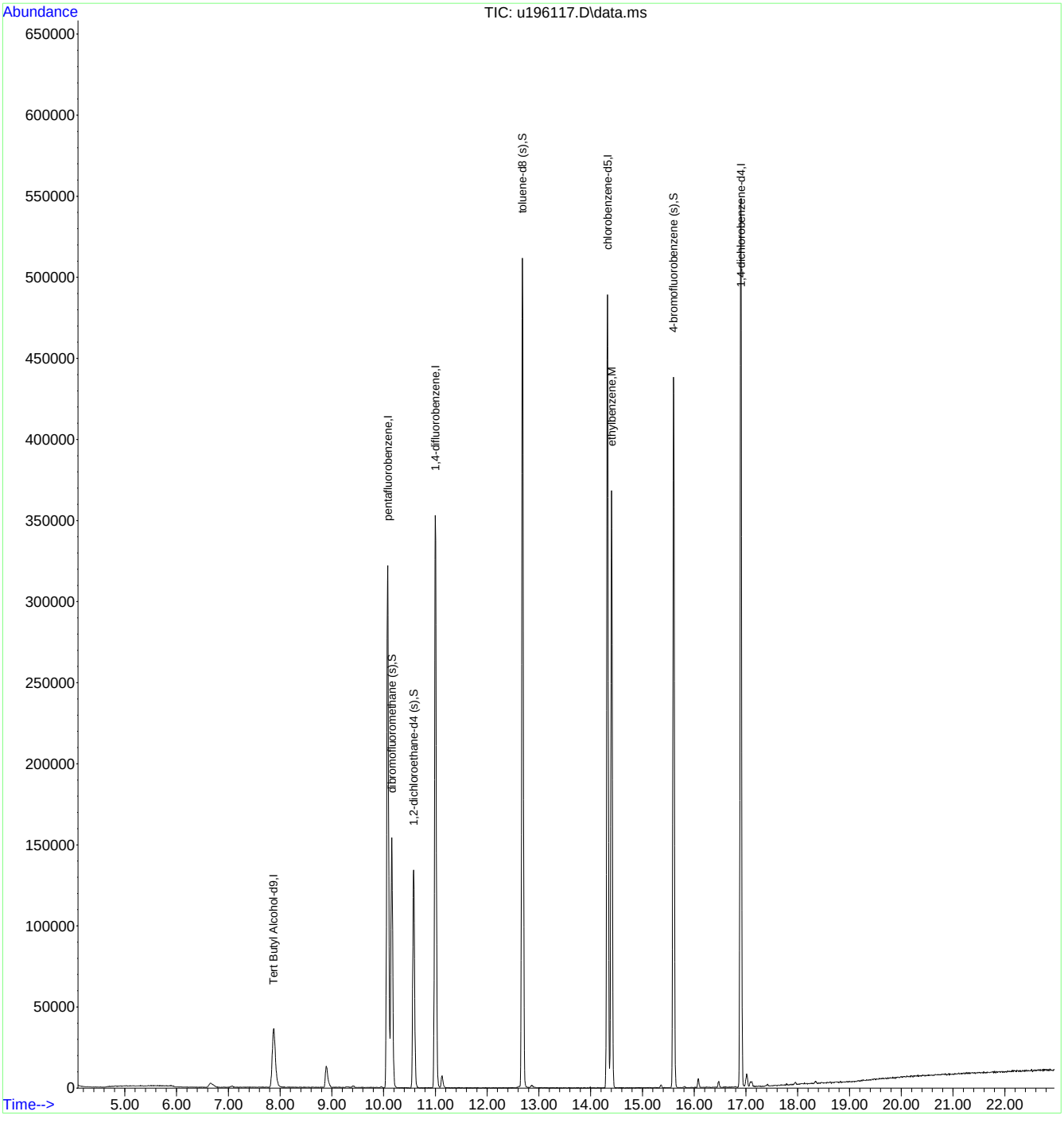
7.1.9

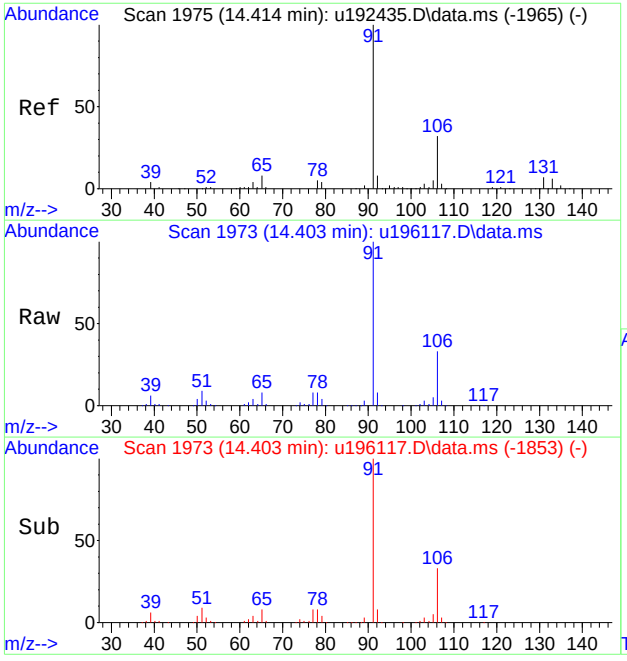
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9043-9044\
Data File : u196117.D
Acq On : 15 Jun 2015 2:21 pm
Operator : NicoleH1
Sample : jb96432-6
Misc : ms86322,vu9043,5.0,,,,200
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jun 16 09:15:40 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

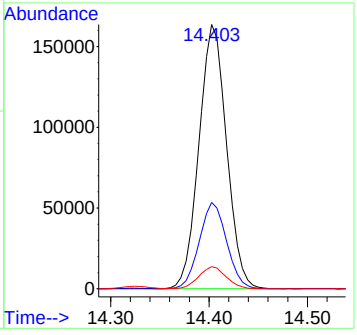




#107
ethylbenzene
Concen: 28.30 ug/L
RT: 14.403 min Scan# 1973
Delta R.T. -0.003 min
Lab File: u196117.D
Acq: 15 Jun 2015 2:21 pm

Tgt Ion: 91 Resp: 319127

Ion	Ratio	Lower	Upper
91	100		
106	32.6	2.0	62.0
77	8.4	0.0	38.1



7.1.9

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u195994.D
Acq On : 11 Jun 2015 6:28 pm
Operator : NicoleH1
Sample : jb96432-7
Misc : ms86322,vu9038,5.0,,,,100
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Jun 16 13:04:20 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.879	65	93777	500.00	ug/L	0.00
5) pentafluorobenzene	10.075	168	337728	50.00	ug/L	0.00
64) 1,4-difluorobenzene	11.000	114	379712	50.00	ug/L	0.00
96) chlorobenzene-d5	14.325	117	338806	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.903	152	189873	50.00	ug/L	0.00

System Monitoring Compounds

56) dibromofluoromethane (s)	10.159	113	118203	51.48	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 102.96%			
57) 1,2-dichloroethane-d4 (s)	10.577	65	123498	50.83	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 101.66%			
88) toluene-d8 (s)	12.684	98	433448	49.92	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 99.84%			
114) 4-bromofluorobenzene (s)	15.601	95	162529	48.33	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 96.66%			

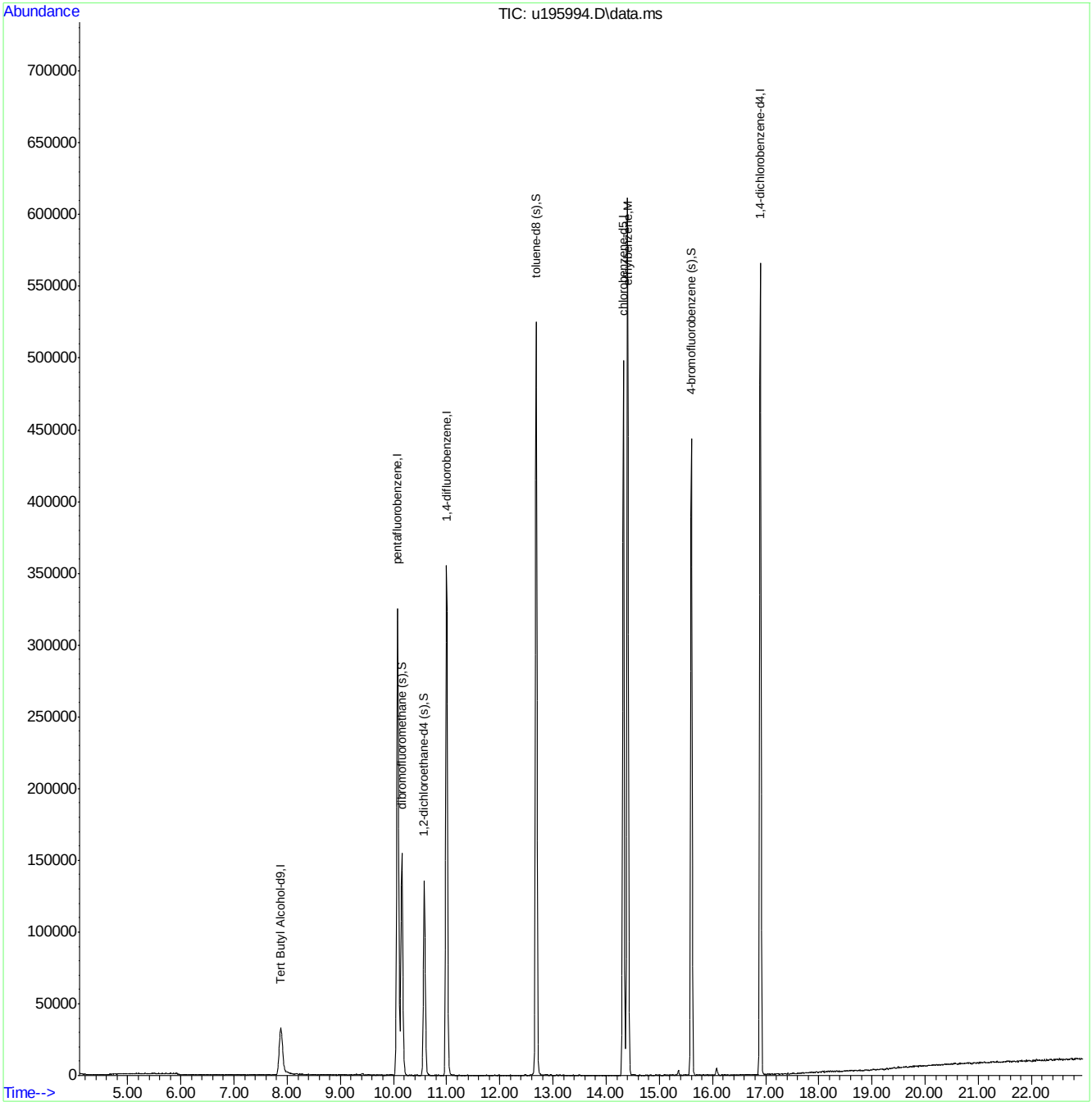
Target Compounds						Qvalue
107) ethylbenzene	14.404	91	542187	47.37	ug/L	100

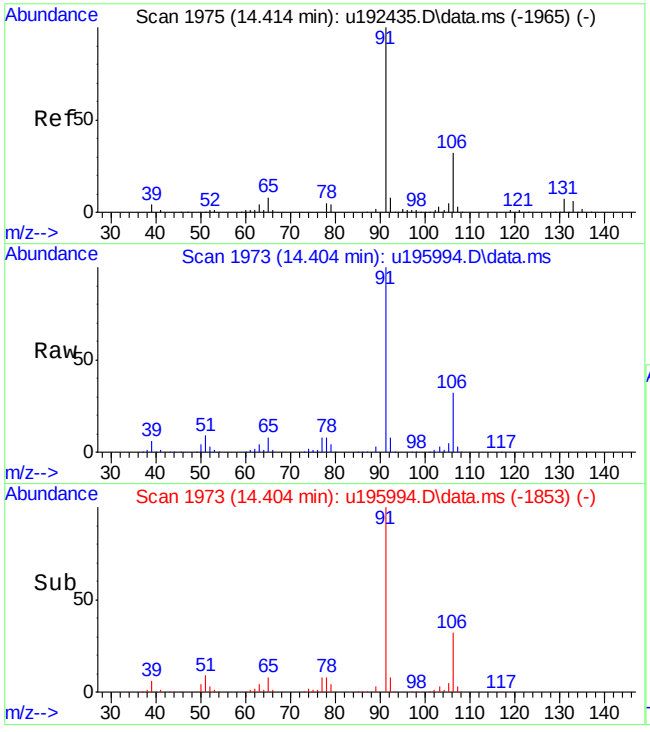
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u195994.D
Acq On : 11 Jun 2015 6:28 pm
Operator : NicoleH1
Sample : jb96432-7
Misc : ms86322,vu9038,5.0,,,,100
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Jun 16 13:04:20 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

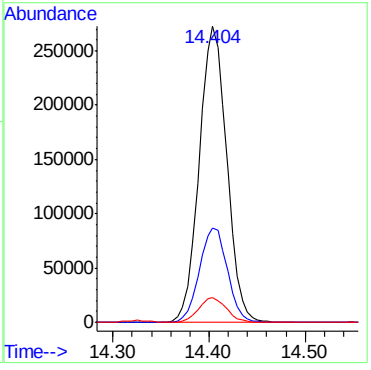




#107
ethylbenzene
Concen: 47.37 ug/L
RT: 14.404 min Scan# 1973
Delta R.T. -0.002 min
Lab File: u195994.D
Acq: 11 Jun 2015 6:28 pm

Tgt Ion: 91 Resp: 542187

Ion	Ratio	Lower	Upper
91	100		
106	31.9	2.0	62.0
77	8.5	0.0	38.1



7.1.10

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u196033.D
Acq On : 12 Jun 2015 2:22 pm
Operator : NicoleH1
Sample : jb96432-7
Misc : ms86322,vu9040,5.0,,,,20
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jun 12 16:29:38 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.878	65	96709	500.00	ug/L	0.00
5) pentafluorobenzene	10.079	168	335630	50.00	ug/L	0.00
64) 1,4-difluorobenzene	11.004	114	378964	50.00	ug/L	0.00
96) chlorobenzene-d5	14.324	117	338614	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.902	152	187312	50.00	ug/L	0.00

System Monitoring Compounds

56) dibromofluoromethane (s)	10.158	113	117281	51.39	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 102.78%			
57) 1,2-dichloroethane-d4 (s)	10.581	65	123152	51.00	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 102.00%			
88) toluene-d8 (s)	12.683	98	429725	49.58	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 99.16%			
114) 4-bromofluorobenzene (s)	15.600	95	159242	48.00	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 96.00%			

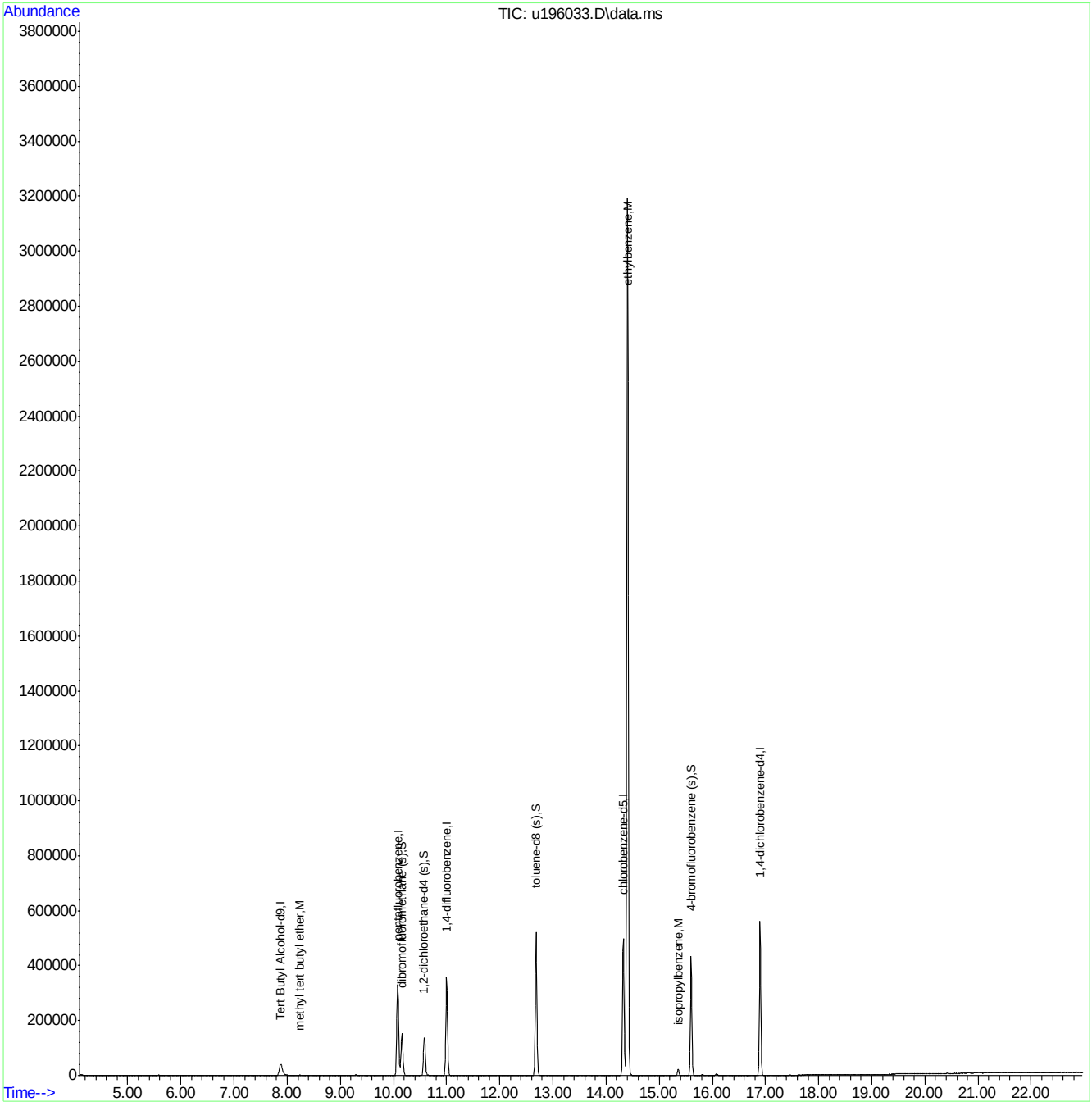
Target Compounds						Qvalue
37) methyl tert butyl ether	8.234	73	2778	0.42	ug/L #	54
107) ethylbenzene	14.403	91	2757691	241.06	ug/L	98
113) isopropylbenzene	15.354	105	20213	1.76	ug/L	97

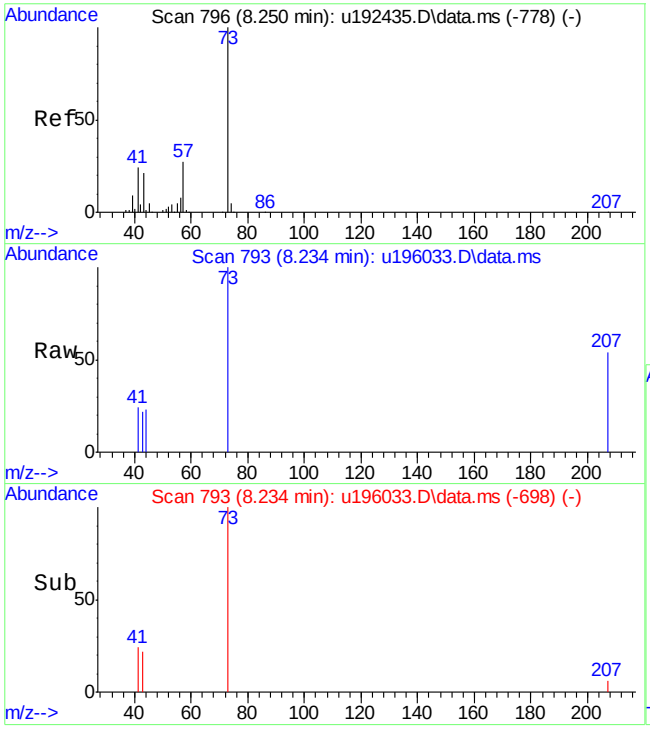
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u196033.D
Acq On : 12 Jun 2015 2:22 pm
Operator : NicoleH1
Sample : jb96432-7
Misc : ms86322,vu9040,5.0,,,,20
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jun 12 16:29:38 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

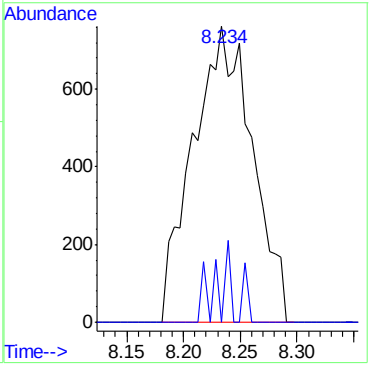


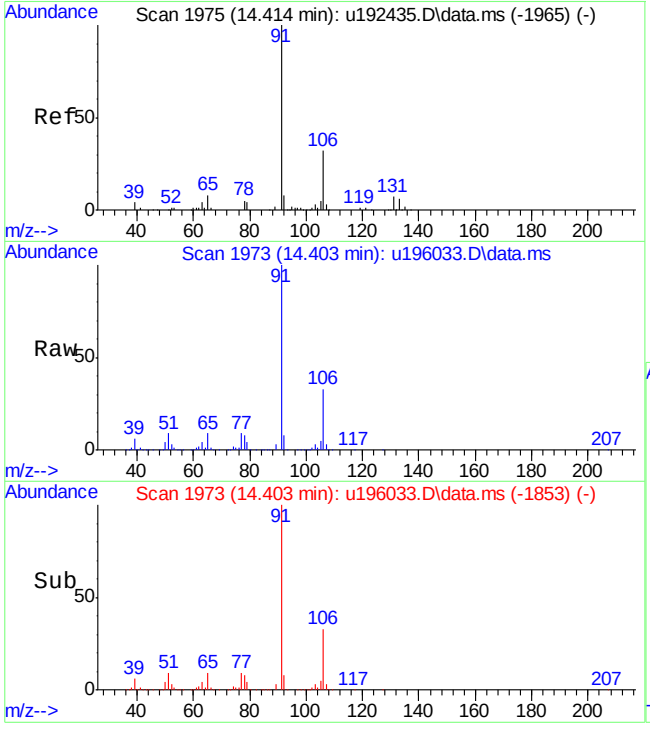


#37
methyl tert butyl ether
Concen: 0.42 ug/L
RT: 8.234 min Scan# 793
Delta R.T. -0.003 min
Lab File: u196033.D
Acq: 12 Jun 2015 2:22 pm

Tgt Ion: 73 Resp: 2778

Ion	Ratio	Lower	Upper
73	100		
57	0.0	0.0	51.9

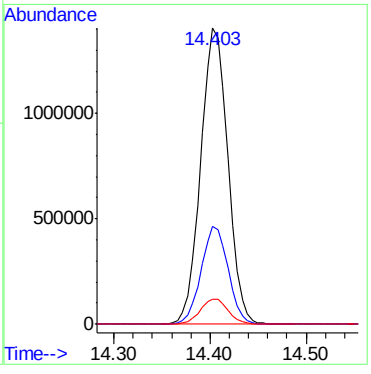


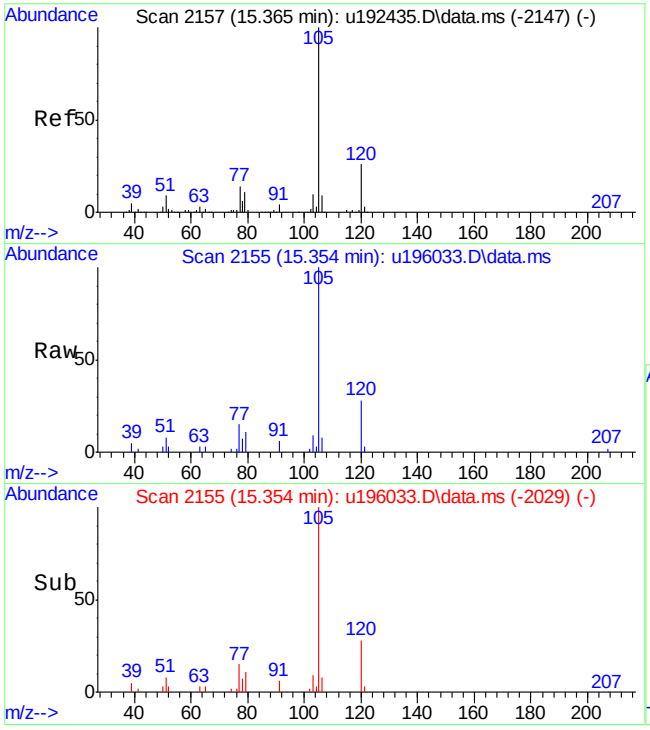


#107
ethylbenzene
Concen: 241.06 ug/L
RT: 14.403 min Scan# 1973
Delta R.T. -0.003 min
Lab File: u196033.D
Acq: 12 Jun 2015 2:22 pm

Tgt Ion: 91 Resp: 2757691

Ion	Ratio	Lower	Upper
91	100		
106	32.9	2.0	62.0
77	8.5	0.0	38.1

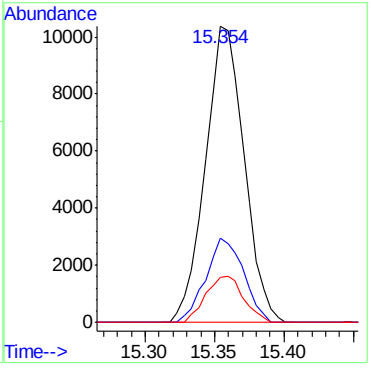




#113
isopropylbenzene
Concen: 1.76 ug/L
RT: 15.354 min Scan# 2155
Delta R.T. -0.003 min
Lab File: u196033.D
Acq: 12 Jun 2015 2:22 pm

Tgt Ion:105 Resp: 20213

Ion	Ratio	Lower	Upper
105	100		
120	28.4	0.0	56.7
77	15.1	0.0	44.2



7.1.11

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u195962.D
Acq On : 11 Jun 2015 2:11 am
Operator : NicoleH1
Sample : jb96432-8
Misc : ms86322,vu9037,5.0,,,,1
ALS Vial : 36 Sample Multiplier: 1

Quant Time: Jun 11 13:08:39 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.868	65	98102	500.00	ug/L	-0.02
5) pentafluorobenzene	10.079	168	346997	50.00	ug/L	0.00
64) 1,4-difluorobenzene	11.000	114	389566	50.00	ug/L	0.00
96) chlorobenzene-d5	14.325	117	345154	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.902	152	185591	50.00	ug/L	0.00

System Monitoring Compounds

56) dibromofluoromethane (s)	10.153	113	120061	50.89	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 101.78%			
57) 1,2-dichloroethane-d4 (s)	10.581	65	126704	50.75	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 101.50%			
88) toluene-d8 (s)	12.683	98	440851	49.48	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 98.96%			
114) 4-bromofluorobenzene (s)	15.600	95	162601	49.47	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 98.94%			

Target Compounds

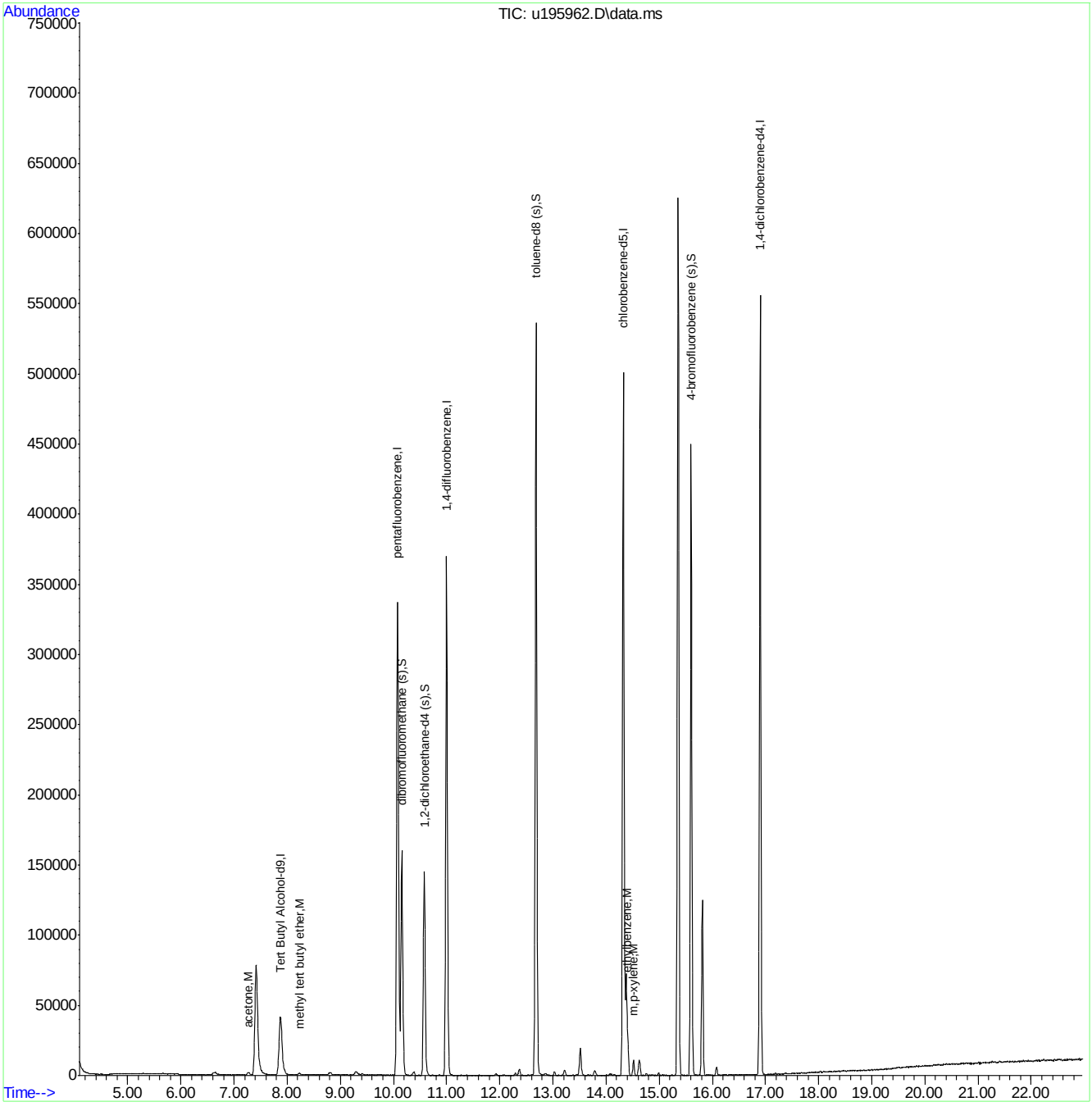
						Qvalue
29) acetone	7.267	58	1034	5.24	ug/L #	51
37) methyl tert butyl ether	8.234	73	2805	0.41	ug/L	74
107) ethylbenzene	14.403	91	3563	0.31	ug/L	93
108) m,p-xylene	14.518	106	4076	0.89	ug/L	97

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

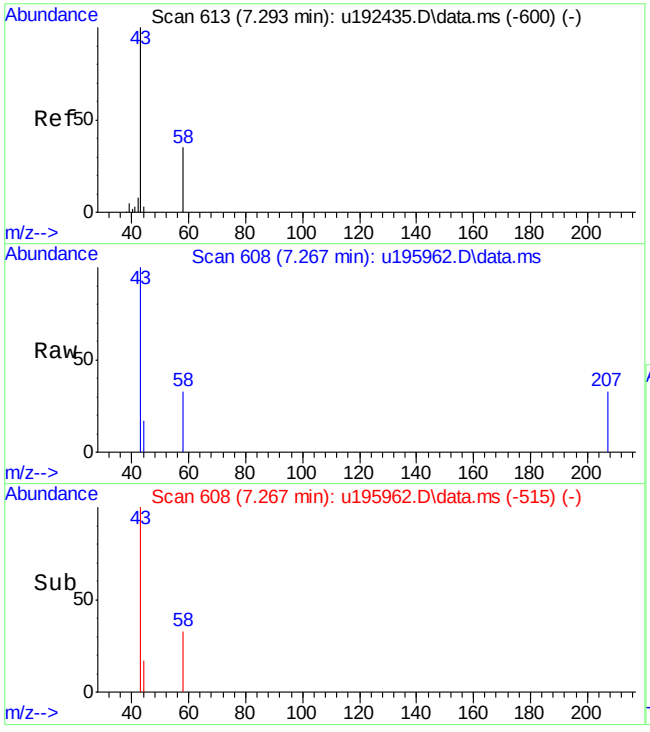
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u195962.D
Acq On : 11 Jun 2015 2:11 am
Operator : NicoleH1
Sample : jb96432-8
Misc : ms86322,vu9037,5.0,,,,1
ALS Vial : 36 Sample Multiplier: 1

Quant Time: Jun 11 13:08:39 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration



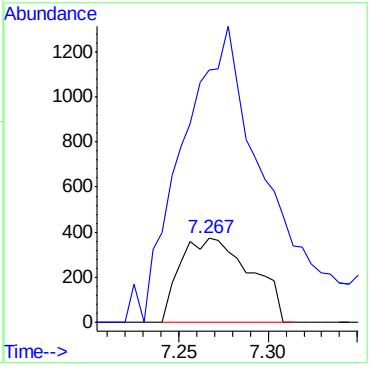
MU8988.M Thu Jun 11 13:08:52 2015 U_CORE

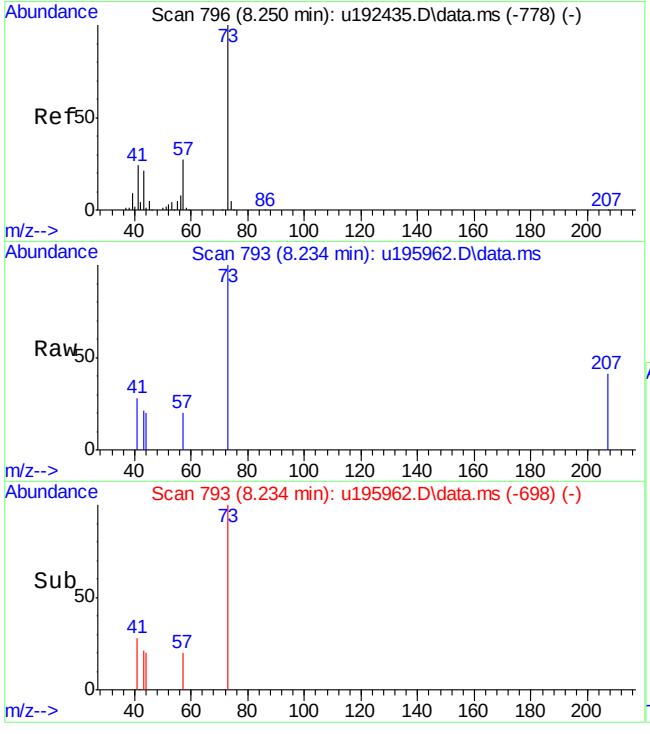


#29
acetone
Concen: 5.24 ug/L
RT: 7.267 min Scan# 608
Delta R.T. -0.013 min
Lab File: u195962.D
Acq: 11 Jun 2015 2:11 am

Tgt Ion: 58 Resp: 1034

Ion	Ratio	Lower	Upper
58	100		
43	414.6	285.8	345.8#

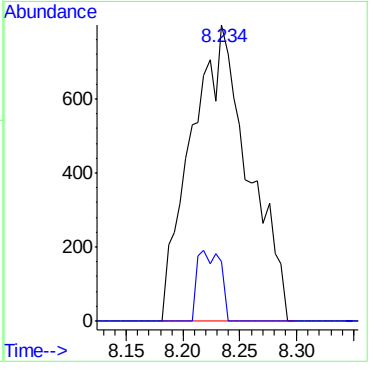


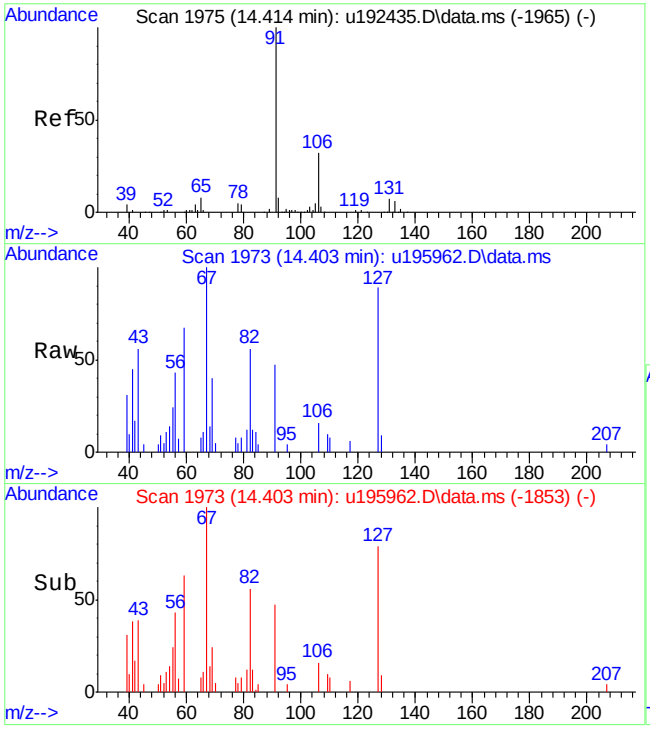


#37
methyl tert butyl ether
Concen: 0.41 ug/L
RT: 8.234 min Scan# 793
Delta R.T. -0.003 min
Lab File: u195962.D
Acq: 11 Jun 2015 2:11 am

Tgt Ion: 73 Resp: 2805

Ion	Ratio	Lower	Upper
73	100		
57	9.7	0.0	51.9

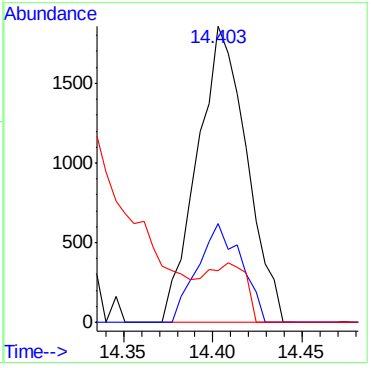


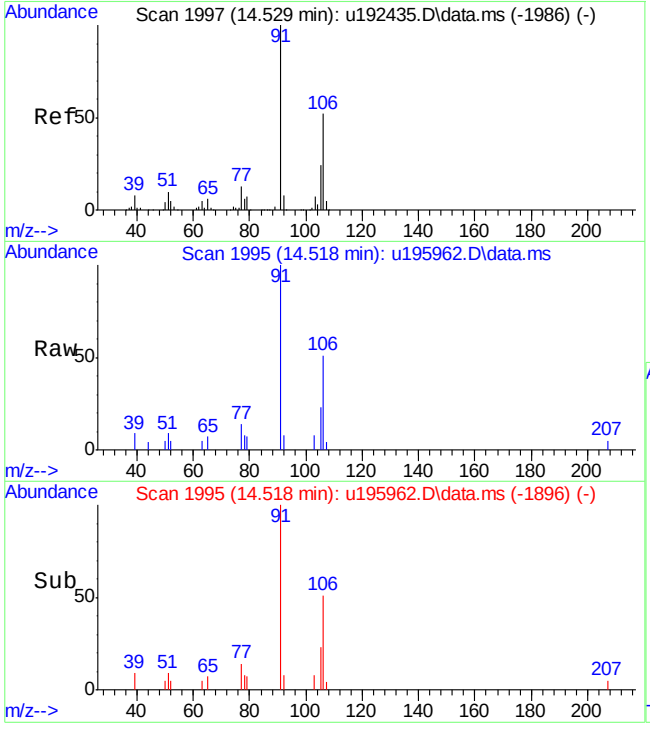


#107
ethylbenzene
Concen: 0.31 ug/L
RT: 14.403 min Scan# 1973
Delta R.T. -0.003 min
Lab File: u195962.D
Acq: 11 Jun 2015 2:11 am

Tgt Ion: 91 Resp: 3563

Ion	Ratio	Lower	Upper
91	100		
106	33.3	2.0	62.0
77	17.5	0.0	38.1

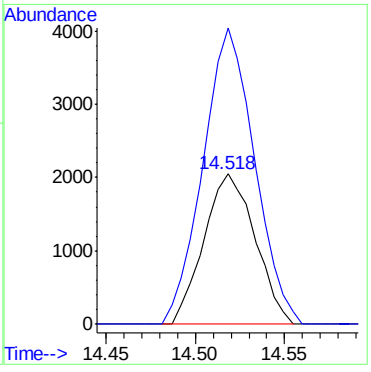




#108
m,p-xylene
Concen: 0.89 ug/L
RT: 14.518 min Scan# 1995
Delta R.T. -0.003 min
Lab File: u195962.D
Acq: 11 Jun 2015 2:11 am

Tgt Ion:106 Resp: 4076

Ion	Ratio	Lower	Upper
106	100		
91	197.6	163.3	223.3



7.1.12

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u195960.D
Acq On : 11 Jun 2015 1:11 am
Operator : NicoleH1
Sample : jb96432-9
Misc : ms86322,vu9037,5.0,,,,1
ALS Vial : 34 Sample Multiplier: 1

Quant Time: Jun 11 13:05:16 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.874	65	102401	500.00	ug/L	-0.01
5) pentafluorobenzene	10.080	168	354111	50.00	ug/L	0.00
64) 1,4-difluorobenzene	11.000	114	397684	50.00	ug/L	0.00
96) chlorobenzene-d5	14.325	117	349310	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.903	152	188257	50.00	ug/L	0.00

System Monitoring Compounds

56) dibromofluoromethane (s)	10.158	113	122984	51.08	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 102.16%			
57) 1,2-dichloroethane-d4 (s)	10.577	65	129240	50.73	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 101.46%			
88) toluene-d8 (s)	12.684	98	449388	49.41	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 98.82%			
114) 4-bromofluorobenzene (s)	15.601	95	166709	50.00	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 100.00%			

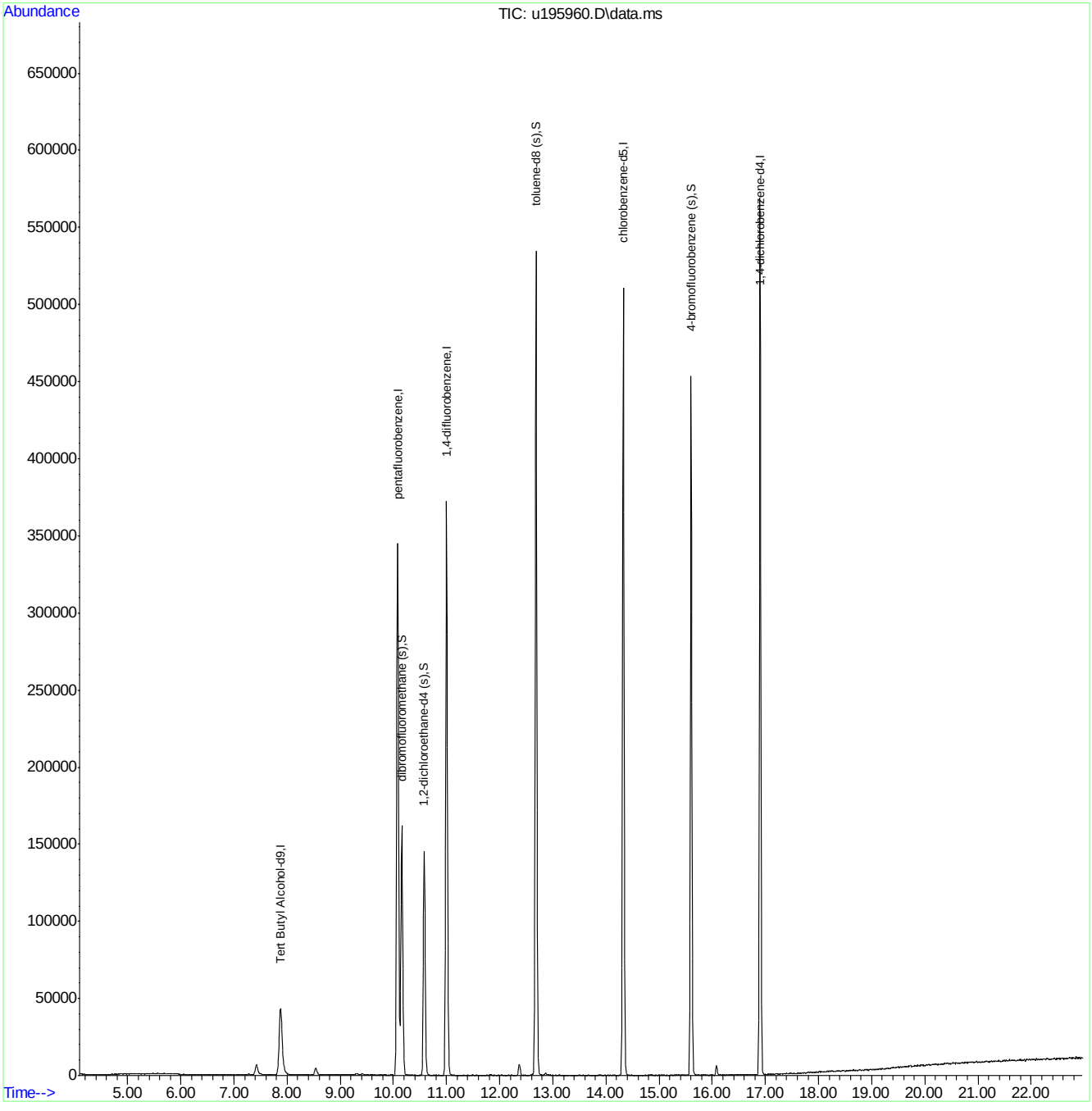
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u195960.D
Acq On : 11 Jun 2015 1:11 am
Operator : NicoleH1
Sample : jb96432-9
Misc : ms86322,vu9037,5.0,,,,1
ALS Vial : 34 Sample Multiplier: 1

Quant Time: Jun 11 13:05:16 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration



MU8988.M Thu Jun 11 13:05:23 2015 U_CORE

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u195954.D
Acq On : 10 Jun 2015 10:15 pm
Operator : NicoleH1
Sample : mb
Misc : ms86318,vu9037,5.0,,,,1
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Jun 11 13:00:20 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.879	65	98877	500.00	ug/L	0.00
5) pentafluorobenzene	10.080	168	332093	50.00	ug/L	0.00
64) 1,4-difluorobenzene	11.000	114	374873	50.00	ug/L	0.00
96) chlorobenzene-d5	14.325	117	332562	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.897	152	183699	50.00	ug/L	0.00

System Monitoring Compounds

56) dibromofluoromethane (s)	10.158	113	116831	51.74	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 103.48%			
57) 1,2-dichloroethane-d4 (s)	10.576	65	122496	51.27	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 102.54%			
88) toluene-d8 (s)	12.683	98	425361	49.62	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 99.24%			
114) 4-bromofluorobenzene (s)	15.600	95	160455	49.32	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 98.64%			

Target Compounds Qvalue

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

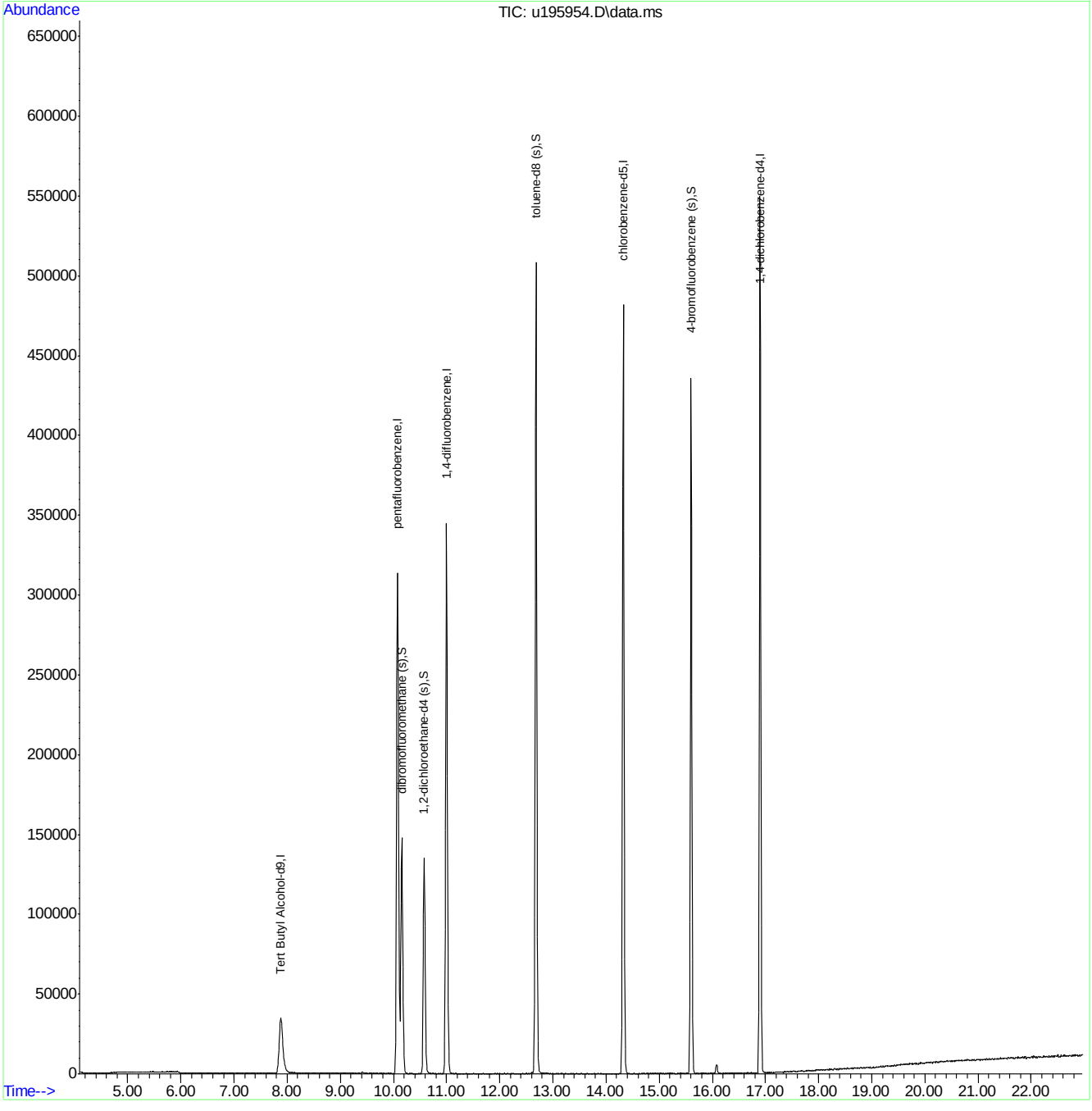
7.2.1

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u195954.D
Acq On : 10 Jun 2015 10:15 pm
Operator : NicoleH1
Sample : mb
Misc : ms86318,vu9037,5.0,,,,1
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Jun 11 13:00:20 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration



MU8988.M Thu Jun 11 13:00:39 2015 U_CORE

ACCUTEST LABORATORIES
JB96432

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u195982.D
Acq On : 11 Jun 2015 12:31 pm
Operator : NicoleH1
Sample : mb
Misc : ms86446,vu9038,5.0,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jun 11 17:18:26 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.882	65	100471	500.00	ug/L	0.00
5) pentafluorobenzene	10.078	168	326747	50.00	ug/L	0.00
64) 1,4-difluorobenzene	10.998	114	366169	50.00	ug/L	0.00
96) chlorobenzene-d5	14.323	117	327008	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.900	152	185674	50.00	ug/L	0.00

System Monitoring Compounds

56) dibromofluoromethane (s)	10.156	113	115300	51.90	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 103.80%			
57) 1,2-dichloroethane-d4 (s)	10.579	65	119315	50.75	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 101.50%			
88) toluene-d8 (s)	12.681	98	414514	49.50	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 99.00%			
114) 4-bromofluorobenzene (s)	15.604	95	156967	47.73	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 95.46%			

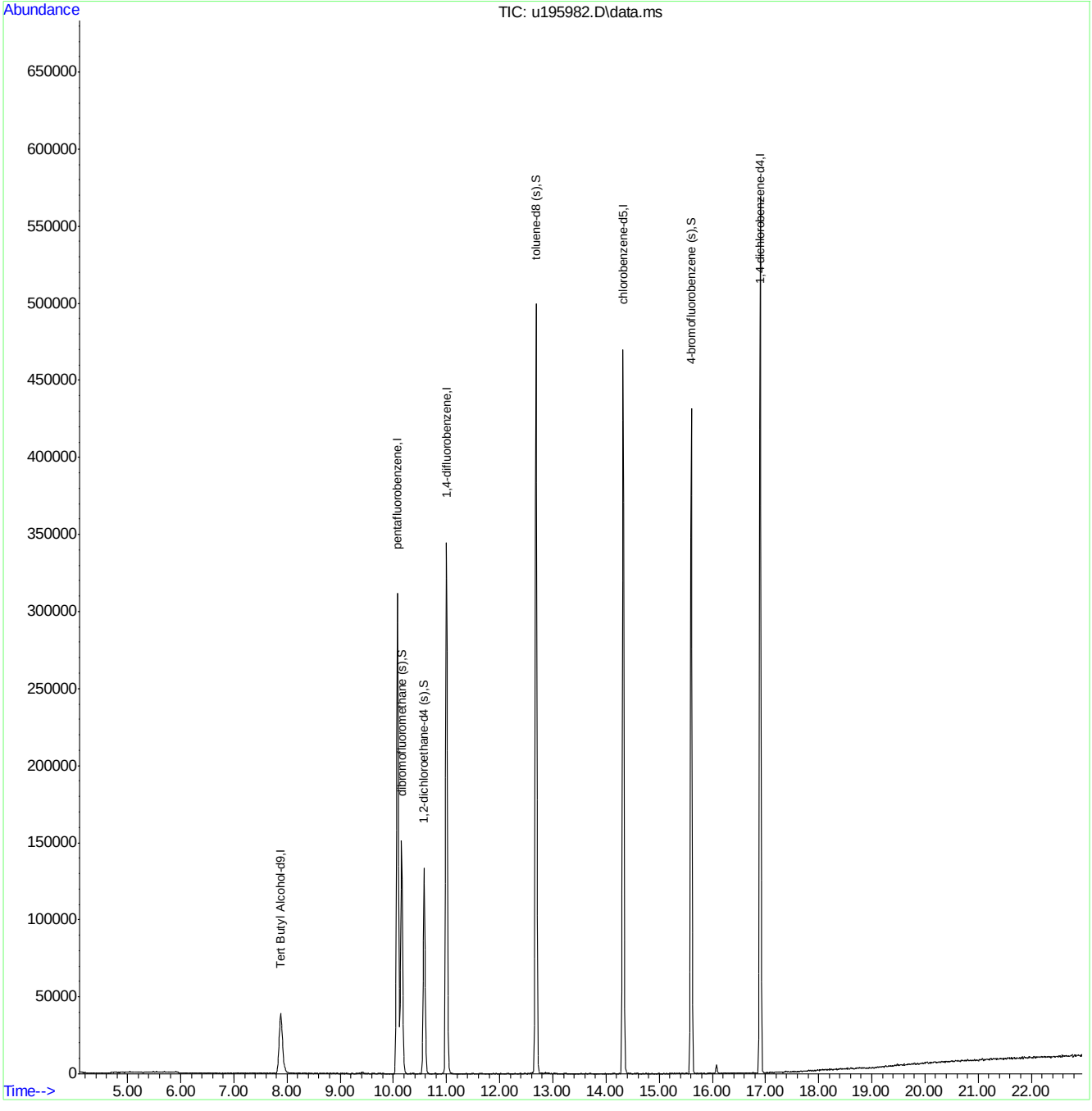
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u195982.D
Acq On : 11 Jun 2015 12:31 pm
Operator : NicoleH1
Sample : mb
Misc : ms86446,vu9038,5.0,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jun 11 17:18:26 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration



MU8988.M Thu Jun 11 17:19:35 2015 U_CORE

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u196026.D
Acq On : 12 Jun 2015 10:42 am
Operator : NicoleH1
Sample : mb
Misc : ms85662,vu9040,5.0,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jun 12 16:08:14 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.879	65	84600	500.00	ug/L	0.00
5) pentafluorobenzene	10.075	168	327774	50.00	ug/L	0.00
64) 1,4-difluorobenzene	10.995	114	363054	50.00	ug/L	0.00
96) chlorobenzene-d5	14.325	117	325297	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.897	152	182129	50.00	ug/L	0.00

System Monitoring Compounds

56) dibromofluoromethane (s)	10.158	113	113391	50.88	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 101.76%			
57) 1,2-dichloroethane-d4 (s)	10.576	65	118095	50.08	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 100.16%			
88) toluene-d8 (s)	12.678	98	414335	49.90	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 99.80%			
114) 4-bromofluorobenzene (s)	15.601	95	156679	48.57	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 97.14%			

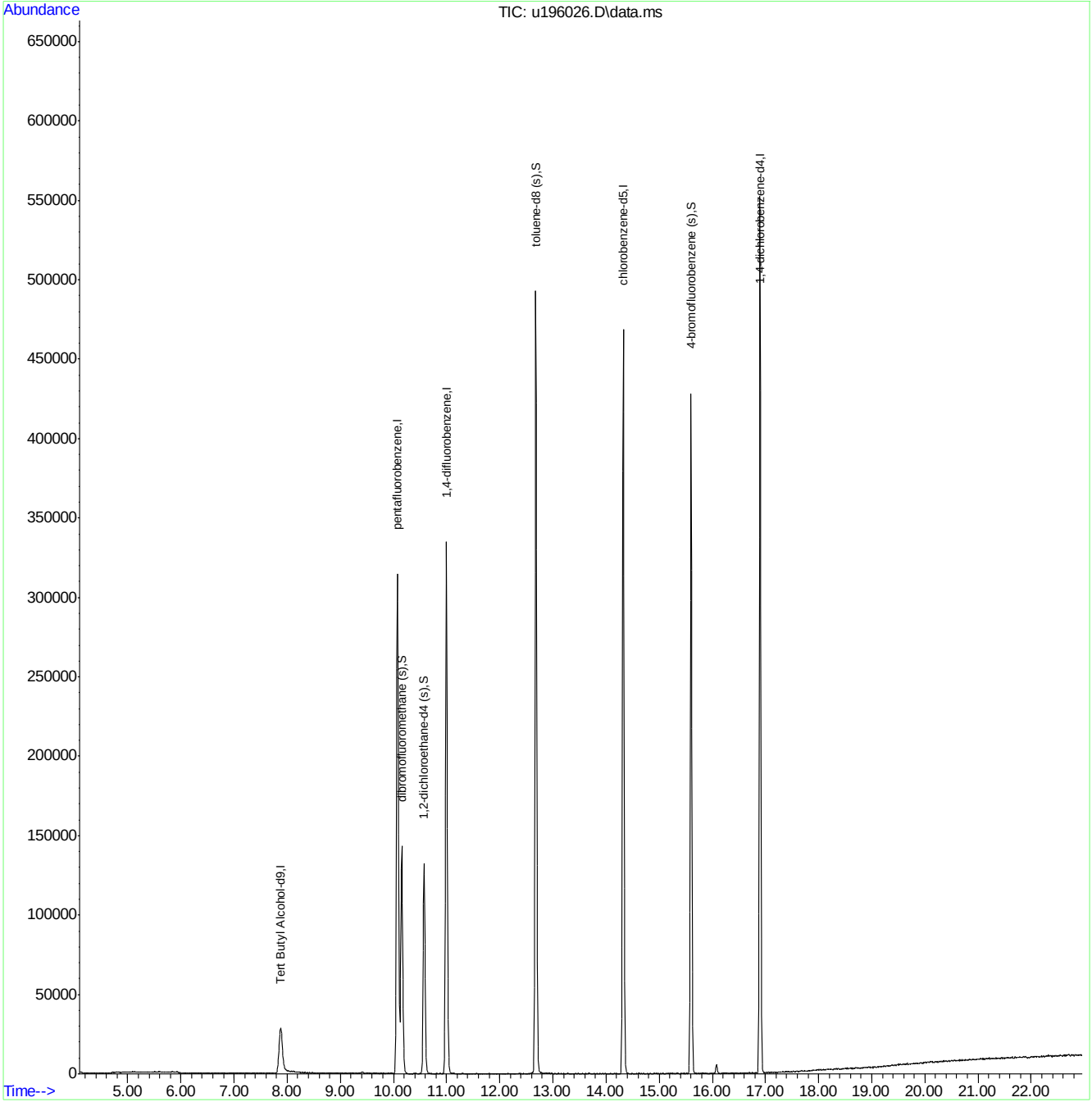
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u196026.D
Acq On : 12 Jun 2015 10:42 am
Operator : NicoleH1
Sample : mb
Misc : ms85662,vu9040,5.0,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jun 12 16:08:14 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration



MU8988.M Fri Jun 12 16:15:16 2015 U_CORE

7.2.3

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u196109.D
Acq On : 15 Jun 2015 10:16 am
Operator : NicoleH1
Sample : mb
Misc : ms86321,vu9043,5.0,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jun 15 16:47:23 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.884	65	88796	500.00	ug/L	0.00
5) pentafluorobenzene	10.080	168	327363	50.00	ug/L	0.00
64) 1,4-difluorobenzene	11.000	114	369235	50.00	ug/L	0.00
96) chlorobenzene-d5	14.325	117	330964	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.903	152	179998	50.00	ug/L	0.00

System Monitoring Compounds

56) dibromofluoromethane (s)	10.159	113	114702	51.53	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 103.06%			
57) 1,2-dichloroethane-d4 (s)	10.582	65	118118	50.15	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 100.30%			
88) toluene-d8 (s)	12.684	98	420713	49.82	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 99.64%			
114) 4-bromofluorobenzene (s)	15.601	95	156032	48.94	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 97.88%			

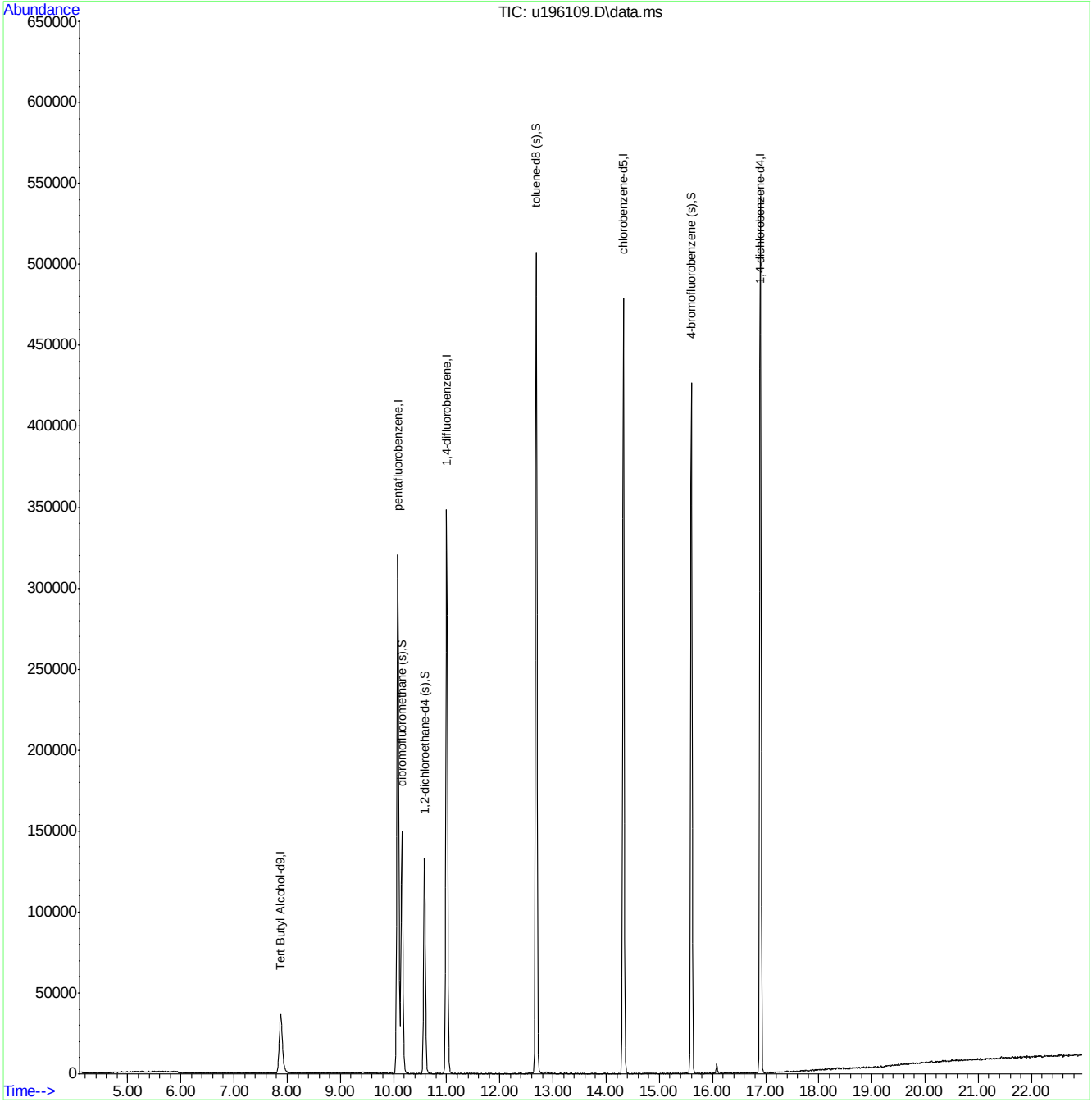
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u196109.D
Acq On : 15 Jun 2015 10:16 am
Operator : NicoleH1
Sample : mb
Misc : ms86321,vu9043,5.0,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jun 15 16:47:23 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u196203.D
Acq On : 17 Jun 2015 9:51 am
Operator : NicoleH1
Sample : mb
Misc : ms86730,vu9047,5.0,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jun 17 11:47:21 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.873	65	85858	500.00	ug/L	-0.01
5) pentafluorobenzene	10.079	168	313197	50.00	ug/L	0.00
64) 1,4-difluorobenzene	10.999	114	356717	50.00	ug/L	0.00
96) chlorobenzene-d5	14.324	117	319968	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.902	152	174141	50.00	ug/L	0.00

System Monitoring Compounds

56) dibromofluoromethane (s)	10.158	113	101676	47.75	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 95.50%			
57) 1,2-dichloroethane-d4 (s)	10.581	65	105008	46.60	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 93.20%			
88) toluene-d8 (s)	12.683	98	372857	45.71	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 91.42%			
114) 4-bromofluorobenzene (s)	15.600	95	140501	45.55	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 91.10%			

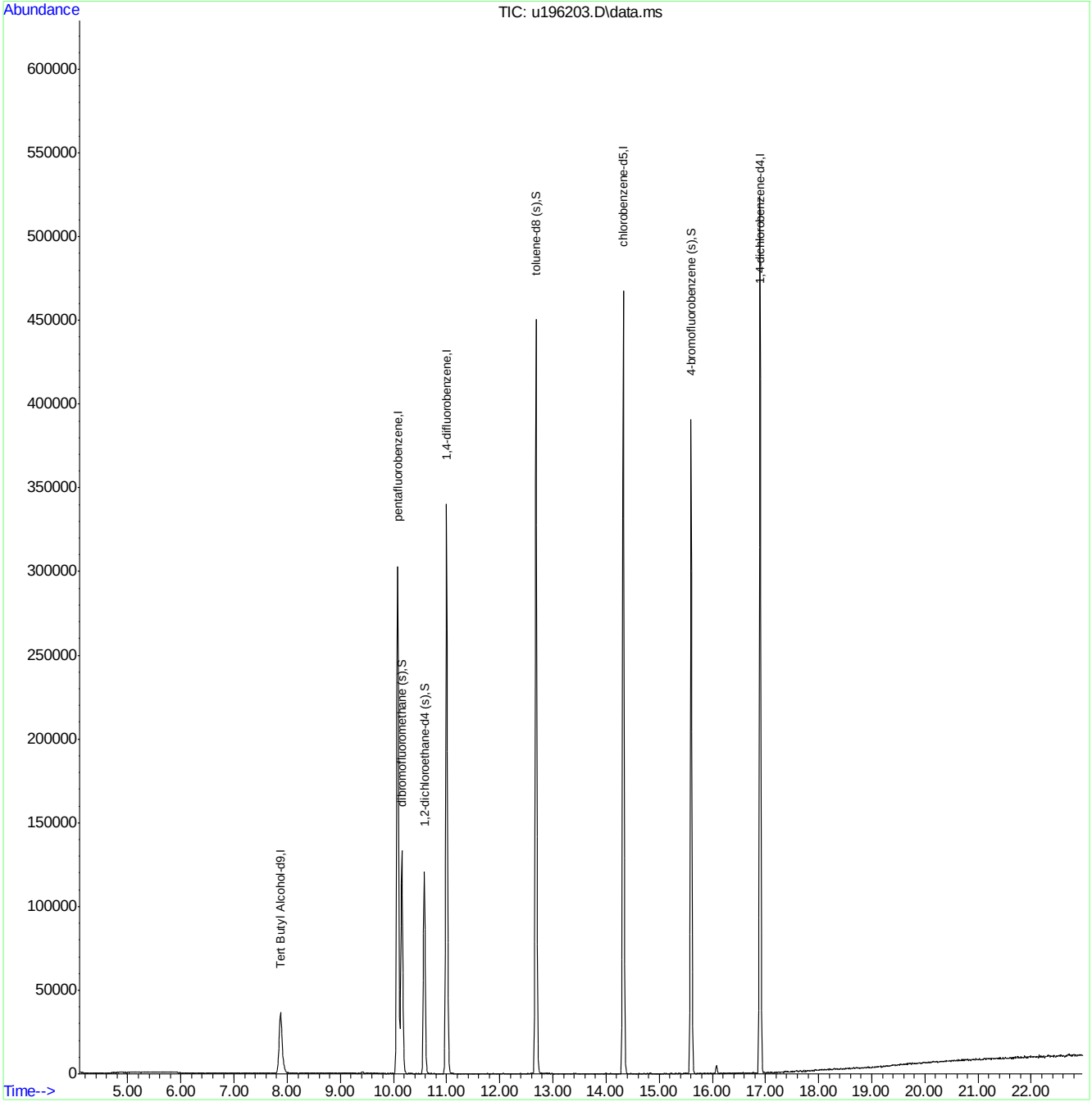
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u196203.D
Acq On : 17 Jun 2015 9:51 am
Operator : NicoleH1
Sample : mb
Misc : ms86730,vu9047,5.0,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jun 17 11:47:21 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration



MU8988.M Wed Jun 17 11:47:28 2015 U_CORE

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u195955.D
Acq On : 10 Jun 2015 10:45 pm
Operator : NicoleH1
Sample : bs
Misc : ms86318,vu9037,5.0,,,,1
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Jun 11 13:01:05 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.894	65	101723	500.00	ug/L	0.00
5) pentafluorobenzene	10.079	168	337549	50.00	ug/L	0.00
64) 1,4-difluorobenzene	10.999	114	379887	50.00	ug/L	0.00
96) chlorobenzene-d5	14.324	117	341200	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.902	152	193455	50.00	ug/L	0.00

System Monitoring Compounds						
56) dibromofluoromethane (s)	10.158	113	118480	51.62	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 103.24%			
57) 1,2-dichloroethane-d4 (s)	10.576	65	125064	51.50	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 103.00%			
88) toluene-d8 (s)	12.683	98	434721	50.04	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 100.08%			
114) 4-bromofluorobenzene (s)	15.600	95	162087	47.30	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 94.60%			

Target Compounds						Qvalue
2) tertiary butyl alcohol	8.004	59	61025	267.71	ug/L	82
4) 1,4-dioxane	11.742	88	26731	1307.35	ug/L	96
11) chlorodifluoromethane	4.396	51	82891	34.60	ug/L	95
12) dichlorodifluoromethane	4.370	85	124431	47.07	ug/L	98
15) chloromethane	4.773	50	147521	50.69	ug/L	99
16) vinyl chloride	5.050	62	150204	55.81	ug/L	99
18) bromomethane	5.719	94	119623	60.27	ug/L	99
19) chloroethane	5.886	64	92130	67.34	ug/L	97
20) trichlorofluoromethane	6.320	101	182719	51.04	ug/L	99
23) ethyl ether	6.759	74	62310	49.15	ug/L	90
24) 2-CHLOROPROPANE	6.979	43	202015	48.21	ug/L #	92
27) acrolein	7.057	56	147567	385.01	ug/L	99
28) 1,1-dichloroethene	7.204	96	106734	50.67	ug/L	100
29) acetone	7.272	58	9180	47.83	ug/L	86
30) allyl chloride	7.737	76	65841	54.82	ug/L	99
31) acetonitrile	7.737	40	72616	440.40	ug/L #	86
32) iodomethane	7.502	142	229327	55.01	ug/L	98
33) carbon disulfide	7.622	76	363761	53.38	ug/L	97
34) 1-CHLOROPROPANE	7.967	63	9972	50.43	ug/L	97
35) methylene chloride	7.936	84	119499	44.86	ug/L	98
36) methyl acetate	7.711	43	70899	40.75	ug/L	98
37) methyl tert butyl ether	8.234	73	653748	98.75	ug/L	91
38) trans-1,2-dichloroethene	8.296	96	118575	50.14	ug/L	96
39) di-isopropyl ether	8.804	45	337936	46.77	ug/L	99
40) ethyl tert-butyl ether	9.264	59	348339	49.42	ug/L	98
41) 2-butanone	9.556	72	13184	49.54	ug/L #	92
42) 1,1-dichloroethane	8.866	63	206486	51.87	ug/L	99
43) chloroprene	8.960	53	144009	43.84	ug/L	96
44) acrylonitrile	8.276	53	189115	263.72	ug/L	100
45) vinyl acetate	8.835	86	20786	49.32	ug/L #	85
46) ethyl acetate	9.556	45	13660	43.59	ug/L	86
47) 2,2-dichloropropane	9.593	77	153384	44.14	ug/L	99
48) cis-1,2-dichloroethene	9.598	96	131873	50.60	ug/L	95

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u195955.D
Acq On : 10 Jun 2015 10:45 pm
Operator : NicoleH1
Sample : bs
Misc : ms86318,vu9037,5.0,,,,1
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Jun 11 13:01:05 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
49) methyl acrylate	9.640	85	17182	47.27 ug/L #	89
50) propionitrile	9.682	54	142933	496.89 ug/L	98
51) bromochloromethane	9.912	128	70368	53.23 ug/L	93
52) tetrahydrofuran	9.938	42	34865	42.96 ug/L	97
53) chloroform	9.954	83	214567	51.78 ug/L	99
54) tert-butyl Formate	9.980	59	90418	44.65 ug/L	96
55) iso-butyl alcohol	10.377	43	39649	351.01 ug/L	95
58) freon 113	7.167	151	84036	48.52 ug/L	99
59) methacrylonitrile	9.849	41	60832	43.59 ug/L	95
60) 1,1,1-trichloroethane	10.205	97	196789	55.65 ug/L	99
62) tert-amyl methyl ether	10.649	87	82347	48.23 ug/L	98
63) iso-octane	10.602	57	306744	42.33 ug/L	96
66) epichlorohydrin	12.296	57	46459	213.49 ug/L	97
67) n-butyl alcohol	11.125	56	144710	2327.90 ug/L	99
68) Cyclohexane	10.262	84	178035	53.79 ug/L	86
69) carbon tetrachloride	10.398	117	185581	59.21 ug/L	98
70) 1,1-dichloropropene	10.372	75	168126	56.34 ug/L	99
71) hexane	8.558	57	112369	44.92 ug/L	96
72) benzene	10.644	78	464155	50.63 ug/L	99
73) heptane	10.764	57	62211	39.97 ug/L	95
74) isopropyl acetate	10.534	43	211766	51.20 ug/L	98
75) 1,2-dichloroethane	10.670	62	164927	57.71 ug/L	98
78) trichloroethene	11.344	95	128687	53.86 ug/L	99
79) methylcyclohexane	11.554	83	169007	46.86 ug/L	97
80) 2-nitropropane	12.150	41	49387	56.36 ug/L #	92
81) 2-chloroethyl vinyl ether	12.144	63	337048	271.72 ug/L	98
82) methyl methacrylate	11.601	100	30959	49.01 ug/L #	88
83) 1,2-dichloropropane	11.627	63	118812	52.88 ug/L	98
84) propyl acetate	11.632	73	22319	49.55 ug/L	88
85) dibromomethane	11.794	93	79061	53.97 ug/L	97
86) bromodichloromethane	11.919	83	172342	54.61 ug/L	99
87) cis-1,3-dichloropropene	12.385	75	196391	51.11 ug/L	96
89) 4-methyl-2-pentanone	12.474	58	41415	48.57 ug/L	94
90) toluene	12.761	92	303214	51.64 ug/L	99
91) 3-methyl-1-butanol	12.489	55	95737	876.49 ug/L	99
92) trans-1,3-dichloropropene	12.976	75	176746	50.37 ug/L	98
93) ethyl methacrylate	12.939	69	142805	49.32 ug/L	98
94) 1,1,2-trichloroethane	13.211	83	91740	52.78 ug/L	98
95) 2-hexanone	13.378	58	39119	46.81 ug/L	98
97) cyclohexanone	15.584	55	62692	253.99 ug/L	97
98) tetrachloroethene	13.383	164	141875	57.84 ug/L	98
99) 1,3-dichloropropane	13.409	76	178405	52.22 ug/L	97
100) butyl acetate	13.441	56	69019	47.75 ug/L	95
101) dibromochloromethane	13.702	129	152351	55.82 ug/L	99
102) 1,2-dibromoethane	13.870	107	118806	52.69 ug/L	99
103) 3,3-dimethyl-1-Butanol	13.561	57	108995	476.76 ug/L	98
104) n-butyl ether	14.215	57	495769	48.31 ug/L	98
105) chlorobenzene	14.361	112	372966	53.91 ug/L	98
106) 1,1,1,2-tetrachloroethane	14.424	131	143025	54.57 ug/L	97
107) ethylbenzene	14.403	91	595514	51.66 ug/L	98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u195955.D
Acq On : 10 Jun 2015 10:45 pm
Operator : NicoleH1
Sample : bs
Misc : ms86318,vu9037,5.0,,,,1
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Jun 11 13:01:05 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
108) m,p-xylene	14.518	106	483277	106.96 ug/L	98
109) o-xylene	14.983	106	244057	54.84 ug/L	97
110) styrene	14.999	104	403725	52.89 ug/L	100
111) bromoform	15.318	173	118815	55.72 ug/L	99
113) isopropylbenzene	15.354	105	618664	52.16 ug/L	100
115) bromobenzene	15.825	156	180859	53.28 ug/L	96
116) 1,1,2,2-tetrachloroethane	15.720	83	138354	48.80 ug/L	99
117) trans-1,4-dichloro-2-b...	15.762	53	33374	40.85 ug/L	94
118) 1,2,3-trichloropropane	15.809	110	40429	49.48 ug/L	97
119) n-propylbenzene	15.814	91	706184	52.67 ug/L	100
120) 2-chlorotoluene	15.992	126	155826	51.03 ug/L	93
121) 4-chlorotoluene	16.102	91	412839	48.30 ug/L	98
123) 1,3,5-trimethylbenzene	15.976	105	502524	49.70 ug/L	99
124) tert-butylbenzene	16.369	119	457165	50.91 ug/L	100
125) pentachloroethane	16.484	167	103420	50.83 ug/L	98
126) 1,2,4-trimethylbenzene	16.421	105	512892	51.77 ug/L	100
128) sec-butylbenzene	16.604	105	649784	50.48 ug/L	100
129) 1,3-dichlorobenzene	16.839	146	328804	51.93 ug/L	99
130) p-isopropyltoluene	16.734	119	577862	51.08 ug/L	98
131) 1,4-dichlorobenzene	16.928	146	335274	52.39 ug/L	100
132) benzyl chloride	17.059	91	208574	34.88 ug/L	98
133) 1,2-dichlorobenzene	17.367	146	318211	54.57 ug/L	99
135) n-butylbenzene	17.195	92	269508	50.69 ug/L	98
137) 1,2-dibromo-3-chloropr...	18.230	157	34994	49.59 ug/L	98
138) 1,3,5-trichlorobenzene	18.413	180	280077	54.63 ug/L	99
139) 1,2,4-trichlorobenzene	19.155	180	234058	53.64 ug/L	98
140) hexachlorobutadiene	19.265	225	135227	51.75 ug/L	99
141) naphthalene	19.479	128	411182	49.22 ug/L	99
143) 1,2,3-trichlorobenzene	19.756	180	196617	51.42 ug/L	100
144) hexachloroethane	17.649	201	123658	54.66 ug/L	100

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

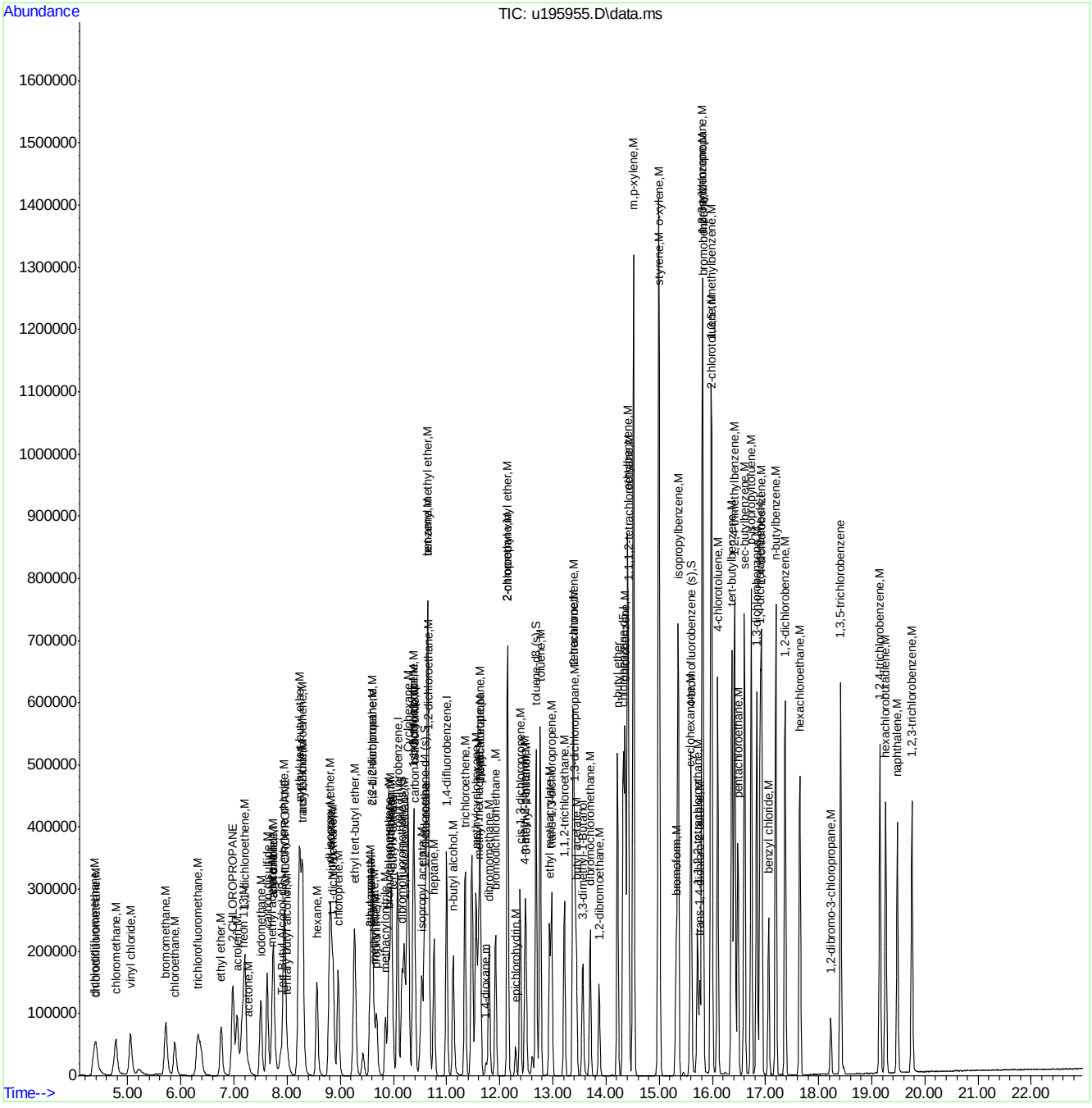
7.3.1

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u195955.D
Acq On : 10 Jun 2015 10:45 pm
Operator : NicoleH1
Sample : bs
Misc : ms86318,vu9037,5.0,,,,1
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Jun 11 13:01:05 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u195983.D
Acq On : 11 Jun 2015 1:01 pm
Operator : NicoleH1
Sample : bs
Misc : ms86316,vu9038,5.0,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jun 11 17:19:52 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.878	65	103236	500.00	ug/L	0.00
5) pentafluorobenzene	10.079	168	344923	50.00	ug/L	0.00
64) 1,4-difluorobenzene	11.000	114	387317	50.00	ug/L	0.00
96) chlorobenzene-d5	14.325	117	350535	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.897	152	202310	50.00	ug/L	0.00

System Monitoring Compounds

56) dibromofluoromethane (s)	10.158	113	120898	51.55	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 103.10%			
57) 1,2-dichloroethane-d4 (s)	10.581	65	127696	51.46	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 102.92%			
88) toluene-d8 (s)	12.683	98	440637	49.75	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 99.50%			
114) 4-bromofluorobenzene (s)	15.600	95	170217	47.50	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 95.00%			

Target Compounds

						Qvalue
2) tertiary butyl alcohol	7.999	59	61900	267.57	ug/L	85
4) 1,4-dioxane	11.737	88	27694	1334.60	ug/L	99
11) chlorodifluoromethane	4.407	51	88995	36.35	ug/L	99
12) dichlorodifluoromethane	4.365	85	100296	37.13	ug/L	99
15) chloromethane	4.783	50	136449	45.88	ug/L	99
16) vinyl chloride	5.050	62	138181	50.25	ug/L	100
18) bromomethane	5.714	94	113130	55.78	ug/L	98
19) chloroethane	5.887	64	86258	61.70	ug/L	99
20) trichlorofluoromethane	6.321	101	170571	46.66	ug/L	98
23) ethyl ether	6.754	74	63858	49.30	ug/L	89
24) 2-CHLOROPROPANE	6.974	43	208614	48.72	ug/L	93
27) acrolein	7.052	56	211315	539.54	ug/L	99
28) 1,1-dichloroethene	7.204	96	109592	50.91	ug/L	97
29) acetone	7.272	58	8803	44.88	ug/L	87
30) allyl chloride	7.737	76	67980	55.39	ug/L	96
31) acetonitrile	7.732	40	79090	469.40	ug/L #	91
32) iodomethane	7.502	142	238257	55.93	ug/L	98
33) carbon disulfide	7.622	76	377977	54.28	ug/L	97
34) 1-CHLOROPROPANE	7.962	63	9713	48.07	ug/L	91
35) methylene chloride	7.936	84	122109	44.86	ug/L	99
36) methyl acetate	7.711	43	71065	39.97	ug/L	97
37) methyl tert butyl ether	8.229	73	668769	98.86	ug/L	92
38) trans-1,2-dichloroethene	8.297	96	122186	50.56	ug/L	96
39) di-isopropyl ether	8.804	45	346869	46.98	ug/L	97
40) ethyl tert-butyl ether	9.264	59	355989	49.42	ug/L	99
41) 2-butanone	9.557	72	13713	50.43	ug/L #	79
42) 1,1-dichloroethane	8.867	63	215146	52.89	ug/L	100
43) chloroprene	8.961	53	148039	44.11	ug/L	98
44) acrylonitrile	8.276	53	190774	260.34	ug/L	99
45) vinyl acetate	8.835	86	22131	51.39	ug/L #	63
46) ethyl acetate	9.557	45	14077	43.96	ug/L	92
47) 2,2-dichloropropane	9.593	77	187603	52.83	ug/L	98
48) cis-1,2-dichloroethene	9.593	96	135237	50.78	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u195983.D
Acq On : 11 Jun 2015 1:01 pm
Operator : NicoleH1
Sample : bs
Misc : ms86316,vu9038,5.0,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jun 11 17:19:52 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) methyl acrylate	9.640	85	17325	46.64	ug/L		91
50) propionitrile	9.682	54	144370	491.16	ug/L		99
51) bromochloromethane	9.912	128	72290	53.51	ug/L		94
52) tetrahydrofuran	9.938	42	35725	43.08	ug/L		99
53) chloroform	9.954	83	219519	51.85	ug/L		99
54) tert-butyl Formate	9.975	59	93529	45.20	ug/L		97
55) iso-butyl alcohol	10.377	43	40157	347.91	ug/L		93
58) freon 113	7.162	151	80335	45.39	ug/L		99
59) methacrylonitrile	9.849	41	61814	43.35	ug/L		100
60) 1,1,1-trichloroethane	10.205	97	200126	55.38	ug/L		100
62) tert-amyl methyl ether	10.644	87	84872	48.64	ug/L		97
63) iso-octane	10.602	57	289692	39.12	ug/L		94
66) epichlorohydrin	12.296	57	49147	221.51	ug/L		96
67) n-butyl alcohol	11.120	56	147521	2327.59	ug/L		99
68) Cyclohexane	10.262	84	174381	51.67	ug/L		89
69) carbon tetrachloride	10.398	117	189121	59.18	ug/L		99
70) 1,1-dichloropropene	10.372	75	174169	57.24	ug/L		98
71) hexane	8.558	57	113560	44.53	ug/L		98
72) benzene	10.644	78	478553	51.20	ug/L		99
73) heptane	10.764	57	63778	40.19	ug/L		98
74) isopropyl acetate	10.534	43	213860	50.72	ug/L		99
75) 1,2-dichloroethane	10.670	62	168591	57.86	ug/L		98
78) trichloroethene	11.345	95	132244	54.28	ug/L		99
79) methylcyclohexane	11.554	83	159223	43.30	ug/L		97
80) 2-nitropropane	12.150	41	50023	55.99	ug/L		95
81) 2-chloroethyl vinyl ether	12.145	63	342370	270.71	ug/L		99
82) methyl methacrylate	11.601	100	31904	49.53	ug/L	#	84
83) 1,2-dichloropropane	11.627	63	120612	52.65	ug/L		97
84) propyl acetate	11.632	73	22362	48.69	ug/L		92
85) dibromomethane	11.799	93	80701	54.03	ug/L		99
86) bromodichloromethane	11.920	83	175666	54.59	ug/L		97
87) cis-1,3-dichloropropene	12.385	75	207787	53.04	ug/L		96
89) 4-methyl-2-pentanone	12.474	58	42642	49.05	ug/L	#	91
90) toluene	12.761	92	311405	52.02	ug/L		100
91) 3-methyl-1-butanol	12.490	55	97841	878.57	ug/L		98
92) trans-1,3-dichloropropene	12.976	75	186798	52.22	ug/L		98
93) ethyl methacrylate	12.939	69	143282	48.53	ug/L		99
94) 1,1,2-trichloroethane	13.216	83	93732	52.89	ug/L		96
95) 2-hexanone	13.378	58	39191	45.99	ug/L		95
97) cyclohexanone	15.585	55	29403	115.95	ug/L		97
98) tetrachloroethene	13.384	164	137251	54.47	ug/L		98
99) 1,3-dichloropropane	13.410	76	180875	51.54	ug/L		97
100) butyl acetate	13.441	56	70339	47.37	ug/L		96
101) dibromochloromethane	13.702	129	154628	55.15	ug/L		99
102) 1,2-dibromoethane	13.870	107	121270	52.35	ug/L		97
103) 3,3-dimethyl-1-Butanol	13.561	57	110294	469.59	ug/L		99
104) n-butyl ether	14.215	57	510409	48.41	ug/L		98
105) chlorobenzene	14.361	112	380947	53.60	ug/L		98
106) 1,1,1,2-tetrachloroethane	14.424	131	144938	53.82	ug/L		99
107) ethylbenzene	14.403	91	608295	51.37	ug/L		99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u195983.D
Acq On : 11 Jun 2015 1:01 pm
Operator : NicoleH1
Sample : bs
Misc : ms86316,vu9038,5.0,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jun 11 17:19:52 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
108) m,p-xylene	14.518	106	494010	106.43 ug/L	98
109) o-xylene	14.983	106	251764	55.06 ug/L	97
110) styrene	14.999	104	416077	53.05 ug/L	100
111) bromoform	15.318	173	119454	54.53 ug/L	99
113) isopropylbenzene	15.354	105	635991	51.27 ug/L	99
115) bromobenzene	15.825	156	192024	54.10 ug/L	95
116) 1,1,2,2-tetrachloroethane	15.720	83	148075	49.94 ug/L	98
117) trans-1,4-dichloro-2-b...	15.762	53	38148	44.65 ug/L	92
118) 1,2,3-trichloropropane	15.809	110	42891	50.19 ug/L	97
119) n-propylbenzene	15.815	91	748406	53.38 ug/L	99
120) 2-chlorotoluene	15.992	126	165066	51.69 ug/L	94
121) 4-chlorotoluene	16.102	91	445521	49.84 ug/L	98
123) 1,3,5-trimethylbenzene	15.977	105	537830	50.86 ug/L	98
124) tert-butylbenzene	16.369	119	487778	51.94 ug/L	100
125) pentachloroethane	16.479	167	118998	55.93 ug/L	98
126) 1,2,4-trimethylbenzene	16.421	105	548591	52.95 ug/L	99
128) sec-butylbenzene	16.604	105	686311	50.99 ug/L	99
129) 1,3-dichlorobenzene	16.839	146	351004	53.01 ug/L	99
130) p-isopropyltoluene	16.735	119	614690	51.96 ug/L	98
131) 1,4-dichlorobenzene	16.928	146	352265	52.64 ug/L	99
132) benzyl chloride	17.059	91	294978	47.17 ug/L	99
133) 1,2-dichlorobenzene	17.367	146	329678	54.06 ug/L	99
135) n-butylbenzene	17.195	92	286268	51.49 ug/L	97
137) 1,2-dibromo-3-chloropr...	18.230	157	35811	48.53 ug/L	97
138) 1,3,5-trichlorobenzene	18.413	180	294026	54.84 ug/L	100
139) 1,2,4-trichlorobenzene	19.155	180	243472	53.35 ug/L	98
140) hexachlorobutadiene	19.260	225	140246	51.32 ug/L	99
141) naphthalene	19.479	128	423141	48.43 ug/L	100
143) 1,2,3-trichlorobenzene	19.756	180	201726	50.45 ug/L	98
144) hexachloroethane	17.650	201	126730	53.57 ug/L	99

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

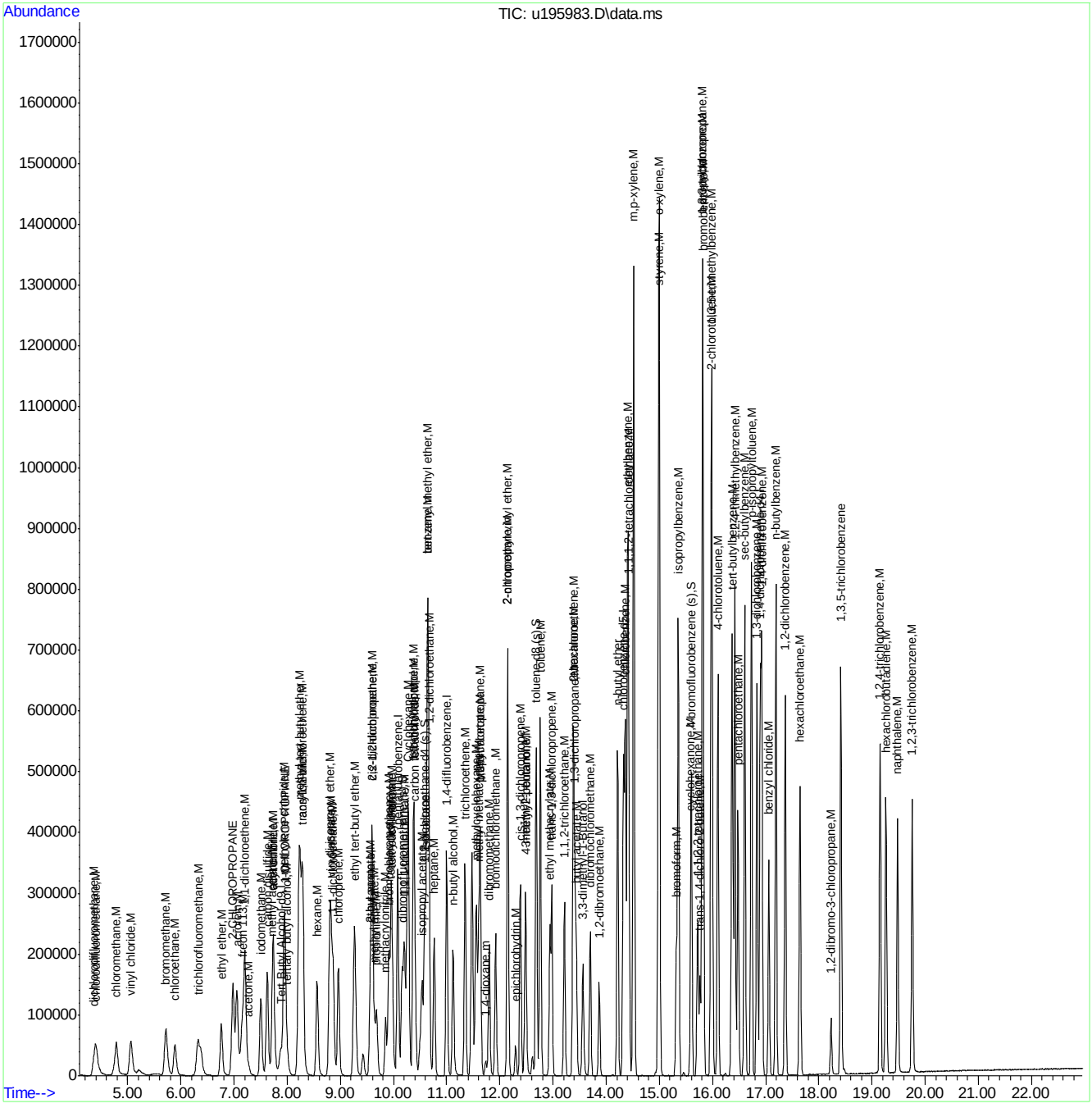
7.3.2

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u195983.D
Acq On : 11 Jun 2015 1:01 pm
Operator : NicoleH1
Sample : bs
Misc : ms86316,vu9038,5.0,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jun 11 17:19:52 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u196027.D
Acq On : 12 Jun 2015 11:15 am
Operator : NicoleH1
Sample : bs
Misc : ms86419,vu9040,5.0,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jun 12 16:09:01 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.884	65	96035	500.00	ug/L	0.00
5) pentafluorobenzene	10.075	168	315067	50.00	ug/L	0.00
64) 1,4-difluorobenzene	11.000	114	352516	50.00	ug/L	0.00
96) chlorobenzene-d5	14.325	117	323332	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.897	152	193526	50.00	ug/L	0.00

System Monitoring Compounds						
56) dibromofluoromethane (s)	10.153	113	110498	51.58	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 103.16%			
57) 1,2-dichloroethane-d4 (s)	10.577	65	115884	51.12	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 102.24%			
88) toluene-d8 (s)	12.684	98	406258	50.39	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 100.78%			
114) 4-bromofluorobenzene (s)	15.601	95	159164	46.43	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 92.86%			

Target Compounds						Qvalue
2) tertiary butyl alcohol	8.005	59	57319	266.35	ug/L	81
4) 1,4-dioxane	11.743	88	23227	1203.26	ug/L	97
11) chlorodifluoromethane	4.403	51	80707	36.09	ug/L	95
12) dichlorodifluoromethane	4.376	85	126250	51.17	ug/L	97
15) chloromethane	4.784	50	154700	56.95	ug/L	99
16) vinyl chloride	5.056	62	153508	61.11	ug/L	100
18) bromomethane	5.720	94	120840	65.23	ug/L	99
19) chloroethane	5.892	64	92174	72.18	ug/L	98
20) trichlorofluoromethane	6.321	101	181261	54.22	ug/L	95
23) ethyl ether	6.760	74	57733	48.79	ug/L	89
24) 2-CHLOROPROPANE	6.980	43	187434	47.92	ug/L #	92
27) acrolein	7.053	56	172198	481.33	ug/L	100
28) 1,1-dichloroethene	7.205	96	100090	50.90	ug/L	98
29) acetone	7.267	58	9000	50.24	ug/L #	85
30) allyl chloride	7.743	76	61545	54.90	ug/L	96
31) acetonitrile	7.743	40	70310	456.84	ug/L #	90
32) iodomethane	7.503	142	217396	55.87	ug/L	97
33) carbon disulfide	7.623	76	342422	53.83	ug/L	96
34) 1-CHLOROPROPANE	7.968	63	9338	50.60	ug/L	98
35) methylene chloride	7.937	84	113383	45.60	ug/L	99
36) methyl acetate	7.717	43	65299	40.21	ug/L	98
37) methyl tert butyl ether	8.229	73	620161	100.36	ug/L	90
38) trans-1,2-dichloroethene	8.297	96	110986	50.28	ug/L	96
39) di-isopropyl ether	8.804	45	315493	46.78	ug/L	96
40) ethyl tert-butyl ether	9.270	59	327515	49.78	ug/L	99
41) 2-butanone	9.557	72	12426	50.03	ug/L #	82
42) 1,1-dichloroethane	8.867	63	194553	52.36	ug/L	99
43) chloroprene	8.961	53	133943	43.69	ug/L	97
44) acrylonitrile	8.276	53	177447	265.10	ug/L	99
45) vinyl acetate	8.831	86	19942	50.69	ug/L #	80
46) ethyl acetate	9.547	45	12699	43.41	ug/L	94
47) 2,2-dichloropropane	9.594	77	181329	55.90	ug/L	99
48) cis-1,2-dichloroethene	9.594	96	122356	50.29	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u196027.D
Acq On : 12 Jun 2015 11:15 am
Operator : NicoleH1
Sample : bs
Misc : ms86419,vu9040,5.0,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jun 12 16:09:01 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
49) methyl acrylate	9.641	85	15756	46.44 ug/L #	85
50) propionitrile	9.683	54	133251	496.29 ug/L	99
51) bromochloromethane	9.908	128	65803	53.33 ug/L	94
52) tetrahydrofuran	9.934	42	32236	42.55 ug/L	97
53) chloroform	9.955	83	198664	51.37 ug/L	98
54) tert-butyl Formate	9.981	59	86276	45.64 ug/L	97
55) iso-butyl alcohol	10.378	43	36633	347.45 ug/L	92
58) freon 113	7.168	151	80858	50.02 ug/L	97
59) methacrylonitrile	9.845	41	55680	42.75 ug/L	97
60) 1,1,1-trichloroethane	10.200	97	184334	55.85 ug/L	98
62) tert-amyl methyl ether	10.645	87	77841	48.84 ug/L	95
63) iso-octane	10.603	57	305695	45.20 ug/L	96
66) epichlorohydrin	12.297	57	45899	227.30 ug/L	97
67) n-butyl alcohol	11.120	56	138229	2396.29 ug/L	100
68) Cyclohexane	10.263	84	166032	54.06 ug/L	98
69) carbon tetrachloride	10.399	117	174506	59.99 ug/L	100
70) 1,1-dichloropropene	10.373	75	153990	55.61 ug/L	99
71) hexane	8.554	57	129944	55.98 ug/L	97
72) benzene	10.640	78	428223	50.33 ug/L	99
73) heptane	10.760	57	64223	44.47 ug/L	99
74) isopropyl acetate	10.530	43	190690	49.69 ug/L	98
75) 1,2-dichloroethane	10.666	62	151300	57.05 ug/L	99
78) trichloroethene	11.345	95	117550	53.02 ug/L	99
79) methylcyclohexane	11.554	83	159021	47.52 ug/L	98
80) 2-nitropropane	12.150	41	45834	56.37 ug/L	98
81) 2-chloroethyl vinyl ether	12.145	63	313580	272.42 ug/L	98
82) methyl methacrylate	11.596	100	28751	49.05 ug/L #	86
83) 1,2-dichloropropane	11.628	63	109159	52.35 ug/L	96
84) propyl acetate	11.633	73	20662	49.43 ug/L	88
85) dibromomethane	11.795	93	73004	53.70 ug/L	97
86) bromodichloromethane	11.920	83	157602	53.81 ug/L	98
87) cis-1,3-dichloropropene	12.386	75	187394	52.56 ug/L	95
89) 4-methyl-2-pentanone	12.475	58	39048	49.35 ug/L	93
90) toluene	12.762	92	279980	51.39 ug/L	98
91) 3-methyl-1-butanol	12.490	55	91668	904.40 ug/L	98
92) trans-1,3-dichloropropene	12.976	75	169726	52.13 ug/L	98
93) ethyl methacrylate	12.940	69	130664	48.63 ug/L	98
94) 1,1,2-trichloroethane	13.212	83	85056	52.74 ug/L	99
95) 2-hexanone	13.379	58	36147	46.61 ug/L	92
97) cyclohexanone	15.585	55	102671	438.95 ug/L	95
98) tetrachloroethene	13.384	164	124715	53.66 ug/L	98
99) 1,3-dichloropropane	13.410	76	163776	50.59 ug/L	99
100) butyl acetate	13.442	56	64020	46.74 ug/L	97
101) dibromochloromethane	13.703	129	139299	53.86 ug/L	98
102) 1,2-dibromoethane	13.870	107	111311	52.09 ug/L	99
103) 3,3-dimethyl-1-Butanol	13.562	57	103738	478.84 ug/L	98
104) n-butyl ether	14.215	57	461400	47.45 ug/L	98
105) chlorobenzene	14.357	112	350225	53.42 ug/L	98
106) 1,1,1,2-tetrachloroethane	14.425	131	134639	54.21 ug/L	99
107) ethylbenzene	14.404	91	556379	50.93 ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u196027.D
Acq On : 12 Jun 2015 11:15 am
Operator : NicoleH1
Sample : bs
Misc : ms86419,vu9040,5.0,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jun 12 16:09:01 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
108) m,p-xylene	14.519	106	453208	105.85 ug/L	99
109) o-xylene	14.984	106	229351	54.38 ug/L	97
110) styrene	15.000	104	376567	52.05 ug/L	99
111) bromoform	15.319	173	108672	53.78 ug/L	100
113) isopropylbenzene	15.355	105	586706	49.45 ug/L	100
115) bromobenzene	15.826	156	178450	52.55 ug/L	95
116) 1,1,2,2-tetrachloroethane	15.721	83	136912	48.27 ug/L	99
117) trans-1,4-dichloro-2-b...	15.763	53	35197	43.07 ug/L	94
118) 1,2,3-trichloropropane	15.810	110	40137	49.10 ug/L	97
119) n-propylbenzene	15.810	91	702059	52.35 ug/L	100
120) 2-chlorotoluene	15.993	126	154497	50.58 ug/L	94
121) 4-chlorotoluene	16.103	91	415003	48.53 ug/L	97
123) 1,3,5-trimethylbenzene	15.972	105	500836	49.51 ug/L	98
124) tert-butylbenzene	16.369	119	453694	50.50 ug/L	100
125) pentachloroethane	16.479	167	111190	54.63 ug/L	99
126) 1,2,4-trimethylbenzene	16.422	105	512852	51.75 ug/L	100
128) sec-butylbenzene	16.605	105	647760	50.31 ug/L	99
129) 1,3-dichlorobenzene	16.835	146	331808	52.38 ug/L	98
130) p-isopropyltoluene	16.735	119	579890	51.24 ug/L	98
131) 1,4-dichlorobenzene	16.929	146	333850	52.15 ug/L	98
132) benzyl chloride	17.060	91	302439	50.56 ug/L	97
133) 1,2-dichlorobenzene	17.368	146	312427	53.55 ug/L	99
135) n-butylbenzene	17.195	92	272896	51.31 ug/L	98
137) 1,2-dibromo-3-chloropr...	18.231	157	34077	48.28 ug/L	99
138) 1,3,5-trichlorobenzene	18.414	180	282721	55.12 ug/L	99
139) 1,2,4-trichlorobenzene	19.156	180	235918	54.05 ug/L	100
140) hexachlorobutadiene	19.260	225	138177	52.86 ug/L	98
141) naphthalene	19.485	128	410612	49.13 ug/L	99
143) 1,2,3-trichlorobenzene	19.757	180	198066	51.78 ug/L	99
144) hexachloroethane	17.650	201	120645	53.31 ug/L	99

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

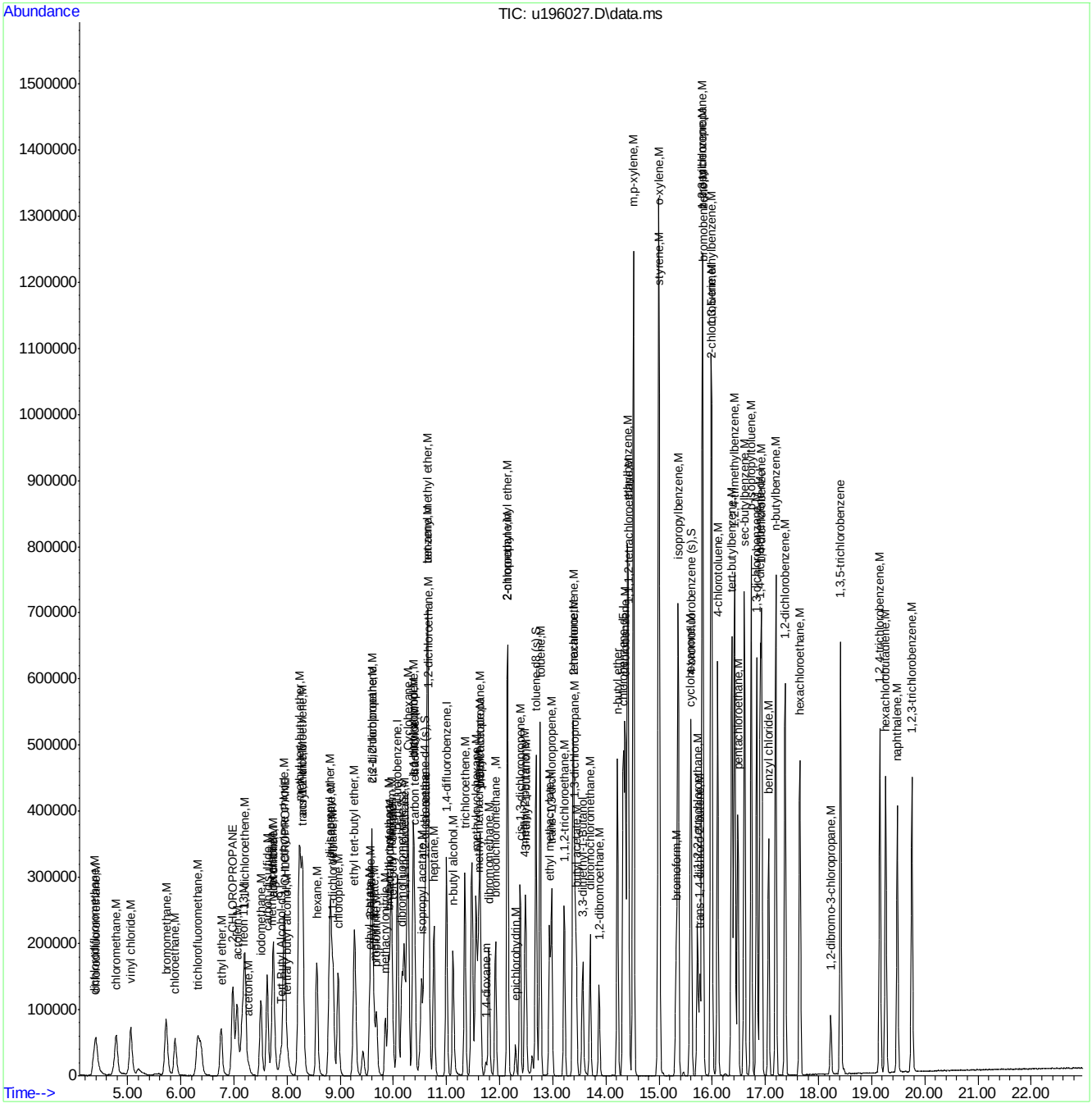
7.3.3

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u196027.D
Acq On : 12 Jun 2015 11:15 am
Operator : NicoleH1
Sample : bs
Misc : ms86419,vu9040,5.0,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jun 12 16:09:01 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u196110.D
Acq On : 15 Jun 2015 10:46 am
Operator : NicoleH1
Sample : bs
Misc : ms86321,vu9043,5.0,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jun 15 16:49:00 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.878	65	86747	500.00	ug/L	0.00
5) pentafluorobenzene	10.079	168	322417	50.00	ug/L	0.00
64) 1,4-difluorobenzene	10.999	114	364567	50.00	ug/L	0.00
96) chlorobenzene-d5	14.324	117	334035	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.901	152	192554	50.00	ug/L	0.00

System Monitoring Compounds						
56) dibromofluoromethane (s)	10.162	113	113954	51.98	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 103.96%			
57) 1,2-dichloroethane-d4 (s)	10.581	65	119591	51.55	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 103.10%			
88) toluene-d8 (s)	12.682	98	418082	50.15	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 100.30%			
114) 4-bromofluorobenzene (s)	15.605	95	161988	47.50	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 95.00%			

Target Compounds						Qvalue
2) tertiary butyl alcohol	7.993	59	51374	264.28	ug/L #	47
4) 1,4-dioxane	11.736	88	20165	1156.48	ug/L	99
11) chlorodifluoromethane	4.406	51	94364	41.24	ug/L	96
12) dichlorodifluoromethane	4.370	85	118524	46.94	ug/L	99
15) chloromethane	4.783	50	133305	47.96	ug/L	99
16) vinyl chloride	5.049	62	135537	52.72	ug/L	99
18) bromomethane	5.719	94	107399	56.65	ug/L	95
19) chloroethane	5.891	64	82418	63.06	ug/L	99
20) trichlorofluoromethane	6.320	101	167569	49.02	ug/L	96
23) ethyl ether	6.759	74	57999	47.90	ug/L	90
24) 2-CHLOROPROPANE	6.984	43	185077	46.24	ug/L #	91
27) acrolein	7.052	56	196072	535.57	ug/L	100
28) 1,1-dichloroethene	7.209	96	97610	48.51	ug/L	96
29) acetone	7.266	58	7616	41.54	ug/L #	80
30) allyl chloride	7.742	76	63352	55.23	ug/L	96
31) acetonitrile	7.731	40	75238	477.71	ug/L	90
32) iodomethane	7.501	142	213169	53.53	ug/L	98
33) carbon disulfide	7.622	76	333815	51.28	ug/L	97
34) 1-CHLOROPROPANE	7.961	63	9004	47.67	ug/L	98
35) methylene chloride	7.935	84	112487	44.21	ug/L	99
36) methyl acetate	7.716	43	64689	38.93	ug/L	98
37) methyl tert butyl ether	8.233	73	616728	97.53	ug/L	92
38) trans-1,2-dichloroethene	8.296	96	111164	49.21	ug/L	99
39) di-isopropyl ether	8.803	45	314463	45.57	ug/L	93
40) ethyl tert-butyl ether	9.268	59	321123	47.69	ug/L	98
41) 2-butanone	9.556	72	12398	48.78	ug/L #	87
42) 1,1-dichloroethane	8.866	63	197060	51.83	ug/L	99
43) chloroprene	8.960	53	154763	49.33	ug/L	97
44) acrylonitrile	8.275	53	175485	256.20	ug/L	100
45) vinyl acetate	8.840	86	20409	50.70	ug/L #	47
46) ethyl acetate	9.556	45	12820	42.83	ug/L	94
47) 2,2-dichloropropane	9.592	77	180698	54.44	ug/L	99
48) cis-1,2-dichloroethene	9.598	96	124750	50.11	ug/L	97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u196110.D
Acq On : 15 Jun 2015 10:46 am
Operator : NicoleH1
Sample : bs
Misc : ms86321,vu9043,5.0,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jun 15 16:49:00 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
49) methyl acrylate	9.645	85	16212	46.69 ug/L #	80
50) propionitrile	9.681	54	131129	477.25 ug/L	99
51) bromochloromethane	9.911	128	66982	53.05 ug/L	93
52) tetrahydrofuran	9.943	42	32914	42.46 ug/L	98
53) chloroform	9.958	83	203568	51.43 ug/L	99
54) tert-butyl Formate	9.974	59	96405	49.84 ug/L	97
55) iso-butyl alcohol	10.371	43	36822	341.28 ug/L	94
58) freon 113	7.167	151	96393	58.27 ug/L	99
59) methacrylonitrile	9.849	41	56696	42.53 ug/L	96
60) 1,1,1-trichloroethane	10.204	97	184449	54.61 ug/L	98
62) tert-amyl methyl ether	10.643	87	78504	48.13 ug/L	97
63) iso-octane	10.607	57	362717	52.40 ug/L	98
66) epichlorohydrin	12.295	57	50220	240.47 ug/L	98
67) n-butyl alcohol	11.119	56	132456	2220.31 ug/L	99
68) Cyclohexane	10.267	84	168391	53.01 ug/L	95
69) carbon tetrachloride	10.398	117	176833	58.79 ug/L	99
70) 1,1-dichloropropene	10.377	75	158682	55.41 ug/L	99
71) hexane	8.563	57	98616	41.08 ug/L	97
72) benzene	10.643	78	442245	50.26 ug/L	99
73) heptane	10.764	57	79825	53.44 ug/L	98
74) isopropyl acetate	10.534	43	189117	47.65 ug/L	98
75) 1,2-dichloroethane	10.669	62	155875	56.83 ug/L	99
78) trichloroethene	11.349	95	121375	52.93 ug/L	98
79) methylcyclohexane	11.558	83	192340	55.57 ug/L	97
80) 2-nitropropane	12.154	41	45788	54.45 ug/L #	92
81) 2-chloroethyl vinyl ether	12.149	63	306604	257.56 ug/L	97
82) methyl methacrylate	11.600	100	29447	48.57 ug/L #	84
83) 1,2-dichloropropane	11.631	63	113619	52.69 ug/L	96
84) propyl acetate	11.637	73	20735	47.96 ug/L	88
85) dibromomethane	11.799	93	74608	53.07 ug/L	96
86) bromodichloromethane	11.919	83	165305	54.58 ug/L	98
87) cis-1,3-dichloropropene	12.389	75	195284	52.96 ug/L	98
89) 4-methyl-2-pentanone	12.478	58	38614	47.19 ug/L #	91
90) toluene	12.761	92	287814	51.08 ug/L	97
91) 3-methyl-1-butanol	12.489	55	85199	812.79 ug/L	99
92) trans-1,3-dichloropropene	12.980	75	177344	52.67 ug/L	100
93) ethyl methacrylate	12.944	69	133966	48.21 ug/L	97
94) 1,1,2-trichloroethane	13.215	83	87922	52.71 ug/L	97
95) 2-hexanone	13.378	58	36182	45.11 ug/L	97
97) cyclohexanone	15.584	55	34441	142.53 ug/L	95
98) tetrachloroethene	13.383	164	127858	53.25 ug/L	98
99) 1,3-dichloropropane	13.414	76	169389	50.65 ug/L	99
100) butyl acetate	13.440	56	66210	46.79 ug/L	98
101) dibromochloromethane	13.702	129	145653	54.52 ug/L	99
102) 1,2-dibromoethane	13.874	107	113660	51.49 ug/L	99
103) 3,3-dimethyl-1-Butanol	13.561	57	102916	459.82 ug/L	98
104) n-butyl ether	14.214	57	474099	47.19 ug/L	97
105) chlorobenzene	14.360	112	358269	52.90 ug/L	98
106) 1,1,1,2-tetrachloroethane	14.423	131	137037	53.40 ug/L	99
107) ethylbenzene	14.402	91	574404	50.90 ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u196110.D
Acq On : 15 Jun 2015 10:46 am
Operator : NicoleH1
Sample : bs
Misc : ms86321,vu9043,5.0,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jun 15 16:49:00 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
108) m,p-xylene	14.517	106	463502	104.79 ug/L	100
109) o-xylene	14.988	106	235072	53.95 ug/L	96
110) styrene	15.003	104	389030	52.05 ug/L	99
111) bromoform	15.322	173	113522	54.38 ug/L	99
113) isopropylbenzene	15.359	105	592254	50.16 ug/L	100
115) bromobenzene	15.829	156	179913	53.25 ug/L	92
116) 1,1,2,2-tetrachloroethane	15.725	83	138484	49.07 ug/L	99
117) trans-1,4-dichloro-2-b...	15.767	53	40469	49.77 ug/L	94
118) 1,2,3-trichloropropane	15.809	110	40072	49.27 ug/L	97
119) n-propylbenzene	15.814	91	711423	53.31 ug/L	99
120) 2-chlorotoluene	15.992	126	154404	50.81 ug/L	99
121) 4-chlorotoluene	16.101	91	416283	48.93 ug/L	98
123) 1,3,5-trimethylbenzene	15.976	105	498593	49.54 ug/L	98
124) tert-butylbenzene	16.368	119	508812	56.92 ug/L	99
125) pentachloroethane	16.483	167	111556	55.09 ug/L	99
126) 1,2,4-trimethylbenzene	16.420	105	511413	51.87 ug/L	100
128) sec-butylbenzene	16.608	105	638744	49.86 ug/L	99
129) 1,3-dichlorobenzene	16.839	146	325668	51.68 ug/L	99
130) p-isopropyltoluene	16.734	119	572371	50.84 ug/L	99
131) 1,4-dichlorobenzene	16.927	146	330437	51.88 ug/L	99
132) benzyl chloride	17.058	91	349536	58.73 ug/L	99
133) 1,2-dichlorobenzene	17.372	146	306750	52.85 ug/L	99
135) n-butylbenzene	17.194	92	266310	50.33 ug/L	98
137) 1,2-dibromo-3-chloropr...	18.234	157	32446	46.20 ug/L	96
138) 1,3,5-trichlorobenzene	18.417	180	268317	52.58 ug/L	99
139) 1,2,4-trichlorobenzene	19.154	180	224828	51.77 ug/L	100
140) hexachlorobutadiene	19.264	225	132376	50.89 ug/L	100
141) naphthalene	19.484	128	391002	47.02 ug/L	98
143) 1,2,3-trichlorobenzene	19.756	180	185717	48.80 ug/L	99
144) hexachloroethane	17.649	201	116422	51.70 ug/L	99

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

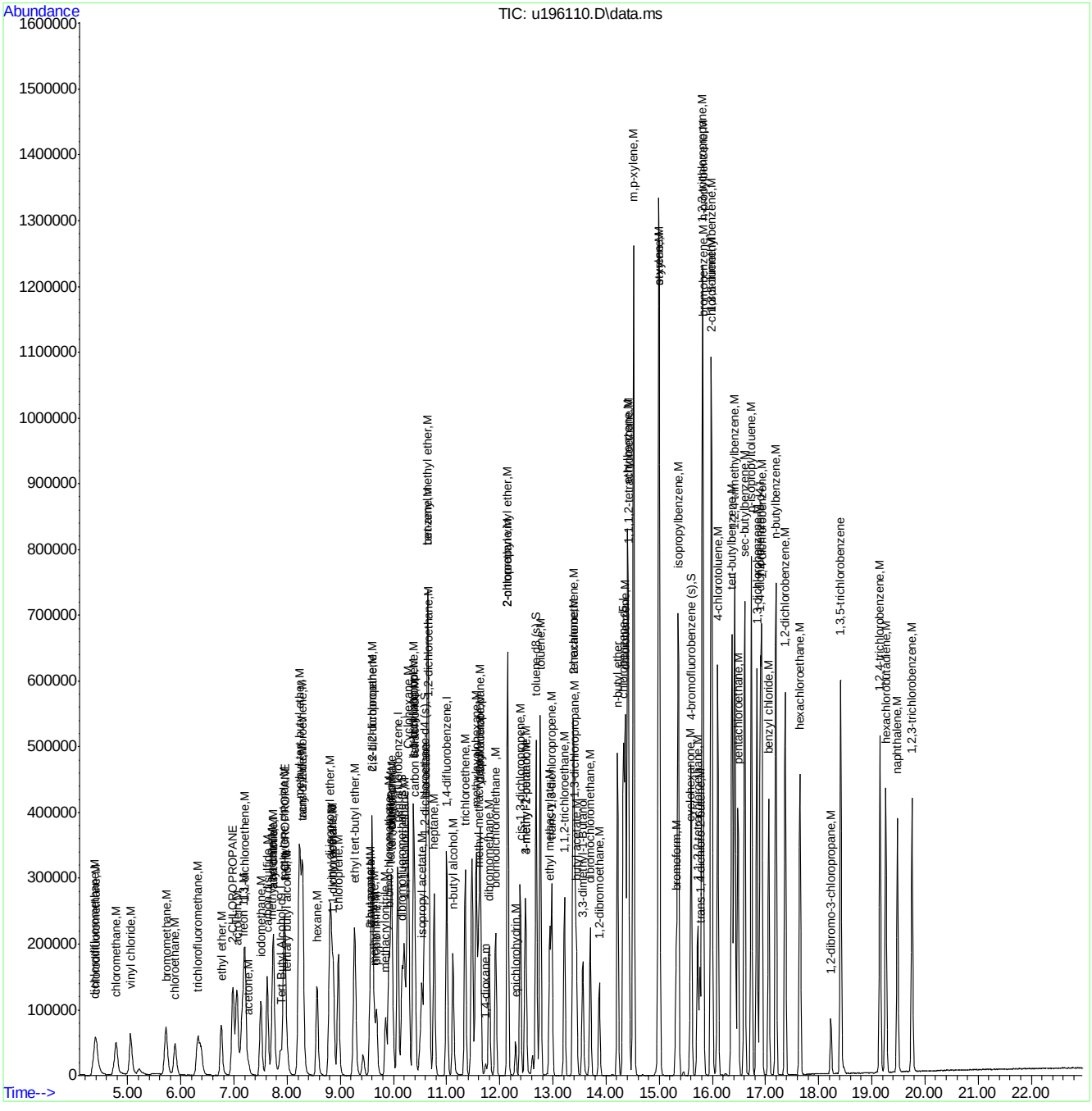
7.3.4

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u196110.D
Acq On : 15 Jun 2015 10:46 am
Operator : NicoleH1
Sample : bs
Misc : ms86321,vu9043,5.0,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jun 15 16:49:00 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration



MU8988.M Mon Jun 15 16:49:08 2015 U_CORE

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u196204.D
Acq On : 17 Jun 2015 10:20 am
Operator : NicoleH1
Sample : bs
Misc : ms86730,vu9047,5.0,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jun 17 11:47:39 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.878	65	85728	500.00	ug/L	0.00
5) pentafluorobenzene	10.079	168	310400	50.00	ug/L	0.00
64) 1,4-difluorobenzene	10.999	114	350388	50.00	ug/L	0.00
96) chlorobenzene-d5	14.324	117	320929	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.896	152	185801	50.00	ug/L	0.00

System Monitoring Compounds						
56) dibromofluoromethane (s)	10.157	113	100839	47.78	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 95.56%			
57) 1,2-dichloroethane-d4 (s)	10.581	65	104956	47.00	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 94.00%			
88) toluene-d8 (s)	12.683	98	370639	46.25	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 92.50%			
114) 4-bromofluorobenzene (s)	15.600	95	144995	44.06	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 88.12%			

Target Compounds						Qvalue
2) tertiary butyl alcohol	7.988	59	50813	264.50	ug/L #	42
4) 1,4-dioxane	11.731	88	22302	1294.24	ug/L	99
11) chlorodifluoromethane	4.391	51	94340	42.82	ug/L	95
12) dichlorodifluoromethane	4.360	85	120064	49.39	ug/L	99
15) chloromethane	4.778	50	143286	53.54	ug/L	100
16) vinyl chloride	5.045	62	143187	57.86	ug/L	98
18) bromomethane	5.719	94	114601	62.79	ug/L	98
19) chloroethane	5.886	64	85232	67.74	ug/L	99
20) trichlorofluoromethane	6.320	101	161736	49.15	ug/L	97
23) ethyl ether	6.759	74	57976	49.73	ug/L	90
24) 2-CHLOROPROPANE	6.974	43	184533	47.89	ug/L #	92
27) acrolein	7.047	56	190842	541.46	ug/L	99
28) 1,1-dichloroethene	7.204	96	97607	50.39	ug/L	97
29) acetone	7.261	58	8640	48.95	ug/L	87
30) allyl chloride	7.737	76	62118	56.25	ug/L	96
31) acetonitrile	7.732	40	76377	503.72	ug/L	90
32) iodomethane	7.496	142	211561	55.18	ug/L	97
33) carbon disulfide	7.622	76	334562	53.39	ug/L	97
34) 1-CHLOROPROPANE	7.967	63	9075	49.91	ug/L	99
35) methylene chloride	7.936	84	110828	45.25	ug/L	97
36) methyl acetate	7.711	43	63460	39.67	ug/L	98
37) methyl tert butyl ether	8.228	73	604050	99.22	ug/L	92
38) trans-1,2-dichloroethene	8.291	96	109944	50.56	ug/L	96
39) di-isopropyl ether	8.803	45	305037	45.91	ug/L	99
40) ethyl tert-butyl ether	9.264	59	310374	47.88	ug/L	99
41) 2-butanone	9.556	72	12557	51.32	ug/L #	81
42) 1,1-dichloroethane	8.866	63	194783	53.21	ug/L	99
43) chloroprene	8.960	53	149874	49.62	ug/L	97
44) acrylonitrile	8.270	53	174230	264.21	ug/L	99
45) vinyl acetate	8.830	86	19337	49.89	ug/L #	76
46) ethyl acetate	9.551	45	12776	44.33	ug/L	89
47) 2,2-dichloropropane	9.593	77	175904	55.05	ug/L	98
48) cis-1,2-dichloroethene	9.598	96	123242	51.42	ug/L	98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u196204.D
Acq On : 17 Jun 2015 10:20 am
Operator : NicoleH1
Sample : bs
Misc : ms86730,vu9047,5.0,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jun 17 11:47:39 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) methyl acrylate	9.640	85	16030	47.95	ug/L	#	89
50) propionitrile	9.682	54	130894	494.84	ug/L		99
51) bromochloromethane	9.912	128	66220	54.47	ug/L		90
52) tetrahydrofuran	9.938	42	32144	43.07	ug/L		97
53) chloroform	9.954	83	199333	52.31	ug/L		98
54) tert-butyl Formate	9.975	59	92700	49.78	ug/L		97
55) iso-butyl alcohol	10.372	43	36577	352.14	ug/L		94
58) freon 113	7.162	151	87532	54.96	ug/L		99
59) methacrylonitrile	9.849	41	55520	43.26	ug/L		94
60) 1,1,1-trichloroethane	10.199	97	180981	55.66	ug/L		96
62) tert-amyl methyl ether	10.644	87	75036	47.79	ug/L		98
63) iso-octane	10.602	57	317187	47.60	ug/L		97
66) epichlorohydrin	12.296	57	48858	243.42	ug/L		99
67) n-butyl alcohol	11.119	56	134059	2338.12	ug/L		97
68) Cyclohexane	10.262	84	159202	52.15	ug/L		92
69) carbon tetrachloride	10.398	117	171107	59.18	ug/L		99
70) 1,1-dichloropropene	10.372	75	155348	56.44	ug/L		100
71) hexane	8.558	57	109875	47.62	ug/L		97
72) benzene	10.644	78	436420	51.61	ug/L		99
73) heptane	10.759	57	69874	48.67	ug/L		99
74) isopropyl acetate	10.534	43	180858	47.41	ug/L		99
75) 1,2-dichloroethane	10.670	62	152619	57.89	ug/L		100
78) trichloroethene	11.344	95	119745	54.33	ug/L		99
79) methylcyclohexane	11.553	83	174358	52.42	ug/L		98
80) 2-nitropropane	12.149	41	44482	55.04	ug/L		99
81) 2-chloroethyl vinyl ether	12.144	63	303541	265.31	ug/L		99
82) methyl methacrylate	11.595	100	28868	49.54	ug/L	#	83
83) 1,2-dichloropropane	11.627	63	112045	54.06	ug/L		96
84) propyl acetate	11.632	73	19604	47.18	ug/L		91
85) dibromomethane	11.794	93	74317	55.00	ug/L		97
86) bromodichloromethane	11.919	83	159188	54.69	ug/L		98
87) cis-1,3-dichloropropene	12.385	75	191051	53.91	ug/L		95
89) 4-methyl-2-pentanone	12.474	58	38321	48.72	ug/L	#	90
90) toluene	12.761	92	283959	52.44	ug/L		96
91) 3-methyl-1-butanol	12.484	55	84206	835.83	ug/L		98
92) trans-1,3-dichloropropene	12.975	75	171980	53.14	ug/L		98
93) ethyl methacrylate	12.939	69	133189	49.87	ug/L		98
94) 1,1,2-trichloroethane	13.211	83	86490	53.95	ug/L		99
95) 2-hexanone	13.378	58	36874	47.84	ug/L		96
97) cyclohexanone	15.579	55	94863	408.60	ug/L		97
98) tetrachloroethene	13.383	164	125716	54.49	ug/L		98
99) 1,3-dichloropropane	13.409	76	166501	51.82	ug/L		99
100) butyl acetate	13.441	56	63391	46.63	ug/L		98
101) dibromochloromethane	13.702	129	139941	54.52	ug/L		99
102) 1,2-dibromoethane	13.869	107	111927	52.77	ug/L		99
103) 3,3-dimethyl-1-Butanol	13.561	57	102727	477.72	ug/L		98
104) n-butyl ether	14.214	57	469427	48.63	ug/L		98
105) chlorobenzene	14.356	112	353689	54.35	ug/L		99
106) 1,1,1,2-tetrachloroethane	14.424	131	134619	54.60	ug/L		99
107) ethylbenzene	14.403	91	564718	52.08	ug/L		99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u196204.D
Acq On : 17 Jun 2015 10:20 am
Operator : NicoleH1
Sample : bs
Misc : ms86730,vu9047,5.0,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jun 17 11:47:39 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
108) m,p-xylene	14.518	106	459582	108.14 ug/L	99
109) o-xylene	14.983	106	231791	55.37 ug/L	97
110) styrene	14.999	104	386633	53.85 ug/L	99
111) bromoform	15.318	173	105496	52.60 ug/L	99
113) isopropylbenzene	15.354	105	582849	51.16 ug/L	99
115) bromobenzene	15.825	156	179774	55.14 ug/L	95
116) 1,1,2,2-tetrachloroethane	15.720	83	136443	50.11 ug/L	99
117) trans-1,4-dichloro-2-b...	15.762	53	34949	44.54 ug/L	97
118) 1,2,3-trichloropropane	15.809	110	39999	50.97 ug/L	98
119) n-propylbenzene	15.809	91	705768	54.81 ug/L	100
120) 2-chlorotoluene	15.992	126	152515	52.01 ug/L	97
121) 4-chlorotoluene	16.102	91	413232	50.34 ug/L	97
123) 1,3,5-trimethylbenzene	15.971	105	492246	50.68 ug/L	99
124) tert-butylbenzene	16.368	119	498249	57.77 ug/L	100
125) pentachloroethane	16.478	167	109105	55.83 ug/L	99
126) 1,2,4-trimethylbenzene	16.415	105	506113	53.19 ug/L	100
128) sec-butylbenzene	16.604	105	633150	51.22 ug/L	100
129) 1,3-dichlorobenzene	16.834	146	323177	53.14 ug/L	98
130) p-isopropyltoluene	16.734	119	565098	52.01 ug/L	99
131) 1,4-dichlorobenzene	16.928	146	326930	53.19 ug/L	99
132) benzyl chloride	17.058	91	326776	56.90 ug/L	98
133) 1,2-dichlorobenzene	17.367	146	301812	53.89 ug/L	100
135) n-butylbenzene	17.194	92	262894	51.49 ug/L	99
137) 1,2-dibromo-3-chloropr...	18.230	157	31496	46.47 ug/L	99
138) 1,3,5-trichlorobenzene	18.413	180	267520	54.33 ug/L	100
139) 1,2,4-trichlorobenzene	19.155	180	221263	52.80 ug/L	99
140) hexachlorobutadiene	19.259	225	128924	51.37 ug/L	99
141) naphthalene	19.479	128	381303	47.52 ug/L	99
143) 1,2,3-trichlorobenzene	19.756	180	180921	49.27 ug/L	100
144) hexachloroethane	17.649	201	113728	52.34 ug/L	99

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

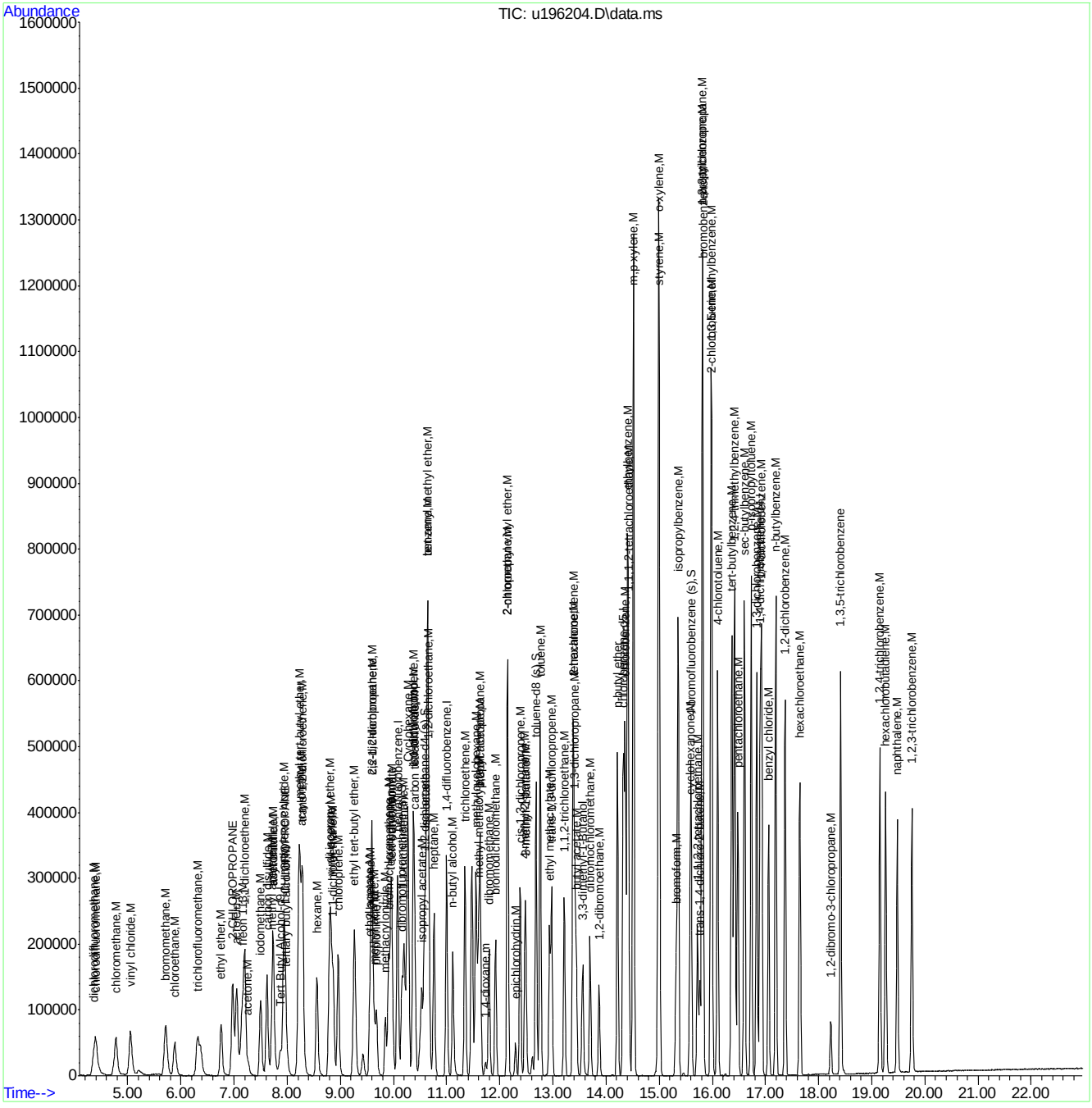
7.3.5

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u196204.D
Acq On : 17 Jun 2015 10:20 am
Operator : NicoleH1
Sample : bs
Misc : ms86730,vu9047,5.0,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jun 17 11:47:39 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u195956.D
Acq On : 10 Jun 2015 11:14 pm
Operator : NicoleH1
Sample : jb96432-1ms
Misc : ms86322,vu9037,5.0,,,,1
ALS Vial : 30 Sample Multiplier: 1

Quant Time: Jun 11 13:01:55 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.878	65	93919	500.00	ug/L	0.00
5) pentafluorobenzene	10.079	168	342812	50.00	ug/L	0.00
64) 1,4-difluorobenzene	10.999	114	384910	50.00	ug/L	0.00
96) chlorobenzene-d5	14.324	117	347248	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.901	152	198466	50.00	ug/L	0.00

System Monitoring Compounds

56) dibromofluoromethane (s)	10.157	113	120826	51.84	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 103.68%			
57) 1,2-dichloroethane-d4 (s)	10.581	65	126550	51.31	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 102.62%			
88) toluene-d8 (s)	12.682	98	438743	49.84	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 99.68%			
114) 4-bromofluorobenzene (s)	15.599	95	168630	47.97	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 95.94%			

Target Compounds

						Qvalue
2) tertiary butyl alcohol	7.993	59	71512	339.78	ug/L	79
4) 1,4-dioxane	11.736	88	26248	1390.39	ug/L	98
11) chlorodifluoromethane	4.396	51	130039	53.45	ug/L	98
12) dichlorodifluoromethane	4.370	85	149849	55.82	ug/L	99
15) chloromethane	4.777	50	137304	46.46	ug/L	99
16) vinyl chloride	5.049	62	142977	52.31	ug/L	97
18) bromomethane	5.713	94	105606	52.39	ug/L	98
19) chloroethane	5.886	64	76373	54.96	ug/L	98
20) trichlorofluoromethane	6.320	101	192675	52.98	ug/L	97
23) ethyl ether	6.754	74	57448	44.62	ug/L	88
24) 2-CHLOROPROPANE	6.973	43	189460	44.52	ug/L #	92
27) acrolein	7.046	56	164361	422.24	ug/L	99
28) 1,1-dichloroethene	7.203	96	104079	48.65	ug/L	98
29) acetone	7.271	58	8769	44.98	ug/L	96
30) allyl chloride	7.737	76	58797	48.21	ug/L	96
31) acetonitrile	7.737	40	78670	469.79	ug/L #	88
32) iodomethane	7.501	142	215053	50.79	ug/L	97
33) carbon disulfide	7.622	76	313886	45.35	ug/L	98
34) 1-CHLOROPROPANE	7.961	63	9409	46.86	ug/L	88
35) methylene chloride	7.935	84	116981	43.24	ug/L	100
36) methyl acetate	7.710	43	68150	38.57	ug/L	98
37) methyl tert butyl ether	8.228	73	365501	54.36	ug/L	98
38) trans-1,2-dichloroethene	8.296	96	122367	50.95	ug/L	98
39) di-isopropyl ether	8.798	45	357356	48.70	ug/L	86
40) ethyl tert-butyl ether	9.268	59	362998	50.71	ug/L	98
41) 2-butanone	9.556	72	12504	46.27	ug/L #	70
42) 1,1-dichloroethane	8.866	63	209325	51.78	ug/L	99
43) chloroprene	8.960	53	183189	54.91	ug/L	97
44) acrylonitrile	8.270	53	163315	224.24	ug/L	99
45) vinyl acetate	8.834	86	17442	40.75	ug/L #	73
46) ethyl acetate	9.556	45	11996	37.69	ug/L	99
47) 2,2-dichloropropane	9.587	77	169075	47.91	ug/L	98
48) cis-1,2-dichloroethene	9.592	96	134979	50.99	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u195956.D
Acq On : 10 Jun 2015 11:14 pm
Operator : NicoleH1
Sample : jb96432-1ms
Misc : ms86322,vu9037,5.0,,,,1
ALS Vial : 30 Sample Multiplier: 1

Quant Time: Jun 11 13:01:55 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
49) methyl acrylate	9.645	85	16722	45.30 ug/L #	77
50) propionitrile	9.681	54	130139	445.47 ug/L	99
51) bromochloromethane	9.911	128	72543	54.03 ug/L	94
52) tetrahydrofuran	9.932	42	28099	34.09 ug/L	87
53) chloroform	9.953	83	221139	52.55 ug/L	99
54) tert-butyl Formate	10.199	59	2506	1.22 ug/L #	24
55) iso-butyl alcohol	10.371	43	40614	354.03 ug/L	95
58) freon 113	7.161	151	110266	62.69 ug/L	98
59) methacrylonitrile	9.849	41	58872	41.54 ug/L	96
60) 1,1,1-trichloroethane	10.199	97	204928	57.06 ug/L	98
62) tert-amyl methyl ether	10.649	87	86849	50.08 ug/L	98
66) epichlorohydrin	12.301	57	16321	74.02 ug/L	97
67) n-butyl alcohol	11.119	56	127585	2025.63 ug/L	99
68) Cyclohexane	10.262	84	184697	55.07 ug/L	85
69) carbon tetrachloride	10.398	117	198353	62.45 ug/L	99
70) 1,1-dichloropropene	10.371	75	172261	56.97 ug/L	99
71) hexane	8.563	57	147694	58.27 ug/L	99
72) benzene	10.643	78	472883	50.91 ug/L	100
73) heptane	10.764	57	79490	50.41 ug/L	96
74) isopropyl acetate	10.534	43	177017	42.24 ug/L	100
75) 1,2-dichloroethane	10.669	62	165039	56.99 ug/L	100
78) trichloroethene	11.344	95	134917	55.73 ug/L	99
79) methylcyclohexane	11.553	83	222767	60.96 ug/L	98
80) 2-nitropropane	12.154	41	31571	35.56 ug/L #	1
82) methyl methacrylate	11.600	100	31194	48.74 ug/L #	90
83) 1,2-dichloropropane	11.626	63	119293	52.40 ug/L	96
84) propyl acetate	11.631	73	19398	42.50 ug/L	89
85) dibromomethane	11.799	93	80916	54.51 ug/L	99
86) bromodichloromethane	11.919	83	179900	56.26 ug/L	96
87) cis-1,3-dichloropropene	12.384	75	208700	53.61 ug/L	96
89) 4-methyl-2-pentanone	12.473	58	41298	47.80 ug/L #	88
90) toluene	12.761	92	323279	54.34 ug/L	98
91) 3-methyl-1-butanol	12.489	55	84616	764.57 ug/L	98
92) trans-1,3-dichloropropene	12.975	75	198045	55.71 ug/L	98
93) ethyl methacrylate	12.938	69	146036	49.78 ug/L	98
94) 1,1,2-trichloroethane	13.216	83	95597	54.28 ug/L	96
95) 2-hexanone	13.378	58	39299	46.41 ug/L	95
97) cyclohexanone	15.584	55	29363	116.89 ug/L	95
98) tetrachloroethene	13.383	164	143207	57.37 ug/L	99
99) 1,3-dichloropropane	13.409	76	186715	53.70 ug/L	98
100) butyl acetate	13.440	56	59115	40.19 ug/L	95
101) dibromochloromethane	13.702	129	162107	58.36 ug/L	100
102) 1,2-dibromoethane	13.869	107	124914	54.43 ug/L	97
103) 3,3-dimethyl-1-Butanol	13.561	57	91522	393.36 ug/L #	93
104) n-butyl ether	14.214	57	548770	52.54 ug/L	98
105) chlorobenzene	14.360	112	403551	57.31 ug/L	97
106) 1,1,1,2-tetrachloroethane	14.423	131	157619	59.09 ug/L	99
107) ethylbenzene	14.402	91	655569	55.88 ug/L	99
108) m,p-xylene	14.517	106	526954	114.60 ug/L	99
109) o-xylene	14.988	106	262908	58.05 ug/L	96

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u195956.D
Acq On : 10 Jun 2015 11:14 pm
Operator : NicoleH1
Sample : jb96432-1ms
Misc : ms86322,vu9037,5.0,,,,1
ALS Vial : 30 Sample Multiplier: 1

Quant Time: Jun 11 13:01:55 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

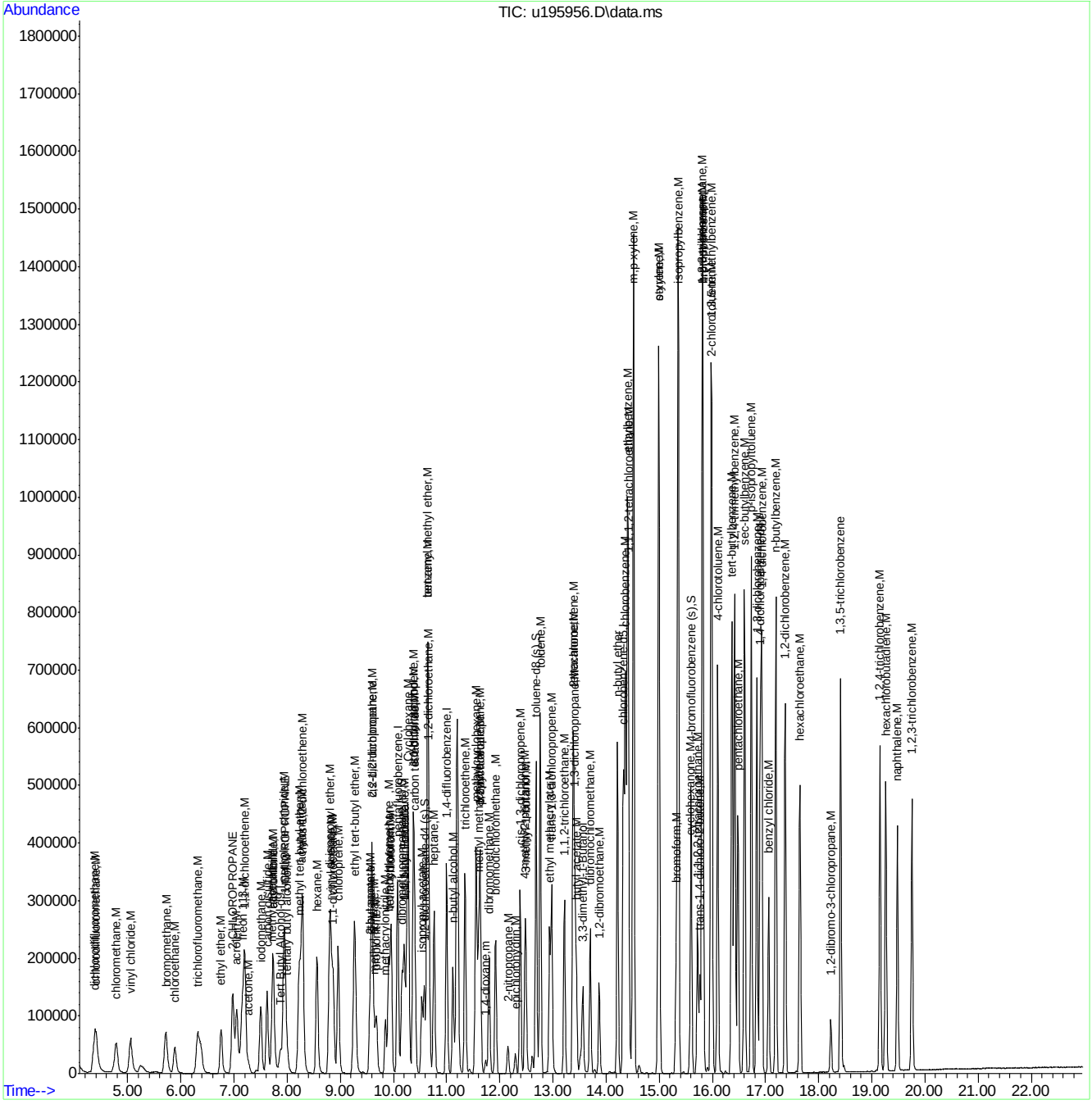
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
110) styrene	14.998	104	438348	56.42 ug/L	99
111) bromoform	15.317	173	126665	58.37 ug/L	99
113) isopropylbenzene	15.359	105	1249708	102.70 ug/L	99
115) bromobenzene	15.824	156	202782	58.23 ug/L	98
116) 1,1,2,2-tetrachloroethane	15.720	83	156940	53.95 ug/L	98
117) trans-1,4-dichloro-2-b...	15.767	53	38643	46.11 ug/L	93
118) 1,2,3-trichloropropane	15.809	110	44634	53.24 ug/L	96
119) n-propylbenzene	15.814	91	883628	64.24 ug/L	98
120) 2-chlorotoluene	15.992	126	176827	56.45 ug/L	95
121) 4-chlorotoluene	16.101	91	473813	54.03 ug/L	97
123) 1,3,5-trimethylbenzene	15.976	105	576202	55.54 ug/L	98
124) tert-butylbenzene	16.368	119	518012	56.23 ug/L	100
125) pentachloroethane	16.483	167	126126	60.43 ug/L	97
126) 1,2,4-trimethylbenzene	16.420	105	555469	54.66 ug/L	100
128) sec-butylbenzene	16.608	105	750482	56.84 ug/L	99
129) 1,3-dichlorobenzene	16.839	146	369196	56.84 ug/L	99
130) p-isopropyltoluene	16.734	119	653781	56.34 ug/L	98
131) 1,4-dichlorobenzene	16.927	146	370355	56.41 ug/L	98
132) benzyl chloride	17.058	91	257436	41.96 ug/L	100
133) 1,2-dichlorobenzene	17.367	146	342900	57.31 ug/L	99
135) n-butylbenzene	17.194	92	297435	54.53 ug/L	98
137) 1,2-dibromo-3-chloropr...	18.229	157	36149	49.94 ug/L	98
138) 1,3,5-trichlorobenzene	18.412	180	300077	57.05 ug/L	99
139) 1,2,4-trichlorobenzene	19.154	180	250803	56.03 ug/L	99
140) hexachlorobutadiene	19.264	225	156754	58.47 ug/L	99
141) naphthalene	19.484	128	435487	50.81 ug/L	99
143) 1,2,3-trichlorobenzene	19.756	180	211837	54.00 ug/L	99
144) hexachloroethane	17.649	201	133593	57.56 ug/L	99

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u195956.D
Acq On : 10 Jun 2015 11:14 pm
Operator : NicoleH1
Sample : jb96432-1ms
Misc : ms86322,vu9037,5.0,,,,1
ALS Vial : 30 Sample Multiplier: 1

Quant Time: Jun 11 13:01:55 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u195957.D
Acq On : 10 Jun 2015 11:44 pm
Operator : NicoleH1
Sample : jb96432-1msd
Misc : ms86322,vu9037,5.0,,,,1
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Jun 11 13:02:16 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.874	65	98752	500.00	ug/L	-0.01
5) pentafluorobenzene	10.075	168	351208	50.00	ug/L	0.00
64) 1,4-difluorobenzene	11.000	114	394290	50.00	ug/L	0.00
96) chlorobenzene-d5	14.325	117	352888	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.898	152	204011	50.00	ug/L	0.00

System Monitoring Compounds						
56) dibromofluoromethane (s)	10.159	113	122002	51.09	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 102.18%			
57) 1,2-dichloroethane-d4 (s)	10.582	65	127933	50.63	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 101.26%			
88) toluene-d8 (s)	12.684	98	448642	49.75	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 99.50%			
114) 4-bromofluorobenzene (s)	15.601	95	171171	47.37	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 94.74%			

Target Compounds						Qvalue
2) tertiary butyl alcohol	7.989	59	81622	368.84	ug/L	73
4) 1,4-dioxane	11.732	88	28688	1445.27	ug/L	98
11) chlorodifluoromethane	4.397	51	128914	51.72	ug/L	100
12) dichlorodifluoromethane	4.361	85	141702	51.52	ug/L	98
15) chloromethane	4.779	50	135444	44.73	ug/L	99
16) vinyl chloride	5.051	62	140870	50.31	ug/L	99
18) bromomethane	5.715	94	102850	49.81	ug/L	99
19) chloroethane	5.887	64	75278	52.88	ug/L	98
20) trichlorofluoromethane	6.321	101	189780	50.95	ug/L	94
23) ethyl ether	6.760	74	58127	44.07	ug/L	88
24) 2-CHLOROPROPANE	6.975	43	192666	44.19	ug/L	93
27) acrolein	7.048	56	167489	419.99	ug/L	99
28) 1,1-dichloroethene	7.200	96	104112	47.50	ug/L	94
29) acetone	7.268	58	11390	57.03	ug/L	100
30) allyl chloride	7.738	76	59542	47.65	ug/L	93
31) acetonitrile	7.733	40	79870	465.55	ug/L #	89
32) iodomethane	7.498	142	218353	50.34	ug/L	97
33) carbon disulfide	7.623	76	316032	44.57	ug/L	98
34) 1-CHLOROPROPANE	7.958	63	9271	45.06	ug/L	77
35) methylene chloride	7.937	84	117462	42.38	ug/L	100
36) methyl acetate	7.707	43	69227	38.24	ug/L	98
37) methyl tert butyl ether	8.229	73	369943	53.71	ug/L	98
38) trans-1,2-dichloroethene	8.292	96	123217	50.08	ug/L	97
39) di-isopropyl ether	8.799	45	360278	47.93	ug/L	88
40) ethyl tert-butyl ether	9.265	59	368710	50.27	ug/L	98
41) 2-butanone	9.552	72	12453	44.98	ug/L #	75
42) 1,1-dichloroethane	8.862	63	210779	50.89	ug/L	99
43) chloroprene	8.956	53	182735	53.47	ug/L	98
44) acrylonitrile	8.271	53	166079	222.59	ug/L	100
45) vinyl acetate	8.836	86	17612	40.16	ug/L #	62
46) ethyl acetate	9.552	45	12314	37.77	ug/L	87
47) 2,2-dichloropropane	9.589	77	168025	46.47	ug/L	98
48) cis-1,2-dichloroethene	9.594	96	137272	50.62	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u195957.D
Acq On : 10 Jun 2015 11:44 pm
Operator : NicoleH1
Sample : jb96432-1msd
Misc : ms86322,vu9037,5.0,,,,1
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Jun 11 13:02:16 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) methyl acrylate	9.641	85	16904	44.69	ug/L		91
50) propionitrile	9.678	54	132868	443.94	ug/L		98
51) bromochloromethane	9.913	128	72312	52.57	ug/L		91
52) tetrahydrofuran	9.934	42	28456	33.70	ug/L		86
53) chloroform	9.955	83	222301	51.56	ug/L		99
54) tert-butyl Formate	10.200	59	2596	1.23	ug/L	#	24
55) iso-butyl alcohol	10.373	43	45185	384.46	ug/L		95
58) freon 113	7.158	151	108192	60.04	ug/L		95
59) methacrylonitrile	9.850	41	59879	41.24	ug/L		96
60) 1,1,1-trichloroethane	10.200	97	205571	55.87	ug/L		99
62) tert-amyl methyl ether	10.645	87	87878	49.47	ug/L		99
66) epichlorohydrin	12.297	57	15356	67.99	ug/L		98
67) n-butyl alcohol	11.115	56	137937	2137.89	ug/L		100
68) Cyclohexane	10.263	84	181394	52.80	ug/L		94
69) carbon tetrachloride	10.399	117	198052	60.88	ug/L		98
70) 1,1-dichloropropene	10.373	75	173163	55.91	ug/L		99
71) hexane	8.559	57	141082	54.34	ug/L		98
72) benzene	10.645	78	475324	49.95	ug/L		100
73) heptane	10.765	57	78242	48.44	ug/L		98
74) isopropyl acetate	10.530	43	180744	42.11	ug/L		100
75) 1,2-dichloroethane	10.666	62	167913	56.60	ug/L		99
78) trichloroethene	11.345	95	136782	55.15	ug/L		100
79) methylcyclohexane	11.554	83	218873	58.47	ug/L		96
80) 2-nitropropane	12.150	41	32421	35.65	ug/L	#	1
82) methyl methacrylate	11.596	100	31270	47.69	ug/L	#	87
83) 1,2-dichloropropane	11.628	63	119732	51.34	ug/L		95
84) propyl acetate	11.633	73	19725	42.19	ug/L		87
85) dibromomethane	11.795	93	82020	53.94	ug/L		99
86) bromodichloromethane	11.920	83	182326	55.66	ug/L		98
87) cis-1,3-dichloropropene	12.386	75	211015	52.91	ug/L		96
89) 4-methyl-2-pentanone	12.475	58	41967	47.42	ug/L	#	90
90) toluene	12.762	92	326539	53.58	ug/L		99
91) 3-methyl-1-butanol	12.485	55	90394	797.35	ug/L		99
92) trans-1,3-dichloropropene	12.977	75	199168	54.69	ug/L		100
93) ethyl methacrylate	12.940	69	150829	50.19	ug/L		97
94) 1,1,2-trichloroethane	13.212	83	97351	53.97	ug/L		95
95) 2-hexanone	13.379	58	39816	45.90	ug/L		99
97) cyclohexanone	15.585	55	30896	121.03	ug/L		95
98) tetrachloroethene	13.384	164	144720	57.05	ug/L		97
99) 1,3-dichloropropane	13.410	76	188751	53.42	ug/L		99
100) butyl acetate	13.442	56	60340	40.36	ug/L		98
101) dibromochloromethane	13.703	129	165576	58.66	ug/L		99
102) 1,2-dibromoethane	13.870	107	128658	55.17	ug/L		99
103) 3,3-dimethyl-1-Butanol	13.562	57	97030	410.37	ug/L	#	92
104) n-butyl ether	14.216	57	550855	51.90	ug/L		98
105) chlorobenzene	14.362	112	409920	57.29	ug/L		96
106) 1,1,1,2-tetrachloroethane	14.425	131	158224	58.37	ug/L		99
107) ethylbenzene	14.404	91	660415	55.39	ug/L		99
108) m,p-xylene	14.519	106	530221	113.47	ug/L		98
109) o-xylene	14.984	106	264226	57.40	ug/L		96

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u195957.D
Acq On : 10 Jun 2015 11:44 pm
Operator : NicoleH1
Sample : jb96432-1msd
Misc : ms86322,vu9037,5.0,,,,1
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Jun 11 13:02:16 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
110) styrene	15.000	104	442003	55.98 ug/L	100
111) bromoform	15.319	173	129486	58.72 ug/L	98
113) isopropylbenzene	15.355	105	1305880	104.40 ug/L	99
115) bromobenzene	15.826	156	203969	56.98 ug/L	95
116) 1,1,2,2-tetrachloroethane	15.721	83	158941	53.16 ug/L	98
117) trans-1,4-dichloro-2-b...	15.763	53	38317	44.47 ug/L	94
118) 1,2,3-trichloropropane	15.810	110	45608	52.93 ug/L	97
119) n-propylbenzene	15.810	91	911293	64.45 ug/L	99
120) 2-chlorotoluene	15.993	126	178804	55.53 ug/L	94
121) 4-chlorotoluene	16.103	91	476983	52.92 ug/L	97
123) 1,3,5-trimethylbenzene	15.972	105	580749	54.46 ug/L	99
124) tert-butylbenzene	16.369	119	533525	56.34 ug/L	99
125) pentachloroethane	16.479	167	127231	59.30 ug/L	99
126) 1,2,4-trimethylbenzene	16.417	105	560641	53.67 ug/L	100
128) sec-butylbenzene	16.605	105	757837	55.83 ug/L	100
129) 1,3-dichlorobenzene	16.835	146	375485	56.23 ug/L	98
130) p-isopropyltoluene	16.735	119	657198	55.09 ug/L	99
131) 1,4-dichlorobenzene	16.929	146	374162	55.44 ug/L	99
132) benzyl chloride	17.060	91	255570	40.53 ug/L	100
133) 1,2-dichlorobenzene	17.368	146	348736	56.71 ug/L	99
135) n-butylbenzene	17.195	92	300151	53.54 ug/L	97
137) 1,2-dibromo-3-chloropr...	18.231	157	36347	48.85 ug/L	98
138) 1,3,5-trichlorobenzene	18.414	180	303072	56.05 ug/L	99
139) 1,2,4-trichlorobenzene	19.156	180	255008	55.42 ug/L	100
140) hexachlorobutadiene	19.266	225	155138	56.29 ug/L	98
141) naphthalene	19.480	128	445661	50.59 ug/L	100
143) 1,2,3-trichlorobenzene	19.757	180	215734	53.50 ug/L	99
144) hexachloroethane	17.650	201	136469	57.20 ug/L	99

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

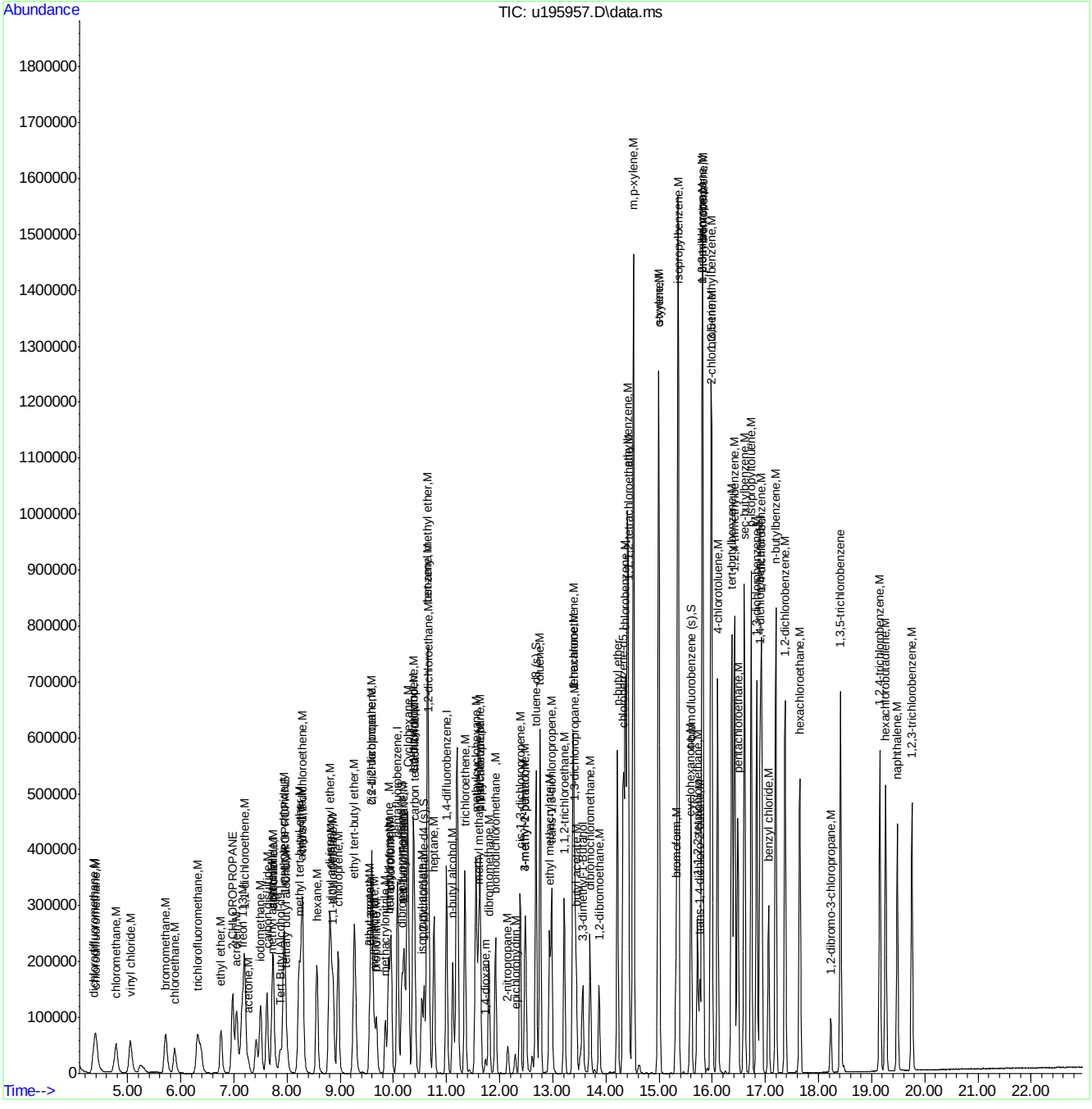
7.4.2

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u195957.D
Acq On : 10 Jun 2015 11:44 pm
Operator : NicoleH1
Sample : jb96432-1msd
Misc : ms86322,vu9037,5.0,,,,1
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Jun 11 13:02:16 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u195989.D
Acq On : 11 Jun 2015 3:59 pm
Operator : NicoleH1
Sample : jb96173-3ms
Misc : ms86190,vu9038,5.0,,,,20
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jun 11 17:24:44 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.894	65	97158	500.00	ug/L	0.00
5) pentafluorobenzene	10.079	168	319493	50.00	ug/L	0.00
64) 1,4-difluorobenzene	10.999	114	361374	50.00	ug/L	0.00
96) chlorobenzene-d5	14.325	117	313060	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.902	152	192016	50.00	ug/L	0.00

System Monitoring Compounds						
56) dibromofluoromethane (s)	10.158	113	112317	51.70	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 103.40%			
57) 1,2-dichloroethane-d4 (s)	10.581	65	118121	51.39	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 102.78%			
88) toluene-d8 (s)	12.683	98	413980	50.09	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 100.18%			
114) 4-bromofluorobenzene (s)	15.600	95	157933	46.44	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 92.88%			

Target Compounds						Qvalue
2) tertiary butyl alcohol	8.004	59	59019	271.07	ug/L	96
4) 1,4-dioxane	11.742	88	25489	1305.18	ug/L	99
11) chlorodifluoromethane	4.407	51	115933	51.13	ug/L	99
12) dichlorodifluoromethane	4.376	85	122166	48.83	ug/L	97
15) chloromethane	4.783	50	125032	45.39	ug/L	99
16) vinyl chloride	5.055	62	127501	50.05	ug/L	99
18) bromomethane	5.724	94	95529	50.85	ug/L	96
19) chloroethane	5.892	64	70241	54.24	ug/L	98
20) trichlorofluoromethane	6.336	101	164493	48.57	ug/L	98
23) ethyl ether	6.765	74	51233	42.70	ug/L	88
24) 2-CHLOROPROPANE	6.979	43	168783	42.55	ug/L #	92
27) acrolein	7.063	56	150752	415.54	ug/L	100
28) 1,1-dichloroethene	7.209	96	91364	45.82	ug/L	97
29) acetone	7.277	58	7704	42.41	ug/L	85
30) allyl chloride	7.742	76	54307	47.77	ug/L	95
31) acetonitrile	7.742	40	74170	475.24	ug/L #	87
32) iodomethane	7.507	142	192163	48.70	ug/L	97
33) carbon disulfide	7.627	76	275179	42.66	ug/L	98
34) 1-CHLOROPROPANE	7.962	63	8340	44.56	ug/L	89
35) methylene chloride	7.941	84	107672	42.71	ug/L	98
36) methyl acetate	7.716	43	72865	44.25	ug/L	98
37) methyl tert butyl ether	8.234	73	299787	47.84	ug/L	99
38) trans-1,2-dichloroethene	8.297	96	109786	49.05	ug/L	97
39) di-isopropyl ether	8.804	45	328906	48.10	ug/L	95
40) ethyl tert-butyl ether	9.269	59	342792	51.38	ug/L	98
41) 2-butanone	9.557	72	12366	49.10	ug/L #	83
42) 1,1-dichloroethane	8.866	63	188887	50.13	ug/L	100
43) chloroprene	8.961	53	161446	51.93	ug/L	98
44) acrylonitrile	8.276	53	158256	233.16	ug/L	99
45) vinyl acetate	8.830	86	18912	47.41	ug/L #	94
46) ethyl acetate	9.557	45	13149	44.33	ug/L	94
47) 2,2-dichloropropane	9.593	77	183185	55.69	ug/L	99
48) cis-1,2-dichloroethene	9.598	96	124637	50.52	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u195989.D
Acq On : 11 Jun 2015 3:59 pm
Operator : NicoleH1
Sample : jb96173-3ms
Misc : ms86190,vu9038,5.0,,,,20
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jun 11 17:24:44 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
49) methyl acrylate	9.640	85	15868	46.12 ug/L #	88
50) propionitrile	9.682	54	130909	480.81 ug/L	99
51) bromochloromethane	9.912	128	66931	53.49 ug/L	94
52) tetrahydrofuran	9.943	42	32021	41.68 ug/L	98
53) chloroform	9.959	83	206567	52.67 ug/L	99
54) tert-butyl Formate	9.980	59	94319	49.21 ug/L	97
55) iso-butyl alcohol	10.377	43	44265	414.02 ug/L	97
58) freon 113	7.167	151	97298	59.36 ug/L	98
59) methacrylonitrile	9.849	41	56638	42.88 ug/L	98
60) 1,1,1-trichloroethane	10.205	97	184945	55.26 ug/L	99
62) tert-amyl methyl ether	10.649	87	82409	50.99 ug/L	98
66) epichlorohydrin	12.296	57	45340	219.02 ug/L	99
67) n-butyl alcohol	11.125	56	145404	2458.89 ug/L	99
68) Cyclohexane	10.268	84	160229	50.89 ug/L	91
69) carbon tetrachloride	10.398	117	174380	58.48 ug/L	99
70) 1,1-dichloropropene	10.372	75	152871	53.85 ug/L	99
71) hexane	8.563	57	139700	58.71 ug/L	99
72) benzene	10.644	78	430836	49.40 ug/L	99
73) heptane	10.764	57	79167	53.47 ug/L	97
74) isopropyl acetate	10.534	43	179902	45.73 ug/L	98
75) 1,2-dichloroethane	10.670	62	155248	57.10 ug/L	99
78) trichloroethene	11.345	95	126305	55.57 ug/L	97
79) methylcyclohexane	11.554	83	198135	57.75 ug/L	98
80) 2-nitropropane	12.155	41	39925	47.90 ug/L #	43
81) 2-chloroethyl vinyl ether	12.144	63	175884	149.06 ug/L	98
82) methyl methacrylate	11.601	100	29537	49.15 ug/L #	81
83) 1,2-dichloropropane	11.627	63	113362	53.03 ug/L	96
84) propyl acetate	11.632	73	20759	48.44 ug/L	90
85) dibromomethane	11.799	93	77077	55.31 ug/L	99
86) bromodichloromethane	11.920	83	169692	56.52 ug/L	98
87) cis-1,3-dichloropropene	12.385	75	202520	55.41 ug/L	95
89) 4-methyl-2-pentanone	12.474	58	40718	50.20 ug/L	97
90) toluene	12.761	92	300312	53.77 ug/L	99
91) 3-methyl-1-butanol	12.489	55	101926	980.96 ug/L	98
92) trans-1,3-dichloropropene	12.976	75	193112	57.86 ug/L	97
93) ethyl methacrylate	12.939	69	142310	51.67 ug/L	98
94) 1,1,2-trichloroethane	13.211	83	92527	55.96 ug/L	99
95) 2-hexanone	13.378	58	43934	55.26 ug/L	91
97) cyclohexanone	15.584	55	33623	148.46 ug/L	99
98) tetrachloroethene	13.383	164	1170926	520.32 ug/L	100
99) 1,3-dichloropropane	13.410	76	176281	56.24 ug/L	100
100) butyl acetate	13.441	56	62731	47.30 ug/L	94
101) dibromochloromethane	13.702	129	148947	59.48 ug/L	99
102) 1,2-dibromoethane	13.870	107	113707	54.96 ug/L	99
103) 3,3-dimethyl-1-Butanol	13.561	57	109536	522.19 ug/L	99
104) n-butyl ether	14.215	57	506420	53.78 ug/L	98
105) chlorobenzene	14.361	112	365401	57.56 ug/L	98
106) 1,1,1,2-tetrachloroethane	14.424	131	147716	61.42 ug/L	99
107) ethylbenzene	14.403	91	597905	56.53 ug/L	100
108) m,p-xylene	14.518	106	485118	117.02 ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u195989.D
Acq On : 11 Jun 2015 3:59 pm
Operator : NicoleH1
Sample : jb96173-3ms
Misc : ms86190,vu9038,5.0,,,,20
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jun 11 17:24:44 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
109) o-xylene	14.988	106	246711	60.42 ug/L	95
110) styrene	14.999	104	413591	59.05 ug/L	99
111) bromoform	15.318	173	121378	62.04 ug/L	97
113) isopropylbenzene	15.360	105	643380	54.65 ug/L	98
115) bromobenzene	15.825	156	194252	57.66 ug/L	96
116) 1,1,2,2-tetrachloroethane	15.720	83	154153	54.78 ug/L	99
117) trans-1,4-dichloro-2-b...	15.762	53	40100	49.45 ug/L	97
118) 1,2,3-trichloropropane	15.809	110	44055	54.32 ug/L	97
119) n-propylbenzene	15.814	91	725200	54.50 ug/L	100
120) 2-chlorotoluene	15.992	126	170165	56.15 ug/L	97
121) 4-chlorotoluene	16.102	91	451175	53.18 ug/L	97
123) 1,3,5-trimethylbenzene	15.977	105	551913	54.99 ug/L	98
124) tert-butylbenzene	16.369	119	496225	55.67 ug/L	99
125) pentachloroethane	16.484	167	123172	60.99 ug/L	99
126) 1,2,4-trimethylbenzene	16.421	105	540592	54.98 ug/L	100
128) sec-butylbenzene	16.604	105	717690	56.18 ug/L	99
129) 1,3-dichlorobenzene	16.839	146	367099	58.41 ug/L	98
130) p-isopropyltoluene	16.735	119	637642	56.79 ug/L	99
131) 1,4-dichlorobenzene	16.928	146	366614	57.72 ug/L	99
132) benzyl chloride	17.059	91	332206	55.97 ug/L	98
133) 1,2-dichlorobenzene	17.372	146	354307	61.21 ug/L	100
135) n-butylbenzene	17.195	92	304355	57.68 ug/L	96
137) 1,2-dibromo-3-chloropr...	18.230	157	38964	55.63 ug/L	96
138) 1,3,5-trichlorobenzene	18.413	180	316766	62.24 ug/L	99
139) 1,2,4-trichlorobenzene	19.155	180	266903	61.62 ug/L	100
140) hexachlorobutadiene	19.265	225	159525	61.50 ug/L	98
141) naphthalene	19.479	128	471193	56.83 ug/L	99
143) 1,2,3-trichlorobenzene	19.756	180	226558	59.70 ug/L	98
144) hexachloroethane	17.650	201	136020	60.58 ug/L	100

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

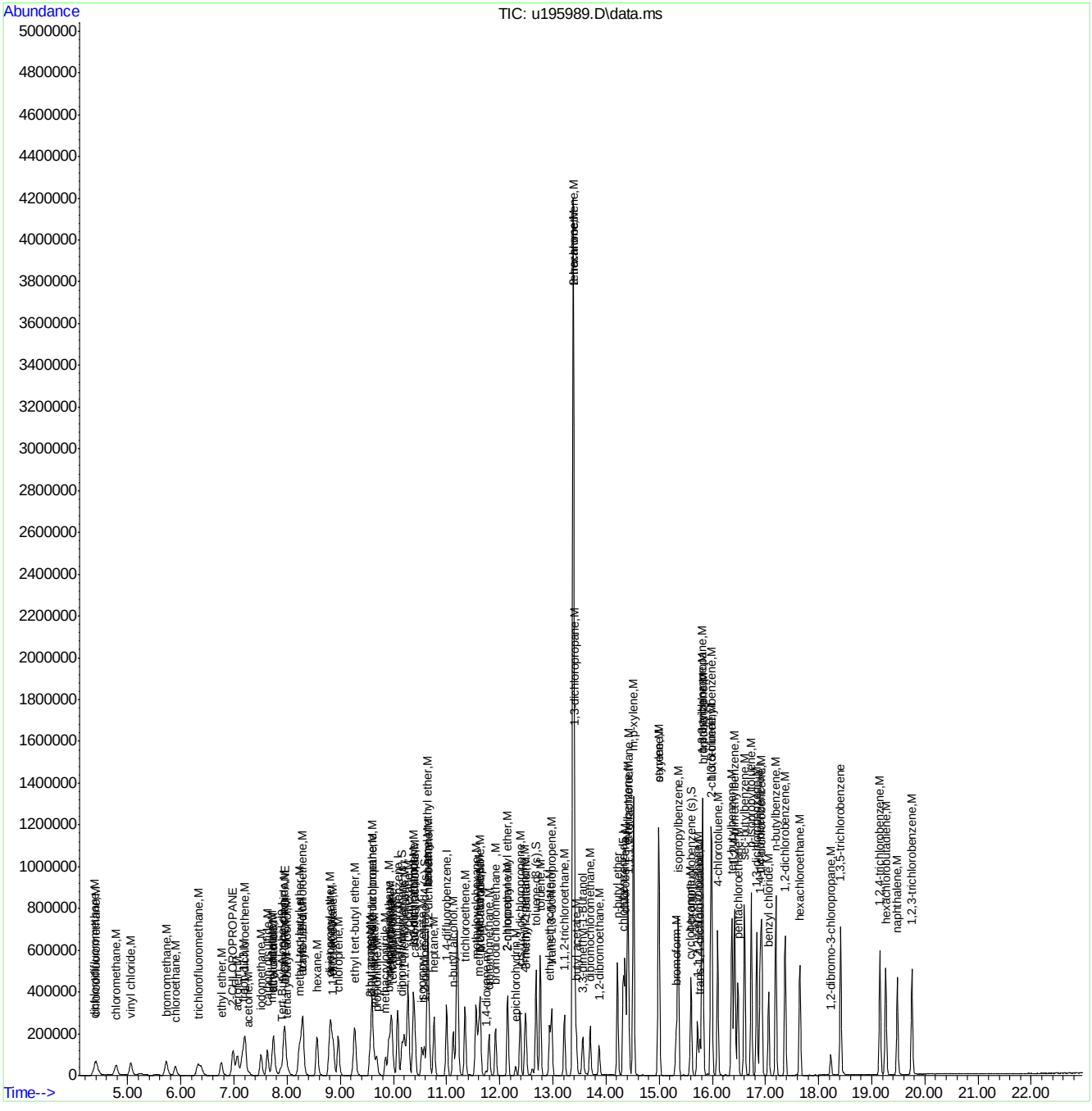
7.4.3

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u195989.D
Acq On : 11 Jun 2015 3:59 pm
Operator : NicoleH1
Sample : jb96173-3ms
Misc : ms86190,vu9038,5.0,,,,20
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jun 11 17:24:44 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u195990.D
Acq On : 11 Jun 2015 4:29 pm
Operator : NicoleH1
Sample : jb96173-3msd
Misc : ms86190,vu9038,5.0,,,,20
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jun 11 17:25:16 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.879	65	106803	500.00	ug/L	0.00
5) pentafluorobenzene	10.080	168	347179	50.00	ug/L	0.00
64) 1,4-difluorobenzene	11.000	114	389996	50.00	ug/L	0.00
96) chlorobenzene-d5	14.325	117	350249	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.897	152	202184	50.00	ug/L	0.00

System Monitoring Compounds						
56) dibromofluoromethane (s)	10.158	113	121660	51.54	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 103.08%			
57) 1,2-dichloroethane-d4 (s)	10.577	65	127721	51.13	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 102.26%			
88) toluene-d8 (s)	12.683	98	447585	50.18	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 100.36%			
114) 4-bromofluorobenzene (s)	15.601	95	170665	47.66	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 95.32%			

Target Compounds						Qvalue
2) tertiary butyl alcohol	7.999	59	64137	267.98	ug/L	88
4) 1,4-dioxane	11.732	88	27190	1266.55	ug/L	96
11) chlorodifluoromethane	4.402	51	120206	48.78	ug/L	100
12) dichlorodifluoromethane	4.366	85	121011	44.51	ug/L	99
15) chloromethane	4.784	50	122253	40.84	ug/L	99
16) vinyl chloride	5.051	62	124779	45.08	ug/L	98
18) bromomethane	5.720	94	96863	47.45	ug/L	99
19) chloroethane	5.887	64	71423	50.75	ug/L	98
20) trichlorofluoromethane	6.321	101	169800	46.16	ug/L	97
23) ethyl ether	6.760	74	55297	42.41	ug/L	89
24) 2-CHLOROPROPANE	6.974	43	174751	40.54	ug/L	93
27) acrolein	7.053	56	178448	452.66	ug/L	100
28) 1,1-dichloroethene	7.205	96	93838	43.31	ug/L	97
29) acetone	7.267	58	8253	41.81	ug/L	88
30) allyl chloride	7.738	76	55848	45.21	ug/L	91
31) acetonitrile	7.733	40	79821	470.66	ug/L #	81
32) iodomethane	7.503	142	200129	46.67	ug/L	96
33) carbon disulfide	7.623	76	284475	40.58	ug/L	98
34) 1-CHLOROPROPANE	7.963	63	8729	42.92	ug/L	87
35) methylene chloride	7.936	84	113089	41.28	ug/L	99
36) methyl acetate	7.712	43	78701	43.98	ug/L	98
37) methyl tert butyl ether	8.234	73	319173	46.87	ug/L	98
38) trans-1,2-dichloroethene	8.297	96	113754	46.77	ug/L	98
39) di-isopropyl ether	8.804	45	349394	47.02	ug/L	95
40) ethyl tert-butyl ether	9.264	59	363592	50.15	ug/L	99
41) 2-butanone	9.557	72	13227	48.33	ug/L #	88
42) 1,1-dichloroethane	8.867	63	198057	48.37	ug/L	99
43) chloroprene	8.961	53	171336	50.72	ug/L	98
44) acrylonitrile	8.276	53	167994	227.77	ug/L	99
45) vinyl acetate	8.830	86	20376	47.00	ug/L #	82
46) ethyl acetate	9.557	45	14326	44.45	ug/L	91
47) 2,2-dichloropropane	9.594	77	189053	52.89	ug/L	99
48) cis-1,2-dichloroethene	9.594	96	131348	49.00	ug/L	98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u195990.D
Acq On : 11 Jun 2015 4:29 pm
Operator : NicoleH1
Sample : jb96173-3msd
Misc : ms86190,vu9038,5.0,,,,20
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jun 11 17:25:16 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) methyl acrylate	9.641	85	16955	45.35	ug/L		92
50) propionitrile	9.677	54	138936	469.60	ug/L		97
51) bromochloromethane	9.913	128	70575	51.90	ug/L		96
52) tetrahydrofuran	9.944	42	34520	41.35	ug/L		98
53) chloroform	9.954	83	218463	51.26	ug/L		99
54) tert-butyl Formate	9.975	59	98348	47.22	ug/L		97
55) iso-butyl alcohol	10.373	43	48964	421.45	ug/L		97
58) freon 113	7.163	151	97047	54.48	ug/L		100
59) methacrylonitrile	9.850	41	60968	42.48	ug/L		98
60) 1,1,1-trichloroethane	10.200	97	193987	53.34	ug/L		99
62) tert-amyl methyl ether	10.645	87	86987	49.53	ug/L		96
66) epichlorohydrin	12.297	57	48584	217.47	ug/L		95
67) n-butyl alcohol	11.115	56	162775	2550.63	ug/L		99
68) Cyclohexane	10.263	84	160942	47.36	ug/L		95
69) carbon tetrachloride	10.394	117	183418	57.00	ug/L		100
70) 1,1-dichloropropene	10.373	75	161361	52.67	ug/L		99
71) hexane	8.559	57	137507	53.55	ug/L		98
72) benzene	10.645	78	457318	48.59	ug/L		100
73) heptane	10.765	57	77972	48.80	ug/L		98
74) isopropyl acetate	10.535	43	195709	46.09	ug/L		98
75) 1,2-dichloroethane	10.671	62	166739	56.83	ug/L		100
78) trichloroethene	11.345	95	135021	55.04	ug/L		98
79) methylcyclohexane	11.554	83	197515	53.35	ug/L		99
80) 2-nitropropane	12.155	41	40272	44.77	ug/L	#	18
81) 2-chloroethyl vinyl ether	12.145	63	122324	96.06	ug/L		98
82) methyl methacrylate	11.601	100	32427	50.00	ug/L		92
83) 1,2-dichloropropane	11.622	63	120282	52.14	ug/L		98
84) propyl acetate	11.633	73	22511	48.68	ug/L		90
85) dibromomethane	11.795	93	82560	54.89	ug/L		97
86) bromodichloromethane	11.920	83	183430	56.61	ug/L		98
87) cis-1,3-dichloropropene	12.385	75	217803	55.22	ug/L		97
89) 4-methyl-2-pentanone	12.474	58	44607	50.96	ug/L		96
90) toluene	12.762	92	319937	53.08	ug/L		100
91) 3-methyl-1-butanol	12.485	55	109192	973.77	ug/L		98
92) trans-1,3-dichloropropene	12.976	75	206660	57.37	ug/L		97
93) ethyl methacrylate	12.940	69	154090	51.84	ug/L		98
94) 1,1,2-trichloroethane	13.211	83	98995	55.48	ug/L		98
95) 2-hexanone	13.379	58	47187	55.00	ug/L		96
97) cyclohexanone	15.580	55	37459	147.84	ug/L		100
98) tetrachloroethene	13.384	164	1251258	496.98	ug/L		99
99) 1,3-dichloropropane	13.410	76	194914	55.58	ug/L		99
100) butyl acetate	13.442	56	71338	48.08	ug/L		96
101) dibromochloromethane	13.703	129	166191	59.32	ug/L		100
102) 1,2-dibromoethane	13.870	107	129695	56.03	ug/L		98
103) 3,3-dimethyl-1-Butanol	13.562	57	123033	524.26	ug/L		98
104) n-butyl ether	14.215	57	554049	52.59	ug/L		98
105) chlorobenzene	14.362	112	402415	56.66	ug/L		97
106) 1,1,1,2-tetrachloroethane	14.424	131	160057	59.49	ug/L		98
107) ethylbenzene	14.403	91	651766	55.08	ug/L		98
108) m,p-xylene	14.519	106	525247	113.25	ug/L		99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u195990.D
Acq On : 11 Jun 2015 4:29 pm
Operator : NicoleH1
Sample : jb96173-3msd
Misc : ms86190,vu9038,5.0,,,,20
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jun 11 17:25:16 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
109) o-xylene	14.989	106	262424	57.44 ug/L	95
110) styrene	14.999	104	444112	56.67 ug/L	100
111) bromoform	15.318	173	129912	59.35 ug/L	99
113) isopropylbenzene	15.355	105	686069	55.34 ug/L	99
115) bromobenzene	15.826	156	208416	58.75 ug/L	94
116) 1,1,2,2-tetrachloroethane	15.721	83	166149	56.07 ug/L	99
117) trans-1,4-dichloro-2-b...	15.763	53	43016	50.38 ug/L	91
118) 1,2,3-trichloropropane	15.810	110	47707	55.86 ug/L	97
119) n-propylbenzene	15.815	91	770383	54.98 ug/L	99
120) 2-chlorotoluene	15.993	126	179597	56.28 ug/L	94
121) 4-chlorotoluene	16.103	91	483466	54.12 ug/L	96
123) 1,3,5-trimethylbenzene	15.977	105	584365	55.29 ug/L	98
124) tert-butylbenzene	16.369	119	526774	56.13 ug/L	100
125) pentachloroethane	16.479	167	129388	60.85 ug/L	98
126) 1,2,4-trimethylbenzene	16.422	105	568248	54.89 ug/L	100
128) sec-butylbenzene	16.604	105	755338	56.15 ug/L	99
129) 1,3-dichlorobenzene	16.835	146	384643	58.13 ug/L	99
130) p-isopropyltoluene	16.730	119	664197	56.18 ug/L	98
131) 1,4-dichlorobenzene	16.929	146	385165	57.59 ug/L	99
132) benzyl chloride	17.059	91	346372	55.42 ug/L	99
133) 1,2-dichlorobenzene	17.368	146	358949	58.89 ug/L	100
135) n-butylbenzene	17.195	92	307607	55.36 ug/L	97
137) 1,2-dibromo-3-chloropr...	18.230	157	39154	53.09 ug/L	92
138) 1,3,5-trichlorobenzene	18.413	180	314666	58.72 ug/L	99
139) 1,2,4-trichlorobenzene	19.156	180	268842	58.95 ug/L	100
140) hexachlorobutadiene	19.266	225	158362	57.98 ug/L	99
141) naphthalene	19.480	128	474048	54.29 ug/L	99
143) 1,2,3-trichlorobenzene	19.757	180	226816	56.76 ug/L	100
144) hexachloroethane	17.650	201	136658	57.80 ug/L	99

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

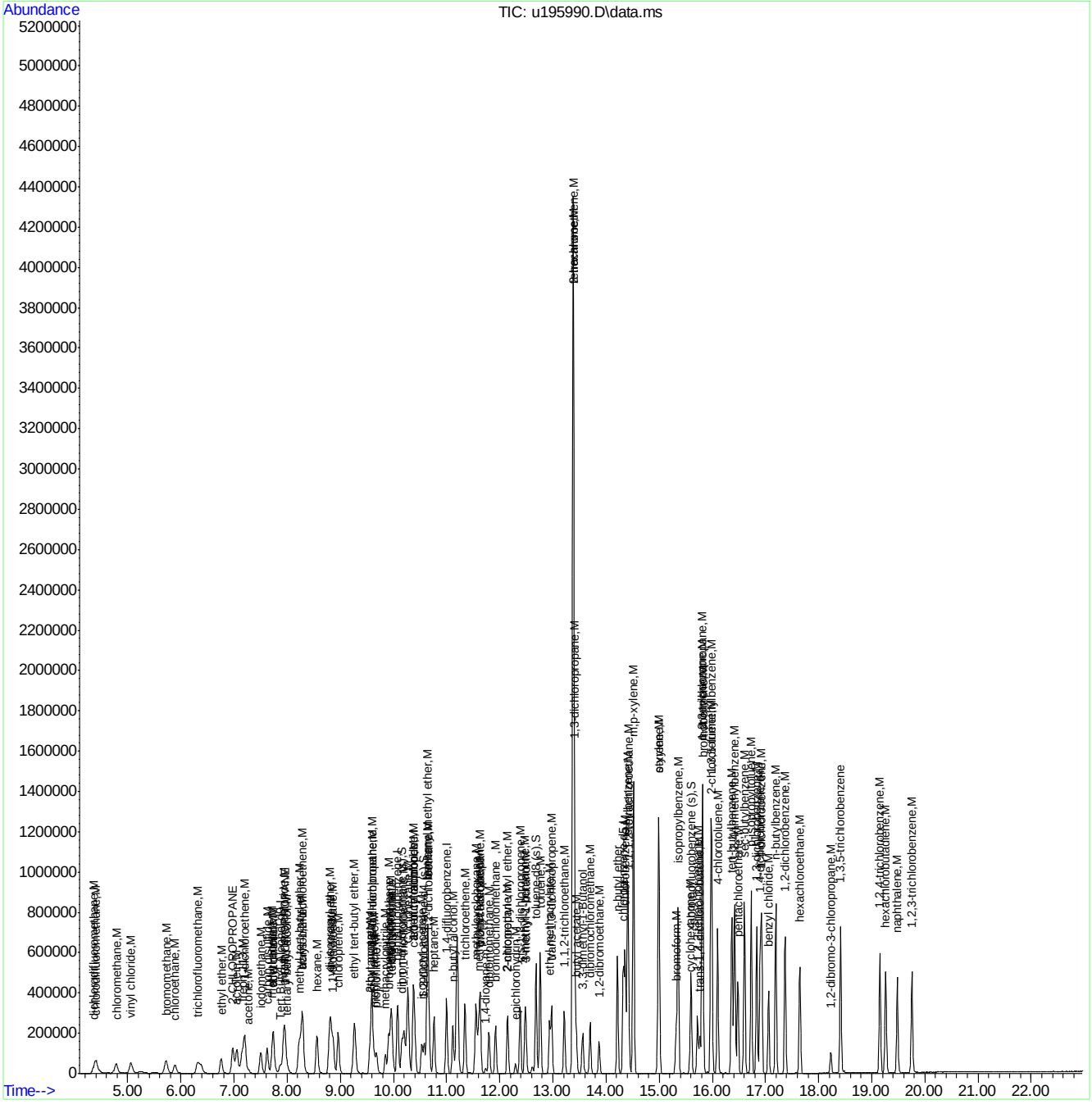
7.4.4

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u195990.D
Acq On : 11 Jun 2015 4:29 pm
Operator : NicoleH1
Sample : jb96173-3msd
Misc : ms86190,vu9038,5.0,,,,20
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jun 11 17:25:16 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u196035.D
Acq On : 12 Jun 2015 3:21 pm
Operator : NicoleH1
Sample : jb96432-7ms
Misc : ms86322,vu9040,5.0,,,,20
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jun 12 16:35:23 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.884	65	101039	500.00	ug/L	0.00
5) pentafluorobenzene	10.080	168	351310	50.00	ug/L	0.00
64) 1,4-difluorobenzene	11.000	114	393745	50.00	ug/L	0.00
96) chlorobenzene-d5	14.325	117	356604	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.897	152	208221	50.00	ug/L	0.00

System Monitoring Compounds						
56) dibromofluoromethane (s)	10.158	113	122289	51.20	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 102.40%			
57) 1,2-dichloroethane-d4 (s)	10.577	65	128319	50.77	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 101.54%			
88) toluene-d8 (s)	12.683	98	446005	49.53	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 99.06%			
114) 4-bromofluorobenzene (s)	15.601	95	173620	47.08	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 94.16%			

Target Compounds						Qvalue
2) tertiary butyl alcohol	7.989	59	60387	266.70	ug/L #	41
4) 1,4-dioxane	11.732	88	27265	1342.49	ug/L	98
11) chlorodifluoromethane	4.402	51	133857	53.68	ug/L	99
12) dichlorodifluoromethane	4.371	85	145265	52.80	ug/L	100
15) chloromethane	4.784	50	157371	51.96	ug/L	100
16) vinyl chloride	5.056	62	155788	55.62	ug/L	99
18) bromomethane	5.725	94	120651	58.41	ug/L	98
19) chloroethane	5.887	64	84064	59.03	ug/L	98
20) trichlorofluoromethane	6.316	101	193033	51.80	ug/L	97
23) ethyl ether	6.760	74	66008	50.03	ug/L	91
24) 2-CHLOROPROPANE	6.974	43	207384	47.55	ug/L #	92
27) acrolein	7.053	56	176873	443.39	ug/L	100
28) 1,1-dichloroethene	7.210	96	112472	51.30	ug/L	95
29) acetone	7.267	58	8547	42.79	ug/L	96
30) allyl chloride	7.738	76	64396	51.52	ug/L	94
31) acetonitrile	7.738	40	84929	494.89	ug/L #	88
32) iodomethane	7.503	142	244197	56.28	ug/L	98
33) carbon disulfide	7.623	76	377704	53.25	ug/L	97
34) 1-CHLOROPROPANE	7.963	63	9889	48.05	ug/L	97
35) methylene chloride	7.936	84	122647	44.24	ug/L	99
36) methyl acetate	7.717	43	80389	44.40	ug/L	98
37) methyl tert butyl ether	8.229	73	350531	50.87	ug/L	98
38) trans-1,2-dichloroethene	8.297	96	125628	51.04	ug/L	98
39) di-isopropyl ether	8.804	45	353186	46.97	ug/L	95
40) ethyl tert-butyl ether	9.264	59	373626	50.93	ug/L	99
41) 2-butanone	9.557	72	13130	47.41	ug/L #	87
42) 1,1-dichloroethane	8.867	63	210127	50.72	ug/L	99
43) chloroprene	8.961	53	176858	51.73	ug/L	98
44) acrylonitrile	8.276	53	175150	234.68	ug/L	99
45) vinyl acetate	8.830	86	21031	47.94	ug/L #	80
46) ethyl acetate	9.557	45	14307	43.87	ug/L	93
47) 2,2-dichloropropane	9.588	77	199303	55.10	ug/L	99
48) cis-1,2-dichloroethene	9.599	96	138276	50.97	ug/L	97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u196035.D
Acq On : 12 Jun 2015 3:21 pm
Operator : NicoleH1
Sample : jb96432-7ms
Misc : ms86322,vu9040,5.0,,,,20
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jun 12 16:35:23 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
49) methyl acrylate	9.641	85	18138	47.94	ug/L #	82
50) propionitrile	9.683	54	138827	463.72	ug/L	99
51) bromochloromethane	9.913	128	74683	54.28	ug/L	93
52) tetrahydrofuran	9.944	42	34956	41.38	ug/L	97
53) chloroform	9.954	83	220862	51.21	ug/L	100
54) tert-butyl Formate	9.975	59	103549	49.13	ug/L	97
55) iso-butyl alcohol	10.373	43	44731	380.49	ug/L	96
58) freon 113	7.168	151	102596	56.92	ug/L	100
59) methacrylonitrile	9.850	41	61420	42.29	ug/L	96
60) 1,1,1-trichloroethane	10.200	97	200818	54.57	ug/L	99
62) tert-amyl methyl ether	10.650	87	90953	51.18	ug/L	98
66) epichlorohydrin	12.297	57	48375	214.47	ug/L	97
67) n-butyl alcohol	11.120	56	145015	2250.70	ug/L	99
68) Cyclohexane	10.263	84	178809	52.12	ug/L	89
69) carbon tetrachloride	10.399	117	191645	58.99	ug/L	100
70) 1,1-dichloropropene	10.373	75	169101	54.67	ug/L	100
71) hexane	8.564	57	140882	54.34	ug/L	97
72) benzene	10.645	78	476473	50.14	ug/L	99
73) heptane	10.765	57	79968	49.57	ug/L	95
74) isopropyl acetate	10.535	43	199965	46.65	ug/L	99
75) 1,2-dichloroethane	10.671	62	171004	57.73	ug/L	99
78) trichloroethene	11.345	95	133426	53.88	ug/L	100
79) methylcyclohexane	11.554	83	202790	54.25	ug/L	99
80) 2-nitropropane	12.155	41	41850	46.08	ug/L #	39
81) 2-chloroethyl vinyl ether	12.145	63	181201	140.94	ug/L	98
82) methyl methacrylate	11.601	100	32117	49.05	ug/L #	90
83) 1,2-dichloropropane	11.627	63	118894	51.05	ug/L	95
84) propyl acetate	11.633	73	22854	48.95	ug/L	89
85) dibromomethane	11.800	93	83377	54.91	ug/L	99
86) bromodichloromethane	11.920	83	176941	54.09	ug/L	97
87) cis-1,3-dichloropropene	12.385	75	210430	52.84	ug/L	97
89) 4-methyl-2-pentanone	12.474	58	41731	47.22	ug/L	93
90) toluene	12.762	92	318226	52.29	ug/L	99
91) 3-methyl-1-butanol	12.485	55	96581	853.10	ug/L	99
92) trans-1,3-dichloropropene	12.976	75	198787	54.66	ug/L	99
93) ethyl methacrylate	12.940	69	150429	50.12	ug/L	97
94) 1,1,2-trichloroethane	13.211	83	94719	52.58	ug/L	97
95) 2-hexanone	13.379	58	39246	45.31	ug/L	98
97) cyclohexanone	15.580	55	32142	124.59	ug/L	98
98) tetrachloroethene	13.384	164	141791	55.31	ug/L	99
99) 1,3-dichloropropane	13.410	76	186767	52.31	ug/L	99
100) butyl acetate	13.442	56	70875	46.92	ug/L	98
101) dibromochloromethane	13.703	129	159874	56.05	ug/L	99
102) 1,2-dibromoethane	13.870	107	126786	53.80	ug/L	98
103) 3,3-dimethyl-1-Butanol	13.562	57	105622	442.05	ug/L	98
104) n-butyl ether	14.215	57	531411	49.55	ug/L	98
105) chlorobenzene	14.362	112	390435	54.00	ug/L	99
106) 1,1,1,2-tetrachloroethane	14.424	131	154133	56.26	ug/L	100
107) ethylbenzene	14.403	91	3396758	281.95	ug/L	98
108) m,p-xylene	14.519	106	507610	107.50	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u196035.D
Acq On : 12 Jun 2015 3:21 pm
Operator : NicoleH1
Sample : jb96432-7ms
Misc : ms86322,vu9040,5.0,,,,20
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jun 12 16:35:23 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

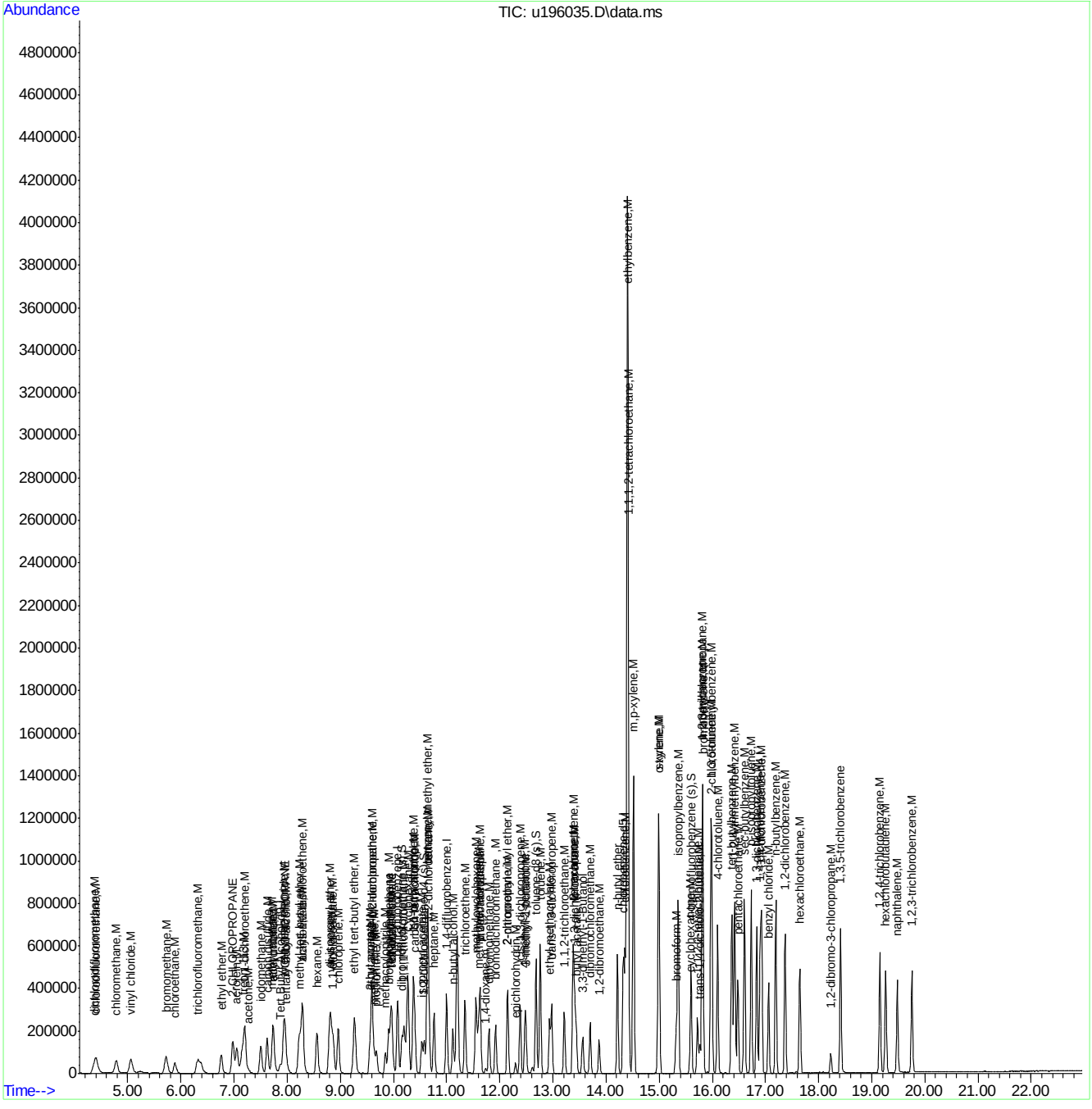
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
109) o-xylene	14.984	106	253187	54.43 ug/L	96
110) styrene	14.999	104	425761	53.36 ug/L	100
111) bromoform	15.318	173	122748	55.08 ug/L	99
113) isopropylbenzene	15.355	105	679231	53.20 ug/L	98
115) bromobenzene	15.826	156	199339	54.56 ug/L	95
116) 1,1,2,2-tetrachloroethane	15.721	83	155797	51.05 ug/L	99
117) trans-1,4-dichloro-2-b...	15.763	53	31093	35.36 ug/L	95
118) 1,2,3-trichloropropane	15.810	110	44996	51.16 ug/L	97
119) n-propylbenzene	15.815	91	742744	51.47 ug/L	98
120) 2-chlorotoluene	15.993	126	172237	52.41 ug/L	94
121) 4-chlorotoluene	16.103	91	464193	50.45 ug/L	97
123) 1,3,5-trimethylbenzene	15.972	105	559065	51.37 ug/L	99
124) tert-butylbenzene	16.369	119	504053	52.15 ug/L	100
125) pentachloroethane	16.479	167	122820	56.09 ug/L	99
126) 1,2,4-trimethylbenzene	16.421	105	548131	51.41 ug/L	99
128) sec-butylbenzene	16.604	105	721209	52.06 ug/L	99
129) 1,3-dichlorobenzene	16.834	146	369711	54.25 ug/L	99
130) p-isopropyltoluene	16.735	119	632622	51.96 ug/L	98
131) 1,4-dichlorobenzene	16.929	146	367253	53.32 ug/L	99
132) benzyl chloride	17.059	91	347909	54.06 ug/L	99
133) 1,2-dichlorobenzene	17.368	146	343605	54.74 ug/L	99
135) n-butylbenzene	17.195	92	295139	51.58 ug/L	98
137) 1,2-dibromo-3-chloropr...	18.230	157	36693	48.31 ug/L	99
138) 1,3,5-trichlorobenzene	18.413	180	301586	54.65 ug/L	99
139) 1,2,4-trichlorobenzene	19.156	180	254683	54.23 ug/L	99
140) hexachlorobutadiene	19.266	225	150212	53.40 ug/L	100
141) naphthalene	19.480	128	441830	49.14 ug/L	99
143) 1,2,3-trichlorobenzene	19.757	180	212882	51.73 ug/L	100
144) hexachloroethane	17.650	201	126931	52.13 ug/L	99

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u196035.D
Acq On : 12 Jun 2015 3:21 pm
Operator : NicoleH1
Sample : jb96432-7ms
Misc : ms86322,vu9040,5.0,,,,20
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jun 12 16:35:23 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u196036.D
Acq On : 12 Jun 2015 3:51 pm
Operator : NicoleH1
Sample : jb96432-7msd
Misc : ms86322,vu9040,5.0,,,,20
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jun 12 16:36:02 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.879	65	98102	500.00	ug/L	0.00
5) pentafluorobenzene	10.080	168	350008	50.00	ug/L	0.00
64) 1,4-difluorobenzene	11.000	114	393353	50.00	ug/L	0.00
96) chlorobenzene-d5	14.325	117	351148	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.903	152	206886	50.00	ug/L	0.00

System Monitoring Compounds						
56) dibromofluoromethane (s)	10.158	113	123203	51.77	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 103.54%			
57) 1,2-dichloroethane-d4 (s)	10.582	65	128017	50.84	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 101.68%			
88) toluene-d8 (s)	12.684	98	444499	49.41	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 98.82%			
114) 4-bromofluorobenzene (s)	15.601	95	171681	46.85	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 93.70%			

Target Compounds						Qvalue
2) tertiary butyl alcohol	7.994	59	60544	275.40	ug/L	68
4) 1,4-dioxane	11.732	88	28247	1432.48	ug/L	99
11) chlorodifluoromethane	4.402	51	138932	55.93	ug/L	97
12) dichlorodifluoromethane	4.376	85	158737	57.91	ug/L	100
15) chloromethane	4.779	50	160910	53.32	ug/L	99
16) vinyl chloride	5.056	62	160267	57.43	ug/L	99
18) bromomethane	5.720	94	122236	59.40	ug/L	100
19) chloroethane	5.882	64	83671	58.98	ug/L	99
20) trichlorofluoromethane	6.316	101	201060	54.14	ug/L	96
23) ethyl ether	6.760	74	64690	49.21	ug/L	90
24) 2-CHLOROPROPANE	6.980	43	208266	47.93	ug/L	93
27) acrolein	7.053	56	175001	440.33	ug/L	99
28) 1,1-dichloroethene	7.205	96	114707	52.51	ug/L	96
29) acetone	7.273	58	8448	42.45	ug/L #	82
30) allyl chloride	7.738	76	64839	52.07	ug/L	93
31) acetonitrile	7.733	40	84904	496.59	ug/L #	85
32) iodomethane	7.503	142	245728	56.84	ug/L	97
33) carbon disulfide	7.623	76	379338	53.68	ug/L	97
34) 1-CHLOROPROPANE	7.963	63	9816	47.88	ug/L	97
35) methylene chloride	7.937	84	122497	44.35	ug/L	99
36) methyl acetate	7.712	43	78983	43.78	ug/L	97
37) methyl tert butyl ether	8.229	73	350494	51.06	ug/L	98
38) trans-1,2-dichloroethene	8.292	96	125773	51.29	ug/L	96
39) di-isopropyl ether	8.799	45	359098	47.93	ug/L	88
40) ethyl tert-butyl ether	9.264	59	377050	51.59	ug/L	98
41) 2-butanone	9.557	72	13521	49.00	ug/L #	83
42) 1,1-dichloroethane	8.867	63	211419	51.22	ug/L	100
43) chloroprene	8.961	53	179674	52.75	ug/L	98
44) acrylonitrile	8.271	53	173385	233.18	ug/L	99
45) vinyl acetate	8.831	86	20978	48.00	ug/L #	86
46) ethyl acetate	9.552	45	13888	42.74	ug/L	96
47) 2,2-dichloropropane	9.594	77	201581	55.94	ug/L	99
48) cis-1,2-dichloroethene	9.594	96	139045	51.45	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u196036.D
Acq On : 12 Jun 2015 3:51 pm
Operator : NicoleH1
Sample : jb96432-7msd
Misc : ms86322,vu9040,5.0,,,,20
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jun 12 16:36:02 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
49) methyl acrylate	9.641	85	18042	47.87 ug/L #	87
50) propionitrile	9.683	54	138823	465.43 ug/L	100
51) bromochloromethane	9.913	128	75437	55.03 ug/L	93
52) tetrahydrofuran	9.939	42	35839	42.59 ug/L	98
53) chloroform	9.955	83	223177	51.94 ug/L	97
54) tert-butyl Formate	9.981	59	102906	49.01 ug/L	98
55) iso-butyl alcohol	10.373	43	44822	382.68 ug/L	93
58) freon 113	7.168	151	110435	61.50 ug/L	96
59) methacrylonitrile	9.850	41	61916	42.79 ug/L	97
60) 1,1,1-trichloroethane	10.200	97	206107	56.21 ug/L	100
62) tert-amyl methyl ether	10.645	87	91425	51.64 ug/L	98
66) epichlorohydrin	12.297	57	48288	214.30 ug/L	95
67) n-butyl alcohol	11.120	56	145695	2263.51 ug/L	98
68) Cyclohexane	10.263	84	187972	54.85 ug/L	88
69) carbon tetrachloride	10.399	117	196170	60.44 ug/L	99
70) 1,1-dichloropropene	10.373	75	171305	55.44 ug/L	99
71) hexane	8.564	57	152641	58.93 ug/L	98
72) benzene	10.645	78	481395	50.71 ug/L	99
73) heptane	10.765	57	85879	53.29 ug/L	97
74) isopropyl acetate	10.535	43	199620	46.61 ug/L	98
75) 1,2-dichloroethane	10.671	62	171653	58.00 ug/L	99
78) trichloroethene	11.345	95	134561	54.39 ug/L	98
79) methylcyclohexane	11.554	83	216589	58.00 ug/L	97
80) 2-nitropropane	12.156	41	37758	41.62 ug/L #	14
81) 2-chloroethyl vinyl ether	12.145	63	107580	83.76 ug/L	99
82) methyl methacrylate	11.601	100	32655	49.92 ug/L	93
83) 1,2-dichloropropane	11.628	63	119958	51.56 ug/L	95
84) propyl acetate	11.633	73	23163	49.66 ug/L	86
85) dibromomethane	11.800	93	83225	54.86 ug/L	98
86) bromodichloromethane	11.920	83	178748	54.70 ug/L	98
87) cis-1,3-dichloropropene	12.386	75	212587	53.43 ug/L	96
89) 4-methyl-2-pentanone	12.474	58	41901	47.46 ug/L #	91
90) toluene	12.762	92	319587	52.57 ug/L	97
91) 3-methyl-1-butanol	12.490	55	93454	826.30 ug/L	98
92) trans-1,3-dichloropropene	12.976	75	200351	55.14 ug/L	97
93) ethyl methacrylate	12.940	69	150755	50.28 ug/L	97
94) 1,1,2-trichloroethane	13.212	83	95456	53.04 ug/L	97
95) 2-hexanone	13.379	58	39288	45.40 ug/L	95
97) cyclohexanone	15.585	55	32012	126.02 ug/L	99
98) tetrachloroethene	13.384	164	142876	56.60 ug/L	98
99) 1,3-dichloropropane	13.410	76	186576	53.07 ug/L	99
100) butyl acetate	13.442	56	70701	47.53 ug/L	99
101) dibromochloromethane	13.703	129	160023	56.97 ug/L	100
102) 1,2-dibromoethane	13.870	107	127924	55.12 ug/L	100
103) 3,3-dimethyl-1-Butanol	13.562	57	103166	438.48 ug/L	99
104) n-butyl ether	14.215	57	529916	50.17 ug/L	98
105) chlorobenzene	14.362	112	393002	55.20 ug/L	98
106) 1,1,1,2-tetrachloroethane	14.425	131	154690	57.34 ug/L	99
107) ethylbenzene	14.404	91	3394390	286.13 ug/L	98
108) m,p-xylene	14.519	106	508911	109.45 ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u196036.D
Acq On : 12 Jun 2015 3:51 pm
Operator : NicoleH1
Sample : jb96432-7msd
Misc : ms86322,vu9040,5.0,,,,20
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jun 12 16:36:02 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
109) o-xylene	14.984	106	254394	55.54 ug/L	97
110) styrene	15.000	104	426181	54.25 ug/L	99
111) bromoform	15.319	173	122180	55.68 ug/L	98
113) isopropylbenzene	15.355	105	685124	54.01 ug/L	99
115) bromobenzene	15.826	156	199218	54.88 ug/L	94
116) 1,1,2,2-tetrachloroethane	15.721	83	156096	51.48 ug/L	99
117) trans-1,4-dichloro-2-b...	15.763	53	33078	37.86 ug/L	93
118) 1,2,3-trichloropropane	15.810	110	45050	51.55 ug/L	96
119) n-propylbenzene	15.810	91	742012	51.75 ug/L	100
120) 2-chlorotoluene	15.993	126	173868	53.25 ug/L	96
121) 4-chlorotoluene	16.103	91	461941	50.53 ug/L	98
123) 1,3,5-trimethylbenzene	15.972	105	564954	52.24 ug/L	99
124) tert-butylbenzene	16.369	119	508157	52.91 ug/L	99
125) pentachloroethane	16.479	167	123609	56.81 ug/L	98
126) 1,2,4-trimethylbenzene	16.416	105	547991	51.73 ug/L	99
128) sec-butylbenzene	16.605	105	722154	52.46 ug/L	99
129) 1,3-dichlorobenzene	16.835	146	369814	54.61 ug/L	98
130) p-isopropyltoluene	16.735	119	640883	52.98 ug/L	99
131) 1,4-dichlorobenzene	16.929	146	368654	53.87 ug/L	99
132) benzyl chloride	17.059	91	343229	53.67 ug/L	99
133) 1,2-dichlorobenzene	17.368	146	348168	55.83 ug/L	99
135) n-butylbenzene	17.195	92	296541	52.16 ug/L	98
137) 1,2-dibromo-3-chloropr...	18.230	157	36769	48.73 ug/L	94
138) 1,3,5-trichlorobenzene	18.413	180	303906	55.42 ug/L	99
139) 1,2,4-trichlorobenzene	19.156	180	255171	54.68 ug/L	100
140) hexachlorobutadiene	19.266	225	151476	54.20 ug/L	98
141) naphthalene	19.480	128	443069	49.59 ug/L	100
143) 1,2,3-trichlorobenzene	19.757	180	214909	52.56 ug/L	99
144) hexachloroethane	17.650	201	128696	53.19 ug/L	99

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

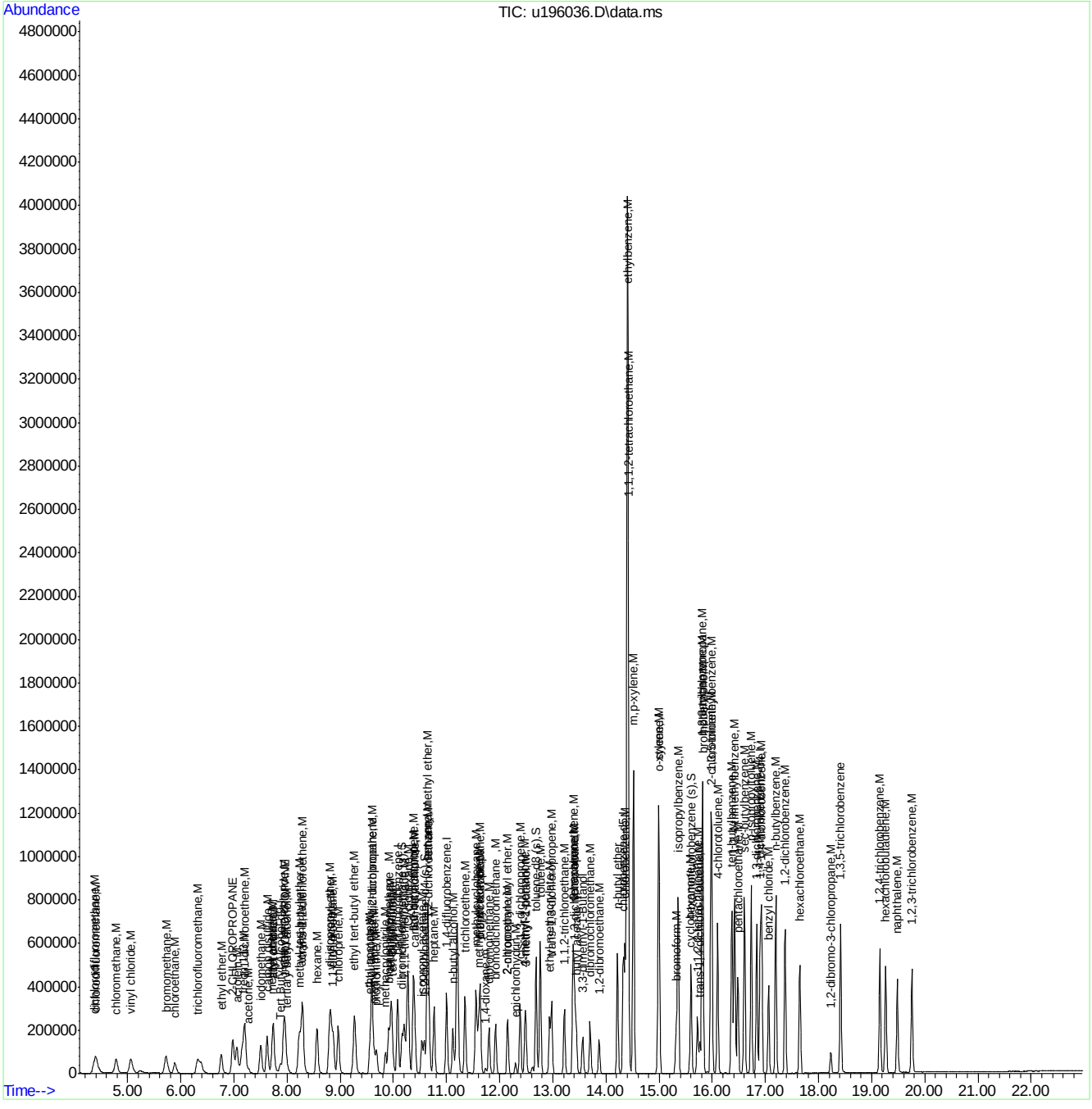
7.4.6

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u196036.D
Acq On : 12 Jun 2015 3:51 pm
Operator : NicoleH1
Sample : jb96432-7msd
Misc : ms86322,vu9040,5.0,,,,20
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jun 12 16:36:02 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration



MU8988.M Fri Jun 12 16:36:09 2015 U_CORE Page: 4

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9043-9044\
Data File : u196121.D
Acq On : 15 Jun 2015 4:29 pm
Operator : NicoleH1
Sample : jb96432-6ms
Misc : ms86322,vu9043,5.0,,,,20
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Jun 16 09:22:11 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.876	65	96620	500.00	ug/L	0.00
5) pentafluorobenzene	10.077	168	313641	50.00	ug/L	0.00
64) 1,4-difluorobenzene	10.997	114	355548	50.00	ug/L	0.00
96) chlorobenzene-d5	14.322	117	329080	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.900	152	194509	50.00	ug/L	0.00
System Monitoring Compounds						
56) dibromofluoromethane (s)	10.156	113	112112	52.57	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 105.14%			
57) 1,2-dichloroethane-d4 (s)	10.579	65	116055	51.43	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 102.86%			
88) toluene-d8 (s)	12.681	98	409805	50.40	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 100.80%			
114) 4-bromofluorobenzene (s)	15.598	95	160714	46.65	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 93.30%			
Target Compounds						Qvalue
2) tertiary butyl alcohol	7.997	59	58157	268.60	ug/L	72
4) 1,4-dioxane	11.735	88	24337	1253.13	ug/L	97
11) chlorodifluoromethane	4.405	51	126799	56.96	ug/L	97
12) dichlorodifluoromethane	4.374	85	127741	52.01	ug/L	98
15) chloromethane	4.787	50	141667	52.39	ug/L	99
16) vinyl chloride	5.058	62	140408	56.15	ug/L	99
18) bromomethane	5.728	94	106750	57.89	ug/L	98
19) chloroethane	5.895	64	75203	59.15	ug/L	97
20) trichlorofluoromethane	6.329	101	167606	50.39	ug/L	99
23) ethyl ether	6.763	74	59868	50.82	ug/L	92
24) 2-CHLOROPROPANE	6.982	43	194748	50.02	ug/L #	88
27) acrolein	7.056	56	159572	448.06	ug/L	99
28) 1,1-dichloroethene	7.207	96	105451	53.87	ug/L	97
29) acetone	7.265	58	8025	45.00	ug/L #	84
30) allyl chloride	7.740	76	60297	54.03	ug/L	95
31) acetonitrile	7.735	40	78589	512.95	ug/L #	86
32) iodomethane	7.505	142	231041	59.64	ug/L	98
33) carbon disulfide	7.625	76	356259	56.26	ug/L	98
34) 1-CHLOROPROPANE	7.960	63	9060	49.31	ug/L	92
35) methylene chloride	7.939	84	116631	47.12	ug/L	99
36) methyl acetate	7.714	43	74677	46.20	ug/L	98
37) methyl tert butyl ether	8.232	73	331521	53.89	ug/L	98
38) trans-1,2-dichloroethene	8.295	96	116964	53.23	ug/L	97
39) di-isopropyl ether	8.807	45	330392	49.22	ug/L	95
40) ethyl tert-butyl ether	9.267	59	349201	53.31	ug/L	98
41) 2-butanone	9.555	72	12248	49.54	ug/L #	91
42) 1,1-dichloroethane	8.864	63	199431	53.92	ug/L	99
43) chloroprene	8.959	53	160439	52.57	ug/L	97
44) acrylonitrile	8.274	53	166061	249.22	ug/L	99
45) vinyl acetate	8.833	86	19742	50.41	ug/L #	78
46) ethyl acetate	9.555	45	13103	45.00	ug/L	97
47) 2,2-dichloropropane	9.591	77	182248	56.44	ug/L	99
48) cis-1,2-dichloroethene	9.596	96	127719	52.74	ug/L	98
49) methyl acrylate	9.633	85	16597	49.14	ug/L #	87
50) propionitrile	9.680	54	131383	491.56	ug/L	99
51) bromochloromethane	9.910	128	69219	56.35	ug/L	95
52) tetrahydrofuran	9.936	42	33115	43.91	ug/L	97
53) chloroform	9.952	83	204825	53.20	ug/L	99
54) tert-butyl Formate	9.978	59	91802	48.79	ug/L	97
55) iso-butyl alcohol	10.370	43	42236	402.42	ug/L	94

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9043-9044\
Data File : u196121.D
Acq On : 15 Jun 2015 4:29 pm
Operator : NicoleH1
Sample : jb96432-6ms
Misc : ms86322,vu9043,5.0,,,,20
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Jun 16 09:22:11 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
58)	freon 113	7.171	151	95344	59.25 ug/L	96
59)	methacrylonitrile	9.847	41	57045	43.99 ug/L	97
60)	1,1,1-trichloroethane	10.203	97	189063	57.54 ug/L	98
62)	tert-amyl methyl ether	10.642	87	84588	53.32 ug/L	98
66)	epichlorohydrin	12.294	57	44753	219.73 ug/L	97
67)	n-butyl alcohol	11.118	56	136241	2341.69 ug/L	99
68)	Cyclohexane	10.266	84	162757	52.54 ug/L	99
69)	carbon tetrachloride	10.396	117	177417	60.48 ug/L	99
70)	1,1-dichloropropene	10.375	75	155715	55.75 ug/L	99
71)	hexane	8.561	57	122614	52.37 ug/L	96
72)	benzene	10.642	78	443845	51.73 ug/L	99
73)	heptane	10.762	57	67030	46.02 ug/L	96
74)	isopropyl acetate	10.532	43	182968	47.27 ug/L	99
75)	1,2-dichloroethane	10.668	62	157854	59.01 ug/L	99
78)	trichloroethene	11.343	95	122603	54.82 ug/L	98
79)	methylcyclohexane	11.552	83	181847	53.87 ug/L	98
80)	2-nitropropane	12.153	41	33218	40.51 ug/L #	1
81)	2-chloroethyl vinyl ether	12.142	63	50893	43.84 ug/L	98
82)	methyl methacrylate	11.599	100	29806	50.41 ug/L #	86
83)	1,2-dichloropropane	11.625	63	112077	53.29 ug/L	96
84)	propyl acetate	11.630	73	21081	50.00 ug/L	88
85)	dibromomethane	11.797	93	77349	56.41 ug/L	98
86)	bromodichloromethane	11.918	83	164409	55.66 ug/L	98
87)	cis-1,3-dichloropropene	12.383	75	196383	54.61 ug/L	95
89)	4-methyl-2-pentanone	12.472	58	39480	49.47 ug/L	94
90)	toluene	12.759	92	294268	53.55 ug/L	98
91)	3-methyl-1-butanol	12.487	55	94113	920.61 ug/L	98
92)	trans-1,3-dichloropropene	12.974	75	184555	56.20 ug/L	98
93)	ethyl methacrylate	12.937	69	138415	51.08 ug/L	97
94)	1,1,2-trichloroethane	13.214	83	88574	54.45 ug/L	99
95)	2-hexanone	13.381	58	37818	48.35 ug/L	94
97)	cyclohexanone	15.582	55	30206	126.88 ug/L	97
98)	tetrachloroethene	13.381	164	128288	54.23 ug/L	99
99)	1,3-dichloropropane	13.408	76	173000	52.51 ug/L	99
100)	butyl acetate	13.439	56	66396	47.63 ug/L	96
101)	dibromochloromethane	13.700	129	149315	56.73 ug/L	99
102)	1,2-dibromoethane	13.868	107	117804	54.17 ug/L	99
103)	3,3-dimethyl-1-Butanol	13.559	57	108024	489.91 ug/L	99
104)	n-butyl ether	14.213	57	487775	49.28 ug/L	98
105)	chlorobenzene	14.359	112	363170	54.43 ug/L	99
106)	1,1,1,2-tetrachloroethane	14.422	131	145670	57.62 ug/L	99
107)	ethylbenzene	14.406	91	3576666	321.71 ug/L	98
108)	m,p-xylene	14.516	106	468441	107.50 ug/L	99
109)	o-xylene	14.986	106	236451	55.09 ug/L	95
110)	styrene	14.997	104	394482	53.58 ug/L	98
111)	bromoform	15.321	173	118336	57.54 ug/L	99
113)	isopropylbenzene	15.358	105	630099	52.83 ug/L	99
115)	bromobenzene	15.823	156	185747	54.43 ug/L	97
116)	1,1,2,2-tetrachloroethane	15.718	83	145894	51.18 ug/L	98
117)	trans-1,4-dichloro-2-b...	15.765	53	39068	47.56 ug/L	94
118)	1,2,3-trichloropropane	15.807	110	42265	51.44 ug/L	100
119)	n-propylbenzene	15.812	91	694771	51.54 ug/L	99
120)	2-chlorotoluene	15.990	126	159852	52.07 ug/L	96
121)	4-chlorotoluene	16.100	91	431101	50.16 ug/L	98
123)	1,3,5-trimethylbenzene	15.975	105	521772	51.32 ug/L	98
124)	tert-butylbenzene	16.367	119	521984	57.81 ug/L	99
125)	pentachloroethane	16.482	167	115968	56.69 ug/L	98
126)	1,2,4-trimethylbenzene	16.419	105	512735	51.48 ug/L	100

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9043-9044\
Data File : u196121.D
Acq On : 15 Jun 2015 4:29 pm
Operator : NicoleH1
Sample : jb96432-6ms
Misc : ms86322,vu9043,5.0,,,,20
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Jun 16 09:22:11 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
128) sec-butylbenzene	16.602	105	663155	51.24 ug/L	99
129) 1,3-dichlorobenzene	16.837	146	344521	54.12 ug/L	99
130) p-isopropyltoluene	16.733	119	589885	51.86 ug/L	98
131) 1,4-dichlorobenzene	16.926	146	346293	53.82 ug/L	99
132) benzyl chloride	17.057	91	322343	53.61 ug/L	100
133) 1,2-dichlorobenzene	17.370	146	323617	55.19 ug/L	99
135) n-butylbenzene	17.193	92	270593	50.62 ug/L	98
137) 1,2-dibromo-3-chloropr...	18.228	157	34903	49.20 ug/L	99
138) 1,3,5-trichlorobenzene	18.416	180	279137	54.15 ug/L	99
139) 1,2,4-trichlorobenzene	19.153	180	235497	53.68 ug/L	98
140) hexachlorobutadiene	19.263	225	135461	51.55 ug/L	98
141) naphthalene	19.483	128	410333	48.85 ug/L	100
143) 1,2,3-trichlorobenzene	19.754	180	195247	50.79 ug/L	98
144) hexachloroethane	17.647	201	121420	53.38 ug/L	100

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

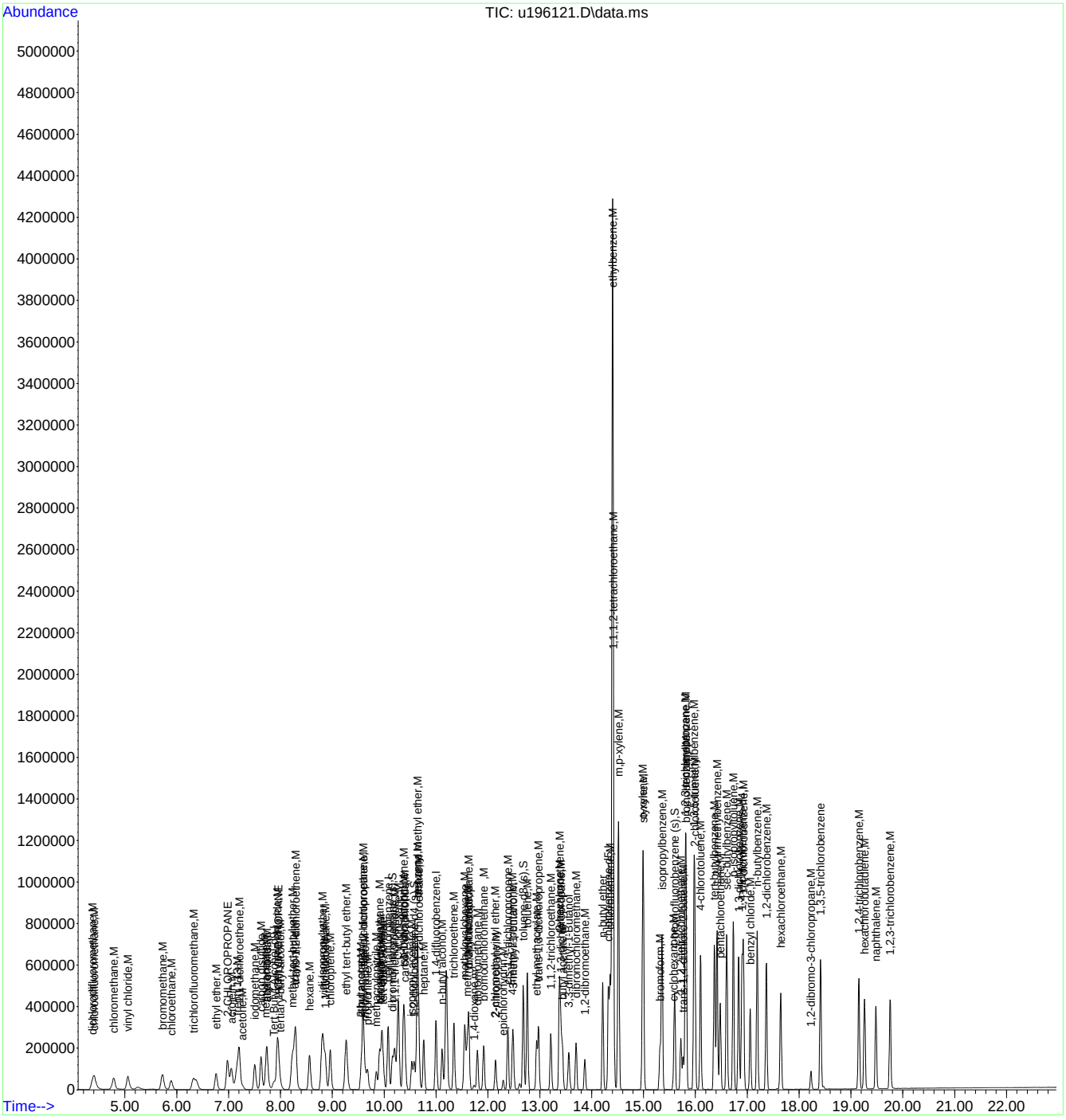
7.4.7

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9043-9044\
Data File : u196121.D
Acq On : 15 Jun 2015 4:29 pm
Operator : NicoleH1
Sample : jb96432-6ms
Misc : ms86322,vu9043,5.0,,,,20
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Jun 16 09:22:11 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9043-9044\
Data File : u196122.D
Acq On : 15 Jun 2015 4:58 pm
Operator : NicoleH1
Sample : jb96432-6msd
Misc : ms86322,vu9043,5.0,,,,20
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Jun 16 09:22:44 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.874	65	97773	500.00	ug/L	-0.01
5) pentafluorobenzene	10.080	168	339384	50.00	ug/L	0.00
64) 1,4-difluorobenzene	11.000	114	385834	50.00	ug/L	0.00
96) chlorobenzene-d5	14.325	117	348309	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.897	152	201648	50.00	ug/L	0.00
System Monitoring Compounds						
56) dibromofluoromethane (s)	10.153	113	119631	51.84	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 103.68%			
57) 1,2-dichloroethane-d4 (s)	10.577	65	124246	50.88	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 101.76%			
88) toluene-d8 (s)	12.684	98	439991	49.86	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 99.72%			
114) 4-bromofluorobenzene (s)	15.601	95	169938	47.58	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 95.16%			
Target Compounds						Qvalue
2) tertiary butyl alcohol	7.994	59	59139	269.92	ug/L	67
4) 1,4-dioxane	11.737	88	26085	1327.29	ug/L	99
11) chlorodifluoromethane	4.397	51	132322	54.93	ug/L	100
12) dichlorodifluoromethane	4.366	85	133179	50.11	ug/L	99
15) chloromethane	4.779	50	140526	48.03	ug/L	99
16) vinyl chloride	5.056	62	141055	52.13	ug/L	98
18) bromomethane	5.720	94	108459	54.35	ug/L	98
19) chloroethane	5.887	64	76348	55.50	ug/L	99
20) trichlorofluoromethane	6.321	101	177980	49.46	ug/L	97
23) ethyl ether	6.755	74	64688	50.75	ug/L	90
24) 2-CHLOROPROPANE	6.975	43	204194	48.46	ug/L #	88
27) acrolein	7.053	56	167391	434.37	ug/L	100
28) 1,1-dichloroethene	7.205	96	111083	52.45	ug/L	95
29) acetone	7.267	58	8534	44.22	ug/L #	85
30) allyl chloride	7.738	76	63404	52.51	ug/L	94
31) acetonitrile	7.733	40	80554	485.90	ug/L #	87
32) iodomethane	7.503	142	242158	57.77	ug/L	97
33) carbon disulfide	7.623	76	369737	53.96	ug/L	98
34) 1-CHLOROPROPANE	7.963	63	9708	48.83	ug/L	96
35) methylene chloride	7.937	84	122769	45.84	ug/L	99
36) methyl acetate	7.712	43	78199	44.71	ug/L	97
37) methyl tert butyl ether	8.229	73	346574	52.07	ug/L	98
38) trans-1,2-dichloroethene	8.297	96	123806	52.07	ug/L	96
39) di-isopropyl ether	8.799	45	347530	47.84	ug/L	90
40) ethyl tert-butyl ether	9.265	59	367202	51.81	ug/L	97
41) 2-butanone	9.552	72	12800	47.84	ug/L #	94
42) 1,1-dichloroethane	8.862	63	211528	52.85	ug/L	99
43) chloroprene	8.961	53	173225	52.45	ug/L	99
44) acrylonitrile	8.271	53	174662	242.25	ug/L	99
45) vinyl acetate	8.831	86	20713	48.88	ug/L #	87
46) ethyl acetate	9.552	45	14092	44.72	ug/L	98
47) 2,2-dichloropropane	9.589	77	189164	54.14	ug/L	99
48) cis-1,2-dichloroethene	9.594	96	136506	52.09	ug/L	98
49) methyl acrylate	9.641	85	18052	49.39	ug/L #	90
50) propionitrile	9.678	54	136503	471.97	ug/L	98
51) bromochloromethane	9.913	128	74649	56.16	ug/L	91
52) tetrahydrofuran	9.934	42	34934	42.81	ug/L	97
53) chloroform	9.955	83	218962	52.56	ug/L	100
54) tert-butyl Formate	9.976	59	95058	46.69	ug/L	97
55) iso-butyl alcohol	10.373	43	43278	381.07	ug/L	95

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9043-9044\
Data File : u196122.D
Acq On : 15 Jun 2015 4:58 pm
Operator : NicoleH1
Sample : jb96432-6msd
Misc : ms86322,vu9043,5.0,,,,20
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Jun 16 09:22:44 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
58)	freon 113	7.163	151	97503	56.00	ug/L		99
59)	methacrylonitrile	9.845	41	61366	43.74	ug/L		97
60)	1,1,1-trichloroethane	10.200	97	197631	55.59	ug/L		98
62)	tert-amyl methyl ether	10.645	87	88383	51.48	ug/L		97
66)	epichlorohydrin	12.297	57	47141	213.29	ug/L		97
67)	n-butyl alcohol	11.115	56	142882	2263.06	ug/L		99
68)	Cyclohexane	10.263	84	172278	51.25	ug/L		95
69)	carbon tetrachloride	10.394	117	188050	59.07	ug/L		99
70)	1,1-dichloropropene	10.373	75	166899	55.07	ug/L		99
71)	hexane	8.564	57	130708	51.45	ug/L		98
72)	benzene	10.640	78	472710	50.77	ug/L		100
73)	heptane	10.760	57	72335	45.76	ug/L		99
74)	isopropyl acetate	10.535	43	195205	46.47	ug/L		98
75)	1,2-dichloroethane	10.666	62	168027	57.88	ug/L		99
78)	trichloroethene	11.345	95	133177	54.88	ug/L		99
79)	methylcyclohexane	11.554	83	192037	52.43	ug/L		98
80)	2-nitropropane	12.150	41	34581	38.86	ug/L	#	1
81)	2-chloroethyl vinyl ether	12.145	63	35228	27.96	ug/L		97
82)	methyl methacrylate	11.596	100	32167	50.14	ug/L	#	81
83)	1,2-dichloropropane	11.628	63	120437	52.77	ug/L		95
84)	propyl acetate	11.633	73	22116	48.34	ug/L		91
85)	dibromomethane	11.795	93	82401	55.38	ug/L		97
86)	bromodichloromethane	11.920	83	177222	55.29	ug/L		98
87)	cis-1,3-dichloropropene	12.386	75	209293	53.63	ug/L		96
89)	4-methyl-2-pentanone	12.475	58	41142	47.51	ug/L		93
90)	toluene	12.762	92	315505	52.91	ug/L		99
91)	3-methyl-1-butanol	12.485	55	94253	849.61	ug/L		98
92)	trans-1,3-dichloropropene	12.976	75	198789	55.78	ug/L		99
93)	ethyl methacrylate	12.940	69	148661	50.55	ug/L		97
94)	1,1,2-trichloroethane	13.212	83	94283	53.41	ug/L		97
95)	2-hexanone	13.379	58	39636	46.70	ug/L		98
97)	cyclohexanone	15.580	55	30620	121.52	ug/L		96
98)	tetrachloroethene	13.384	164	140087	55.95	ug/L		98
99)	1,3-dichloropropane	13.410	76	186235	53.40	ug/L		99
100)	butyl acetate	13.437	56	71849	48.69	ug/L		98
101)	dibromochloromethane	13.703	129	160325	57.55	ug/L		99
102)	1,2-dibromoethane	13.870	107	126215	54.83	ug/L		98
103)	3,3-dimethyl-1-Butanol	13.557	57	104474	447.66	ug/L		99
104)	n-butyl ether	14.216	57	525113	50.12	ug/L		98
105)	chlorobenzene	14.357	112	387772	54.91	ug/L		98
106)	1,1,1,2-tetrachloroethane	14.425	131	153474	57.36	ug/L		99
107)	ethylbenzene	14.404	91	3777729	321.04	ug/L		98
108)	m,p-xylene	14.519	106	503982	109.27	ug/L		98
109)	o-xylene	14.984	106	249296	54.87	ug/L		98
110)	styrene	15.000	104	420341	53.94	ug/L		99
111)	bromoform	15.319	173	123052	56.53	ug/L		98
113)	isopropylbenzene	15.355	105	665740	53.85	ug/L		98
115)	bromobenzene	15.826	156	195473	55.25	ug/L		93
116)	1,1,2,2-tetrachloroethane	15.721	83	151914	51.40	ug/L		99
117)	trans-1,4-dichloro-2-b...	15.763	53	36254	42.57	ug/L		94
118)	1,2,3-trichloropropane	15.810	110	44127	51.81	ug/L		98
119)	n-propylbenzene	15.810	91	731916	52.37	ug/L		100
120)	2-chlorotoluene	15.993	126	168449	52.93	ug/L		95
121)	4-chlorotoluene	16.103	91	455425	51.12	ug/L		98
123)	1,3,5-trimethylbenzene	15.972	105	547455	51.94	ug/L		99
124)	tert-butylbenzene	16.369	119	546318	58.36	ug/L		100
125)	pentachloroethane	16.479	167	119782	56.48	ug/L		98
126)	1,2,4-trimethylbenzene	16.416	105	535923	51.90	ug/L		99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9043-9044\
Data File : u196122.D
Acq On : 15 Jun 2015 4:58 pm
Operator : NicoleH1
Sample : jb96432-6msd
Misc : ms86322,vu9043,5.0,,,,20
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Jun 16 09:22:44 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

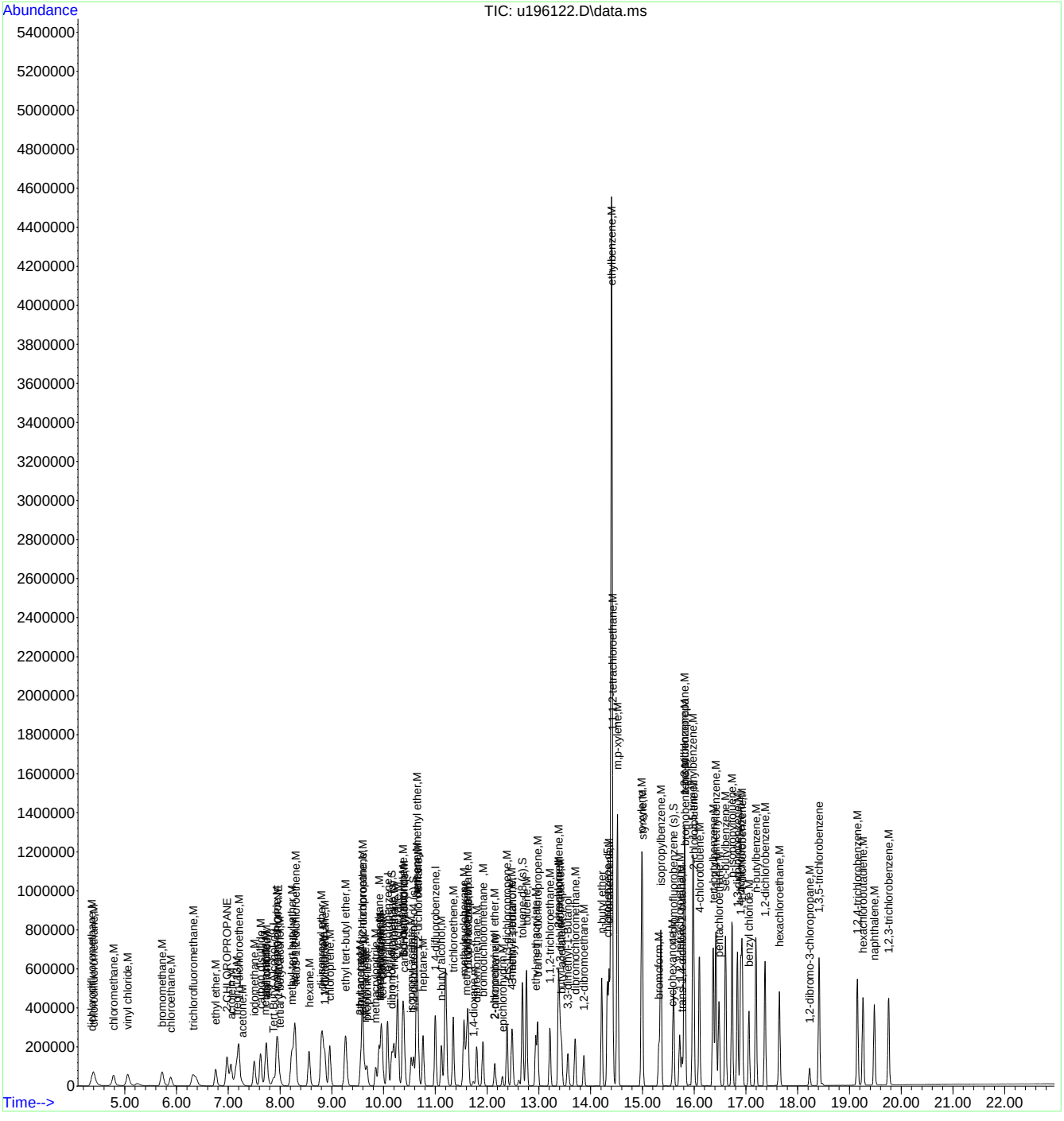
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
128) sec-butylbenzene	16.605	105	696956	51.95 ug/L	99
129) 1,3-dichlorobenzene	16.835	146	358149	54.27 ug/L	99
130) p-isopropyltoluene	16.730	119	614078	52.08 ug/L	98
131) 1,4-dichlorobenzene	16.929	146	359649	53.92 ug/L	99
132) benzyl chloride	17.060	91	322214	51.70 ug/L	98
133) 1,2-dichlorobenzene	17.368	146	333940	54.94 ug/L	99
135) n-butylbenzene	17.195	92	280538	50.62 ug/L	98
137) 1,2-dibromo-3-chloropr...	18.231	157	35096	47.72 ug/L	94
138) 1,3,5-trichlorobenzene	18.414	180	288686	54.02 ug/L	100
139) 1,2,4-trichlorobenzene	19.151	180	243476	53.53 ug/L	99
140) hexachlorobutadiene	19.261	225	141365	51.90 ug/L	99
141) naphthalene	19.480	128	416442	47.82 ug/L	99
143) 1,2,3-trichlorobenzene	19.757	180	200451	50.29 ug/L	99
144) hexachloroethane	17.645	201	123442	52.35 ug/L	99

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9043-9044\
Data File : u196122.D
Acq On : 15 Jun 2015 4:58 pm
Operator : NicoleH1
Sample : jb96432-6msd
Misc : ms86322,vu9043,5.0,,,,20
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Jun 16 09:22:44 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\u-core\vu9047-vu9048\
Data File : u196222.D
Acq On : 17 Jun 2015 6:54 pm
Operator : NicoleH1
Sample : jb96878-3ms
Misc : ms86691,vu9047,5.0,,,,1
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Jun 18 12:52:34 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.874	65	83001	500.00	ug/L	-0.01
5) pentafluorobenzene	10.080	168	327168	50.00	ug/L	0.00
64) 1,4-difluorobenzene	11.000	114	365993	50.00	ug/L	0.00
96) chlorobenzene-d5	14.325	117	333570	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.897	152	191613	50.00	ug/L	0.00
System Monitoring Compounds						
56) dibromofluoromethane (s)	10.153	113	105019	47.21	ug/L	0.00
Spiked Amount 50.000 Range 76 - 120 Recovery = 94.42%						
57) 1,2-dichloroethane-d4 (s)	10.577	65	107086	45.49	ug/L	0.00
Spiked Amount 50.000 Range 73 - 122 Recovery = 90.98%						
88) toluene-d8 (s)	12.684	98	386273	46.15	ug/L	0.00
Spiked Amount 50.000 Range 84 - 119 Recovery = 92.30%						
114) 4-bromofluorobenzene (s)	15.601	95	149025	43.91	ug/L	0.00
Spiked Amount 50.000 Range 78 - 117 Recovery = 87.82%						
Target Compounds						Qvalue
2) tertiary butyl alcohol	7.994	59	51448	276.61	ug/L	64
4) 1,4-dioxane	11.732	88	24930	1494.29	ug/L	98
11) chlorodifluoromethane	4.397	51	126496	54.48	ug/L	97
12) dichlorodifluoromethane	4.371	85	134275	52.41	ug/L	98
15) chloromethane	4.795	50	130120	46.13	ug/L	99
16) vinyl chloride	5.061	62	140008	53.67	ug/L	99
18) bromomethane	5.720	94	105418	54.80	ug/L	97
19) chloroethane	5.887	64	75582	56.99	ug/L	98
20) trichlorofluoromethane	6.326	101	184336	53.11	ug/L	98
23) ethyl ether	6.760	74	59991	48.82	ug/L	91
24) 2-CHLOROPROPANE	6.975	43	205383	50.57	ug/L #	88
27) acrolein	7.048	56	151875	408.82	ug/L	99
28) 1,1-dichloroethene	7.205	96	111707	54.71	ug/L	99
29) acetone	7.268	58	7419	39.88	ug/L	92
30) allyl chloride	7.738	76	60600	52.06	ug/L	93
31) acetonitrile	7.733	40	73589	460.46	ug/L #	88
32) iodomethane	7.503	142	236482	58.52	ug/L	97
33) carbon disulfide	7.623	76	375663	56.87	ug/L	98
34) 1-CHLOROPROPANE	7.958	63	9548	49.82	ug/L	97
35) methylene chloride	7.937	84	117510	45.52	ug/L	98
36) methyl acetate	7.712	43	66344	39.34	ug/L	97
37) methyl tert butyl ether	8.229	73	306167	47.71	ug/L	98
38) trans-1,2-dichloroethene	8.297	96	123272	53.78	ug/L	96
39) di-isopropyl ether	8.805	45	336319	48.03	ug/L	97
40) ethyl tert-butyl ether	9.265	59	348627	51.03	ug/L	98
41) 2-butanone	9.557	72	10799	41.87	ug/L #	96
42) 1,1-dichloroethane	8.862	63	206577	53.54	ug/L	99
43) chloroprene	8.961	53	174707	54.88	ug/L	96
44) acrylonitrile	8.271	53	145428	209.23	ug/L	99
45) vinyl acetate	8.836	86	18502	45.29	ug/L #	67
46) ethyl acetate	9.552	45	11992	39.48	ug/L	96
47) 2,2-dichloropropane	9.594	77	197034	58.50	ug/L	98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\u-core\vu9047-vu9048\
Data File : u196222.D
Acq On : 17 Jun 2015 6:54 pm
Operator : NicoleH1
Sample : jb96878-3ms
Misc : ms86691,vu9047,5.0,,,,1
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Jun 18 12:52:34 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
48)	cis-1,2-dichloroethene	9.594	96	134126	53.09	ug/L		99
49)	methyl acrylate	9.641	85	14469	41.07	ug/L	#	90
50)	propionitrile	9.678	54	114727	411.49	ug/L		98
51)	bromochloromethane	9.913	128	69418	54.18	ug/L		91
52)	tetrahydrofuran	9.939	42	29245	37.18	ug/L		98
53)	chloroform	9.955	83	211811	52.74	ug/L		98
54)	tert-butyl Formate	9.976	59	86528	44.08	ug/L		96
58)	freon 113	7.163	151	104454	62.23	ug/L		99
59)	methacrylonitrile	9.850	41	51299	37.93	ug/L		96
60)	1,1,1-trichloroethane	10.200	97	198044	57.78	ug/L		97
62)	tert-amyl methyl ether	10.645	87	83445	50.42	ug/L		98
63)	iso-octane	10.650	57	7264	1.03	ug/L	#	1
66)	epichlorohydrin	12.297	57	40412	192.75	ug/L		99
67)	n-butyl alcohol	11.115	56	125085	2088.58	ug/L		99
68)	Cyclohexane	10.263	84	180695	56.66	ug/L		89
69)	carbon tetrachloride	10.394	117	189729	62.83	ug/L		99
70)	1,1-dichloropropene	10.373	75	168400	58.57	ug/L		100
71)	hexane	8.564	57	142717	59.22	ug/L		97
72)	benzene	10.645	78	474728	53.75	ug/L		100
73)	heptane	10.765	57	82062	54.73	ug/L		96
74)	isopropyl acetate	10.530	43	170960	42.91	ug/L		98
75)	1,2-dichloroethane	10.666	62	159016	57.75	ug/L		98
78)	trichloroethene	11.345	95	130170	56.55	ug/L		98
79)	methylcyclohexane	11.554	83	206244	59.36	ug/L		98
80)	2-nitropropane	12.156	41	28431	33.68	ug/L	#	1
82)	methyl methacrylate	11.596	100	27251	44.78	ug/L	#	79
83)	1,2-dichloropropane	11.628	63	114235	52.77	ug/L		95
84)	propyl acetate	11.633	73	19229	44.31	ug/L		91
85)	dibromomethane	11.795	93	74980	53.12	ug/L		98
86)	bromodichloromethane	11.920	83	166661	54.81	ug/L		96
87)	cis-1,3-dichloropropene	12.386	75	195613	52.84	ug/L		96
89)	4-methyl-2-pentanone	12.469	58	33812	41.16	ug/L		95
90)	toluene	12.762	92	308116	54.47	ug/L		97
91)	3-methyl-1-butanol	12.485	55	81315	772.72	ug/L		98
92)	trans-1,3-dichloropropene	12.976	75	176087	52.09	ug/L		98
93)	ethyl methacrylate	12.940	69	129398	46.39	ug/L		97
94)	1,1,2-trichloroethane	13.212	83	86055	51.39	ug/L		95
95)	2-hexanone	13.379	58	32682	40.59	ug/L		97
97)	cyclohexanone	15.580	55	25884	107.26	ug/L		96
98)	tetrachloroethene	13.384	164	140962	58.79	ug/L		99
99)	1,3-dichloropropane	13.410	76	167556	50.17	ug/L		99
100)	butyl acetate	13.437	56	63212	44.73	ug/L		96
101)	dibromochloromethane	13.698	129	143492	53.78	ug/L		99
102)	1,2-dibromoethane	13.870	107	112634	51.09	ug/L		99
103)	3,3-dimethyl-1-Butanol	13.562	57	89802	401.79	ug/L		99
104)	n-butyl ether	14.216	57	502219	50.06	ug/L		97
105)	chlorobenzene	14.357	112	371919	54.99	ug/L		100
106)	1,1,1,2-tetrachloroethane	14.425	131	145107	56.63	ug/L		99
107)	ethylbenzene	14.404	91	605955	53.77	ug/L		99
108)	m,p-xylene	14.519	106	489652	110.85	ug/L		99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\u-core\vu9047-vu9048\
Data File : u196222.D
Acq On : 17 Jun 2015 6:54 pm
Operator : NicoleH1
Sample : jb96878-3ms
Misc : ms86691,vu9047,5.0,,,,1
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Jun 18 12:52:34 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

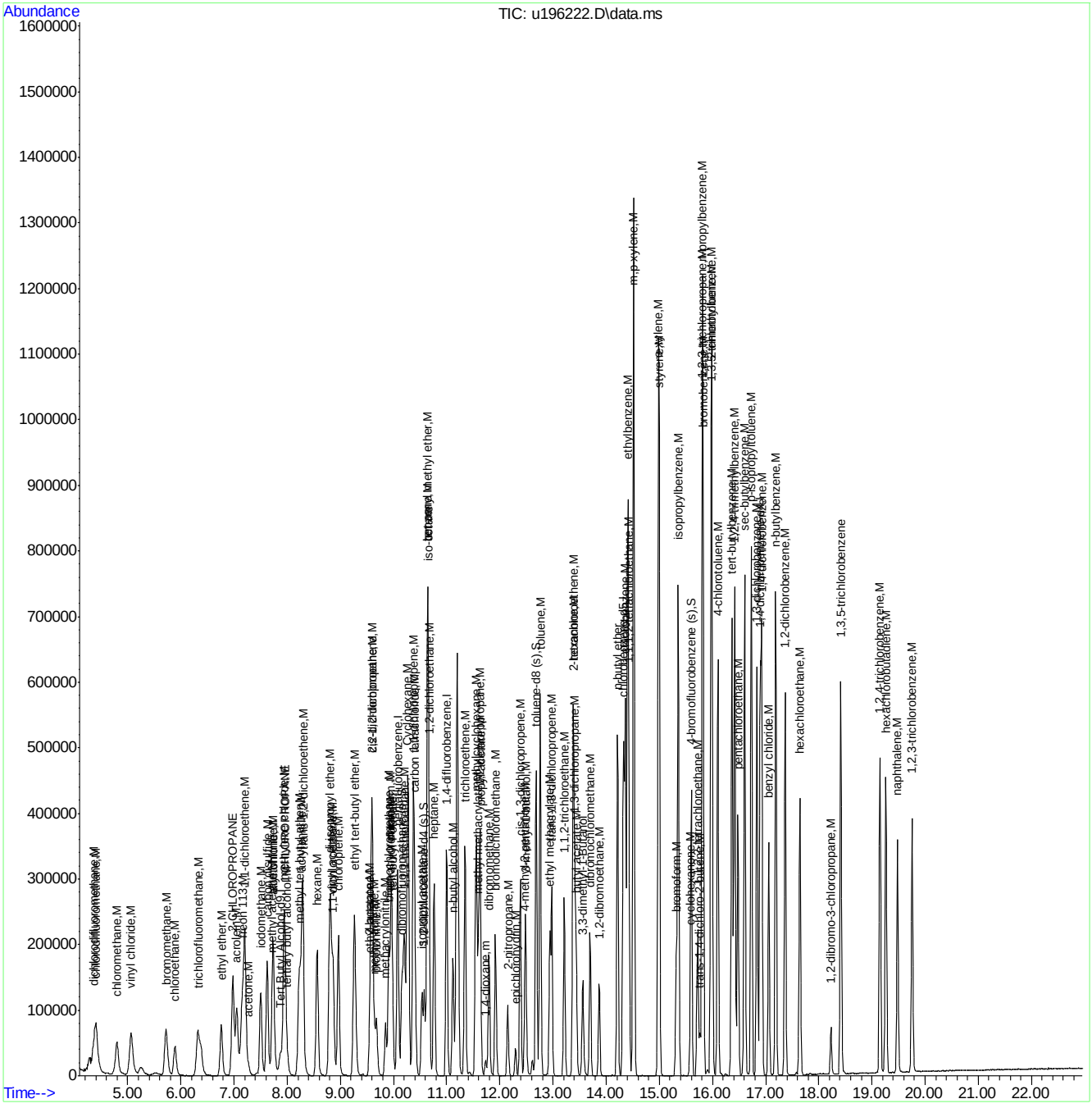
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
109) o-xylene	14.984	106	240067	55.18 ug/L	99
110) styrene	15.000	104	399654	53.55 ug/L	99
111) bromoform	15.319	173	101597	48.74 ug/L	99
113) isopropylbenzene	15.355	105	626012	53.28 ug/L	99
115) bromobenzene	15.826	156	184796	54.97 ug/L	91
116) 1,1,2,2-tetrachloroethane	15.721	83	130826	46.59 ug/L	99
117) trans-1,4-dichloro-2-b...	15.763	53	17639	21.80 ug/L	94
118) 1,2,3-trichloropropane	15.805	110	37800	46.70 ug/L	99
119) n-propylbenzene	15.810	91	698337	52.59 ug/L	99
120) 2-chlorotoluene	15.988	126	159865	52.86 ug/L	98
121) 4-chlorotoluene	16.098	91	431586	50.98 ug/L	98
123) 1,3,5-trimethylbenzene	15.972	105	522535	52.17 ug/L	98
124) tert-butylbenzene	16.364	119	522967	58.79 ug/L	100
125) pentachloroethane	16.479	167	110678	54.92 ug/L	98
126) 1,2,4-trimethylbenzene	16.417	105	505505	51.52 ug/L	100
128) sec-butylbenzene	16.605	105	670858	52.62 ug/L	99
129) 1,3-dichlorobenzene	16.835	146	335351	53.47 ug/L	98
130) p-isopropyltoluene	16.730	119	588559	52.53 ug/L	97
131) 1,4-dichlorobenzene	16.929	146	337792	53.29 ug/L	99
132) benzyl chloride	17.060	91	304171	51.36 ug/L	97
133) 1,2-dichlorobenzene	17.368	146	304835	52.77 ug/L	100
135) n-butylbenzene	17.190	92	269669	51.21 ug/L	99
137) 1,2-dibromo-3-chloropr...	18.231	157	28847	41.27 ug/L	100
138) 1,3,5-trichlorobenzene	18.414	180	266051	52.39 ug/L	99
139) 1,2,4-trichlorobenzene	19.151	180	218409	50.53 ug/L	99
140) hexachlorobutadiene	19.261	225	139572	53.92 ug/L	97
141) naphthalene	19.480	128	357542	43.21 ug/L	100
143) 1,2,3-trichlorobenzene	19.757	180	174453	46.06 ug/L	100
144) hexachloroethane	17.645	201	108192	48.28 ug/L	99

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\u-core\vu9047-vu9048\
Data File : u196222.D
Acq On : 17 Jun 2015 6:54 pm
Operator : NicoleH1
Sample : jb96878-3ms
Misc : ms86691,vu9047,5.0,,,,1
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Jun 18 12:52:34 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\u-core\vu9047-vu9048\
Data File : u196223.D
Acq On : 17 Jun 2015 7:45 pm
Operator : NicoleH1
Sample : jb96878-3msd
Misc : ms86691,vu9047,5.0,,,,1
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Jun 18 12:52:59 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.871	65	81457	500.00	ug/L	-0.02
5) pentafluorobenzene	10.072	168	310374	50.00	ug/L	-0.01
64) 1,4-difluorobenzene	10.997	114	347243	50.00	ug/L	0.00
96) chlorobenzene-d5	14.322	117	321824	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.900	152	190845	50.00	ug/L	0.00
System Monitoring Compounds						
56) dibromofluoromethane (s)	10.150	113	101476	48.09	ug/L	-0.01
Spiked Amount 50.000	Range 76 - 120		Recovery = 96.18%			
57) 1,2-dichloroethane-d4 (s)	10.574	65	102441	45.88	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 91.76%			
88) toluene-d8 (s)	12.681	98	367732	46.31	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 92.62%			
114) 4-bromofluorobenzene (s)	15.598	95	145961	43.18	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 86.36%			
Target Compounds						Qvalue
2) tertiary butyl alcohol	7.991	59	52699	288.70	ug/L	66
4) 1,4-dioxane	11.729	88	25469	1555.53	ug/L	98
11) chlorodifluoromethane	4.405	51	123675	56.14	ug/L	98
12) dichlorodifluoromethane	4.368	85	140612	57.85	ug/L	99
15) chloromethane	4.797	50	132992	49.70	ug/L	99
16) vinyl chloride	5.058	62	140895	56.93	ug/L	98
18) bromomethane	5.722	94	107902	59.13	ug/L	99
19) chloroethane	5.890	64	76247	60.61	ug/L	100
20) trichlorofluoromethane	6.318	101	184243	55.93	ug/L	98
23) ethyl ether	6.758	74	56783	48.71	ug/L	90
24) 2-CHLOROPROPANE	6.972	43	194875	50.58	ug/L #	92
27) acrolein	7.045	56	160381	455.07	ug/L	99
28) 1,1-dichloroethene	7.202	96	106377	54.92	ug/L	95
29) acetone	7.265	58	7262	41.15	ug/L	94
30) allyl chloride	7.735	76	59428	53.82	ug/L	95
31) acetonitrile	7.730	40	80774	532.76	ug/L #	84
32) iodomethane	7.500	142	228571	59.63	ug/L	98
33) carbon disulfide	7.620	76	362794	57.90	ug/L	96
34) 1-CHLOROPROPANE	7.955	63	9132	50.23	ug/L	98
35) methylene chloride	7.934	84	113708	46.43	ug/L	99
36) methyl acetate	7.709	43	64389	40.25	ug/L	98
37) methyl tert butyl ether	8.227	73	305319	50.16	ug/L	98
38) trans-1,2-dichloroethene	8.289	96	119187	54.81	ug/L	96
39) di-isopropyl ether	8.802	45	317763	47.83	ug/L	99
40) ethyl tert-butyl ether	9.262	59	332761	51.34	ug/L	98
41) 2-butanone	9.554	72	10970	44.83	ug/L #	85
42) 1,1-dichloroethane	8.864	63	199989	54.64	ug/L	99
43) chloroprene	8.959	53	162668	53.86	ug/L	96
44) acrylonitrile	8.268	53	145308	220.37	ug/L	99
45) vinyl acetate	8.828	86	17792	45.91	ug/L #	84
46) ethyl acetate	9.549	45	11367	39.45	ug/L	92
47) 2,2-dichloropropane	9.591	77	191683	59.99	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\u-core\vu9047-vu9048\
Data File : u196223.D
Acq On : 17 Jun 2015 7:45 pm
Operator : NicoleH1
Sample : jb96878-3msd
Misc : ms86691,vu9047,5.0,,,,1
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Jun 18 12:52:59 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
48)	cis-1,2-dichloroethene	9.591	96	130127	54.30	ug/L		97
49)	methyl acrylate	9.638	85	14950	44.73	ug/L	#	83
50)	propionitrile	9.675	54	114297	432.13	ug/L		98
51)	bromochloromethane	9.905	128	68469	56.33	ug/L		96
52)	tetrahydrofuran	9.931	42	27467	36.81	ug/L		93
53)	chloroform	9.952	83	206575	54.22	ug/L		99
54)	tert-butyl Formate	9.973	59	55892	30.02	ug/L	#	90
55)	iso-butyl alcohol	10.370	43	37774	363.69	ug/L		93
58)	freon 113	7.160	151	97359	61.14	ug/L		98
59)	methacrylonitrile	9.842	41	50108	39.05	ug/L		95
60)	1,1,1-trichloroethane	10.198	97	193202	59.42	ug/L		98
62)	tert-amyl methyl ether	10.642	87	81450	51.88	ug/L		96
66)	epichlorohydrin	12.294	57	36802	185.01	ug/L		96
67)	n-butyl alcohol	11.112	56	127152	2237.74	ug/L		100
68)	Cyclohexane	10.260	84	176110	58.21	ug/L		92
69)	carbon tetrachloride	10.396	117	186228	65.00	ug/L		99
70)	1,1-dichloropropene	10.370	75	160669	58.90	ug/L		99
71)	hexane	8.556	57	134280	58.73	ug/L		98
72)	benzene	10.637	78	458408	54.70	ug/L		100
73)	heptane	10.762	57	76636	53.87	ug/L		97
74)	isopropyl acetate	10.532	43	164911	43.62	ug/L		98
75)	1,2-dichloroethane	10.663	62	155612	59.56	ug/L		99
78)	trichloroethene	11.342	95	125866	57.63	ug/L		94
79)	methylcyclohexane	11.552	83	196697	59.67	ug/L		97
80)	2-nitropropane	12.148	41	26313	32.85	ug/L	#	1
82)	methyl methacrylate	11.593	100	27005	46.77	ug/L	#	79
83)	1,2-dichloropropane	11.620	63	109889	53.50	ug/L		95
84)	propyl acetate	11.625	73	18451	44.81	ug/L		91
85)	dibromomethane	11.792	93	72369	54.04	ug/L		99
86)	bromodichloromethane	11.918	83	158511	54.95	ug/L		98
87)	cis-1,3-dichloropropene	12.383	75	188139	53.57	ug/L		96
89)	4-methyl-2-pentanone	12.472	58	34295	44.00	ug/L		93
90)	toluene	12.759	92	295383	55.04	ug/L		97
91)	3-methyl-1-butanol	12.482	55	82234	823.65	ug/L		99
92)	trans-1,3-dichloropropene	12.974	75	172313	53.73	ug/L		98
93)	ethyl methacrylate	12.937	69	127239	48.07	ug/L		96
94)	1,1,2-trichloroethane	13.209	83	84031	52.89	ug/L		98
95)	2-hexanone	13.376	58	32124	42.05	ug/L		93
97)	cyclohexanone	15.582	55	27665	118.83	ug/L		98
98)	tetrachloroethene	13.381	164	135364	58.51	ug/L		98
99)	1,3-dichloropropane	13.408	76	165155	51.26	ug/L		98
100)	butyl acetate	13.434	56	60564	44.42	ug/L		98
101)	dibromochloromethane	13.700	129	141690	55.04	ug/L		99
102)	1,2-dibromoethane	13.868	107	111168	52.27	ug/L		99
103)	3,3-dimethyl-1-Butanol	13.559	57	91613	424.85	ug/L		98
104)	n-butyl ether	14.213	57	484354	50.04	ug/L		97
105)	chlorobenzene	14.359	112	364581	55.87	ug/L		97
106)	1,1,1,2-tetrachloroethane	14.422	131	142371	57.59	ug/L		99
107)	ethylbenzene	14.401	91	590043	54.27	ug/L		99
108)	m,p-xylene	14.516	106	476550	111.82	ug/L		99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\u-core\vu9047-vu9048\
Data File : u196223.D
Acq On : 17 Jun 2015 7:45 pm
Operator : NicoleH1
Sample : jb96878-3msd
Misc : ms86691,vu9047,5.0,,,,1
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Jun 18 12:52:59 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
109) o-xylene	14.986	106	234673	55.91 ug/L	96
110) styrene	14.997	104	393738	54.68 ug/L	100
111) bromoform	15.316	173	103599	51.51 ug/L	98
113) isopropylbenzene	15.352	105	617685	52.79 ug/L	99
115) bromobenzene	15.823	156	184737	55.17 ug/L	95
116) 1,1,2,2-tetrachloroethane	15.718	83	133211	47.63 ug/L	99
117) trans-1,4-dichloro-2-b...	15.760	53	25099	31.14 ug/L	94
118) 1,2,3-trichloropropane	15.807	110	39085	48.49 ug/L	98
119) n-propylbenzene	15.812	91	700355	52.95 ug/L	99
120) 2-chlorotoluene	15.990	126	160910	53.42 ug/L	96
121) 4-chlorotoluene	16.100	91	433091	51.36 ug/L	98
123) 1,3,5-trimethylbenzene	15.974	105	524026	52.53 ug/L	99
124) tert-butylbenzene	16.367	119	528791	59.69 ug/L	99
125) pentachloroethane	16.476	167	112892	56.25 ug/L	99
126) 1,2,4-trimethylbenzene	16.419	105	509139	52.10 ug/L	99
128) sec-butylbenzene	16.602	105	675211	53.18 ug/L	100
129) 1,3-dichlorobenzene	16.837	146	340809	54.56 ug/L	98
130) p-isopropyltoluene	16.733	119	592029	53.05 ug/L	98
131) 1,4-dichlorobenzene	16.926	146	341125	54.04 ug/L	99
132) benzyl chloride	17.057	91	308046	52.22 ug/L	98
133) 1,2-dichlorobenzene	17.365	146	313325	54.46 ug/L	99
135) n-butylbenzene	17.193	92	270928	51.66 ug/L	98
137) 1,2-dibromo-3-chloropr...	18.228	157	30635	44.01 ug/L	98
138) 1,3,5-trichlorobenzene	18.411	180	274297	54.23 ug/L	99
139) 1,2,4-trichlorobenzene	19.153	180	230605	53.57 ug/L	99
140) hexachlorobutadiene	19.263	225	135056	52.39 ug/L	98
141) naphthalene	19.482	128	390254	47.35 ug/L	99
143) 1,2,3-trichlorobenzene	19.754	180	189264	50.18 ug/L	99
144) hexachloroethane	17.647	201	115326	51.67 ug/L	99

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

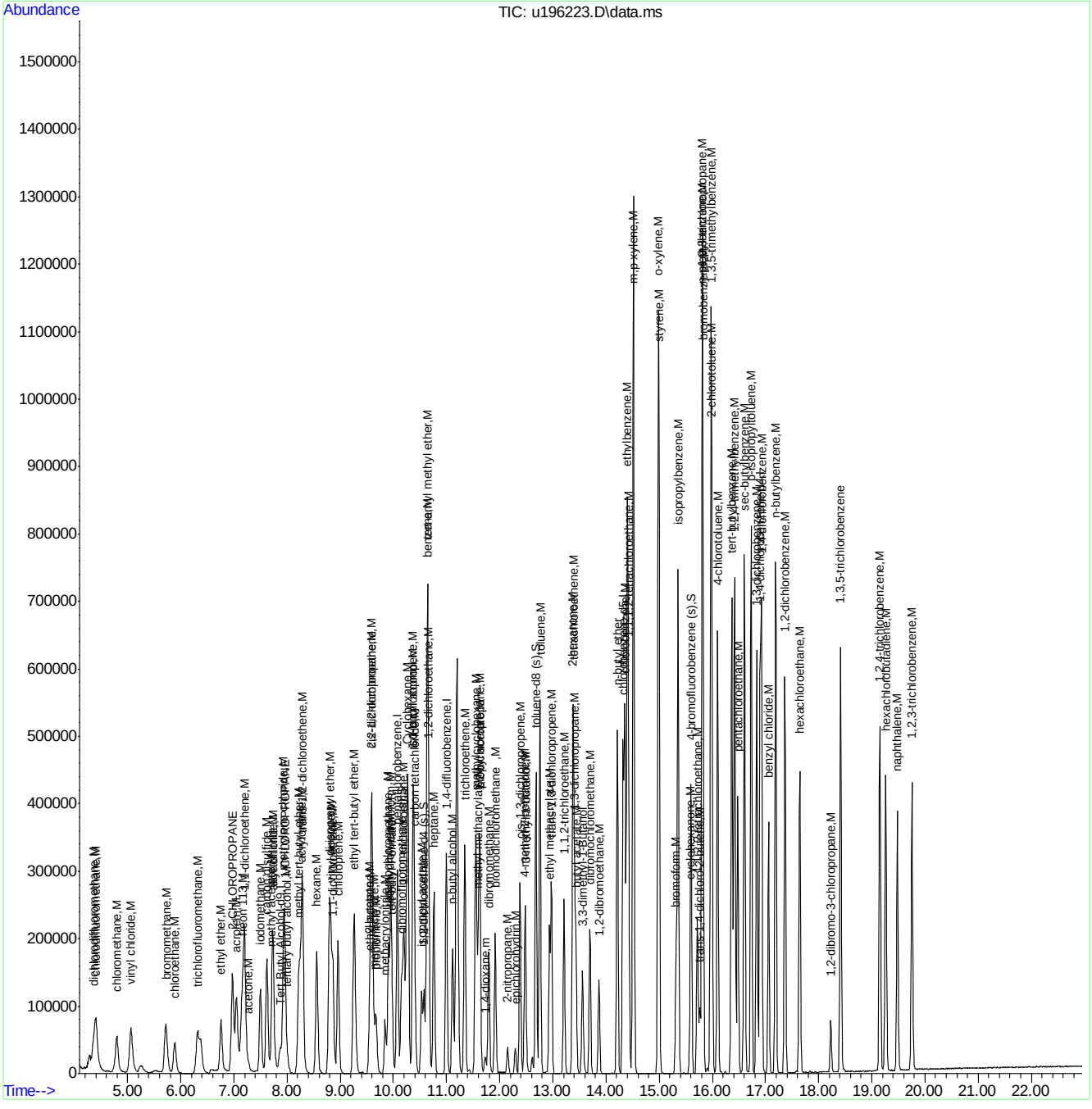
7.4.10

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\u-core\vu9047-vu9048\
Data File : u196223.D
Acq On : 17 Jun 2015 7:45 pm
Operator : NicoleH1
Sample : jb96878-3msd
Misc : ms86691,vu9047,5.0,,,,1
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Jun 18 12:52:59 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

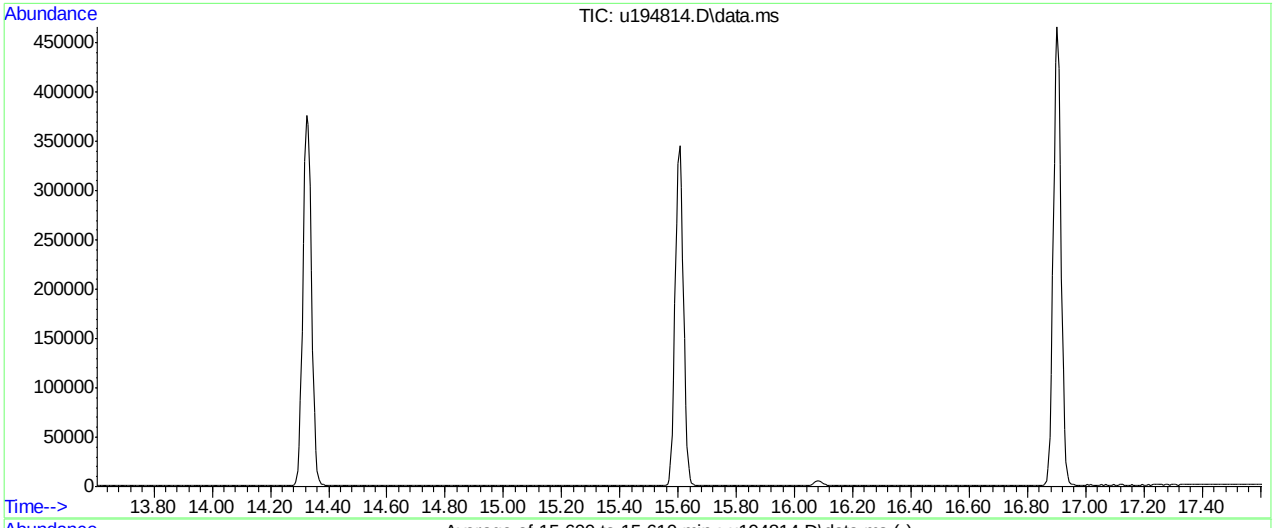


BFB

Data File : C:\msdchem\1\DATA\u194814.D
Acq On : 1 May 2015 10:03 am
Sample : bfb
Misc : ms84282,vu8988,5.0,,,,1
MS Integration Params: rtenox2.p

Vial: 2
Operator: NicoleH1
Inst : MSU
Multiplr: 1.00

Method : C:\MSDCHEM\1\METHODS\MU8988.M (RTE Integrator)
Title : SW-846 8260B, ZB624 60m x 250um x 1.40um



AutoFind: Scans 2202, 2203, 2204; Background Corrected with Scan 2192

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	16.4	10557	PASS
75	95	30	60	44.9	28893	PASS
95	95	100	100	100.0	64296	PASS
96	95	5	9	6.6	4247	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	102.7	66064	PASS
175	174	5	9	7.8	5120	PASS
176	174	95	101	97.3	64296	PASS
177	176	5	9	6.8	4382	PASS

u194814.D MU8988.M Mon May 04 09:47:09 2015 U_CORE

Average of 15.600 to 15.610 min.: u194814.D\data.ms
bfb
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.05	619	51.10	3222	68.05	5700	80.00	378
37.10	2705	52.15	61	69.05	5833	80.95	1430
38.10	2328	55.10	250	70.05	438	81.95	280
39.10	1005	56.05	809	72.05	317	87.05	2671
43.15	58	57.05	1529	73.05	2571	88.05	2581
44.05	248	60.05	587	74.05	9512	91.00	245
45.05	518	61.05	2632	75.05	28893	92.05	1568
47.10	840	62.05	2508	76.05	2554	93.05	2423
48.00	330	63.05	1903	77.00	396	94.05	7037
49.05	2394	64.15	161	78.05	272	95.05	64296
50.05	10557	67.10	140	78.95	1398	96.05	4247

Average of 15.600 to 15.610 min.: u194814.D\data.ms
bfb
Modified:subtracted

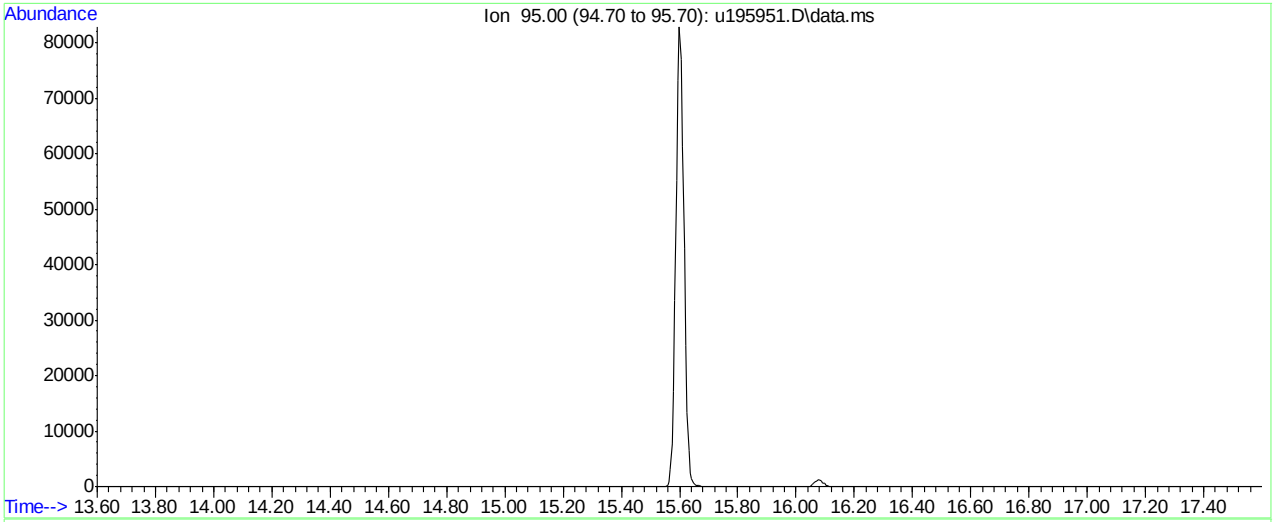
m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
97.10	102	142.95	630				
103.95	230	147.90	128				
105.95	203	154.90	175				
115.90	209	156.95	104				
116.95	333	173.95	66064				
117.90	220	175.00	5120				
118.95	363	175.95	64296				
127.90	227	176.95	4382				
129.95	235	177.95	54				
130.85	51	207.00	74				
140.90	576						

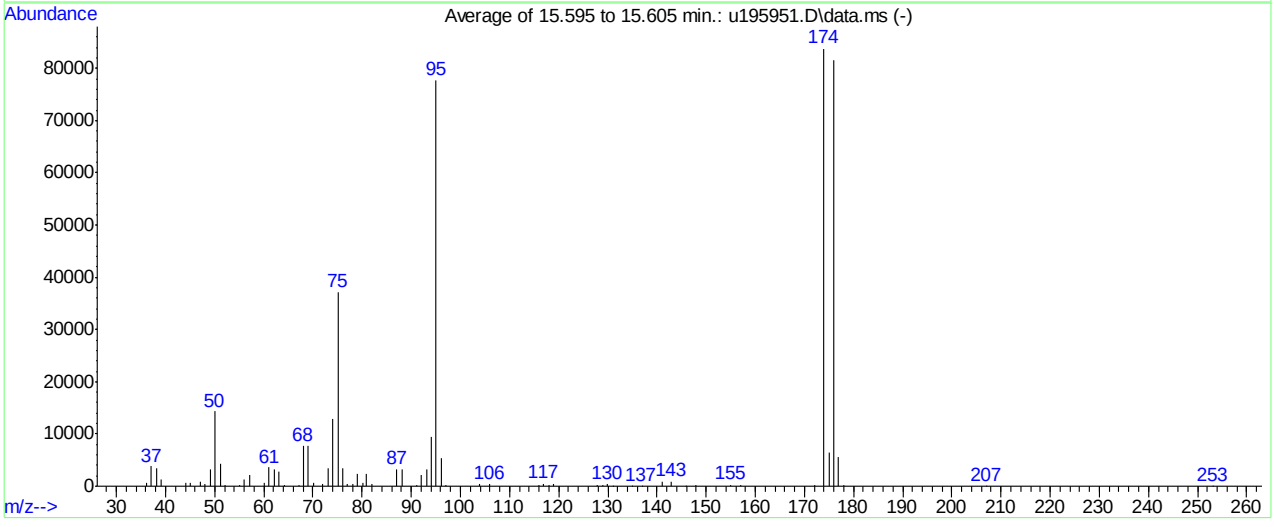
BFB

Data File : C:\msdchem\1\DATA\u195951.D
Acq On : 10 Jun 2015 8:47 pm
Sample : bfb
Misc : ms86318,vu9037,5.0,,,,1
MS Integration Params: rtenox2.p

Vial: 25
Operator: NicoleH1
Inst : MSU
Multiplr: 1.00

Method : C:\MSDCHEM\1\METHODS\MU8988.M (RTE Integrator)
Title : SW-846 8260B, ZB624 60m x 250um x 1.40um





AutoFind: Scans 2201, 2202, 2203; Background Corrected with Scan 2192

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	18.5	14369	PASS
75	95	30	60	47.9	37224	PASS
95	95	100	100	100.0	77736	PASS
96	95	5	9	7.0	5430	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	107.8	83792	PASS
175	174	5	9	7.7	6453	PASS
176	174	95	101	97.2	81458	PASS
177	176	5	9	6.7	5491	PASS

u195951.D MU8988.M Thu Jun 11 12:57:49 2015 U_CORE

Average of 15.595 to 15.605 min.: u195951.D\data.ms
bfb
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.10	721	52.10	214	69.05	7708	80.95	2333
37.10	3819	55.05	219	70.05	575	82.00	539
38.15	3381	56.05	1215	72.05	452	87.05	3319
39.10	1240	57.05	2060	73.05	3527	88.05	3160
44.05	621	60.05	712	74.05	12946	91.00	308
45.10	672	61.05	3558	75.05	37224	92.05	2173
47.05	889	62.10	3304	76.10	3396	93.05	3244
48.05	500	63.05	2699	77.05	483	94.05	9477
49.05	3122	64.10	222	78.05	365	95.05	77736
50.05	14369	67.10	244	78.95	2392	96.05	5430
51.10	4365	68.05	7634	80.05	755	97.00	133

Average of 15.595 to 15.605 min.: u195951.D\data.ms
bfb
Modified:subtracted

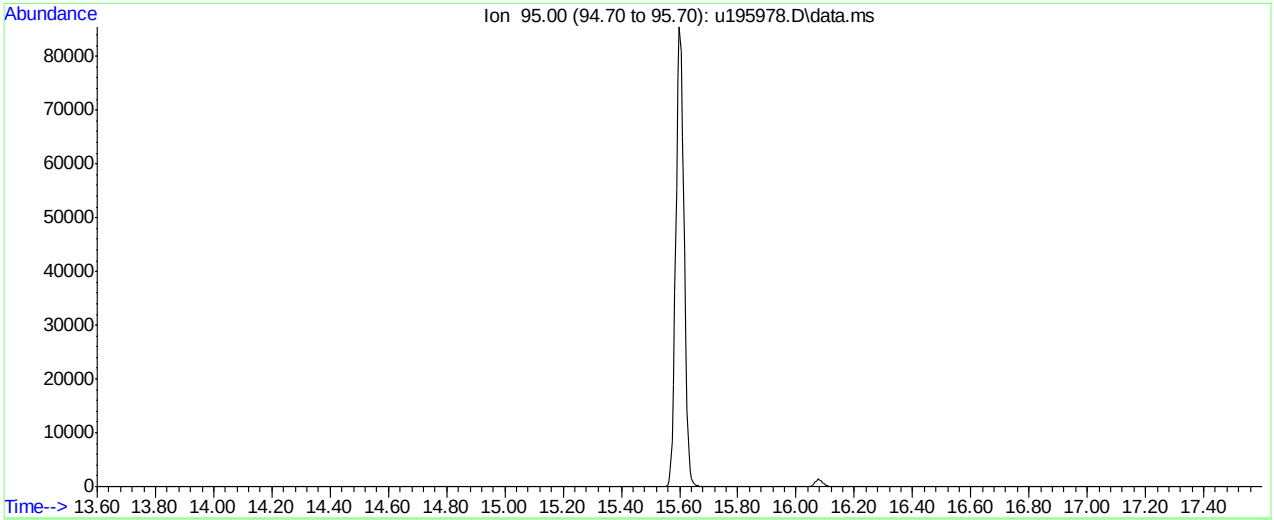
m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
103.95	344	136.95	108	176.95	5491		
105.95	381	140.95	805	178.00	119		
116.00	299	142.95	880	207.05	31		
116.90	519	145.95	111	253.15	53		
117.95	327	147.95	231				
118.95	465	155.00	277				
127.90	329	157.05	197				
128.95	139	172.05	139				
129.95	332	173.95	83792				
130.95	57	175.00	6453				
134.85	66	175.95	81458				

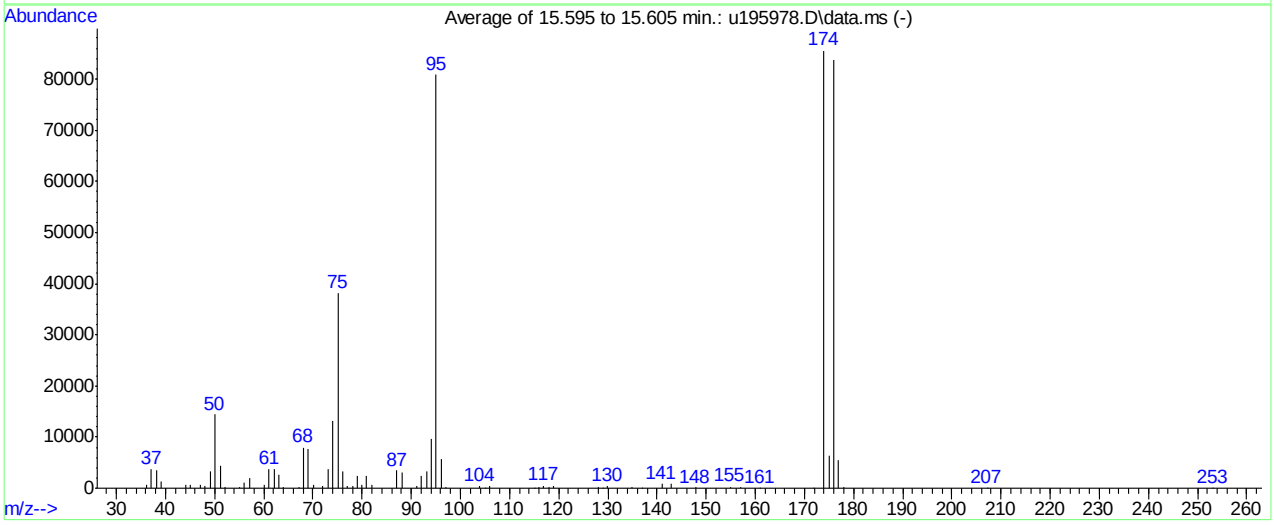
BFB

Data File : C:\msdchem\1\DATA\u195978.D
Acq On : 11 Jun 2015 10:23 am
Sample : bfb
Misc : ms86316,vu9038,5.0,,,,1
MS Integration Params: rtenox2.p

Vial: 1
Operator: NicoleH1
Inst : MSU
Multiplr: 1.00

Method : C:\MSDCHEM\1\METHODS\MU8988.M (RTE Integrator)
Title : SW-846 8260B, ZB624 60m x 250um x 1.40um





AutoFind: Scans 2201, 2202, 2203; Background Corrected with Scan 2192

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.9	14446	PASS
75	95	30	60	47.3	38216	PASS
95	95	100	100	100.0	80832	PASS
96	95	5	9	7.2	5798	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	105.9	85573	PASS
175	174	5	9	7.5	6437	PASS
176	174	95	101	97.8	83672	PASS
177	176	5	9	6.7	5574	PASS

u195978.D MU8988.M Thu Jun 11 17:13:47 2015 U_CORE

Average of 15.595 to 15.605 min.: u195978.D\data.ms
bfb
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.10	757	52.10	206	69.05	7782	80.95	2312
37.15	3776	55.10	309	70.05	710	81.95	556
38.15	3514	56.05	1200	72.05	387	87.05	3487
39.05	1310	57.05	2045	73.05	3648	88.05	3027
44.05	586	60.05	750	74.05	13234	91.00	352
45.05	673	61.05	3728	75.05	38216	92.05	2329
47.05	771	62.05	3671	76.05	3235	93.05	3296
48.10	470	63.05	2586	77.05	474	94.05	9657
49.05	3233	64.05	269	78.05	344	95.05	80832
50.05	14446	67.10	219	78.95	2390	96.05	5798
51.15	4432	68.05	7931	79.95	680	97.10	193

Average of 15.595 to 15.605 min.: u195978.D\data.ms
bfb
Modified:subtracted

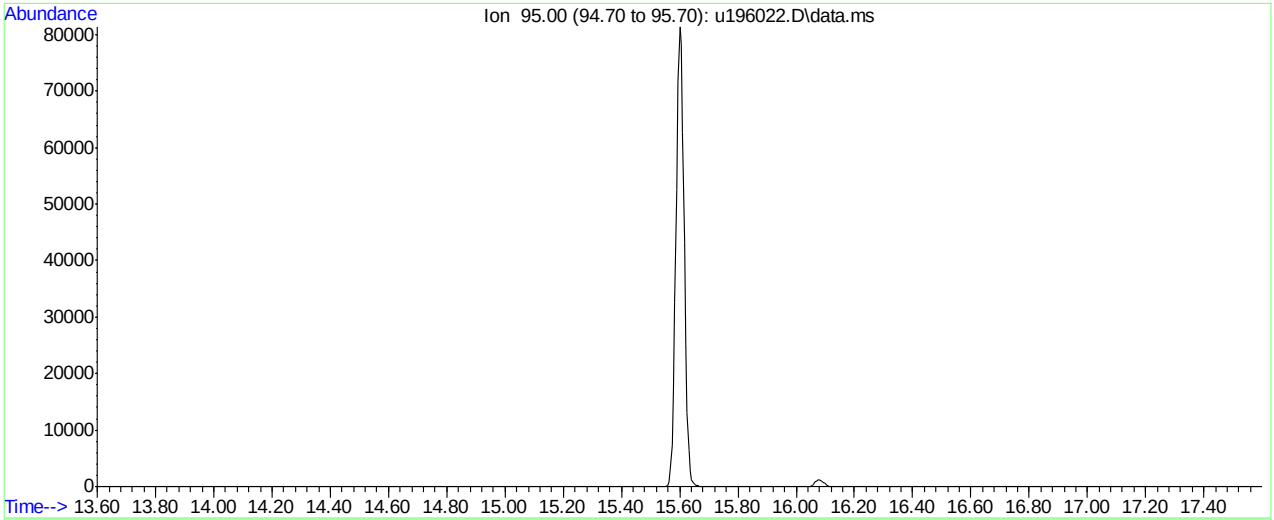
m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
103.95	407	135.00	174	175.95	83672		
105.05	55	136.95	77	176.95	5574		
105.95	395	141.00	867	178.00	189		
114.95	55	142.95	830	207.10	20		
115.95	288	147.90	208	253.15	53		
116.95	528	154.95	229				
118.00	313	157.00	149				
119.00	431	160.95	60				
127.95	297	171.95	62				
128.95	69	173.95	85573				
129.95	340	175.00	6437				

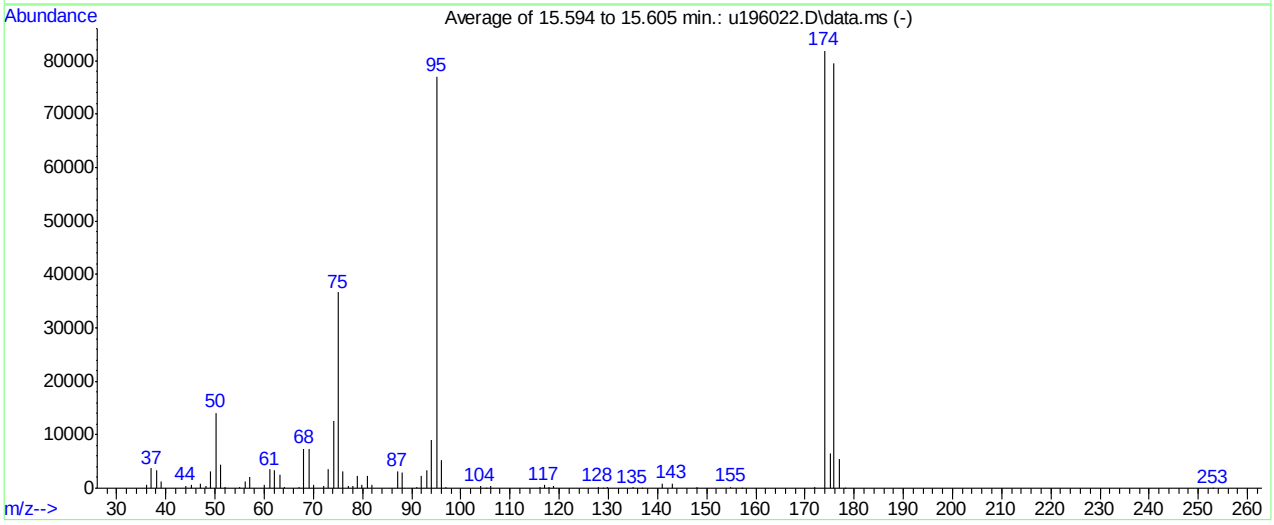
BFB

Data File : C:\msdchem\1\DATA\u196022.D
Acq On : 12 Jun 2015 8:10 am
Sample : bfb
Misc : ms86419,vu9040,5.0,,,,1
MS Integration Params: rtenox2.p

Vial: 45
Operator: NicoleH1
Inst : MSU
Multiplr: 1.00

Method : C:\MSDCHEM\1\METHODS\MU8988.M (RTE Integrator)
Title : SW-846 8260B, ZB624 60m x 250um x 1.40um





AutoFind: Scans 2201, 2202, 2203; Background Corrected with Scan 2192

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	18.3	14059	PASS
75	95	30	60	47.7	36706	PASS
95	95	100	100	100.0	77021	PASS
96	95	5	9	6.9	5297	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	106.4	81912	PASS
175	174	5	9	7.8	6426	PASS
176	174	95	101	97.0	79429	PASS
177	176	5	9	6.8	5366	PASS

u196022.D MU8988.M Fri Jun 12 16:03:25 2015 U_CORE

Average of 15.594 to 15.605 min.: u196022.D\data.ms
bfb
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.05	664	52.10	135	69.05	7454	80.95	2224
37.10	3756	55.10	216	70.10	567	81.95	556
38.15	3391	56.05	1177	72.10	481	87.05	3252
39.15	1296	57.05	2058	73.05	3503	88.05	2947
44.05	435	60.05	669	74.05	12663	90.95	293
45.10	656	61.05	3474	75.05	36706	92.05	2255
47.10	818	62.05	3388	76.05	3109	93.05	3393
48.05	402	63.10	2565	77.05	459	94.05	9119
49.10	3056	64.10	265	78.10	336	95.05	77021
50.10	14059	67.10	256	78.95	2254	96.05	5297
51.15	4403	68.05	7345	79.95	697	97.05	113

Average of 15.594 to 15.605 min.: u196022.D\data.ms
bfb
Modified:subtracted

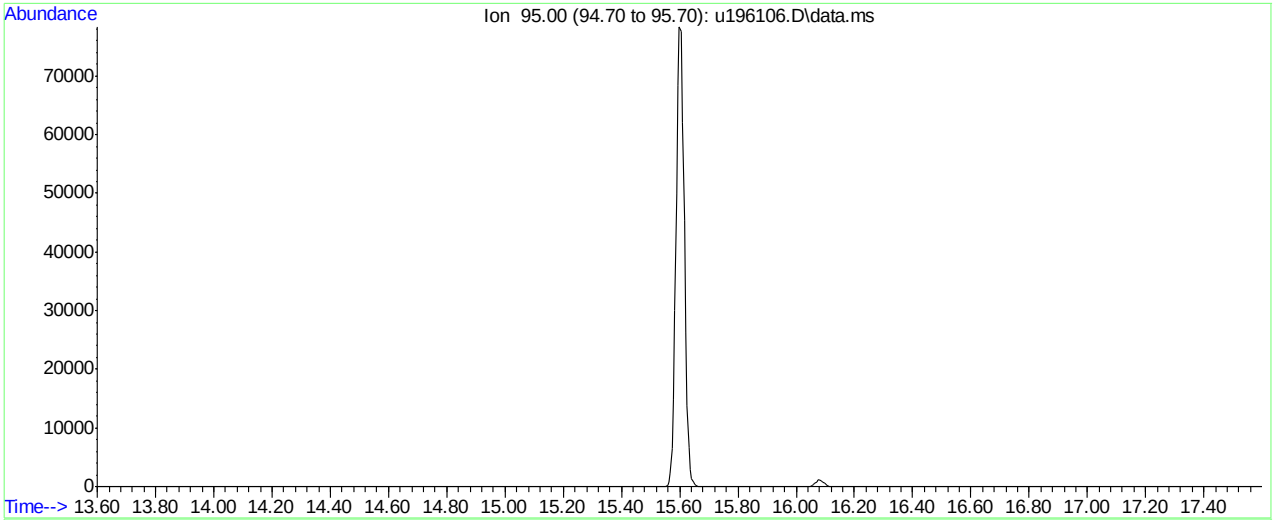
m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
104.00	367	136.95	61	178.05	54		
105.05	63	140.95	820	252.95	51		
106.00	358	142.95	935				
116.00	314	147.95	219				
116.95	545	154.95	218				
117.95	277	157.05	61				
118.95	468	172.00	146				
127.95	302	173.95	81912				
128.95	106	175.05	6426				
129.90	259	175.95	79429				
134.95	126	176.95	5366				

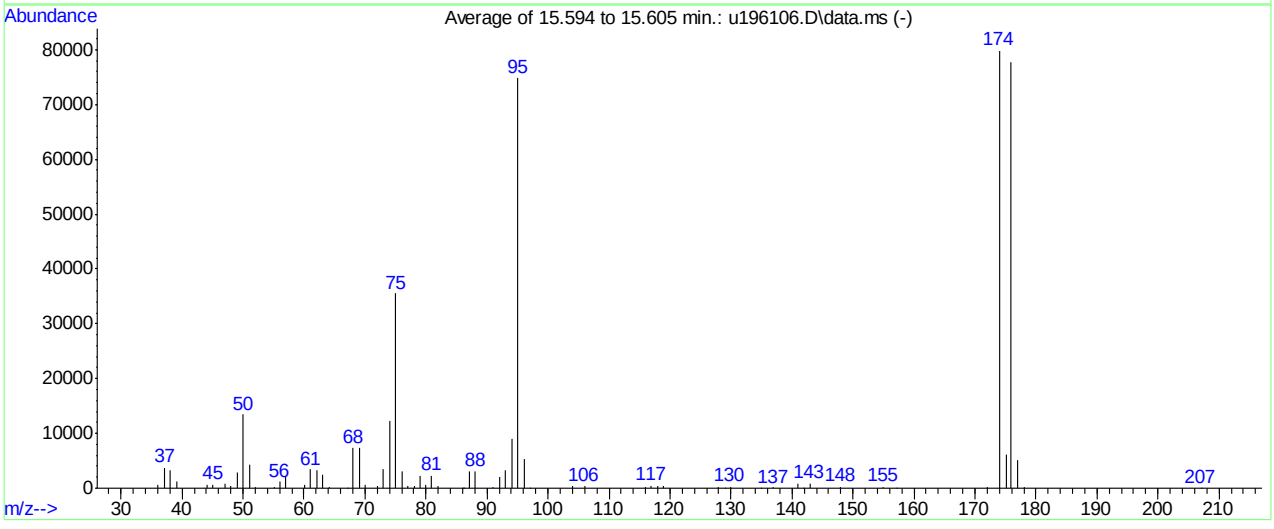
BFB

Data File : C:\msdchem\1\DATA\u196106.D
Acq On : 15 Jun 2015 8:43 am
Sample : bfb
Misc : ms86321,vu9043,5.0,,,,1
MS Integration Params: rtenox2.p

Vial: 1
Operator: NicoleH1
Inst : MSU
Multiplr: 1.00

Method : C:\MSDCHEM\1\METHODS\MU8988.M (RTE Integrator)
Title : SW-846 8260B, ZB624 60m x 250um x 1.40um





AutoFind: Scans 2201, 2202, 2203; Background Corrected with Scan 2190

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	18.0	13459	PASS
75	95	30	60	47.5	35536	PASS
95	95	100	100	100.0	74816	PASS
96	95	5	9	7.1	5302	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	106.7	79858	PASS
175	174	5	9	7.8	6211	PASS
176	174	95	101	97.4	77752	PASS
177	176	5	9	6.7	5222	PASS

u196106.D MU8988.M Mon Jun 15 16:44:34 2015 U_CORE

Average of 15.594 to 15.605 min.: u196106.D\data.ms
bfb
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.10	722	52.05	193	69.05	7275	80.95	2323
37.15	3737	55.10	216	70.05	582	81.95	511
38.10	3262	56.05	1177	72.10	399	85.95	50
39.15	1205	57.05	1983	73.05	3426	86.15	51
44.05	602	60.10	674	74.05	12196	87.05	3106
45.10	688	61.05	3475	75.05	35536	88.05	3107
47.05	824	62.05	3331	76.10	3042	90.95	300
48.05	445	63.05	2434	77.00	436	92.05	2078
49.05	2913	64.10	261	78.05	341	93.05	3190
50.05	13459	67.15	81	78.95	2296	94.05	9013
51.10	4401	68.05	7362	80.00	676	95.05	74816

Average of 15.594 to 15.605 min.: u196106.D\data.ms
bfb
Modified:subtracted

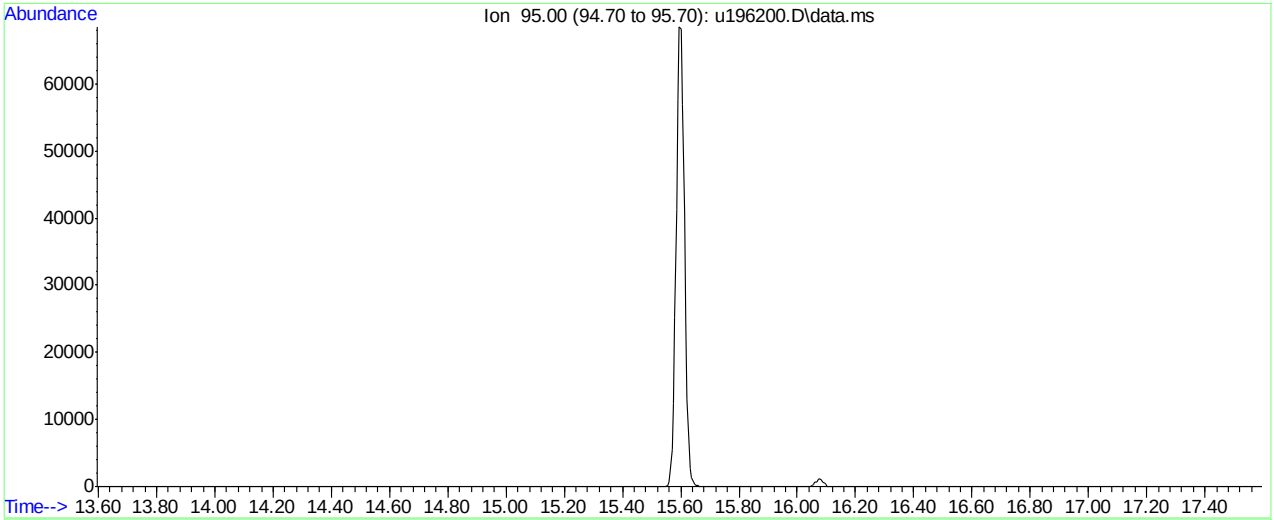
m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
96.05	5302	134.95	64	175.95	77752		
97.05	111	136.95	122	176.95	5222		
103.95	340	140.95	805	178.00	166		
105.95	373	141.95	52	207.05	12		
115.95	298	142.95	892				
116.95	470	147.95	220				
118.00	318	154.95	244				
118.95	401	157.05	68				
128.00	270	172.00	129				
128.95	54	173.95	79858				
129.90	287	175.05	6211				

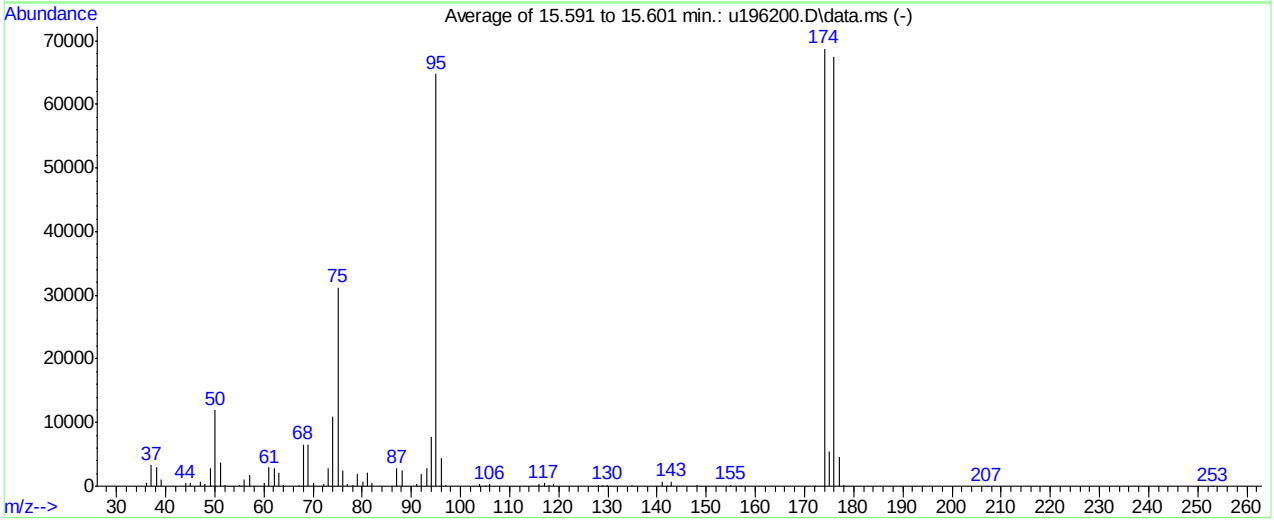
BFB

Data File : C:\msdchem\1\DATA\u196200.D
Acq On : 17 Jun 2015 8:11 am
Sample : bfb
Misc : ms86730,vu9047,5.0,,,,1
MS Integration Params: rtenox2.p

Vial: 1
Operator: NicoleH1
Inst : MSU
Multiplr: 1.00

Method : C:\MSDCHEM\1\METHODS\MU8988.M (RTE Integrator)
Title : SW-846 8260B, ZB624 60m x 250um x 1.40um





AutoFind: Scans 2200, 2201, 2202; Background Corrected with Scan 2190

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	18.4	11904	PASS
75	95	30	60	48.2	31216	PASS
95	95	100	100	100.0	64741	PASS
96	95	5	9	6.9	4488	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	106.2	68784	PASS
175	174	5	9	7.9	5456	PASS
176	174	95	101	98.0	67392	PASS
177	176	5	9	6.8	4577	PASS

u196200.D MU8988.M Wed Jun 17 11:43:59 2015 U_CORE

Average of 15.591 to 15.601 min.: u196200.D\data.ms
bfb
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.10	623	52.10	124	69.05	6475	80.95	2035
37.15	3325	55.10	130	70.05	558	81.95	471
38.15	3066	56.05	1034	72.05	367	87.05	2894
39.10	1143	57.15	1743	73.05	2818	88.05	2548
44.05	486	60.10	605	74.05	11010	91.05	277
45.10	556	61.05	2927	75.05	31216	92.05	1875
47.05	705	62.05	2876	76.10	2559	93.05	2802
48.05	387	63.10	2202	77.05	367	94.05	7771
49.10	2854	64.05	236	78.05	254	95.05	64741
50.15	11904	67.10	124	78.95	1979	96.05	4488
51.15	3634	68.05	6520	80.05	650	97.05	117

Average of 15.591 to 15.601 min.: u196200.D\data.ms
bfb
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
103.90	322	140.95	755	178.00	115		
105.05	54	141.95	59	207.10	49		
105.95	329	142.95	781	253.05	50		
116.00	277	148.00	192				
117.00	466	155.00	226				
117.95	237	156.95	52				
118.95	366	172.05	56				
128.00	253	174.00	68784				
129.00	109	175.05	5456				
129.95	262	175.95	67392				
134.90	104	177.00	4577				

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u194815.D
Acq On : 1 May 2015 11:27 am
Operator : NicoleH1
Sample : ic8988-0.2
Misc : ms84282,vu8988,5.0,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 04 09:34:00 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 08:48:15 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.914	65	88452	500.00	ug/L	0.03
5) pentafluorobenzene	10.079	168	276060	50.00	ug/L	0.00
64) 1,4-difluorobenzene	11.004	114	317063	50.00	ug/L	0.00
96) chlorobenzene-d5	14.329	117	283205	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.901	152	160191	50.00	ug/L	0.00

System Monitoring Compounds						
56) dibromofluoromethane (s)	10.157	113	94352	50.43	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 100.86%			
57) 1,2-dichloroethane-d4 (s)	10.581	65	97356	49.29	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 98.58%			
88) toluene-d8 (s)	12.682	98	361899	50.02	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 100.04%			
114) 4-bromofluorobenzene (s)	15.605	95	141554	49.83	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 99.66%			

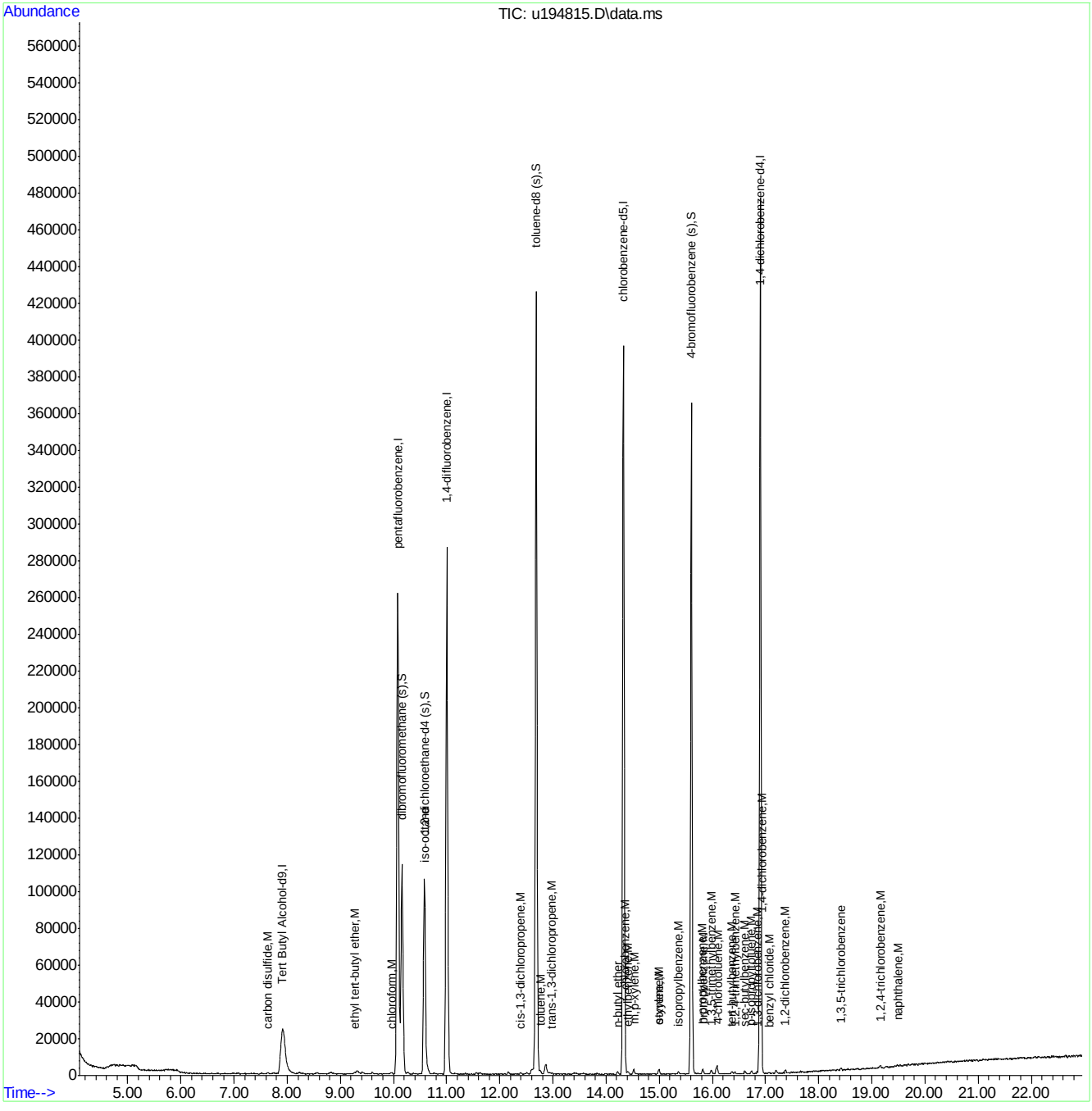
Target Compounds						Qvalue
33) carbon disulfide	7.627	76	904	0.16	ug/L	71
40) ethyl tert-butyl ether	9.263	59	979	0.17	ug/L #	38
53) chloroform	9.959	83	746	0.23	ug/L	74
63) iso-octane	10.596	57	928	0.16	ug/L #	60
87) cis-1,3-dichloropropene	12.395	75	516	0.16	ug/L	72
90) toluene	12.766	92	856	0.18	ug/L	89
92) trans-1,3-dichloropropene	12.980	75	438	0.15	ug/L	59
104) n-butyl ether	14.219	57	1408	0.17	ug/L #	65
105) chlorobenzene	14.366	112	930	0.16	ug/L	92
107) ethylbenzene	14.402	91	1777	0.19	ug/L	87
108) m,p-xylene	14.523	106	1309	0.35	ug/L	98
109) o-xylene	14.988	106	595	0.16	ug/L #	58
110) styrene	15.004	104	1100	0.18	ug/L	90
113) isopropylbenzene	15.359	105	1600	0.16	ug/L	91
115) bromobenzene	15.824	156	441	0.16	ug/L #	55
119) n-propylbenzene	15.814	91	1937	0.18	ug/L	98
121) 4-chlorotoluene	16.101	91	1273	0.18	ug/L	87
123) 1,3,5-trimethylbenzene	15.981	105	1528	0.19	ug/L	92
124) tert-butylbenzene	16.368	119	1241	0.17	ug/L	99
126) 1,2,4-trimethylbenzene	16.420	105	1503	0.19	ug/L	96
128) sec-butylbenzene	16.603	105	1813	0.17	ug/L	91
129) 1,3-dichlorobenzene	16.839	146	911	0.18	ug/L	95
130) p-isopropyltoluene	16.739	119	1553	0.17	ug/L	89
131) 1,4-dichlorobenzene	16.933	146	970	0.19	ug/L	77
132) benzyl chloride	17.063	91	1014	0.21	ug/L	53
133) 1,2-dichlorobenzene	17.377	146	748	0.16	ug/L	98
138) 1,3,5-trichlorobenzene	18.423	180	700	0.17	ug/L #	85
139) 1,2,4-trichlorobenzene	19.160	180	612	0.17	ug/L #	80
141) naphthalene	19.489	128	1285	0.19	ug/L	69

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u194815.D
Acq On : 1 May 2015 11:27 am
Operator : NicoleH1
Sample : ic8988-0.2
Misc : ms84282,vu8988,5.0,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 04 09:34:00 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 08:48:15 2015
Response via : Initial Calibration



MU8988.M Mon May 04 14:43:23 2015 U_CORE

Page: 2

Manual Integrations APPROVED (compounds with "m" flag)
Jessica Reitan-Chu
05/04/15 15:36

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u194816.D
Acq On : 1 May 2015 11:57 am
Operator : NicoleH1
Sample : ic8988-0.5
Misc : ms84282,vu8988,5.0,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 04 09:36:00 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 08:43:50 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.909	65	82455	500.00	ug/L	0.02
5) pentafluorobenzene	10.079	168	274026	50.00	ug/L	0.00
64) 1,4-difluorobenzene	10.999	114	315851	50.00	ug/L	0.00
96) chlorobenzene-d5	14.329	117	280921	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.901	152	158884	50.00	ug/L	0.00

System Monitoring Compounds						
56) dibromofluoromethane (s)	10.162	113	91959	49.43	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 98.86%			
57) 1,2-dichloroethane-d4 (s)	10.581	65	96702	49.21	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 98.42%			
88) toluene-d8 (s)	12.682	98	357783	49.58	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 99.16%			
114) 4-bromofluorobenzene (s)	15.605	95	141632	50.32	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 100.64%			

Target Compounds						Qvalue
15) chloromethane	4.736	50	1055	0.45	ug/L #	49
27) acrolein	7.078	56	1199	3.71	ug/L	84
28) 1,1-dichloroethene	7.198	96	806	0.48	ug/L #	38
32) iodomethane	7.507	142	1250	0.37	ug/L	89
33) carbon disulfide	7.627	76	2392	0.43	ug/L	74
37) methyl tert butyl ether	8.244	73	2323m	0.44	ug/L	
38) trans-1,2-dichloroethene	8.296	96	838	0.44	ug/L #	75
39) di-isopropyl ether	8.808	45	2752	0.48	ug/L	95
40) ethyl tert-butyl ether	9.268	59	2616	0.46	ug/L	94
42) 1,1-dichloroethane	8.866	63	1177	0.36	ug/L	90
43) chloroprene	8.965	53	1181	0.45	ug/L	74
47) 2,2-dichloropropane	9.593	77	1278	0.46	ug/L #	46
48) cis-1,2-dichloroethene	9.608	96	983	0.47	ug/L	81
53) chloroform	9.964	83	1500	0.46	ug/L	95
60) 1,1,1-trichloroethane	10.215	97	1149	0.41	ug/L #	62
63) iso-octane	10.607	57	2987	0.53	ug/L	82
67) n-butyl alcohol	11.156	56	1149	22.23	ug/L	71
69) carbon tetrachloride	10.398	117	1035	0.40	ug/L #	80
70) 1,1-dichloropropene	10.377	75	916	0.37	ug/L	83
71) hexane	8.568	57	1130	0.58	ug/L	88
72) benzene	10.643	78	3653	0.49	ug/L	92
74) isopropyl acetate	10.539	43	1812	0.54	ug/L	60
75) 1,2-dichloroethane	10.675	62	854	0.36	ug/L #	49
78) trichloroethene	11.344	95	756	0.38	ug/L #	73
79) methylcyclohexane	11.558	83	1392	0.49	ug/L	82
80) 2-nitropropane	12.149	41	333	0.46	ug/L #	12
83) 1,2-dichloropropane	11.637	63	674	0.36	ug/L #	39
86) bromodichloromethane	11.930	83	1024	0.39	ug/L	90
87) cis-1,3-dichloropropene	12.384	75	1234	0.38	ug/L	92
90) toluene	12.761	92	2194	0.45	ug/L	99
92) trans-1,3-dichloropropene	12.980	75	1149	0.38	ug/L	84
93) ethyl methacrylate	12.949	69	999	0.42	ug/L	79
94) 1,1,2-trichloroethane	13.216	83	513	0.35	ug/L	91

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u194816.D
Acq On : 1 May 2015 11:57 am
Operator : NicoleH1
Sample : ic8988-0.5
Misc : ms84282,vu8988,5.0,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 04 09:36:00 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 08:43:50 2015
Response via : Initial Calibration

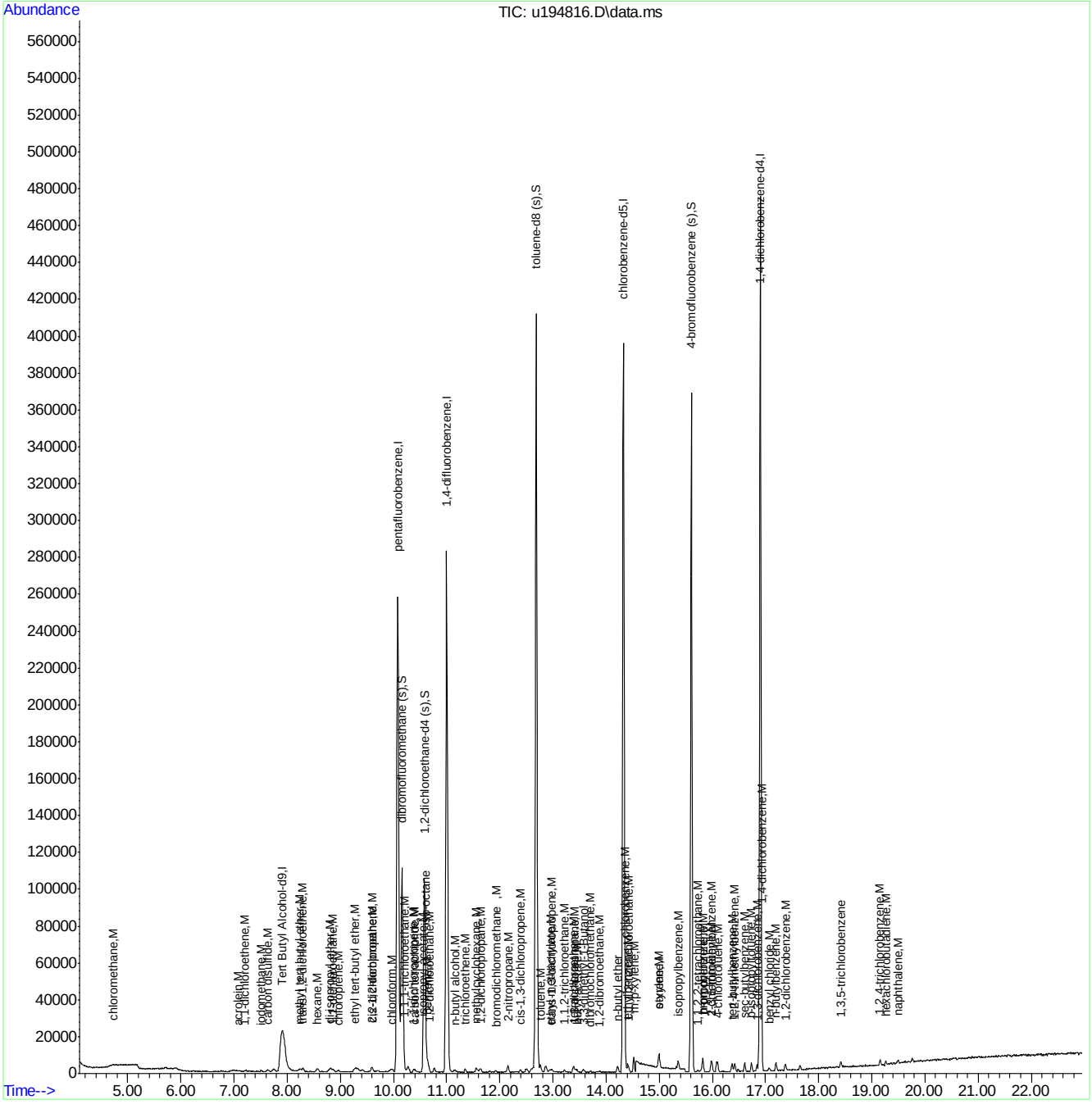
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
98) tetrachloroethene	13.388	164	817	0.41 ug/L	90
99) 1,3-dichloropropane	13.414	76	1089	0.39 ug/L	92
100) butyl acetate	13.446	56	527	0.44 ug/L #	53
101) dibromochloromethane	13.707	129	826	0.37 ug/L	84
102) 1,2-dibromoethane	13.869	107	727	0.39 ug/L	84
103) 3,3-dimethyl-1-Butanol	13.566	57	887	4.65 ug/L #	93
104) n-butyl ether	14.214	57	3680	0.43 ug/L #	89
105) chlorobenzene	14.361	112	2530	0.44 ug/L	90
106) 1,1,1,2-tetrachloroethane	14.423	131	815	0.38 ug/L	89
107) ethylbenzene	14.408	91	4257	0.45 ug/L	96
108) m,p-xylene	14.523	106	3217	0.86 ug/L	84
109) o-xylene	14.993	106	1561	0.42 ug/L	99
110) styrene	15.004	104	2696	0.43 ug/L	95
113) isopropylbenzene	15.359	105	4185	0.43 ug/L	97
115) bromobenzene	15.830	156	1176	0.41 ug/L	93
116) 1,1,2,2-tetrachloroethane	15.730	83	941	0.41 ug/L	82
119) n-propylbenzene	15.814	91	4667	0.42 ug/L	95
120) 2-chlorotoluene	15.992	126	1082	0.44 ug/L #	76
121) 4-chlorotoluene	16.107	91	3089	0.44 ug/L	90
123) 1,3,5-trimethylbenzene	15.976	105	3585	0.43 ug/L	93
124) tert-butylbenzene	16.373	119	3298	0.45 ug/L	94
126) 1,2,4-trimethylbenzene	16.420	105	3434	0.42 ug/L	94
128) sec-butylbenzene	16.609	105	4535	0.43 ug/L	97
129) 1,3-dichlorobenzene	16.844	146	2201	0.42 ug/L	98
130) p-isopropyltoluene	16.734	119	4016	0.43 ug/L	93
131) 1,4-dichlorobenzene	16.933	146	2225	0.42 ug/L	91
132) benzyl chloride	17.063	91	2496	0.52 ug/L	99
133) 1,2-dichlorobenzene	17.377	146	1997	0.41 ug/L	94
135) n-butylbenzene	17.194	92	1824	0.42 ug/L	97
138) 1,3,5-trichlorobenzene	18.417	180	1775	0.42 ug/L	93
139) 1,2,4-trichlorobenzene	19.155	180	1389	0.39 ug/L	95
140) hexachlorobutadiene	19.270	225	792	0.37 ug/L	91
141) naphthalene	19.489	128	2694	0.39 ug/L	85

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u194816.D
Acq On : 1 May 2015 11:57 am
Operator : NicoleH1
Sample : ic8988-0.5
Misc : ms84282,vu8988,5.0,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 04 09:36:00 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 08:43:50 2015
Response via : Initial Calibration



Manual Integration Approval Summary

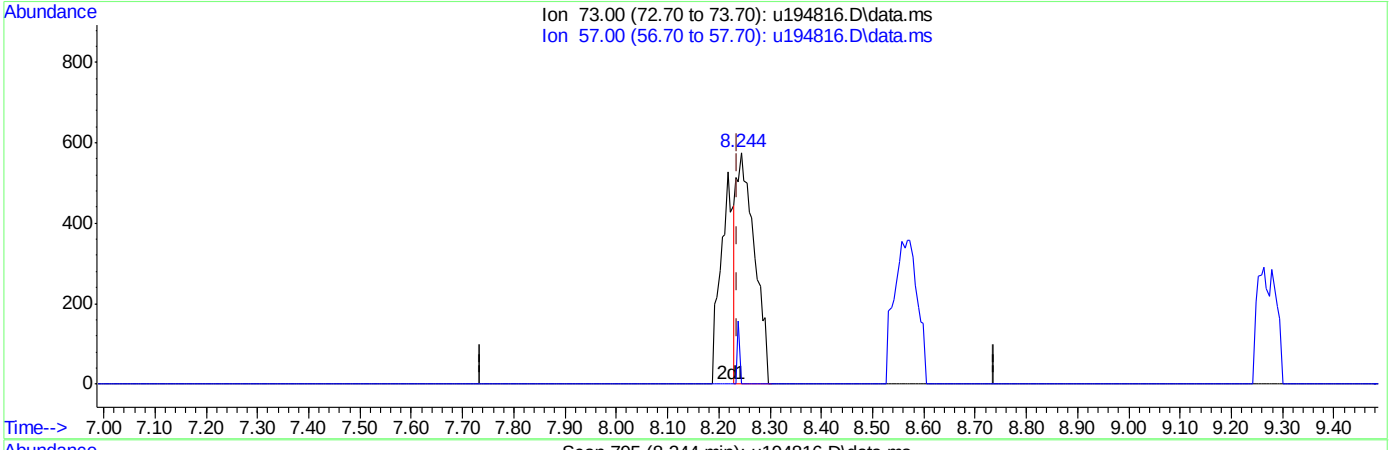
Sample Number:	VU8988-IC8988	**Method:**	SW846 8260C
Lab FileID:	U194816.D	**Analyst approved:**	05/04/15 09:57 Mei Chen
Injection Time:	05/01/15 11:57	**Supervisor approved:**	05/04/15 15:36 Jessica Reitan-Chu

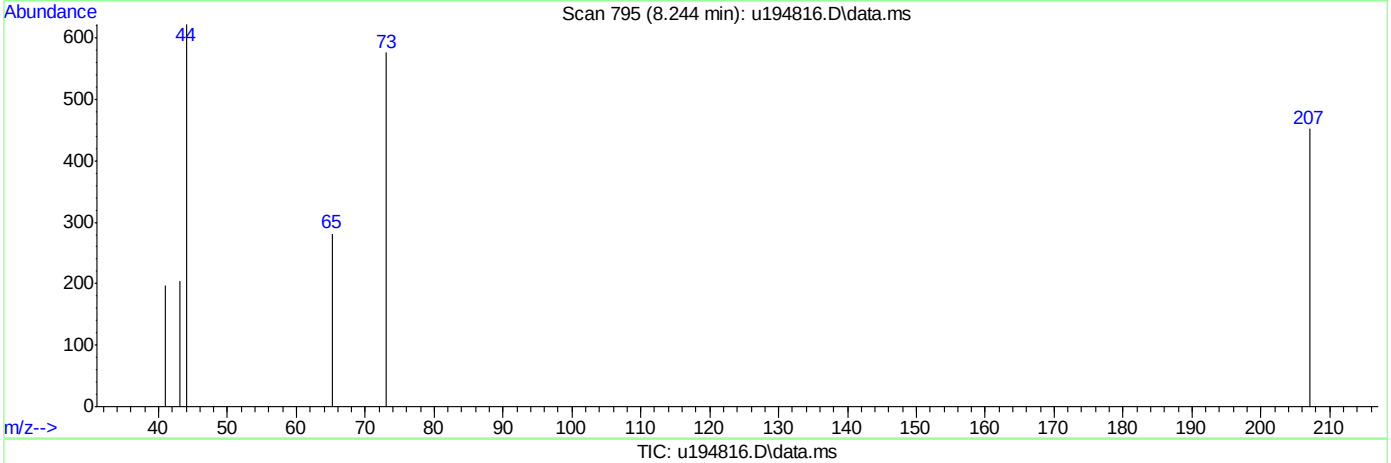
Parameter	CAS	Sig#	R.T. (min.)	Reason
Methyl Tert Butyl Ether	1634-04-4		8.24	Split peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\
Data File : u194816.D
Acq On : 1 May 2015 11:57 am
Operator : NicoleH1
Sample : ic8988-0.5
Misc : ms84282,vu8988,5.0,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 04 08:43:58 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 08:43:50 2015
Response via : Initial Calibration





TIC: u194816.D\data.ms

(37) methyl tert butyl ether (M)

8.244min (+0.007) 0.27ug/L

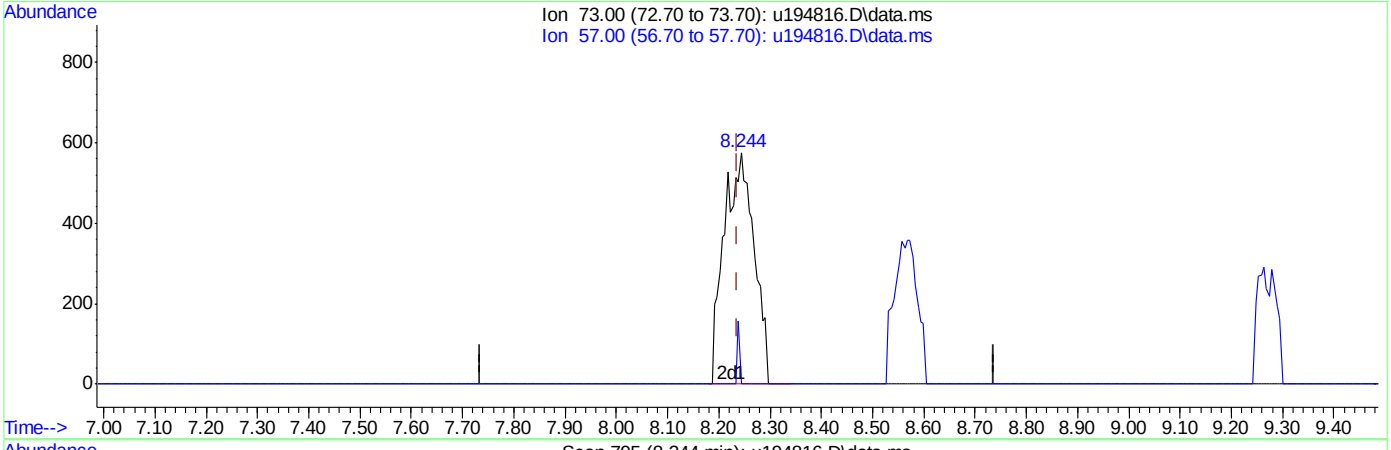
response 1435

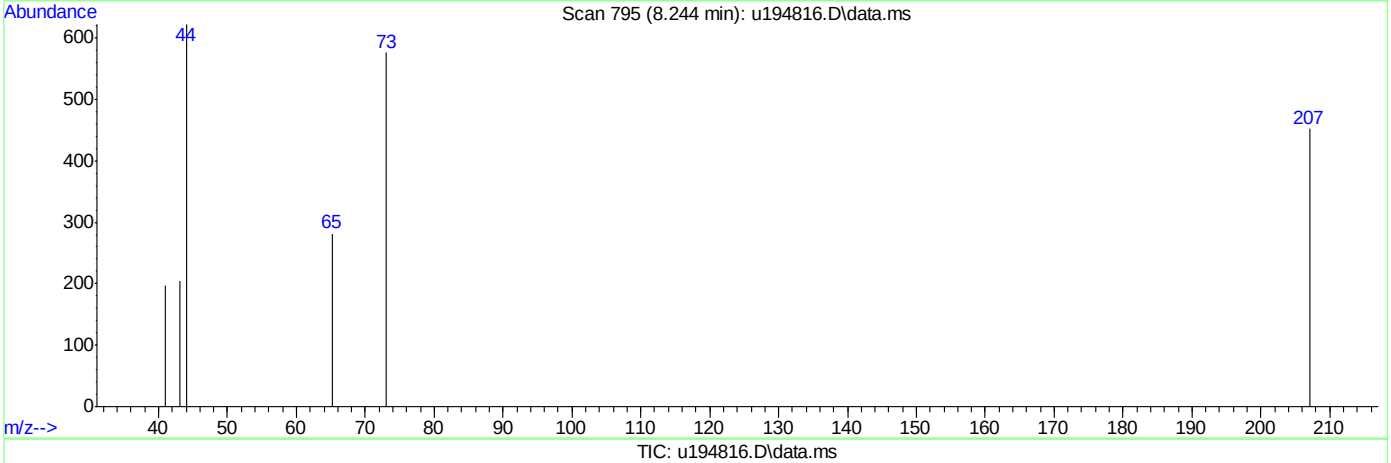
Ion	Exp%	Act%
73.00	100	100
57.00	21.90	0.00
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\
Data File : u194816.D
Acq On : 1 May 2015 11:57 am
Operator : NicoleH1
Sample : ic8988-0.5
Misc : ms84282,vu8988,5.0,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 04 09:36:00 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 08:43:50 2015
Response via : Initial Calibration





TIC: u194816.D\data.ms

(37) methyl tert butyl ether (M)

8.244min (+0.007) 0.44ug/L m

response 2323

Ion	Exp%	Act%
73.00	100	100
57.00	21.90	0.00
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integrations APPROVED (compounds with "m" flag)
Jessica Reitan-Chu
05/04/15 15:36

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u194817.D
Acq On : 1 May 2015 12:26 pm
Operator : NicoleH1
Sample : ic8988-1
Misc : ms84282,vu8988,5.0,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 04 09:37:15 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 08:35:47 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.905	65	82331	500.00	ug/L	0.02
5) pentafluorobenzene	10.080	168	276323	50.00	ug/L	0.00
64) 1,4-difluorobenzene	11.005	114	318840	50.00	ug/L	0.00
96) chlorobenzene-d5	14.325	117	284536	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.902	152	159851	50.00	ug/L	0.00

System Monitoring Compounds						
56) dibromofluoromethane (s)	10.158	113	92997	49.49	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 98.98%			
57) 1,2-dichloroethane-d4 (s)	10.582	65	98381	49.57	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 99.14%			
88) toluene-d8 (s)	12.683	98	364794	50.09	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 100.18%			
114) 4-bromofluorobenzene (s)	15.606	95	140971	49.73	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 99.46%			

Target Compounds						Qvalue
15) chloromethane	4.737	50	2162	0.90	ug/L	93
16) vinyl chloride	5.019	62	1736	0.79	ug/L #	50
18) bromomethane	5.709	94	1510	0.93	ug/L	89
19) chloroethane	5.892	64	811	0.72	ug/L #	45
20) trichlorofluoromethane	6.342	101	1864m	0.75	ug/L	
24) 2-CHLOROPROPANE	6.979	43	3634	1.08	ug/L #	78
27) acrolein	7.058	56	325832	1000.28	ug/L	98
28) 1,1-dichloroethene	7.209	96	1491	0.87	ug/L	84
30) allyl chloride	7.743	76	705	0.71	ug/L #	65
31) acetonitrile	7.748	40	1054	8.73	ug/L #	35
32) iodomethane	7.502	142	2802	0.80	ug/L	90
33) carbon disulfide	7.633	76	4622	0.80	ug/L	95
37) methyl tert butyl ether	8.239	73	4766	0.87	ug/L	97
38) trans-1,2-dichloroethene	8.292	96	1732	0.88	ug/L	87
39) di-isopropyl ether	8.814	45	4653	0.77	ug/L	86
40) ethyl tert-butyl ether	9.264	59	4586	0.76	ug/L	92
42) 1,1-dichloroethane	8.872	63	2721	0.80	ug/L	95
43) chloroprene	8.966	53	2002	0.73	ug/L	94
44) acrylonitrile	8.286	53	2356	4.00	ug/L	90
47) 2,2-dichloropropane	9.593	77	2455	0.85	ug/L	95
48) cis-1,2-dichloroethene	9.604	96	1840	0.86	ug/L	95
50) propionitrile	9.698	54	1845	7.75	ug/L	60
51) bromochloromethane	9.918	128	824	0.76	ug/L	84
53) chloroform	9.959	83	2961	0.88	ug/L	95
54) tert-butyl Formate	9.980	59	1079	0.64	ug/L #	81
55) iso-butyl alcohol	10.399	43	1064	11.49	ug/L #	78
59) methacrylonitrile	9.855	41	1196	1.06	ug/L	71
60) 1,1,1-trichloroethane	10.205	97	2320	0.78	ug/L	98
63) iso-octane	10.602	57	4232	0.70	ug/L	84
67) n-butyl alcohol	11.141	56	1889	34.32	ug/L	89
69) carbon tetrachloride	10.409	117	2092	0.78	ug/L	99
70) 1,1-dichloropropene	10.378	75	1982	0.76	ug/L	96
71) hexane	8.563	57	1512	0.73	ug/L	78

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u194817.D
Acq On : 1 May 2015 12:26 pm
Operator : NicoleH1
Sample : ic8988-1
Misc : ms84282,vu8988,5.0,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 04 09:37:15 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 08:35:47 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
72) benzene	10.639	78	7052	0.92 ug/L	93
74) isopropyl acetate	10.540	43	3066	0.88 ug/L	87
75) 1,2-dichloroethane	10.676	62	2008	0.80 ug/L	89
78) trichloroethene	11.345	95	1647	0.80 ug/L	97
79) methylcyclohexane	11.564	83	2158	0.71 ug/L	92
80) 2-nitropropane	12.160	41	658	0.88 ug/L #	19
83) 1,2-dichloropropane	11.632	63	1634	0.84 ug/L	94
85) dibromomethane	11.810	93	1040	0.85 ug/L	83
86) bromodichloromethane	11.925	83	2222	0.82 ug/L	92
87) cis-1,3-dichloropropene	12.390	75	2782	0.82 ug/L	98
90) toluene	12.762	92	4290	0.85 ug/L	97
91) 3-methyl-1-butanol	12.500	55	1611	17.02 ug/L #	15
92) trans-1,3-dichloropropene	12.981	75	2548	0.82 ug/L	85
93) ethyl methacrylate	12.939	69	2129	0.86 ug/L	97
94) 1,1,2-trichloroethane	13.222	83	1273	0.85 ug/L	83
97) cyclohexanone	15.595	55	2670	13.48 ug/L	87
98) tetrachloroethene	13.384	164	1740	0.83 ug/L	95
99) 1,3-dichloropropane	13.415	76	2434	0.83 ug/L	94
100) butyl acetate	13.446	56	1001	0.80 ug/L	93
101) dibromochloromethane	13.703	129	1812	0.77 ug/L	99
102) 1,2-dibromoethane	13.875	107	1594	0.83 ug/L	98
103) 3,3-dimethyl-1-Butanol	13.572	57	1479	7.32 ug/L #	96
104) n-butyl ether	14.220	57	7552	0.85 ug/L #	96
105) chlorobenzene	14.361	112	5036	0.84 ug/L	87
106) 1,1,1,2-tetrachloroethane	14.429	131	1886	0.84 ug/L	97
107) ethylbenzene	14.408	91	8391	0.86 ug/L	97
108) m,p-xylene	14.523	106	6518	1.67 ug/L	99
109) o-xylene	14.989	106	3251	0.84 ug/L	87
110) styrene	15.004	104	5467	0.83 ug/L	96
111) bromoform	15.323	173	1362	0.77 ug/L	86
113) isopropylbenzene	15.360	105	8646	0.85 ug/L	97
115) bromobenzene	15.825	156	2627	0.90 ug/L	91
116) 1,1,2,2-tetrachloroethane	15.721	83	2028	0.85 ug/L	89
118) 1,2,3-trichloropropane	15.815	110	592	0.88 ug/L	94
119) n-propylbenzene	15.815	91	9884	0.87 ug/L	94
120) 2-chlorotoluene	15.992	126	2221	0.87 ug/L #	85
121) 4-chlorotoluene	16.102	91	6210	0.86 ug/L	93
123) 1,3,5-trimethylbenzene	15.977	105	7230	0.84 ug/L	94
124) tert-butylbenzene	16.369	119	6436	0.84 ug/L	91
125) pentachloroethane	16.489	167	1274	0.77 ug/L	92
126) 1,2,4-trimethylbenzene	16.421	105	7124	0.85 ug/L	95
128) sec-butylbenzene	16.609	105	9198	0.84 ug/L	98
129) 1,3-dichlorobenzene	16.845	146	4531	0.84 ug/L	89
130) p-isopropyltoluene	16.735	119	8205	0.85 ug/L	99
131) 1,4-dichlorobenzene	16.934	146	4590	0.84 ug/L	97
132) benzyl chloride	17.064	91	4154	0.84 ug/L	99
133) 1,2-dichlorobenzene	17.373	146	4140	0.82 ug/L	93
135) n-butylbenzene	17.195	92	3704	0.83 ug/L	95
138) 1,3,5-trichlorobenzene	18.418	180	3534	0.81 ug/L	97
139) 1,2,4-trichlorobenzene	19.155	180	2826	0.75 ug/L	97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u194817.D
Acq On : 1 May 2015 12:26 pm
Operator : NicoleH1
Sample : ic8988-1
Misc : ms84282,vu8988,5.0,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 04 09:37:15 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 08:35:47 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
140) hexachlorobutadiene	19.265	225	1781	0.80 ug/L	96
141) naphthalene	19.485	128	5718	0.80 ug/L	95
143) 1,2,3-trichlorobenzene	19.762	180	2561	0.81 ug/L	89
144) hexachloroethane	17.650	201	1378	0.74 ug/L	93

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

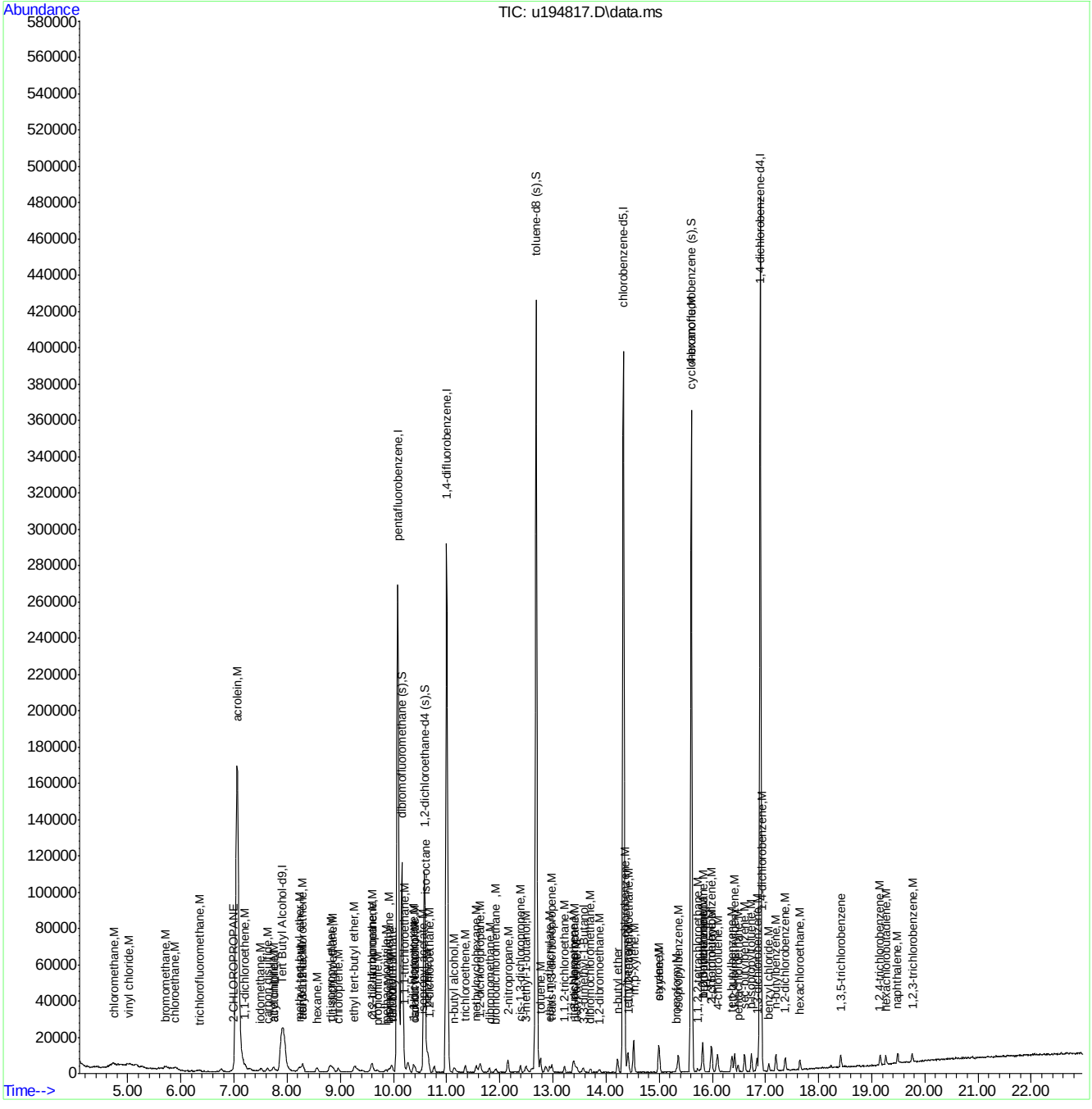
7.6.3

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u194817.D
Acq On : 1 May 2015 12:26 pm
Operator : NicoleH1
Sample : ic8988-1
Misc : ms84282,vu8988,5.0,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 04 09:37:15 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 08:35:47 2015
Response via : Initial Calibration



Manual Integration Approval Summary

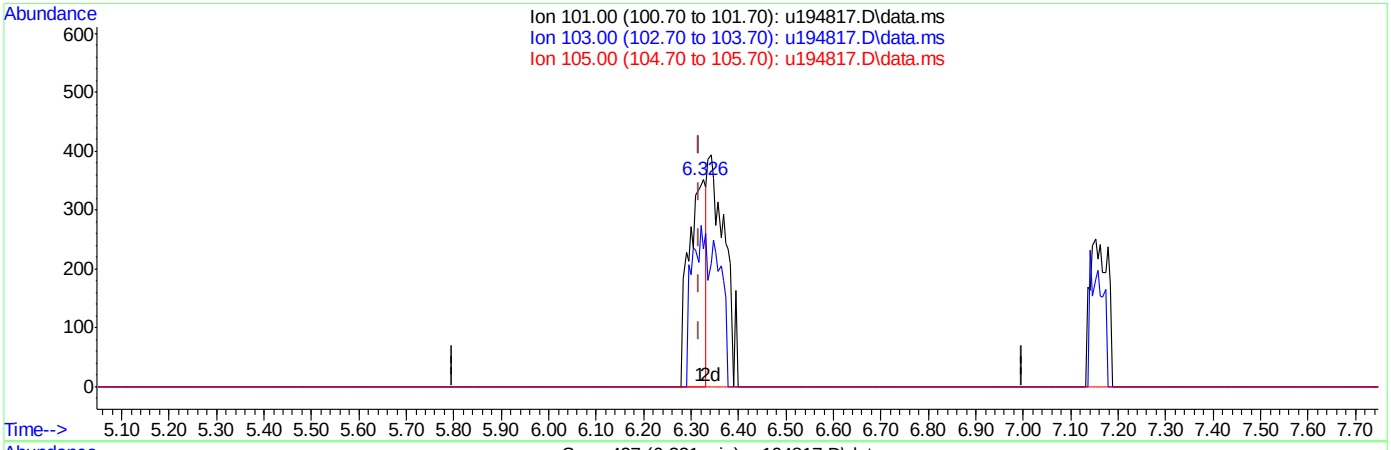
Sample Number:	VU8988-IC8988	**Method:**	SW846 8260C
Lab FileID:	U194817.D	**Analyst approved:**	05/04/15 09:57 Mei Chen
Injection Time:	05/01/15 12:26	**Supervisor approved:**	05/04/15 15:36 Jessica Reitan-Chu

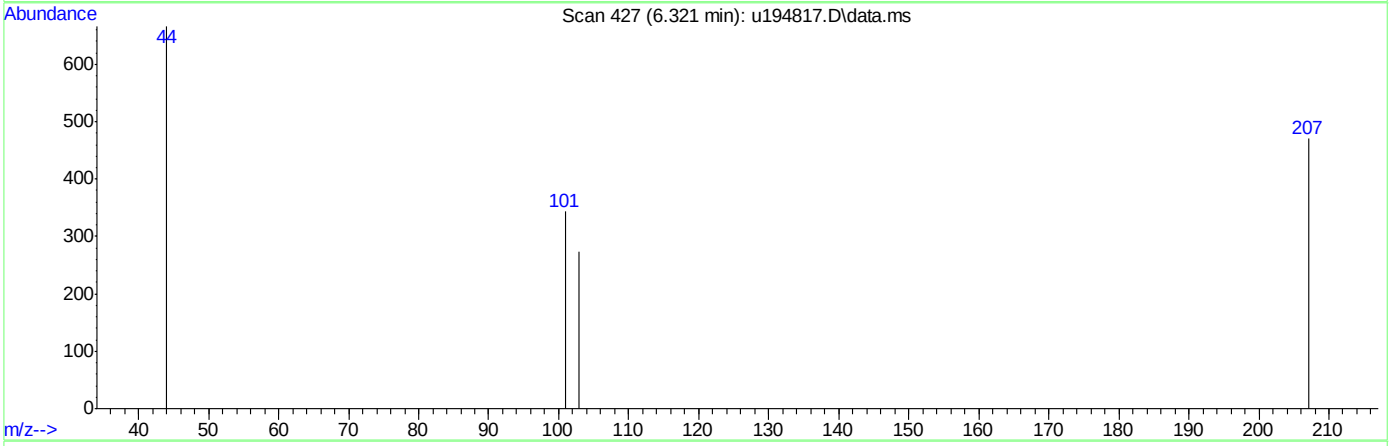
Parameter	CAS	Sig#	R.T. (min.)	Reason
Trichlorofluoromethane	75-69-4		6.34	Split peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\
Data File : u194817.D
Acq On : 1 May 2015 12:26 pm
Operator : NicoleH1
Sample : ic8988-1
Misc : ms84282,vu8988,5.0,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 04 08:38:04 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 08:35:47 2015
Response via : Initial Calibration





TIC: u194817.D\data.ms

(20) trichlorofluoromethane (M)

6.321min (+0.003) 0.36ug/L

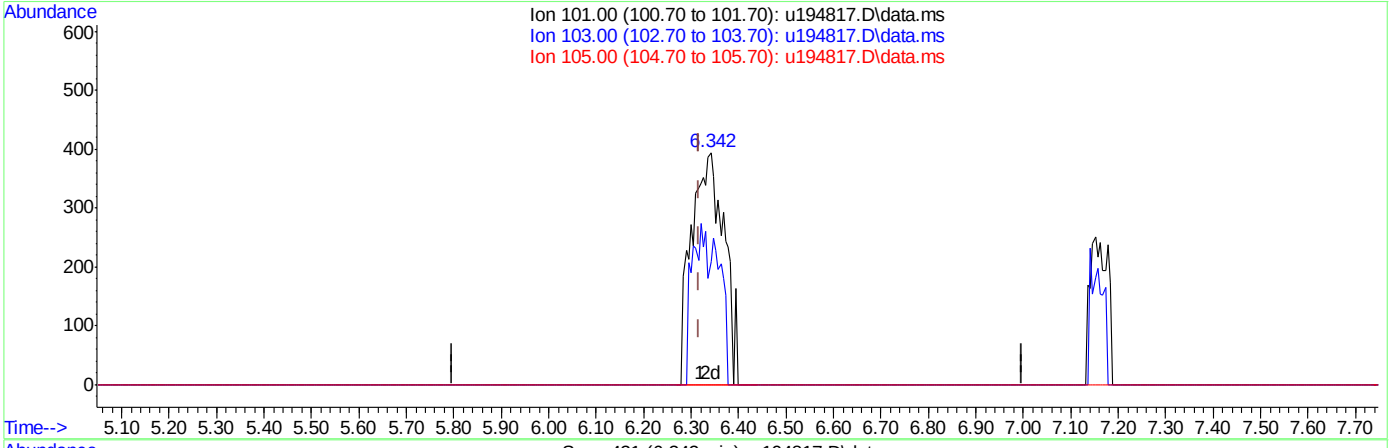
response 886

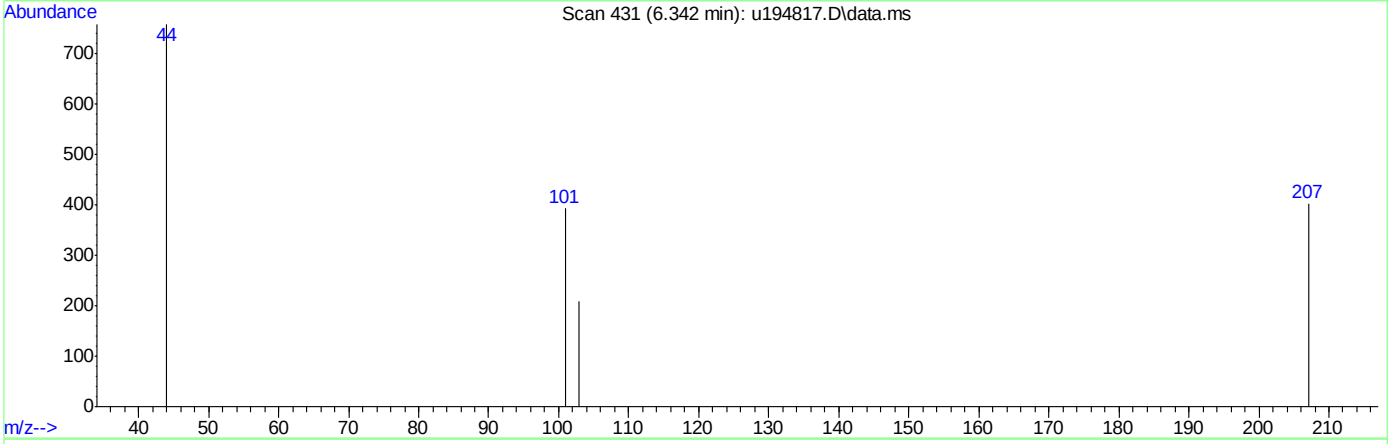
Ion	Exp%	Act%
101.00	100	100
103.00	62.50	79.88
105.00	10.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\
Data File : u194817.D
Acq On : 1 May 2015 12:26 pm
Operator : NicoleH1
Sample : ic8988-1
Misc : ms84282,vu8988,5.0,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 04 09:37:15 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 08:35:47 2015
Response via : Initial Calibration





TIC: u194817.D\data.ms

(20) trichlorofluoromethane (M)

6.342min (+0.024) 0.75ug/L m

response 1864

Ion	Exp%	Act%
101.00	100	100
103.00	62.50	53.05
105.00	10.00	0.00
0.00	0.00	0.00

Manual Integrations APPROVED (compounds with "m" flag)
Jessica Reitan-Chu
05/04/15 15:36

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u194818.D
Acq On : 1 May 2015 12:55 pm
Operator : NicoleH1
Sample : ic8988-2
Misc : ms84282,vu8988,5.0,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 04 09:38:30 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 08:28:39 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.893	65	84827	500.00	ug/L	0.00
5) pentafluorobenzene	10.079	168	276232	50.00	ug/L	0.00
64) 1,4-difluorobenzene	11.004	114	321935	50.00	ug/L	0.00
96) chlorobenzene-d5	14.324	117	289122	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.901	152	160871	50.00	ug/L	0.00

System Monitoring Compounds						
56) dibromofluoromethane (s)	10.157	113	94244	50.21	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 100.42%			
57) 1,2-dichloroethane-d4 (s)	10.581	65	99020	49.89	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 99.78%			
88) toluene-d8 (s)	12.682	98	365398	49.61	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 99.22%			
114) 4-bromofluorobenzene (s)	15.605	95	143023	50.17	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 100.34%			

Target Compounds						Qvalue
2) tertiary butyl alcohol	8.019	59	1679m	8.71	ug/L	
11) chlorodifluoromethane	4.391	51	3436	1.77	ug/L	78
12) dichlorodifluoromethane	4.370	85	2901	1.34	ug/L	91
15) chloromethane	4.725	50	4103	1.65	ug/L	92
16) vinyl chloride	5.018	62	3549	1.55	ug/L	94
18) bromomethane	5.708	94	2936	1.76	ug/L	84
19) chloroethane	5.881	64	1744	1.48	ug/L	89
20) trichlorofluoromethane	6.330	101	3552	1.34	ug/L	91
23) ethyl ether	6.759	74	1659	1.58	ug/L #	79
24) 2-CHLOROPROPANE	6.973	43	6638	1.97	ug/L #	73
27) acrolein	7.057	56	687752	2142.05	ug/L	99
28) 1,1-dichloroethene	7.203	96	2998	1.69	ug/L	88
30) allyl chloride	7.731	76	1637	1.58	ug/L	91
31) acetonitrile	7.747	40	2679m	19.97	ug/L	
32) iodomethane	7.506	142	5854	1.60	ug/L	97
33) carbon disulfide	7.627	76	10137	1.70	ug/L	99
35) methylene chloride	7.935	84	5154	2.44	ug/L	92
36) methyl acetate	7.716	43	2899	2.02	ug/L #	60
37) methyl tert butyl ether	8.228	73	9484	1.67	ug/L	100
38) trans-1,2-dichloroethene	8.301	96	3461	1.72	ug/L	93
39) di-isopropyl ether	8.803	45	11378	1.85	ug/L	85
40) ethyl tert-butyl ether	9.268	59	10964	1.79	ug/L	94
42) 1,1-dichloroethane	8.866	63	5766	1.65	ug/L	95
43) chloroprene	8.960	53	5066	1.80	ug/L	93
44) acrylonitrile	8.280	53	4954	8.10	ug/L	97
47) 2,2-dichloropropane	9.592	77	5135	1.73	ug/L	99
48) cis-1,2-dichloroethene	9.592	96	3757	1.70	ug/L	91
50) propionitrile	9.697	54	4001	16.16	ug/L	90
51) bromochloromethane	9.911	128	1752	1.55	ug/L #	83
52) tetrahydrofuran	9.948	42	1221	1.79	ug/L #	54
53) chloroform	9.953	83	5933	1.70	ug/L	95
54) tert-butyl Formate	9.979	59	2941	1.71	ug/L	93
55) iso-butyl alcohol	10.392	43	2186	24.72	ug/L #	82

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u194818.D
Acq On : 1 May 2015 12:55 pm
Operator : NicoleH1
Sample : ic8988-2
Misc : ms84282,vu8988,5.0,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 04 09:38:30 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 08:28:39 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
58) freon 113	7.151	151	2417	1.76	ug/L		88
59) methacrylonitrile	9.859	41	2207	1.95	ug/L		92
60) 1,1,1-trichloroethane	10.209	97	5014	1.63	ug/L		98
62) tert-amyl methyl ether	10.649	87	2456	1.75	ug/L		88
63) iso-octane	10.601	57	11810	1.95	ug/L		93
66) epichlorohydrin	12.306	57	1577	8.46	ug/L		72
67) n-butyl alcohol	11.140	56	4699	81.40	ug/L		91
68) Cyclohexane	10.262	84	4444	1.60	ug/L		92
69) carbon tetrachloride	10.398	117	4551	1.62	ug/L		98
70) 1,1-dichloropropene	10.371	75	4554	1.69	ug/L		97
71) hexane	8.557	57	3929	1.87	ug/L		95
72) benzene	10.643	78	14037	1.76	ug/L		99
73) heptane	10.764	57	2510	1.99	ug/L		95
74) isopropyl acetate	10.539	43	7149	2.05	ug/L		94
75) 1,2-dichloroethane	10.675	62	4410	1.69	ug/L		93
78) trichloroethene	11.349	95	3520	1.62	ug/L		98
79) methylcyclohexane	11.553	83	5790	1.86	ug/L		94
80) 2-nitropropane	12.159	41	1533	2.03	ug/L	#	68
81) 2-chloroethyl vinyl ether	12.149	63	8520	8.36	ug/L		97
82) methyl methacrylate	11.605	100	845	1.57	ug/L	#	78
83) 1,2-dichloropropane	11.626	63	3424	1.68	ug/L		99
84) propyl acetate	11.637	73	737	1.92	ug/L		91
85) dibromomethane	11.799	93	2048	1.60	ug/L		98
86) bromodichloromethane	11.924	83	4722	1.67	ug/L		97
87) cis-1,3-dichloropropene	12.389	75	5961	1.69	ug/L		96
89) 4-methyl-2-pentanone	12.484	58	1150	1.56	ug/L	#	66
90) toluene	12.761	92	8837	1.68	ug/L		98
91) 3-methyl-1-butanol	12.499	55	3609	37.23	ug/L		91
92) trans-1,3-dichloropropene	12.980	75	5340	1.64	ug/L		98
93) ethyl methacrylate	12.944	69	4258	1.65	ug/L		95
94) 1,1,2-trichloroethane	13.215	83	2663	1.70	ug/L		100
95) 2-hexanone	13.383	58	1111	1.53	ug/L	#	77
97) cyclohexanone	15.589	55	3977	19.71	ug/L		99
98) tetrachloroethene	13.383	164	3612	1.63	ug/L		97
99) 1,3-dichloropropane	13.414	76	4954	1.60	ug/L		94
100) butyl acetate	13.445	56	2329	1.80	ug/L		94
101) dibromochloromethane	13.702	129	3922	1.58	ug/L		97
102) 1,2-dibromoethane	13.869	107	3328	1.64	ug/L		93
103) 3,3-dimethyl-1-Butanol	13.571	57	3565	16.81	ug/L	#	97
104) n-butyl ether	14.219	57	15591	1.68	ug/L		100
105) chlorobenzene	14.360	112	10613	1.70	ug/L		91
106) 1,1,1,2-tetrachloroethane	14.423	131	3882	1.64	ug/L		96
107) ethylbenzene	14.407	91	17203	1.68	ug/L		100
108) m,p-xylene	14.522	106	13850	3.39	ug/L		91
109) o-xylene	14.988	106	6725	1.64	ug/L		98
110) styrene	15.003	104	11491	1.66	ug/L		99
111) bromoform	15.322	173	2953	1.57	ug/L		89
113) isopropylbenzene	15.359	105	17722	1.68	ug/L		99
115) bromobenzene	15.824	156	5090	1.68	ug/L		95
116) 1,1,2,2-tetrachloroethane	15.725	83	4132	1.67	ug/L		98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u194818.D
Acq On : 1 May 2015 12:55 pm
Operator : NicoleH1
Sample : ic8988-2
Misc : ms84282,vu8988,5.0,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 04 09:38:30 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 08:28:39 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
117) trans-1,4-dichloro-2-b...	15.767	53	1079	1.59 ug/L	88
118) 1,2,3-trichloropropane	15.814	110	1118	1.58 ug/L	92
119) n-propylbenzene	15.814	91	20018	1.69 ug/L	97
120) 2-chlorotoluene	15.992	126	4476	1.68 ug/L	94
121) 4-chlorotoluene	16.107	91	12993	1.74 ug/L	99
123) 1,3,5-trimethylbenzene	15.976	105	14960	1.68 ug/L	95
124) tert-butylbenzene	16.368	119	13713	1.73 ug/L	98
125) pentachloroethane	16.478	167	2866	1.66 ug/L	95
126) 1,2,4-trimethylbenzene	16.420	105	14813	1.69 ug/L	99
128) sec-butylbenzene	16.608	105	18932	1.66 ug/L	97
129) 1,3-dichlorobenzene	16.838	146	9310	1.65 ug/L	97
130) p-isopropyltoluene	16.734	119	17147	1.71 ug/L	98
131) 1,4-dichlorobenzene	16.933	146	9620	1.71 ug/L	100
132) benzyl chloride	17.063	91	9210	1.81 ug/L	99
133) 1,2-dichlorobenzene	17.372	146	8721	1.66 ug/L	95
135) n-butylbenzene	17.194	92	7586	1.63 ug/L	97
137) 1,2-dibromo-3-chloropr...	18.234	157	895	1.50 ug/L	95
138) 1,3,5-trichlorobenzene	18.417	180	7420	1.62 ug/L	98
139) 1,2,4-trichlorobenzene	19.160	180	6317	1.60 ug/L	99
140) hexachlorobutadiene	19.269	225	3873	1.68 ug/L	99
141) naphthalene	19.484	128	11703	1.56 ug/L	95
143) 1,2,3-trichlorobenzene	19.756	180	5202	1.57 ug/L	97
144) hexachloroethane	17.649	201	3113	1.60 ug/L	96

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

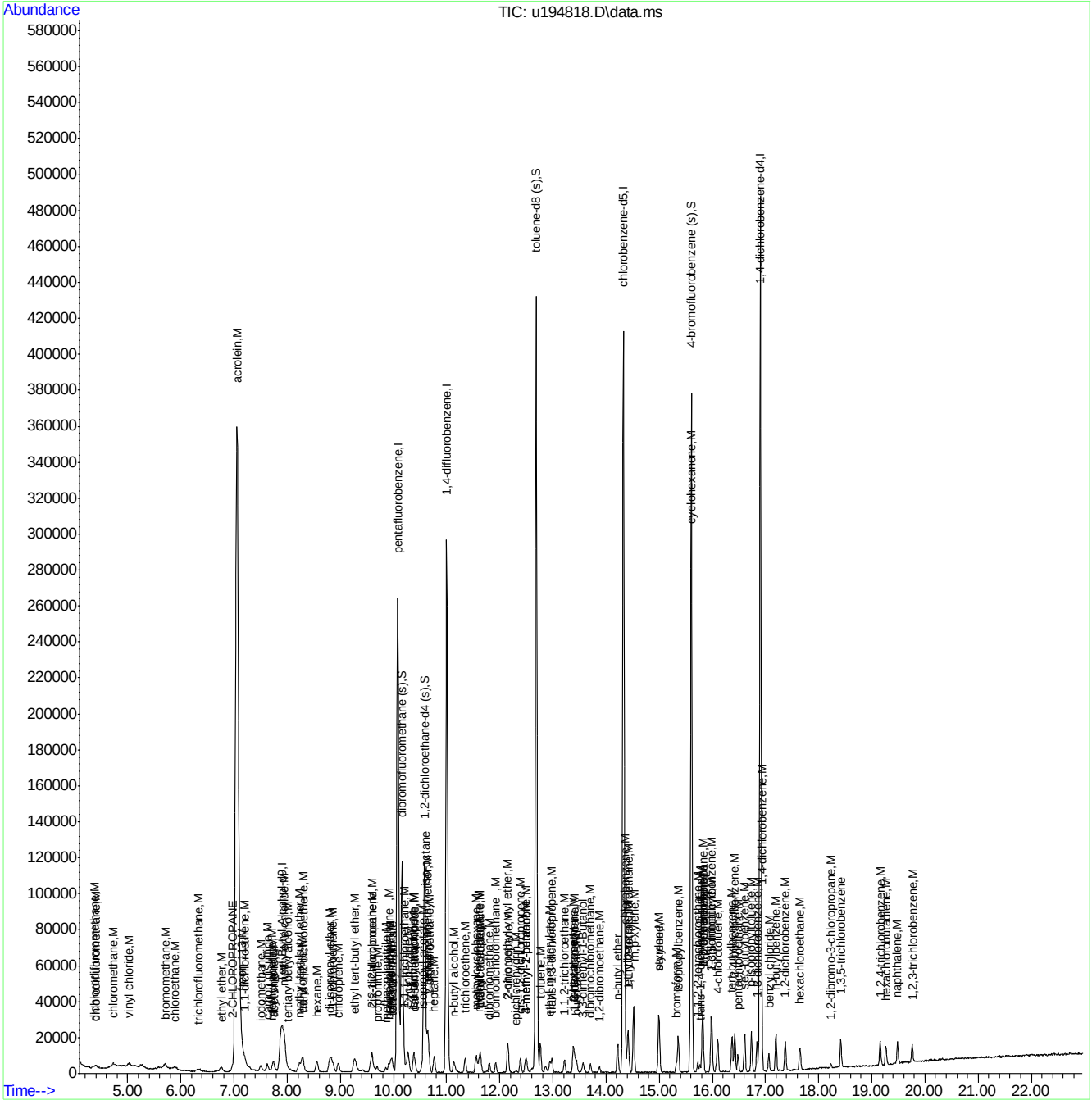
7.6.4

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u194818.D
Acq On : 1 May 2015 12:55 pm
Operator : NicoleH1
Sample : ic8988-2
Misc : ms84282,vu8988,5.0,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 04 09:38:30 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 08:28:39 2015
Response via : Initial Calibration



Manual Integration Approval Summary

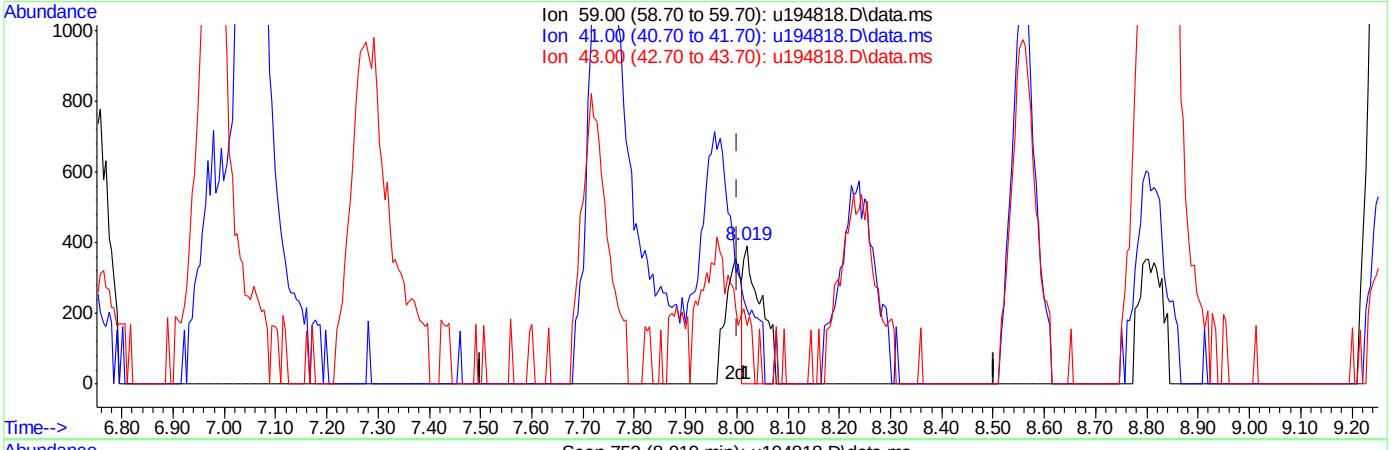
Sample Number:	VU8988-IC8988	**Method:**	SW846 8260C
Lab FileID:	U194818.D	**Analyst approved:**	05/04/15 09:57 Mei Chen
Injection Time:	05/01/15 12:55	**Supervisor approved:**	05/04/15 15:36 Jessica Reitan-Chu

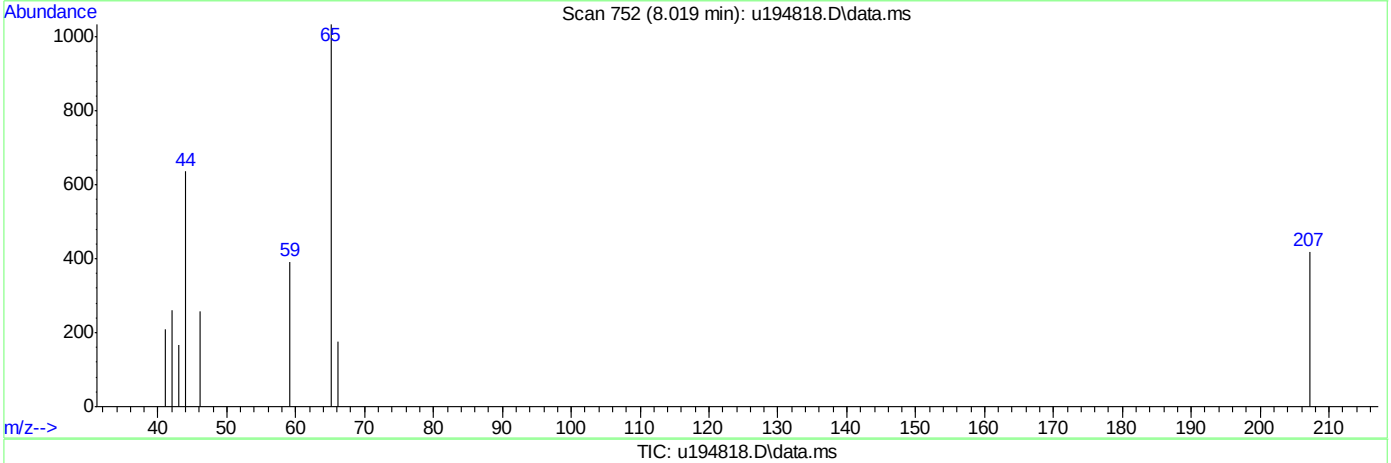
Parameter	CAS	Sig#	R.T. (min.)	Reason
Acetonitrile	75-05-8		7.75	Split peak
Tert Butyl Alcohol	75-65-0		8.02	Split peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\
Data File : u194818.D
Acq On : 1 May 2015 12:55 pm
Operator : NicoleH1
Sample : ic8988-2
Misc : ms84282,vu8988,5.0,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 04 08:28:47 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 08:28:39 2015
Response via : Initial Calibration





TIC: u194818.D\data.ms

(2) tertiary butyl alcohol (M)

8.019min (+0.017) 4.90ug/L

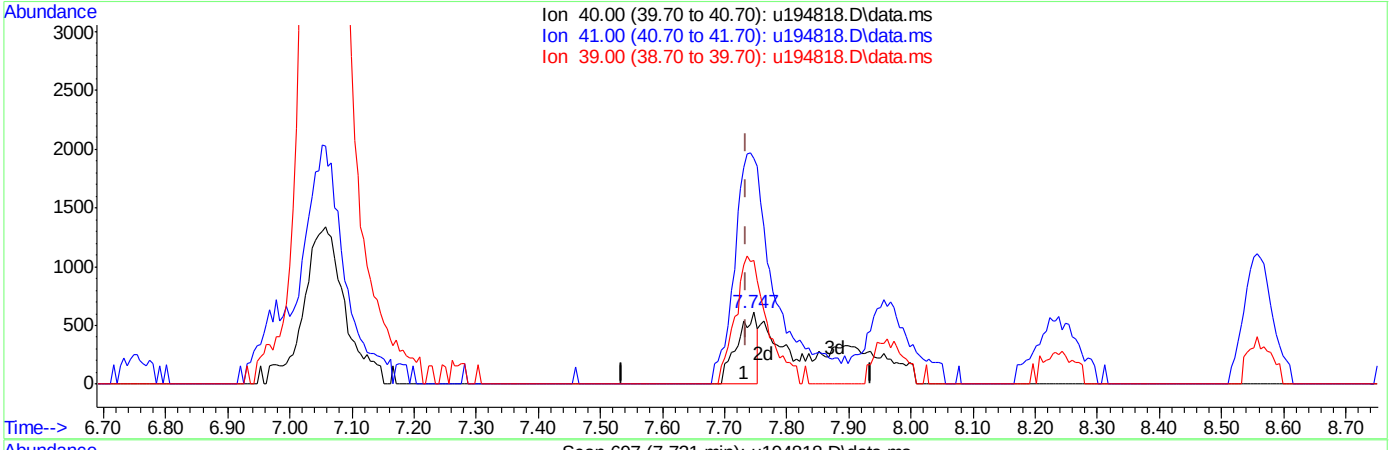
response 944

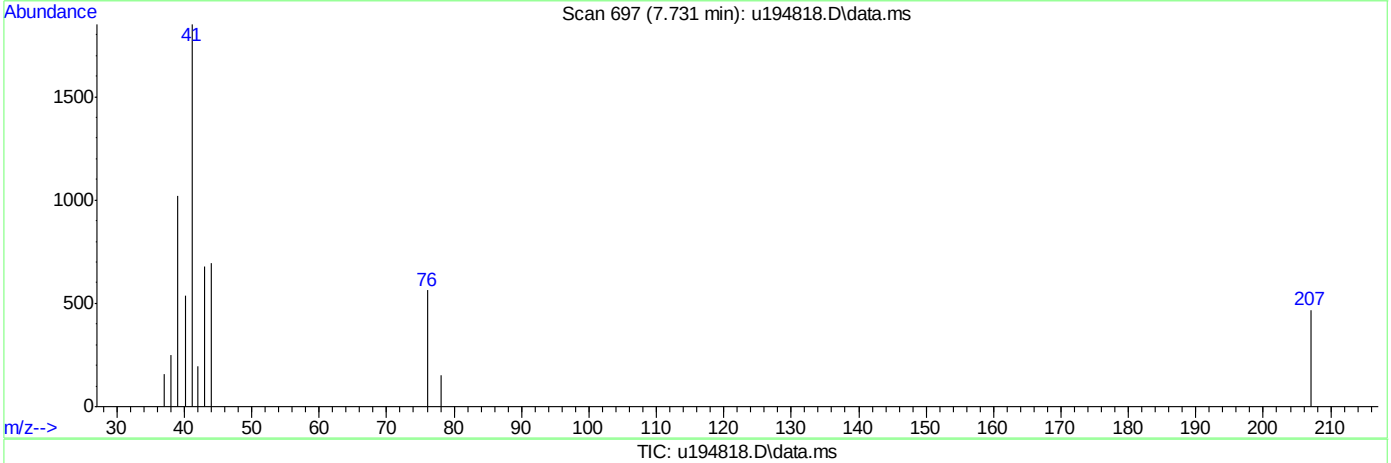
Ion	Exp%	Act%
59.00	100	100
41.00	33.30	30.35
43.00	20.30	27.70
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\
Data File : u194818.D
Acq On : 1 May 2015 12:55 pm
Operator : NicoleH1
Sample : ic8988-2
Misc : ms84282,vu8988,5.0,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 04 08:31:42 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 08:28:39 2015
Response via : Initial Calibration





TIC: u194818.D\data.ms

(31) acetonitrile (M)

7.731min (-0.003) 9.98ug/L

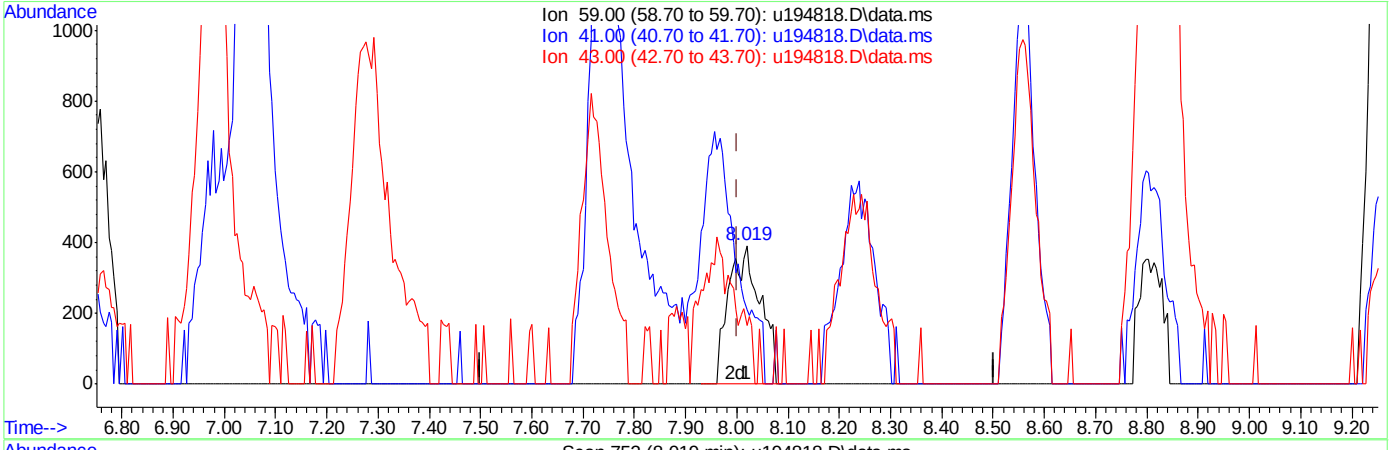
response 1339

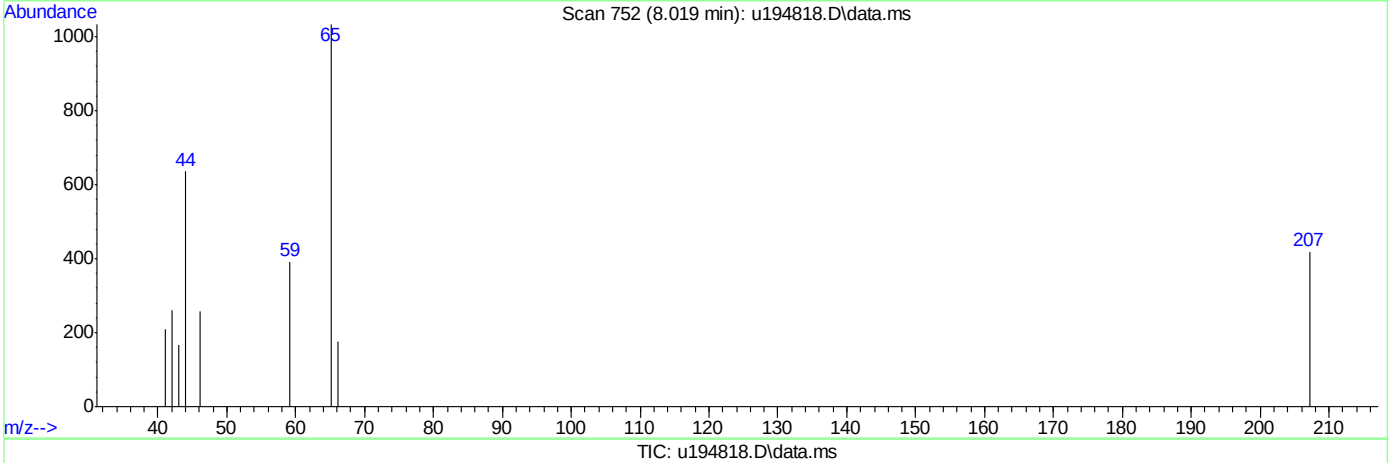
Ion	Exp%	Act%
40.00	100	100
41.00	396.60	306.86#
39.00	197.10	188.87
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\
Data File : u194818.D
Acq On : 1 May 2015 12:55 pm
Operator : NicoleH1
Sample : ic8988-2
Misc : ms84282,vu8988,5.0,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 04 09:38:30 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 08:28:39 2015
Response via : Initial Calibration





TIC: u194818.D\data.ms

(2) tertiary butyl alcohol (M)

8.019min (+0.017) 8.71ug/L m

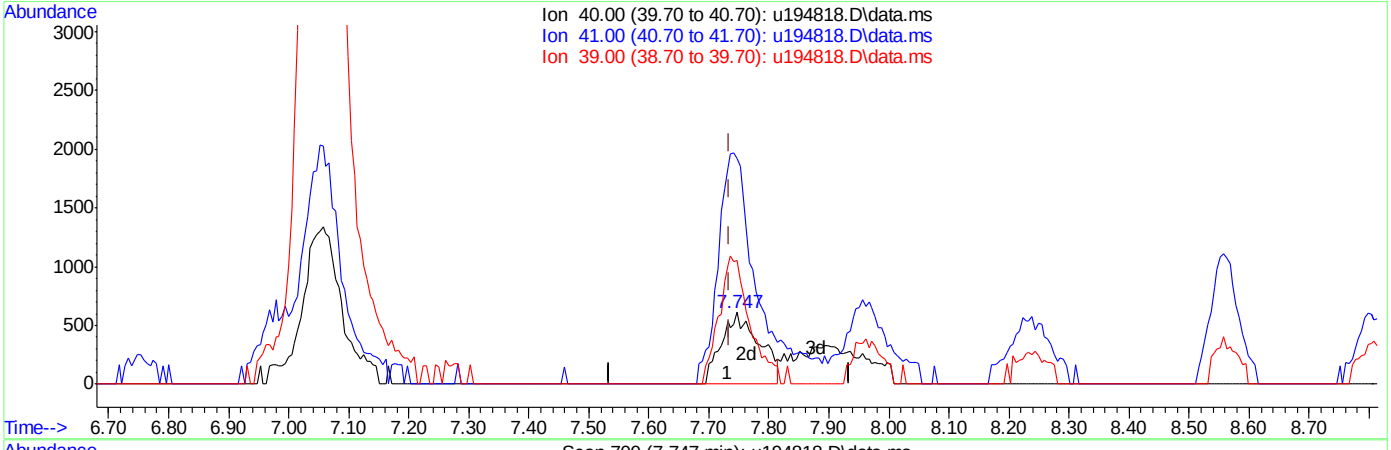
response 1679

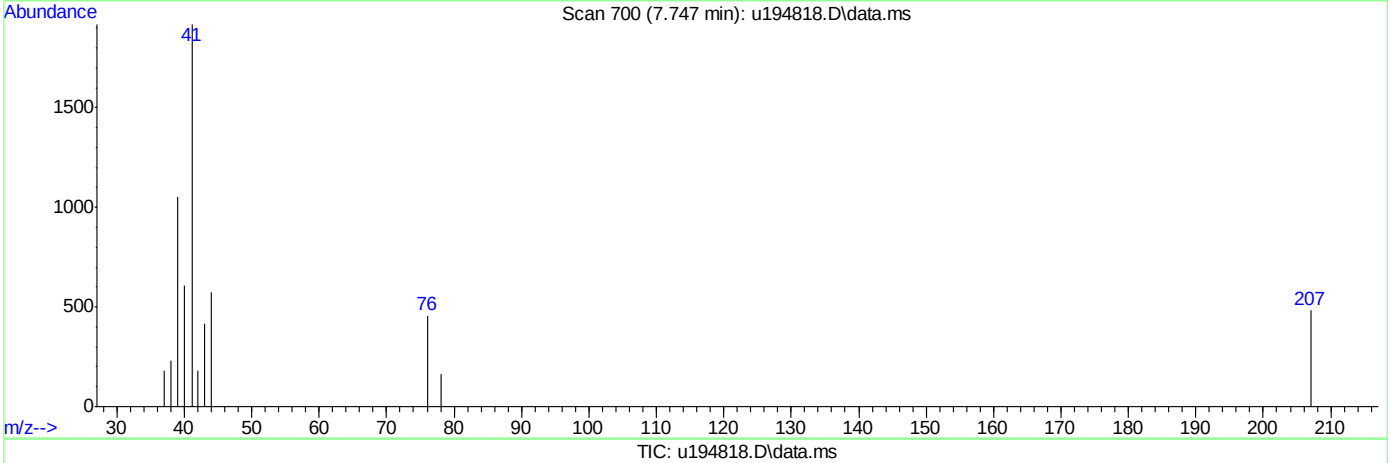
Ion	Exp%	Act%
59.00	100	100
41.00	33.30	53.45
43.00	20.30	42.71
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\
Data File : u194818.D
Acq On : 1 May 2015 12:55 pm
Operator : NicoleH1
Sample : ic8988-2
Misc : ms84282,vu8988,5.0,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 04 09:38:30 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 08:28:39 2015
Response via : Initial Calibration





TIC: u194818.D\data.ms

(31) acetonitrile (M)

7.747min (+0.012) 19.97ug/L m

response 2679

Ion	Exp%	Act%
40.00	100	100
41.00	396.60	314.43#
39.00	197.10	172.30
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u194819.D
Acq On : 1 May 2015 1:24 pm
Operator : NicoleH1
Sample : ic8988-5
Misc : ms84282,vu8988,5.0,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 04 08:25:05 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 08:22:08 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.894	65	87764	500.00	ug/L	0.00
5) pentafluorobenzene	10.079	168	279102	50.00	ug/L	0.00
64) 1,4-difluorobenzene	10.999	114	321950	50.00	ug/L	0.00
96) chlorobenzene-d5	14.324	117	287417	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.902	152	161777	50.00	ug/L	0.00

System Monitoring Compounds						
56) dibromofluoromethane (s)	10.158	113	94741	49.95	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 99.90%			
57) 1,2-dichloroethane-d4 (s)	10.581	65	100097	49.89	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 99.78%			
88) toluene-d8 (s)	12.683	98	366402	49.66	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 99.32%			
114) 4-bromofluorobenzene (s)	15.605	95	142847	49.77	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 99.54%			

Target Compounds						Qvalue
2) tertiary butyl alcohol	8.014	59	4221	20.14	ug/L #	47
4) 1,4-dioxane	11.747	88	1678	92.85	ug/L #	87
11) chlorodifluoromethane	4.391	51	8823	4.35	ug/L	95
12) dichlorodifluoromethane	4.360	85	8632	3.68	ug/L	90
15) chloromethane	4.741	50	11111	4.27	ug/L	97
16) vinyl chloride	5.024	62	9962	4.11	ug/L	96
18) bromomethane	5.708	94	7439	4.26	ug/L	97
19) chloroethane	5.881	64	5025	4.00	ug/L	98
20) trichlorofluoromethane	6.325	101	10828	3.78	ug/L	98
23) ethyl ether	6.749	74	4516	4.07	ug/L	98
24) 2-CHLOROPROPANE	6.979	43	15923	4.58	ug/L	99
27) acrolein	7.063	56	17068	53.55	ug/L	98
28) 1,1-dichloroethene	7.209	96	7790	4.16	ug/L	90
30) allyl chloride	7.747	76	4647	4.27	ug/L	91
31) acetonitrile	7.747	40	5829	41.08	ug/L #	87
32) iodomethane	7.512	142	15849	4.09	ug/L	99
33) carbon disulfide	7.627	76	26079	4.13	ug/L	98
34) 1-CHLOROPROPANE	7.972	63	595	3.49	ug/L #	1
35) methylene chloride	7.941	84	10167	4.68	ug/L	95
36) methyl acetate	7.716	43	7201	4.95	ug/L #	83
37) methyl tert butyl ether	8.234	73	24931	4.17	ug/L	99
38) trans-1,2-dichloroethene	8.302	96	9014	4.27	ug/L	98
39) di-isopropyl ether	8.803	45	28207	4.42	ug/L	87
40) ethyl tert-butyl ether	9.269	59	28089	4.40	ug/L	99
41) 2-butanone	9.562	72	732	3.10	ug/L #	1
42) 1,1-dichloroethane	8.871	63	15315	4.14	ug/L	99
43) chloroprene	8.960	53	12797	4.36	ug/L	99
44) acrylonitrile	8.275	53	13188	20.35	ug/L	98
45) vinyl acetate	8.835	86	1383	3.89	ug/L #	54
46) ethyl acetate	9.562	45	1126	4.20	ug/L #	43
47) 2,2-dichloropropane	9.593	77	13317	4.28	ug/L	94
48) cis-1,2-dichloroethene	9.598	96	9921	4.28	ug/L	96
49) methyl acrylate	9.640	85	1212	3.94	ug/L #	55

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u194819.D
Acq On : 1 May 2015 1:24 pm
Operator : NicoleH1
Sample : ic8988-5
Misc : ms84282,vu8988,5.0,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 04 08:25:05 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 08:22:08 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
50) propionitrile	9.692	54	10654	40.59	ug/L		95
51) bromochloromethane	9.917	128	4891	4.08	ug/L		89
52) tetrahydrofuran	9.943	42	3211	4.56	ug/L		88
53) chloroform	9.954	83	15395	4.20	ug/L		98
54) tert-butyl Formate	9.985	59	7542	4.14	ug/L	#	85
55) iso-butyl alcohol	10.388	43	4571	51.57	ug/L		97
58) freon 113	7.157	151	5645	3.84	ug/L		92
59) methacrylonitrile	9.854	41	5140	4.35	ug/L		89
60) 1,1,1-trichloroethane	10.205	97	13619	4.22	ug/L		96
62) tert-amyl methyl ether	10.644	87	6321	4.30	ug/L	#	81
63) iso-octane	10.597	57	24974	3.86	ug/L		96
66) epichlorohydrin	12.306	57	4050	20.81	ug/L		95
67) n-butyl alcohol	11.135	56	12938	216.63	ug/L		98
68) Cyclohexane	10.273	84	11627	3.97	ug/L	#	76
69) carbon tetrachloride	10.403	117	12046	4.09	ug/L		97
70) 1,1-dichloropropene	10.377	75	11746	4.17	ug/L		97
71) hexane	8.558	57	8690	3.90	ug/L		97
72) benzene	10.644	78	35283	4.27	ug/L		100
73) heptane	10.764	57	5163	3.86	ug/L		98
74) isopropyl acetate	10.534	43	15579	4.32	ug/L		95
75) 1,2-dichloroethane	10.670	62	11164	4.09	ug/L		99
78) trichloroethene	11.349	95	9603	4.26	ug/L		93
79) methylcyclohexane	11.559	83	12947	3.94	ug/L		96
80) 2-nitropropane	12.155	41	3546	4.60	ug/L	#	86
81) 2-chloroethyl vinyl ether	12.149	63	21578	20.13	ug/L		99
82) methyl methacrylate	11.606	100	2179	3.79	ug/L	#	66
83) 1,2-dichloropropane	11.632	63	8679	4.07	ug/L		98
84) propyl acetate	11.642	73	1816	4.63	ug/L		90
85) dibromomethane	11.804	93	5562	4.16	ug/L		98
86) bromodichloromethane	11.919	83	12262	4.15	ug/L		99
87) cis-1,3-dichloropropene	12.390	75	14911	4.03	ug/L		97
89) 4-methyl-2-pentanone	12.479	58	3107	3.99	ug/L	#	85
90) toluene	12.761	92	22918	4.19	ug/L		99
91) 3-methyl-1-butanol	12.500	55	8772	87.70	ug/L		98
92) trans-1,3-dichloropropene	12.981	75	13785	4.03	ug/L		97
93) ethyl methacrylate	12.939	69	11054	4.09	ug/L		99
94) 1,1,2-trichloroethane	13.221	83	6709	4.08	ug/L		98
95) 2-hexanone	13.388	58	3118	4.09	ug/L		87
97) cyclohexanone	15.589	55	9051	43.69	ug/L		98
98) tetrachloroethene	13.388	164	9836	4.32	ug/L		96
99) 1,3-dichloropropane	13.415	76	13150	4.08	ug/L		99
100) butyl acetate	13.446	56	5747	4.33	ug/L		96
101) dibromochloromethane	13.707	129	10412	4.01	ug/L		98
102) 1,2-dibromoethane	13.875	107	8875	4.23	ug/L		96
103) 3,3-dimethyl-1-Butanol	13.571	57	9398	43.02	ug/L	#	99
104) n-butyl ether	14.214	57	39900	4.14	ug/L		100
105) chlorobenzene	14.361	112	26881	4.13	ug/L		93
106) 1,1,1,2-tetrachloroethane	14.424	131	10215	4.15	ug/L		98
107) ethylbenzene	14.408	91	44555	4.19	ug/L		98
108) m,p-xylene	14.518	106	35383	8.36	ug/L		100

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u194819.D
Acq On : 1 May 2015 1:24 pm
Operator : NicoleH1
Sample : ic8988-5
Misc : ms84282,vu8988,5.0,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 04 08:25:05 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 08:22:08 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
109) o-xylene	14.988	106	17918	4.24 ug/L	92
110) styrene	15.004	104	29630	4.11 ug/L	99
111) bromoform	15.323	173	7810	3.97 ug/L	96
113) isopropylbenzene	15.359	105	45634	4.12 ug/L	98
115) bromobenzene	15.830	156	13131	4.12 ug/L	97
116) 1,1,2,2-tetrachloroethane	15.725	83	10527	4.03 ug/L	98
117) trans-1,4-dichloro-2-b...	15.767	53	2828	3.91 ug/L	95
118) 1,2,3-trichloropropane	15.814	110	3141	4.24 ug/L	96
119) n-propylbenzene	15.814	91	52231	4.20 ug/L	99
120) 2-chlorotoluene	15.997	126	11457	4.09 ug/L	99
121) 4-chlorotoluene	16.107	91	32741	4.17 ug/L	98
123) 1,3,5-trimethylbenzene	15.976	105	38549	4.11 ug/L	99
124) tert-butylbenzene	16.368	119	34622	4.17 ug/L	97
125) pentachloroethane	16.483	167	7050	3.82 ug/L	95
126) 1,2,4-trimethylbenzene	16.421	105	38262	4.17 ug/L	99
128) sec-butylbenzene	16.609	105	50173	4.19 ug/L	99
129) 1,3-dichlorobenzene	16.839	146	24580	4.16 ug/L	98
130) p-isopropyltoluene	16.734	119	44015	4.18 ug/L	98
131) 1,4-dichlorobenzene	16.933	146	24719	4.19 ug/L	99
132) benzyl chloride	17.064	91	23140	4.39 ug/L	97
133) 1,2-dichlorobenzene	17.372	146	22868	4.13 ug/L	99
135) n-butylbenzene	17.194	92	19942	4.07 ug/L	99
137) 1,2-dibromo-3-chloropr...	18.240	157	2507	3.97 ug/L	91
138) 1,3,5-trichlorobenzene	18.418	180	19656	4.06 ug/L	99
139) 1,2,4-trichlorobenzene	19.155	180	16536	3.95 ug/L	99
140) hexachlorobutadiene	19.265	225	10116	4.17 ug/L	100
141) naphthalene	19.484	128	31614	3.97 ug/L	99
143) 1,2,3-trichlorobenzene	19.761	180	13792	3.93 ug/L	99
144) hexachloroethane	17.649	201	8243	4.01 ug/L	97

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

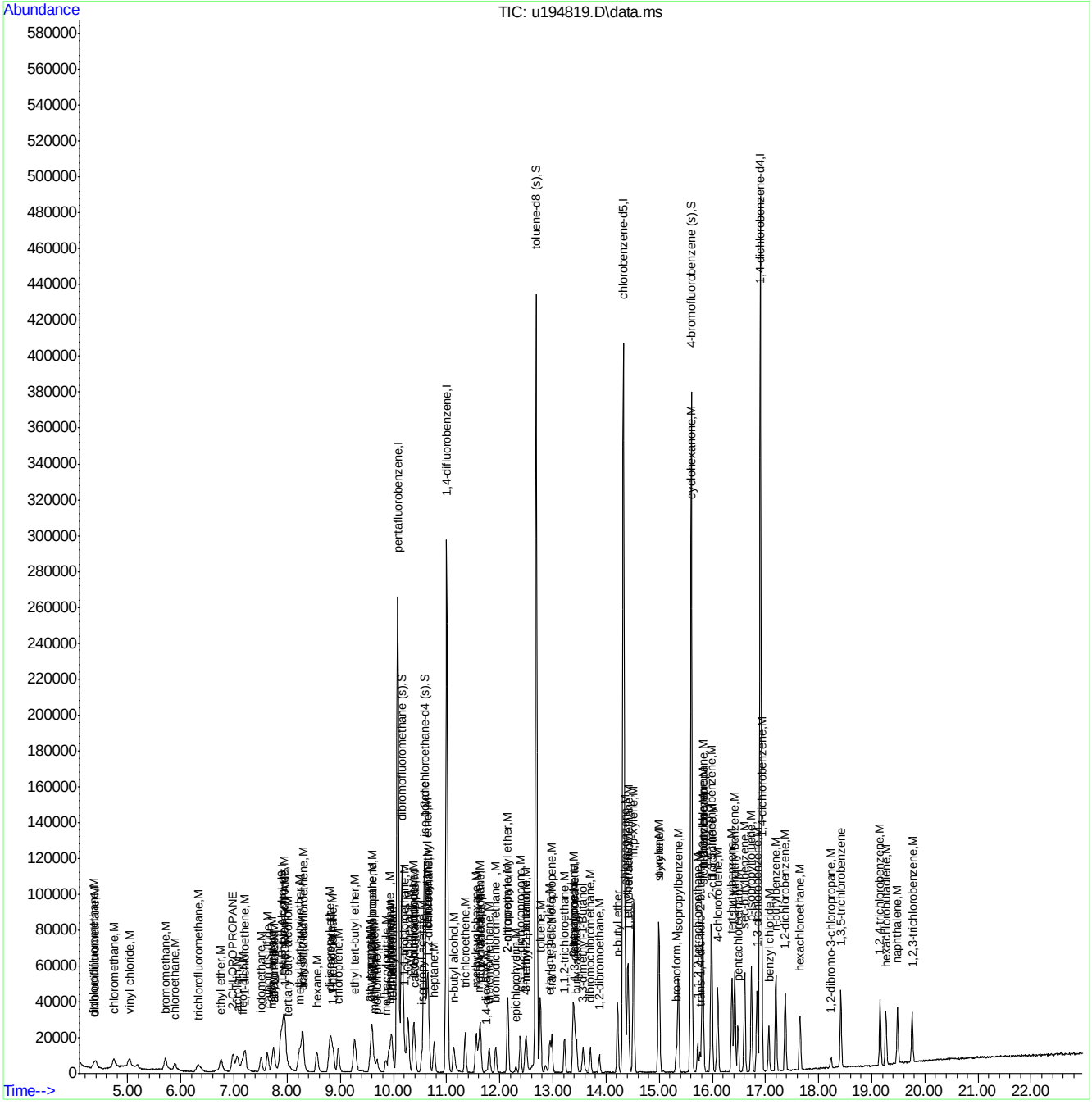
7.6.5

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u194819.D
Acq On : 1 May 2015 1:24 pm
Operator : NicoleH1
Sample : ic8988-5
Misc : ms84282,vu8988,5.0,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 04 08:25:05 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 08:22:08 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u194820.D
Acq On : 1 May 2015 1:54 pm
Operator : NicoleH1
Sample : ic8988-10
Misc : ms84282,vu8988,5.0,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 04 09:40:33 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 08:14:40 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.900	65	89399	500.00	ug/L	0.01
5) pentafluorobenzene	10.080	168	278520	50.00	ug/L	0.00
64) 1,4-difluorobenzene	11.000	114	321823	50.00	ug/L	0.00
96) chlorobenzene-d5	14.325	117	285232	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.902	152	159545	50.00	ug/L	0.00

System Monitoring Compounds						
56) dibromofluoromethane (s)	10.158	113	94261	49.70	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 99.40%			
57) 1,2-dichloroethane-d4 (s)	10.582	65	99700	49.69	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 99.38%			
88) toluene-d8 (s)	12.683	98	364619	49.17	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 98.34%			
114) 4-bromofluorobenzene (s)	15.606	95	142444	50.49	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 100.98%			

Target Compounds						Qvalue
2) tertiary butyl alcohol	8.025	59	10092	46.03	ug/L #	47
4) 1,4-dioxane	11.763	88	4102	211.34	ug/L	97
11) chlorodifluoromethane	4.402	51	19189	9.24	ug/L	97
12) dichlorodifluoromethane	4.361	85	24113	10.47	ug/L	96
15) chloromethane	4.747	50	27604	10.98	ug/L	100
16) vinyl chloride	5.045	62	25355	10.72	ug/L	98
18) bromomethane	5.715	94	18373	10.84	ug/L	97
19) chloroethane	5.887	64	12886	10.42	ug/L	93
20) trichlorofluoromethane	6.331	101	29566	10.54	ug/L	99
23) ethyl ether	6.750	74	10655	9.44	ug/L	94
24) 2-CHLOROPROPANE	6.980	43	33332	9.43	ug/L	97
27) acrolein	7.063	56	29446	89.25	ug/L	98
28) 1,1-dichloroethene	7.210	96	18160	9.59	ug/L	98
29) acetone	7.283	58	1419	8.65	ug/L #	23
30) allyl chloride	7.743	76	10584	9.62	ug/L	90
31) acetonitrile	7.748	40	13190	90.06	ug/L #	90
32) iodomethane	7.508	142	37083	9.41	ug/L	98
33) carbon disulfide	7.633	76	60797	9.50	ug/L	99
34) 1-CHLOROPROPANE	7.968	63	1629	9.37	ug/L	74
35) methylene chloride	7.942	84	21585	9.95	ug/L	97
36) methyl acetate	7.712	43	14179	9.67	ug/L	93
37) methyl tert butyl ether	8.234	73	56855	9.32	ug/L	99
38) trans-1,2-dichloroethene	8.297	96	20431	9.54	ug/L	100
39) di-isopropyl ether	8.804	45	60428	9.24	ug/L	92
40) ethyl tert-butyl ether	9.264	59	60117	9.17	ug/L	99
41) 2-butanone	9.557	72	2291	9.59	ug/L	98
42) 1,1-dichloroethane	8.872	63	35728	9.52	ug/L	97
43) chloroprene	8.961	53	27817	9.25	ug/L	99
44) acrylonitrile	8.276	53	30801	46.52	ug/L	98
45) vinyl acetate	8.836	86	3164	8.47	ug/L #	83
46) ethyl acetate	9.557	45	2562	9.37	ug/L	73
47) 2,2-dichloropropane	9.599	77	30618	9.78	ug/L	97
48) cis-1,2-dichloroethene	9.599	96	22166	9.37	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u194820.D
Acq On : 1 May 2015 1:54 pm
Operator : NicoleH1
Sample : ic8988-10
Misc : ms84282,vu8988,5.0,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 04 09:40:33 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 08:14:40 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
49) methyl acrylate	9.651	85	2866	9.04	ug/L #	73
50) propionitrile	9.688	54	25041	93.53	ug/L	98
51) bromochloromethane	9.913	128	11445	9.36	ug/L	96
52) tetrahydrofuran	9.944	42	7105	10.15	ug/L	92
53) chloroform	9.960	83	35416	9.54	ug/L	98
54) tert-butyl Formate	9.981	59	16752	8.88	ug/L #	86
55) iso-butyl alcohol	10.388	43	8173	89.02	ug/L	96
58) freon 113	7.163	151	13543	8.87	ug/L	98
59) methacrylonitrile	9.855	41	11379	9.49	ug/L	96
60) 1,1,1-trichloroethane	10.200	97	31122	9.51	ug/L	100
62) tert-amyl methyl ether	10.650	87	13846	9.19	ug/L	94
63) iso-octane	10.603	57	60858	9.15	ug/L	99
66) epichlorohydrin	12.307	57	9137	45.59	ug/L	97
67) n-butyl alcohol	11.136	56	27715	448.21	ug/L	97
68) Cyclohexane	10.268	84	28213	9.46	ug/L	87
69) carbon tetrachloride	10.399	117	27991	9.28	ug/L	99
70) 1,1-dichloropropene	10.378	75	27252	9.52	ug/L	98
71) hexane	8.559	57	20790	9.03	ug/L	98
72) benzene	10.645	78	79616	9.48	ug/L	100
73) heptane	10.765	57	12740	9.31	ug/L	99
74) isopropyl acetate	10.535	43	34125	9.22	ug/L	99
75) 1,2-dichloroethane	10.671	62	26312	9.48	ug/L	98
78) trichloroethene	11.345	95	21776	9.51	ug/L	97
79) methylcyclohexane	11.559	83	30648	9.04	ug/L	98
80) 2-nitropropane	12.150	41	7424	9.47	ug/L #	91
81) 2-chloroethyl vinyl ether	12.150	63	47942	42.51	ug/L	98
82) methyl methacrylate	11.601	100	5443	9.24	ug/L #	84
83) 1,2-dichloropropane	11.633	63	20614	9.51	ug/L	96
84) propyl acetate	11.638	73	3723	9.27	ug/L	99
85) dibromomethane	11.800	93	12648	9.22	ug/L	97
86) bromodichloromethane	11.925	83	28049	9.26	ug/L	98
87) cis-1,3-dichloropropene	12.385	75	35525	9.42	ug/L	97
89) 4-methyl-2-pentanone	12.480	58	7392	9.26	ug/L #	92
90) toluene	12.762	92	52553	9.44	ug/L	100
91) 3-methyl-1-butanol	12.495	55	18810	182.71	ug/L	99
92) trans-1,3-dichloropropene	12.981	75	32593	9.31	ug/L	98
93) ethyl methacrylate	12.940	69	25646	9.26	ug/L	98
94) 1,1,2-trichloroethane	13.217	83	15755	9.41	ug/L	98
95) 2-hexanone	13.384	58	7150	9.12	ug/L	97
97) cyclohexanone	15.585	55	22122	111.86	ug/L	96
98) tetrachloroethene	13.384	164	22019	9.63	ug/L	95
99) 1,3-dichloropropane	13.415	76	30669	9.39	ug/L	99
100) butyl acetate	13.442	56	12651	9.40	ug/L	97
101) dibromochloromethane	13.703	129	24517	9.30	ug/L	97
102) 1,2-dibromoethane	13.875	107	20054	9.44	ug/L	98
103) 3,3-dimethyl-1-Butanol	13.567	57	20356	91.12	ug/L #	100
104) n-butyl ether	14.215	57	92697	9.54	ug/L	100
105) chlorobenzene	14.362	112	62663	9.57	ug/L	97
106) 1,1,1,2-tetrachloroethane	14.430	131	23468	9.43	ug/L	97
107) ethylbenzene	14.409	91	102517	9.57	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u194820.D
Acq On : 1 May 2015 1:54 pm
Operator : NicoleH1
Sample : ic8988-10
Misc : ms84282,vu8988,5.0,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 04 09:40:33 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 08:14:40 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
108) m,p-xylene	14.519	106	81073	18.96 ug/L	99
109) o-xylene	14.989	106	40759	9.59 ug/L	98
110) styrene	15.005	104	69312	9.53 ug/L	98
111) bromoform	15.324	173	18425	9.20 ug/L	98
113) isopropylbenzene	15.360	105	106135	9.57 ug/L	99
115) bromobenzene	15.831	156	30336	9.50 ug/L	96
116) 1,1,2,2-tetrachloroethane	15.721	83	24679	9.37 ug/L	99
117) trans-1,4-dichloro-2-b...	15.768	53	6596	8.93 ug/L	98
118) 1,2,3-trichloropropane	15.815	110	7172	9.72 ug/L	94
119) n-propylbenzene	15.815	91	119503	9.64 ug/L	99
120) 2-chlorotoluene	15.993	126	26797	9.56 ug/L	96
121) 4-chlorotoluene	16.103	91	75614	9.65 ug/L	98
123) 1,3,5-trimethylbenzene	15.977	105	89678	9.56 ug/L	99
124) tert-butylbenzene	16.369	119	79333	9.53 ug/L	99
125) pentachloroethane	16.484	167	17148	9.17 ug/L	98
126) 1,2,4-trimethylbenzene	16.422	105	88426	9.66 ug/L	99
128) sec-butylbenzene	16.610	105	114630	9.58 ug/L	98
129) 1,3-dichlorobenzene	16.840	146	56784	9.61 ug/L	99
130) p-isopropyltoluene	16.735	119	101162	9.63 ug/L	99
131) 1,4-dichlorobenzene	16.929	146	56138	9.47 ug/L	99
132) benzyl chloride	17.065	91	49489	9.29 ug/L	99
133) 1,2-dichlorobenzene	17.373	146	52870	9.53 ug/L	99
135) n-butylbenzene	17.195	92	46843	9.56 ug/L	99
137) 1,2-dibromo-3-chloropr...	18.236	157	5948	9.35 ug/L	96
138) 1,3,5-trichlorobenzene	18.419	180	46239	9.53 ug/L	100
139) 1,2,4-trichlorobenzene	19.156	180	39232	9.28 ug/L	99
140) hexachlorobutadiene	19.266	225	23139	9.53 ug/L	100
141) naphthalene	19.485	128	74309	9.22 ug/L	100
143) 1,2,3-trichlorobenzene	19.762	180	32749	9.21 ug/L	98
144) hexachloroethane	17.650	201	19274	9.27 ug/L	98

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

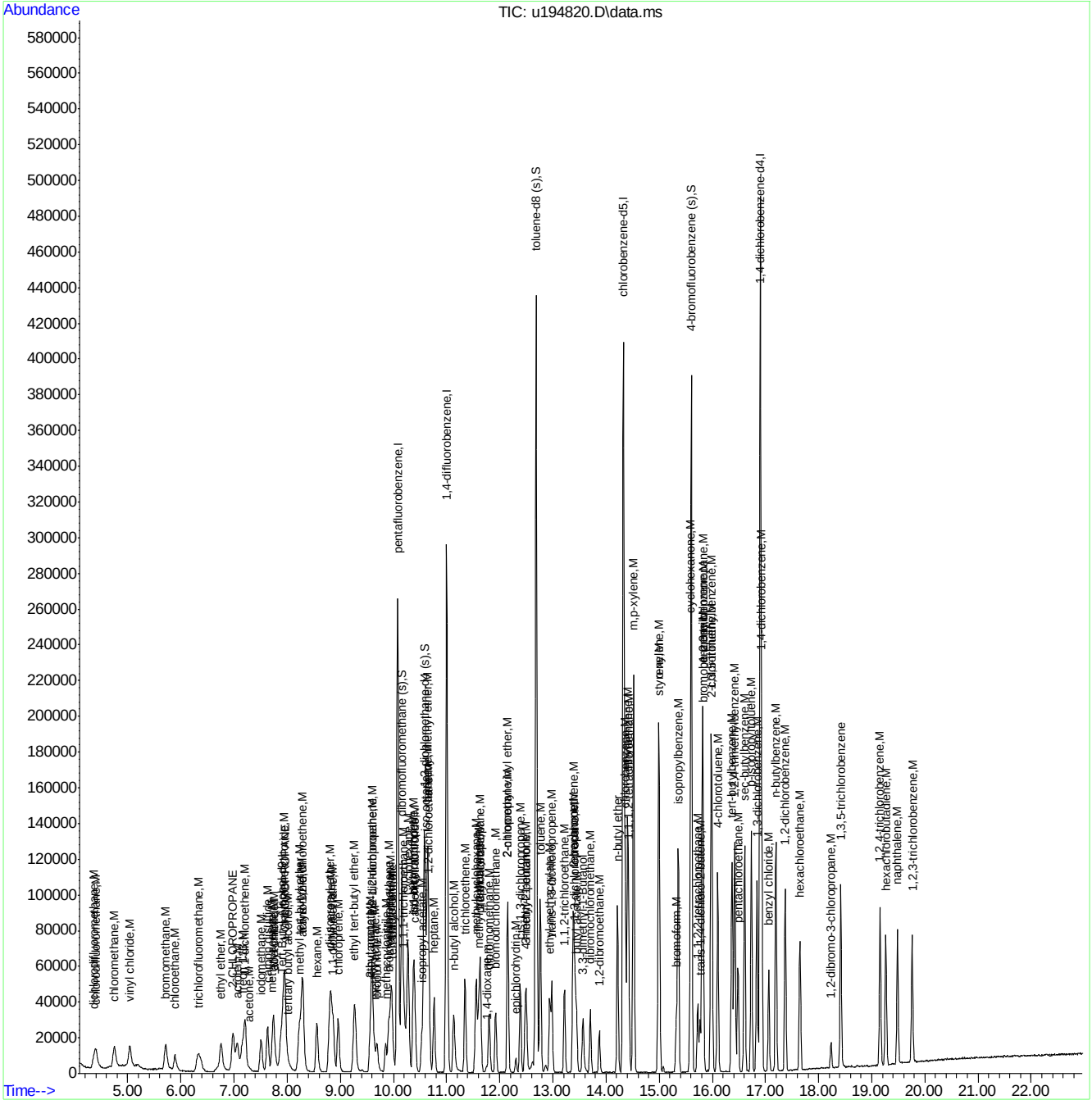
7.6.6

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u194820.D
Acq On : 1 May 2015 1:54 pm
Operator : NicoleH1
Sample : ic8988-10
Misc : ms84282,vu8988,5.0,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 04 09:40:33 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 08:14:40 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u194821.D
Acq On : 1 May 2015 2:23 pm
Operator : NicoleH1
Sample : ic8988-20
Misc : ms84282,vu8988,5.0,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 04 09:41:31 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 08:11:50 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.900	65	89953	500.00	ug/L	0.01
5) pentafluorobenzene	10.080	168	279631	50.00	ug/L	0.00
64) 1,4-difluorobenzene	11.000	114	321798	50.00	ug/L	0.00
96) chlorobenzene-d5	14.325	117	289219	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.902	152	161686	50.00	ug/L	0.00

System Monitoring Compounds						
56) dibromofluoromethane (s)	10.158	113	94807	49.57	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 99.14%			
57) 1,2-dichloroethane-d4 (s)	10.582	65	100485	49.76	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 99.52%			
88) toluene-d8 (s)	12.683	98	370765	50.00	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 100.00%			
114) 4-bromofluorobenzene (s)	15.606	95	143859	50.64	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 101.28%			

Target Compounds						Qvalue
2) tertiary butyl alcohol	8.010	59	22141	100.74	ug/L #	47
4) 1,4-dioxane	11.748	88	9793	502.87	ug/L	96
11) chlorodifluoromethane	4.397	51	39337	17.87	ug/L	98
12) dichlorodifluoromethane	4.371	85	43960	18.11	ug/L	99
15) chloromethane	4.747	50	50501	20.03	ug/L	100
16) vinyl chloride	5.040	62	46977	19.59	ug/L	100
18) bromomethane	5.714	94	34202	20.19	ug/L	97
19) chloroethane	5.887	64	24765	19.89	ug/L	98
20) trichlorofluoromethane	6.326	101	54445	18.70	ug/L	99
23) ethyl ether	6.750	74	22154	19.11	ug/L	92
24) 2-CHLOROPROPANE	6.974	43	68326	18.54	ug/L	97
27) acrolein	7.058	56	65710	196.79	ug/L	99
28) 1,1-dichloroethene	7.210	96	36870	18.80	ug/L	98
29) acetone	7.283	58	3203	18.91	ug/L	98
30) allyl chloride	7.738	76	21435	18.84	ug/L	93
31) acetonitrile	7.738	40	27399	174.43	ug/L	85
32) iodomethane	7.508	142	76561	18.75	ug/L	98
33) carbon disulfide	7.628	76	124223	18.70	ug/L	99
34) 1-CHLOROPROPANE	7.963	63	3480	19.88	ug/L	88
35) methylene chloride	7.942	84	42696	19.22	ug/L	98
36) methyl acetate	7.712	43	29471	20.03	ug/L	98
37) methyl tert butyl ether	8.229	73	120599	19.38	ug/L	100
38) trans-1,2-dichloroethene	8.297	96	41952	19.04	ug/L	97
39) di-isopropyl ether	8.804	45	128741	19.24	ug/L	96
40) ethyl tert-butyl ether	9.270	59	128676	19.11	ug/L	99
41) 2-butanone	9.562	72	4788	19.91	ug/L	97
42) 1,1-dichloroethane	8.867	63	73545	19.08	ug/L	99
43) chloroprene	8.961	53	58149	18.58	ug/L	98
44) acrylonitrile	8.276	53	65460	96.99	ug/L	99
45) vinyl acetate	8.830	86	7247	18.71	ug/L #	84
46) ethyl acetate	9.562	45	5364	19.09	ug/L	84
47) 2,2-dichloropropane	9.594	77	61169	18.95	ug/L	99
48) cis-1,2-dichloroethene	9.599	96	46351	19.06	ug/L	98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u194821.D
Acq On : 1 May 2015 2:23 pm
Operator : NicoleH1
Sample : ic8988-20
Misc : ms84282,vu8988,5.0,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 04 09:41:31 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 08:11:50 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
49) methyl acrylate	9.641	85	6145	18.64 ug/L #	87
50) propionitrile	9.688	54	52997	194.40 ug/L	98
51) bromochloromethane	9.913	128	23790	18.81 ug/L	99
52) tetrahydrofuran	9.944	42	13911	19.61 ug/L	97
53) chloroform	9.954	83	72855	19.10 ug/L	99
54) tert-butyl Formate	9.981	59	36838	18.93 ug/L	100
55) iso-butyl alcohol	10.388	43	18300	197.08 ug/L	96
58) freon 113	7.157	151	27934	16.75 ug/L	99
59) methacrylonitrile	9.855	41	23444	18.99 ug/L	100
60) 1,1,1-trichloroethane	10.205	97	63548	18.71 ug/L	98
62) tert-amyl methyl ether	10.650	87	29481	19.00 ug/L	99
63) iso-octane	10.603	57	118123	15.85 ug/L	98
66) epichlorohydrin	12.302	57	19829	97.90 ug/L	98
67) n-butyl alcohol	11.131	56	60915	970.82 ug/L	97
68) Cyclohexane	10.268	84	56026	17.71 ug/L	86
69) carbon tetrachloride	10.399	117	58260	18.67 ug/L	99
70) 1,1-dichloropropene	10.373	75	55365	18.71 ug/L	98
71) hexane	8.559	57	41774	16.59 ug/L	98
72) benzene	10.644	78	164566	19.22 ug/L	100
73) heptane	10.765	57	24331	16.00 ug/L	98
74) isopropyl acetate	10.535	43	74184	20.10 ug/L	97
75) 1,2-dichloroethane	10.671	62	54758	19.47 ug/L	98
78) trichloroethene	11.350	95	44928	19.27 ug/L	97
79) methylcyclohexane	11.559	83	62239	16.95 ug/L	98
80) 2-nitropropane	12.155	41	15376	19.23 ug/L	99
81) 2-chloroethyl vinyl ether	12.150	63	107351	90.81 ug/L	99
82) methyl methacrylate	11.601	100	11547	19.23 ug/L #	86
83) 1,2-dichloropropane	11.627	63	42517	19.26 ug/L	97
84) propyl acetate	11.633	73	7962	19.67 ug/L	97
85) dibromomethane	11.800	93	26890	19.21 ug/L	98
86) bromodichloromethane	11.920	83	58966	18.98 ug/L	98
87) cis-1,3-dichloropropene	12.391	75	73392	18.96 ug/L	97
89) 4-methyl-2-pentanone	12.480	58	15781	19.56 ug/L #	95
90) toluene	12.762	92	108304	18.93 ug/L	99
91) 3-methyl-1-butanol	12.495	55	40757	391.91 ug/L	100
92) trans-1,3-dichloropropene	12.976	75	68039	18.90 ug/L	99
93) ethyl methacrylate	12.940	69	54261	19.22 ug/L	99
94) 1,1,2-trichloroethane	13.217	83	32834	19.22 ug/L	99
95) 2-hexanone	13.379	58	15493	19.52 ug/L	92
97) cyclohexanone	15.585	55	38709	186.54 ug/L	98
98) tetrachloroethene	13.384	164	45062	18.90 ug/L	99
99) 1,3-dichloropropane	13.415	76	64870	19.20 ug/L	99
100) butyl acetate	13.441	56	26879	19.42 ug/L	98
101) dibromochloromethane	13.703	129	51588	18.65 ug/L	99
102) 1,2-dibromoethane	13.875	107	41960	19.00 ug/L	97
103) 3,3-dimethyl-1-Butanol	13.567	57	44616	194.00 ug/L	99
104) n-butyl ether	14.215	57	191204	18.86 ug/L	100
105) chlorobenzene	14.362	112	129377	19.00 ug/L	99
106) 1,1,1,2-tetrachloroethane	14.424	131	49307	19.10 ug/L	99
107) ethylbenzene	14.403	91	210962	18.88 ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u194821.D
Acq On : 1 May 2015 2:23 pm
Operator : NicoleH1
Sample : ic8988-20
Misc : ms84282,vu8988,5.0,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 04 09:41:31 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 08:11:50 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
108) m,p-xylene	14.518	106	169095	38.04 ug/L	99
109) o-xylene	14.989	106	84424	19.18 ug/L	97
110) styrene	14.999	104	144288	19.14 ug/L	99
111) bromoform	15.324	173	39414	18.83 ug/L	99
113) isopropylbenzene	15.360	105	218566	18.94 ug/L	100
115) bromobenzene	15.831	156	63263	19.11 ug/L	96
116) 1,1,2,2-tetrachloroethane	15.721	83	51932	18.95 ug/L	98
117) trans-1,4-dichloro-2-b...	15.768	53	14553	18.90 ug/L	97
118) 1,2,3-trichloropropane	15.815	110	14650	19.20 ug/L	98
119) n-propylbenzene	15.815	91	242953	18.70 ug/L	100
120) 2-chlorotoluene	15.993	126	55274	18.96 ug/L	98
121) 4-chlorotoluene	16.102	91	155040	19.09 ug/L	100
123) 1,3,5-trimethylbenzene	15.977	105	184904	18.93 ug/L	99
124) tert-butylbenzene	16.369	119	163298	18.74 ug/L	100
125) pentachloroethane	16.484	167	36507	18.58 ug/L	99
126) 1,2,4-trimethylbenzene	16.421	105	181258	19.09 ug/L	99
128) sec-butylbenzene	16.604	105	235150	18.82 ug/L	99
129) 1,3-dichlorobenzene	16.840	146	116530	18.96 ug/L	100
130) p-isopropyltoluene	16.735	119	206901	18.90 ug/L	99
131) 1,4-dichlorobenzene	16.934	146	116921	18.95 ug/L	99
132) benzyl chloride	17.059	91	105844	19.23 ug/L	100
133) 1,2-dichlorobenzene	17.373	146	109433	18.95 ug/L	100
135) n-butylbenzene	17.195	92	95458	18.51 ug/L	100
137) 1,2-dibromo-3-chloropr...	18.236	157	12615	19.14 ug/L	95
138) 1,3,5-trichlorobenzene	18.419	180	95218	18.76 ug/L	100
139) 1,2,4-trichlorobenzene	19.156	180	83024	18.79 ug/L	99
140) hexachlorobutadiene	19.265	225	47134	18.37 ug/L	98
141) naphthalene	19.485	128	159544	19.09 ug/L	100
143) 1,2,3-trichlorobenzene	19.762	180	69903	18.83 ug/L	98
144) hexachloroethane	17.650	201	40415	18.44 ug/L	99

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

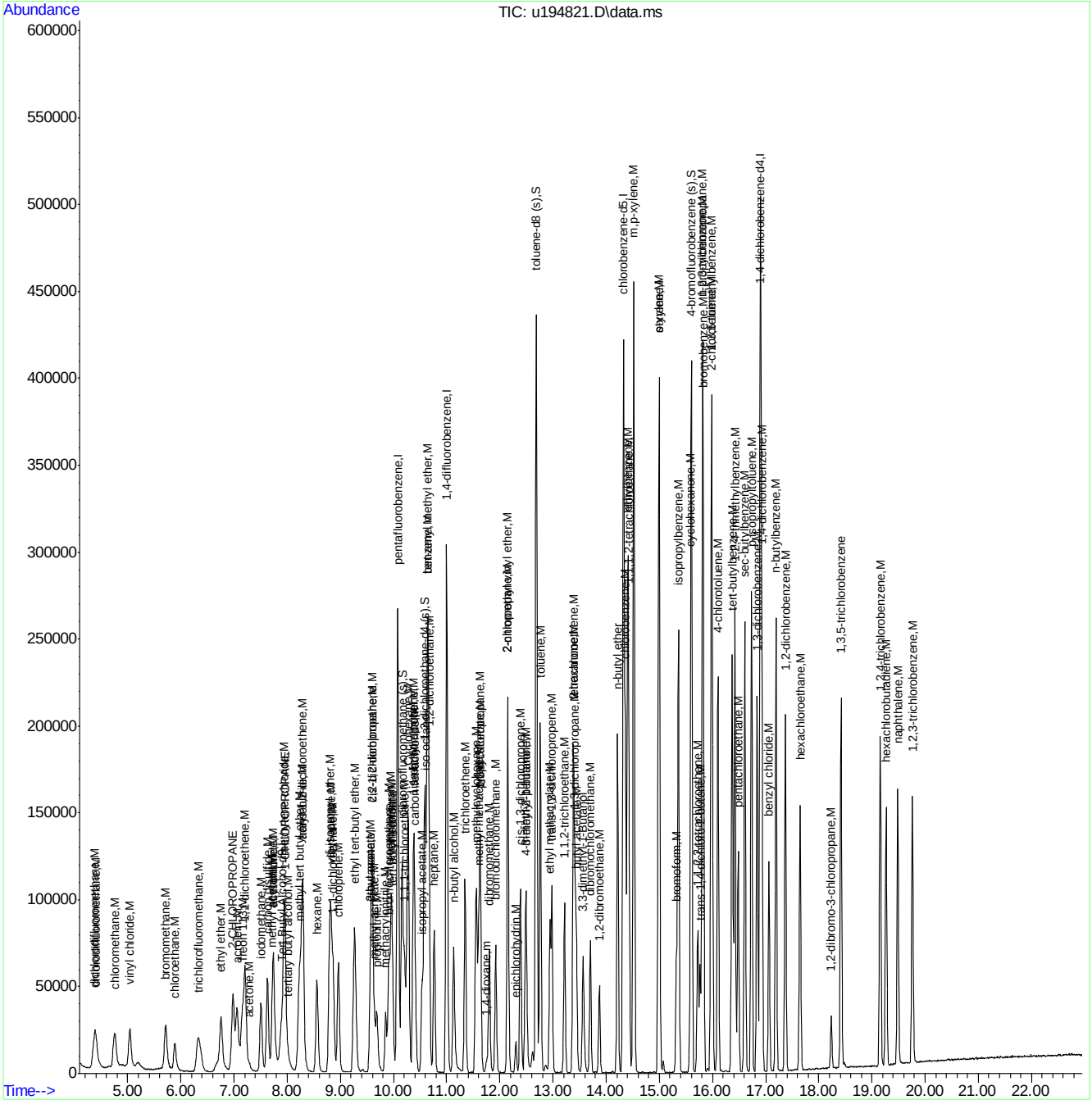
7.6.7

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u194821.D
Acq On : 1 May 2015 2:23 pm
Operator : NicoleH1
Sample : ic8988-20
Misc : ms84282,vu8988,5.0,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 04 09:41:31 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 08:11:50 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u194822.D
Acq On : 1 May 2015 2:52 pm
Operator : NicoleH1
Sample : icc8988-50
Misc : ms84282,vu8988,5.0,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: May 04 09:42:17 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 08:10:20 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.886	65	90064	500.00	ug/L	0.00
5) pentafluorobenzene	10.082	168	277114	50.00	ug/L	0.00
64) 1,4-difluorobenzene	11.002	114	323276	50.00	ug/L	0.00
96) chlorobenzene-d5	14.327	117	290420	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.899	152	161497	50.00	ug/L	0.00

System Monitoring Compounds						
56) dibromofluoromethane (s)	10.161	113	94762	50.00	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 100.00%			
57) 1,2-dichloroethane-d4 (s)	10.579	65	100054	50.00	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 100.00%			
88) toluene-d8 (s)	12.686	98	372500	50.00	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 100.00%			
114) 4-bromofluorobenzene (s)	15.603	95	141867	50.00	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 100.00%			

Target Compounds						Qvalue
2) tertiary butyl alcohol	8.001	59	55012	250.00	ug/L	100
4) 1,4-dioxane	11.745	88	24373	1250.00	ug/L	95
11) chlorodifluoromethane	4.394	51	109064	50.00	ug/L	100
12) dichlorodifluoromethane	4.368	85	120245	50.00	ug/L	100
15) chloromethane	4.770	50	124951	50.00	ug/L	100
16) vinyl chloride	5.048	62	118833	50.00	ug/L	100
18) bromomethane	5.711	94	83926	50.00	ug/L	100
19) chloroethane	5.879	64	61695	50.00	ug/L	100
20) trichlorofluoromethane	6.318	101	144251	49.96	ug/L	100
23) ethyl ether	6.757	74	57457	50.00	ug/L	99
24) 2-CHLOROPROPANE	6.977	43	182582	50.00	ug/L	99
27) acrolein	7.055	56	165448	500.00	ug/L	100
28) 1,1-dichloroethene	7.207	96	97154	50.00	ug/L	100
29) acetone	7.280	58	8394	50.00	ug/L	99
30) allyl chloride	7.735	76	56360	50.00	ug/L	100
31) acetonitrile	7.735	40	77832	502.19	ug/L	100
32) iodomethane	7.505	142	202278	50.00	ug/L	100
33) carbon disulfide	7.625	76	329185	50.00	ug/L	100
34) 1-CHLOROPROPANE	7.960	63	8673	50.00	ug/L	100
35) methylene chloride	7.939	84	110069	50.00	ug/L	100
36) methyl acetate	7.714	43	72894	50.00	ug/L	100
37) methyl tert butyl ether	8.237	73	308303	50.00	ug/L	100
38) trans-1,2-dichloroethene	8.294	96	109156	50.00	ug/L	100
39) di-isopropyl ether	8.806	45	331621	50.00	ug/L	100
40) ethyl tert-butyl ether	9.267	59	333707	50.00	ug/L	100
41) 2-butanone	9.554	72	11915	50.00	ug/L	100
42) 1,1-dichloroethane	8.864	63	191039	50.00	ug/L	100
43) chloroprene	8.958	53	155115	50.00	ug/L	100
44) acrylonitrile	8.273	53	167208	250.00	ug/L	100
45) vinyl acetate	8.827	86	19192	50.00	ug/L	97
46) ethyl acetate	9.554	45	13923	50.00	ug/L	100
47) 2,2-dichloropropane	9.596	77	159902	50.00	ug/L	100
48) cis-1,2-dichloroethene	9.596	96	120499	50.04	ug/L	100

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u194822.D
Acq On : 1 May 2015 2:52 pm
Operator : NicoleH1
Sample : icc8988-50
Misc : ms84282,vu8988,5.0,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: May 04 09:42:17 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 08:10:20 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
49) methyl acrylate	9.643	85	16334	50.00 ug/L	100
50) propionitrile	9.685	54	135081	500.00 ug/L	100
51) bromochloromethane	9.910	128	62668	50.00 ug/L	100
52) tetrahydrofuran	9.936	42	35149	50.00 ug/L	98
53) chloroform	9.957	83	188987	50.00 ug/L	100
54) tert-butyl Formate	9.978	59	96436	50.00 ug/L	100
55) iso-butyl alcohol	10.380	43	46011	500.00 ug/L	100
58) freon 113	7.160	151	82635	50.00 ug/L	99
59) methacrylonitrile	9.852	41	61168	50.00 ug/L	100
60) 1,1,1-trichloroethane	10.202	97	168325	50.00 ug/L	100
62) tert-amyl methyl ether	10.647	87	76885	50.00 ug/L	100
63) iso-octane	10.605	57	369205	50.00 ug/L	99
66) epichlorohydrin	12.299	57	50869	250.00 ug/L	100
67) n-butyl alcohol	11.122	56	157585	2500.00 ug/L	100
68) Cyclohexane	10.265	84	158896	50.00 ug/L	100
69) carbon tetrachloride	10.401	117	156730	50.00 ug/L	100
70) 1,1-dichloropropene	10.375	75	148631	50.00 ug/L	100
71) hexane	8.556	57	126449	50.00 ug/L	100
72) benzene	10.641	78	430084	50.00 ug/L	100
73) heptane	10.762	57	76402	50.00 ug/L	100
74) isopropyl acetate	10.537	43	185427	50.00 ug/L	100
75) 1,2-dichloroethane	10.673	62	141265	50.00 ug/L	100
78) trichloroethene	11.347	95	117135	50.00 ug/L	100
79) methylcyclohexane	11.556	83	184415	50.00 ug/L	100
80) 2-nitropropane	12.158	41	40166	50.00 ug/L	100
81) 2-chloroethyl vinyl ether	12.147	63	296888	250.00 ug/L	100
82) methyl methacrylate	11.603	100	30161	50.00 ug/L	100
83) 1,2-dichloropropane	11.630	63	110882	50.00 ug/L	100
84) propyl acetate	11.635	73	20329	50.00 ug/L	100
85) dibromomethane	11.802	93	70321	50.00 ug/L	100
86) bromodichloromethane	11.922	83	156029	50.00 ug/L	100
87) cis-1,3-dichloropropene	12.388	75	194427	50.00 ug/L	100
89) 4-methyl-2-pentanone	12.482	58	40527	50.00 ug/L	100
90) toluene	12.764	92	287357	50.00 ug/L	100
91) 3-methyl-1-butanol	12.492	55	104473	1000.00 ug/L	100
92) trans-1,3-dichloropropene	12.978	75	180824	50.00 ug/L	100
93) ethyl methacrylate	12.942	69	141821	50.00 ug/L	100
94) 1,1,2-trichloroethane	13.214	83	85808	50.00 ug/L	100
95) 2-hexanone	13.381	58	39867	50.00 ug/L	100
97) cyclohexanone	15.587	55	104188	500.00 ug/L	100
98) tetrachloroethene	13.386	164	119704	50.00 ug/L	100
99) 1,3-dichloropropane	13.412	76	169642	50.00 ug/L	100
100) butyl acetate	13.438	56	69484	50.00 ug/L	100
101) dibromochloromethane	13.705	129	138845	50.00 ug/L	100
102) 1,2-dibromoethane	13.872	107	110861	50.00 ug/L	100
103) 3,3-dimethyl-1-Butanol	13.564	57	115469	500.00 ug/L	100
104) n-butyl ether	14.217	57	509024	50.00 ug/L	100
105) chlorobenzene	14.364	112	341866	50.00 ug/L	100
106) 1,1,1,2-tetrachloroethane	14.427	131	129600	50.00 ug/L	100
107) ethylbenzene	14.406	91	560920	50.00 ug/L	100

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u194822.D
Acq On : 1 May 2015 2:52 pm
Operator : NicoleH1
Sample : icc8988-50
Misc : ms84282,vu8988,5.0,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: May 04 09:42:17 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 08:10:20 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
108) m,p-xylene	14.521	106	446359	100.00	ug/L	100
109) o-xylene	14.986	106	221011	50.00	ug/L	100
110) styrene	15.002	104	378520	50.00	ug/L	100
111) bromoform	15.321	173	105071	50.00	ug/L	100
113) isopropylbenzene	15.357	105	576383	50.00	ug/L	100
115) bromobenzene	15.828	156	165326	50.00	ug/L	100
116) 1,1,2,2-tetrachloroethane	15.723	83	136853	50.00	ug/L	100
117) trans-1,4-dichloro-2-b...	15.765	53	38449	50.00	ug/L	100
118) 1,2,3-trichloropropane	15.812	110	38099	50.00	ug/L	100
119) n-propylbenzene	15.817	91	648739	50.00	ug/L	100
120) 2-chlorotoluene	15.995	126	145624	50.07	ug/L	99
121) 4-chlorotoluene	16.105	91	405693	50.00	ug/L	100
123) 1,3,5-trimethylbenzene	15.974	105	487778	50.00	ug/L	100
124) tert-butylbenzene	16.371	119	435185	50.00	ug/L	100
125) pentachloroethane	16.486	167	98145	50.00	ug/L	100
126) 1,2,4-trimethylbenzene	16.424	105	474214	50.00	ug/L	100
128) sec-butylbenzene	16.607	105	623840	50.00	ug/L	100
129) 1,3-dichlorobenzene	16.842	146	306866	50.00	ug/L	100
130) p-isopropyltoluene	16.737	119	546767	50.00	ug/L	100
131) 1,4-dichlorobenzene	16.931	146	308113	50.00	ug/L	100
132) benzyl chloride	17.061	91	274949	50.00	ug/L	100
133) 1,2-dichlorobenzene	17.375	146	288372	50.00	ug/L	100
135) n-butylbenzene	17.197	92	257525	50.00	ug/L	100
137) 1,2-dibromo-3-chloropr...	18.238	157	32919	50.00	ug/L	100
138) 1,3,5-trichlorobenzene	18.416	180	253436	50.00	ug/L	100
139) 1,2,4-trichlorobenzene	19.158	180	220681	50.00	ug/L	100
140) hexachlorobutadiene	19.268	225	128171	50.00	ug/L	100
141) naphthalene	19.487	128	417284	50.00	ug/L	100
143) 1,2,3-trichlorobenzene	19.759	180	185406	50.00	ug/L	100
144) hexachloroethane	17.652	201	109441	50.00	ug/L	100

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

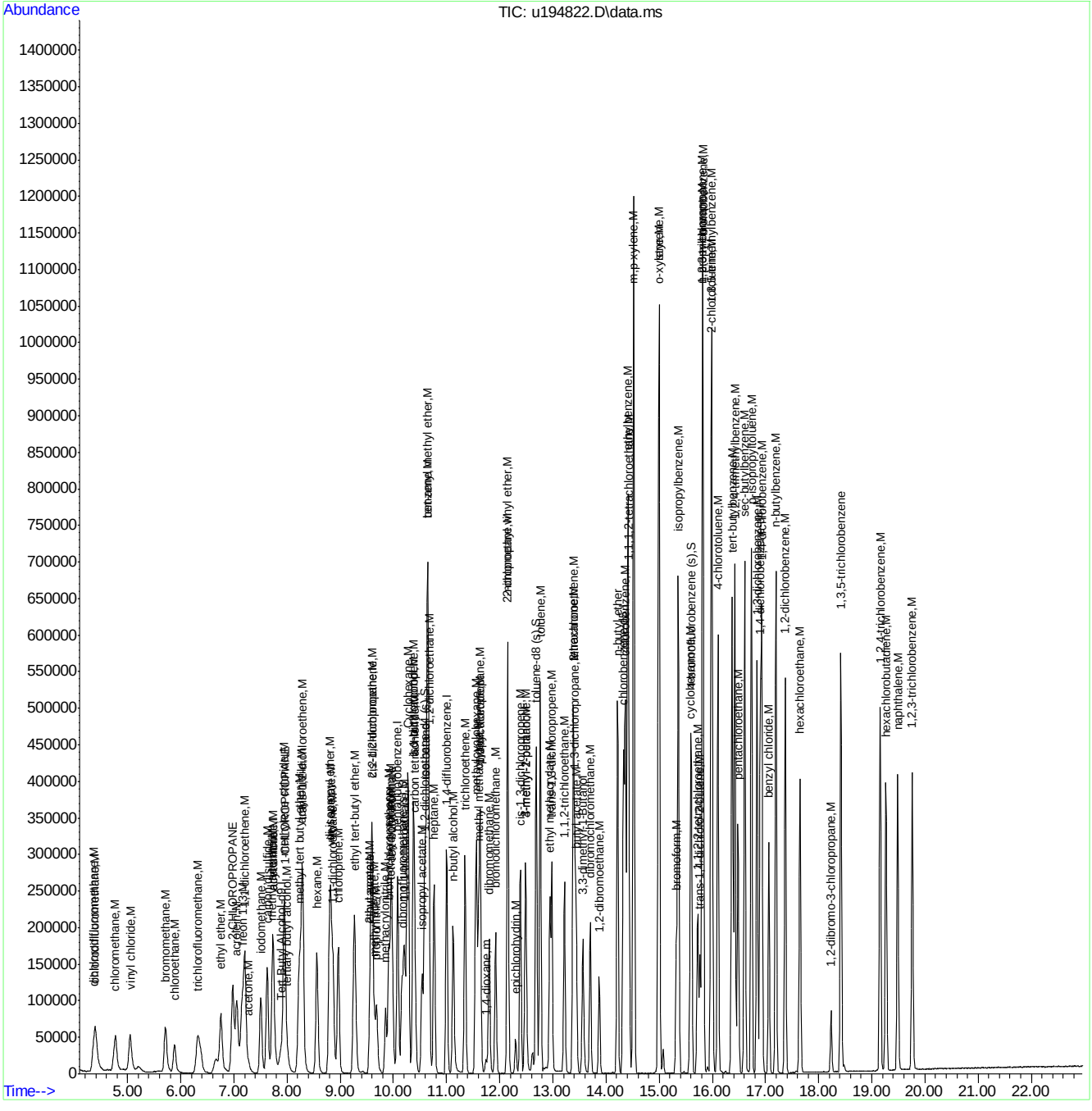
7.6.8

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u194822.D
Acq On : 1 May 2015 2:52 pm
Operator : NicoleH1
Sample : icc8988-50
Misc : ms84282,vu8988,5.0,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: May 04 09:42:17 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 08:10:20 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u194823.D
Acq On : 1 May 2015 3:22 pm
Operator : NicoleH1
Sample : ic8988-100
Misc : ms84282,vu8988,5.0,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 04 09:43:07 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 08:52:13 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.884	65	91814	500.00	ug/L	0.00
5) pentafluorobenzene	10.080	168	275725	50.00	ug/L	0.00
64) 1,4-difluorobenzene	11.000	114	320252	50.00	ug/L	0.00
96) chlorobenzene-d5	14.325	117	288781	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.902	152	160205	50.00	ug/L	0.00

System Monitoring Compounds						
56) dibromofluoromethane (s)	10.158	113	94299	50.41	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 100.82%			
57) 1,2-dichloroethane-d4 (s)	10.582	65	101205	51.39	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 102.78%			
88) toluene-d8 (s)	12.683	98	368612	50.43	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 100.86%			
114) 4-bromofluorobenzene (s)	15.606	95	140920	49.63	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 99.26%			

Target Compounds						Qvalue
2) tertiary butyl alcohol	7.994	59	109321	538.01	ug/L	79
4) 1,4-dioxane	11.737	88	53158	3004.84	ug/L	94
11) chlorodifluoromethane	4.392	51	213535	118.18	ug/L	98
12) dichlorodifluoromethane	4.360	85	259517	148.28	ug/L	100
15) chloromethane	4.784	50	265630	114.55	ug/L	100
16) vinyl chloride	5.056	62	252954	119.86	ug/L	99
18) bromomethane	5.709	94	178129	111.13	ug/L	99
19) chloroethane	5.877	64	131703	123.53	ug/L	99
20) trichlorofluoromethane	6.316	101	310408	150.00	ug/L	98
23) ethyl ether	6.755	74	112881	119.83	ug/L	97
24) 2-CHLOROPROPANE	6.974	43	354177	104.24	ug/L	100
28) 1,1-dichloroethene	7.204	96	191884	114.86	ug/L	97
29) acetone	7.262	58	16770	108.09	ug/L	96
30) allyl chloride	7.738	76	110651	117.20	ug/L	96
31) acetonitrile	7.732	40	156125	1323.64	ug/L #	86
32) iodomethane	7.502	142	392858	120.43	ug/L	99
33) carbon disulfide	7.623	76	645656	120.55	ug/L	99
34) 1-CHLOROPROPANE	7.963	63	17485	112.27	ug/L	96
35) methylene chloride	7.936	84	212665	87.10	ug/L	98
36) methyl acetate	7.712	43	141607	98.66	ug/L	99
37) methyl tert butyl ether	8.229	73	597409	113.64	ug/L	100
38) trans-1,2-dichloroethene	8.297	96	211664	112.36	ug/L	99
39) di-isopropyl ether	8.804	45	643079	125.86	ug/L	95
40) ethyl tert-butyl ether	9.270	59	649282	116.24	ug/L	99
41) 2-butanone	9.557	72	23641	111.96	ug/L	96
42) 1,1-dichloroethane	8.867	63	366106	125.11	ug/L	100
43) chloroprene	8.961	53	303671	117.19	ug/L	98
44) acrylonitrile	8.271	53	325708	573.67	ug/L	99
45) vinyl acetate	8.830	86	37654	113.61	ug/L #	90
46) ethyl acetate	9.557	45	26545	114.38	ug/L	90
47) 2,2-dichloropropane	9.594	77	309884	119.37	ug/L	99
48) cis-1,2-dichloroethene	9.594	96	232853	112.20	ug/L	99
49) methyl acrylate	9.646	85	31981	111.12	ug/L	92

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u194823.D
Acq On : 1 May 2015 3:22 pm
Operator : NicoleH1
Sample : ic8988-100
Misc : ms84282,vu8988,5.0,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 04 09:43:07 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 08:52:13 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
50) propionitrile	9.683	54	260260	1137.94 ug/L	99
51) bromochloromethane	9.913	128	122117	117.87 ug/L	97
52) tetrahydrofuran	9.939	42	66348	99.55 ug/L	99
53) chloroform	9.960	83	367470	110.68 ug/L	100
54) tert-butyl Formate	9.981	59	191999	122.19 ug/L	99
55) iso-butyl alcohol	10.378	43	90308	953.50 ug/L	98
58) freon 113	7.152	151	166406	124.48 ug/L	99
59) methacrylonitrile	9.850	41	116835	102.94 ug/L	99
60) 1,1,1-trichloroethane	10.200	97	332909	120.22 ug/L	98
62) tert-amyl methyl ether	10.645	87	148344	108.62 ug/L	96
63) iso-octane	10.603	57	750636	133.77 ug/L	99
66) epichlorohydrin	12.302	57	99565	553.89 ug/L	98
67) n-butyl alcohol	11.120	56	301076	5838.08 ug/L	100
68) Cyclohexane	10.263	84	324724	131.14 ug/L	88
69) carbon tetrachloride	10.399	117	312103	123.78 ug/L	99
70) 1,1-dichloropropene	10.373	75	294929	122.44 ug/L	99
71) hexane	8.559	57	254909	126.14 ug/L	100
72) benzene	10.645	78	832651	101.60 ug/L	100
73) heptane	10.765	57	154616	123.34 ug/L	99
74) isopropyl acetate	10.535	43	360918	104.53 ug/L	100
75) 1,2-dichloroethane	10.671	62	273608	117.46 ug/L	100
78) trichloroethene	11.345	95	229835	118.54 ug/L	98
79) methylcyclohexane	11.554	83	369119	127.62 ug/L	99
80) 2-nitropropane	12.155	41	79751	109.38 ug/L #	80
81) 2-chloroethyl vinyl ether	12.150	63	609166	674.56 ug/L	99
82) methyl methacrylate	11.601	100	59125	115.14 ug/L #	78
83) 1,2-dichloropropane	11.627	63	214471	117.27 ug/L	99
84) propyl acetate	11.638	73	39262	103.47 ug/L	99
85) dibromomethane	11.800	93	137420	115.16 ug/L	100
86) bromodichloromethane	11.920	83	303575	118.63 ug/L	97
87) cis-1,3-dichloropropene	12.391	75	379095	121.93 ug/L	100
89) 4-methyl-2-pentanone	12.480	58	77702	110.56 ug/L	97
90) toluene	12.762	92	563106	117.47 ug/L	99
91) 3-methyl-1-butanol	12.490	55	195156	2104.46 ug/L	99
92) trans-1,3-dichloropropene	12.981	75	347117	122.27 ug/L	98
93) ethyl methacrylate	12.940	69	274725	116.25 ug/L	98
94) 1,1,2-trichloroethane	13.217	83	167400	118.60 ug/L	97
95) 2-hexanone	13.379	58	76708	111.33 ug/L	96
97) cyclohexanone	15.585	55	236123	930.49 ug/L	97
98) tetrachloroethene	13.384	164	233211	115.90 ug/L	99
99) 1,3-dichloropropane	13.415	76	327600	117.34 ug/L	100
100) butyl acetate	13.441	56	132462	110.10 ug/L	97
101) dibromochloromethane	13.703	129	270263	122.79 ug/L	99
102) 1,2-dibromoethane	13.875	107	215647	117.13 ug/L	100
103) 3,3-dimethyl-1-Butanol	13.562	57	208469	1074.72 ug/L	99
104) n-butyl ether	14.215	57	985562	117.21 ug/L	100
105) chlorobenzene	14.362	112	666189	117.50 ug/L	99
106) 1,1,1,2-tetrachloroethane	14.424	131	251892	129.45 ug/L	99
107) ethylbenzene	14.409	91	1095106	115.37 ug/L	100
108) m,p-xylene	14.524	106	870123	234.15 ug/L	100

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u194823.D
Acq On : 1 May 2015 3:22 pm
Operator : NicoleH1
Sample : ic8988-100
Misc : ms84282,vu8988,5.0,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 04 09:43:07 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 08:52:13 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
109) o-xylene	14.989	106	427635	117.01 ug/L	98
110) styrene	15.005	104	734421	117.18 ug/L	99
111) bromoform	15.324	173	205820	124.30 ug/L	99
113) isopropylbenzene	15.360	105	1129555	119.07 ug/L	100
115) bromobenzene	15.831	156	317642	116.54 ug/L	98
116) 1,1,2,2-tetrachloroethane	15.726	83	267696	118.31 ug/L	99
117) trans-1,4-dichloro-2-b...	15.768	53	75468	116.34 ug/L	98
118) 1,2,3-trichloropropane	15.815	110	73156	110.45 ug/L	97
119) n-propylbenzene	15.815	91	1252053	116.17 ug/L	99
120) 2-chlorotoluene	15.993	126	280644	114.06 ug/L	97
121) 4-chlorotoluene	16.103	91	788704	114.52 ug/L	99
123) 1,3,5-trimethylbenzene	15.977	105	948124	116.61 ug/L	98
124) tert-butylbenzene	16.369	119	843793	117.03 ug/L	98
125) pentachloroethane	16.484	167	195184	128.16 ug/L	99
126) 1,2,4-trimethylbenzene	16.421	105	922578	115.68 ug/L	98
128) sec-butylbenzene	16.610	105	1235188	120.02 ug/L	100
129) 1,3-dichlorobenzene	16.840	146	597589	117.75 ug/L	99
130) p-isopropyltoluene	16.735	119	1073087	118.25 ug/L	99
131) 1,4-dichlorobenzene	16.934	146	598129	116.24 ug/L	99
132) benzyl chloride	17.059	91	530347	108.50 ug/L	100
133) 1,2-dichlorobenzene	17.373	146	557552	119.77 ug/L	98
135) n-butylbenzene	17.195	92	508753	122.68 ug/L	99
137) 1,2-dibromo-3-chloropr...	18.236	157	64391	114.27 ug/L	96
138) 1,3,5-trichlorobenzene	18.419	180	501397	123.05 ug/L	100
139) 1,2,4-trichlorobenzene	19.156	180	434159	126.09 ug/L	99
140) hexachlorobutadiene	19.265	225	255369	123.15 ug/L	100
141) naphthalene	19.485	128	806748	121.04 ug/L	99
143) 1,2,3-trichlorobenzene	19.762	180	356724	121.60 ug/L	99
144) hexachloroethane	17.650	201	216784	127.84 ug/L	99

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

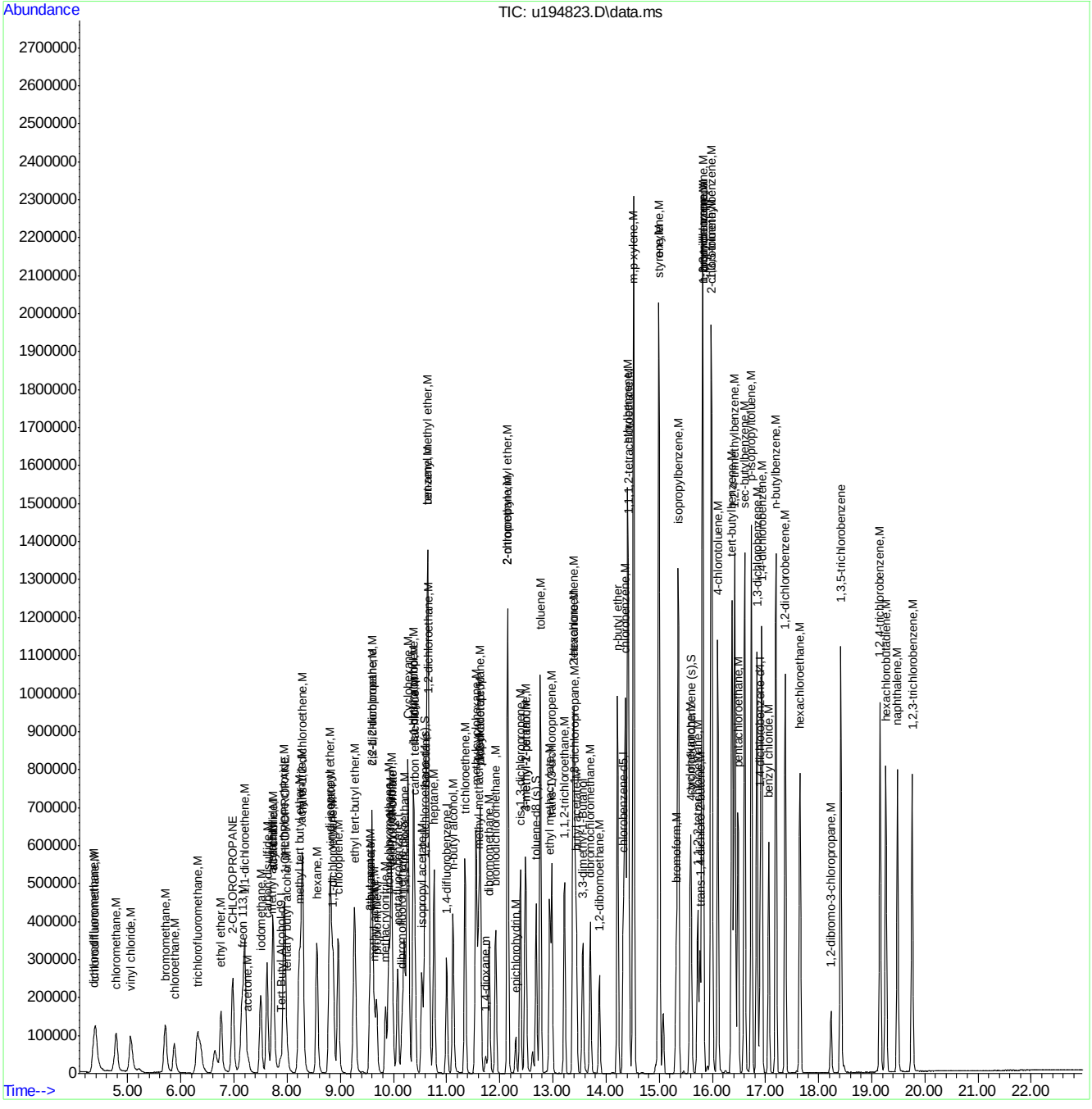
7.6.9

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u194823.D
Acq On : 1 May 2015 3:22 pm
Operator : NicoleH1
Sample : ic8988-100
Misc : ms84282,vu8988,5.0,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 04 09:43:07 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 08:52:13 2015
Response via : Initial Calibration



MU8988.M Mon May 04 14:45:04 2015 U_CORE

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u194824.D
Acq On : 1 May 2015 3:51 pm
Operator : NicoleH1
Sample : ic8988-200
Misc : ms84282,vu8988,5.0,,,,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: May 04 09:43:54 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 08:54:26 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.884	65	85364	500.00	ug/L	0.00
5) pentafluorobenzene	10.080	168	274892	50.00	ug/L	0.00
64) 1,4-difluorobenzene	11.000	114	321646	50.00	ug/L	0.00
96) chlorobenzene-d5	14.330	117	288948	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.902	152	158815	50.00	ug/L	0.00

System Monitoring Compounds						
56) dibromofluoromethane (s)	10.158	113	94469	50.60	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 101.20%			
57) 1,2-dichloroethane-d4 (s)	10.582	65	102595	52.09	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 104.18%			
88) toluene-d8 (s)	12.689	98	371430	50.55	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 101.10%			
114) 4-bromofluorobenzene (s)	15.606	95	140750	50.04	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 100.08%			

Target Compounds						Qvalue
2) tertiary butyl alcohol	7.999	59	191173	999.27	ug/L	96
4) 1,4-dioxane	11.737	88	86948	5081.03	ug/L	94
11) chlorodifluoromethane	4.392	51	417880	226.10	ug/L	99
12) dichlorodifluoromethane	4.360	85	482347	258.60	ug/L	100
15) chloromethane	4.789	50	499732	212.29	ug/L	100
16) vinyl chloride	5.061	62	477581	220.72	ug/L	100
18) bromomethane	5.699	94	313325	193.00	ug/L	98
19) chloroethane	5.871	64	244671	222.70	ug/L	99
20) trichlorofluoromethane	6.316	101	579360	264.30	ug/L	97
23) ethyl ether	6.755	74	221181	229.01	ug/L	97
24) 2-CHLOROPROPANE	6.974	43	689025	202.18	ug/L	99
28) 1,1-dichloroethene	7.204	96	373626	220.24	ug/L	98
29) acetone	7.267	58	30069	190.55	ug/L	91
30) allyl chloride	7.738	76	214710	222.64	ug/L	99
31) acetonitrile	7.732	40	292697	2379.03	ug/L	94
32) iodomethane	7.502	142	774648	232.25	ug/L	100
33) carbon disulfide	7.623	76	1269221	232.39	ug/L	100
34) 1-CHLOROPROPANE	7.962	63	34145	214.63	ug/L	92
35) methylene chloride	7.936	84	416842	174.45	ug/L	99
36) methyl acetate	7.712	43	270131	189.19	ug/L	99
37) methyl tert butyl ether	8.234	73	1175879	220.60	ug/L	100
38) trans-1,2-dichloroethene	8.297	96	415190	217.71	ug/L	100
39) di-isopropyl ether	8.804	45	1260572	240.55	ug/L	95
40) ethyl tert-butyl ether	9.269	59	1276063	225.07	ug/L	99
41) 2-butanone	9.557	72	44504	206.47	ug/L	96
42) 1,1-dichloroethane	8.867	63	728287	242.86	ug/L	99
43) chloroprene	8.961	53	592658	224.59	ug/L	97
44) acrylonitrile	8.276	53	626252	1083.55	ug/L	98
45) vinyl acetate	8.836	86	72467	213.50	ug/L #	75
46) ethyl acetate	9.557	45	50415	212.80	ug/L	98
47) 2,2-dichloropropane	9.594	77	599107	226.61	ug/L	99
48) cis-1,2-dichloroethene	9.599	96	459771	218.88	ug/L	99
49) methyl acrylate	9.641	85	61929	211.14	ug/L	93

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u194824.D
Acq On : 1 May 2015 3:51 pm
Operator : NicoleH1
Sample : ic8988-200
Misc : ms84282,vu8988,5.0,,,,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: May 04 09:43:54 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 08:54:26 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
50) propionitrile	9.682	54	492921	2119.96	ug/L		100
51) bromochloromethane	9.912	128	239619	226.22	ug/L		99
52) tetrahydrofuran	9.939	42	128535	193.58	ug/L		99
53) chloroform	9.960	83	720219	215.04	ug/L		100
54) tert-butyl Formate	9.980	59	375847	232.54	ug/L		99
55) iso-butyl alcohol	10.378	43	158636	1691.23	ug/L		97
58) freon 113	7.157	151	309984	223.47	ug/L		99
59) methacrylonitrile	9.850	41	227521	200.23	ug/L		98
60) 1,1,1-trichloroethane	10.200	97	654609	231.26	ug/L		100
62) tert-amyl methyl ether	10.650	87	289302	209.46	ug/L		94
63) iso-octane	10.608	57	1354736	233.39	ug/L		100
66) epichlorohydrin	12.302	57	187077	1017.93	ug/L		99
67) n-butyl alcohol	11.125	56	506515	9578.44	ug/L		100
68) Cyclohexane	10.263	84	606187	234.61	ug/L		92
69) carbon tetrachloride	10.399	117	604882	231.96	ug/L		99
70) 1,1-dichloropropene	10.373	75	568510	228.58	ug/L		99
71) hexane	8.558	57	458635	218.82	ug/L		99
72) benzene	10.644	78	1628859	197.54	ug/L		99
73) heptane	10.765	57	275278	210.46	ug/L		99
74) isopropyl acetate	10.535	43	722977	207.30	ug/L		100
75) 1,2-dichloroethane	10.671	62	531024	222.14	ug/L		100
78) trichloroethene	11.345	95	453672	227.70	ug/L		99
79) methylcyclohexane	11.554	83	688043	228.95	ug/L		100
80) 2-nitropropane	12.155	41	149997	202.46	ug/L	#	72
81) 2-chloroethyl vinyl ether	12.150	63	1201833	1269.68	ug/L		99
82) methyl methacrylate	11.601	100	114296	216.16	ug/L	#	78
83) 1,2-dichloropropane	11.627	63	422257	225.03	ug/L		99
84) propyl acetate	11.638	73	73985	193.01	ug/L		100
85) dibromomethane	11.800	93	270465	220.89	ug/L		97
86) bromodichloromethane	11.925	83	601813	228.82	ug/L		98
87) cis-1,3-dichloropropene	12.391	75	748704	234.06	ug/L		100
89) 4-methyl-2-pentanone	12.479	58	148841	207.22	ug/L	#	91
90) toluene	12.762	92	1108282	225.82	ug/L		100
91) 3-methyl-1-butanol	12.490	55	332078	3539.03	ug/L		99
92) trans-1,3-dichloropropene	12.981	75	682446	233.57	ug/L		98
93) ethyl methacrylate	12.945	69	537988	222.14	ug/L		97
94) 1,1,2-trichloroethane	13.217	83	328014	226.13	ug/L		98
95) 2-hexanone	13.379	58	144516	204.96	ug/L		95
97) cyclohexanone	15.585	55	318662	1264.79	ug/L		97
98) tetrachloroethene	13.384	164	453292	220.75	ug/L		99
99) 1,3-dichloropropane	13.415	76	640950	224.58	ug/L		99
100) butyl acetate	13.441	56	252886	207.45	ug/L		100
101) dibromochloromethane	13.703	129	536042	236.66	ug/L		99
102) 1,2-dibromoethane	13.875	107	426637	226.74	ug/L		99
103) 3,3-dimethyl-1-Butanol	13.562	57	350490	1789.12	ug/L		99
104) n-butyl ether	14.220	57	1947936	227.19	ug/L		100
105) chlorobenzene	14.362	112	1307696	226.11	ug/L		99
106) 1,1,1,2-tetrachloroethane	14.430	131	490498	243.94	ug/L		100
107) ethylbenzene	14.409	91	2135475	221.06	ug/L		99
108) m,p-xylene	14.524	106	1665435	439.57	ug/L		98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u194824.D
Acq On : 1 May 2015 3:51 pm
Operator : NicoleH1
Sample : ic8988-200
Misc : ms84282,vu8988,5.0,,,,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: May 04 09:43:54 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 08:54:26 2015
Response via : Initial Calibration

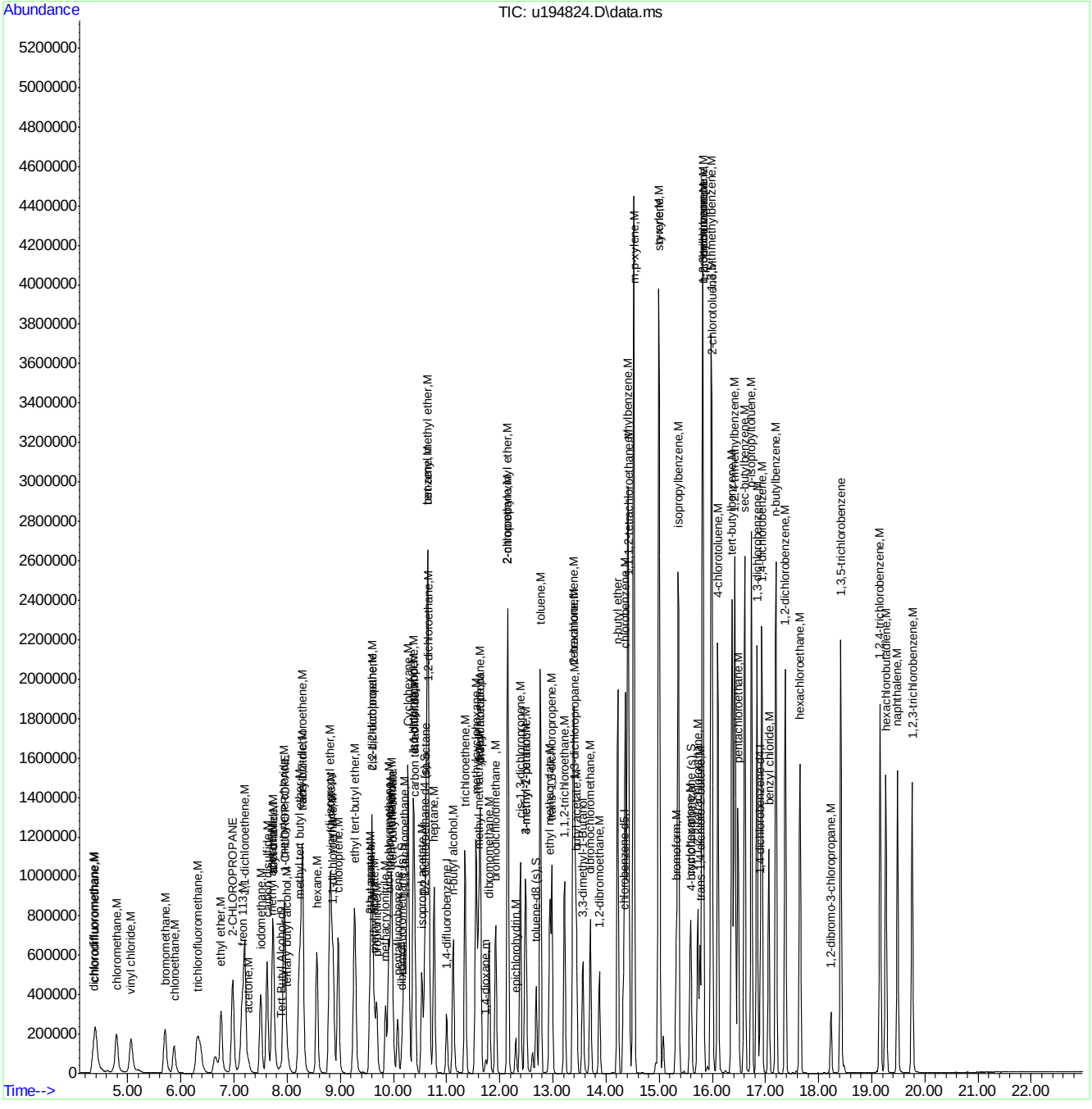
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
109) o-xylene	14.989	106	830940	223.01 ug/L	100
110) styrene	15.005	104	1425995	223.13 ug/L	99
111) bromoform	15.323	173	406251	237.97 ug/L	99
113) isopropylbenzene	15.360	105	2189407	227.99 ug/L	99
115) bromobenzene	15.831	156	620176	225.38 ug/L	98
116) 1,1,2,2-tetrachloroethane	15.726	83	518734	226.09 ug/L	100
117) trans-1,4-dichloro-2-b...	15.768	53	146279	221.44 ug/L	98
118) 1,2,3-trichloropropane	15.815	110	140379	210.66 ug/L	98
119) n-propylbenzene	15.815	91	2435494	223.93 ug/L	100
120) 2-chlorotoluene	15.998	126	540542	217.78 ug/L	100
121) 4-chlorotoluene	16.102	91	1547126	223.01 ug/L	99
123) 1,3,5-trimethylbenzene	15.977	105	1827152	222.59 ug/L	99
124) tert-butylbenzene	16.374	119	1635335	224.54 ug/L	99
125) pentachloroethane	16.484	167	386477	247.28 ug/L	99
126) 1,2,4-trimethylbenzene	16.421	105	1786357	222.08 ug/L	98
128) sec-butylbenzene	16.610	105	2360381	226.33 ug/L	100
129) 1,3-dichlorobenzene	16.840	146	1161126	226.32 ug/L	99
130) p-isopropyltoluene	16.735	119	2051568	223.52 ug/L	99
131) 1,4-dichlorobenzene	16.934	146	1159200	223.22 ug/L	99
132) benzyl chloride	17.064	91	1013433	207.19 ug/L	99
133) 1,2-dichlorobenzene	17.373	146	1086102	230.30 ug/L	99
135) n-butylbenzene	17.195	92	966872	229.42 ug/L	100
137) 1,2-dibromo-3-chloropr...	18.235	157	124698	218.04 ug/L	97
138) 1,3,5-trichlorobenzene	18.418	180	961275	232.03 ug/L	100
139) 1,2,4-trichlorobenzene	19.156	180	842430	239.86 ug/L	99
140) hexachlorobutadiene	19.265	225	477362	225.69 ug/L	99
141) naphthalene	19.485	128	1544934	228.48 ug/L	99
143) 1,2,3-trichlorobenzene	19.762	180	683180	228.75 ug/L	99
144) hexachloroethane	17.650	201	425725	244.73 ug/L	99

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u194824.D
Acq On : 1 May 2015 3:51 pm
Operator : NicoleH1
Sample : ic8988-200
Misc : ms84282,vu8988,5.0,,,,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: May 04 09:43:54 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 08:54:26 2015
Response via : Initial Calibration



ACCUTEST LABORATORIES JB96432

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u194827.D
Acq On : 1 May 2015 5:20 pm
Operator : NicoleH1
Sample : icv8988-50
Misc : ms84282,vu8988,5.0,,,,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: May 04 09:46:16 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.878	65	89667	500.00	ug/L	0.00
5) pentafluorobenzene	10.079	168	282224	50.00	ug/L	0.00
64) 1,4-difluorobenzene	11.004	114	327734	50.00	ug/L	0.00
96) chlorobenzene-d5	14.329	117	292885	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.901	152	158078	50.00	ug/L	0.00

System Monitoring Compounds

56) dibromofluoromethane (s)	10.157	113	95954	50.00	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 100.00%			
57) 1,2-dichloroethane-d4 (s)	10.581	65	101648	50.06	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 100.12%			
88) toluene-d8 (s)	12.682	98	374448	49.96	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 99.92%			
114) 4-bromofluorobenzene (s)	15.605	95	144640	51.66	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 103.32%			

Target Compounds

						Qvalue
2) tertiary butyl alcohol	8.003	59	53710	267.30	ug/L	87
4) 1,4-dioxane	11.741	88	22300	1237.28	ug/L	96
11) chlorodifluoromethane	4.396	51	99873	49.86	ug/L	99
12) dichlorodifluoromethane	4.359	85	104093	47.10	ug/L	99
15) chloromethane	4.767	50	120428	49.49	ug/L	99
16) vinyl chloride	5.044	62	112088	49.81	ug/L	97
18) bromomethane	5.713	94	86144	51.91	ug/L	100
19) chloroethane	5.881	64	69117	60.42	ug/L	99
20) trichlorofluoromethane	6.320	101	140426	46.95	ug/L	98
23) ethyl ether	6.759	74	57067	53.84	ug/L	100
24) 2-CHLOROPROPANE	6.979	43	140205	40.02	ug/L	98
27) acrolein	7.052	56	198518	619.47	ug/L	99
28) 1,1-dichloroethene	7.203	96	94453	53.63	ug/L	96
29) acetone	7.271	58	8199	51.09	ug/L	97
30) allyl chloride	7.737	76	60612	60.36	ug/L	97
31) acetonitrile	7.731	40	75869	550.32	ug/L	97
32) iodomethane	7.501	142	193168	55.42	ug/L	99
33) carbon disulfide	7.627	76	311252	54.62	ug/L	100
34) 1-CHLOROPROPANE	7.961	63	8871	53.66	ug/L	99
35) methylene chloride	7.940	84	106287	47.73	ug/L	99
36) methyl acetate	7.716	43	70683	48.59	ug/L	100
37) methyl tert butyl ether	8.233	73	586852	106.02	ug/L	88
38) trans-1,2-dichloroethene	8.291	96	103755	52.48	ug/L	99
39) di-isopropyl ether	8.808	45	322668	53.42	ug/L	93
40) ethyl tert-butyl ether	9.268	59	316663	53.73	ug/L	99
41) 2-butanone	9.556	72	11522	51.79	ug/L	95
42) 1,1-dichloroethane	8.866	63	186806	56.13	ug/L	100
43) chloroprene	8.960	53	141410	51.49	ug/L	99
44) acrylonitrile	8.275	53	176747	294.79	ug/L	99
45) vinyl acetate	8.834	86	19285	54.73	ug/L #	81
46) ethyl acetate	9.551	45	13447	51.32	ug/L	99
47) 2,2-dichloropropane	9.592	77	161449	55.57	ug/L	98
48) cis-1,2-dichloroethene	9.598	96	115204	52.87	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u194827.D
Acq On : 1 May 2015 5:20 pm
Operator : NicoleH1
Sample : icv8988-50
Misc : ms84282,vu8988,5.0,,,,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: May 04 09:46:16 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
49) methyl acrylate	9.640	85	15647	51.48 ug/L	92
50) propionitrile	9.687	54	135824	564.74 ug/L	98
51) bromochloromethane	9.911	128	59463	53.80 ug/L	99
52) tetrahydrofuran	9.938	42	34188	50.38 ug/L	98
53) chloroform	9.958	83	182834	52.77 ug/L	99
54) tert-butyl Formate	9.979	59	95351	56.32 ug/L	99
55) iso-butyl alcohol	10.377	43	41538	439.82 ug/L	96
58) freon 113	7.161	151	88289	60.97 ug/L	98
59) methacrylonitrile	9.854	41	58919	50.50 ug/L	100
60) 1,1,1-trichloroethane	10.204	97	164498	55.64 ug/L	99
62) tert-amyl methyl ether	10.649	87	73014	51.14 ug/L	98
63) iso-octane	10.607	57	379073	62.57 ug/L	99
66) epichlorohydrin	12.301	57	49770	265.10 ug/L	100
67) n-butyl alcohol	11.124	56	150434	2805.07 ug/L	99
68) Cyclohexane	10.267	84	161697	56.63 ug/L	98
69) carbon tetrachloride	10.398	117	153933	56.92 ug/L	100
70) 1,1-dichloropropene	10.371	75	149984	58.26 ug/L	99
71) hexane	8.557	57	122970	56.98 ug/L	100
72) benzene	10.643	78	420098	53.11 ug/L	99
73) heptane	10.764	57	84439	62.89 ug/L	99
74) isopropyl acetate	10.534	43	189354	53.07 ug/L	99
75) 1,2-dichloroethane	10.669	62	136472	55.35 ug/L	98
78) trichloroethene	11.349	95	114801	55.69 ug/L	100
79) methylcyclohexane	11.558	83	187774	60.35 ug/L	99
80) 2-nitropropane	12.154	41	41249	54.57 ug/L #	76
81) 2-chloroethyl vinyl ether	12.149	63	312692	292.19 ug/L	99
82) methyl methacrylate	11.600	100	29854	54.78 ug/L	90
83) 1,2-dichloropropane	11.626	63	108706	56.08 ug/L	100
84) propyl acetate	11.637	73	20089	51.69 ug/L	97
85) dibromomethane	11.799	93	67535	53.43 ug/L	99
86) bromodichloromethane	11.924	83	148659	54.60 ug/L	100
87) cis-1,3-dichloropropene	12.389	75	188909	56.99 ug/L	99
89) 4-methyl-2-pentanone	12.478	58	39369	53.52 ug/L	98
90) toluene	12.761	92	278667	55.01 ug/L	100
91) 3-methyl-1-butanol	12.489	55	95188	1010.15 ug/L	99
92) trans-1,3-dichloropropene	12.980	75	170224	56.23 ug/L	98
93) ethyl methacrylate	12.944	69	133367	53.39 ug/L	99
94) 1,1,2-trichloroethane	13.216	83	81854	54.59 ug/L	98
95) 2-hexanone	13.378	58	39198	54.37 ug/L	98
97) cyclohexanone	15.589	55	42415	200.19 ug/L	97
98) tetrachloroethene	13.383	164	115423	54.82 ug/L	99
99) 1,3-dichloropropane	13.414	76	163503	55.76 ug/L	98
100) butyl acetate	13.440	56	66059	53.24 ug/L	99
101) dibromochloromethane	13.702	129	131908	56.31 ug/L	98
102) 1,2-dibromoethane	13.874	107	106733	55.14 ug/L	98
103) 3,3-dimethyl-1-Butanol	13.566	57	100540	512.32 ug/L	100
104) n-butyl ether	14.214	57	553043	62.78 ug/L	100
105) chlorobenzene	14.360	112	330555	55.66 ug/L	99
106) 1,1,1,2-tetrachloroethane	14.423	131	123891	55.06 ug/L	98
107) ethylbenzene	14.407	91	540121	54.59 ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u194827.D
Acq On : 1 May 2015 5:20 pm
Operator : NicoleH1
Sample : icv8988-50
Misc : ms84282,vu8988,5.0,,,,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: May 04 09:46:16 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
108) m,p-xylene	14.523	106	434878	112.13 ug/L	99
109) o-xylene	14.988	106	213327	55.84 ug/L	99
110) styrene	15.003	104	366417	55.92 ug/L	98
111) bromoform	15.322	173	99662	54.45 ug/L	99
113) isopropylbenzene	15.359	105	561245	57.91 ug/L	100
115) bromobenzene	15.829	156	161560	58.25 ug/L	98
116) 1,1,2,2-tetrachloroethane	15.725	83	126850	54.75 ug/L	98
117) trans-1,4-dichloro-2-b...	15.767	53	37735	56.52 ug/L	99
118) 1,2,3-trichloropropane	15.809	110	36018	53.94 ug/L	98
119) n-propylbenzene	15.814	91	665414	60.74 ug/L	99
120) 2-chlorotoluene	15.992	126	142174	56.98 ug/L	97
121) 4-chlorotoluene	16.101	91	398091	57.00 ug/L	99
123) 1,3,5-trimethylbenzene	15.976	105	474625	57.44 ug/L	99
124) tert-butylbenzene	16.373	119	432326	58.92 ug/L	99
125) pentachloroethane	16.483	167	96314	57.93 ug/L	98
126) 1,2,4-trimethylbenzene	16.420	105	481997	59.54 ug/L	98
128) sec-butylbenzene	16.608	105	615710	58.54 ug/L	100
129) 1,3-dichlorobenzene	16.839	146	282168	54.54 ug/L	100
130) p-isopropyltoluene	16.734	119	547446	59.23 ug/L	100
131) 1,4-dichlorobenzene	16.933	146	286839	54.86 ug/L	99
132) benzyl chloride	17.063	91	285665	58.46 ug/L	99
133) 1,2-dichlorobenzene	17.372	146	271837	57.05 ug/L	99
135) n-butylbenzene	17.194	92	255589	58.83 ug/L	99
137) 1,2-dibromo-3-chloropr...	18.234	157	31765	55.09 ug/L	96
138) 1,3,5-trichlorobenzene	18.417	180	248054	59.21 ug/L	100
139) 1,2,4-trichlorobenzene	19.154	180	213512	59.88 ug/L	100
140) hexachlorobutadiene	19.264	225	125367	58.71 ug/L	98
141) naphthalene	19.484	128	395338	57.91 ug/L	100
143) 1,2,3-trichlorobenzene	19.761	180	176143	56.38 ug/L	99
144) hexachloroethane	17.649	201	106004	57.34 ug/L	99

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

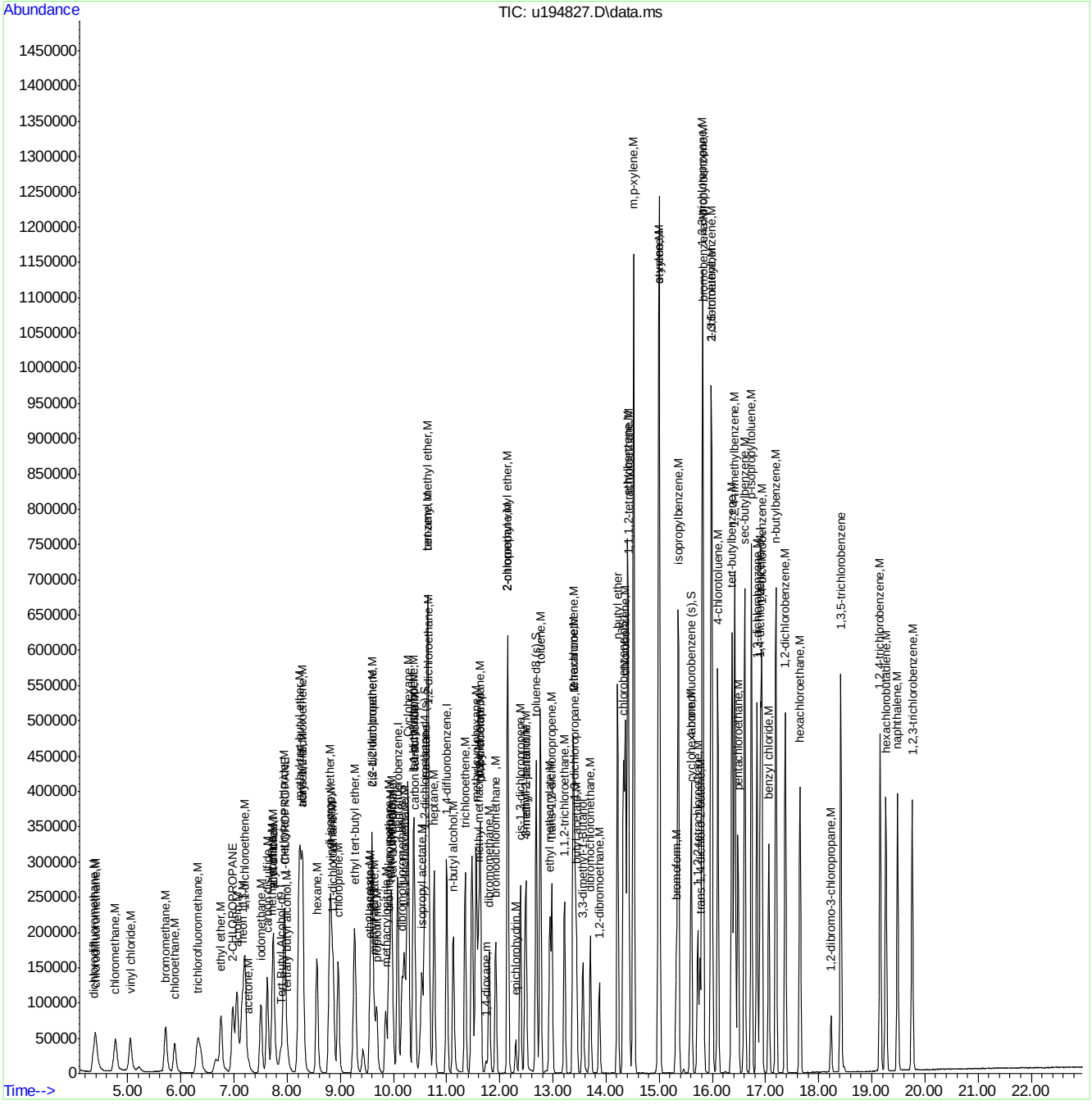
7.6.11

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u194827.D
Acq On : 1 May 2015 5:20 pm
Operator : NicoleH1
Sample : icv8988-50
Misc : ms84282,vu8988,5.0,,,,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: May 04 09:46:16 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration



MU8988.M Mon May 04 14:45:23 2015 U_CORE

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u195952.D
Acq On : 10 Jun 2015 9:16 pm
Operator : NicoleH1
Sample : cc8988-50
Misc : ms86318,vu9037,5.0,,,,1
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Jun 11 12:59:08 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.883	65	101074	500.00	ug/L	0.00
5) pentafluorobenzene	10.079	168	329384	50.00	ug/L	0.00
64) 1,4-difluorobenzene	10.999	114	371918	50.00	ug/L	0.00
96) chlorobenzene-d5	14.324	117	337963	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.901	152	194854	50.00	ug/L	0.00

System Monitoring Compounds						
56) dibromofluoromethane (s)	10.157	113	115853	51.73	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 103.46%			
57) 1,2-dichloroethane-d4 (s)	10.581	65	121876	51.43	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 102.86%			
88) toluene-d8 (s)	12.682	98	426851	50.19	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 100.38%			
114) 4-bromofluorobenzene (s)	15.600	95	164008	47.52	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 95.04%			

Target Compounds						Qvalue
2) tertiary butyl alcohol	7.993	59	61195	270.18	ug/L	78
4) 1,4-dioxane	11.736	88	28399	1397.84	ug/L	99
11) chlorodifluoromethane	4.396	51	117053	50.07	ug/L	99
12) dichlorodifluoromethane	4.370	85	136132	52.78	ug/L	99
15) chloromethane	4.778	50	136415	48.04	ug/L	99
16) vinyl chloride	5.044	62	135292	51.52	ug/L	98
18) bromomethane	5.713	94	103653	53.52	ug/L	97
19) chloroethane	5.886	64	74611	55.88	ug/L	97
20) trichlorofluoromethane	6.320	101	173702	49.74	ug/L	96
23) ethyl ether	6.759	74	56481	45.66	ug/L	89
24) 2-CHLOROPROPANE	6.973	43	176763	43.23	ug/L	93
27) acrolein	7.052	56	176162	471.00	ug/L	97
28) 1,1-dichloroethene	7.203	96	95400	46.41	ug/L	95
29) acetone	7.271	58	8746	46.70	ug/L	93
30) allyl chloride	7.737	76	55126	47.04	ug/L	92
31) acetonitrile	7.737	40	83258	517.45	ug/L #	87
32) iodomethane	7.501	142	201262	49.47	ug/L	97
33) carbon disulfide	7.622	76	287651	43.25	ug/L	99
34) 1-CHLOROPROPANE	7.956	63	9100	47.16	ug/L	96
35) methylene chloride	7.935	84	111937	43.07	ug/L	99
36) methyl acetate	7.716	43	77654	45.74	ug/L	98
37) methyl tert butyl ether	8.228	73	317226	49.10	ug/L	99
38) trans-1,2-dichloroethene	8.296	96	113080	49.00	ug/L	98
39) di-isopropyl ether	8.803	45	342042	48.52	ug/L	94
40) ethyl tert-butyl ether	9.269	59	356119	51.77	ug/L	99
41) 2-butanone	9.556	72	13048	50.25	ug/L #	93
42) 1,1-dichloroethane	8.866	63	194904	50.17	ug/L	99
43) chloroprene	8.960	53	168164	52.47	ug/L	99
44) acrylonitrile	8.275	53	169395	242.07	ug/L	98
45) vinyl acetate	8.835	86	20010	48.65	ug/L #	69
46) ethyl acetate	9.556	45	13854	45.30	ug/L	88
47) 2,2-dichloropropane	9.593	77	167311	49.34	ug/L	99
48) cis-1,2-dichloroethene	9.593	96	129499	50.92	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u195952.D
Acq On : 10 Jun 2015 9:16 pm
Operator : NicoleH1
Sample : cc8988-50
Misc : ms86318,vu9037,5.0,,,,1
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Jun 11 12:59:08 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
49) methyl acrylate	9.640	85	17537	49.44 ug/L #	80
50) propionitrile	9.682	54	138480	493.35 ug/L	99
51) bromochloromethane	9.912	128	70117	54.35 ug/L	93
52) tetrahydrofuran	9.938	42	34783	43.92 ug/L	99
53) chloroform	9.959	83	212093	52.45 ug/L	99
54) tert-butyl Formate	9.980	59	99730	50.47 ug/L	97
55) iso-butyl alcohol	10.372	43	46343	420.44 ug/L	95
58) freon 113	7.162	151	99603	58.94 ug/L	97
59) methacrylonitrile	9.849	41	60688	44.57 ug/L	97
60) 1,1,1-trichloroethane	10.199	97	189447	54.90 ug/L	98
62) tert-amyl methyl ether	10.649	87	85088	51.07 ug/L	97
66) epichlorohydrin	12.296	57	47271	221.88 ug/L	97
67) n-butyl alcohol	11.119	56	153629	2524.33 ug/L	99
68) Cyclohexane	10.262	84	166286	51.32 ug/L	87
69) carbon tetrachloride	10.398	117	179321	58.43 ug/L	100
70) 1,1-dichloropropene	10.372	75	158495	54.25 ug/L	100
71) hexane	8.563	57	140027	57.18 ug/L	99
72) benzene	10.643	78	450632	50.20 ug/L	100
73) heptane	10.764	57	79621	52.25 ug/L	98
74) isopropyl acetate	10.534	43	192195	47.47 ug/L	99
75) 1,2-dichloroethane	10.670	62	161680	57.78 ug/L	100
78) trichloroethene	11.344	95	126757	54.19 ug/L	100
79) methylcyclohexane	11.553	83	203127	57.53 ug/L	99
80) 2-nitropropane	12.149	41	48022	55.98 ug/L	98
81) 2-chloroethyl vinyl ether	12.149	63	302433	249.03 ug/L	99
82) methyl methacrylate	11.595	100	31331	50.66 ug/L #	82
83) 1,2-dichloropropane	11.626	63	117213	53.28 ug/L	95
84) propyl acetate	11.632	73	21917	49.70 ug/L	92
85) dibromomethane	11.799	93	79941	55.74 ug/L	98
86) bromodichloromethane	11.919	83	175325	56.74 ug/L	97
87) cis-1,3-dichloropropene	12.384	75	206301	54.84 ug/L	95
89) 4-methyl-2-pentanone	12.473	58	42967	51.47 ug/L	95
90) toluene	12.761	92	307556	53.50 ug/L	98
91) 3-methyl-1-butanol	12.489	55	104211	974.52 ug/L	99
92) trans-1,3-dichloropropene	12.975	75	196354	57.16 ug/L	98
93) ethyl methacrylate	12.939	69	150997	53.27 ug/L	98
94) 1,1,2-trichloroethane	13.216	83	95759	56.28 ug/L	96
95) 2-hexanone	13.378	58	42071	51.42 ug/L	97
97) cyclohexanone	15.579	55	92133	376.84 ug/L	96
98) tetrachloroethene	13.383	164	137717	56.69 ug/L	99
99) 1,3-dichloropropane	13.409	76	185337	54.77 ug/L	98
100) butyl acetate	13.440	56	69189	48.33 ug/L	97
101) dibromochloromethane	13.702	129	161256	59.65 ug/L	98
102) 1,2-dibromoethane	13.869	107	124725	55.84 ug/L	99
103) 3,3-dimethyl-1-Butanol	13.561	57	120245	531.01 ug/L	98
104) n-butyl ether	14.214	57	528440	51.99 ug/L	98
105) chlorobenzene	14.361	112	383605	55.98 ug/L	98
106) 1,1,1,2-tetrachloroethane	14.423	131	152593	58.77 ug/L	98
107) ethylbenzene	14.402	91	623511	54.61 ug/L	99
108) m,p-xylene	14.517	106	501288	112.01 ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u195952.D
Acq On : 10 Jun 2015 9:16 pm
Operator : NicoleH1
Sample : cc8988-50
Misc : ms86318,vu9037,5.0,,,,1
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Jun 11 12:59:08 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

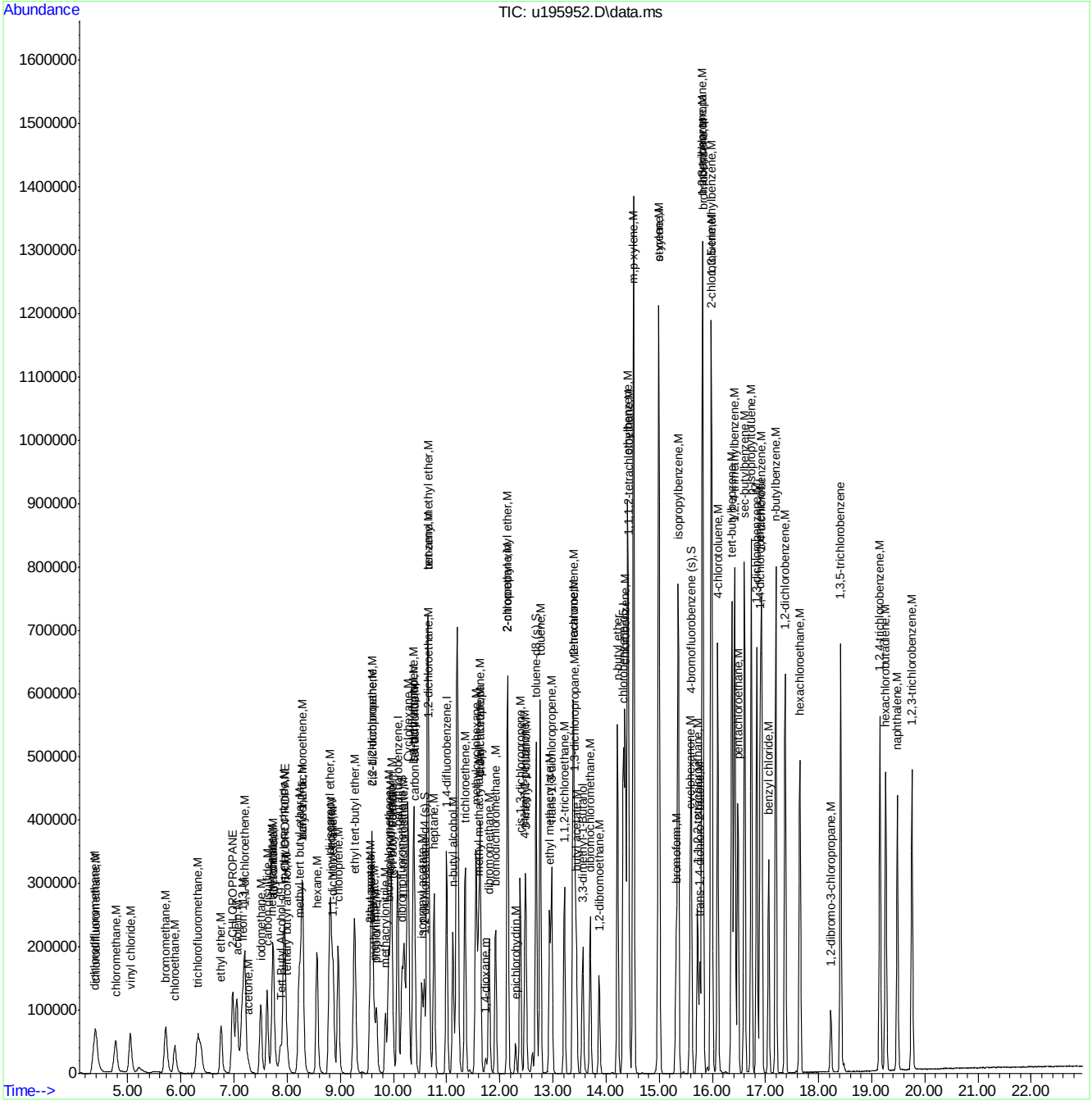
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
109) o-xylene	14.988	106	251220	56.99 ug/L	97
110) styrene	14.998	104	423707	56.03 ug/L	100
111) bromoform	15.317	173	127245	60.25 ug/L	99
113) isopropylbenzene	15.359	105	651783	54.56 ug/L	98
115) bromobenzene	15.824	156	196449	57.46 ug/L	96
116) 1,1,2,2-tetrachloroethane	15.720	83	159182	55.74 ug/L	99
117) trans-1,4-dichloro-2-b...	15.762	53	39557	48.07 ug/L	96
118) 1,2,3-trichloropropane	15.809	110	45482	55.26 ug/L	96
119) n-propylbenzene	15.814	91	729397	54.01 ug/L	99
120) 2-chlorotoluene	15.992	126	170229	55.35 ug/L	96
121) 4-chlorotoluene	16.102	91	455387	52.89 ug/L	98
123) 1,3,5-trimethylbenzene	15.976	105	549572	53.96 ug/L	98
124) tert-butylbenzene	16.368	119	488698	54.03 ug/L	99
125) pentachloroethane	16.483	167	117488	57.33 ug/L	99
126) 1,2,4-trimethylbenzene	16.420	105	538134	53.93 ug/L	100
128) sec-butylbenzene	16.603	105	712692	54.97 ug/L	99
129) 1,3-dichlorobenzene	16.839	146	361270	56.65 ug/L	98
130) p-isopropyltoluene	16.734	119	622199	54.61 ug/L	99
131) 1,4-dichlorobenzene	16.928	146	360724	55.96 ug/L	99
132) benzyl chloride	17.058	91	284389	47.22 ug/L	97
133) 1,2-dichlorobenzene	17.372	146	339713	57.83 ug/L	100
135) n-butylbenzene	17.194	92	286664	53.53 ug/L	99
137) 1,2-dibromo-3-chloropr...	18.235	157	37798	53.18 ug/L	98
138) 1,3,5-trichlorobenzene	18.412	180	293952	56.92 ug/L	100
139) 1,2,4-trichlorobenzene	19.155	180	250709	57.04 ug/L	99
140) hexachlorobutadiene	19.264	225	148147	56.28 ug/L	97
141) naphthalene	19.484	128	448162	53.26 ug/L	99
143) 1,2,3-trichlorobenzene	19.756	180	212882	55.28 ug/L	99
144) hexachloroethane	17.649	201	128969	56.60 ug/L	99

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u195952.D
Acq On : 10 Jun 2015 9:16 pm
Operator : NicoleH1
Sample : cc8988-50
Misc : ms86318,vu9037,5.0,,,,1
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Jun 11 12:59:08 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u195980.D
Acq On : 11 Jun 2015 11:23 am
Operator : NicoleH1
Sample : cc8988-20
Misc : ms86316,vu9038,5.0,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jun 11 17:15:51 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.879	65	104286	500.00	ug/L	0.00
5) pentafluorobenzene	10.080	168	350940	50.00	ug/L	0.00
64) 1,4-difluorobenzene	11.000	114	391316	50.00	ug/L	0.00
96) chlorobenzene-d5	14.325	117	350116	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.897	152	199682	50.00	ug/L	0.00

System Monitoring Compounds						
56) dibromofluoromethane (s)	10.158	113	121751	51.02	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 102.04%			
57) 1,2-dichloroethane-d4 (s)	10.582	65	128015	50.70	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 101.40%			
88) toluene-d8 (s)	12.683	98	446947	49.94	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 99.88%			
114) 4-bromofluorobenzene (s)	15.601	95	170318	48.16	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 96.32%			

Target Compounds						Qvalue
2) tertiary butyl alcohol	7.994	59	24547	105.04	ug/L	68
4) 1,4-dioxane	11.742	88	11466	546.99	ug/L	97
11) chlorodifluoromethane	4.402	51	48004	19.27	ug/L	99
12) dichlorodifluoromethane	4.371	85	54045	19.67	ug/L	98
15) chloromethane	4.779	50	60295	19.93	ug/L	99
16) vinyl chloride	5.045	62	59267	21.18	ug/L	98
18) bromomethane	5.720	94	45310	21.96	ug/L	97
19) chloroethane	5.897	64	31444	22.10	ug/L	99
20) trichlorofluoromethane	6.326	101	73788	20.08	ug/L	96
23) ethyl ether	6.760	74	24981	18.95	ug/L	92
24) 2-CHLOROPROPANE	6.980	43	83299	19.12	ug/L #	92
27) acrolein	7.058	56	71206	178.69	ug/L	98
28) 1,1-dichloroethene	7.210	96	44449	20.30	ug/L	98
29) acetone	7.272	58	3444	17.26	ug/L #	76
30) allyl chloride	7.738	76	23939	19.17	ug/L	94
31) acetonitrile	7.732	40	32540	189.82	ug/L #	83
32) iodomethane	7.508	142	95038	21.93	ug/L	96
33) carbon disulfide	7.623	76	148064	20.90	ug/L	98
34) 1-CHLOROPROPANE	7.962	63	3861	18.78	ug/L	88
35) methylene chloride	7.941	84	49050	17.71	ug/L	100
36) methyl acetate	7.717	43	30985	17.13	ug/L	100
37) methyl tert butyl ether	8.234	73	136636	19.85	ug/L	98
38) trans-1,2-dichloroethene	8.297	96	50295	20.46	ug/L	97
39) di-isopropyl ether	8.804	45	134707	17.93	ug/L	93
40) ethyl tert-butyl ether	9.269	59	139035	18.97	ug/L	97
41) 2-butanone	9.562	72	5264	19.03	ug/L #	83
42) 1,1-dichloroethane	8.872	63	85474	20.65	ug/L	97
43) chloroprene	8.966	53	66561	19.49	ug/L	97
44) acrylonitrile	8.276	53	70455	94.50	ug/L	100
45) vinyl acetate	8.835	86	7745	17.67	ug/L #	60
46) ethyl acetate	9.562	45	5384	16.52	ug/L	94
47) 2,2-dichloropropane	9.594	77	78296	21.67	ug/L	98
48) cis-1,2-dichloroethene	9.599	96	54615	20.15	ug/L	97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u195980.D
Acq On : 11 Jun 2015 11:23 am
Operator : NicoleH1
Sample : cc8988-20
Misc : ms86316,vu9038,5.0,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jun 11 17:15:51 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
49) methyl acrylate	9.641	85	6954	18.40 ug/L #	88
50) propionitrile	9.682	54	56481	188.86 ug/L	98
51) bromochloromethane	9.912	128	29192	21.24 ug/L	93
52) tetrahydrofuran	9.944	42	14586	17.29 ug/L	99
53) chloroform	9.959	83	87406	20.29 ug/L	98
54) tert-butyl Formate	9.975	59	38802	18.43 ug/L	97
55) iso-butyl alcohol	10.373	43	18902	160.95 ug/L	96
58) freon 113	7.162	151	38054	21.13 ug/L	99
59) methacrylonitrile	9.850	41	24179	16.67 ug/L	96
60) 1,1,1-trichloroethane	10.200	97	79600	21.65 ug/L	97
62) tert-amyl methyl ether	10.644	87	33451	18.84 ug/L	93
66) epichlorohydrin	12.296	57	18597	82.96 ug/L	97
67) n-butyl alcohol	11.120	56	57877	903.85 ug/L	99
68) Cyclohexane	10.263	84	70247	20.60 ug/L	89
69) carbon tetrachloride	10.399	117	75047	23.24 ug/L	97
70) 1,1-dichloropropene	10.373	75	66717	21.70 ug/L	99
71) hexane	8.569	57	54244	21.05 ug/L	97
72) benzene	10.644	78	188323	19.94 ug/L	98
73) heptane	10.765	57	30202	18.84 ug/L	98
75) 1,2-dichloroethane	10.670	62	66884	22.72 ug/L	97
78) trichloroethene	11.345	95	52346	21.27 ug/L	99
79) methylcyclohexane	11.554	83	76716	20.65 ug/L	98
80) 2-nitropropane	12.155	41	18329	20.31 ug/L #	71
81) 2-chloroethyl vinyl ether	12.145	63	110687	86.63 ug/L	100
82) methyl methacrylate	11.601	100	12352	18.98 ug/L	94
83) 1,2-dichloropropane	11.627	63	47583	20.56 ug/L	92
84) propyl acetate	11.638	73	8848	19.07 ug/L	85
85) dibromomethane	11.800	93	32436	21.49 ug/L	97
86) bromodichloromethane	11.920	83	68492	21.07 ug/L	95
87) cis-1,3-dichloropropene	12.385	75	82378	20.81 ug/L	97
89) 4-methyl-2-pentanone	12.474	58	16979	19.33 ug/L #	87
90) toluene	12.762	92	124163	20.53 ug/L	97
91) 3-methyl-1-butanol	12.490	55	40211	357.39 ug/L	99
92) trans-1,3-dichloropropene	12.976	75	77535	21.45 ug/L	98
93) ethyl methacrylate	12.939	69	57639	19.32 ug/L	97
94) 1,1,2-trichloroethane	13.217	83	37470	20.93 ug/L	97
95) 2-hexanone	13.379	58	15988	18.57 ug/L	91
97) cyclohexanone	15.585	55	41334	163.20 ug/L	96
98) tetrachloroethene	13.384	164	54747	21.75 ug/L	97
99) 1,3-dichloropropane	13.410	76	72258	20.61 ug/L	100
100) butyl acetate	13.441	56	27582	18.60 ug/L	95
101) dibromochloromethane	13.703	129	60454	21.59 ug/L	99
102) 1,2-dibromoethane	13.870	107	48089	20.78 ug/L	98
103) 3,3-dimethyl-1-Butanol	13.562	57	44817	191.04 ug/L	99
104) n-butyl ether	14.215	57	206297	19.59 ug/L	99
105) chlorobenzene	14.361	112	151750	21.38 ug/L	96
106) 1,1,1,2-tetrachloroethane	14.424	131	58922	21.91 ug/L	98
107) ethylbenzene	14.403	91	247318	20.91 ug/L	98
108) m,p-xylene	14.518	106	197624	42.63 ug/L	98
109) o-xylene	14.984	106	97350	21.32 ug/L	95

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u195980.D
Acq On : 11 Jun 2015 11:23 am
Operator : NicoleH1
Sample : cc8988-20
Misc : ms86316,vu9038,5.0,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jun 11 17:15:51 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

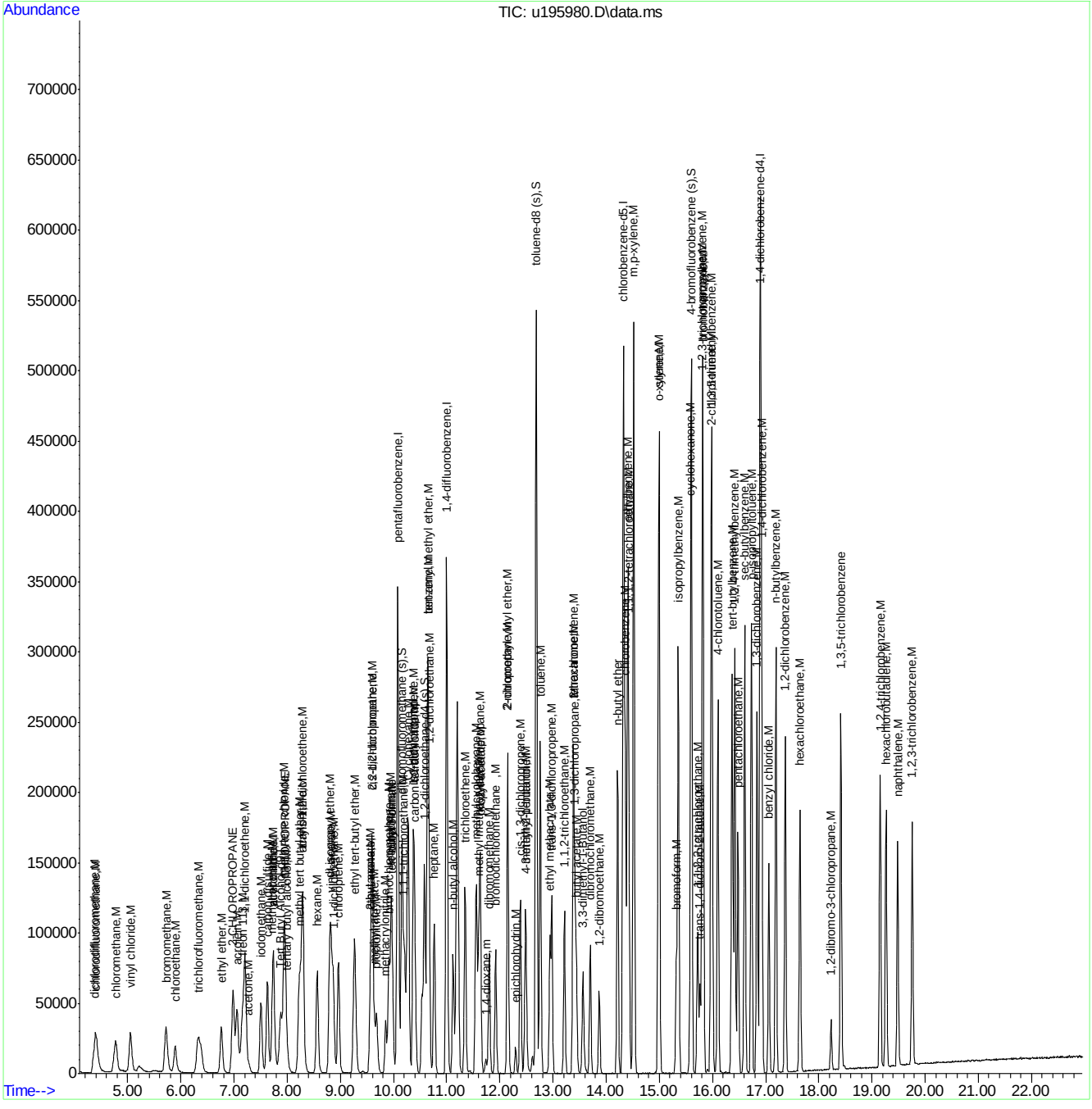
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
110) styrene	14.999	104	160338	20.47 ug/L	98
111) bromoform	15.318	173	45990	21.02 ug/L	98
113) isopropylbenzene	15.355	105	253453	20.70 ug/L	100
115) bromobenzene	15.825	156	76441	21.82 ug/L	96
116) 1,1,2,2-tetrachloroethane	15.721	83	60671	20.73 ug/L	98
117) trans-1,4-dichloro-2-b...	15.768	53	14945	17.72 ug/L	91
118) 1,2,3-trichloropropane	15.804	110	17293	20.50 ug/L	98
119) n-propylbenzene	15.815	91	284933	20.59 ug/L	99
120) 2-chlorotoluene	15.993	126	65995	20.94 ug/L	95
121) 4-chlorotoluene	16.102	91	177535	20.12 ug/L	98
123) 1,3,5-trimethylbenzene	15.972	105	211307	20.24 ug/L	99
124) tert-butylbenzene	16.369	119	191464	20.66 ug/L	99
125) pentachloroethane	16.479	167	46303	22.05 ug/L	98
126) 1,2,4-trimethylbenzene	16.421	105	207853	20.33 ug/L	100
128) sec-butylbenzene	16.604	105	274881	20.69 ug/L	99
129) 1,3-dichlorobenzene	16.834	146	139375	21.33 ug/L	98
130) p-isopropyltoluene	16.735	119	239027	20.47 ug/L	98
131) 1,4-dichlorobenzene	16.928	146	138543	20.97 ug/L	98
132) benzyl chloride	17.059	91	126239	20.45 ug/L	97
133) 1,2-dichlorobenzene	17.368	146	128887	21.41 ug/L	99
135) n-butylbenzene	17.195	92	109183	19.90 ug/L	99
137) 1,2-dibromo-3-chloropr...	18.230	157	13892	19.07 ug/L	95
138) 1,3,5-trichlorobenzene	18.413	180	112773	21.31 ug/L	99
139) 1,2,4-trichlorobenzene	19.156	180	92889	20.62 ug/L	97
140) hexachlorobutadiene	19.265	225	57062	21.15 ug/L	98
141) naphthalene	19.485	128	162447	18.84 ug/L	99
143) 1,2,3-trichlorobenzene	19.757	180	77430	19.62 ug/L	100
144) hexachloroethane	17.650	201	47668	20.41 ug/L	98

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u195980.D
Acq On : 11 Jun 2015 11:23 am
Operator : NicoleH1
Sample : cc8988-20
Misc : ms86316,vu9038,5.0,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jun 11 17:15:51 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u196024.D
Acq On : 12 Jun 2015 9:28 am
Operator : NicoleH1
Sample : cc8988-20
Misc : ms86419,vu9040,5.0,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 12 16:04:27 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.873	65	96626	500.00	ug/L	-0.01
5) pentafluorobenzene	10.074	168	315580	50.00	ug/L	0.00
64) 1,4-difluorobenzene	10.994	114	353549	50.00	ug/L	0.00
96) chlorobenzene-d5	14.325	117	322909	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.897	152	190316	50.00	ug/L	0.00

System Monitoring Compounds

56) dibromofluoromethane (s)	10.158	113	111086	51.77	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 103.54%			
57) 1,2-dichloroethane-d4 (s)	10.576	65	114564	50.46	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 100.92%			
88) toluene-d8 (s)	12.683	98	404217	49.99	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 99.98%			
114) 4-bromofluorobenzene (s)	15.600	95	156082	46.30	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 92.60%			

Target Compounds

						Qvalue
2) tertiary butyl alcohol	7.988	59	22387	103.39	ug/L #	51
4) 1,4-dioxane	11.732	88	10723	552.10	ug/L	99
11) chlorodifluoromethane	4.407	51	48624	21.71	ug/L	100
12) dichlorodifluoromethane	4.371	85	46416	18.78	ug/L	95
15) chloromethane	4.763	50	58327	21.44	ug/L	99
16) vinyl chloride	5.050	62	55914	22.22	ug/L	99
18) bromomethane	5.719	94	43465	23.42	ug/L	97
19) chloroethane	5.892	64	29618	23.15	ug/L	98
20) trichlorofluoromethane	6.321	101	65006	19.68	ug/L	98
23) ethyl ether	6.760	74	22358	18.86	ug/L	84
24) 2-CHLOROPROPANE	6.979	43	74963	19.13	ug/L #	91
27) acrolein	7.053	56	62729	175.05	ug/L	100
28) 1,1-dichloroethene	7.204	96	40130	20.38	ug/L	96
29) acetone	7.277	58	3447	19.21	ug/L #	81
30) allyl chloride	7.737	76	23667	21.08	ug/L	92
31) acetonitrile	7.732	40	29334	190.29	ug/L #	87
32) iodomethane	7.502	142	88790	22.78	ug/L	97
33) carbon disulfide	7.622	76	138101	21.68	ug/L	97
34) 1-CHLOROPROPANE	7.957	63	3408	18.44	ug/L	87
35) methylene chloride	7.936	84	45502	18.27	ug/L	98
36) methyl acetate	7.711	43	27788	17.08	ug/L	98
37) methyl tert butyl ether	8.229	73	122769	19.84	ug/L	97
38) trans-1,2-dichloroethene	8.297	96	45465	20.56	ug/L	98
39) di-isopropyl ether	8.799	45	124598	18.45	ug/L	92
40) ethyl tert-butyl ether	9.264	59	129200	19.60	ug/L	98
41) 2-butanone	9.557	72	4735	19.03	ug/L #	84
42) 1,1-dichloroethane	8.861	63	77417	20.80	ug/L	97
43) chloroprene	8.961	53	59304	19.31	ug/L	94
44) acrylonitrile	8.271	53	61805	92.19	ug/L	98
45) vinyl acetate	8.830	86	7029	17.84	ug/L #	87
46) ethyl acetate	9.546	45	4672	15.95	ug/L	97
47) 2,2-dichloropropane	9.588	77	71720	22.07	ug/L	99
48) cis-1,2-dichloroethene	9.593	96	49088	20.14	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u196024.D
Acq On : 12 Jun 2015 9:28 am
Operator : NicoleH1
Sample : cc8988-20
Misc : ms86419,vu9040,5.0,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 12 16:04:27 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
49) methyl acrylate	9.646	85	5740	16.89 ug/L #	66
50) propionitrile	9.677	54	50216	186.72 ug/L	98
51) bromochloromethane	9.912	128	26466	21.41 ug/L	91
52) tetrahydrofuran	9.933	42	12383	16.32 ug/L	99
53) chloroform	9.954	83	79016	20.40 ug/L	98
54) tert-butyl Formate	9.975	59	35233	18.61 ug/L	97
55) iso-butyl alcohol	10.367	43	15856	150.14 ug/L	93
58) freon 113	7.157	151	36576	22.59 ug/L	93
59) methacrylonitrile	9.850	41	20983	16.08 ug/L	94
60) 1,1,1-trichloroethane	10.200	97	72112	21.81 ug/L	98
62) tert-amyl methyl ether	10.644	87	30428	19.06 ug/L	96
66) epichlorohydrin	12.296	57	16329	80.63 ug/L	96
67) n-butyl alcohol	11.120	56	54319	938.91 ug/L	97
68) Cyclohexane	10.263	84	63791	20.71 ug/L	98
69) carbon tetrachloride	10.393	117	68105	23.35 ug/L	99
70) 1,1-dichloropropene	10.372	75	59528	21.43 ug/L	98
71) hexane	8.558	57	48124	20.67 ug/L	98
72) benzene	10.639	78	170199	19.95 ug/L	100
73) heptane	10.759	57	27266	18.82 ug/L	96
74) isopropyl acetate	10.529	43	66164	17.19 ug/L	98
75) 1,2-dichloroethane	10.665	62	59914	22.52 ug/L	99
78) trichloroethene	11.340	95	47320	21.28 ug/L	97
79) methylcyclohexane	11.554	83	70926	21.13 ug/L	96
80) 2-nitropropane	12.150	41	15748	19.31 ug/L #	87
81) 2-chloroethyl vinyl ether	12.145	63	97049	84.07 ug/L	98
82) methyl methacrylate	11.596	100	10815	18.40 ug/L #	89
83) 1,2-dichloropropane	11.627	63	42958	20.54 ug/L	96
84) propyl acetate	11.627	73	7461	17.80 ug/L	92
85) dibromomethane	11.794	93	28783	21.11 ug/L	97
86) bromodichloromethane	11.920	83	61793	21.04 ug/L	99
87) cis-1,3-dichloropropene	12.385	75	74162	20.74 ug/L	96
89) 4-methyl-2-pentanone	12.474	58	14084	17.75 ug/L #	94
90) toluene	12.756	92	112416	20.57 ug/L	100
91) 3-methyl-1-butanol	12.484	55	36527	359.33 ug/L	98
92) trans-1,3-dichloropropene	12.971	75	69379	21.25 ug/L	98
93) ethyl methacrylate	12.939	69	48989	18.18 ug/L	97
94) 1,1,2-trichloroethane	13.211	83	33149	20.49 ug/L	99
95) 2-hexanone	13.378	58	13816	17.76 ug/L	94
97) cyclohexanone	15.579	55	39142	167.56 ug/L	96
98) tetrachloroethene	13.384	164	48928	21.08 ug/L	97
99) 1,3-dichloropropane	13.410	76	64797	20.04 ug/L	98
100) butyl acetate	13.441	56	23937	17.50 ug/L	96
101) dibromochloromethane	13.703	129	54125	20.96 ug/L	98
102) 1,2-dibromoethane	13.870	107	43455	20.36 ug/L	99
103) 3,3-dimethyl-1-Butanol	13.561	57	40867	188.88 ug/L	98
104) n-butyl ether	14.215	57	184751	19.02 ug/L	98
105) chlorobenzene	14.356	112	137913	21.06 ug/L	99
106) 1,1,1,2-tetrachloroethane	14.424	131	54532	21.98 ug/L	100
107) ethylbenzene	14.403	91	221109	20.27 ug/L	96
108) m,p-xylene	14.518	106	178842	41.83 ug/L	98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u196024.D
Acq On : 12 Jun 2015 9:28 am
Operator : NicoleH1
Sample : cc8988-20
Misc : ms86419,vu9040,5.0,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 12 16:04:27 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
109) o-xylene	14.983	106	89986	21.37 ug/L	96
110) styrene	14.999	104	146714	20.31 ug/L	100
111) bromoform	15.318	173	41217	20.43 ug/L	98
113) isopropylbenzene	15.355	105	234527	20.10 ug/L	98
115) bromobenzene	15.825	156	70969	21.25 ug/L	94
116) 1,1,2,2-tetrachloroethane	15.721	83	54754	19.63 ug/L	98
117) trans-1,4-dichloro-2-b...	15.762	53	13313	16.56 ug/L	98
118) 1,2,3-trichloropropane	15.809	110	15503	19.29 ug/L	96
119) n-propylbenzene	15.809	91	265121	20.10 ug/L	100
120) 2-chlorotoluene	15.992	126	62439	20.79 ug/L	91
121) 4-chlorotoluene	16.102	91	166099	19.75 ug/L	98
123) 1,3,5-trimethylbenzene	15.972	105	199079	20.01 ug/L	98
124) tert-butylbenzene	16.364	119	180435	20.42 ug/L	98
125) pentachloroethane	16.479	167	43973	21.97 ug/L	97
126) 1,2,4-trimethylbenzene	16.416	105	196188	20.13 ug/L	100
128) sec-butylbenzene	16.604	105	256552	20.26 ug/L	99
129) 1,3-dichlorobenzene	16.834	146	132709	21.31 ug/L	99
130) p-isopropyltoluene	16.730	119	224217	20.15 ug/L	98
131) 1,4-dichlorobenzene	16.928	146	131767	20.93 ug/L	99
132) benzyl chloride	17.059	91	118189	20.09 ug/L	98
133) 1,2-dichlorobenzene	17.367	146	121507	21.18 ug/L	99
135) n-butylbenzene	17.190	92	103955	19.88 ug/L	99
137) 1,2-dibromo-3-chloropr...	18.230	157	12479	17.98 ug/L	93
138) 1,3,5-trichlorobenzene	18.413	180	106172	21.05 ug/L	99
139) 1,2,4-trichlorobenzene	19.150	180	86679	20.19 ug/L	99
140) hexachlorobutadiene	19.260	225	54701	21.28 ug/L	99
141) naphthalene	19.480	128	146531	17.83 ug/L	99
143) 1,2,3-trichlorobenzene	19.757	180	72464	19.26 ug/L	100
144) hexachloroethane	17.650	201	45736	20.55 ug/L	98

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

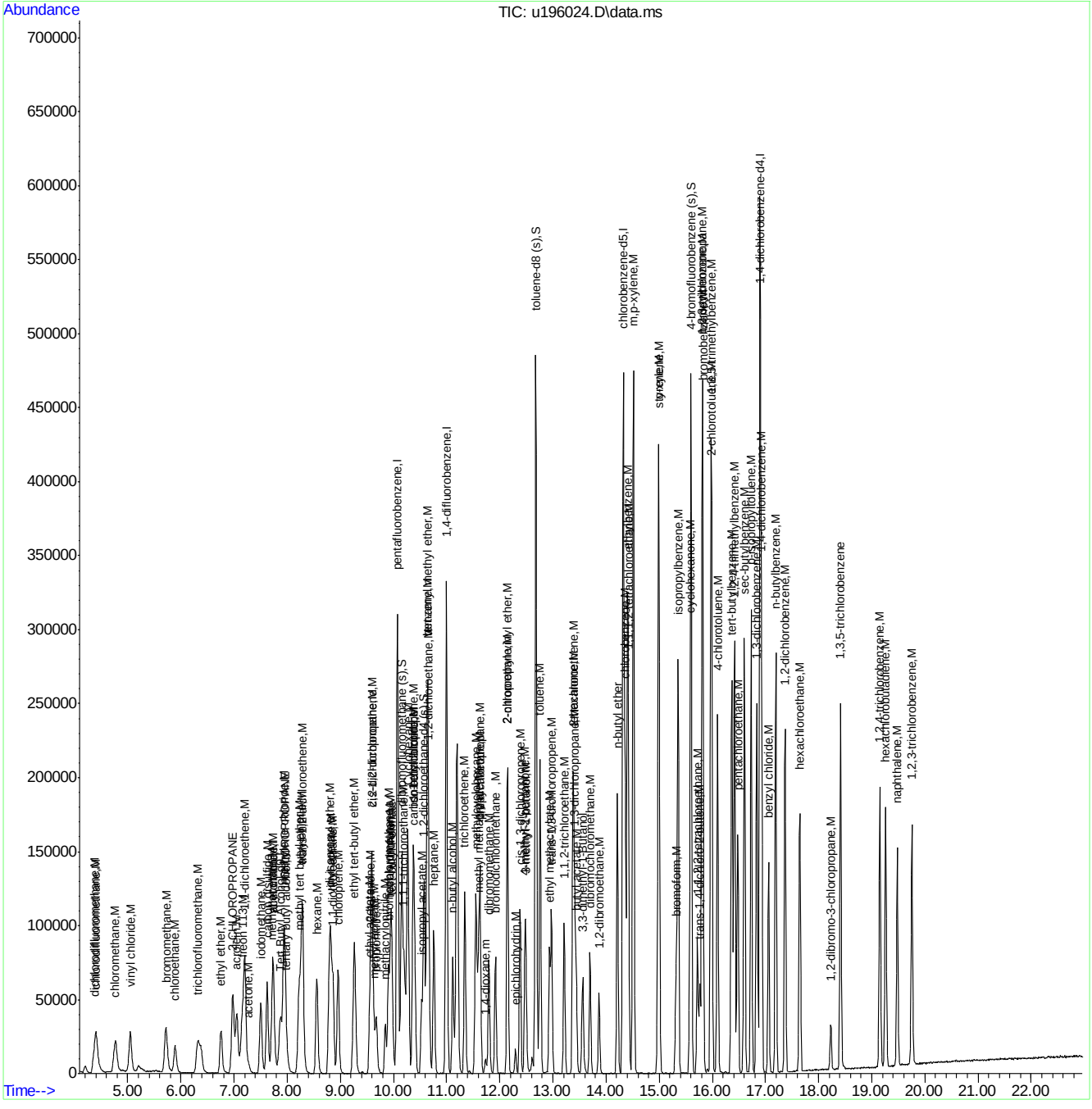
7.6.14

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u196024.D
Acq On : 12 Jun 2015 9:28 am
Operator : NicoleH1
Sample : cc8988-20
Misc : ms86419,vu9040,5.0,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 12 16:04:27 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u196107.D
Acq On : 15 Jun 2015 9:18 am
Operator : NicoleH1
Sample : cc8988-20
Misc : ms86321,vu9043,5.0,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 15 16:45:57 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.873	65	78498	500.00	ug/L	-0.01
5) pentafluorobenzene	10.079	168	306565	50.00	ug/L	0.00
64) 1,4-difluorobenzene	10.999	114	346763	50.00	ug/L	0.00
96) chlorobenzene-d5	14.324	117	318508	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.902	152	187194	50.00	ug/L	0.00

System Monitoring Compounds						
56) dibromofluoromethane (s)	10.158	113	109291	52.43	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 104.86%			
57) 1,2-dichloroethane-d4 (s)	10.581	65	111574	50.59	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 101.18%			
88) toluene-d8 (s)	12.683	98	396614	50.01	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 100.02%			
114) 4-bromofluorobenzene (s)	15.600	95	154605	46.63	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 93.26%			

Target Compounds						Qvalue
2) tertiary butyl alcohol	7.993	59	17996	102.30	ug/L #	47
4) 1,4-dioxane	11.737	88	7938	503.09	ug/L	98
11) chlorodifluoromethane	4.402	51	46915	21.56	ug/L	96
12) dichlorodifluoromethane	4.365	85	47460	19.77	ug/L	99
15) chloromethane	4.768	50	53174	20.12	ug/L	97
16) vinyl chloride	5.050	62	50780	20.77	ug/L	99
18) bromomethane	5.719	94	39319	21.81	ug/L	97
19) chloroethane	5.892	64	27614	22.22	ug/L	99
20) trichlorofluoromethane	6.326	101	61485	19.17	ug/L	99
23) ethyl ether	6.760	74	23323	20.26	ug/L	89
24) 2-CHLOROPROPANE	6.979	43	77123	20.26	ug/L #	90
27) acrolein	7.058	56	59076	169.71	ug/L	99
28) 1,1-dichloroethene	7.204	96	42240	22.08	ug/L	96
29) acetone	7.267	58	3214	18.44	ug/L #	81
30) allyl chloride	7.742	76	23919	21.93	ug/L	89
31) acetonitrile	7.737	40	28833	192.54	ug/L	89
32) iodomethane	7.507	142	90922	24.01	ug/L	98
33) carbon disulfide	7.627	76	144600	23.36	ug/L	98
34) 1-CHLOROPROPANE	7.967	63	3550	19.77	ug/L	97
35) methylene chloride	7.941	84	47285	19.55	ug/L	96
36) methyl acetate	7.716	43	26352	16.68	ug/L	99
37) methyl tert butyl ether	8.229	73	127333	21.18	ug/L	99
38) trans-1,2-dichloroethene	8.297	96	47335	22.04	ug/L	96
39) di-isopropyl ether	8.804	45	122023	18.60	ug/L	92
40) ethyl tert-butyl ether	9.269	59	126149	19.70	ug/L	98
41) 2-butanone	9.557	72	4616	19.10	ug/L #	83
42) 1,1-dichloroethane	8.866	63	81001	22.40	ug/L	97
43) chloroprene	8.961	53	59325	19.89	ug/L	98
44) acrylonitrile	8.276	53	63917	98.14	ug/L	98
45) vinyl acetate	8.830	86	6834	17.85	ug/L #	85
46) ethyl acetate	9.551	45	4569	16.05	ug/L	98
47) 2,2-dichloropropane	9.593	77	75044	23.78	ug/L	99
48) cis-1,2-dichloroethene	9.598	96	51705	21.84	ug/L	98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u196107.D
Acq On : 15 Jun 2015 9:18 am
Operator : NicoleH1
Sample : cc8988-20
Misc : ms86321,vu9043,5.0,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 15 16:45:57 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
49) methyl acrylate	9.645	85	6290	19.05 ug/L #	90
50) propionitrile	9.682	54	49376	189.00 ug/L	97
51) bromochloromethane	9.912	128	27772	23.13 ug/L	96
52) tetrahydrofuran	9.938	42	12667	17.19 ug/L	99
53) chloroform	9.959	83	82388	21.89 ug/L	99
54) tert-butyl Formate	9.980	59	34480	18.75 ug/L	96
55) iso-butyl alcohol	10.367	43	13949	135.97 ug/L	89
58) freon 113	7.167	151	36718	23.34 ug/L	98
59) methacrylonitrile	9.849	41	21810	17.21 ug/L	98
60) 1,1,1-trichloroethane	10.205	97	76037	23.68 ug/L	98
62) tert-amyl methyl ether	10.649	87	29952	19.31 ug/L	94
66) epichlorohydrin	12.296	57	15380	77.43 ug/L	98
67) n-butyl alcohol	11.120	56	41247	726.91 ug/L	97
68) Cyclohexane	10.262	84	67353	22.29 ug/L	88
69) carbon tetrachloride	10.398	117	71926	25.14 ug/L	97
70) 1,1-dichloropropene	10.372	75	62649	23.00 ug/L	100
71) hexane	8.563	57	49570	21.71 ug/L	97
72) benzene	10.644	78	178617	21.34 ug/L	99
73) heptane	10.764	57	27748	19.53 ug/L	94
75) 1,2-dichloroethane	10.670	62	62241	23.86 ug/L	98
78) trichloroethene	11.345	95	48551	22.26 ug/L	96
79) methylcyclohexane	11.554	83	70494	21.41 ug/L	97
80) 2-nitropropane	12.155	41	16111	20.14 ug/L #	65
81) 2-chloroethyl vinyl ether	12.144	63	94360	83.34 ug/L	99
82) methyl methacrylate	11.601	100	11273	19.55 ug/L #	88
83) 1,2-dichloropropane	11.627	63	45145	22.01 ug/L	95
84) propyl acetate	11.632	73	7436	18.08 ug/L	88
85) dibromomethane	11.794	93	30283	22.65 ug/L	93
86) bromodichloromethane	11.920	83	64946	22.54 ug/L	96
87) cis-1,3-dichloropropene	12.385	75	78541	22.39 ug/L	96
89) 4-methyl-2-pentanone	12.479	58	14380	18.47 ug/L #	82
90) toluene	12.761	92	117289	21.88 ug/L	98
91) 3-methyl-1-butanol	12.489	55	27152	272.33 ug/L	97
92) trans-1,3-dichloropropene	12.981	75	73301	22.89 ug/L	99
93) ethyl methacrylate	12.939	69	51572	19.51 ug/L	97
94) 1,1,2-trichloroethane	13.211	83	34854	21.97 ug/L	97
95) 2-hexanone	13.378	58	13285	17.41 ug/L	98
97) cyclohexanone	15.584	55	29183	126.66 ug/L	97
98) tetrachloroethene	13.383	164	51173	22.35 ug/L	98
99) 1,3-dichloropropane	13.410	76	68552	21.50 ug/L	100
100) butyl acetate	13.441	56	23159	17.16 ug/L	96
101) dibromochloromethane	13.702	129	58196	22.84 ug/L	98
102) 1,2-dibromoethane	13.875	107	45660	21.69 ug/L	100
103) 3,3-dimethyl-1-Butanol	13.561	57	28259	132.42 ug/L	97
104) n-butyl ether	14.215	57	193331	20.18 ug/L	98
105) chlorobenzene	14.361	112	145522	22.53 ug/L	99
106) 1,1,1,2-tetrachloroethane	14.424	131	56646	23.15 ug/L	99
107) ethylbenzene	14.403	91	232955	21.65 ug/L	99
108) m,p-xylene	14.518	106	188679	44.74 ug/L	98
109) o-xylene	14.988	106	93450	22.49 ug/L	97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u196107.D
Acq On : 15 Jun 2015 9:18 am
Operator : NicoleH1
Sample : cc8988-20
Misc : ms86321,vu9043,5.0,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 15 16:45:57 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
110) styrene	14.999	104	153991	21.61 ug/L	100
111) bromoform	15.318	173	44878	22.55 ug/L	99
113) isopropylbenzene	15.360	105	243700	21.23 ug/L	99
115) bromobenzene	15.825	156	74277	22.61 ug/L	97
116) 1,1,2,2-tetrachloroethane	15.720	83	57549	20.98 ug/L	96
117) trans-1,4-dichloro-2-b...	15.767	53	16531	20.91 ug/L	95
118) 1,2,3-trichloropropane	15.809	110	16347	20.67 ug/L	99
119) n-propylbenzene	15.814	91	274825	21.18 ug/L	99
120) 2-chlorotoluene	15.992	126	63820	21.60 ug/L	99
121) 4-chlorotoluene	16.102	91	172073	20.80 ug/L	98
123) 1,3,5-trimethylbenzene	15.977	105	205480	21.00 ug/L	97
124) tert-butylbenzene	16.369	119	206651	23.78 ug/L	98
125) pentachloroethane	16.484	167	45320	23.02 ug/L	98
126) 1,2,4-trimethylbenzene	16.421	105	202846	21.16 ug/L	99
128) sec-butylbenzene	16.609	105	264917	21.27 ug/L	99
129) 1,3-dichlorobenzene	16.839	146	135773	22.16 ug/L	99
130) p-isopropyltoluene	16.735	119	234195	21.40 ug/L	99
131) 1,4-dichlorobenzene	16.928	146	136884	22.11 ug/L	99
132) benzyl chloride	17.059	91	117466	20.30 ug/L	98
133) 1,2-dichlorobenzene	17.372	146	125663	22.27 ug/L	98
135) n-butylbenzene	17.195	92	107876	20.97 ug/L	98
137) 1,2-dibromo-3-chloropr...	18.235	157	12807	18.76 ug/L	97
138) 1,3,5-trichlorobenzene	18.418	180	109173	22.00 ug/L	99
139) 1,2,4-trichlorobenzene	19.155	180	90180	21.36 ug/L	99
140) hexachlorobutadiene	19.265	225	55660	22.01 ug/L	98
141) naphthalene	19.485	128	154065	19.06 ug/L	100
143) 1,2,3-trichlorobenzene	19.762	180	75448	20.39 ug/L	98
144) hexachloroethane	17.649	201	47433	21.67 ug/L	98

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

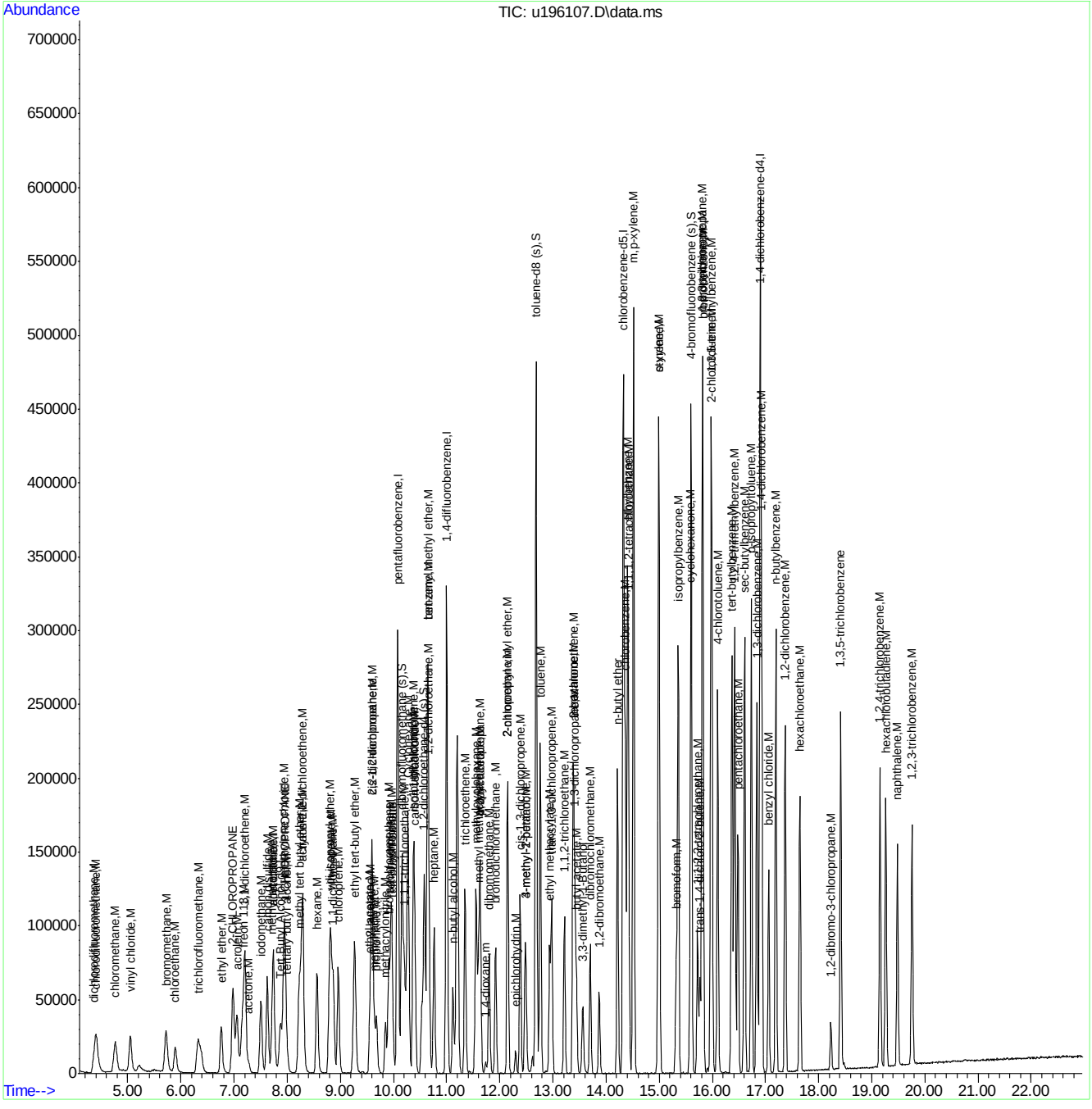
7.6.15

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u196107.D
Acq On : 15 Jun 2015 9:18 am
Operator : NicoleH1
Sample : cc8988-20
Misc : ms86321,vu9043,5.0,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 15 16:45:57 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u196201.D
Acq On : 17 Jun 2015 8:46 am
Operator : NicoleH1
Sample : cc8988-20
Misc : ms86730,vu9047,5.0,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 17 11:44:52 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.876	65	78616	500.00	ug/L	-0.01
5) pentafluorobenzene	10.072	168	299744	50.00	ug/L	-0.01
64) 1,4-difluorobenzene	10.997	114	336312	50.00	ug/L	0.00
96) chlorobenzene-d5	14.322	117	310904	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.894	152	180606	50.00	ug/L	0.00

System Monitoring Compounds						
56) dibromofluoromethane (s)	10.155	113	97858	48.02	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 96.04%			
57) 1,2-dichloroethane-d4 (s)	10.574	65	98945	45.88	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 91.76%			
88) toluene-d8 (s)	12.681	98	358707	46.64	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 93.28%			
114) 4-bromofluorobenzene (s)	15.598	95	139247	43.53	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 87.06%			

Target Compounds						Qvalue
2) tertiary butyl alcohol	7.991	59	18641	105.81	ug/L	63
4) 1,4-dioxane	11.734	88	9067	573.78	ug/L	97
11) chlorodifluoromethane	4.405	51	46513	21.86	ug/L	100
12) dichlorodifluoromethane	4.379	85	46769	19.92	ug/L	99
15) chloromethane	4.765	50	53393	20.66	ug/L	97
16) vinyl chloride	5.048	62	53618	22.44	ug/L	98
18) bromomethane	5.712	94	39918	22.65	ug/L	98
19) chloroethane	5.889	64	28790	23.70	ug/L	98
20) trichlorofluoromethane	6.323	101	64402	20.51	ug/L	99
23) ethyl ether	6.757	74	20811	18.49	ug/L	90
24) 2-CHLOROPROPANE	6.972	43	69905	18.79	ug/L #	92
27) acrolein	7.050	56	59971	176.20	ug/L	100
28) 1,1-dichloroethene	7.207	96	38971	20.83	ug/L	96
29) acetone	7.275	58	3061	17.96	ug/L #	80
30) allyl chloride	7.735	76	20902	19.60	ug/L	92
31) acetonitrile	7.735	40	27825	190.03	ug/L #	86
32) iodomethane	7.500	142	82268	22.22	ug/L	96
33) carbon disulfide	7.620	76	128795	21.28	ug/L	97
34) 1-CHLOROPROPANE	7.960	63	3301	18.80	ug/L	99
35) methylene chloride	7.934	84	42865	18.12	ug/L	99
36) methyl acetate	7.709	43	25357	16.41	ug/L	98
37) methyl tert butyl ether	8.226	73	113005	19.22	ug/L	98
38) trans-1,2-dichloroethene	8.294	96	42844	20.40	ug/L	97
39) di-isopropyl ether	8.801	45	120020	18.71	ug/L	97
40) ethyl tert-butyl ether	9.261	59	123891	19.79	ug/L	97
41) 2-butanone	9.549	72	4262	18.04	ug/L #	88
42) 1,1-dichloroethane	8.864	63	73268	20.73	ug/L	97
43) chloroprene	8.958	53	58170	19.94	ug/L	98
44) acrylonitrile	8.268	53	56012	87.96	ug/L	99
45) vinyl acetate	8.828	86	6841	18.28	ug/L #	72
46) ethyl acetate	9.549	45	4368	15.70	ug/L	97
47) 2,2-dichloropropane	9.586	77	67695	21.94	ug/L	99
48) cis-1,2-dichloroethene	9.591	96	47006	20.31	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u196201.D
Acq On : 17 Jun 2015 8:46 am
Operator : NicoleH1
Sample : cc8988-20
Misc : ms86730,vu9047,5.0,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 17 11:44:52 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
49) methyl acrylate	9.643	85	5426	16.81 ug/L #	85
50) propionitrile	9.675	54	44787	175.34 ug/L	96
51) bromochloromethane	9.905	128	24624	20.98 ug/L	98
52) tetrahydrofuran	9.941	42	11231	15.58 ug/L	97
53) chloroform	9.952	83	75320	20.47 ug/L	99
54) tert-butyl Formate	9.973	59	33463	18.61 ug/L	97
55) iso-butyl alcohol	10.370	43	14181	141.38 ug/L	95
58) freon 113	7.160	151	34399	22.37 ug/L	99
59) methacrylonitrile	9.847	41	19360	15.62 ug/L	98
60) 1,1,1-trichloroethane	10.203	97	68228	21.73 ug/L	99
62) tert-amyl methyl ether	10.642	87	29621	19.54 ug/L	97
66) epichlorohydrin	12.294	57	15268	79.25 ug/L	97
67) n-butyl alcohol	11.117	56	44860	815.15 ug/L	100
68) Cyclohexane	10.260	84	60194	20.54 ug/L	94
69) carbon tetrachloride	10.396	117	63654	22.94 ug/L	97
70) 1,1-dichloropropene	10.370	75	56920	21.55 ug/L	99
71) hexane	8.556	57	46257	20.89 ug/L	98
72) benzene	10.642	78	161684	19.92 ug/L	100
73) heptane	10.762	57	26111	18.95 ug/L	99
74) isopropyl acetate	10.532	43	62358	17.03 ug/L	98
75) 1,2-dichloroethane	10.663	62	55384	21.89 ug/L	99
78) trichloroethene	11.342	95	44515	21.04 ug/L	96
79) methylcyclohexane	11.557	83	68089	21.33 ug/L	95
80) 2-nitropropane	12.153	41	14808	19.09 ug/L #	71
81) 2-chloroethyl vinyl ether	12.142	63	94151	85.74 ug/L	98
82) methyl methacrylate	11.598	100	10104	18.07 ug/L	92
83) 1,2-dichloropropane	11.625	63	41693	20.96 ug/L	97
84) propyl acetate	11.635	73	7059	17.70 ug/L	92
85) dibromomethane	11.797	93	27471	21.18 ug/L	97
86) bromodichloromethane	11.917	83	59172	21.18 ug/L	99
87) cis-1,3-dichloropropene	12.383	75	70076	20.60 ug/L	95
89) 4-methyl-2-pentanone	12.472	58	13205	17.49 ug/L #	86
90) toluene	12.759	92	108605	20.89 ug/L	99
91) 3-methyl-1-butanol	12.487	55	29006	299.96 ug/L	99
92) trans-1,3-dichloropropene	12.973	75	65962	21.23 ug/L	97
93) ethyl methacrylate	12.937	69	46758	18.24 ug/L	98
94) 1,1,2-trichloroethane	13.209	83	32082	20.85 ug/L	98
95) 2-hexanone	13.376	58	12443	16.82 ug/L	90
97) cyclohexanone	15.577	55	36564	162.57 ug/L	98
98) tetrachloroethene	13.381	164	47043	21.05 ug/L	98
99) 1,3-dichloropropane	13.407	76	62298	20.01 ug/L	99
100) butyl acetate	13.439	56	22496	17.08 ug/L	98
101) dibromochloromethane	13.700	129	51553	20.73 ug/L	98
102) 1,2-dibromoethane	13.867	107	40980	19.94 ug/L	100
103) 3,3-dimethyl-1-Butanol	13.559	57	31030	148.96 ug/L	99
104) n-butyl ether	14.212	57	178336	19.07 ug/L	98
105) chlorobenzene	14.354	112	133064	21.11 ug/L	97
106) 1,1,1,2-tetrachloroethane	14.422	131	52020	21.78 ug/L	99
107) ethylbenzene	14.401	91	214196	20.39 ug/L	99
108) m,p-xylene	14.516	106	172504	41.90 ug/L	100

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u196201.D
Acq On : 17 Jun 2015 8:46 am
Operator : NicoleH1
Sample : cc8988-20
Misc : ms86730,vu9047,5.0,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 17 11:44:52 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
109) o-xylene	14.981	106	86385	21.30 ug/L	99
110) styrene	14.997	104	141808	20.39 ug/L	99
111) bromoform	15.316	173	37579	19.34 ug/L	96
113) isopropylbenzene	15.352	105	223974	20.23 ug/L	99
115) bromobenzene	15.823	156	67744	21.38 ug/L	95
116) 1,1,2,2-tetrachloroethane	15.718	83	51579	19.49 ug/L	99
117) trans-1,4-dichloro-2-b...	15.760	53	12428	16.29 ug/L	94
118) 1,2,3-trichloropropane	15.807	110	14708	19.28 ug/L	92
119) n-propylbenzene	15.812	91	254659	20.35 ug/L	99
120) 2-chlorotoluene	15.990	126	59037	20.71 ug/L	95
121) 4-chlorotoluene	16.100	91	158160	19.82 ug/L	97
123) 1,3,5-trimethylbenzene	15.974	105	188308	19.95 ug/L	98
124) tert-butylbenzene	16.366	119	191801	22.88 ug/L	99
125) pentachloroethane	16.481	167	40980	21.57 ug/L	99
126) 1,2,4-trimethylbenzene	16.419	105	187367	20.26 ug/L	98
128) sec-butylbenzene	16.602	105	244247	20.33 ug/L	99
129) 1,3-dichlorobenzene	16.837	146	124950	21.14 ug/L	99
130) p-isopropyltoluene	16.732	119	216467	20.50 ug/L	99
131) 1,4-dichlorobenzene	16.926	146	125932	21.08 ug/L	99
132) benzyl chloride	17.056	91	111783	20.02 ug/L	99
133) 1,2-dichlorobenzene	17.365	146	115591	21.23 ug/L	99
135) n-butylbenzene	17.192	92	98746	19.90 ug/L	99
137) 1,2-dibromo-3-chloropr...	18.233	157	11103	16.85 ug/L	98
138) 1,3,5-trichlorobenzene	18.410	180	99748	20.84 ug/L	99
139) 1,2,4-trichlorobenzene	19.153	180	81661	20.05 ug/L	98
140) hexachlorobutadiene	19.263	225	50661	20.77 ug/L	96
141) naphthalene	19.477	128	137979	17.69 ug/L	99
143) 1,2,3-trichlorobenzene	19.754	180	67000	18.77 ug/L	100
144) hexachloroethane	17.647	201	42001	19.89 ug/L	97

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

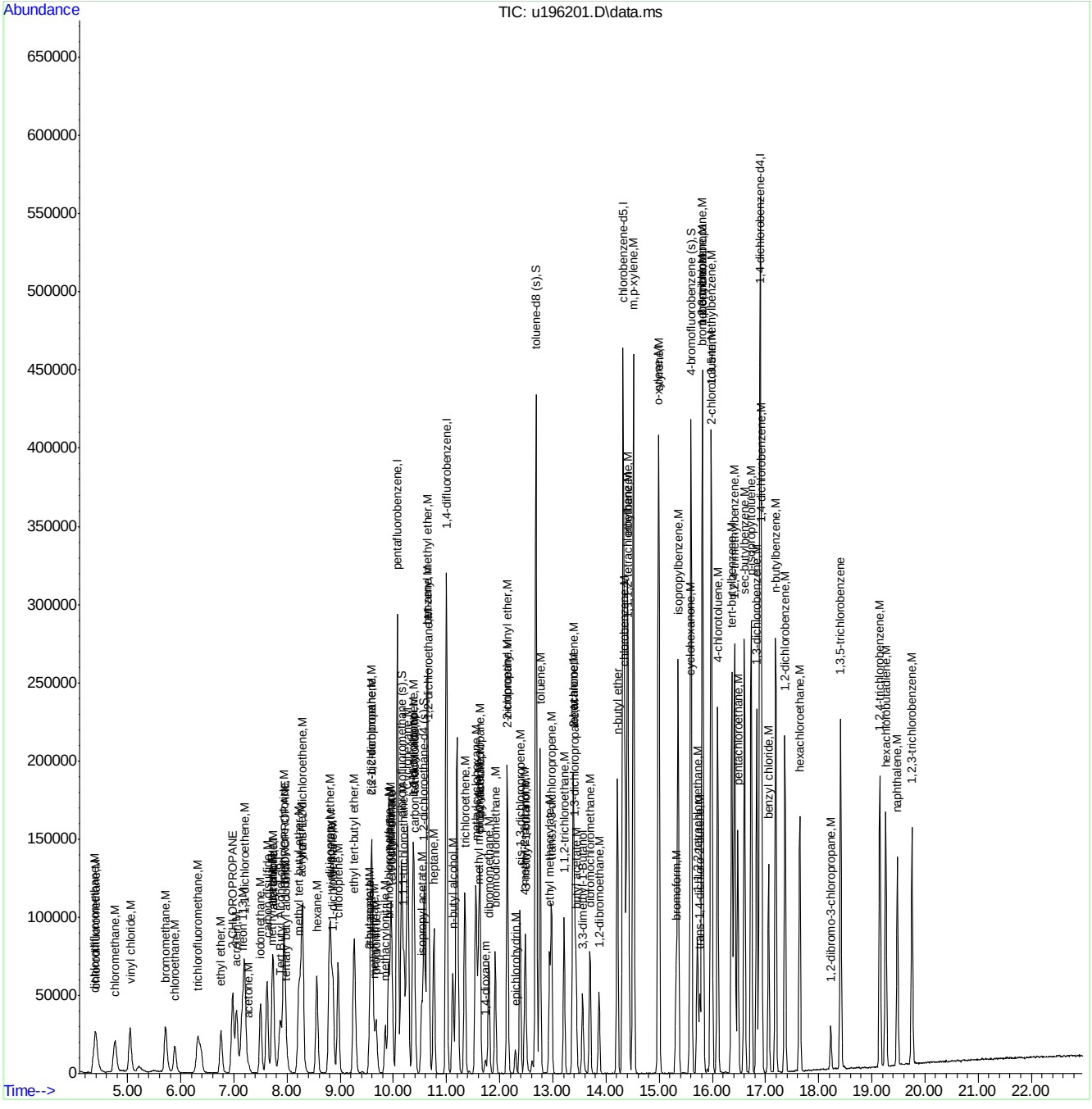
7.6.16

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : u196201.D
Acq On : 17 Jun 2015 8:46 am
Operator : NicoleH1
Sample : cc8988-20
Misc : ms86730,vu9047,5.0,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 17 11:44:52 2015
Quant Method : C:\MSDCHEM\1\METHODS\MU8988.M
Quant Title : SW-846 8260B, ZB624 60m x 250um x 1.40um
QLast Update : Mon May 04 09:25:27 2015
Response via : Initial Calibration



ACCUTEST

VOLATILE ANALYSIS LOG

Batch ID: VU8988

Print Analyst Name: Nicole Horvath

Analyst Signature: Nicole Horvath

Columns: ZB624(60m x 0.25mm x 1.4um)

Method V8260C

Initial Cal. Method MU8988

Date: 5/01/2015

pH paper 212713 exp 5/01/16

Standard Data

Lot #	Description	Conc.
VOIS 2060 56 1	Ext A	100 ppm
VOIS 2060 69 1	Ext B	100 ppm
VOIS 2060 55 2	Ext C	100 ppm
VOIS 2060 45 3	Acrolein	1000 ppm
VOIS 2060 53 5	Ethanol	10000 ppm
VOIS 2060 65 7	Hexane	1000 ppm

Standard Data

Lot #	Description	Conc.
VOIS 2060	Std A	100 ppm
VOIS 2060	Std B	100 ppm
VOIS 2060	Std C	100 ppm
VOIS 2060	Acrolein	1000 ppm
VOIS 2060	Ethanol	10000 ppm
VOIS 2060 49	Hexane	1000 ppm

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with the criteria of Accutest SOP EQA044.

Supervisor Signature: [signature] **Date:** 5/4/15

R	Data File	Sample ID	Test	MTX	Vial #	ALS #	Samp. Amt (ml or g)	MOH amt. (ul)	Secondary dilution	L+	IS	SU	Status (Data)	Comments	pH* < 2
	4 194814	BFB					5		1x				ok		
	194815	IC8988-0.2					5		1x		✓		ok	1ul Std ABC, ACR, EtOH -> 500mL	
	194816	IC8988-0.5					5		1x		✓		ok	2.5ul Std ABC, ACR, EtOH -> 500mL	
	194817	IC8988-1					5		1x		✓		ok	2ul Std ABC, EtOH, 200ul ACR -> 200mL	
	194818	IC8988-2					5		1x		✓		ok	2ul Std ABC, EtOH, 200ul ACR -> 100mL	
	194819	IC8988-5					5		1x		✓		ok	5ul Std ABC, ACR, EtOH -> 100mL	
	194820	IC8988-10					5		1x		✓		ok	5ul Std ABC, ACR, EtOH -> 50mL	
	194821	IC8988-20					5		1x		✓		ok	10ul Std ABC, ACR, EtOH -> 50mL	
	194822	IC8988-50					5		1x		✓		ok	25ul Std ABC, ACR, EtOH -> 50mL	
	194823	IC8988-100					5		1x		✓		ok	50ul Std ABC EADT, 1ul ACR -> ~~100~~ 50mL ~~EA~~ 5/1	
	194824	IC8988-200					5		1x		✓		ok	100ul Std ABC, EtOH -> 50mL	
	194825	IB					5		1x		✓				
	194826	IB					5		1x		✓				
	194827	ICV8988-50					5		1x		✓		ok		

MTX = Matrix Designate W for water, S for soil, O for oil. ~~L+ =Library~~ Search. IS = Internal Standard Area. SU = Surrogate.
Sample Amt = Volume (ML) or Weight (g); MOH amt.= volume (ul) extract injected * IF pH > 2, comment on sample result.
All strike outs must be initialed, dated and reason code applied as follows: 1 = reviewer correction error; 2 = transcription error; 3 = computer miscalculation; 4 = analyst's correction error

Form: OR001-9
Rev. Date: 2/14/2007

ACCUTEST

VOLATILE ANALYSIS LOG

Batch ID: VU9037

Print Analyst Name: Nicole Horvath

Analyst Signature: Nicole H

Columns: ZB624 (60m x 0.25mm x 1.4u)

Method V8260C

Initial Cal. Method MU8968

Date: 6/10/15

Standard Data

Lot #	Description	Conc.
VO1512060	12811 Ext A	100ppm
VO1512060	10822 Ext B	100ppm
VO1512060	1165 Ext C	100ppm
VO1512060	1229 Acrolein	100ppm
VO1512060	9812 Hexane	100ppm
VO1512060	11035 Std A	100ppm
VO1512060	76.5 Std B	100ppm
VO1512060	1248 Std C	100ppm
VO1512060	1104 Acrolin	100ppm
VO1512060	1210	100ppm

Standard Data

Lot #	Description	Conc.
VO1512060	11035 Std A	100ppm
VO1512060	76.5 Std B	100ppm
VO1512060	1248 Std C	100ppm
VO1512060	1104 Acrolin	100ppm
VO1512060	1210	100ppm

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with the criteria of Accutest SOP EQA044.

Supervisor Signature: [signature] **Date:** 6/11/2015

R	Data File	Sample ID	Test	MTX	Vial #	ALS #	Samp. Amt (ml or g)	MOH amt. (ul)	Secondary dilution	L+	IS	SU	Status (Data)	Comments	pH* < 2
	195951	BFB					5		1X				ok	8:47pm	
	195952	CC8988-50					5		1X			✓	ok	25ul Std ABC III Acr→50ml	
	195953	IB					5		1X			✓	dup		
	195954	MB					5		1X	✓		✓	ok		
	195955	BS					5		1X			✓	ok	25ul Std ABC Acr Acr→50mL	
	195956	JB96432-1MS	86322 SL3	GW	13		5		1X			✓	ok	25 ul Std ABC Acr →50mL	
	195957	JB96432-1MSD	✓	GW	11		5		1X			✓	ok	25 ul Std ABC Acr →50mL	
	195958	IB					5		1X			✓	dup		
	195959	JB96432-1	86322 SL3	GW	5		5		1X			✓	ok		
	195960	JB96432-9	✓	WTB	1		5		1X			✓	ok		
	195961	JB96432-5	✓	GW	4		5		1X			✓	ok		
	195962	JB96432-8	✓	GW	1		5		1X			✓	ok		
	195963	JB96432-2	✓	GW	4				2,000X			✓	ok/OD	R200X	
	195964	JB96432-2	✓	GW	4				20,000X			✓	Not Used		
	195965	JB96432-3	✓	GW	3				2,000X			✓	ok/OD	R200X	
	195966	JB96432-3	✓	GW	3				20,000X			✓	Not Used		
	195967	JB96432-4	✓	GW	5		05/50		100X			✓	ok/OD	R4X	

MTX = Matrix Designate W for water, S for soil, O for oil. L+ =Library Search. IS = Internal Standard Area. SU = Surrogate.
Sample Amt = Volume (ML) or Weight (g); MOH amt.= volume (ul) extract injected * IF pH > 2, comment on sample result.
All strike outs must be initialed, dated and reason code applied as follows: 1 = reviewer correction error; 2 = transcription error; 3 = computer miscalculation; 4 = analyst's correction error

Form: OR001-9
Rev. Date: 2/14/2007

ACCUTEST

VOLATILE ANALYSIS LOG

Batch ID: VU9037

Print Analyst Name: Nicole Horvath

Analyst Signature: [signature]

Columns: ZB624 (60m*0.25mm*1.4u)

Method V8260C

Initial Cal. Method MU8988

Date: 6/10/15

Standard Data

Lot #	Description	Conc.

Standard Data

Lot #	Description	Conc.
	See PG 99	

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with the criteria of Accutest SOP EQA044.

Supervisor Signature: [signature] Date: 6/18/2015

R	Data File	Sample ID	Test	MTX	Vial #	ALS #	Samp. Amt (ml or g)	MOH amt. (ul)	Secondary dilution	L+	IS	SU	Status (Data)	Comments	pH* < 2
	4 195968	JB96399-2	86316 TCL20+TBA	GW	7		5		1x	✓	✓		ok		
	195969	JB96399-2	✓	GW	7		5/50		10x		✓		Hot	Heel.	
	195970	JB96399-8	✓	GW	7		5		1x	✓	✓		ok		
	195971	JB96399-8	✓	GW	7		5/50		10x		✓		Hot	Heel.	
	195972	JB96399-1	✓	WB	2		5		1x	✓	✓		ok		
	195973	JB96399-6	✓	WB	1		5		1x	✓	✓		ok		
	195974	JB96399-3	✓	GW	7		5		1x	✓	✓		ok		

[initials] 6/18

MTX = Matrix Designate W for water, S for soil, O for oil. L+ =Library Search. IS = Internal Standard Area. SU = Surrogate.
Sample Amt = Volume (ML) or Weight (g); MOH amt.= volume (ul) extract injected * IF pH > 2, comment on sample result.
All strike outs must be initialed, dated and reason code applied as follows: 1 = reviewer correction error; 2 = transcription error; 3 = computer miscalculation; 4 = analyst's correction error

101

Form: OR001-9
Rev. Date: 2/14/2007

ACCUTEST

VOLATILE ANALYSIS LOG

Batch ID: VU9038

Print Analyst Name: Nicole Horvath

Analyst Signature: [signature]

Columns: 2B624 (60m×0.25mm×1.4um)

Method V8260C

Initial Cal. Method MU8988

Date: 6/11/15

Standard Data

Lot #	Description	Conc.
VU15200	128 h Std A	100ppm
VU15200	108 24 Std B	100ppm
VU15200	126 Std C	100ppm
VU15200	127 Acrolein	100ppm
VU15200	98 h Acrylo	100ppm

Standard Data

Lot #	Description	Conc.
VU15200	652 Std A	100ppm
VU15200	131 13 Std B	100ppm
VU15200	132 4 Std C	100ppm
VU15200	1857 Acrolein	100ppm
VU15200	120 115	25ppm

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with the criteria of Accutest SOP EQA044.

Supervisor Signature: [signature] **Date:** 6/12/2015

R	Data File	Sample ID	Test	MTX	Vial #	ALS #	Samp. Amt (ml or g)	MOH amt. (ul)	Secondary dilution	L+	IS	SU	Status (Data)	Comments	pH* < 2
	4 195978	BFB											ok	10:23	
	195979	CC8988-20											~~ok~~	100ul Std ABC Acr → 50ml	
	195980	CC8988-20											ok	100ul Std ABC Acr → 50ml	
	195981	IB									✓		dup		
	195982	MB								✓	✓		ok		
	195983	BS									✓		ok	25 ul Std ABC, AOR Acr → 50ml	
	195984	IB									✓		dup		
R	195985	JB96173-3	86190 ~~8021B~~ TCL20TB	GW	2		2.5/50		20x		✓		ok ~~ok~~	not matching RR 200x	✓
R	195986	JB96432-2	86322 SL3	GW	4		0.25/50		200x		✓		ok		✓
R	195987	JB96432-3	✓	GW	3		0.25/50		200x		✓		ok		✓
FD	195988	JB96173-3	86190 ~~8021B~~	GW	2		0.25/50		200x		✓		ok/R	made at same time Not match to 20x	✓
	195989	JB96173-3MS	✓	GW	2		2.5/10		20x		✓		ok	25 ul Std ABC Acr → 50ml	✓
	195990	JB96173-3MSD	✓	GW	2		2.5/10		20x		✓		ok	25 ul Std ABC Acr → 50ml	✓
	195991	IB ~~JB96399-11~~	86316 TCL20TB	GW	7		5		1x ~~100x~~		✓		dup		
	195992	96173-3 ~~JB96432-6~~	86322 SL3	GW	2 1		0.5/50		50x 100x		✓		ok		✓
	195993	JB96432-6	✓	GW	1		0.5/50		100x ~~1000x~~		✓		ok/R	20x Combine	✓
	195994	JB96432-7	✓	GW	1		0.5/50		100x		✓		ok/R	20x Combine	✓

MTX = Matrix Designate W for water, S for soil, O for oil. L+ =Library Search. IS = Internal Standard Area. SU = Surrogate.
Sample Amt = Volume (ML) or Weight (g); MOH amt.= volume (ul) extract injected * IF pH > 2, comment on sample result.
All strike outs must be initialed, dated and reason code applied as follows: 1 = reviewer correction error; 2 = transcription error; 3 = computer miscalculation; 4 = analyst's correction error

Form: OR001-9
Rev. Date: 2/14/2007

ACCUTEST

VOLATILE ANALYSIS LOG

Batch ID: VU9038

Print Analyst Name: Nicole Honath

Analyst Signature: [signature]

Columns: ZB624 (60m×0.25mm×1.4µm)

Method 18260

Initial Cal. Method VU8968

Date: 6/11/15

Standard Data

Lot #	Description	Conc.

Standard Data

Lot #	Description	Conc.
	See Pg 103	

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with the criteria of Accutest SOP EQA044.

Supervisor Signature: [signature] Date: 6/12/2015

R	Data File	Sample ID	Test	MTX	Vial #	ALS #	Samp. Amt (ml or g)	MOH amt. (ul)	Secondary dilution	L+	IS	SU	Status (Data)	Comments	pH* < 2
	V 195996	JB96432-7	86322 SL3	CW	1		0.05/50		1000X		✓		Not Heel.		✓
	195996	JB96399-7	86316 TCL20ATBA	CW	7		0.5/50		10X		✓		HG	RR 1X	✓
	195997	JB96399-9	✓	CW	7		0.5/50		10X		✓		OK	Dilution due to notarget	✓
	195998	JB96399-9	✓	CW	7		0.05/50		100X		✓		Not Heel.		✓
	195999	JB96399-10	✓	CW	7		10/50		5X		✓		OK/R	RR 1X Combine.	✓
	196000	JB96399-10	✓	CW	7		1/50		50X		✓		Not Heel.		✓
	196001	JB96399-11	✓		7		0.5/50		10X	✓	✓		OK	Dilution due to nontarget.	✓ 9:57AP

MTX = Matrix Designate W for water, S for soil, O for oil. L+ =Library Search. IS = Internal Standard Area. SU = Surrogate.
Sample Amt = Volume (ML) or Weight (g); MOH amt.= volume (ul) extract injected * IF pH > 2, comment on sample result.
All strike outs must be initialed, dated and reason code applied as follows: 1 = reviewer correction error; 2 = transcription error; 3 = computer miscalculation; 4 = analyst's correction error

Form: OR001-9
Rev. Date: 2/14/2007

ACCUTEST

VOLATILE ANALYSIS LOG

Batch ID: VU9040

Print Analyst Name: Nicole Honan

Analyst Signature: [signature]

Columns: 28624 (60m x 0.25mm x 1.4u)

Method V8260C

Initial Cal. Method M46988

Date: 6/12/15

Standard Data

Lot #	Description	Conc.
V0152060	128.14 Std A	100ppm
V0152060	108.23 Std B	100ppm
V0152060	126.3 Std C	100ppm
V0152060	127.7 Acrolein	100ppm
V0152460	98.13 Heroin	100ppm

Standard Data

Lot #	Description	Conc.
V0152060	111.7 Std A	100ppm
V0152060	131.22 Std B	100ppm
V0152060	131.3 Std C	100ppm
V0152060	115.14 Acrolein	100ppm
V0153960	120 115	250/250ppm

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with the criteria of Accutest SOP EQA044.

Supervisor Signature: [signature] **Date:** 6/15/2015

R	Data File	Sample ID	Test	MTX	Vial #	ALS #	Samp. Amt (ml or g)	MOH amt. (ul)	Secondary dilution	L+	IS	SU	Status (Data)	Comments	pH* < 2
	196022	BFB											ok	8:10 AM	
	196023	CC8988-20											R/L		
	196024	CC8988-20									-	-	ok		
	196025	IB											✓		
	196026	MB								✓	✓	✓	ok		
	196027	BS									✓	✓	ok		
FD	196028	JB96318-9	86446 TCL1H	GW	1				200X		✓	✓	ok		✓
	196029	JB96557-5	86396 TCL20+	WB	1		5		1X	✓	✓	✓	ok		✓
	196030	JB96557-6	✓	GW	10		5		1X	✓	✓	✓	ok		✓
R	196031	JB96472-1	86419 TCL20+	GW	5		5		1X	✓	✓	✓	ok		✓
R	196032	JB96472-2	✓	GW	3		5		1X	✓	✓	✓	ok		✓
R	196033	JB96432-7	86322 SL3	GW	3		25/50		20X		✓	✓	ok		✓
R	196034	JB96399-5	86316 TCL20+TBM	GW	8		5		1X		✓	✓	ok		✓
	196035	JB96432-7MS	86322 SL3	GW	3		25/50		20X		✓	✓	ok		✓
	196036	JB96432-7MD	✓	GW	3		25/50		20X		✓	✓	ok		✓ FR
FD	196037	JB96318-6	86446 TCL1H	GW	1		05/10		100X		✓		ok		✓
	196038	JB96472-8	86416 TCL20+	WB	6		5		1X	✓	✓		ok		✓

MTX = Matrix Designate W for water, S for soil, O for oil. L+ =Library Search. IS = Internal Standard Area. SU = Surrogate.
Sample Amt = Volume (ML) or Weight (g); MOH amt.= volume (ul) extract injected * IF pH > 2, comment on sample result.
All strike outs must be initialed, dated and reason code applied as follows: 1 = reviewer correction error; 2 = transcription error; 3 = computer miscalculation; 4 = analyst's correction error

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7.7.4

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ACCUTEST

VOLATILE ANALYSIS LOG

Batch ID: VU9040

Print Analyst Name: Nicole Horvath

Analyst Signature: Nicole Horvath

Date: 6/12/15

Columns: 28624/60m x 0.25mm x 1.4u

Method V8260C

Initial Cal. Method MU9008

Standard Data		
Lot #	Description	Conc.

Standard Data		
Lot #	Description	Conc.
	See Pg 111	

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with the criteria of Accutest SOP EQA044.

Supervisor Signature: [signature] Date: 6/15/2015

R	Data File	Sample ID	Test	MTX	Vial #	ALS #	Samp. Amt (ml or g)	MOH amt. (ul)	Secondary dilution	L+	IS	SU	Status (Data)	Comments	pH* < 2
	196039	JB96472-9	8649 TCLM+	W	1		5		1x	✓	✓		ok		✓
	196040	JB96472-3	✓	W	6		5		1x	✓	✓		ok		✓
	196041	JB96472-4	✓	W	6		5		1x	✓	✓		ok		✓
	196042	JB96472-5	✓	W	5		5		1x	✓	✓		ok		✓
	196043	JB96472-6	✓	W	2		5		1x	✓	✓		ok		✓
	196044	JB96472-7	✓	W	6		5		1x	✓	✓		ok	7.10 ppm	✓

TR 6/15/2015

MTX = Matrix Designate W for water, S for soil, O for oil. L+ =Library Search. IS = Internal Standard Area. SU = Surrogate.
Sample Amt = Volume (ML) or Weight (g); MOH amt.= volume (ul) extract injected * IF pH > 2, comment on sample result.
All strike outs must be initialed, dated and reason code applied as follows: 1 = reviewer correction error; 2 = transcription error; 3 = computer miscalculation; 4 = analyst's correction error

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Form: OR001-9
Rev. Date: 2/14/2007

ACCUTEST

VOLATILE ANALYSIS LOG

Batch ID: VU9043

Print Analyst Name: Nicole Horvath

Analyst Signature: Nicole H

Columns: ZB624/60mx0.25mmx1.4um

Method V8260C

Initial Cal. Method VU8988

Date: 6/15/2015 (Mon.Day)

Standard Data

Lot #	Description	Conc.
V015206O	128.14 Ext A	100ppm
V015206O	141.2 Ext B	100ppm
V015206O	143.2 Ext C	100ppm
V015206O	127.7 Acrolein	1000ppm
V015206O	98.16 Hexane	100ppm

Standard Data

Lot #	Description	Conc.
V015206O	110.70 Std A	100ppm
V015206O	133.22 Std B	100ppm
V015206O	138.3 Std C	100ppm
V015206O	115.14 Acrolein	1000ppm
V015206O	120 1,1,S	250/250ppm

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with the criteria of Accutest SOP EQA044.

Supervisor Signature: _____ **Date:** 6/16/15

R	Data File	Sample ID	Test	MTX	Vial #	ALS #	Samp. Amt (ml or g)	MOH amt. (ul)	Secondary dilution	L+	IS	SU	Status (Data)	Comments	pH* < 2
	U 196106	BFB			+	1	5		1x				ok	8:43am	
	196107	CC8988-20			2	2	5		1x		✓	✓	ok	10ul Std ABC, ACR →50mL 691	
	196108	IB			3	3	5		1x						
	196109	MB				4	5		1x	+	✓	✓	ok		
	196110	BS				5	5		1x		✓	✓	ok	25ul Ext ABC, ACR, Hex →50mL	
FD	196111	JB96318-8	86446 TCL1H	GW	2	6	10/50		5X		✓	✓	ok		✓
R	196112	JB96432-6	86322 SL3	GW	5	7	2.5/50		20X		✓	✓	ok		✓
R	196113	JB96711-20	86475 TCL20+	GW	12	8	5		1x	+	✓	✓	ok		✓
R	196114	JB96711-5	✓	GW	3	9	5		1x	+	✓	✓	ok		✓
R	196115	JB96711-~~22~~ 18 6/15	✓	GW	~~8~~ 11	10	5		1x	+	✓	✓	ok		✓
R	196116	JB96711-22	✓	GW	8	11	5		1x	+	✓	✓	ok		✓
FD	196117	JB96432-6	86322 SL3	GW	5	12	250ul/50		200X		✓	✓	ok	Combine U196112	✓
R	196118	JB96647-4	86516 TCL20+ UNPRW	W	17	13	05/50		100X		✓	✓	ok/DL	FID	6
R	196119	JB96399-7	86316 TCL20+	GW	8	14	5		1x		✓	✓	ok		✓
R	196120	JB96399-10	TBA ✓	GW	8	15	5		1x		✓	✓	ok		✓
	196121	JB96432-6MS	86322 SL3	GW	5	16	2.5/50		20X		✓	✓	ok	25ul Std ABC, ACR →50mL	✓
	196122	JB96432-6MSD	✓	GW	5	17	2.5/50		20X		✓	✓	ok	25ul Std ABC ACR →50mL	✓

MTX = Matrix Designate W for water, S for soil, O for oil. L+ =Library Search. IS = Internal Standard Area. SU = Surrogate.
Sample Amt = Volume (ML) or Weight (g); MOH amt.= volume (ul) extract injected * IF pH > 2, comment on sample result.
All strike outs must be initialed, dated and reason code applied as follows: 1 = reviewer correction error; 2 = transcription error; 3 = computer miscalculation; 4 = analyst's correction error

Form: OR001-9
Rev. Date: 2/14/2007

ACCUTEST

VOLATILE ANALYSIS LOG

Batch ID: VU9043

Print Analyst Name: Nicole Horvath

Analyst Signature: Nicole Hor

Columns: ZB624(60mx0.25mmx1.4um)

Method V8260C

Initial Cal. Method MU8988

Date: 6/15/15 HH 6/15

Standard Data

Lot #	Description	Conc.

Standard Data

Lot #	Description	Conc.
	See PG 123	

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with the criteria of Accutest SOP EQA044.

Supervisor Signature: HM Date: 6/16/15

R	Data File	Sample ID	Test	MTX	Vial #	ALS #	Samp. Amt (ml) or g)	MOH amt. (ul)	Secondary dilution	L+	IS	SU	Status (Data)	Comments	pH* < 2
	U 196123	1B					5		1X		✓	✓			✓
	196124	JB96663-10	86491 PAUGFDX	GW	4		5		1X		✓	✓	OC		✓
	196125	JB96318-10	86446 TCLH	GW	1		0.5 50		100X		✓	✓	OC		✓
	196126	JB96318-4	✓	GW	1		5		1X		✓	✓	FO ~~BR~~ 1X/10X 69hit		✓
	196127	JB96981-1			2		5		1X		✓	✓	OC	HH 6/16	✓
	196128	JB96981-2			2		5		1X		✓	✓	OC		✓

HCS 6/16/15

MTX = Matrix Designate W for water, S for soil, O for oil. L+ =Library Search. IS = Internal Standard Area. SU = Surrogate.
Sample Amt = Volume (ML) or Weight (g); MOH amt.= volume (ul) extract injected * IF pH > 2, comment on sample result.
All strike outs must be initialed, dated and reason code applied as follows: 1 = reviewer correction error; 2 = transcription error; 3 = computer miscalculation; 4 = analyst's correction error

Form: OR001-9
Rev. Date: 2/14/2007

ACCUTEST

VOLATILE ANALYSIS LOG

Batch ID: VU9047

Print Analyst Name: Nicole Horvath

Analyst Signature: Nicol, HA

Columns: ZB624 (60m x 0.25mm x 1.4u)

Method V8260C

Initial Cal. Method MU8983

Date: 6/17/15

Standard Data

Lot #	Description	Conc.
V015266	118.17 Std A	100ppm
V015266	141.7 Std B	100ppm
V015266	149.3 Std C	100ppm
V015266	122 Acrolein	1000ppm
V015266	214 210 Hexane	100ppm

Standard Data

Lot #	Description	Conc.
V015266	110.78 Std A	100ppm
V015266	121.22 Std B	100ppm
V015266	118.3 Std C	100ppm
V015266	115.32 Acrolein	1000ppm
V015266	137 115	2500ppm

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with the criteria of Accutest SOP EQA044.

Supervisor Signature: _____ **Date:** 6/18/2015

R	Data File	Sample ID	Test	MTX	Vial #	ALS #	Samp. Amt (ml or g)	MOH amt. (ul)	Secondary dilution	L+	IS	SU	Status (Data)	Comments	pH* < 2
	4 196200	BFB					5		1x				OK	8:11 Am	
	196201	CC89958-70					5		1x				OK	10ul Std ABC Acr → 50mL	
	196202	IB					5		1		✓		clip		
	196203	MB					5		1x	✓	✓		OK		
	196204	BS					5		1x		✓		OK	25ul Ext ABC Acr → 50mL	
FD	196205	JB96907-4	86615 TCL 20+	GW	2		0.5/50		100x		✓		OK		✓
2	196206	JB96907-15	✓	GW	9		5		1x	✓	✓		OK		✓
2	196207	JB96907-16	✓	GW	2		5		1x	✓	✓		OK		✓
FD	196208	JB96907-16	✓	GW	2		5/50		10x		✓		OK		✓ (TB)
	196209	JB96907-16	✓	GW	2		0.5/50		100x		✓		~~OK~~	21 6/17/2015 Not loaded	✓
R	196210	JB96907-9	✓	GW	2		5/50		10x	✓	✓	✓	OK		✓
FD	196211	JB96907-9	✓	GW	2		0.5/50		100x		✓		OK		✓ (TB)
LD	196212	JB96432-4	86322 SL3	GW	3		12.5/50		4x		✓		OK		✓
	196213	JB96878-3	86691 PPL ✓	GW	22		5		1x		✓		OK		✓
	196214	JB96878-1	PPL ✓	WTB	1		5		1x		✓		OK		✓
	196215	JB96725-7	86487 OK PPL Lint MOH Tbn	GW	2		25/50		20x		✓		OK		✓
	196216	JB96878-3 MS	86691 PPL	GW	21		5		1x		✓		~~OK~~ MG	dup not quite in range	✓

MTX = Matrix Designate W for water, S for soil, O for oil. L+ =Library Search. IS = Internal Standard Area. SU = Surrogate.
Sample Amt = Volume (ML) or Weight (g); MOH amt.= volume (ul) extract injected * IF pH > 2, comment on sample result.
All strike outs must be initialed, dated and reason code applied as follows: 1 = reviewer correction error; 2 = transcription error; 3 = computer miscalculation; 4 = analyst's correction error

Form: OR001-9
Rev. Date: 2/14/2007

ACCUTEST

VOLATILE ANALYSIS LOG

Batch ID: ~~VU9407~~ 6/19/15 VU9047

Print Analyst Name: Nicole Horvath

Analyst Signature: [signature]

Columns: ZB624 (60m x 0.25mm x 1.4µm)

Method V8260C

Initial Cal. Method MU8988

Date: 6/17/15

Standard Data		
Lot #	Description	Conc.

Standard Data		
Lot #	Description	Conc.
	See Pg 142	

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with the criteria of Accutest SOP EQA044.

Supervisor Signature: [signature] Date: 6/18/2015

R	Data File	Sample ID	Test	MTX	Vial #	ALS #	Samp. Amt (ml or g)	MOH amt. (ul)	Secondary dilution	L+	IS	SU	Status (Data)	Comments	pH* < 2
	U 196217	JB96878-3MSD	86691 PPL	G W	18		5		1x		✓	✓	~~NG~~		✓
	196218	IB							1x		✓		dump.		
	196219	JB96878-9	86691 PPL	G W	10		5		1x		✓		ae		✓
	196220	JB96880-1	86692 NJ PPL 1H	G W	3		5		1x		✓		ae		✓
	196221	JB96880-2	TPA ✓	G W	2		5		1x		✓		ae		✓
	196222	JB96878-3MS ~~JB96967-3~~	~~86930 PCB~~		19 1		5		1x ~~200x~~ KC6/18		✓		ae	MS 86691 PPL	✓
	196223	JB96878-3MSD ~~JB96967-3~~	~~NPP, CIBC~~ ~~NPP, CIBC~~		20 1		5		1x ~~200x~~ KC6/18		✓		ae	7:45pm	✓

MTX = Matrix Designate W for water, S for soil, O for oil. L+ =Library Search. IS = Internal Standard Area. SU = Surrogate.
Sample Amt = Volume (ML) or Weight (g); MOH amt.= volume (ul) extract injected * IF pH > 2, comment on sample result.
All strike outs must be initialed, dated and reason code applied as follows: 1 = reviewer correction error; 2 = transcription error; 3 = computer miscalculation; 4 = analyst's correction error

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New Jersey

ACCUTEST LABORATORIES

GC Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- GC Identification Summaries (Hits)
- Surrogate Recovery Summaries
- GC Surrogate Retention Time Summaries
- Initial and Continuing Calibration Summaries

Method Blank Summary

Job Number: JB96432
Account: AMANYWP Anderson, Mulholland & Associates
Project: BMSMC, Building 5 Area, PR

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGH4888-MB1	GH100302.D	1	06/08/15	XPL	n/a	n/a	GGH4888

The QC reported here applies to the following samples: **Method:** SW846-8015C (DAI)

JB96432-1, JB96432-2, JB96432-3, JB96432-4

CAS No.	Compound	Result	RL	MDL	Units	Q
67-63-0	Isopropyl Alcohol	ND	100	25	ug/l	
67-56-1	Methanol	ND	200	45	ug/l	

CAS No.	Surrogate Recoveries		Limits
111-27-3	Hexanol	88%	48-150%
111-27-3	Hexanol	90%	48-150%

Method Blank Summary

Job Number: JB96432
Account: AMANYWP Anderson, Mulholland & Associates
Project: BMSMC, Building 5 Area, PR

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGH4889-MB1	GH100320.D	1	06/09/15	XPL	n/a	n/a	GGH4889

The QC reported here applies to the following samples: **Method:** SW846-8015C (DAI)

JB96432-5, JB96432-6, JB96432-7, JB96432-8

CAS No.	Compound	Result	RL	MDL	Units	Q
67-63-0	Isopropyl Alcohol	ND	100	25	ug/l	
67-56-1	Methanol	ND	200	45	ug/l	

CAS No.	Surrogate Recoveries		Limits
111-27-3	Hexanol	101%	48-150%
111-27-3	Hexanol	102%	48-150%

Blank Spike Summary

Job Number: JB96432
Account: AMANYWP Anderson, Mulholland & Associates
Project: BMSMC, Building 5 Area, PR

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGH4888-BS	GH100303.D	1	06/08/15	XPL	n/a	n/a	GGH4888

The QC reported here applies to the following samples: **Method:** SW846-8015C (DAI)

JB96432-1, JB96432-2, JB96432-3, JB96432-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-63-0	Isopropyl Alcohol	5000	4750	95	76-122
67-56-1	Methanol	5000	4980	100	65-130

CAS No.	Surrogate Recoveries	BSP	Limits
111-27-3	Hexanol	101%	48-150%
111-27-3	Hexanol	103%	48-150%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JB96432
Account: AMANYWP Anderson, Mulholland & Associates
Project: BMSMC, Building 5 Area, PR

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGH4889-BS	GH100321.D	1	06/09/15	XPL	n/a	n/a	GGH4889

The QC reported here applies to the following samples: **Method:** SW846-8015C (DAI)

JB96432-5, JB96432-6, JB96432-7, JB96432-8

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-63-0	Isopropyl Alcohol	5000	5060	101	76-122
67-56-1	Methanol	5000	5230	105	65-130

CAS No.	Surrogate Recoveries	BSP	Limits
111-27-3	Hexanol	98%	48-150%
111-27-3	Hexanol	98%	48-150%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB96432
Account: AMANYWP Anderson, Mulholland & Associates
Project: BMSMC, Building 5 Area, PR

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB96432-1MS	GH100305.D	1	06/08/15	XPL	n/a	n/a	GGH4888
JB96432-1MSD	GH100306.D	1	06/08/15	XPL	n/a	n/a	GGH4888
JB96432-1	GH100304.D	1	06/08/15	XPL	n/a	n/a	GGH4888

The QC reported here applies to the following samples: **Method:** SW846-8015C (DAI)

JB96432-1, JB96432-2, JB96432-3, JB96432-4

CAS No.	Compound	JB96432-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-63-0	Isopropyl Alcohol	ND		5000	5280	106	5000	5520	110	4	58-140/20
67-56-1	Methanol	ND		5000	6000	120	5000	6140	123	2	47-151/29

CAS No.	Surrogate Recoveries	MS	MSD	JB96432-1	Limits
111-27-3	Hexanol	100%	107%	86%	48-150%
111-27-3	Hexanol	96%	109%	88%	48-150%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB96432
Account: AMANYWP Anderson, Mulholland & Associates
Project: BMSMC, Building 5 Area, PR

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB96432-5MS	GH100323.D	1	06/09/15	XPL	n/a	n/a	GGH4889
JB96432-5MSD	GH100324.D	1	06/09/15	XPL	n/a	n/a	GGH4889
JB96432-5	GH100322.D	1	06/09/15	XPL	n/a	n/a	GGH4889

The QC reported here applies to the following samples: **Method:** SW846-8015C (DAI)

JB96432-5, JB96432-6, JB96432-7, JB96432-8

CAS No.	Compound	JB96432-5 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-63-0	Isopropyl Alcohol	ND		5000	5520	110	5000	5780	116	5	58-140/20
67-56-1	Methanol	ND		5000	5940	119	5000	5730	115	4	47-151/29

CAS No.	Surrogate Recoveries	MS	MSD	JB96432-5	Limits
111-27-3	Hexanol	96%	111%	95%	48-150%
111-27-3	Hexanol	94%	108%	95%	48-150%

* = Outside of Control Limits.

GC Identification Summary

Job Number: JB96432
Account: AMANYWP Anderson, Mulholland & Associates
Project: BMSMC, Building 5 Area, PR

Check Std:	GGH4889-CC4868	**Injection Date:**	06/09/15
Lab File ID:	GH100319.D	**Injection Time:**	10:14
Instrument ID:	GCGH	**Method:**	SW846-8015C (DAI)

Sample ID:	JB96432-8	**Injection Date:**	06/09/15
Lab File ID:	GH100327.D	**Injection Time:**	12:25
Client ID:	VP-1		

Compound	Column	RT	StdRT	Conc	Q	Units	RPD Conc
Isopropyl Alcohol	1	2.00	2.01	1080		ug/l	0.9
Isopropyl Alcohol	2 [a]	1.10	1.10	1070		ug/l	
Methanol [b]	1 [a]	1.27	1.28	602		ug/l	91.1
Methanol [b]	2	0.69	0.71	1610		ug/l	

(a) Final result reported from this column.
(b) More than 40 % RPD for detected concentrations between the two GC columns.

GC Identification Summary

Job Number: JB96432
Account: AMANYWP Anderson, Mulholland & Associates
Project: BMSMC, Building 5 Area, PR

Check Std:	GGH4887-CC4868	**Injection Date:**	06/08/15
Lab File ID:	GH100301.D	**Injection Time:**	10:43
Instrument ID:	GCGH	**Method:**	SW846-8015C (DAI)

Sample ID:	GGH4888-BS	**Injection Date:**	06/08/15
Lab File ID:	GH100303.D	**Injection Time:**	11:33
Client ID:	Blank Spike		

Compound	Column	RT	StdRT	Conc	Q	Units	RPD Conc
Isopropyl Alcohol	1	2.01	2.02	5060		ug/l	6.3
Isopropyl Alcohol	2 [a]	1.10	1.10	4750		ug/l	
Methanol	1	1.28	1.28	5240		ug/l	5.1
Methanol	2 [a]	0.71	0.71	4980		ug/l	

(a) QC results reported from this column.

GC Identification Summary

Job Number: JB96432
Account: AMANYWP Anderson, Mulholland & Associates
Project: BMSMC, Building 5 Area, PR

Check Std:	GGH4889-CC4868	**Injection Date:**	06/09/15
Lab File ID:	GH100319.D	**Injection Time:**	10:14
Instrument ID:	GCGH	**Method:**	SW846-8015C (DAI)

Sample ID:	GGH4889-BS	**Injection Date:**	06/09/15
Lab File ID:	GH100321.D	**Injection Time:**	10:41
Client ID:	Blank Spike		

Compound	Column	RT	StdRT	Conc	Q	Units	RPD Conc
Isopropyl Alcohol	1	2.01	2.01	5660		ug/l	11.2
Isopropyl Alcohol	2 [a]	1.11	1.10	5060		ug/l	
Methanol	1 [a]	1.27	1.28	5230		ug/l	1.5
Methanol	2	0.72	0.71	5310		ug/l	

(a) QC results reported from this column.

GC Identification Summary

Job Number: JB96432
Account: AMANYWP Anderson, Mulholland & Associates
Project: BMSMC, Building 5 Area, PR

Check Std:	GGH4887-CC4868	**Injection Date:**	06/08/15
Lab File ID:	GH100301.D	**Injection Time:**	10:43
Instrument ID:	GCGH	**Method:**	SW846-8015C (DAI)

Sample ID:	JB96432-1MS	**Injection Date:**	06/08/15
Lab File ID:	GH100305.D	**Injection Time:**	12:16
Client ID:	Matrix Spike		

Compound	Column	RT	StdRT	Conc	Q	Units	RPD Conc
Isopropyl Alcohol	1	2.02	2.02	5900		ug/l	11.1
Isopropyl Alcohol	2 [a]	1.10	1.10	5280		ug/l	
Methanol	1	1.28	1.28	4900		ug/l	20.2
Methanol	2 [a]	0.70	0.71	6000		ug/l	

(a) QC results reported from this column.

GC Identification Summary

Job Number: JB96432
Account: AMANYWP Anderson, Mulholland & Associates
Project: BMSMC, Building 5 Area, PR

Check Std:	GGH4889-CC4868	**Injection Date:**	06/09/15
Lab File ID:	GH100319.D	**Injection Time:**	10:14
Instrument ID:	GCGH	**Method:**	SW846-8015C (DAI)

Sample ID:	JB96432-5MS	**Injection Date:**	06/09/15
Lab File ID:	GH100323.D	**Injection Time:**	11:27
Client ID:	Matrix Spike		

Compound	Column	RT	StdRT	Conc	Q	Units	RPD Conc
Isopropyl Alcohol	1	2.01	2.01	5070		ug/l	8.5
Isopropyl Alcohol	2 [a]	1.10	1.10	5520		ug/l	
Methanol	1	1.27	1.28	5050		ug/l	16.2
Methanol	2 [a]	0.70	0.71	5940		ug/l	

(a) QC results reported from this column.

GC Identification Summary

Job Number: JB96432
Account: AMANYWP Anderson, Mulholland & Associates
Project: BMSMC, Building 5 Area, PR

Check Std:	GGH4887-CC4868	**Injection Date:**	06/08/15
Lab File ID:	GH100301.D	**Injection Time:**	10:43
Instrument ID:	GCGH	**Method:**	SW846-8015C (DAI)

Sample ID:	JB96432-1MSD	**Injection Date:**	06/08/15
Lab File ID:	GH100306.D	**Injection Time:**	12:31
Client ID:	Matrix Spike Duplicate		

Compound	Column	RT	StdRT	Conc	Q	Units	RPD Conc
Isopropyl Alcohol	1	2.02	2.02	5730		ug/l	3.7
Isopropyl Alcohol	2 [a]	1.11	1.10	5520		ug/l	
Methanol	1	1.29	1.28	5000		ug/l	20.5
Methanol	2 [a]	0.71	0.71	6140		ug/l	

(a) QC results reported from this column.

GC Identification Summary

Job Number: JB96432
Account: AMANYWP Anderson, Mulholland & Associates
Project: BMSMC, Building 5 Area, PR

Check Std:	GGH4889-CC4868	**Injection Date:**	06/09/15
Lab File ID:	GH100319.D	**Injection Time:**	10:14
Instrument ID:	GCGH	**Method:**	SW846-8015C (DAI)

Sample ID:	JB96432-5MSD	**Injection Date:**	06/09/15
Lab File ID:	GH100324.D	**Injection Time:**	11:41
Client ID:	Matrix Spike Duplicate		

Compound	Column	RT	StdRT	Conc	Q	Units	RPD Conc
Isopropyl Alcohol	1	2.01	2.01	5360		ug/l	7.5
Isopropyl Alcohol	2 [a]	1.10	1.10	5780		ug/l	
Methanol	1	1.28	1.28	4840		ug/l	16.8
Methanol	2 [a]	0.71	0.71	5730		ug/l	

(a) QC results reported from this column.

Volatile Surrogate Recovery Summary

Job Number: JB96432
Account: AMANYWP Anderson, Mulholland & Associates
Project: BMSMC, Building 5 Area, PR

Method: SW846-8015C (DAI) **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]	S1 [b]
JB96432-1	GH100304.D	86	88
JB96432-2	GH100307.D	103	81
JB96432-3	GH100308.D	124	81
JB96432-4	GH100309.D	97	98
JB96432-5	GH100322.D	95	95
JB96432-6	GH100325.D	106	101
JB96432-7	GH100326.D	113	107
JB96432-8	GH100327.D	121	122
GGH4888-BS	GH100303.D	101	103
GGH4888-MB1	GH100302.D	88	90
GGH4889-BS	GH100321.D	98	98
GGH4889-MB1	GH100320.D	101	102
JB96432-1MS	GH100305.D	100	96
JB96432-1MSD	GH100306.D	107	109
JB96432-5MS	GH100323.D	96	94
JB96432-5MSD	GH100324.D	111	108

Surrogate Compounds	Recovery Limits
S1 = Hexanol	48-150%

(a) Recovery from GC signal #2
(b) Recovery from GC signal #1

GC Surrogate Retention Time Summary

Job Number: JB96432
Account: AMANYWP Anderson, Mulholland & Associates
Project: BMSMC, Building 5 Area, PR

Check Std:	GGH4887-CC4868	**Injection Date:**	06/08/15
Lab File ID:	GH100301.D	**Injection Time:**	10:43
Instrument ID:	GCGH	**Method:**	SW846-8015C (DAI)

	S1 [a] RT	S1 [b] RT
Check Std	5.17	5.75

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
GGH4888-MB1	GH100302.D	06/08/15	11:18	5.17	5.75
GGH4888-BS	GH100303.D	06/08/15	11:33	5.17	5.75
JB96432-1	GH100304.D	06/08/15	12:02	5.17	5.76
JB96432-1MS	GH100305.D	06/08/15	12:16	5.17	5.76
JB96432-1MSD	GH100306.D	06/08/15	12:31	5.17	5.76
JB96432-2	GH100307.D	06/08/15	12:45	5.17	5.76
JB96432-3	GH100308.D	06/08/15	12:59	5.17	5.76
JB96432-4	GH100309.D	06/08/15	13:14	5.17	5.76
GGH4888-ECC4868	GH100310.D	06/08/15	13:33	5.17	5.75

Surrogate Compounds

S1 = Hexanol

(a) Retention time from GC signal #2
(b) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: JB96432
Account: AMANYWP Anderson, Mulholland & Associates
Project: BMSMC, Building 5 Area, PR

Check Std:	GGH4889-CC4868	**Injection Date:**	06/09/15
Lab File ID:	GH100319.D	**Injection Time:**	10:14
Instrument ID:	GCGH	**Method:**	SW846-8015C (DAI)

	S1 [a] RT	S1 [b] RT
Check Std	5.16	5.75

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
GGH4889-MB1	GH100320.D	06/09/15	10:28	5.17	5.75
GGH4889-BS	GH100321.D	06/09/15	10:41	5.17	5.75
JB96432-5	GH100322.D	06/09/15	11:12	5.16	5.75
JB96432-5MS	GH100323.D	06/09/15	11:27	5.17	5.75
JB96432-5MSD	GH100324.D	06/09/15	11:41	5.16	5.75
JB96432-6	GH100325.D	06/09/15	11:56	5.17	5.75
JB96432-7	GH100326.D	06/09/15	12:10	5.17	5.75
JB96432-8	GH100327.D	06/09/15	12:25	5.17	5.75

Surrogate Compounds

S1 = Hexanol

(a) Retention time from GC signal #2
(b) Retention time from GC signal #1

Initial Calibration Summary

Job Number: JB96432
Account: AMANYWP Anderson, Mulholland & Associates
Project: BMSMC, Building 5 Area, PR
Sample: GGH4868-ICC4868
Lab FileID: GH100058.D

Response Factor Report GCGH

Method : C:\HPCHEM\1\METHODS\MGH4868.M (Chemstation Integrator)
Title : METHOD SW846-8015B (DAI)
Last Update : Wed May 20 09:09:51 2015
Response via : Initial Calibration

Calibration Files
0.5 =GH100056.D 1 =GH100057.D 5 =GH100058.D 10 =GH100059.D
50 =GH100060.D 100 =GH100061.D 0.1 =GH100055.D =

Compound	0.5	1	5	10	50	100	0.1	Avg		%RSD
1) Methanol	1.147	1.414	1.569	1.713	1.433	1.136	1.789	1.457	E1	17.49
2) Ethanol	1.559	2.442	2.170	2.227	2.064	2.031	1.922	2.059	E1	13.40
3) Tert-Butyl A	2.770	2.991	3.338	3.351	3.317	3.883	3.099	3.250	E1	10.83
4) 1-Propanol	2.613	2.714	2.773	2.949	2.720	3.026	2.957	2.822	E1	5.50
5) 2-Propanol	1.717	2.168	2.367	2.398	2.300	2.391	2.348	2.241	E1	10.90
6) Propionitril										
7) Isobutanol	2.725	3.285	3.155	3.340	3.153	3.403	3.276	3.191	E1	7.05
8) 1-Butanol	2.677	3.385	3.016	3.147	2.981	3.240	3.594	3.148	E1	9.45
9) 2-Butanol	2.868	2.851	2.807	2.995	2.813	3.047	2.647	2.861	E1	4.59
10) Hexanol	1.106	1.281	1.137	1.291	1.279	1.137	1.135	1.195	E2	6.99

Signal #2

1) Methanol	1.277	1.460	1.253	1.497	1.521	1.646	1.643	1.471	E1	10.69
2) Ethanol	1.708	2.109	2.016	2.280	2.138	2.313	1.898	2.066	E1	10.33
3) Tert-Butyl A	2.394	3.367	3.233	3.494	3.211	3.444	3.336	3.211	E1	11.67
4) 1-Propanol	2.069	2.898	2.606	2.908	2.811	2.990	2.630	2.702	E1	11.62
5) 2-Propanol	1.763	2.408	2.237	2.433	2.293	2.479	2.090	2.243	E1	11.15
6) Propionitril										
7) Isobutanol	2.513	3.259	3.548	3.233	3.181	3.306	3.485	3.218	E1	10.53
8) 1-Butanol	3.023	3.203	3.567	3.277	3.118	3.265	3.234	3.241	E1	5.23
9) 2-Butanol	2.114	2.957	2.716	2.877	2.841	2.968	2.408	2.697	E1	11.90
10) Hexanol	1.120	1.334	1.166	1.355	1.317	1.200	1.151	1.235	E2	7.90

(#) = Out of Range ### Number of calibration levels exceeded format ###

MGH4868.M Wed May 20 09:20:06 2015 GCGH

Initial Calibration Verification

Job Number: JB96432
Account: AMANYWP Anderson, Mulholland & Associates
Project: BMSMC, Building 5 Area, PR
Sample: GGH4868-ICV4868
Lab FileID: GH100062.D

Evaluate Continuing Calibration Report

```
Data File : C:\HPCHEM\1\DATA\GH100062.D\FID1A.CH        Vial: 95
Acq On    : 19 May 2015   6:18 pm                   Operator: XULIU
Sample    : ICV4868-5000                            Inst    : GCGH
Misc      : GC45985,GGH4868,5.0,,,,1                Multiplr: 1.00
IntFile   : autoint1.e

Data File : C:\HPCHEM\1\DATA\GH100062.D\FID2B.CH        Vial: 95
Acq On    : 19 May 2015   6:33 pm                   Operator: XULIU
Sample    : ICV4868-5000                            Inst    : GCGH
Misc      : GC45985,GGH4868,5.0,,,,1                Multiplr: 1.00
IntFile   : autoint2.e

Method       : C:\HPCHEM\1\METHODS\MGH4868.M (Chemstation Integrator)
Title        : METHOD SW846-8015B (DAI)
Last Update  : Wed May 20 09:09:51 2015
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  20%     Max. Rel. Area : 150%
```

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	Methanol	14.574	12.861	11.8	82	0.00	1.25- 1.31
2	Ethanol	20.592	21.280	-3.3	98	0.00	1.63- 1.69
3	Tert-Butyl Alcohol	32.499	32.235	0.8	97	0.00	2.25- 2.35
4	1-Propanol	28.217	27.780	1.5	100	0.00	2.74- 2.84
5	2-Propanol	22.414	23.228	-3.6	98	0.00	1.98- 2.04
6	Propionitrile		----------NA----------				
7	Isobutanol	31.908	33.579	-5.2	106	0.00	3.58- 3.68
8	1-Butanol	31.485	34.527	-9.7	114	0.00	4.02- 4.11
9	2-Butanol	28.613	28.175	1.5	100	0.00	3.18- 3.27
10 S	Hexanol	119.521	108.062	9.6	95	0.00	5.71- 5.77

***** Signal #2 *****

1	Methanol	14.711	12.208	17.0	97	0.00	0.67- 0.73
2	Ethanol	20.660	21.466	-3.9	106	0.00	0.87- 0.93
3	Tert-Butyl Alcohol	32.113	34.696	-8.0	107	0.00	1.26- 1.32
4	1-Propanol	27.017	27.801	-2.9	107	0.00	1.54- 1.60
5	2-Propanol	22.431	23.904	-6.6	107	0.00	1.07- 1.13
6	Propionitrile		----------NA----------				
7	Isobutanol	32.178	33.562	-4.3	95	0.00	2.44- 2.50
8	1-Butanol	32.408	32.978	-1.8	92	0.00	2.93- 2.99
9	2-Butanol	26.974	26.716	1.0	98	0.00	2.05- 2.11
10 S	Hexanol	123.485	112.036	9.3	96	0.00	5.15- 5.21

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GH100058.D MGH4868.M Wed May 20 09:25:49 2015 GCGH

Continuing Calibration Summary

Job Number: JB96432 **Sample:** GGH4887-CC4868
Account: AMANYWP Anderson, Mulholland & Associates **Lab FileID:** GH100301.D
Project: BMSMC, Building 5 Area, PR

Evaluate Continuing Calibration Report

```
Data File : C:\HPCHEM\1\DATA\GH100301.D\FID1A.CH        Vial: 95
Acq On    :  8 Jun 2015  10:43 am                   Operator: XULIU
Sample    : CC4868-10000                            Inst    : GCGH
Misc      : GC46130,GGH4887,5.0,,,,1                Multiplr: 1.00
IntFile   : autoint1.e

Data File : C:\HPCHEM\1\DATA\GH100301.D\FID2B.CH        Vial: 95
Acq On    :  8 Jun 2015  10:57 am                   Operator: XULIU
Sample    : CC4868-10000                            Inst    : GCGH
Misc      : GC46130,GGH4887,5.0,,,,1                Multiplr: 1.00
IntFile   : autoint2.e

Method       : C:\HPCHEM\1\METHODS\MGH4868.M (Chemstation Integrator)
Title        : METHOD SW846-8015B (DAI)
Last Update  : Fri May 22 10:48:58 2015
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  20%     Max. Rel. Area : 150%
```

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	Methanol	14.574	17.114	-17.4	100	0.00	1.20- 1.37
2	Ethanol	20.592	21.285	-3.4	96	0.00	1.62- 1.72
3	Tert-Butyl Alcohol	32.499	31.862	2.0	95	0.00	2.26- 2.35
4	1-Propanol	28.217	27.392	2.9	93	0.00	2.76- 2.83
5	2-Propanol	22.414	22.849	-1.9	95	0.00	1.97- 2.07
6	Propionitrile		----------NA----------				
7	Isobutanol	31.908	29.280	8.2	88	0.00	3.59- 3.68
8	1-Butanol	31.485	28.173	10.5	90	0.00	4.02- 4.11
9	2-Butanol	28.613	27.194	5.0	91	0.00	3.19- 3.28
10 S	Hexanol	119.521	118.928	0.5	92	0.00	5.72- 5.78

***** Signal #2 *****

1	Methanol	14.711	16.385	-11.4	109	0.00	0.68- 0.74
2	Ethanol	20.660	22.550	-9.1	99	0.00	0.87- 0.93
3	Tert-Butyl Alcohol	32.113	32.360	-0.8	93	0.00	1.27- 1.33
4	1-Propanol	27.017	27.828	-3.0	96	0.00	1.54- 1.60
5	2-Propanol	22.431	23.661	-5.5	97	0.00	1.07- 1.13
6	Propionitrile		----------NA----------				
7	Isobutanol	32.178	29.742	7.6	92	0.00	2.44- 2.50
8	1-Butanol	32.408	28.878	10.9	88	0.00	2.93- 2.99
9	2-Butanol	26.974	27.440	-1.7	95	0.00	2.06- 2.12
10 S	Hexanol	123.485	124.338	-0.7	92	0.00	5.14- 5.20

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GH100059.D MGH4868.M Mon Jun 08 13:26:08 2015 GCGH

Continuing Calibration Summary

Job Number: JB96432 **Sample:** GGH4888-ECC4868
Account: AMANYWP Anderson, Mulholland & Associates **Lab FileID:** GH100310.D
Project: BMSMC, Building 5 Area, PR

Evaluate Continuing Calibration Report

```
Data File : C:\HPCHEM\1\DATA\GH100310.D\FID1A.CH        Vial: 95
Acq On    :  8 Jun 2015   1:33 pm                   Operator: XULIU
Sample    : ECC4868-5000                            Inst    : GCGH
Misc      : GC46145,GGH4888,5.0,,,,1                Multiplr: 1.00
IntFile   : autoint1.e

Data File : C:\HPCHEM\1\DATA\GH100310.D\FID2B.CH        Vial: 95
Acq On    :  8 Jun 2015   1:47 pm                   Operator: XULIU
Sample    : ECC4868-5000                            Inst    : GCGH
Misc      : GC46145,GGH4888,5.0,,,,1                Multiplr: 1.00
IntFile   : autoint2.e

Method       : C:\HPCHEM\1\METHODS\MGH4868.M (Chemstation Integrator)
Title        : METHOD SW846-8015B (DAI)
Last Update  : Fri May 22 10:48:58 2015
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  20%     Max. Rel. Area : 150%
```

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	Methanol	14.574	17.210	-18.1	110	0.00	1.20- 1.37
2	Ethanol	20.592	18.854	8.4	87	0.00	1.62- 1.71
3	Tert-Butyl Alcohol	32.499	30.127	7.3	90	0.00	2.25- 2.35
4	1-Propanol	28.217	23.942	15.2	86	0.00	2.75- 2.82
5	2-Propanol	22.414	20.977	6.4	89	0.00	1.97- 2.06
6	Propionitrile	----------NA----------					
7	Isobutanol	31.908	28.271	11.4	90	0.00	3.59- 3.68
8	1-Butanol	31.485	26.368	16.3	87	0.00	4.02- 4.11
9	2-Butanol	28.613	25.718	10.1	92	-0.00	3.18- 3.27
10 S	Hexanol	119.521	132.153	-10.6	116	0.00	5.72- 5.78

***** Signal #2 *****

1	Methanol	14.711	21.808	-48.2#	174#	0.00	0.66- 0.72
2	Ethanol	20.660	19.011	8.0	94	0.00	0.88- 0.94
3	Tert-Butyl Alcohol	32.113	31.004	3.5	96	0.00	1.27- 1.33
4	1-Propanol	27.017	25.891	4.2	99	0.00	1.55- 1.61
5	2-Propanol	22.431	22.390	0.2	100	0.00	1.08- 1.14
6	Propionitrile	----------NA----------					
7	Isobutanol	32.178	28.471	11.5	80	0.00	2.44- 2.50
8	1-Butanol	32.408	30.588	5.6	86	0.00	2.93- 2.99
9	2-Butanol	26.974	25.980	3.7	96	0.00	2.05- 2.11
10 S	Hexanol	123.485	108.977	11.7	93	0.00	5.14- 5.20

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GH100058.D MGH4868.M Tue Jun 09 10:07:08 2015 GCGH

Continuing Calibration Summary

Job Number: JB96432 **Sample:** GGH4889-CC4868
Account: AMANYWP Anderson, Mulholland & Associates **Lab FileID:** GH100319.D
Project: BMSMC, Building 5 Area, PR

Evaluate Continuing Calibration Report

```
Data File : C:\HPCHEM\1\DATA\GH100319.D\FID1A.CH        Vial: 92
Acq On    :  9 Jun 2015  10:14 am                   Operator: XULIU
Sample    : CC4868-5000                             Inst    : GCGH
Misc      : GC46145,GGH4889,5.0,,,,1                Multiplr: 1.00
IntFile   : autoint1.e

Data File : C:\HPCHEM\1\DATA\GH100319.D\FID2B.CH        Vial: 92
Acq On    :  9 Jun 2015  10:28 am                   Operator: XULIU
Sample    : CC4868-5000                             Inst    : GCGH
Misc      : GC46145,GGH4889,5.0,,,,1                Multiplr: 1.00
IntFile   : autoint2.e

Method       : C:\HPCHEM\1\METHODS\MGH4868.M (Chemstation Integrator)
Title        : METHOD SW846-8015B (DAI)
Last Update  : Fri May 22 10:48:58 2015
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  20%     Max. Rel. Area : 150%
```

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1		Methanol	14.574	13.941	4.3	89	0.00	1.19- 1.37
2		Ethanol	20.592	17.045	17.2	79	0.00	1.62- 1.71
3		Tert-Butyl Alcohol	32.499	28.076	13.6	84	0.00	2.26- 2.35
4		1-Propanol	28.217	23.201	17.8	84	0.00	2.76- 2.83
5		2-Propanol	22.414	18.859	15.9	80	0.00	1.97- 2.06
6		Propionitrile		----------NA----------				
7		Isobutanol	31.908	26.447	17.1	84	0.00	3.58- 3.68
8		1-Butanol	31.485	27.745	11.9	92	0.00	4.02- 4.11
9		2-Butanol	28.613	24.328	15.0	87	0.00	3.18- 3.28
10	S	Hexanol	119.521	125.574	-5.1	110	0.00	5.72- 5.78
*****		Signal #2 *****						
1		Methanol	14.711	16.817	-14.3	134	0.00	0.68- 0.74
2		Ethanol	20.660	19.592	5.2	97	0.00	0.88- 0.94
3		Tert-Butyl Alcohol	32.113	29.659	7.6	92	0.00	1.26- 1.32
4		1-Propanol	27.017	24.266	10.2	93	0.00	1.54- 1.60
5		2-Propanol	22.431	21.071	6.1	94	0.00	1.07- 1.13
6		Propionitrile		----------NA----------				
7		Isobutanol	32.178	27.915	13.2	79	0.00	2.44- 2.50
8		1-Butanol	32.408	27.444	15.3	77	0.00	2.93- 2.99
9		2-Butanol	26.974	24.262	10.1	89	0.00	2.05- 2.11
10	S	Hexanol	123.485	127.816	-3.5	110	0.00	5.13- 5.19

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GH100058.D MGH4868.M Wed Jun 10 09:26:31 2015 GCGH

8.7.5

8

Continuing Calibration Summary

Job Number: JB96432 **Sample:** GGH4889-CC4868
Account: AMANYWP Anderson, Mulholland & Associates **Lab FileID:** GH100328.D
Project: BMSMC, Building 5 Area, PR

Evaluate Continuing Calibration Report

```
Data File : C:\HPCHEM\1\DATA\GH100328.D\FID1A.CH        Vial: 95
Acq On    :  9 Jun 2015   1:01 pm                   Operator: XULIU
Sample    : CC4868-10000                            Inst    : GCGH
Misc      : GC46145,GGH4889,5.0,,,,1                Multiplr: 1.00
IntFile   : autoint1.e

Data File : C:\HPCHEM\1\DATA\GH100328.D\FID2B.CH        Vial: 95
Acq On    :  9 Jun 2015   1:15 pm                   Operator: XULIU
Sample    : CC4868-10000                            Inst    : GCGH
Misc      : GC46145,GGH4889,5.0,,,,1                Multiplr: 1.00
IntFile   : autoint2.e

Method       : C:\HPCHEM\1\METHODS\MGH4868.M (Chemstation Integrator)
Title        : METHOD SW846-8015B (DAI)
Last Update  : Fri May 22 10:48:58 2015
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  20%     Max. Rel. Area : 150%
```

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	Methanol	14.574	17.412	-19.5	102	0.00	1.17- 1.35
2	Ethanol	20.592	21.738	-5.6	98	0.00	1.60- 1.69
3	Tert-Butyl Alcohol	32.499	32.286	0.7	96	0.00	2.23- 2.32
4	1-Propanol	28.217	27.813	1.4	94	0.00	2.74- 2.81
5	2-Propanol	22.414	23.256	-3.8	97	0.00	1.94- 2.03
6	Propionitrile		----------NA----------				
7	Isobutanol	31.908	29.142	8.7	87	0.00	3.57- 3.66
8	1-Butanol	31.485	27.784	11.8	88	0.00	4.01- 4.10
9	2-Butanol	28.613	27.237	4.8	91	0.00	3.16- 3.26
10 S	Hexanol	119.521	113.799	4.8	88	0.00	5.72- 5.78

***** Signal #2 *****

1	Methanol	14.711	17.619	-19.8	118	0.00	0.67- 0.73
2	Ethanol	20.660	22.325	-8.1	98	0.00	0.87- 0.93
3	Tert-Butyl Alcohol	32.113	32.896	-2.4	94	0.00	1.26- 1.32
4	1-Propanol	27.017	28.126	-4.1	97	0.00	1.54- 1.60
5	2-Propanol	22.431	23.807	-6.1	98	0.00	1.07- 1.13
6	Propionitrile		----------NA----------				
7	Isobutanol	32.178	29.378	8.7	91	0.00	2.44- 2.50
8	1-Butanol	32.408	29.257	9.7	89	0.00	2.93- 2.99
9	2-Butanol	26.974	27.807	-3.1	97	0.00	2.04- 2.10
10 S	Hexanol	123.485	121.592	1.5	90	0.00	5.14- 5.20

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GH100059.D MGH4868.M Wed Jun 10 10:17:33 2015 GCGH

GC Volatiles

Raw Data

Quantitation Report (QT Reviewed)

```
Data File : C:\HPCHEM\1\DATA\GH100304.D\FID1A.CH        Vial: 1
Acq On    :  8 Jun 2015  12:02 pm                   Operator: XULIU
Sample    : JB96432-1                               Inst    : GCGH
Misc      : GC46145,GGH4888,5.0,,,,1                Multiplr: 1.00
IntFile   : autoint1.e

Data File : C:\HPCHEM\1\DATA\GH100304.D\FID2B.CH        Vial: 1
Acq On    :  8 Jun 2015  12:16 pm                   Operator: XULIU
Sample    : JB96432-1                               Inst    : GCGH
Misc      : GC46145,GGH4888,5.0,,,,1                Multiplr: 1.00
IntFile   : autoint2.e
Quant Time: Jun  9  9:21 2015  Quant Results File: MGH4868.RES

Quant Method : C:\HPCHEM\1\METHODS\MGH4868.M (Chemstation Integrator)
Title        : METHOD SW846-8015B (DAI)
Last Update  : Tue Jun 09 09:05:03 2015
Response via : Initial Calibration
DataAcq Meth : MGH4868.M

Volume Inj.     : 2ul
Signal #1 Phase : ZB-624            Signal #2 Phase: RTX-1
Signal #1 Info  : .53mm ID          Signal #2 Info : .32 mm ID

 Compound          RT#1   RT#2    Resp#1   Resp#2     PPB       PPB
---------------------------------------------------------------------

System Monitoring Compounds
10) S   Hexanol           5.76   5.17    524165   531428 4385.549  4303.580
  Spiked Amount   5000.000                  Recovery     =   87.71%    86.07%

Target Compounds
```

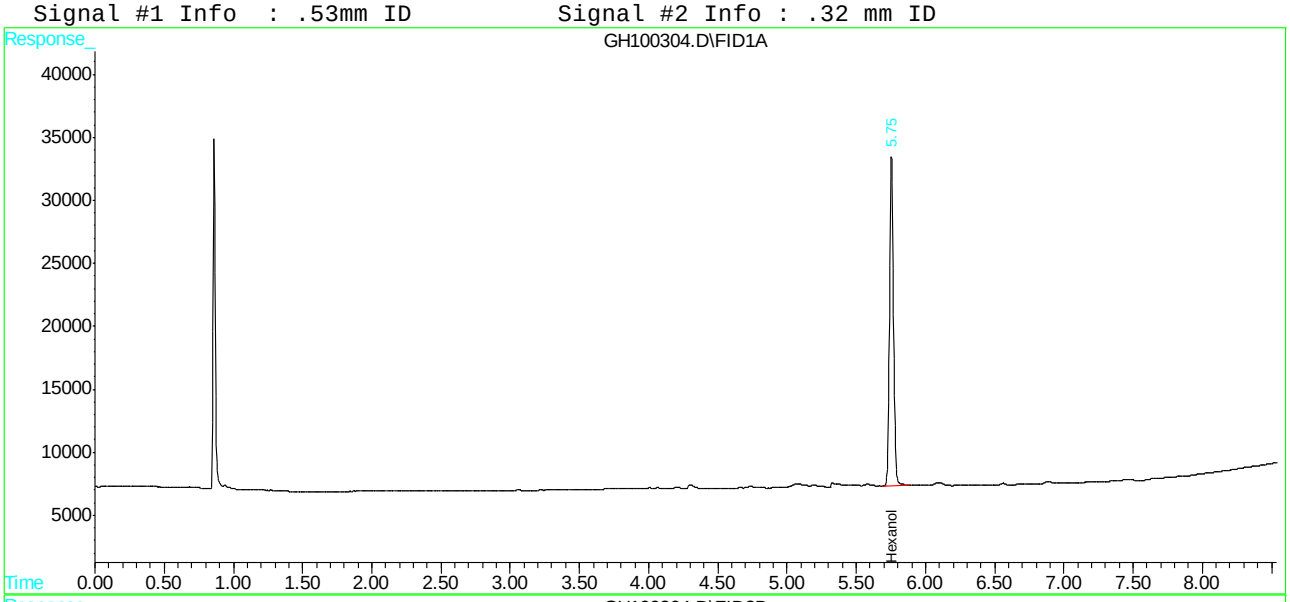
Quantitation Report (QT Reviewed)

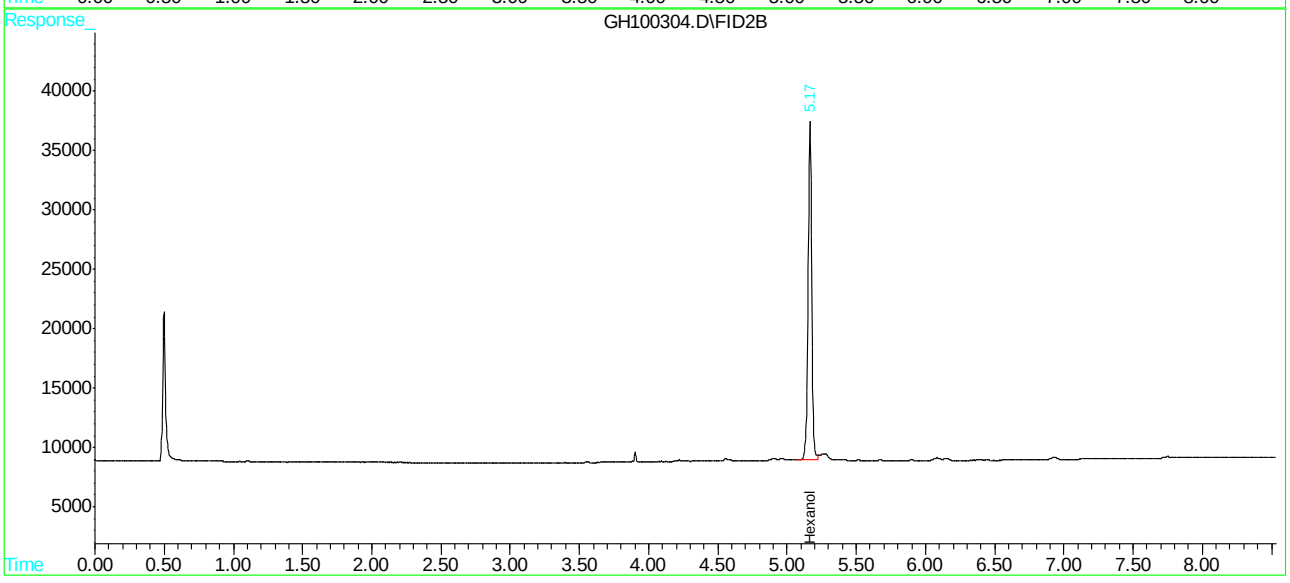
```
Data File : C:\HPCHEM\1\DATA\GH100304.D\FID1A.CH          Vial: 1
Acq On    :  8 Jun 2015  12:02 pm                     Operator: XULIU
Sample    : JB96432-1                                 Inst    : GCGH
Misc      : GC46145,GGH4888,5.0,,,,1                  Multiplr: 1.00
IntFile   : autoint1.e

Data File : C:\HPCHEM\1\DATA\GH100304.D\FID2B.CH          Vial: 1
Acq On    :  8 Jun 2015  12:16 pm                     Operator: XULIU
Sample    : JB96432-1                                 Inst    : GCGH
Misc      : GC46145,GGH4888,5.0,,,,1                  Multiplr: 1.00
IntFile   : autoint2.e
Quant Time: Jun  9  9:21 2015  Quant Results File: MGH4868.RES

Quant Method : C:\HPCHEM\1\METHODS\MGH4868.M (Chemstation Integrator)
Title        : METHOD SW846-8015B (DAI)
Last Update  : Tue Jun 09 09:05:03 2015
Response via : Multiple Level Calibration
DataAcq Meth : MGH4868.M

Volume Inj.     : 2ul
Signal #1 Phase : ZB-624            Signal #2 Phase: RTX-1
Signal #1 Info  : .53mm ID          Signal #2 Info : .32 mm ID
```





Quantitation Report (QT Reviewed)

```
Data File : C:\HPCHEM\1\DATA\GH100307.D\FID1A.CH          Vial: 4
Acq On    :  8 Jun 2015  12:45 pm                     Operator: XULIU
Sample    : JB96432-2                                 Inst    : GCGH
Misc      : GC46145,GGH4888,5.0,,,,1                  Multiplr: 1.00
IntFile   : autoint1.e

Data File : C:\HPCHEM\1\DATA\GH100307.D\FID2B.CH          Vial: 4
Acq On    :  8 Jun 2015  12:59 pm                     Operator: XULIU
Sample    : JB96432-2                                 Inst    : GCGH
Misc      : GC46145,GGH4888,5.0,,,,1                  Multiplr: 1.00
IntFile   : autoint2.e
Quant Time: Jun  9  9:22 2015  Quant Results File: MGH4868.RES

Quant Method : C:\HPCHEM\1\METHODS\MGH4868.M (Chemstation Integrator)
Title        : METHOD SW846-8015B (DAI)
Last Update  : Tue Jun 09 09:05:03 2015
Response via : Initial Calibration
DataAcq Meth : MGH4868.M

Volume Inj.     : 2ul
Signal #1 Phase : ZB-624            Signal #2 Phase: RTX-1
Signal #1 Info  : .53mm ID          Signal #2 Info : .32 mm ID

 Compound          RT#1   RT#2    Resp#1   Resp#2     PPB       PPB
---------------------------------------------------------------------

System Monitoring Compounds
10) S   Hexanol           5.76   5.17    484279   637136 4051.833  5159.616
  Spiked Amount   5000.000                  Recovery     =   81.04%   103.19%

Target Compounds
```

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.

GH100307.D MGH4868.M Tue Jun 09 09:22:57 2015 GCGH

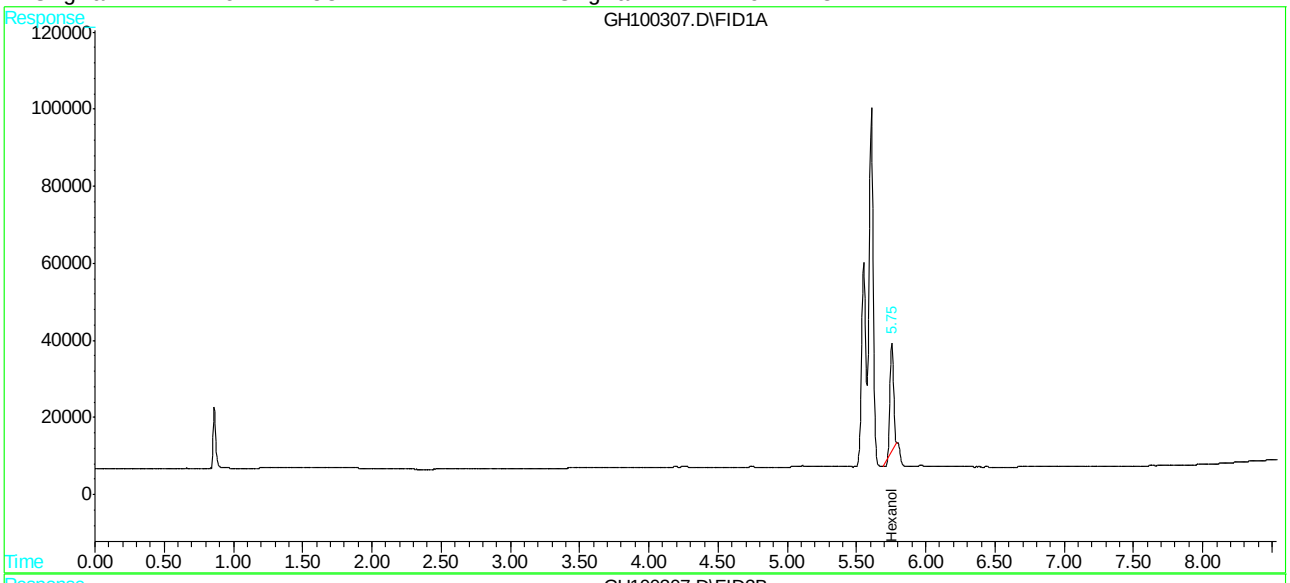
Quantitation Report (QT Reviewed)

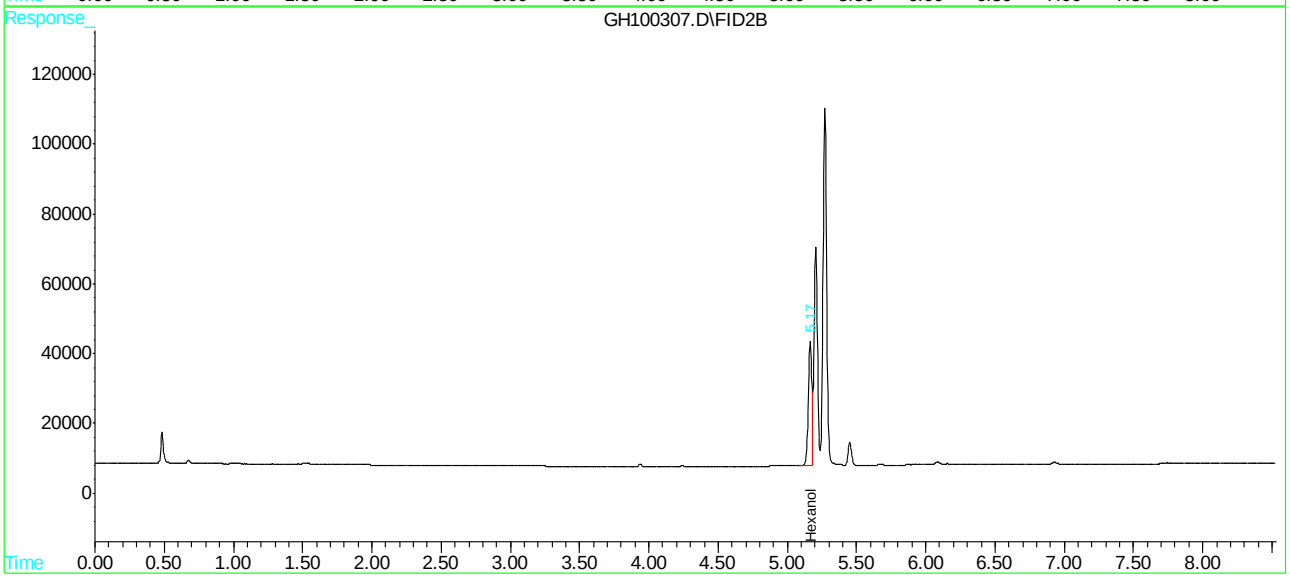
```
Data File : C:\HPCHEM\1\DATA\GH100307.D\FID1A.CH          Vial: 4
Acq On    :  8 Jun 2015  12:45 pm                     Operator: XULIU
Sample    : JB96432-2                                 Inst    : GCGH
Misc      : GC46145,GGH4888,5.0,,,,1                  Multiplr: 1.00
IntFile   : autoint1.e

Data File : C:\HPCHEM\1\DATA\GH100307.D\FID2B.CH          Vial: 4
Acq On    :  8 Jun 2015  12:59 pm                     Operator: XULIU
Sample    : JB96432-2                                 Inst    : GCGH
Misc      : GC46145,GGH4888,5.0,,,,1                  Multiplr: 1.00
IntFile   : autoint2.e
Quant Time: Jun  9  9:22 2015  Quant Results File: MGH4868.RES

Quant Method : C:\HPCHEM\1\METHODS\MGH4868.M (Chemstation Integrator)
Title        : METHOD SW846-8015B (DAI)
Last Update  : Tue Jun 09 09:05:03 2015
Response via : Multiple Level Calibration
DataAcq Meth : MGH4868.M

Volume Inj.     : 2ul
Signal #1 Phase : ZB-624            Signal #2 Phase: RTX-1
Signal #1 Info  : .53mm ID          Signal #2 Info : .32 mm ID
```





Quantitation Report (QT Reviewed)

```
Data File : C:\HPCHEM\1\DATA\GH100308.D\FID1A.CH          Vial: 5
Acq On    :  8 Jun 2015  12:59 pm                     Operator: XULIU
Sample    : JB96432-3                                 Inst    : GCGH
Misc      : GC46145,GGH4888,5.0,,,,1                  Multiplr: 1.00
IntFile   : autoint1.e

Data File : C:\HPCHEM\1\DATA\GH100308.D\FID2B.CH          Vial: 5
Acq On    :  8 Jun 2015   1:14 pm                     Operator: XULIU
Sample    : JB96432-3                                 Inst    : GCGH
Misc      : GC46145,GGH4888,5.0,,,,1                  Multiplr: 1.00
IntFile   : autoint2.e
Quant Time: Jun  9  9:23 2015  Quant Results File: MGH4868.RES

Quant Method : C:\HPCHEM\1\METHODS\MGH4868.M (Chemstation Integrator)
Title        : METHOD SW846-8015B (DAI)
Last Update  : Tue Jun 09 09:05:03 2015
Response via : Initial Calibration
DataAcq Meth : MGH4868.M

Volume Inj.     : 2ul
Signal #1 Phase : ZB-624            Signal #2 Phase: RTX-1
Signal #1 Info  : .53mm ID          Signal #2 Info : .32 mm ID

 Compound          RT#1   RT#2    Resp#1   Resp#2     PPB       PPB
---------------------------------------------------------------------

System Monitoring Compounds
10) S   Hexanol           5.76   5.17    481234   766403 4026.357  6206.441 #
  Spiked Amount   5000.000                  Recovery     =   80.53%   124.13%

Target Compounds
```

```
---------------------------------------------------------------------------
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40%  (m)=manual int.
GH100308.D  MGH4868.M      Tue Jun 09 09:23:25 2015      GCGH
```

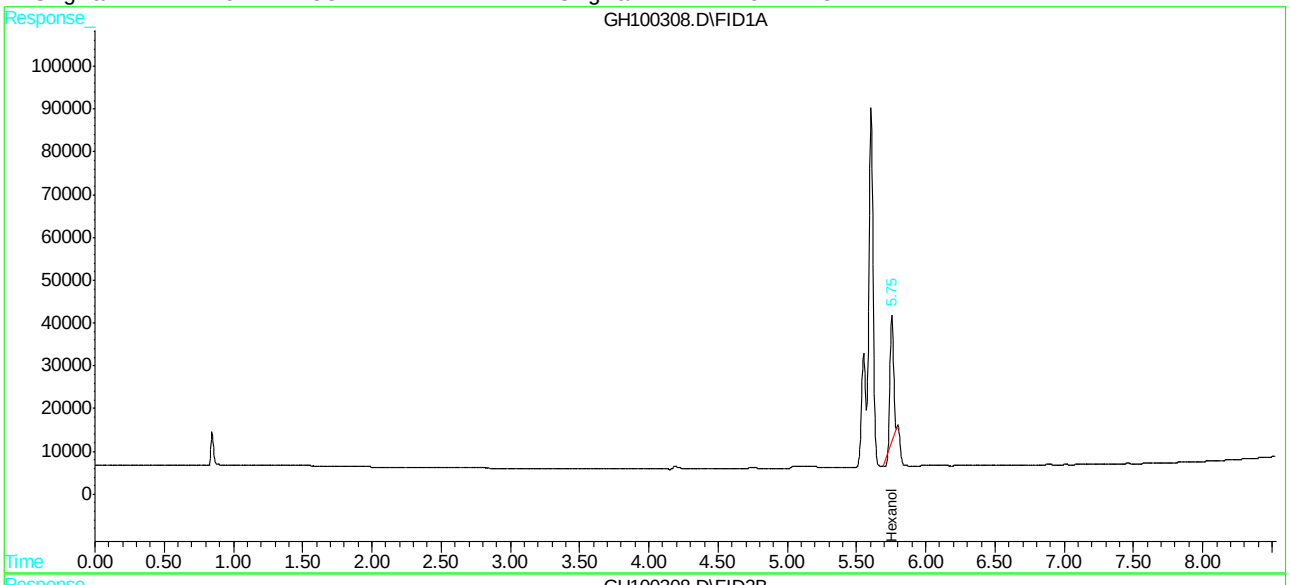
Quantitation Report (QT Reviewed)

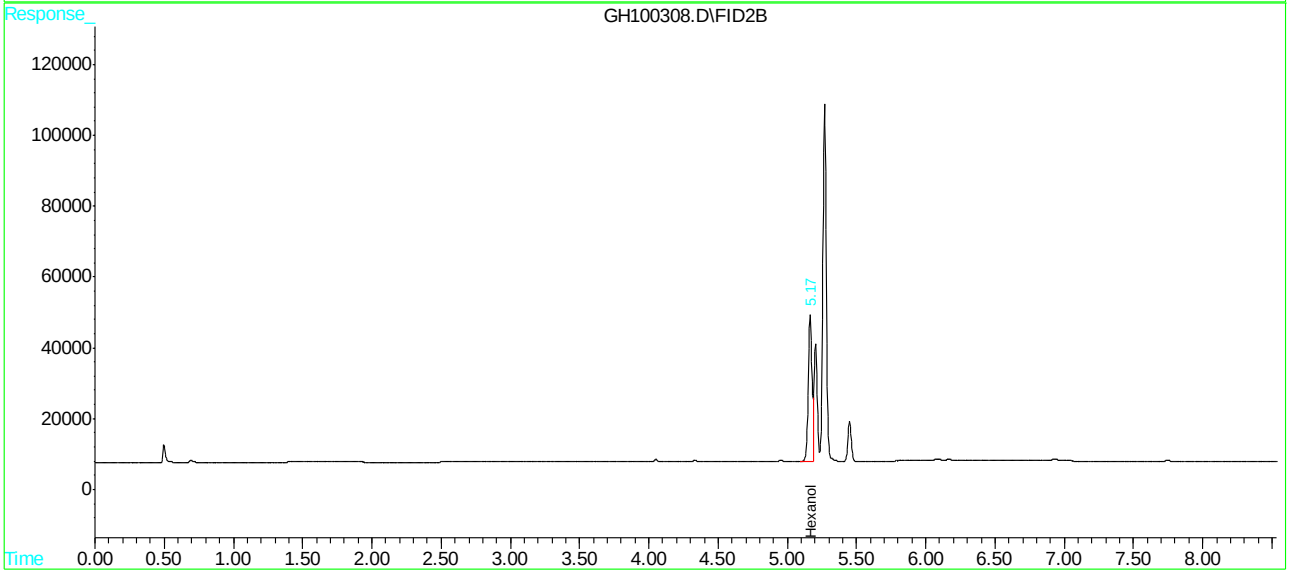
```
Data File : C:\HPCHEM\1\DATA\GH100308.D\FID1A.CH          Vial: 5
Acq On    :  8 Jun 2015  12:59 pm                     Operator: XULIU
Sample    : JB96432-3                                 Inst    : GCGH
Misc      : GC46145,GGH4888,5.0,,,,1                  Multiplr: 1.00
IntFile   : autoint1.e

Data File : C:\HPCHEM\1\DATA\GH100308.D\FID2B.CH          Vial: 5
Acq On    :  8 Jun 2015   1:14 pm                     Operator: XULIU
Sample    : JB96432-3                                 Inst    : GCGH
Misc      : GC46145,GGH4888,5.0,,,,1                  Multiplr: 1.00
IntFile   : autoint2.e
Quant Time: Jun  9  9:23 2015  Quant Results File: MGH4868.RES

Quant Method : C:\HPCHEM\1\METHODS\MGH4868.M (Chemstation Integrator)
Title        : METHOD SW846-8015B (DAI)
Last Update  : Tue Jun 09 09:05:03 2015
Response via : Multiple Level Calibration
DataAcq Meth : MGH4868.M

Volume Inj.     : 2ul
Signal #1 Phase : ZB-624            Signal #2 Phase: RTX-1
Signal #1 Info  : .53mm ID          Signal #2 Info : .32 mm ID
```





Quantitation Report (QT Reviewed)

```
Data File : C:\HPCHEM\1\DATA\GH100309.D\FID1A.CH          Vial: 6
Acq On    :  8 Jun 2015   1:14 pm                     Operator: XULIU
Sample    : JB96432-4                                 Inst    : GCGH
Misc      : GC46145,GGH4888,5.0,,,,1                  Multiplr: 1.00
IntFile   : autoint1.e

Data File : C:\HPCHEM\1\DATA\GH100309.D\FID2B.CH          Vial: 6
Acq On    :  8 Jun 2015   1:33 pm                     Operator: XULIU
Sample    : JB96432-4                                 Inst    : GCGH
Misc      : GC46145,GGH4888,5.0,,,,1                  Multiplr: 1.00
IntFile   : autoint2.e
Quant Time: Jun  9  9:24 2015  Quant Results File: MGH4868.RES

Quant Method : C:\HPCHEM\1\METHODS\MGH4868.M (Chemstation Integrator)
Title        : METHOD SW846-8015B (DAI)
Last Update  : Tue Jun 09 09:05:03 2015
Response via : Initial Calibration
DataAcq Meth : MGH4868.M

Volume Inj.     : 2ul
Signal #1 Phase : ZB-624            Signal #2 Phase: RTX-1
Signal #1 Info  : .53mm ID          Signal #2 Info : .32 mm ID

 Compound          RT#1   RT#2    Resp#1   Resp#2     PPB       PPB
---------------------------------------------------------------------------

System Monitoring Compounds
10) S   Hexanol           5.76   5.17    585069   596364 4895.119  4829.437
  Spiked Amount   5000.000                  Recovery     =   97.90%    96.59%

Target Compounds
```

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.

GH100309.D MGH4868.M Tue Jun 09 09:24:05 2015 GCGH

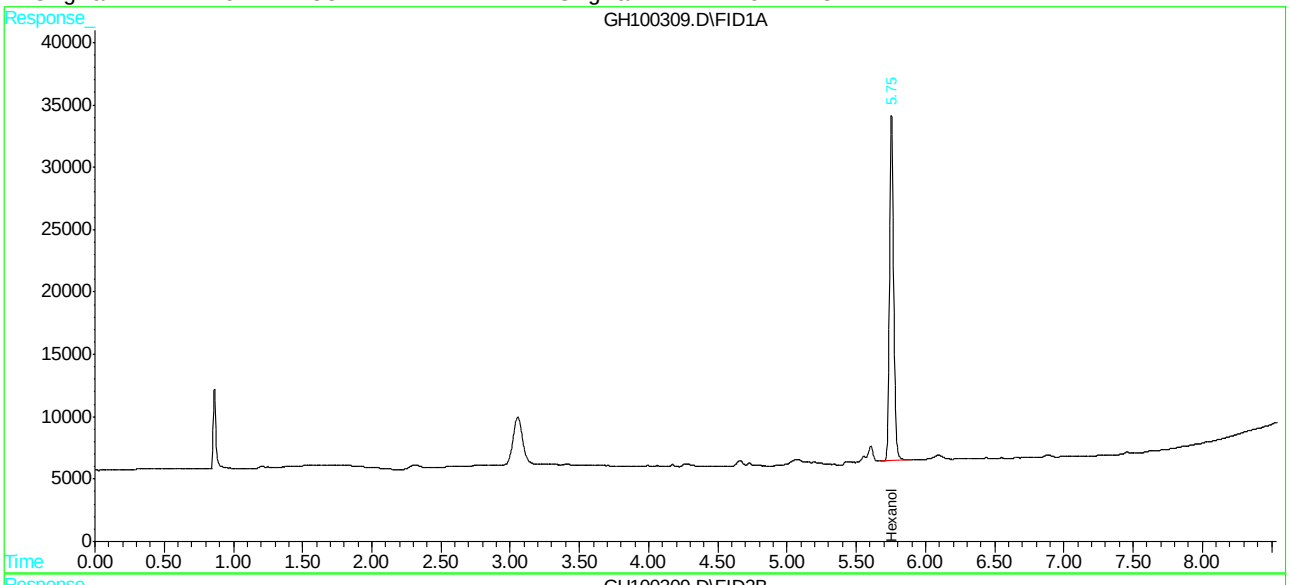
Quantitation Report (QT Reviewed)

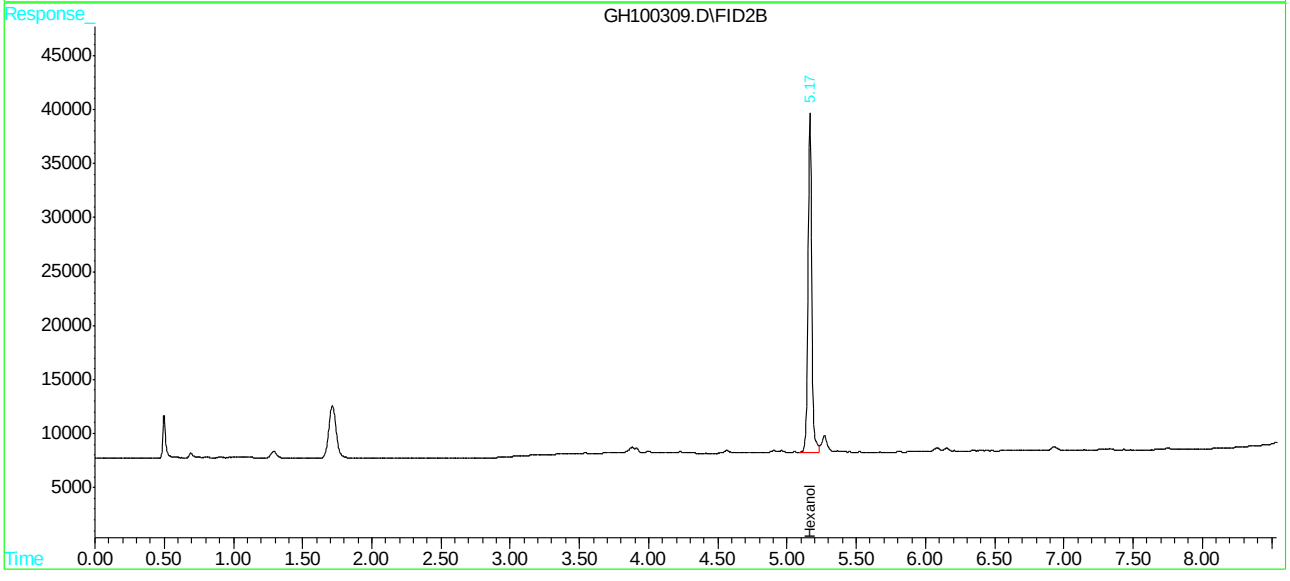
```
Data File : C:\HPCHEM\1\DATA\GH100309.D\FID1A.CH          Vial: 6
Acq On    :  8 Jun 2015   1:14 pm                     Operator: XULIU
Sample    : JB96432-4                                 Inst    : GCGH
Misc      : GC46145,GGH4888,5.0,,,,1                  Multiplr: 1.00
IntFile   : autoint1.e

Data File : C:\HPCHEM\1\DATA\GH100309.D\FID2B.CH          Vial: 6
Acq On    :  8 Jun 2015   1:33 pm                     Operator: XULIU
Sample    : JB96432-4                                 Inst    : GCGH
Misc      : GC46145,GGH4888,5.0,,,,1                  Multiplr: 1.00
IntFile   : autoint2.e
Quant Time: Jun  9  9:24 2015  Quant Results File: MGH4868.RES

Quant Method : C:\HPCHEM\1\METHODS\MGH4868.M (Chemstation Integrator)
Title        : METHOD SW846-8015B (DAI)
Last Update  : Tue Jun 09 09:05:03 2015
Response via : Multiple Level Calibration
DataAcq Meth : MGH4868.M

Volume Inj.     : 2ul
Signal #1 Phase : ZB-624            Signal #2 Phase: RTX-1
Signal #1 Info  : .53mm ID          Signal #2 Info : .32 mm ID
```





Quantitation Report (QT Reviewed)

```
Data File : C:\HPCHEM\1\DATA\GH100322.D\FID1A.CH          Vial: 20
Acq On    :  9 Jun 2015  11:12 am                     Operator: XULIU
Sample    : JB96432-5                                 Inst    : GCGH
Misc      : GC46145,GGH4889,5.0,,,,1                  Multiplr: 1.00
IntFile   : autoint1.e

Data File : C:\HPCHEM\1\DATA\GH100322.D\FID2B.CH          Vial: 20
Acq On    :  9 Jun 2015  11:27 am                     Operator: XULIU
Sample    : JB96432-5                                 Inst    : GCGH
Misc      : GC46145,GGH4889,5.0,,,,1                  Multiplr: 1.00
IntFile   : autoint2.e
Quant Time: Jun 10 10:07 2015  Quant Results File: MGH4868.RES

Quant Method : C:\HPCHEM\1\METHODS\MGH4868.M (Chemstation Integrator)
Title        : METHOD SW846-8015B (DAI)
Last Update  : Wed Jun 10 09:19:53 2015
Response via : Initial Calibration
DataAcq Meth : MGH4868.M

Volume Inj.     : 2ul
Signal #1 Phase : ZB-624            Signal #2 Phase: RTX-1
Signal #1 Info  : .53mm ID          Signal #2 Info : .32 mm ID

 Compound          RT#1   RT#2    Resp#1   Resp#2     PPB       PPB
---------------------------------------------------------------------

System Monitoring Compounds
10) S   Hexanol           5.75   5.16    567346   585622 4746.832  4742.454
  Spiked Amount   5000.000                 Recovery     =   94.94%    94.85%

Target Compounds
```

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.

GH100322.D MGH4868.M Wed Jun 10 10:07:46 2015 GCGH

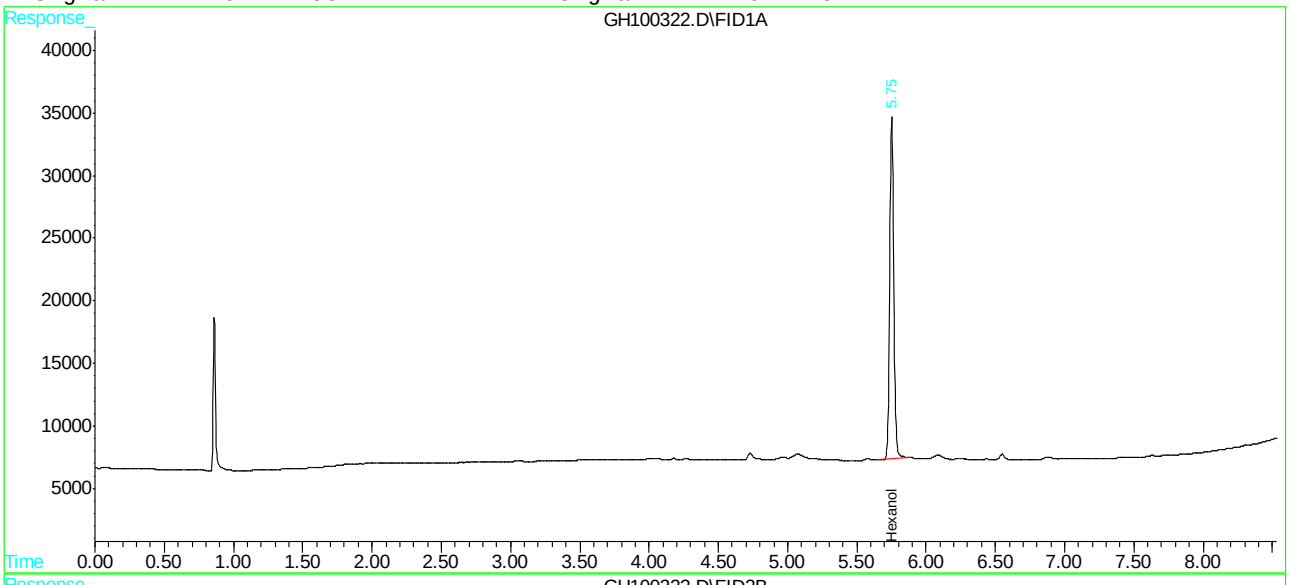
Quantitation Report (QT Reviewed)

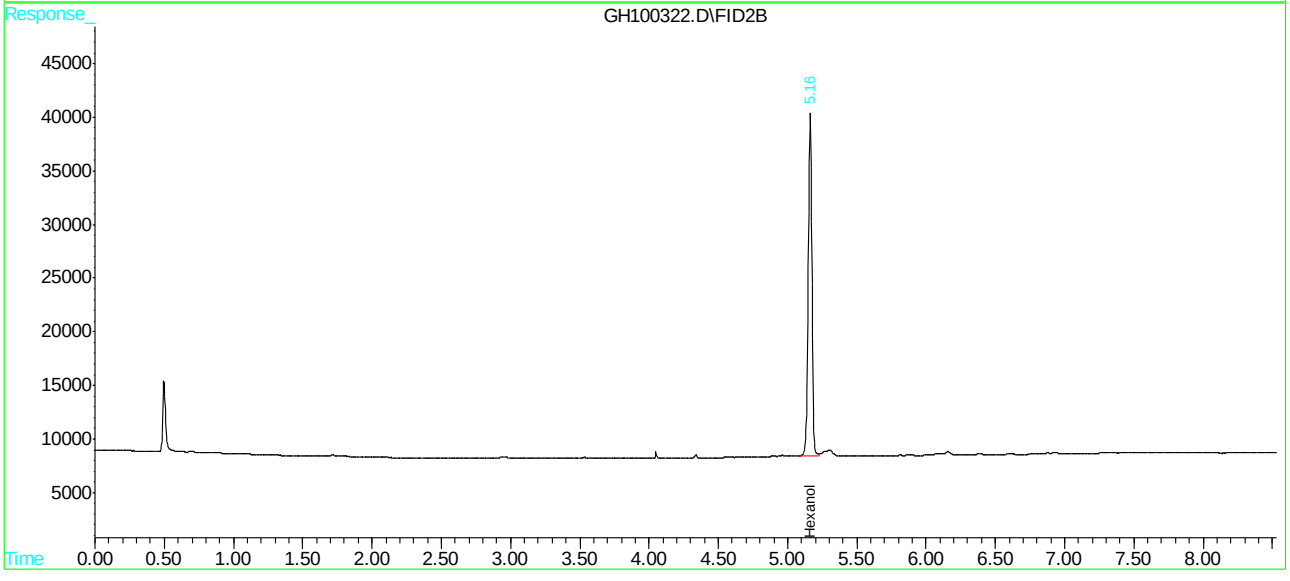
```
Data File : C:\HPCHEM\1\DATA\GH100322.D\FID1A.CH          Vial: 20
Acq On    :  9 Jun 2015  11:12 am                     Operator: XULIU
Sample    : JB96432-5                                 Inst    : GCGH
Misc      : GC46145,GGH4889,5.0,,,,1                  Multiplr: 1.00
IntFile   : autoint1.e

Data File : C:\HPCHEM\1\DATA\GH100322.D\FID2B.CH          Vial: 20
Acq On    :  9 Jun 2015  11:27 am                     Operator: XULIU
Sample    : JB96432-5                                 Inst    : GCGH
Misc      : GC46145,GGH4889,5.0,,,,1                  Multiplr: 1.00
IntFile   : autoint2.e
Quant Time: Jun 10 10:07 2015  Quant Results File: MGH4868.RES

Quant Method : C:\HPCHEM\1\METHODS\MGH4868.M (Chemstation Integrator)
Title        : METHOD SW846-8015B (DAI)
Last Update  : Wed Jun 10 09:19:53 2015
Response via : Multiple Level Calibration
DataAcq Meth : MGH4868.M

Volume Inj.     : 2ul
Signal #1 Phase : ZB-624            Signal #2 Phase: RTX-1
Signal #1 Info  : .53mm ID          Signal #2 Info : .32 mm ID
```





Quantitation Report (QT Reviewed)

```
Data File : C:\HPCHEM\1\DATA\GH100325.D\FID1A.CH          Vial: 23
Acq On    :  9 Jun 2015  11:56 am                     Operator: XULIU
Sample    : JB96432-6                                 Inst    : GCGH
Misc      : GC46145,GGH4889,5.0,,,,1                  Multiplr: 1.00
IntFile   : autoint1.e

Data File : C:\HPCHEM\1\DATA\GH100325.D\FID2B.CH          Vial: 23
Acq On    :  9 Jun 2015  12:10 pm                     Operator: XULIU
Sample    : JB96432-6                                 Inst    : GCGH
Misc      : GC46145,GGH4889,5.0,,,,1                  Multiplr: 1.00
IntFile   : autoint2.e
Quant Time: Jun 10 10:08 2015  Quant Results File: MGH4868.RES

Quant Method : C:\HPCHEM\1\METHODS\MGH4868.M (Chemstation Integrator)
Title        : METHOD SW846-8015B (DAI)
Last Update  : Wed Jun 10 09:19:53 2015
Response via : Initial Calibration
DataAcq Meth : MGH4868.M

Volume Inj.     : 2ul
Signal #1 Phase : ZB-624            Signal #2 Phase: RTX-1
Signal #1 Info  : .53mm ID          Signal #2 Info : .32 mm ID

 Compound          RT#1   RT#2    Resp#1   Resp#2     PPB       PPB
---------------------------------------------------------------------------

System Monitoring Compounds
10) S   Hexanol           5.75   5.17    604468   652122 5057.424  5280.981
  Spiked Amount   5000.000                  Recovery     =  101.15%   105.62%

Target Compounds
```

9.1.6

9

```
---------------------------------------------------------------------------
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40%  (m)=manual int.
GH100325.D  MGH4868.M      Wed Jun 10 10:08:41 2015      GCGH
```

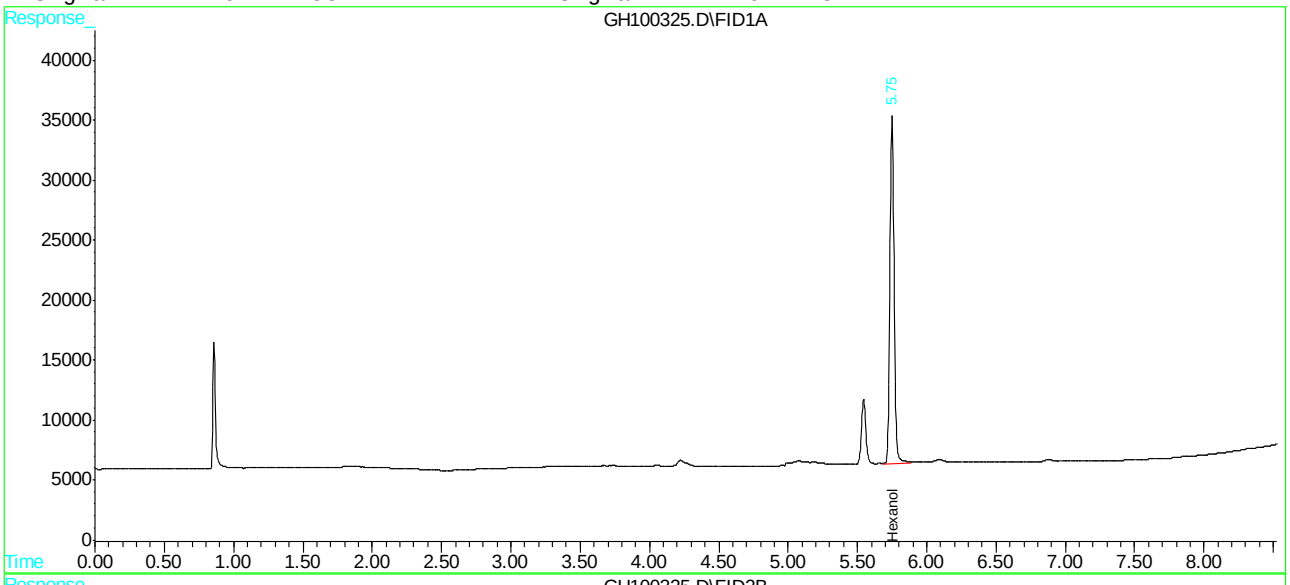
Quantitation Report (QT Reviewed)

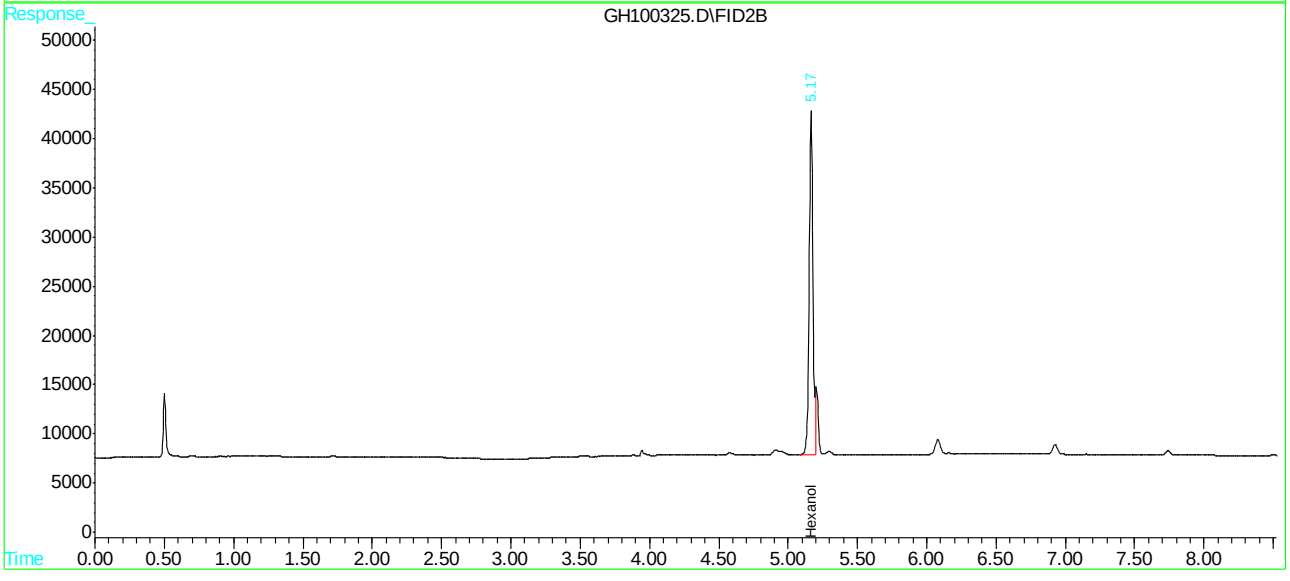
Data File : C:\HPCHEM\1\DATA\GH100325.D\FID1A.CH Vial: 23
Acq On : 9 Jun 2015 11:56 am Operator: XULIU
Sample : JB96432-6 Inst : GCGH
Misc : GC46145,GGH4889,5.0,,,,1 Multiplr: 1.00
IntFile : autoint1.e

Data File : C:\HPCHEM\1\DATA\GH100325.D\FID2B.CH Vial: 23
Acq On : 9 Jun 2015 12:10 pm Operator: XULIU
Sample : JB96432-6 Inst : GCGH
Misc : GC46145,GGH4889,5.0,,,,1 Multiplr: 1.00
IntFile : autoint2.e
Quant Time: Jun 10 10:08 2015 Quant Results File: MGH4868.RES

Quant Method : C:\HPCHEM\1\METHODS\MGH4868.M (Chemstation Integrator)
Title : METHOD SW846-8015B (DAI)
Last Update : Wed Jun 10 09:19:53 2015
Response via : Multiple Level Calibration
DataAcq Meth : MGH4868.M

Volume Inj. : 2ul
Signal #1 Phase : ZB-624 Signal #2 Phase: RTX-1
Signal #1 Info : .53mm ID Signal #2 Info : .32 mm ID





Quantitation Report (QT Reviewed)

```
Data File : C:\HPCHEM\1\DATA\GH100326.D\FID1A.CH          Vial: 24
Acq On    :  9 Jun 2015  12:10 pm                     Operator: XULIU
Sample    : JB96432-7                                 Inst    : GCGH
Misc      : GC46145,GGH4889,5.0,,,,1                  Multiplr: 1.00
IntFile   : autoint1.e

Data File : C:\HPCHEM\1\DATA\GH100326.D\FID2B.CH          Vial: 24
Acq On    :  9 Jun 2015  12:25 pm                     Operator: XULIU
Sample    : JB96432-7                                 Inst    : GCGH
Misc      : GC46145,GGH4889,5.0,,,,1                  Multiplr: 1.00
IntFile   : autoint2.e
Quant Time: Jun 10 10:08 2015  Quant Results File: MGH4868.RES

Quant Method : C:\HPCHEM\1\METHODS\MGH4868.M (Chemstation Integrator)
Title        : METHOD SW846-8015B (DAI)
Last Update  : Wed Jun 10 09:19:53 2015
Response via : Initial Calibration
DataAcq Meth : MGH4868.M

Volume Inj.     : 2ul
Signal #1 Phase : ZB-624            Signal #2 Phase: RTX-1
Signal #1 Info  : .53mm ID          Signal #2 Info : .32 mm ID

 Compound          RT#1   RT#2    Resp#1   Resp#2     PPB       PPB
-----------------------------------------------------------------------

System Monitoring Compounds
10) S   Hexanol           5.75   5.17    638342   697563 5340.837  5648.963
  Spiked Amount   5000.000                  Recovery     =  106.82%   112.98%

Target Compounds
```

9.1.7

9

```
-----------------------------------------------------------------------------
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40%  (m)=manual int.
GH100326.D  MGH4868.M      Wed Jun 10 10:09:04 2015      GCGH
```

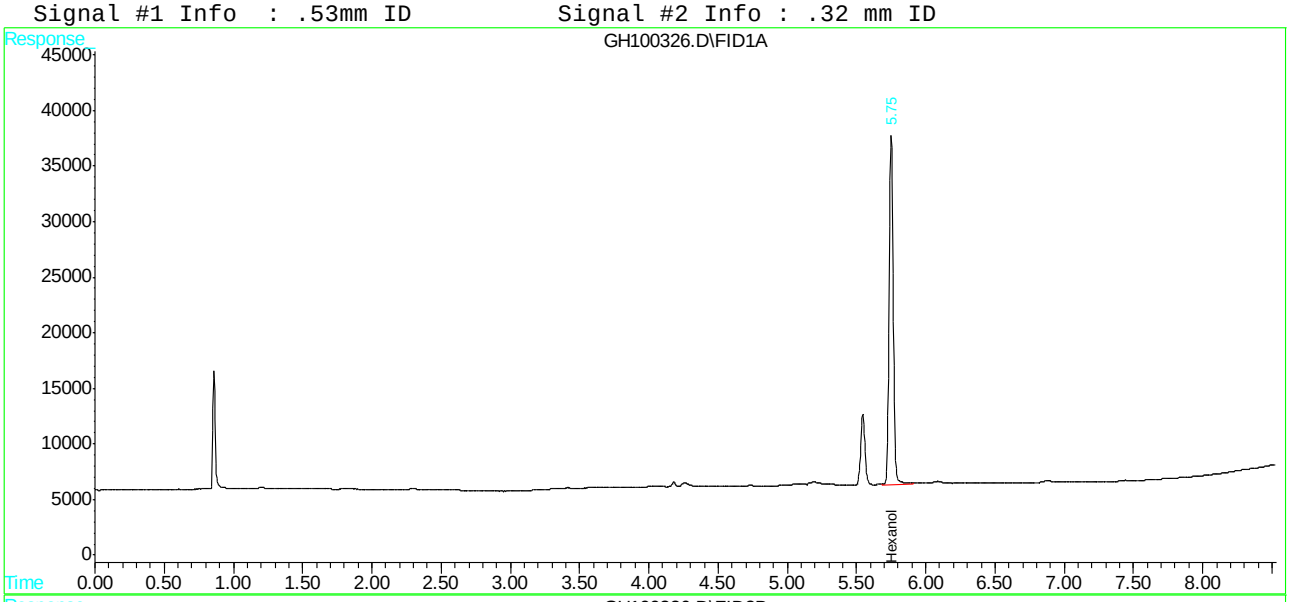
Quantitation Report (QT Reviewed)

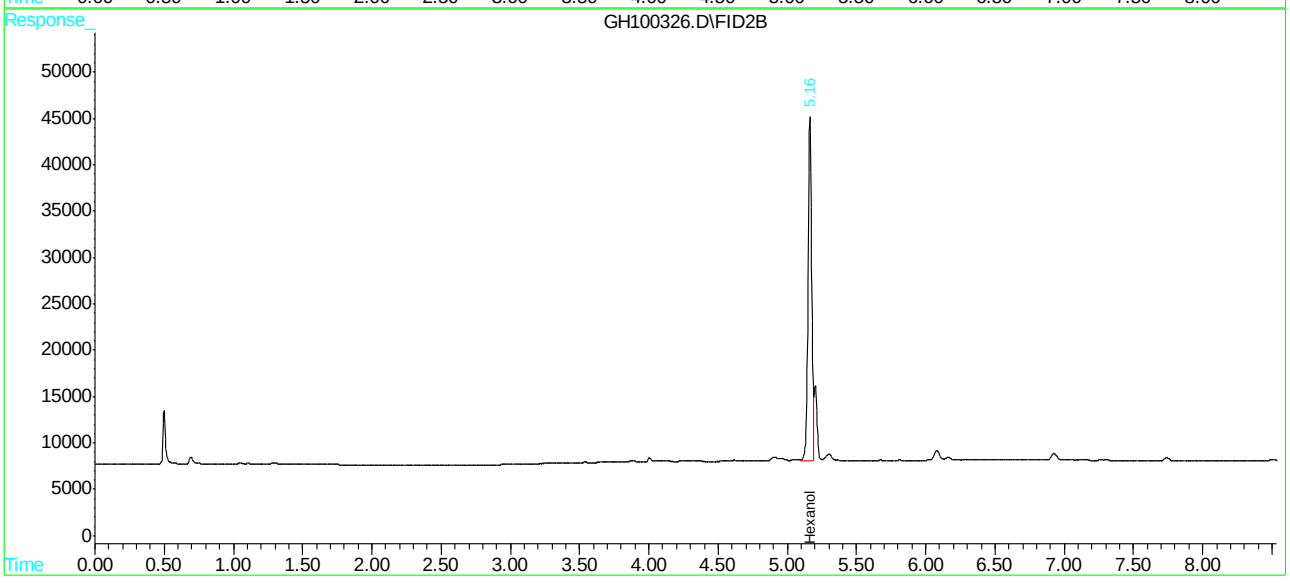
```
Data File : C:\HPCHEM\1\DATA\GH100326.D\FID1A.CH          Vial: 24
Acq On    :  9 Jun 2015  12:10 pm                     Operator: XULIU
Sample    : JB96432-7                                 Inst    : GCGH
Misc      : GC46145,GGH4889,5.0,,,,1                  Multiplr: 1.00
IntFile   : autoint1.e

Data File : C:\HPCHEM\1\DATA\GH100326.D\FID2B.CH          Vial: 24
Acq On    :  9 Jun 2015  12:25 pm                     Operator: XULIU
Sample    : JB96432-7                                 Inst    : GCGH
Misc      : GC46145,GGH4889,5.0,,,,1                  Multiplr: 1.00
IntFile   : autoint2.e
Quant Time: Jun 10 10:08 2015  Quant Results File: MGH4868.RES

Quant Method : C:\HPCHEM\1\METHODS\MGH4868.M (Chemstation Integrator)
Title        : METHOD SW846-8015B (DAI)
Last Update  : Wed Jun 10 09:19:53 2015
Response via : Multiple Level Calibration
DataAcq Meth : MGH4868.M

Volume Inj.     : 2ul
Signal #1 Phase : ZB-624            Signal #2 Phase: RTX-1
Signal #1 Info  : .53mm ID          Signal #2 Info : .32 mm ID
```





Quantitation Report (QT Reviewed)

```
Data File : C:\HPCHEM\1\DATA\GH100327.D\FID1A.CH          Vial: 25
Acq On    :  9 Jun 2015  12:25 pm                     Operator: XULIU
Sample    : JB96432-8                                 Inst    : GCGH
Misc      : GC46145,GGH4889,5.0,,,,1                  Multiplr: 1.00
IntFile   : autoint1.e

Data File : C:\HPCHEM\1\DATA\GH100327.D\FID2B.CH          Vial: 25
Acq On    :  9 Jun 2015  12:39 pm                     Operator: XULIU
Sample    : JB96432-8                                 Inst    : GCGH
Misc      : GC46145,GGH4889,5.0,,,,1                  Multiplr: 1.00
IntFile   : autoint2.e
Quant Time: Jun 10 10:09 2015  Quant Results File: MGH4868.RES

Quant Method : C:\HPCHEM\1\METHODS\MGH4868.M (Chemstation Integrator)
Title        : METHOD SW846-8015B (DAI)
Last Update  : Wed Jun 10 09:19:53 2015
Response via : Initial Calibration
DataAcq Meth : MGH4868.M

Volume Inj.     : 2ul
Signal #1 Phase : ZB-624            Signal #2 Phase: RTX-1
Signal #1 Info  : .53mm ID          Signal #2 Info : .32 mm ID

 Compound          RT#1   RT#2    Resp#1   Resp#2     PPB       PPB
-----------------------------------------------------------------------

System Monitoring Compounds
10) S   Hexanol           5.75   5.17    730096   748476 6108.521  6061.262
  Spiked Amount   5000.000                  Recovery     =  122.17%   121.23%

Target Compounds
 1)     Methanol          1.27   0.69f     8779    23735  602.379  1613.402 #
 5)     2-Propanol        2.00f  1.10     24106    24082 1075.469  1073.586
```

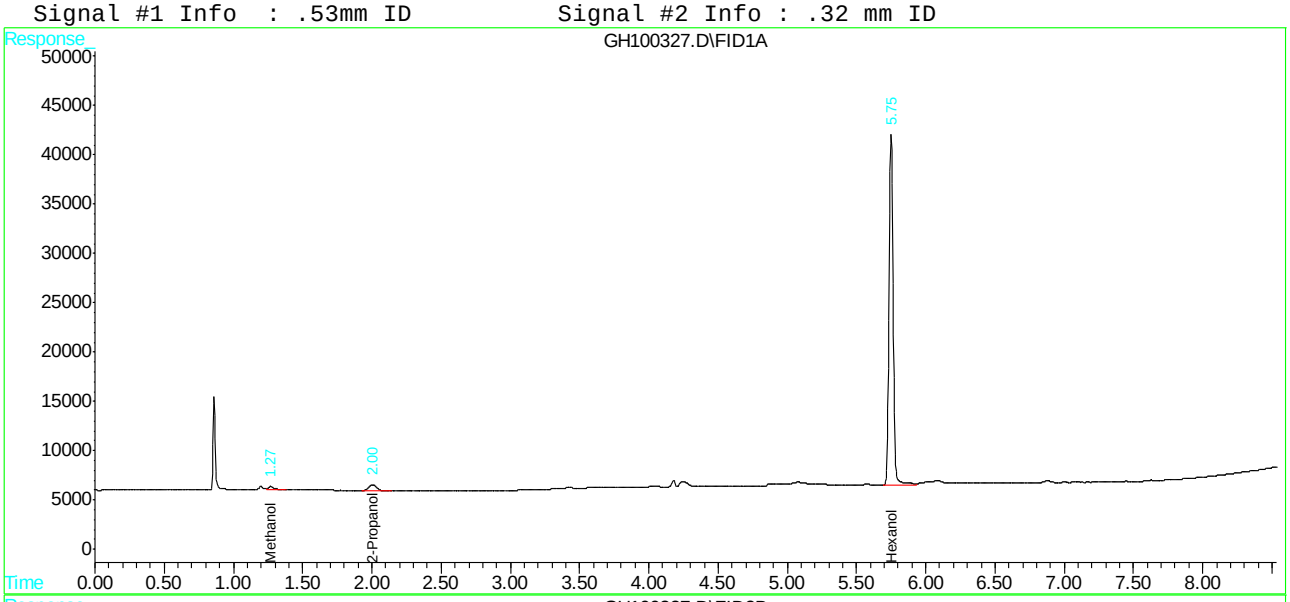
Quantitation Report (QT Reviewed)

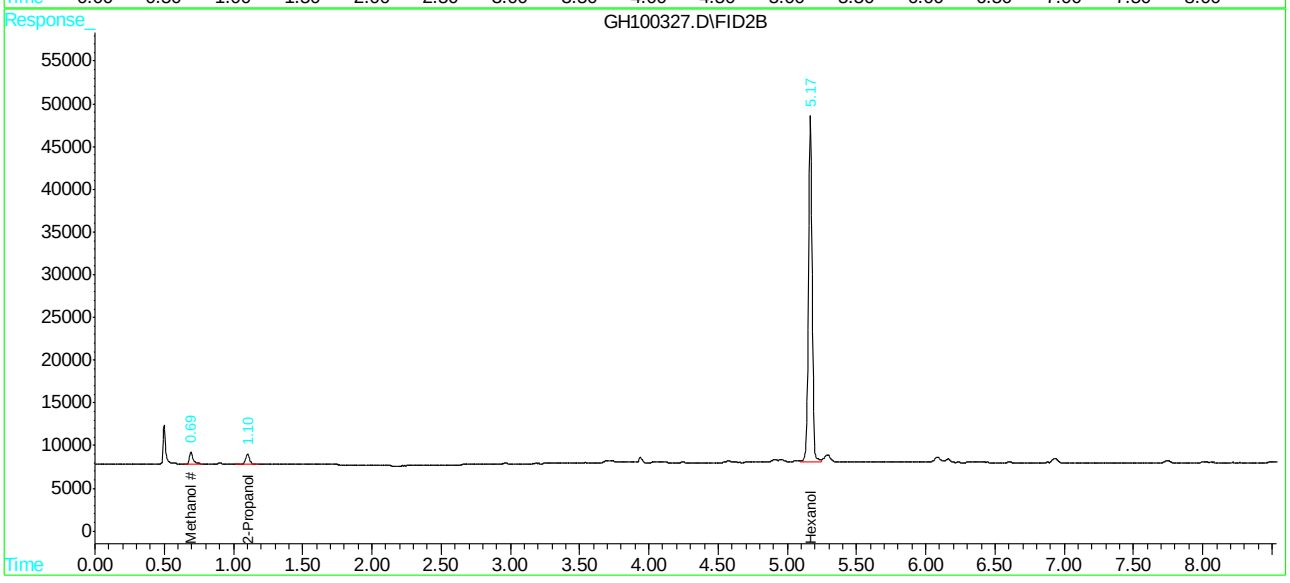
```
Data File : C:\HPCHEM\1\DATA\GH100327.D\FID1A.CH          Vial: 25
Acq On    :  9 Jun 2015  12:25 pm                     Operator: XULIU
Sample    : JB96432-8                                 Inst    : GCGH
Misc      : GC46145,GGH4889,5.0,,,,1                  Multiplr: 1.00
IntFile   : autoint1.e

Data File : C:\HPCHEM\1\DATA\GH100327.D\FID2B.CH          Vial: 25
Acq On    :  9 Jun 2015  12:39 pm                     Operator: XULIU
Sample    : JB96432-8                                 Inst    : GCGH
Misc      : GC46145,GGH4889,5.0,,,,1                  Multiplr: 1.00
IntFile   : autoint2.e
Quant Time: Jun 10 10:09 2015  Quant Results File: MGH4868.RES

Quant Method : C:\HPCHEM\1\METHODS\MGH4868.M (Chemstation Integrator)
Title        : METHOD SW846-8015B (DAI)
Last Update  : Wed Jun 10 09:19:53 2015
Response via : Multiple Level Calibration
DataAcq Meth : MGH4868.M

Volume Inj.     : 2ul
Signal #1 Phase : ZB-624            Signal #2 Phase: RTX-1
Signal #1 Info  : .53mm ID          Signal #2 Info : .32 mm ID
```





Quantitation Report (QT Reviewed)

```
Data File : C:\HPCHEM\1\DATA\GH100302.D\FID1A.CH          Vial: 91
Acq On    :  8 Jun 2015  11:18 am                     Operator: XULIU
Sample    : MB1                                       Inst    : GCGH
Misc      : GC46145,GGH4888,5.0,,,,1                  Multiplr: 1.00
IntFile   : autoint1.e

Data File : C:\HPCHEM\1\DATA\GH100302.D\FID2B.CH          Vial: 91
Acq On    :  8 Jun 2015  11:33 am                     Operator: XULIU
Sample    : MB1                                       Inst    : GCGH
Misc      : GC46145,GGH4888,5.0,,,,1                  Multiplr: 1.00
IntFile   : autoint2.e
Quant Time: Jun  9  9:03 2015  Quant Results File: MGH4868.RES

Quant Method : C:\HPCHEM\1\METHODS\MGH4868.M (Chemstation Integrator)
Title        : METHOD SW846-8015B (DAI)
Last Update  : Mon Jun 08 10:03:52 2015
Response via : Initial Calibration
DataAcq Meth : MGH4868.M

Volume Inj.     : 2ul
Signal #1 Phase : ZB-624            Signal #2 Phase: RTX-1
Signal #1 Info  : .53mm ID          Signal #2 Info : .32 mm ID

 Compound          RT#1   RT#2    Resp#1   Resp#2     PPB       PPB
---------------------------------------------------------------------

System Monitoring Compounds
10) S   Hexanol           5.75   5.17    538278   544443 4503.632  4408.979
  Spiked Amount   5000.000                  Recovery     =   90.07%    88.18%

Target Compounds
```

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.

GH100302.D MGH4868.M Tue Jun 09 09:21:00 2015 GCGH

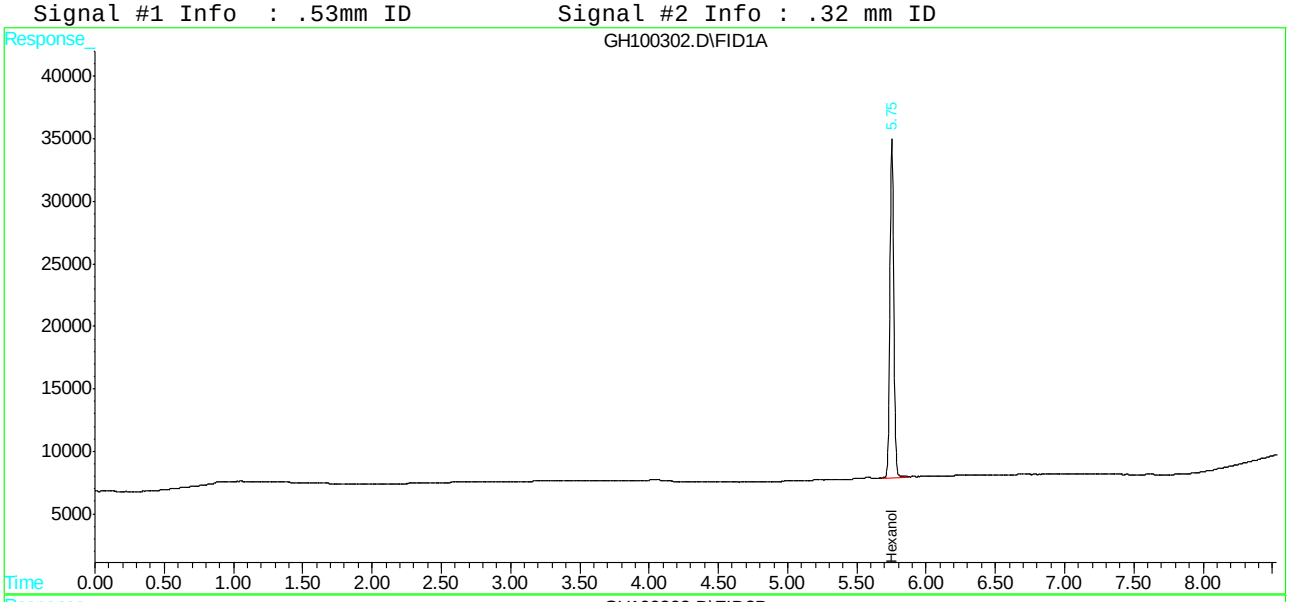
Quantitation Report (QT Reviewed)

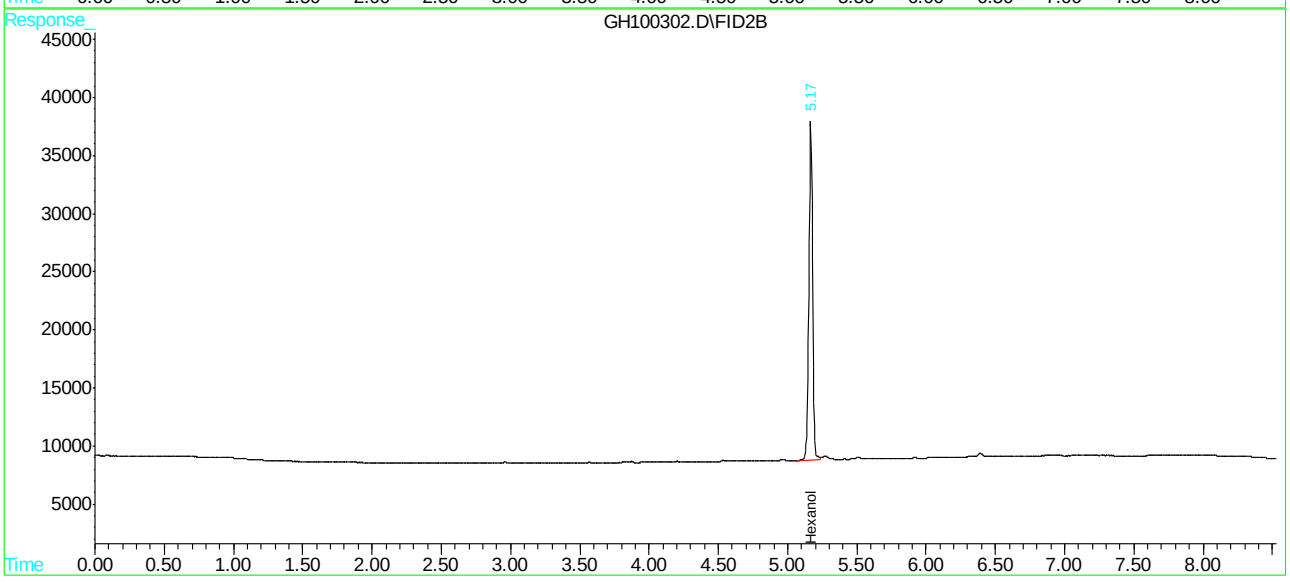
```
Data File : C:\HPCHEM\1\DATA\GH100302.D\FID1A.CH          Vial: 91
Acq On    :  8 Jun 2015  11:18 am                     Operator: XULIU
Sample    : MB1                                       Inst    : GCGH
Misc      : GC46145,GGH4888,5.0,,,,1                  Multiplr: 1.00
IntFile   : autoint1.e

Data File : C:\HPCHEM\1\DATA\GH100302.D\FID2B.CH          Vial: 91
Acq On    :  8 Jun 2015  11:33 am                     Operator: XULIU
Sample    : MB1                                       Inst    : GCGH
Misc      : GC46145,GGH4888,5.0,,,,1                  Multiplr: 1.00
IntFile   : autoint2.e
Quant Time: Jun  9  9:03 2015  Quant Results File: MGH4868.RES

Quant Method : C:\HPCHEM\1\METHODS\MGH4868.M (Chemstation Integrator)
Title        : METHOD SW846-8015B (DAI)
Last Update  : Mon Jun 08 10:03:52 2015
Response via : Multiple Level Calibration
DataAcq Meth : MGH4868.M

Volume Inj.     : 2ul
Signal #1 Phase : ZB-624            Signal #2 Phase: RTX-1
Signal #1 Info  : .53mm ID          Signal #2 Info : .32 mm ID
```





Quantitation Report (QT Reviewed)

```
Data File : C:\HPCHEM\1\DATA\GH100320.D\FID1A.CH        Vial: 93
Acq On    :  9 Jun 2015  10:28 am                   Operator: XULIU
Sample    : MB1                                     Inst    : GCGH
Misc      : GC46145,GGH4889,5.0,,,,1                Multiplr: 1.00
IntFile   : autoint1.e

Data File : C:\HPCHEM\1\DATA\GH100320.D\FID2B.CH        Vial: 93
Acq On    :  9 Jun 2015  10:41 am                   Operator: XULIU
Sample    : MB1                                     Inst    : GCGH
Misc      : GC46145,GGH4889,5.0,,,,1                Multiplr: 1.00
IntFile   : autoint2.e
Quant Time: Jun  9 10:58 2015  Quant Results File: MGH4868.RES

Quant Method : C:\HPCHEM\1\METHODS\MGH4868.M (Chemstation Integrator)
Title        : METHOD SW846-8015B (DAI)
Last Update  : Tue Jun 09 10:55:03 2015
Response via : Initial Calibration
DataAcq Meth : MGH4868.M

Volume Inj.     : 2ul
Signal #1 Phase : ZB-624            Signal #2 Phase: RTX-1
Signal #1 Info  : .53mm ID          Signal #2 Info : .32 mm ID
```

Compound	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
System Monitoring Compounds						
10) S Hexanol	5.75	5.17	609715	620609	5101.324	5025.780
Spiked Amount 5000.000			Recovery	=	102.03%	100.52%
Target Compounds						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.

GH100320.D MGH4868.M Wed Jun 10 09:22:38 2015 GCGH

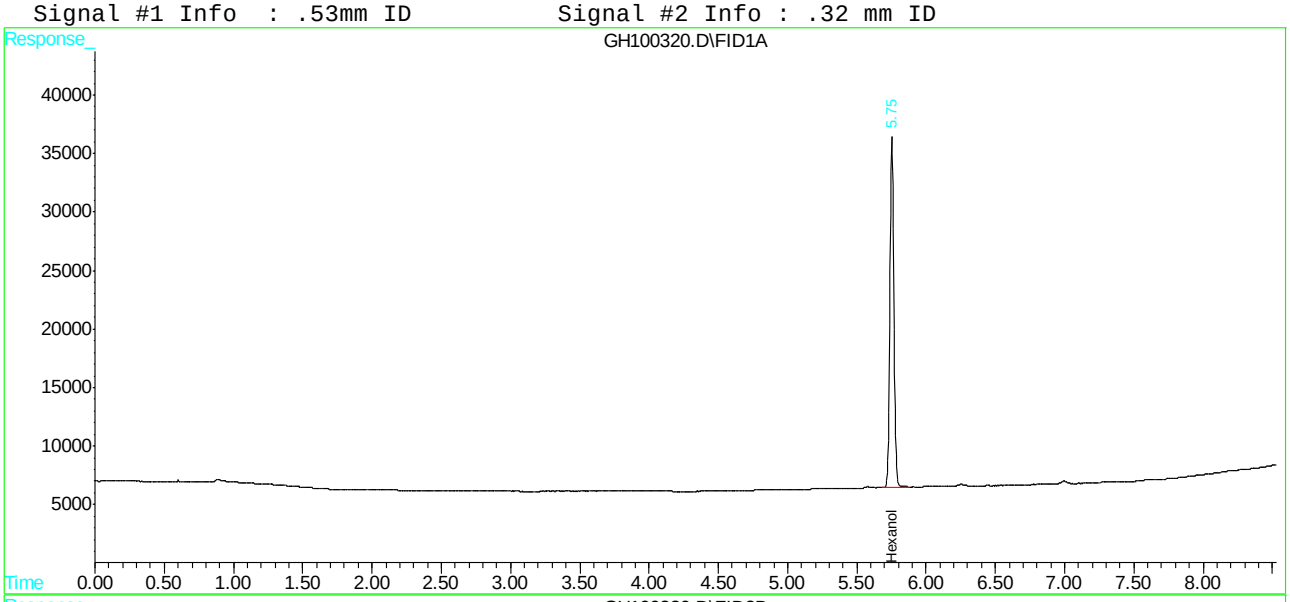
Quantitation Report (QT Reviewed)

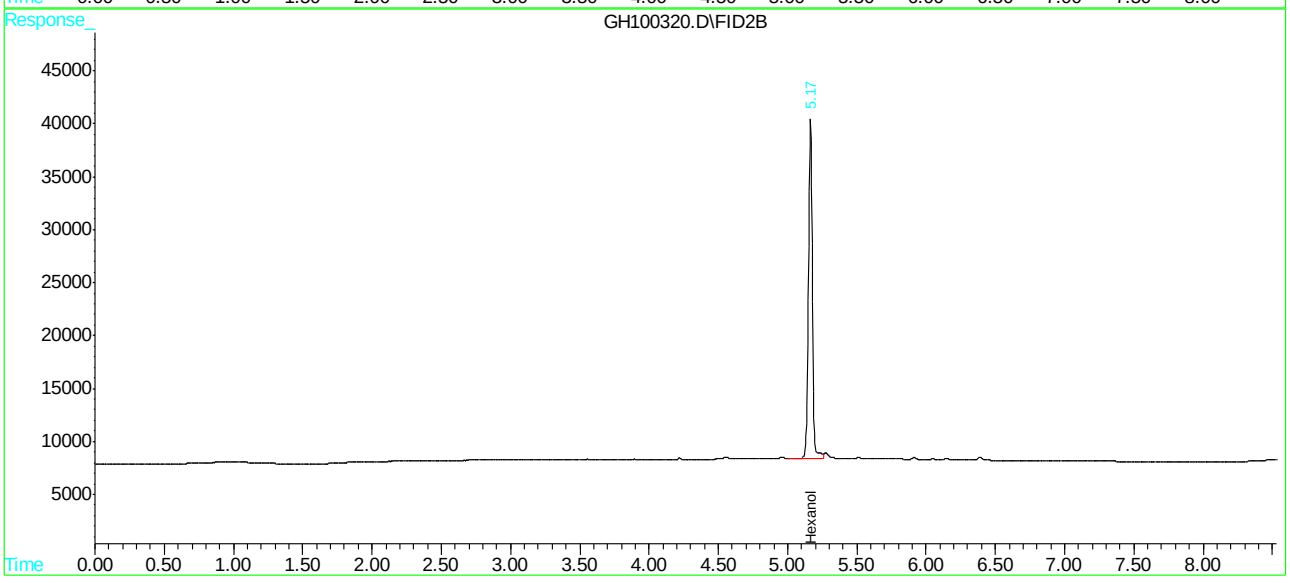
```
Data File : C:\HPCHEM\1\DATA\GH100320.D\FID1A.CH          Vial: 93
Acq On    :  9 Jun 2015  10:28 am                     Operator: XULIU
Sample    : MB1                                       Inst    : GCGH
Misc      : GC46145,GGH4889,5.0,,,,1                  Multiplr: 1.00
IntFile   : autoint1.e

Data File : C:\HPCHEM\1\DATA\GH100320.D\FID2B.CH          Vial: 93
Acq On    :  9 Jun 2015  10:41 am                     Operator: XULIU
Sample    : MB1                                       Inst    : GCGH
Misc      : GC46145,GGH4889,5.0,,,,1                  Multiplr: 1.00
IntFile   : autoint2.e
Quant Time: Jun  9 10:58 2015  Quant Results File: MGH4868.RES

Quant Method : C:\HPCHEM\1\METHODS\MGH4868.M (Chemstation Integrator)
Title        : METHOD SW846-8015B (DAI)
Last Update  : Tue Jun 09 10:55:03 2015
Response via : Multiple Level Calibration
DataAcq Meth : MGH4868.M

Volume Inj.     : 2ul
Signal #1 Phase : ZB-624            Signal #2 Phase: RTX-1
Signal #1 Info  : .53mm ID          Signal #2 Info : .32 mm ID
```





Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GH100303.D\FID1A.CH Vial: 92
Acq On : 8 Jun 2015 11:33 am Operator: XULIU
Sample : BS Inst : GCGH
Misc : GC46145,GGH4888,5.0,,,,1 Multiplr: 1.00
IntFile : autoint1.e

Data File : C:\HPCHEM\1\DATA\GH100303.D\FID2B.CH Vial: 92
Acq On : 8 Jun 2015 11:47 am Operator: XULIU
Sample : BS Inst : GCGH
Misc : GC46145,GGH4888,5.0,,,,1 Multiplr: 1.00
IntFile : autoint2.e
Quant Time: Jun 9 9:21 2015 Quant Results File: MGH4868.RES

Quant Method : C:\HPCHEM\1\METHODS\MGH4868.M (Chemstation Integrator)
Title : METHOD SW846-8015B (DAI)
Last Update : Tue Jun 09 09:05:03 2015
Response via : Initial Calibration
DataAcq Meth : MGH4868.M

Volume Inj. : 2ul
Signal #1 Phase : ZB-624 Signal #2 Phase: RTX-1
Signal #1 Info : .53mm ID Signal #2 Info : .32 mm ID

	Compound	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
	System Monitoring Compounds						
10) S	Hexanol	5.75	5.17	613362	624188	5131.838	5054.763
	Spiked Amount 5000.000			Recovery	=	102.64%	101.10%
	Target Compounds						
1)	Methanol	1.28	0.71	76407	73205	5242.784	4976.110
2)	Ethanol	1.67	0.91	106651	103114	5179.240	4990.894
3)	Tert-Butyl Alcoh	2.30	1.29	155800	147556	4794.022	4594.938
4)	1-Propanol	2.79	1.57	137476	124693	4872.096	4615.352
5)	2-Propanol	2.01	1.10	113475	106547	5062.588	4749.893
7)	Isobutanol	3.63	2.47	152248	139674	4771.444	4340.657
8)	1-Butanol	4.07	2.96	148667	140165	4721.862	4325.039
9)	2-Butanol	3.23	2.08	136421	127867	4767.877	4740.414

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GH100303.D MGH4868.M Tue Jun 09 09:21:16 2015 GCGH

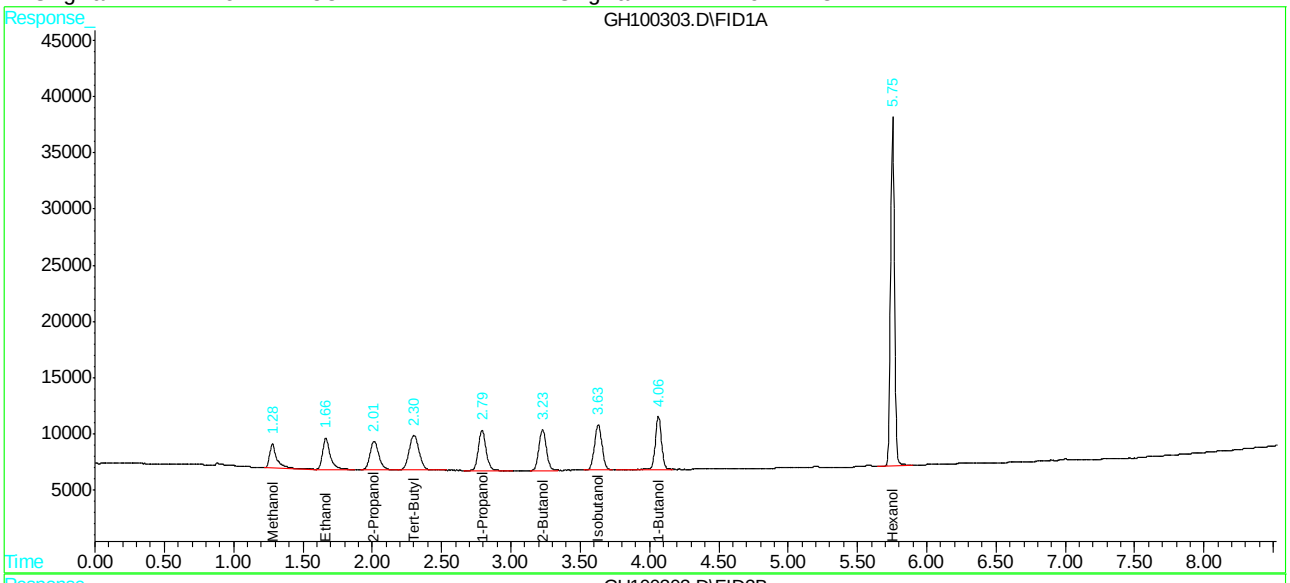
Quantitation Report (QT Reviewed)

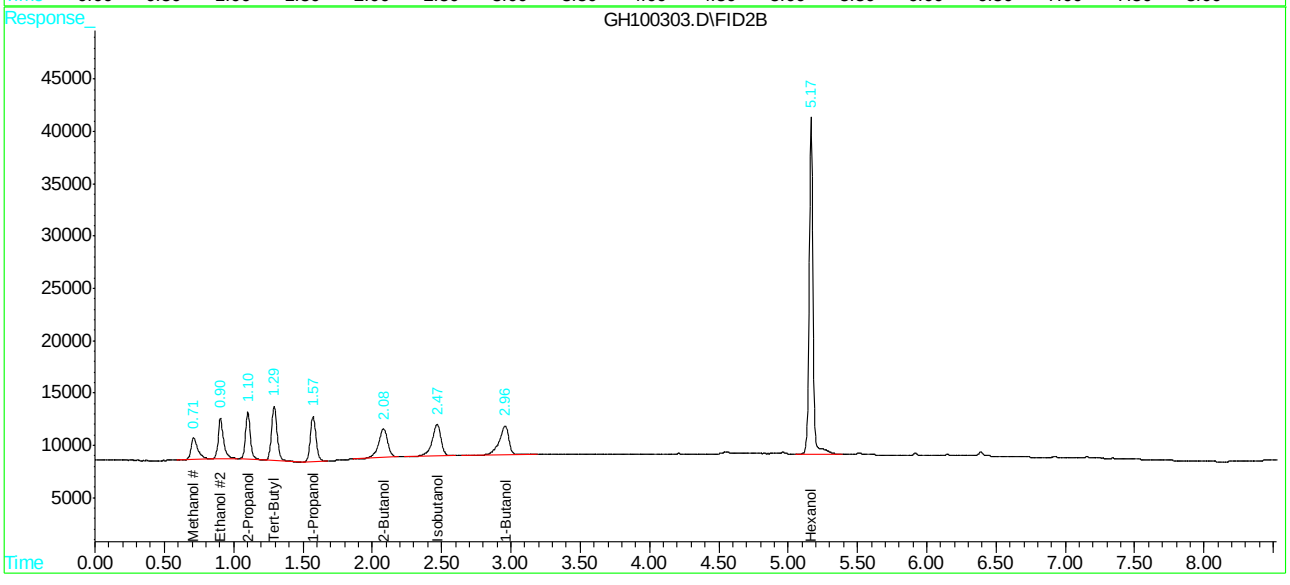
Data File : C:\HPCHEM\1\DATA\GH100303.D\FID1A.CH Vial: 92
Acq On : 8 Jun 2015 11:33 am Operator: XULIU
Sample : BS Inst : GCGH
Misc : GC46145,GGH4888,5.0,,,,1 Multiplr: 1.00
IntFile : autoint1.e

Data File : C:\HPCHEM\1\DATA\GH100303.D\FID2B.CH Vial: 92
Acq On : 8 Jun 2015 11:47 am Operator: XULIU
Sample : BS Inst : GCGH
Misc : GC46145,GGH4888,5.0,,,,1 Multiplr: 1.00
IntFile : autoint2.e
Quant Time: Jun 9 9:21 2015 Quant Results File: MGH4868.RES

Quant Method : C:\HPCHEM\1\METHODS\MGH4868.M (Chemstation Integrator)
Title : METHOD SW846-8015B (DAI)
Last Update : Tue Jun 09 09:05:03 2015
Response via : Multiple Level Calibration
DataAcq Meth : MGH4868.M

Volume Inj. : 2ul
Signal #1 Phase : ZB-624 Signal #2 Phase: RTX-1
Signal #1 Info : .53mm ID Signal #2 Info : .32 mm ID





Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GH100321.D\FID1A.CH Vial: 94
Acq On : 9 Jun 2015 10:41 am Operator: XULIU
Sample : BS Inst : GCGH
Misc : GC46145,GGH4889,5.0,,,,1 Multiplr: 1.00
IntFile : autoint1.e

Data File : C:\HPCHEM\1\DATA\GH100321.D\FID2B.CH Vial: 94
Acq On : 9 Jun 2015 11:00 am Operator: XULIU
Sample : BS Inst : GCGH
Misc : GC46145,GGH4889,5.0,,,,1 Multiplr: 1.00
IntFile : autoint2.e
Quant Time: Jun 10 9:22 2015 Quant Results File: MGH4868.RES

Quant Method : C:\HPCHEM\1\METHODS\MGH4868.M (Chemstation Integrator)
Title : METHOD SW846-8015B (DAI)
Last Update : Wed Jun 10 09:19:53 2015
Response via : Initial Calibration
DataAcq Meth : MGH4868.M

Volume Inj. : 2ul
Signal #1 Phase : ZB-624 Signal #2 Phase: RTX-1
Signal #1 Info : .53mm ID Signal #2 Info : .32 mm ID

	Compound	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
	System Monitoring Compounds						
10) S	Hexanol	5.75	5.17	588500	607609	4923.823	4920.507
	Spiked Amount 5000.000			Recovery	=	98.48%	98.41%
	Target Compounds						
1)	Methanol	1.27	0.72	76166	78114	5226.244	5309.768
2)	Ethanol	1.66	0.91	111294	102360	5404.744	4954.395
3)	Tert-Butyl Alcoh	2.30	1.30	158853	154793	4887.956	4820.301
4)	1-Propanol	2.79	1.57	135021	132858	4785.095	4917.582
5)	2-Propanol	2.01	1.11	126844	113524	5659.037	5060.950
7)	Isobutanol	3.63	2.47	148692	145622	4660.023	4525.494
8)	1-Butanol	4.06	2.96	141461	143605	4492.986	4431.178
9)	2-Butanol	3.23	2.09	132690	128659	4637.479	4769.809

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GH100321.D MGH4868.M Wed Jun 10 09:22:52 2015 GCGH

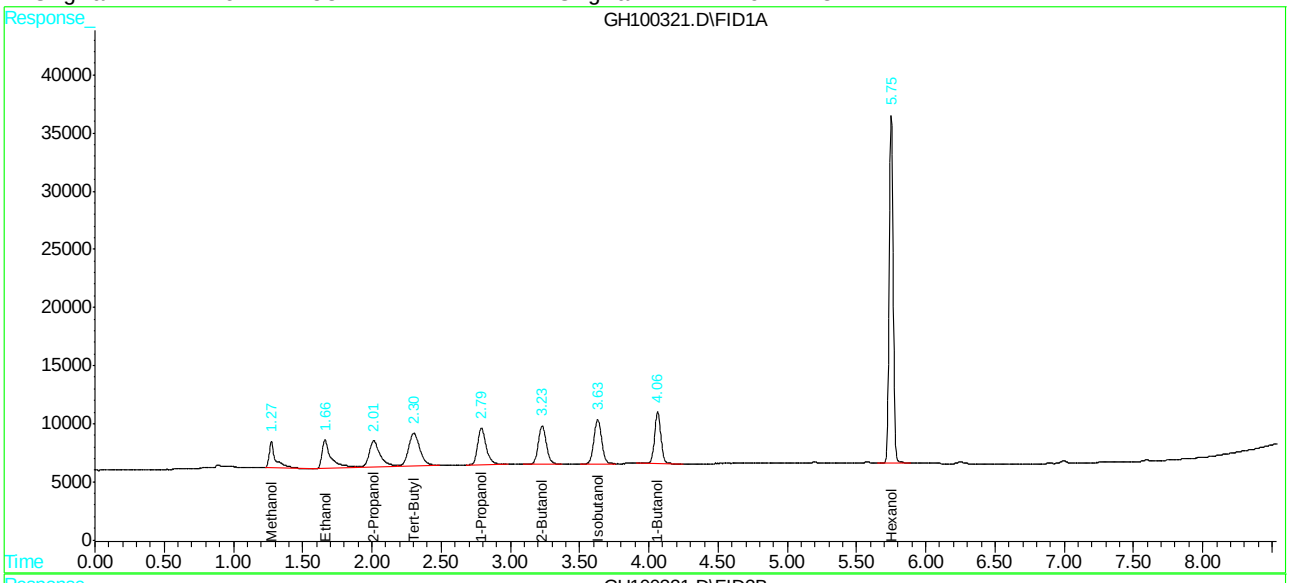
Quantitation Report (QT Reviewed)

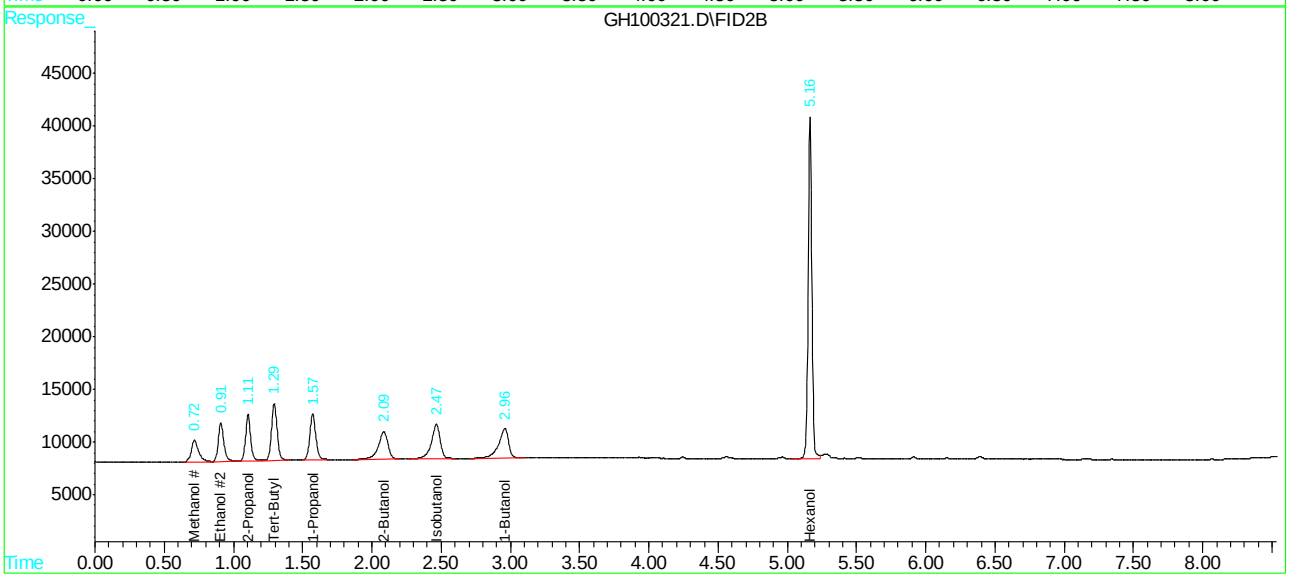
```
Data File : C:\HPCHEM\1\DATA\GH100321.D\FID1A.CH          Vial: 94
Acq On    :  9 Jun 2015  10:41 am                     Operator: XULIU
Sample    : BS                                        Inst    : GCGH
Misc      : GC46145,GGH4889,5.0,,,,1                  Multiplr: 1.00
IntFile   : autoint1.e

Data File : C:\HPCHEM\1\DATA\GH100321.D\FID2B.CH          Vial: 94
Acq On    :  9 Jun 2015  11:00 am                     Operator: XULIU
Sample    : BS                                        Inst    : GCGH
Misc      : GC46145,GGH4889,5.0,,,,1                  Multiplr: 1.00
IntFile   : autoint2.e
Quant Time: Jun 10  9:22 2015  Quant Results File: MGH4868.RES

Quant Method : C:\HPCHEM\1\METHODS\MGH4868.M (Chemstation Integrator)
Title        : METHOD SW846-8015B (DAI)
Last Update  : Wed Jun 10 09:19:53 2015
Response via : Multiple Level Calibration
DataAcq Meth : MGH4868.M

Volume Inj.     : 2ul
Signal #1 Phase : ZB-624            Signal #2 Phase: RTX-1
Signal #1 Info  : .53mm ID          Signal #2 Info : .32 mm ID
```





Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GH100305.D\FID1A.CH Vial: 2
Acq On : 8 Jun 2015 12:16 pm Operator: XULIU
Sample : JB96432-1MS Inst : GCGH
Misc : GC46145,GGH4888,5.0,,,,1 Multiplr: 1.00
IntFile : autoint1.e

Data File : C:\HPCHEM\1\DATA\GH100305.D\FID2B.CH Vial: 2
Acq On : 8 Jun 2015 12:31 pm Operator: XULIU
Sample : JB96432-1MS Inst : GCGH
Misc : GC46145,GGH4888,5.0,,,,1 Multiplr: 1.00
IntFile : autoint2.e
Quant Time: Jun 9 9:22 2015 Quant Results File: MGH4868.RES

Quant Method : C:\HPCHEM\1\METHODS\MGH4868.M (Chemstation Integrator)
Title : METHOD SW846-8015B (DAI)
Last Update : Tue Jun 09 09:05:03 2015
Response via : Initial Calibration
DataAcq Meth : MGH4868.M

Volume Inj. : 2ul
Signal #1 Phase : ZB-624 Signal #2 Phase: RTX-1
Signal #1 Info : .53mm ID Signal #2 Info : .32 mm ID

	Compound	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
	System Monitoring Compounds						
10) S	Hexanol	5.76	5.17	573099	619809	4794.963	5019.298
Spiked Amount	5000.000			Recovery	=	95.90%	100.39%
	Target Compounds						
1)	Methanol	1.28	0.70	71478	88258	4904.558	5999.294
2)	Ethanol	1.67	0.90	112459	109674	5461.325	5308.394
3)	Tert-Butyl Alcoh	2.30	1.29	188675	184773	5805.596	5753.900
4)	1-Propanol	2.79	1.57	160070	159169	5672.794	5891.432
5)	2-Propanol	2.02	1.10	132326	118467	5903.616	5281.283
7)	Isobutanol	3.63	2.47	187064	186543	5862.588	5797.205
8)	1-Butanol	4.07	2.96	174031	179979	5527.449	5553.570
9)	2-Butanol	3.23	2.07	163237	162789	5705.085	6035.093

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GH100305.D MGH4868.M Tue Jun 09 09:22:12 2015 GCGH

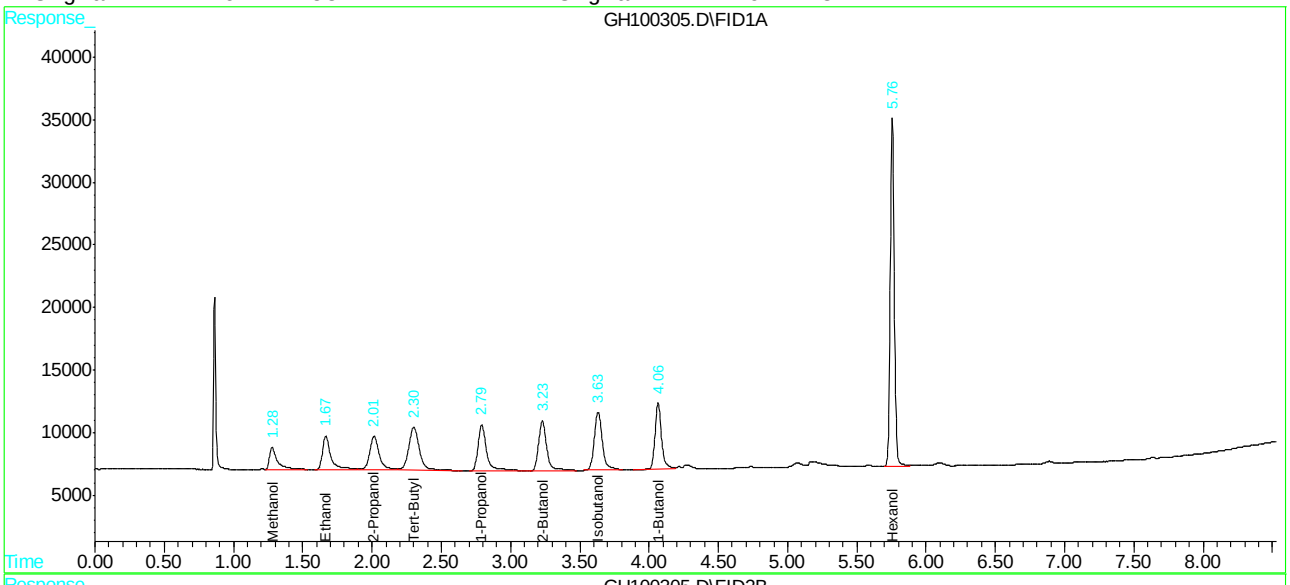
Quantitation Report (QT Reviewed)

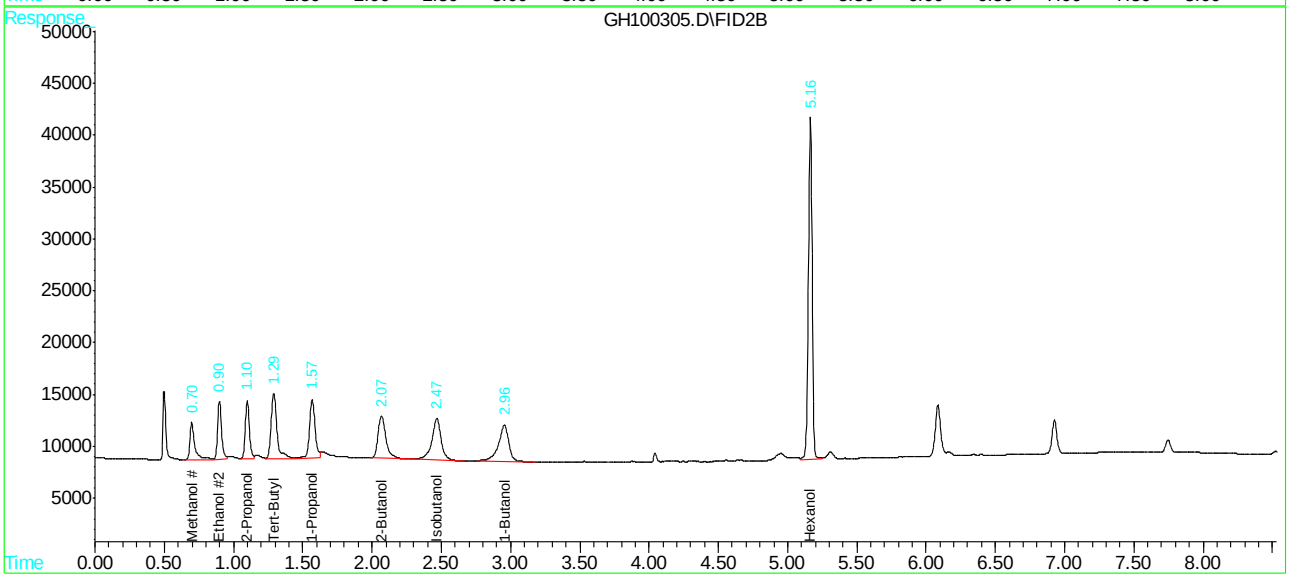
```
Data File : C:\HPCHEM\1\DATA\GH100305.D\FID1A.CH          Vial: 2
Acq On    :  8 Jun 2015  12:16 pm                     Operator: XULIU
Sample    : JB96432-1MS                               Inst    : GCGH
Misc      : GC46145,GGH4888,5.0,,,,1                  Multiplr: 1.00
IntFile   : autoint1.e

Data File : C:\HPCHEM\1\DATA\GH100305.D\FID2B.CH          Vial: 2
Acq On    :  8 Jun 2015  12:31 pm                     Operator: XULIU
Sample    : JB96432-1MS                               Inst    : GCGH
Misc      : GC46145,GGH4888,5.0,,,,1                  Multiplr: 1.00
IntFile   : autoint2.e
Quant Time: Jun  9  9:22 2015  Quant Results File: MGH4868.RES

Quant Method : C:\HPCHEM\1\METHODS\MGH4868.M (Chemstation Integrator)
Title        : METHOD SW846-8015B (DAI)
Last Update  : Tue Jun 09 09:05:03 2015
Response via : Multiple Level Calibration
DataAcq Meth : MGH4868.M

Volume Inj.     : 2ul
Signal #1 Phase : ZB-624            Signal #2 Phase: RTX-1
Signal #1 Info  : .53mm ID          Signal #2 Info : .32 mm ID
```





Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GH100306.D\FID1A.CH Vial: 3
Acq On : 8 Jun 2015 12:31 pm Operator: XULIU
Sample : JB96432-1MSD Inst : GCGH
Misc : GC46145,GGH4888,5.0,,,,1 Multiplr: 1.00
IntFile : autoint1.e

Data File : C:\HPCHEM\1\DATA\GH100306.D\FID2B.CH Vial: 3
Acq On : 8 Jun 2015 12:45 pm Operator: XULIU
Sample : JB96432-1MSD Inst : GCGH
Misc : GC46145,GGH4888,5.0,,,,1 Multiplr: 1.00
IntFile : autoint2.e
Quant Time: Jun 9 9:22 2015 Quant Results File: MGH4868.RES

Quant Method : C:\HPCHEM\1\METHODS\MGH4868.M (Chemstation Integrator)
Title : METHOD SW846-8015B (DAI)
Last Update : Tue Jun 09 09:05:03 2015
Response via : Initial Calibration
DataAcq Meth : MGH4868.M

Volume Inj. : 2ul
Signal #1 Phase : ZB-624 Signal #2 Phase: RTX-1
Signal #1 Info : .53mm ID Signal #2 Info : .32 mm ID

	Compound	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
	System Monitoring Compounds						
10) S	Hexanol	5.76	5.17	653315	661662	5466.113	5358.234
	Spiked Amount 5000.000			Recovery	=	109.32%	107.16%
	Target Compounds						
1)	Methanol	1.29	0.71	72918	90274	5003.342	6136.339
2)	Ethanol	1.67	0.91	124941	115845	6067.455	5607.085
3)	Tert-Butyl Alcoh	2.30	1.29	173473	168827	5337.801	5257.323
4)	1-Propanol	2.79	1.57	153443	154916	5437.951	5734.002
5)	2-Propanol	2.02	1.11	128457	123819	5731.030	5519.872
7)	Isobutanol	3.63	2.47	181738	168859	5695.661	5247.641
8)	1-Butanol	4.07	2.96	166840	165232	5299.051	5098.528
9)	2-Butanol	3.23	2.08	156215	143764	5459.639	5329.767

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GH100306.D MGH4868.M Tue Jun 09 09:22:42 2015 GCGH

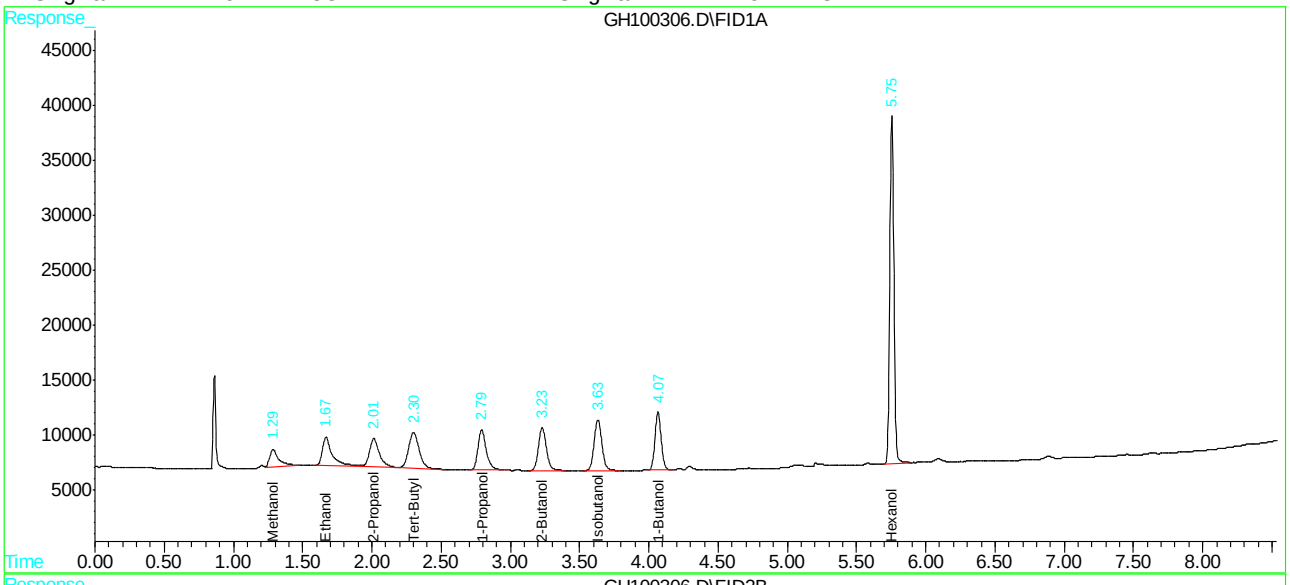
Quantitation Report (QT Reviewed)

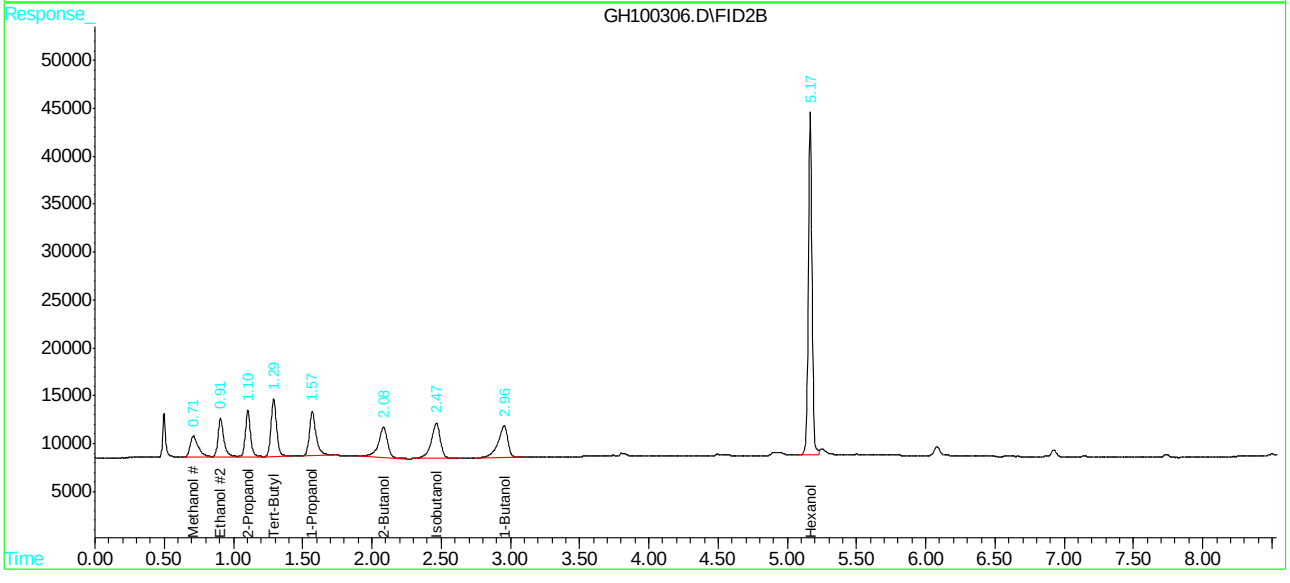
Data File : C:\HPCHEM\1\DATA\GH100306.D\FID1A.CH Vial: 3
Acq On : 8 Jun 2015 12:31 pm Operator: XULIU
Sample : JB96432-1MSD Inst : GCGH
Misc : GC46145,GGH4888,5.0,,,,1 Multiplr: 1.00
IntFile : autoint1.e

Data File : C:\HPCHEM\1\DATA\GH100306.D\FID2B.CH Vial: 3
Acq On : 8 Jun 2015 12:45 pm Operator: XULIU
Sample : JB96432-1MSD Inst : GCGH
Misc : GC46145,GGH4888,5.0,,,,1 Multiplr: 1.00
IntFile : autoint2.e
Quant Time: Jun 9 9:22 2015 Quant Results File: MGH4868.RES

Quant Method : C:\HPCHEM\1\METHODS\MGH4868.M (Chemstation Integrator)
Title : METHOD SW846-8015B (DAI)
Last Update : Tue Jun 09 09:05:03 2015
Response via : Multiple Level Calibration
DataAcq Meth : MGH4868.M

Volume Inj. : 2ul
Signal #1 Phase : ZB-624 Signal #2 Phase: RTX-1
Signal #1 Info : .53mm ID Signal #2 Info : .32 mm ID





Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GH100323.D\FID1A.CH Vial: 21
Acq On : 9 Jun 2015 11:27 am Operator: XULIU
Sample : JB96432-5MS Inst : GCGH
Misc : GC46145,GGH4889,5.0,,,,1 Multiplr: 1.00
IntFile : autoint1.e

Data File : C:\HPCHEM\1\DATA\GH100323.D\FID2B.CH Vial: 21
Acq On : 9 Jun 2015 11:41 am Operator: XULIU
Sample : JB96432-5MS Inst : GCGH
Misc : GC46145,GGH4889,5.0,,,,1 Multiplr: 1.00
IntFile : autoint2.e
Quant Time: Jun 10 10:07 2015 Quant Results File: MGH4868.RES

Quant Method : C:\HPCHEM\1\METHODS\MGH4868.M (Chemstation Integrator)
Title : METHOD SW846-8015B (DAI)
Last Update : Wed Jun 10 10:00:43 2015
Response via : Initial Calibration
DataAcq Meth : MGH4868.M

Volume Inj. : 2ul
Signal #1 Phase : ZB-624 Signal #2 Phase: RTX-1
Signal #1 Info : .53mm ID Signal #2 Info : .32 mm ID

	Compound	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
	System Monitoring Compounds						
10) S	Hexanol	5.75	5.17	561904	591536	4701.305	4790.342
Spiked Amount	5000.000			Recovery	=	94.03%	95.81%
	Target Compounds						
1)	Methanol	1.27	0.70	73553	87444	5046.919	5943.959
2)	Ethanol	1.66	0.90	111182	118269	5399.301	5724.416
3)	Tert-Butyl Alcoh	2.30	1.30	160494	163648	4938.460	5096.056
4)	1-Propanol	2.79	1.57	145904	150265	5170.761	5561.872
5)	2-Propanol	2.01	1.10	113658	123879	5070.776	5522.555
7)	Isobutanol	3.63	2.47	176524	162381	5532.256	5046.332
8)	1-Butanol	4.06	2.96	161695	166226	5135.636	5129.192
9)	2-Butanol	3.23	2.09	151437	143332	5292.661	5313.763

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GH100323.D MGH4868.M Wed Jun 10 10:08:02 2015 GCGH

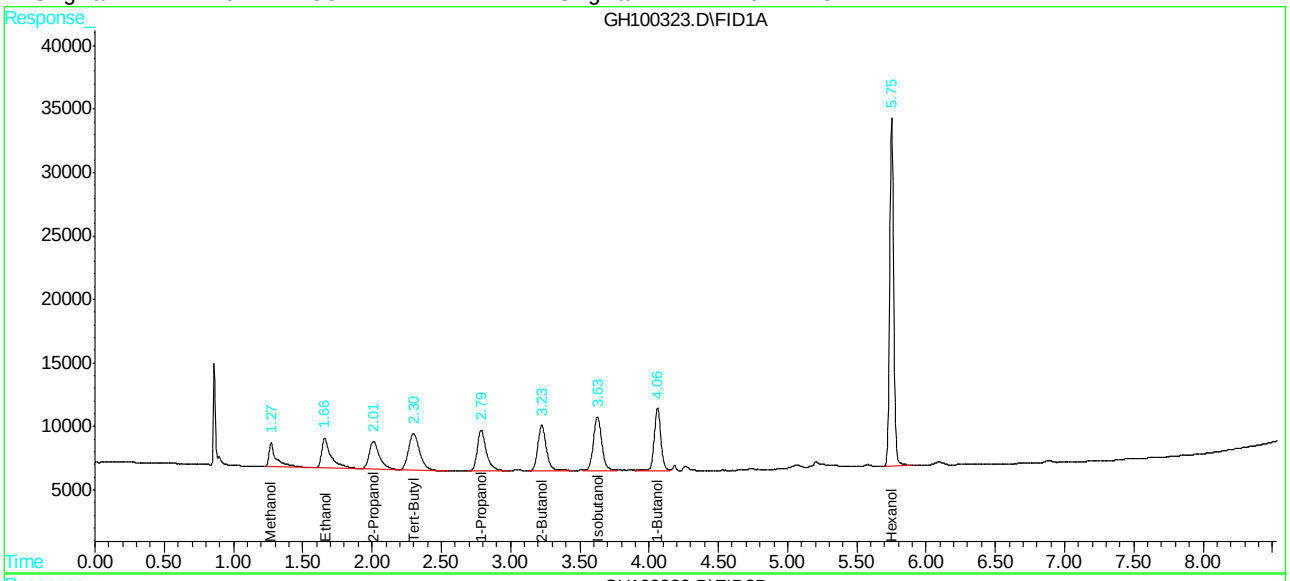
Quantitation Report (QT Reviewed)

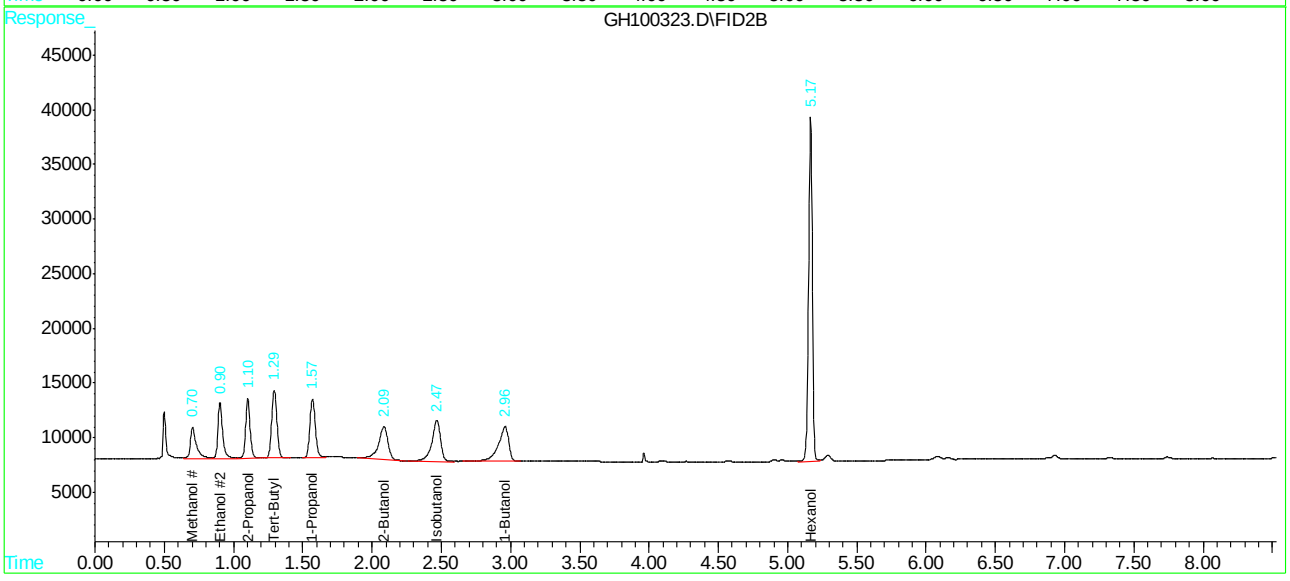
Data File : C:\HPCHEM\1\DATA\GH100323.D\FID1A.CH Vial: 21
Acq On : 9 Jun 2015 11:27 am Operator: XULIU
Sample : JB96432-5MS Inst : GCGH
Misc : GC46145,GGH4889,5.0,,,,1 Multiplr: 1.00
IntFile : autoint1.e

Data File : C:\HPCHEM\1\DATA\GH100323.D\FID2B.CH Vial: 21
Acq On : 9 Jun 2015 11:41 am Operator: XULIU
Sample : JB96432-5MS Inst : GCGH
Misc : GC46145,GGH4889,5.0,,,,1 Multiplr: 1.00
IntFile : autoint2.e
Quant Time: Jun 10 10:07 2015 Quant Results File: MGH4868.RES

Quant Method : C:\HPCHEM\1\METHODS\MGH4868.M (Chemstation Integrator)
Title : METHOD SW846-8015B (DAI)
Last Update : Wed Jun 10 10:00:43 2015
Response via : Multiple Level Calibration
DataAcq Meth : MGH4868.M

Volume Inj. : 2ul
Signal #1 Phase : ZB-624 Signal #2 Phase: RTX-1
Signal #1 Info : .53mm ID Signal #2 Info : .32 mm ID





Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GH100324.D\FID1A.CH Vial: 22
Acq On : 9 Jun 2015 11:41 am Operator: XULIU
Sample : JB96432-5MSD Inst : GCGH
Misc : GC46145,GGH4889,5.0,,,,1 Multiplr: 1.00
IntFile : autoint1.e

Data File : C:\HPCHEM\1\DATA\GH100324.D\FID2B.CH Vial: 22
Acq On : 9 Jun 2015 11:56 am Operator: XULIU
Sample : JB96432-5MSD Inst : GCGH
Misc : GC46145,GGH4889,5.0,,,,1 Multiplr: 1.00
IntFile : autoint2.e
Quant Time: Jun 10 10:08 2015 Quant Results File: MGH4868.RES

Quant Method : C:\HPCHEM\1\METHODS\MGH4868.M (Chemstation Integrator)
Title : METHOD SW846-8015B (DAI)
Last Update : Wed Jun 10 10:00:43 2015
Response via : Initial Calibration
DataAcq Meth : MGH4868.M

Volume Inj. : 2ul
Signal #1 Phase : ZB-624 Signal #2 Phase: RTX-1
Signal #1 Info : .53mm ID Signal #2 Info : .32 mm ID

	Compound	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
	System Monitoring Compounds						
10) S	Hexanol	5.75	5.16	648292	685155	5424.085	5548.483
Spiked Amount	5000.000			Recovery	=	108.48%	110.97%
	Target Compounds						
1)	Methanol	1.28	0.71	70584	84342	4843.243	5733.158
2)	Ethanol	1.66	0.90	125509	121146	6095.082	5863.681
3)	Tert-Butyl Alcoh	2.30	1.29	154143	172800	4743.034	5381.050
4)	1-Propanol	2.79	1.57	148013	151143	5245.524	5594.375
5)	2-Propanol	2.01	1.10	120137	129698	5359.849	5781.987
7)	Isobutanol	3.63	2.47	174027	169581	5454.006	5270.084
8)	1-Butanol	4.06	2.95	158836	174052	5044.822	5370.662
9)	2-Butanol	3.22	2.08	153979	156609	5381.518	5805.983

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GH100324.D MGH4868.M Wed Jun 10 10:08:15 2015 GCGH

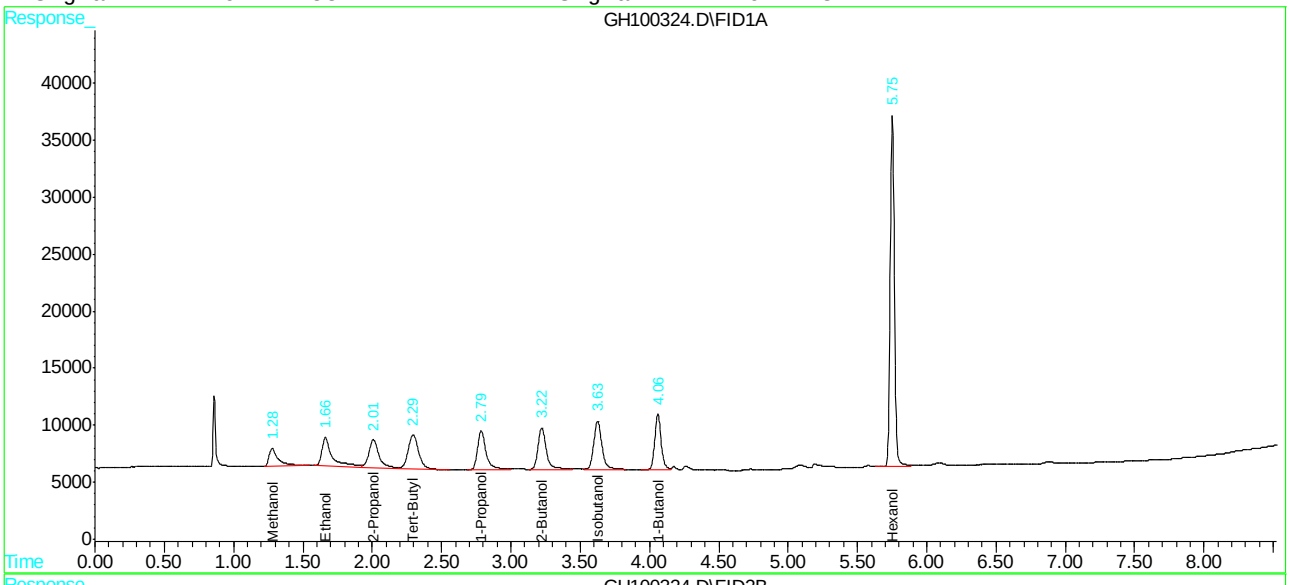
Quantitation Report (QT Reviewed)

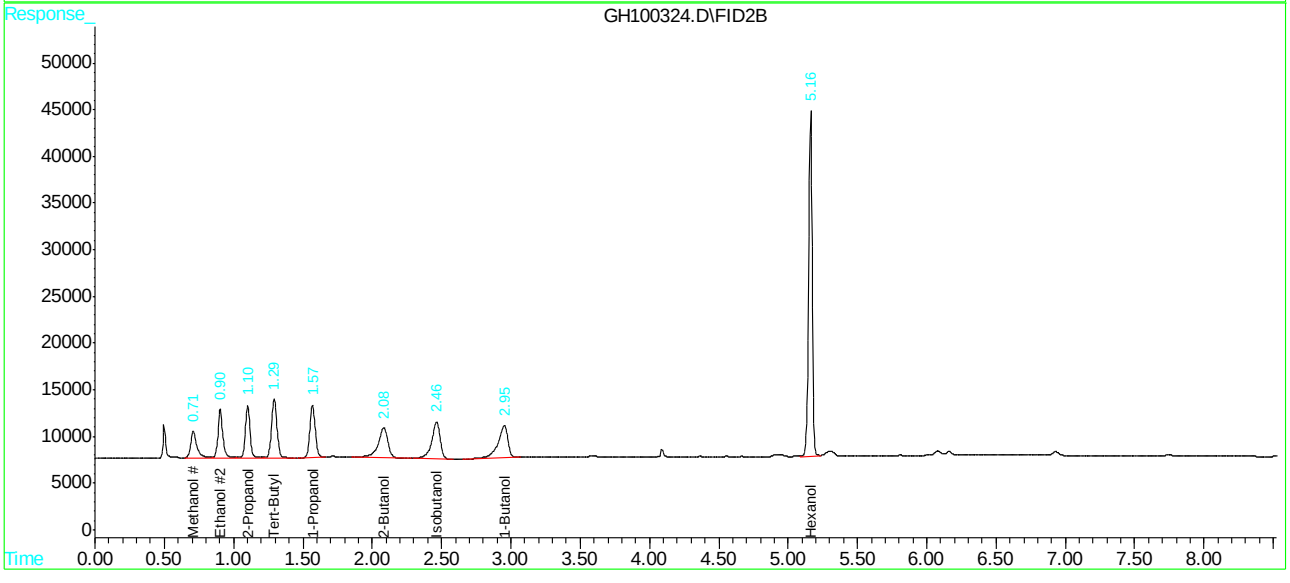
```
Data File : C:\HPCHEM\1\DATA\GH100324.D\FID1A.CH          Vial: 22
Acq On    :  9 Jun 2015  11:41 am                     Operator: XULIU
Sample    : JB96432-5MSD                              Inst    : GCGH
Misc      : GC46145,GGH4889,5.0,,,,1                  Multiplr: 1.00
IntFile   : autoint1.e

Data File : C:\HPCHEM\1\DATA\GH100324.D\FID2B.CH          Vial: 22
Acq On    :  9 Jun 2015  11:56 am                     Operator: XULIU
Sample    : JB96432-5MSD                              Inst    : GCGH
Misc      : GC46145,GGH4889,5.0,,,,1                  Multiplr: 1.00
IntFile   : autoint2.e
Quant Time: Jun 10 10:08 2015  Quant Results File: MGH4868.RES

Quant Method : C:\HPCHEM\1\METHODS\MGH4868.M (Chemstation Integrator)
Title        : METHOD SW846-8015B (DAI)
Last Update  : Wed Jun 10 10:00:43 2015
Response via : Multiple Level Calibration
DataAcq Meth : MGH4868.M

Volume Inj.     : 2ul
Signal #1 Phase : ZB-624            Signal #2 Phase: RTX-1
Signal #1 Info  : .53mm ID          Signal #2 Info : .32 mm ID
```





Manual Integrations APPROVED (compounds with "m" flag)
Jessica Reitan-Chu
05/20/15 10:17

Quantitation Report (QT Reviewed)

```
Data File : C:\HPCHEM\1\DATA\GH100055.D\FID1A.CH          Vial: 2
Acq On    : 19 May 2015   4:30 pm                     Operator: XULIU
Sample    : IC4868-100                                Inst    : GCGH
Misc      : GC45985,GGH4868,5.0,,,,1                  Multiplr: 1.00
IntFile   : autoint1.e

Data File : C:\HPCHEM\1\DATA\GH100055.D\FID2B.CH          Vial: 2
Acq On    : 19 May 2015   4:44 pm                     Operator: XULIU
Sample    : IC4868-100                                Inst    : GCGH
Misc      : GC45985,GGH4868,5.0,,,,1                  Multiplr: 1.00
IntFile   : autoint2.e
Quant Time: May 20  9:04 2015  Quant Results File: MGH4868.RES

Quant Method : C:\HPCHEM\1\METHODS\MGH4868.M (Chemstation Integrator)
Title        : METHOD SW846-8015B (DAI)
Last Update  : Wed May 20 07:57:18 2015
Response via : Initial Calibration
DataAcq Meth : MGH4868.M

Volume Inj.     : 2ul
Signal #1 Phase : ZB-624            Signal #2 Phase: RTX-1
Signal #1 Info  : .53mm ID          Signal #2 Info : .32 mm ID
```

	Compound	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
	System Monitoring Compounds						
10) S	Hexanol	5.74	5.18	90781	92067	759.544	744.542
	Spiked Amount 5000.000			Recovery	=	15.19%	14.89%
	Target Compounds						
1)	Methanol	1.28	0.70	1789	1643	124.146	108.552
2)	Ethanol	1.67	0.90	1922	1898	94.226	90.728
3)	Tert-Butyl Alcoh	2.31	1.29	3099	3336	96.583	105.081
4)	1-Propanol	2.80	1.56	2957	2630	107.816	98.521
5)	2-Propanol	2.02	1.10	2348	2090	107.112	93.464
7)	Isobutanol	3.64	2.46	3276	3485	103.631m	110.025
8)	1-Butanol	4.07	2.96	3594	3234	114.010	96.007
9)	2-Butanol	3.23	2.08	2647	2408	96.335m	90.415

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GH100055.D MGH4868.M Wed May 20 09:04:29 2015 GCGH

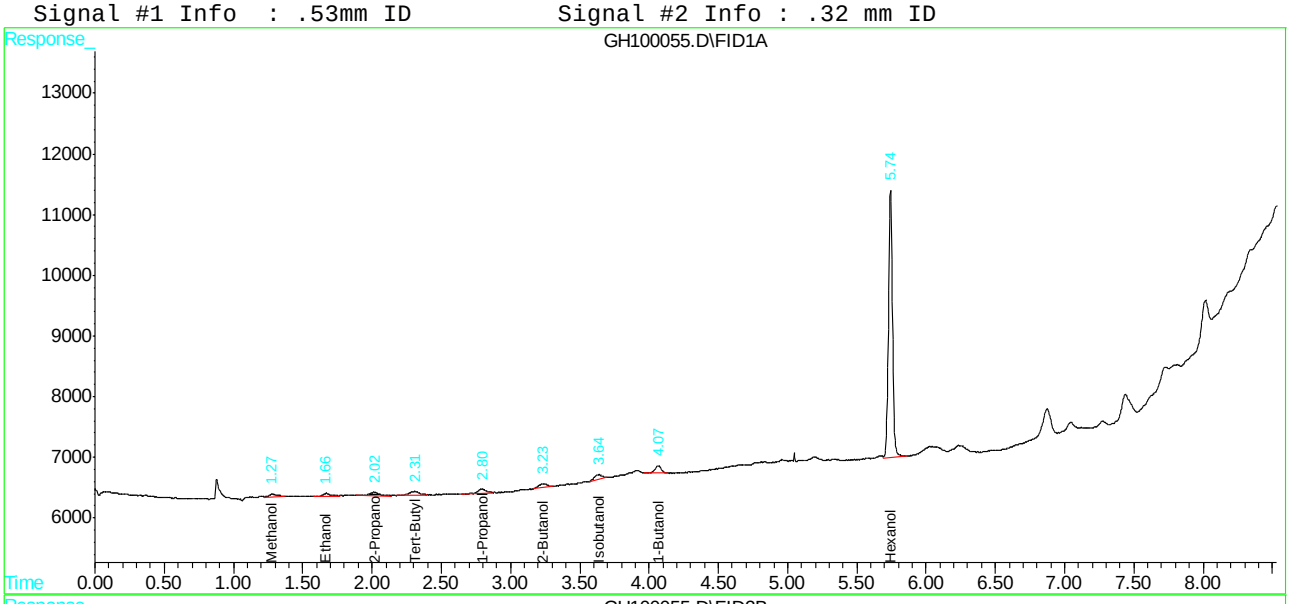
Quantitation Report (QT Reviewed)

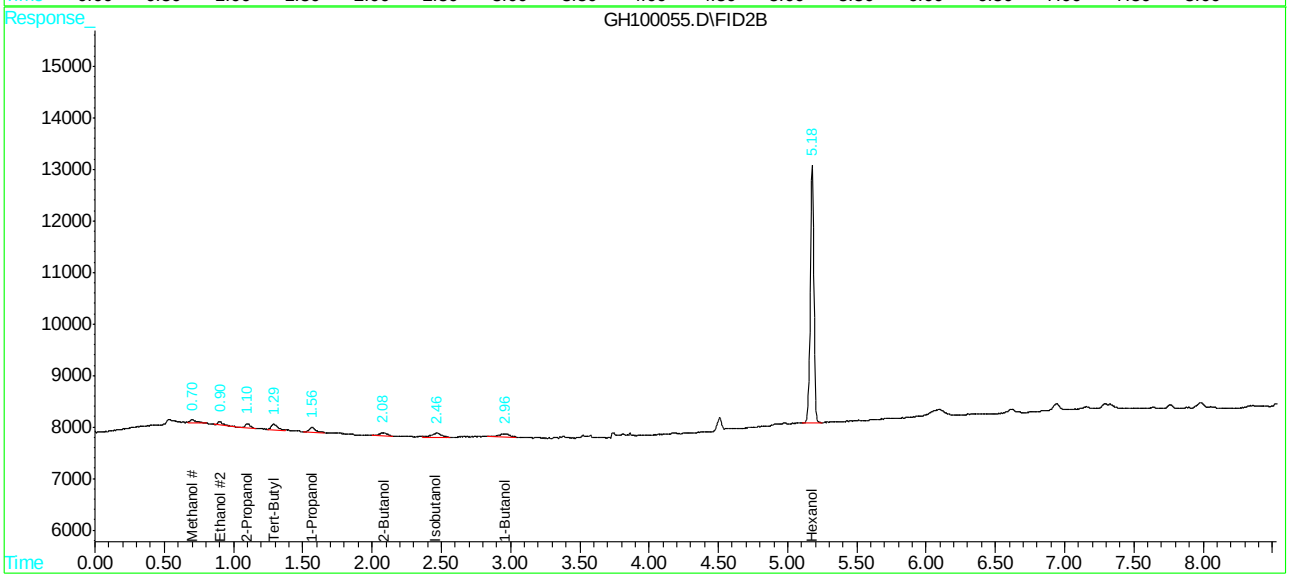
```
Data File : C:\HPCHEM\1\DATA\GH100055.D\FID1A.CH          Vial: 2
Acq On    : 19 May 2015   4:30 pm                     Operator: XULIU
Sample    : IC4868-100                                Inst    : GCGH
Misc      : GC45985,GGH4868,5.0,,,,1                  Multiplr: 1.00
IntFile   : autoint1.e

Data File : C:\HPCHEM\1\DATA\GH100055.D\FID2B.CH          Vial: 2
Acq On    : 19 May 2015   4:44 pm                     Operator: XULIU
Sample    : IC4868-100                                Inst    : GCGH
Misc      : GC45985,GGH4868,5.0,,,,1                  Multiplr: 1.00
IntFile   : autoint2.e
Quant Time: May 20  9:04 2015  Quant Results File: MGH4868.RES

Quant Method : C:\HPCHEM\1\METHODS\MGH4868.M (Chemstation Integrator)
Title        : METHOD SW846-8015B (DAI)
Last Update  : Wed May 20 07:57:18 2015
Response via : Multiple Level Calibration
DataAcq Meth : MGH4868.M

Volume Inj.     : 2ul
Signal #1 Phase : ZB-624            Signal #2 Phase: RTX-1
Signal #1 Info  : .53mm ID          Signal #2 Info : .32 mm ID
```





Manual Integration Approval Summary

Sample Number:	GGH4868-IC4868	**Method:**	SW846-8015C (DAI)
Lab FileID:	GH100055.D	**Analyst approved:**	05/20/15 09:29 Xu Liu
Injection Time:	05/19/15 16:30	**Supervisor approved:**	05/20/15 10:17 Jessica Reitan-Chu

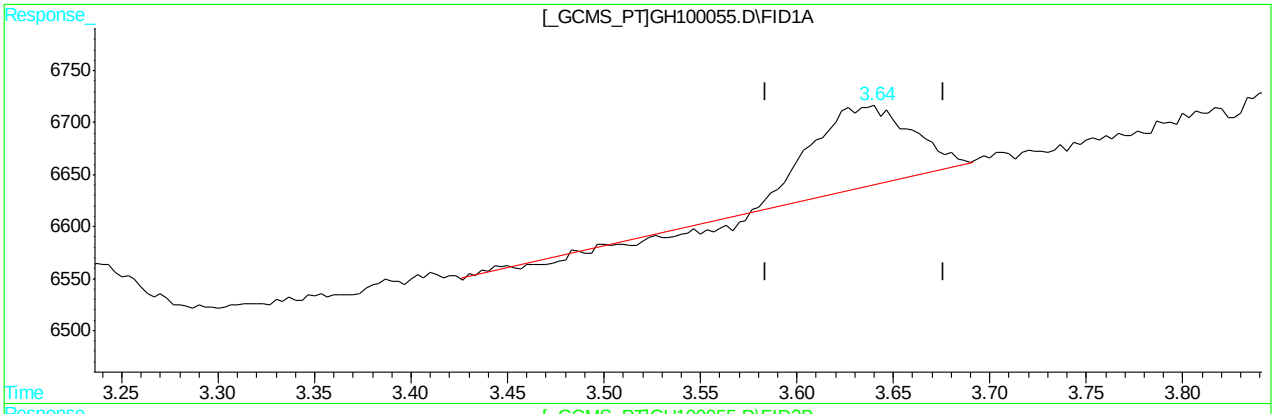
Parameter	CAS	Sig#	R.T. (min.)	Reason
sec-Butyl Alcohol	78-92-2	1	3.23	Poor instrument integration
Isobutyl Alcohol	78-83-1	1	3.64	Poor instrument integration

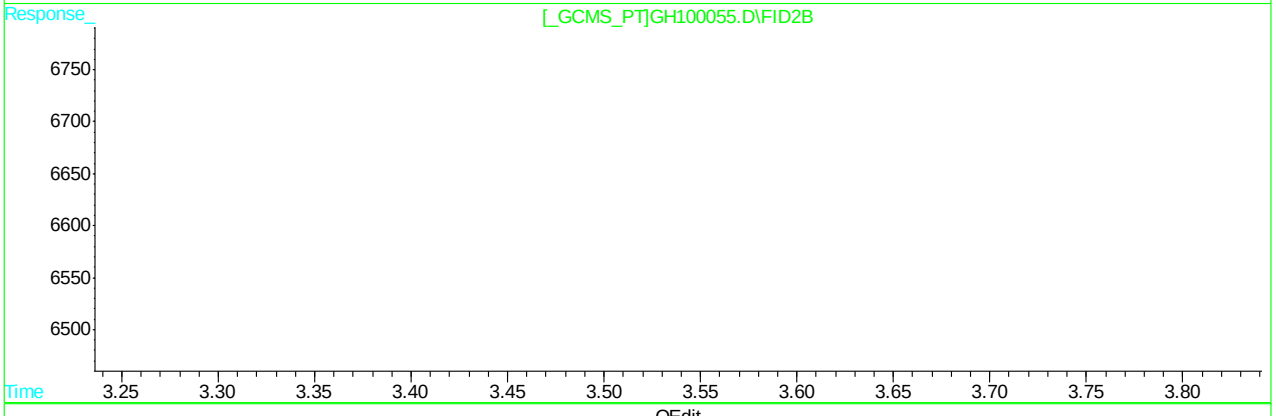
Quantitation Report (Qedit)

```
Data File : C:\HPCHEM\1\DATA\GH100055.D\FID1A.CH          Vial: 2
Acq On    : 19 May 2015   4:30 pm                     Operator: XULIU
Sample    : IC4868-100                                Inst    : GCGH
Misc      : GC45985,GGH4868,5.0,,,,1                  Multiplr: 1.00
IntFile   : autoint1.e

Data File : C:\HPCHEM\1\DATA\GH100055.D\FID2B.CH          Vial: 2
Acq On    : 19 May 2015   4:44 pm                     Operator: XULIU
Sample    : IC4868-100                                Inst    : GCGH
Misc      : GC45985,GGH4868,5.0,,,,1                  Multiplr: 1.00
IntFile   : autoint2.e
Quant Time: May 20  8:08 2015  Quant Results File: MGH4868.RES


Method       : C:\HPCHEM\1\METHODS\MGH4868.M (Chemstation Integrator)
Title        : METHOD SW846-8015B (DAI)
Last Update  : Wed May 20 08:57:13 2015
Response via : Multiple Level Calibration
```





QEdit

(7) Isobutanol

3.64min 74.363PPB

response 2350

(7) Isobutanol #2

2.46min 110.025PPB

response 3485

(+) = Expected Retention Time

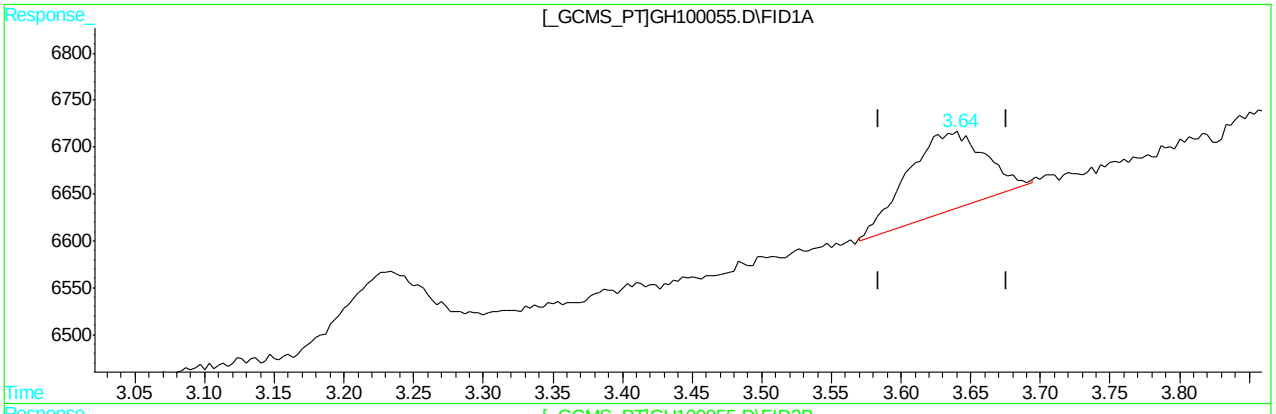
GH100055.D MGH4868.M Wed May 20 09:03:28 2015 GCGH

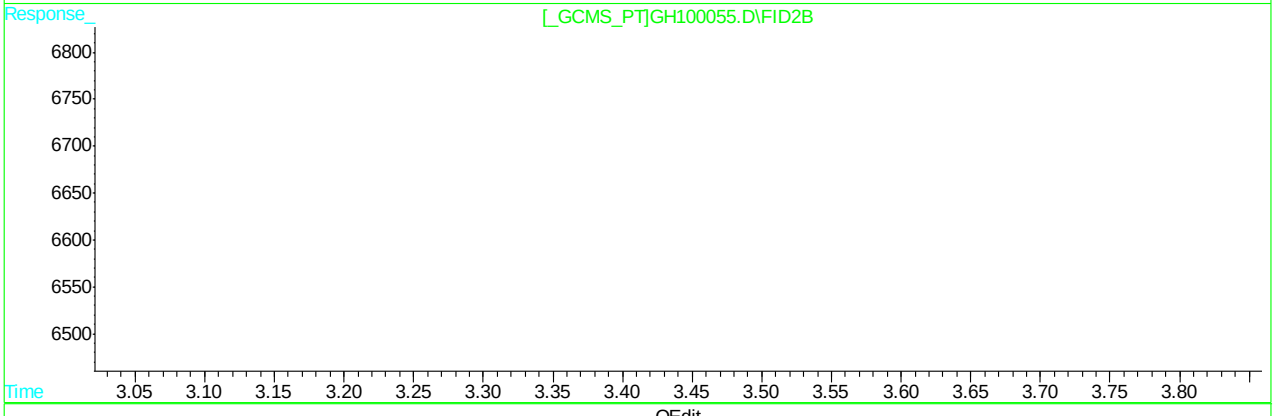
Quantitation Report (Qedit)

```
Data File : C:\HPCHEM\1\DATA\GH100055.D\FID1A.CH          Vial: 2
Acq On    : 19 May 2015   4:30 pm                     Operator: XULIU
Sample    : IC4868-100                                Inst    : GCGH
Misc      : GC45985,GGH4868,5.0,,,,1                  Multiplr: 1.00
IntFile   : autoint1.e

Data File : C:\HPCHEM\1\DATA\GH100055.D\FID2B.CH          Vial: 2
Acq On    : 19 May 2015   4:44 pm                     Operator: XULIU
Sample    : IC4868-100                                Inst    : GCGH
Misc      : GC45985,GGH4868,5.0,,,,1                  Multiplr: 1.00
IntFile   : autoint2.e
Quant Time: May 20  8:08 2015  Quant Results File: MGH4868.RES


Method       : C:\HPCHEM\1\METHODS\MGH4868.M (Chemstation Integrator)
Title        : METHOD SW846-8015B (DAI)
Last Update  : Wed May 20 08:57:13 2015
Response via : Multiple Level Calibration
```





QEdit

(7) Isobutanol

3.64min 103.631PPB m

response 3276

(7) Isobutanol #2

2.46min 110.025PPB

response 3485

(+) = Expected Retention Time

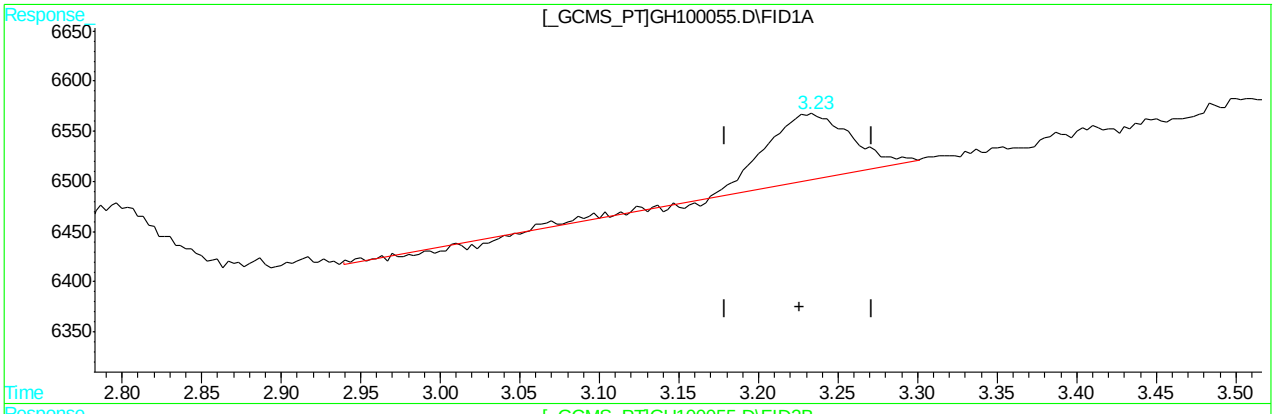
GH100055.D MGH4868.M Wed May 20 09:03:50 2015 GCGH

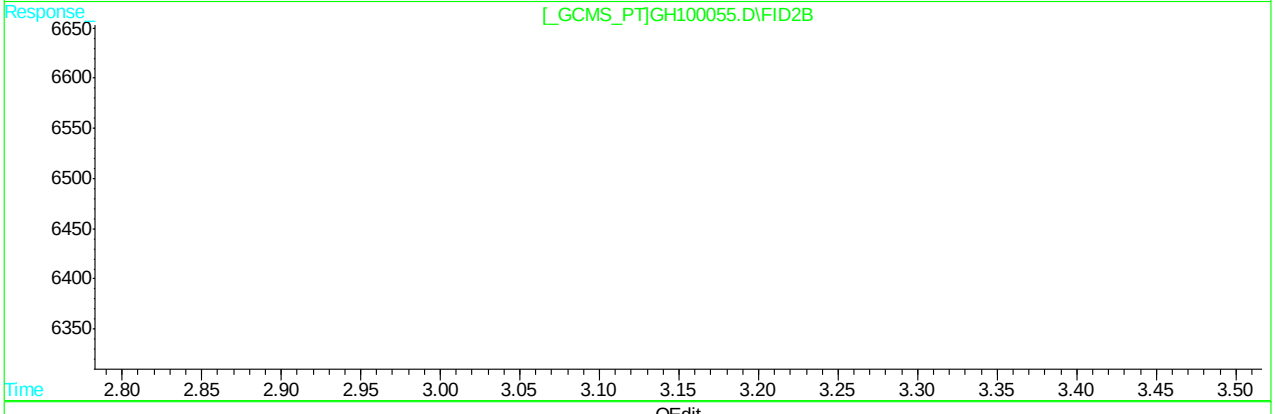
Quantitation Report (Qedit)

```
Data File : C:\HPCHEM\1\DATA\GH100055.D\FID1A.CH          Vial: 2
Acq On    : 19 May 2015   4:30 pm                     Operator: XULIU
Sample    : IC4868-100                                Inst    : GCGH
Misc      : GC45985,GGH4868,5.0,,,,1                  Multiplr: 1.00
IntFile   : autoint1.e

Data File : C:\HPCHEM\1\DATA\GH100055.D\FID2B.CH          Vial: 2
Acq On    : 19 May 2015   4:44 pm                     Operator: XULIU
Sample    : IC4868-100                                Inst    : GCGH
Misc      : GC45985,GGH4868,5.0,,,,1                  Multiplr: 1.00
IntFile   : autoint2.e
Quant Time: May 20  8:08 2015  Quant Results File: MGH4868.RES


Method       : C:\HPCHEM\1\METHODS\MGH4868.M (Chemstation Integrator)
Title        : METHOD SW846-8015B (DAI)
Last Update  : Wed May 20 08:57:13 2015
Response via : Multiple Level Calibration
```





QEdit

(9) 2-Butanol

3.23min 83.574PPB

response 2296

(9) 2-Butanol #2

2.08min 90.415PPB

response 2408

(+) = Expected Retention Time

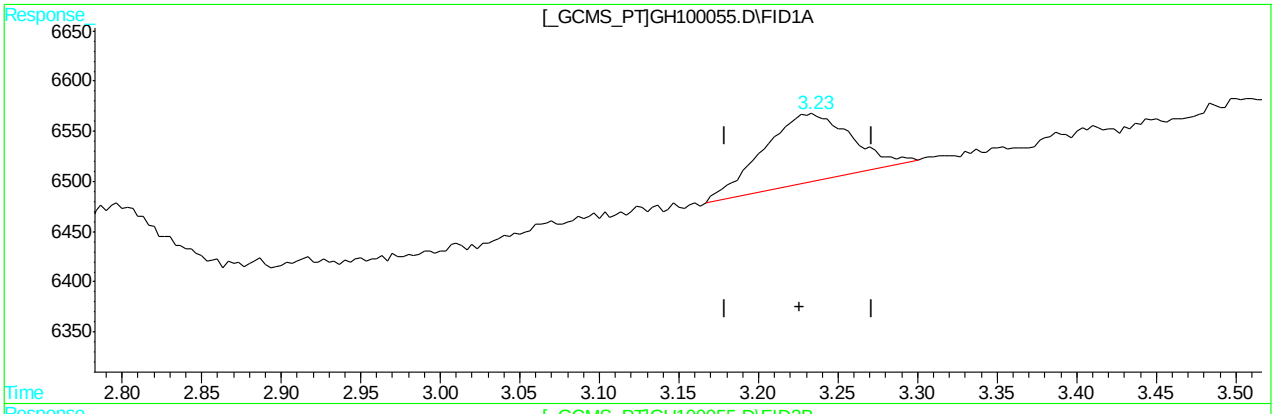
GH100055.D MGH4868.M Wed May 20 09:03:58 2015 GCGH

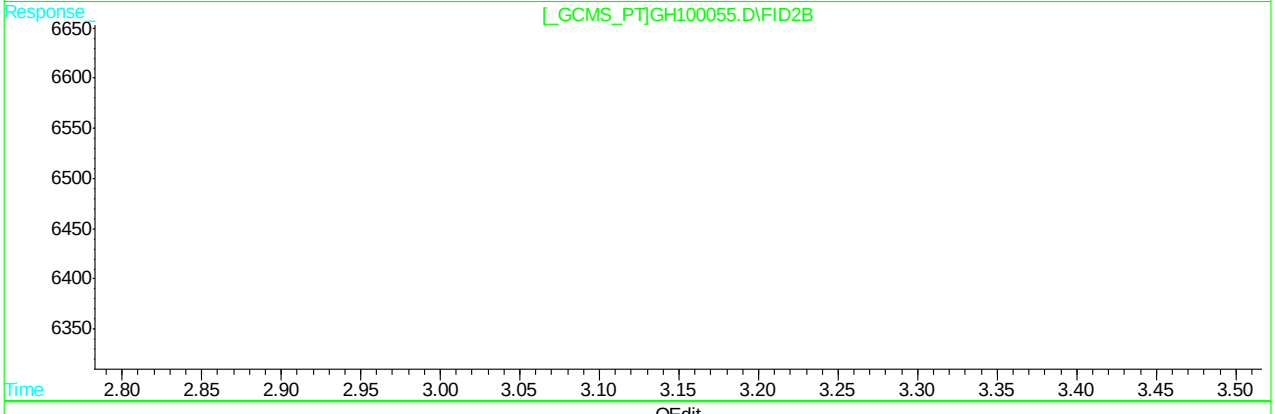
Quantitation Report (Qedit)

```
Data File : C:\HPCHEM\1\DATA\GH100055.D\FID1A.CH          Vial: 2
Acq On    : 19 May 2015   4:30 pm                     Operator: XULIU
Sample    : IC4868-100                                Inst    : GCGH
Misc      : GC45985,GGH4868,5.0,,,,1                  Multiplr: 1.00
IntFile   : autoint1.e

Data File : C:\HPCHEM\1\DATA\GH100055.D\FID2B.CH          Vial: 2
Acq On    : 19 May 2015   4:44 pm                     Operator: XULIU
Sample    : IC4868-100                                Inst    : GCGH
Misc      : GC45985,GGH4868,5.0,,,,1                  Multiplr: 1.00
IntFile   : autoint2.e
Quant Time: May 20  8:08 2015  Quant Results File: MGH4868.RES


Method       : C:\HPCHEM\1\METHODS\MGH4868.M (Chemstation Integrator)
Title        : METHOD SW846-8015B (DAI)
Last Update  : Wed May 20 08:57:13 2015
Response via : Multiple Level Calibration
```





QEdit

(9) 2-Butanol

3.23min 96.335PPB m

response 2647

(9) 2-Butanol #2

2.08min 90.415PPB

response 2408

(+) = Expected Retention Time

GH100055.D MGH4868.M Wed May 20 09:04:25 2015 GCGH

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GH100056.D\FID1A.CH Vial: 3
Acq On : 19 May 2015 4:44 pm Operator: XULIU
Sample : IC4868-500 Inst : GCGH
Misc : GC45985,GGH4868,5.0,,,,1 Multiplr: 1.00
IntFile : autoint1.e

Data File : C:\HPCHEM\1\DATA\GH100056.D\FID2B.CH Vial: 3
Acq On : 19 May 2015 4:59 pm Operator: XULIU
Sample : IC4868-500 Inst : GCGH
Misc : GC45985,GGH4868,5.0,,,,1 Multiplr: 1.00
IntFile : autoint2.e
Quant Time: May 20 8:35 2015 Quant Results File: MGH4868.RES

Quant Method : C:\HPCHEM\1\METHODS\MGH4868.M (Chemstation Integrator)
Title : METHOD SW846-8015B (DAI)
Last Update : Wed May 20 08:08:54 2015
Response via : Initial Calibration
DataAcq Meth : MGH4868.M

Volume Inj. : 2ul
Signal #1 Phase : ZB-624 Signal #2 Phase: RTX-1
Signal #1 Info : .53mm ID Signal #2 Info : .32 mm ID

	Compound	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
	System Monitoring Compounds						
10) S	Hexanol	5.74	5.18	221277	224056	1851.368	1811.922
	Spiked Amount 5000.000			Recovery	=	37.03%	36.24%
	Target Compounds						
1)	Methanol	1.27	0.70	5737	6386	398.075	421.890
2)	Ethanol	1.66	0.90	7793	8539	382.073	408.167
3)	Tert-Butyl Alcoh	2.30	1.29	13850	11968	431.579	373.450
4)	1-Propanol	2.79	1.57	13066	10344	476.385	386.657
5)	2-Propanol	2.01	1.10	8584	8815	391.530	392.238
7)	Isobutanol	3.63	2.47	13623	12564	430.990	391.490
8)	1-Butanol	4.06	2.96	13383	15113	424.567	459.230
9)	2-Butanol	3.23	2.08	14342	10569	521.963	392.353

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GH100056.D MGH4868.M Wed May 20 09:04:57 2015 GCGH

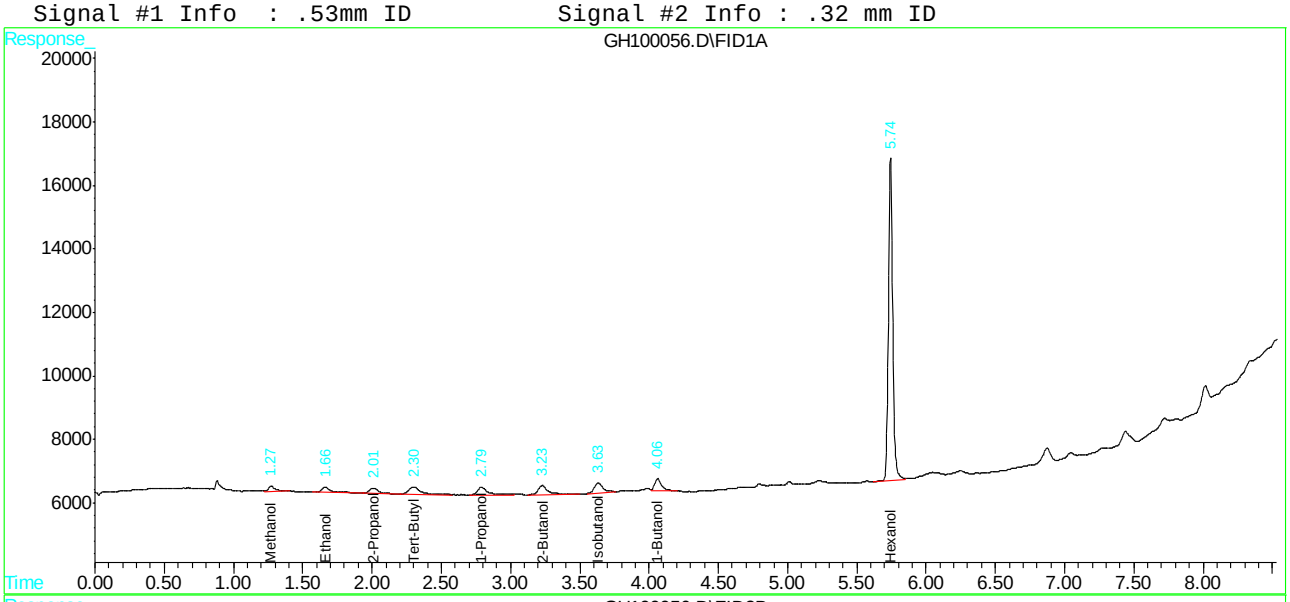
Quantitation Report (QT Reviewed)

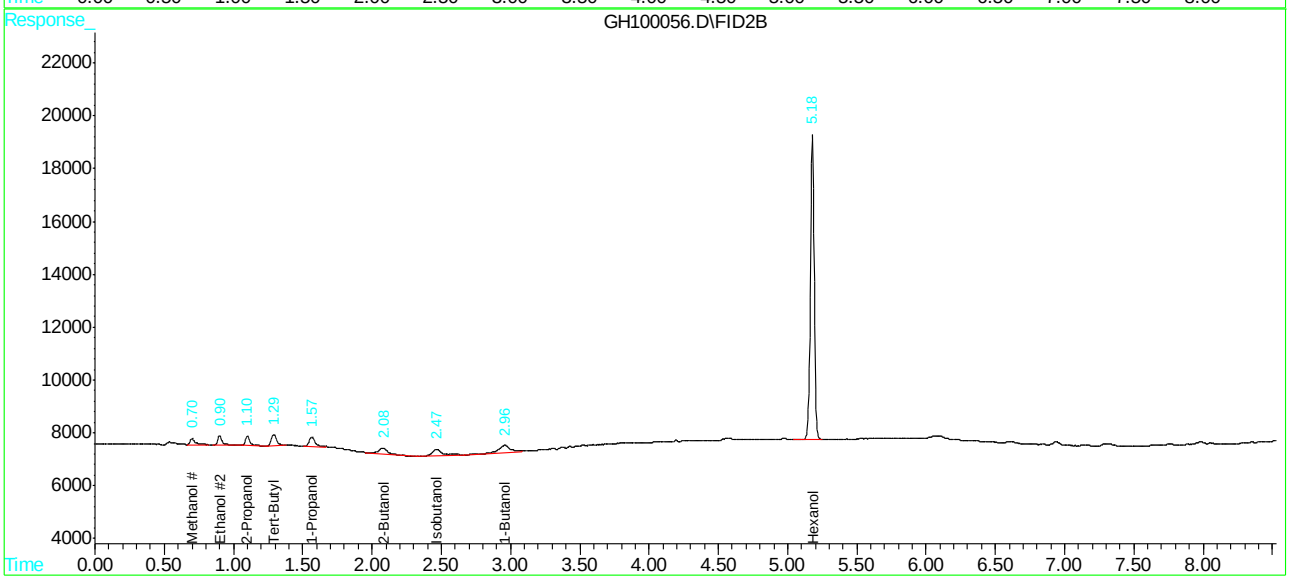
Data File : C:\HPCHEM\1\DATA\GH100056.D\FID1A.CH Vial: 3
Acq On : 19 May 2015 4:44 pm Operator: XULIU
Sample : IC4868-500 Inst : GCGH
Misc : GC45985,GGH4868,5.0,,,,1 Multiplr: 1.00
IntFile : autoint1.e

Data File : C:\HPCHEM\1\DATA\GH100056.D\FID2B.CH Vial: 3
Acq On : 19 May 2015 4:59 pm Operator: XULIU
Sample : IC4868-500 Inst : GCGH
Misc : GC45985,GGH4868,5.0,,,,1 Multiplr: 1.00
IntFile : autoint2.e
Quant Time: May 20 8:35 2015 Quant Results File: MGH4868.RES

Quant Method : C:\HPCHEM\1\METHODS\MGH4868.M (Chemstation Integrator)
Title : METHOD SW846-8015B (DAI)
Last Update : Wed May 20 08:08:54 2015
Response via : Multiple Level Calibration
DataAcq Meth : MGH4868.M

Volume Inj. : 2ul
Signal #1 Phase : ZB-624 Signal #2 Phase: RTX-1
Signal #1 Info : .53mm ID Signal #2 Info : .32 mm ID





Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GH100057.D\FID1A.CH Vial: 4
Acq On : 19 May 2015 4:59 pm Operator: XULIU
Sample : IC4868-1000 Inst : GCGH
Misc : GC45985,GGH4868,5.0,,,,1 Multiplr: 1.00
IntFile : autoint1.e

Data File : C:\HPCHEM\1\DATA\GH100057.D\FID2B.CH Vial: 4
Acq On : 19 May 2015 5:13 pm Operator: XULIU
Sample : IC4868-1000 Inst : GCGH
Misc : GC45985,GGH4868,5.0,,,,1 Multiplr: 1.00
IntFile : autoint2.e
Quant Time: May 20 8:46 2015 Quant Results File: MGH4868.RES

Quant Method : C:\HPCHEM\1\METHODS\MGH4868.M (Chemstation Integrator)
Title : METHOD SW846-8015B (DAI)
Last Update : Wed May 20 08:36:37 2015
Response via : Initial Calibration
DataAcq Meth : MGH4868.M

Volume Inj. : 2ul
Signal #1 Phase : ZB-624 Signal #2 Phase: RTX-1
Signal #1 Info : .53mm ID Signal #2 Info : .32 mm ID

	Compound	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
	System Monitoring Compounds						
10) S	Hexanol	5.74	5.18	512475	533596	4287.745	4315.150
Spiked Amount	5000.000			Recovery	=	85.75%	86.30%
	Target Compounds						
1)	Methanol	1.28	0.70	14138	14605	970.120	953.752
2)	Ethanol	1.67	0.90	24418	21094	1167.651	998.559
3)	Tert-Butyl Alcoh	2.30	1.29	29913	33670	920.433	1049.687
4)	1-Propanol	2.79	1.57	27136	28981	961.682	1073.515
5)	2-Propanol	2.02	1.10	21682	24081	965.397	1066.358
7)	Isobutanol	3.63	2.47	32850	32592	1037.838	1005.081
8)	1-Butanol	4.06	2.96	33854	32030	1073.983	976.452
9)	2-Butanol	3.23	2.08	28506	29570	1013.715	1091.611

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GH100057.D MGH4868.M Wed May 20 09:05:30 2015 GCGH

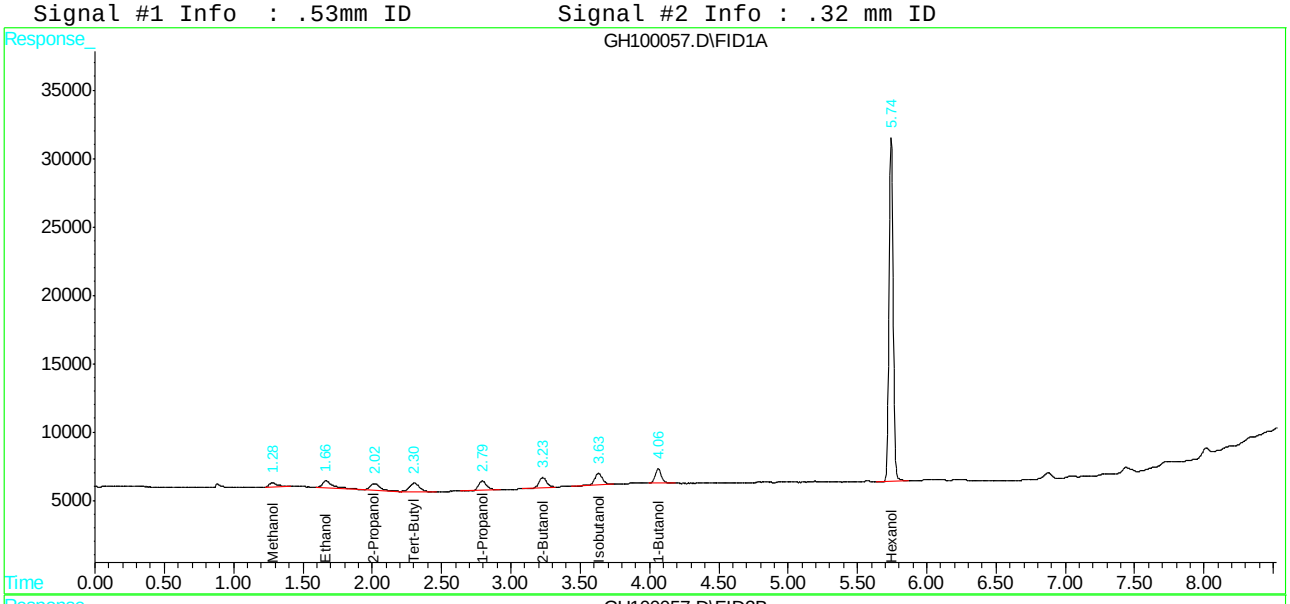
Quantitation Report (QT Reviewed)

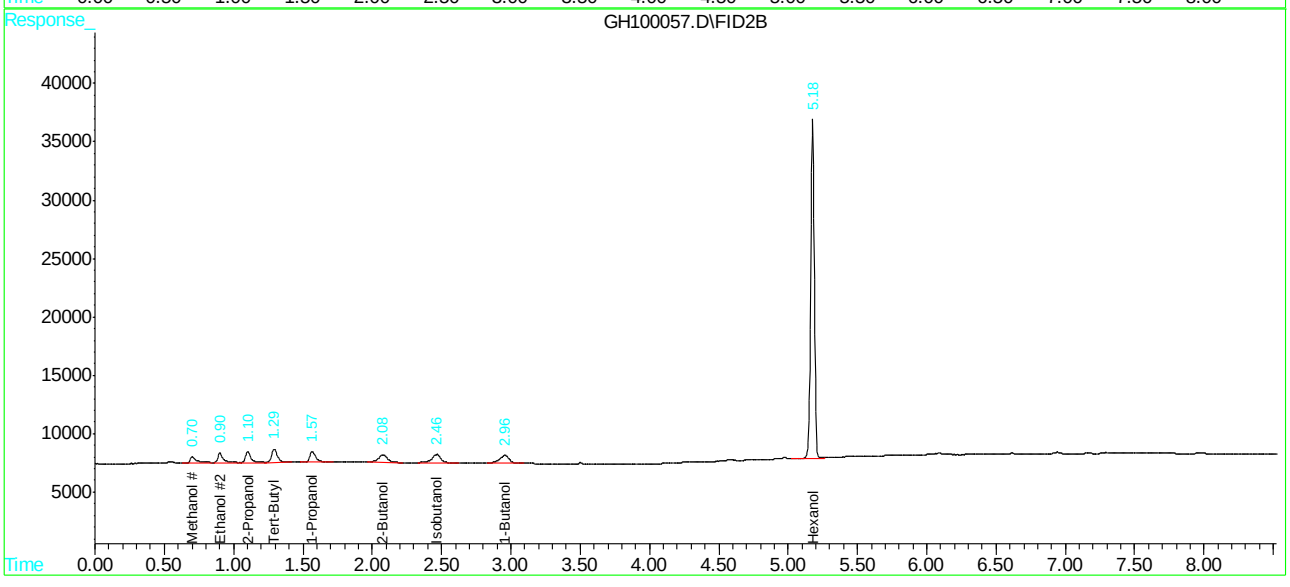
Data File : C:\HPCHEM\1\DATA\GH100057.D\FID1A.CH Vial: 4
Acq On : 19 May 2015 4:59 pm Operator: XULIU
Sample : IC4868-1000 Inst : GCGH
Misc : GC45985,GGH4868,5.0,,,,1 Multiplr: 1.00
IntFile : autoint1.e

Data File : C:\HPCHEM\1\DATA\GH100057.D\FID2B.CH Vial: 4
Acq On : 19 May 2015 5:13 pm Operator: XULIU
Sample : IC4868-1000 Inst : GCGH
Misc : GC45985,GGH4868,5.0,,,,1 Multiplr: 1.00
IntFile : autoint2.e
Quant Time: May 20 8:46 2015 Quant Results File: MGH4868.RES

Quant Method : C:\HPCHEM\1\METHODS\MGH4868.M (Chemstation Integrator)
Title : METHOD SW846-8015B (DAI)
Last Update : Wed May 20 08:36:37 2015
Response via : Multiple Level Calibration
DataAcq Meth : MGH4868.M

Volume Inj. : 2ul
Signal #1 Phase : ZB-624 Signal #2 Phase: RTX-1
Signal #1 Info : .53mm ID Signal #2 Info : .32 mm ID





Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GH100058.D\FID1A.CH Vial: 5
Acq On : 19 May 2015 5:13 pm Operator: XULIU
Sample : ICC4868-5000 Inst : GCGH
Misc : GC45985,GGH4868,5.0,,,,1 Multiplr: 1.00
IntFile : autoint1.e

Data File : C:\HPCHEM\1\DATA\GH100058.D\FID2B.CH Vial: 5
Acq On : 19 May 2015 5:28 pm Operator: XULIU
Sample : ICC4868-5000 Inst : GCGH
Misc : GC45985,GGH4868,5.0,,,,1 Multiplr: 1.00
IntFile : autoint2.e
Quant Time: May 20 7:16 2015 Quant Results File: MGH4868.RES

Quant Method : C:\HPCHEM\1\METHODS\MGH4868.M (Chemstation Integrator)
Title : METHOD SW846-8015B (DAI)
Last Update : Tue May 19 10:52:43 2015
Response via : Initial Calibration
DataAcq Meth : MGH4868.M

Volume Inj. : 2ul
Signal #1 Phase : ZB-624 Signal #2 Phase: RTX-1
Signal #1 Info : .53mm ID Signal #2 Info : .32 mm ID

	Compound	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
	System Monitoring Compounds						
10) S	Hexanol	5.74	5.18	568468	583173	4313.389	4267.610
Spiked Amount	5000.000			Recovery	=	86.27%	85.35%
	Target Compounds						
1)	Methanol	1.28	0.70	78474	62671	5743.874	4313.253
2)	Ethanol	1.67f	0.90	108513	100805	5868.841	5002.295
3)	Tert-Butyl Alcoh	2.30	1.29	166887	161655	5464.569	5020.514
4)	1-Propanol	2.79f	1.57	138628	130317	5048.394	4566.768
5)	2-Propanol	2.01f	1.10	118355	111864	5594.482	4792.038
7)	Isobutanol	3.63	2.47	157746	177390	5063.944	5819.493
8)	1-Butanol	4.06	2.96	150783	178332	4979.816	5527.010
9)	2-Butanol	3.23	2.08	140370	135807	5161.193	5102.062

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GH100058.D MGH4868.M Wed May 20 09:06:07 2015 GCGH

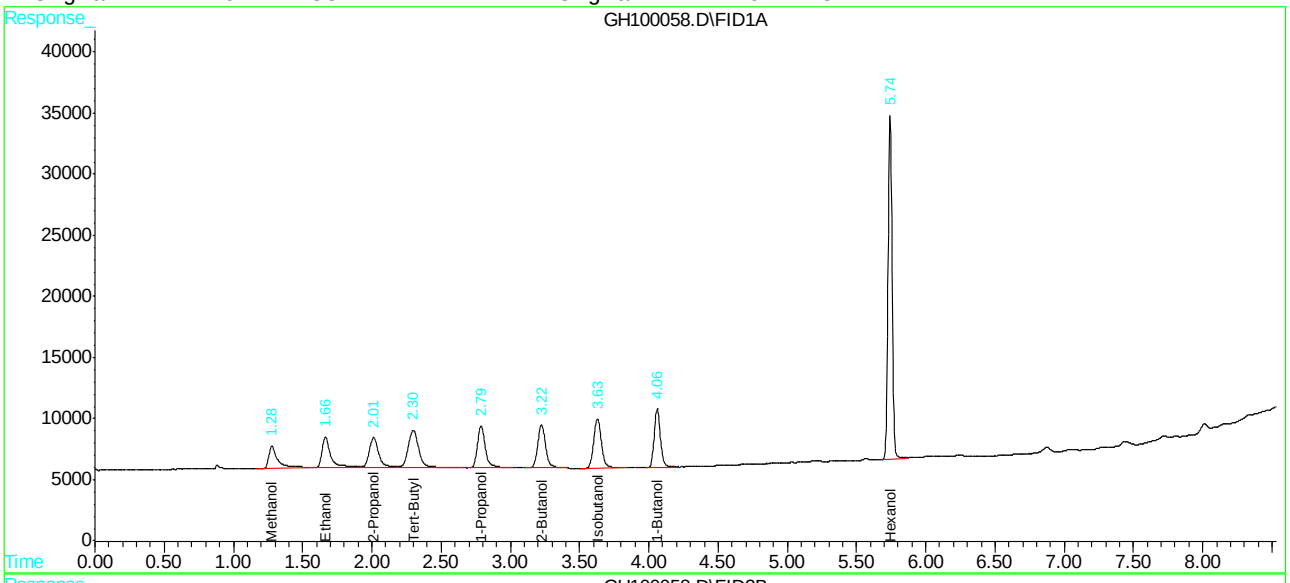
Quantitation Report (QT Reviewed)

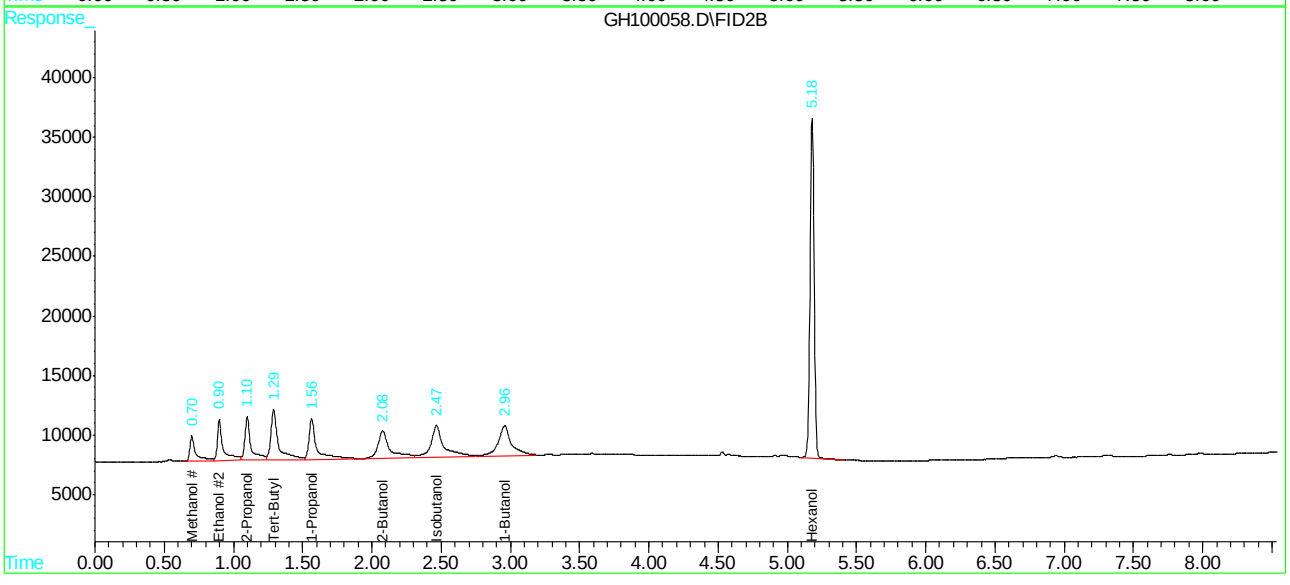
Data File : C:\HPCHEM\1\DATA\GH100058.D\FID1A.CH Vial: 5
Acq On : 19 May 2015 5:13 pm Operator: XULIU
Sample : ICC4868-5000 Inst : GCGH
Misc : GC45985,GGH4868,5.0,,,,1 Multiplr: 1.00
IntFile : autoint1.e

Data File : C:\HPCHEM\1\DATA\GH100058.D\FID2B.CH Vial: 5
Acq On : 19 May 2015 5:28 pm Operator: XULIU
Sample : ICC4868-5000 Inst : GCGH
Misc : GC45985,GGH4868,5.0,,,,1 Multiplr: 1.00
IntFile : autoint2.e
Quant Time: May 20 7:16 2015 Quant Results File: MGH4868.RES

Quant Method : C:\HPCHEM\1\METHODS\MGH4868.M (Chemstation Integrator)
Title : METHOD SW846-8015B (DAI)
Last Update : Tue May 19 10:52:43 2015
Response via : Multiple Level Calibration
DataAcq Meth : MGH4868.M

Volume Inj. : 2ul
Signal #1 Phase : ZB-624 Signal #2 Phase: RTX-1
Signal #1 Info : .53mm ID Signal #2 Info : .32 mm ID





Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GH100059.D\FID1A.CH Vial: 6
Acq On : 19 May 2015 5:28 pm Operator: XULIU
Sample : IC4868-10000 Inst : GCGH
Misc : GC45985,GGH4868,5.0,,,,1 Multiplr: 1.00
IntFile : autoint1.e

Data File : C:\HPCHEM\1\DATA\GH100059.D\FID2B.CH Vial: 6
Acq On : 19 May 2015 5:42 pm Operator: XULIU
Sample : IC4868-10000 Inst : GCGH
Misc : GC45985,GGH4868,5.0,,,,1 Multiplr: 1.00
IntFile : autoint2.e
Quant Time: May 19 17:51 2015 Quant Results File: MGH4868.RES

Quant Method : C:\HPCHEM\1\METHODS\MGH4868.M (Chemstation Integrator)
Title : METHOD SW846-8015B (DAI)
Last Update : Tue May 19 10:52:43 2015
Response via : Initial Calibration
DataAcq Meth : MGH4868.M

Volume Inj. : 2ul
Signal #1 Phase : ZB-624 Signal #2 Phase: RTX-1
Signal #1 Info : .53mm ID Signal #2 Info : .32 mm ID

	Compound	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
	System Monitoring Compounds						
10) S	Hexanol	5.74	5.18	645478	677464	4897.720	4957.627
Spiked Amount	5000.000			Recovery	=	97.95%	99.15%
	Target Compounds						
1)	Methanol	1.28	0.70	171296	149728	12537.991	10304.923
2)	Ethanol	1.67f	0.90	222691	228018	12044.083	11315.109
3)	Tert-Butyl Alcoh	2.30f	1.29	335126	349373	10973.378	10850.466
4)	1-Propanol	2.79f	1.57	294934	290792	10740.590	10190.431
5)	2-Propanol	2.02f	1.10	239767	243259	11333.495	10420.759
7)	Isobutanol	3.63	2.47	334001	323308	10722.051	10606.502
8)	1-Butanol	4.06	2.96	314671	327674	10392.448	10155.558
9)	2-Butanol	3.23f	2.08	299485	287731	11011.576	10809.651

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GH100059.D MGH4868.M Wed May 20 09:06:34 2015 GCGH

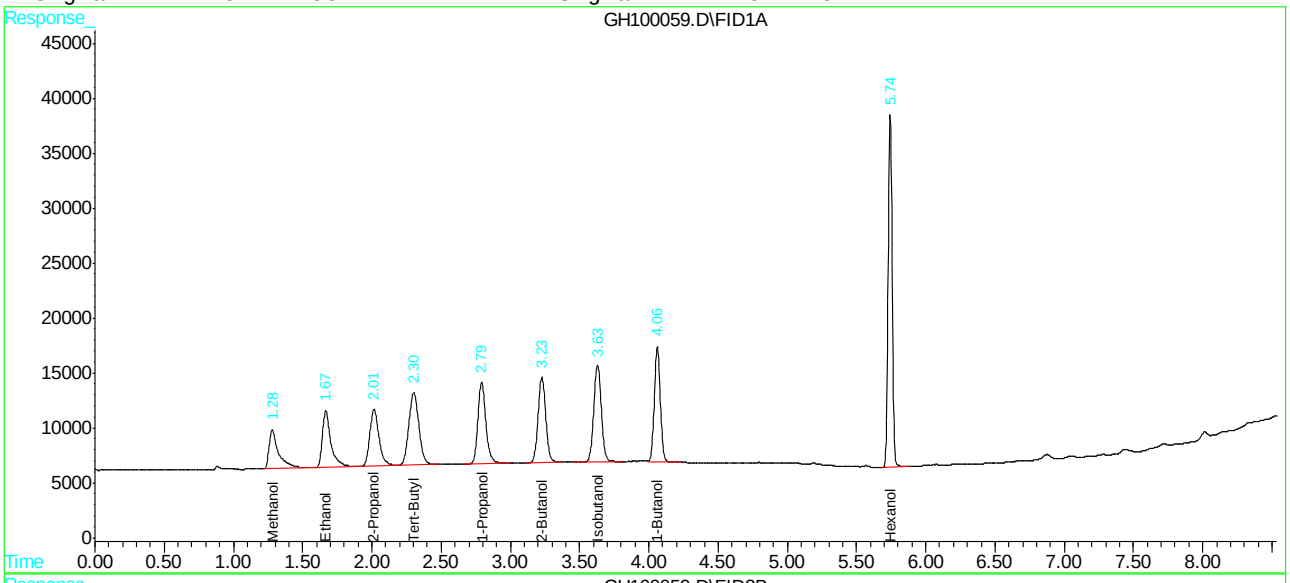
Quantitation Report (QT Reviewed)

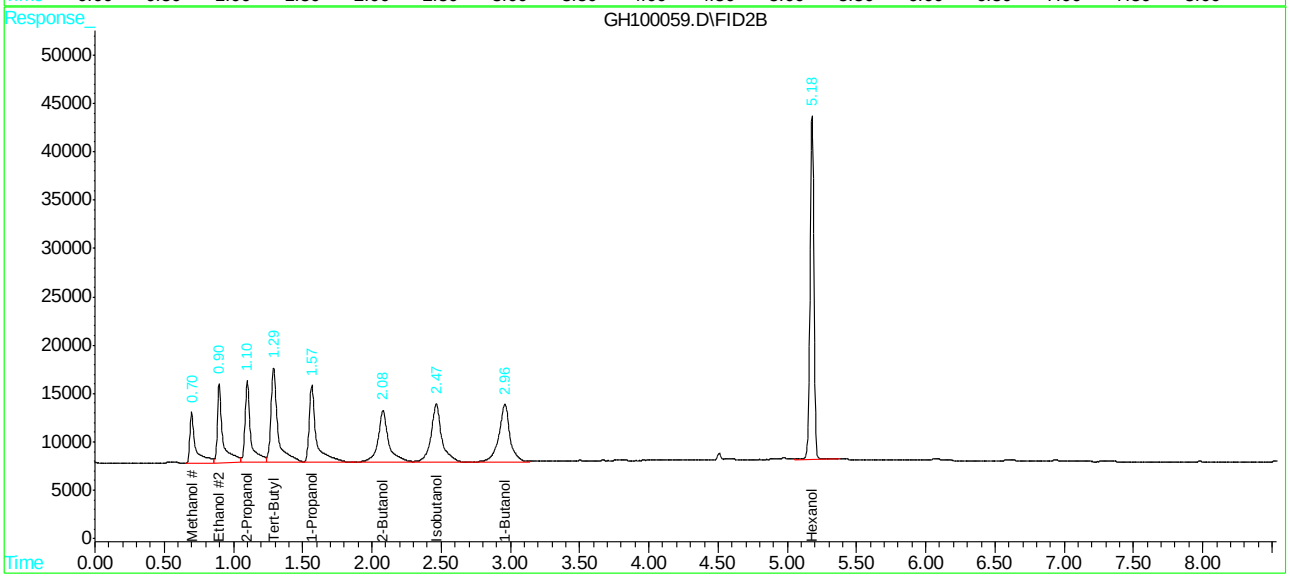
Data File : C:\HPCHEM\1\DATA\GH100059.D\FID1A.CH Vial: 6
Acq On : 19 May 2015 5:28 pm Operator: XULIU
Sample : IC4868-10000 Inst : GCGH
Misc : GC45985,GGH4868,5.0,,,,1 Multiplr: 1.00
IntFile : autoint1.e

Data File : C:\HPCHEM\1\DATA\GH100059.D\FID2B.CH Vial: 6
Acq On : 19 May 2015 5:42 pm Operator: XULIU
Sample : IC4868-10000 Inst : GCGH
Misc : GC45985,GGH4868,5.0,,,,1 Multiplr: 1.00
IntFile : autoint2.e
Quant Time: May 19 17:51 2015 Quant Results File: MGH4868.RES

Quant Method : C:\HPCHEM\1\METHODS\MGH4868.M (Chemstation Integrator)
Title : METHOD SW846-8015B (DAI)
Last Update : Tue May 19 10:52:43 2015
Response via : Multiple Level Calibration
DataAcq Meth : MGH4868.M

Volume Inj. : 2ul
Signal #1 Phase : ZB-624 Signal #2 Phase: RTX-1
Signal #1 Info : .53mm ID Signal #2 Info : .32 mm ID





Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GH100060.D\FID1A.CH Vial: 7
Acq On : 19 May 2015 5:42 pm Operator: XULIU
Sample : IC4868-50000 Inst : GCGH
Misc : GC45985,GGH4868,5.0,,,,1 Multiplr: 1.00
IntFile : autoint1.e

Data File : C:\HPCHEM\1\DATA\GH100060.D\FID2B.CH Vial: 7
Acq On : 19 May 2015 6:04 pm Operator: XULIU
Sample : IC4868-50000 Inst : GCGH
Misc : GC45985,GGH4868,5.0,,,,1 Multiplr: 1.00
IntFile : autoint2.e
Quant Time: May 19 18:06 2015 Quant Results File: MGH4868.RES

Quant Method : C:\HPCHEM\1\METHODS\MGH4868.M (Chemstation Integrator)
Title : METHOD SW846-8015B (DAI)
Last Update : Tue May 19 10:52:43 2015
Response via : Initial Calibration
DataAcq Meth : MGH4868.M

Volume Inj. : 2ul
Signal #1 Phase : ZB-624 Signal #2 Phase: RTX-1
Signal #1 Info : .53mm ID Signal #2 Info : .32 mm ID

	Compound	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
	System Monitoring Compounds						
10) S	Hexanol	5.74	5.18	767363	790394	5822.549	5784.040
Spiked Amount	5000.000			Recovery	=	116.45%	115.68%
	Target Compounds						
1)	Methanol	1.27	0.70	716454	760390	52440.618	52333.311
2)	Ethanol	1.66	0.90	1031895	1068842	55809.352	53039.830
3)	Tert-Butyl Alcoh	2.30f	1.29	1658460	1605601	54304.681	49865.109
4)	1-Propanol	2.79f	1.57	1359931	1405354	49524.574	49248.755
5)	2-Propanol	2.01f	1.10	1150207	1146334	54368.826	49106.800
7)	Isobutanol	3.63f	2.46	1576487	1590454	50608.165	52176.755
8)	1-Butanol	4.06	2.96	1490595	1558843	49228.921	48312.992
9)	2-Butanol	3.23f	2.08	1406718	1420461	51722.804	53364.698

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GH100060.D MGH4868.M Wed May 20 09:07:02 2015 GCGH

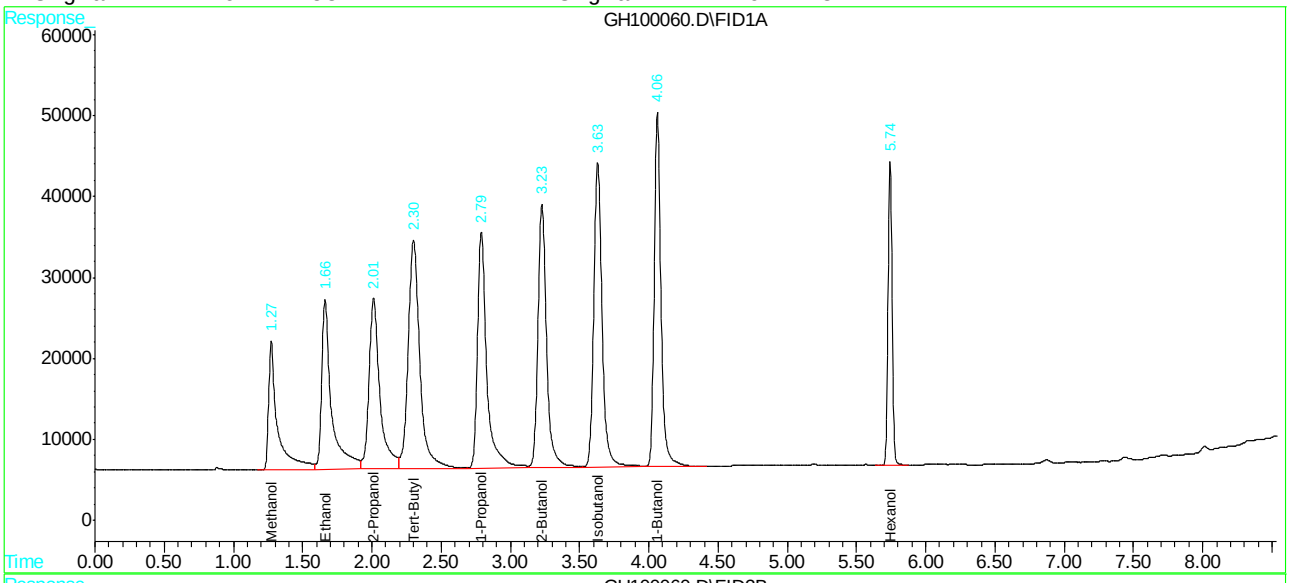
Quantitation Report (QT Reviewed)

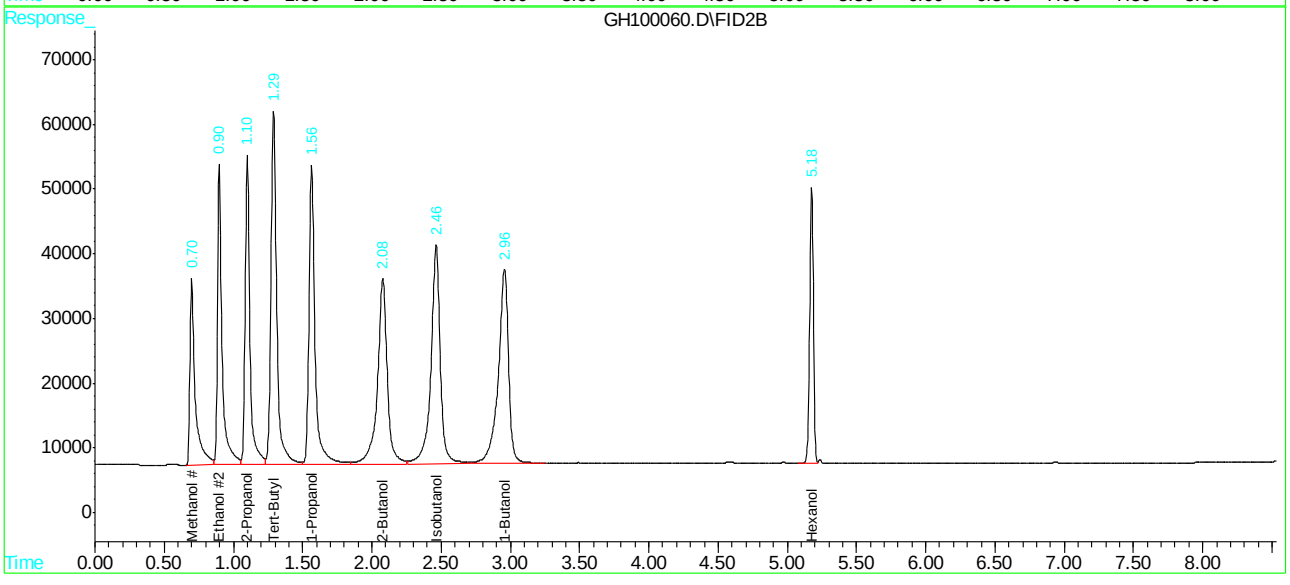
```
Data File : C:\HPCHEM\1\DATA\GH100060.D\FID1A.CH          Vial: 7
Acq On    : 19 May 2015   5:42 pm                     Operator: XULIU
Sample    : IC4868-50000                              Inst    : GCGH
Misc      : GC45985,GGH4868,5.0,,,,1                  Multiplr: 1.00
IntFile   : autoint1.e

Data File : C:\HPCHEM\1\DATA\GH100060.D\FID2B.CH          Vial: 7
Acq On    : 19 May 2015   6:04 pm                     Operator: XULIU
Sample    : IC4868-50000                              Inst    : GCGH
Misc      : GC45985,GGH4868,5.0,,,,1                  Multiplr: 1.00
IntFile   : autoint2.e
Quant Time: May 19 18:06 2015  Quant Results File: MGH4868.RES

Quant Method : C:\HPCHEM\1\METHODS\MGH4868.M (Chemstation Integrator)
Title        : METHOD SW846-8015B (DAI)
Last Update  : Tue May 19 10:52:43 2015
Response via : Multiple Level Calibration
DataAcq Meth : MGH4868.M

Volume Inj.     : 2ul
Signal #1 Phase : ZB-624            Signal #2 Phase: RTX-1
Signal #1 Info  : .53mm ID          Signal #2 Info : .32 mm ID
```





Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GH100061.D\FID1A.CH Vial: 8
Acq On : 19 May 2015 6:04 pm Operator: XULIU
Sample : IC4868-100000 Inst : GCGH
Misc : GC45985,GGH4868,5.0,,,,1 Multiplr: 1.00
IntFile : autoint1.e

Data File : C:\HPCHEM\1\DATA\GH100061.D\FID2B.CH Vial: 8
Acq On : 19 May 2015 6:18 pm Operator: XULIU
Sample : IC4868-100000 Inst : GCGH
Misc : GC45985,GGH4868,5.0,,,,1 Multiplr: 1.00
IntFile : autoint2.e
Quant Time: May 19 18:21 2015 Quant Results File: MGH4868.RES

Quant Method : C:\HPCHEM\1\METHODS\MGH4868.M (Chemstation Integrator)
Title : METHOD SW846-8015B (DAI)
Last Update : Tue May 19 10:52:43 2015
Response via : Initial Calibration
DataAcq Meth : MGH4868.M

Volume Inj. : 2ul
Signal #1 Phase : ZB-624 Signal #2 Phase: RTX-1
Signal #1 Info : .53mm ID Signal #2 Info : .32 mm ID

	Compound	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
	System Monitoring Compounds						
10) S	Hexanol	5.74	5.18	909834	960197	6903.582	7026.644
Spiked Amount	5000.000			Recovery	=	138.07%	140.53%
	Target Compounds						
1)	Methanol	1.28	0.70	1135992	1645637	83148.607	113259.783
2)	Ethanol	1.67f	0.90	2031150	2313222	109853.339	114790.536
3)	Tert-Butyl Alcoh	2.30f	1.29	3882641	3444338	127133.309	106970.703
4)	1-Propanol	2.79f	1.57	3026146	2990247	110203.070	104789.227
5)	2-Propanol	2.02f	1.10	2391294	2478589	113033.478	106178.099
7)	Isobutanol	3.64f	2.47	3402616	3306191	109230.323	108463.567
8)	1-Butanol	4.07f	2.96	3239951	3264942	107003.805	101189.886
9)	2-Butanol	3.24f	2.08	3047194	2968133	112040.512	111508.549

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GH100061.D MGH4868.M Wed May 20 09:07:35 2015 GCGH

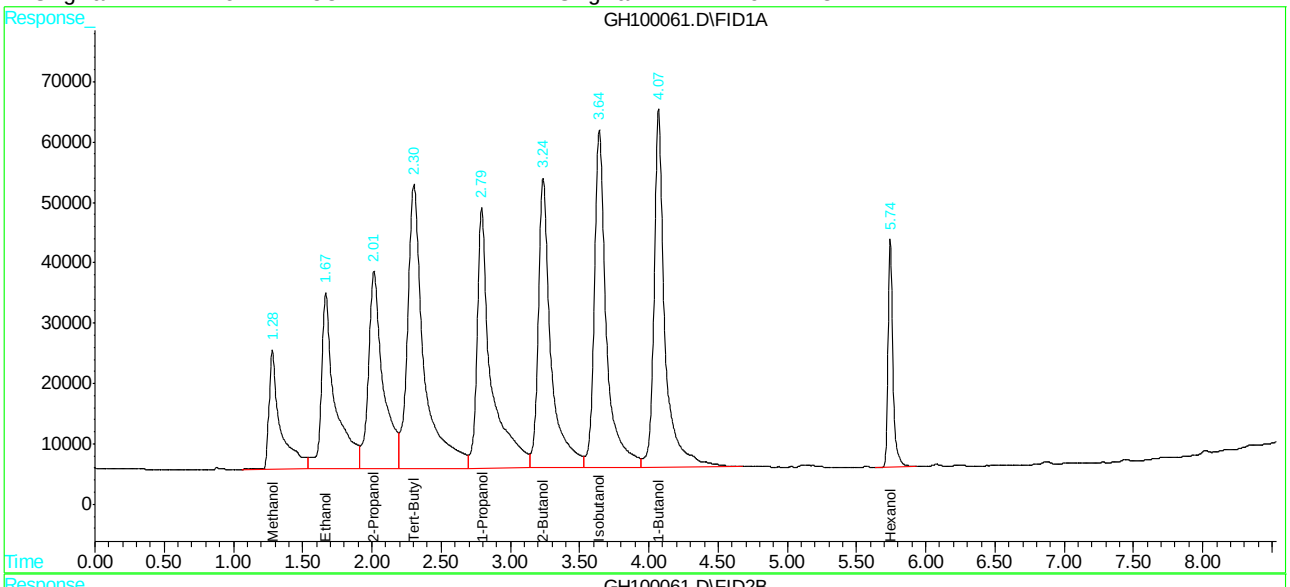
Quantitation Report (QT Reviewed)

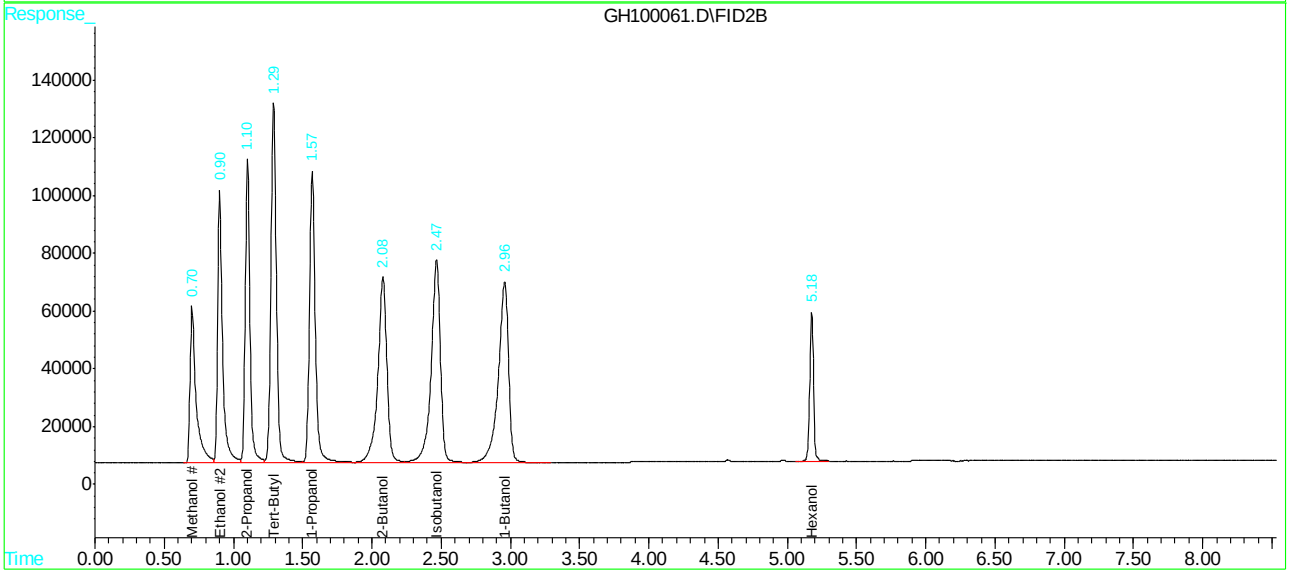
```
Data File : C:\HPCHEM\1\DATA\GH100061.D\FID1A.CH          Vial: 8
Acq On    : 19 May 2015   6:04 pm                     Operator: XULIU
Sample    : IC4868-100000                             Inst    : GCGH
Misc      : GC45985,GGH4868,5.0,,,,1                  Multiplr: 1.00
IntFile   : autoint1.e

Data File : C:\HPCHEM\1\DATA\GH100061.D\FID2B.CH          Vial: 8
Acq On    : 19 May 2015   6:18 pm                     Operator: XULIU
Sample    : IC4868-100000                             Inst    : GCGH
Misc      : GC45985,GGH4868,5.0,,,,1                  Multiplr: 1.00
IntFile   : autoint2.e
Quant Time: May 19 18:21 2015  Quant Results File: MGH4868.RES

Quant Method : C:\HPCHEM\1\METHODS\MGH4868.M (Chemstation Integrator)
Title        : METHOD SW846-8015B (DAI)
Last Update  : Tue May 19 10:52:43 2015
Response via : Multiple Level Calibration
DataAcq Meth : MGH4868.M

Volume Inj.     : 2ul
Signal #1 Phase : ZB-624            Signal #2 Phase: RTX-1
Signal #1 Info  : .53mm ID          Signal #2 Info : .32 mm ID
```





Quantitation Report (QT Reviewed)

```
Data File : C:\HPCHEM\1\DATA\GH100062.D\FID1A.CH          Vial: 95
Acq On    : 19 May 2015   6:18 pm                     Operator: XULIU
Sample    : ICV4868-5000                              Inst    : GCGH
Misc      : GC45985,GGH4868,5.0,,,,1                  Multiplr: 1.00
IntFile   : autoint1.e

Data File : C:\HPCHEM\1\DATA\GH100062.D\FID2B.CH          Vial: 95
Acq On    : 19 May 2015   6:33 pm                     Operator: XULIU
Sample    : ICV4868-5000                              Inst    : GCGH
Misc      : GC45985,GGH4868,5.0,,,,1                  Multiplr: 1.00
IntFile   : autoint2.e
Quant Time: May 20  9:23 2015  Quant Results File: MGH4868.RES

Quant Method : C:\HPCHEM\1\METHODS\MGH4868.M (Chemstation Integrator)
Title        : METHOD SW846-8015B (DAI)
Last Update  : Wed May 20 09:09:51 2015
Response via : Initial Calibration
DataAcq Meth : MGH4868.M

Volume Inj.     : 2ul
Signal #1 Phase : ZB-624            Signal #2 Phase: RTX-1
Signal #1 Info  : .53mm ID          Signal #2 Info : .32 mm ID
```

	Compound	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
	System Monitoring Compounds						
10) S	Hexanol	5.74	5.18	540310	560179	4520.626	4536.409
	Spiked Amount 5000.000			Recovery	=	90.41%	90.73%
	Target Compounds						
1)	Methanol	1.28	0.70	64305	61042	4412.367	4149.309
2)	Ethanol	1.66	0.90	106398	107328	5166.982	5194.876
3)	Tert-Butyl Alcoh	2.30	1.29	161177	173482	4959.464	5402.301
4)	1-Propanol	2.79	1.57	138899	139004	4922.524	5145.062
5)	2-Propanol	2.01	1.10	116138	119519	5181.427	5328.184
7)	Isobutanol	3.63	2.47	167893	167809	5261.773	5215.011
8)	1-Butanol	4.06	2.96	172633	164891	5483.036	5087.982
9)	2-Butanol	3.23	2.08	140873	133579	4923.450	4952.191

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.

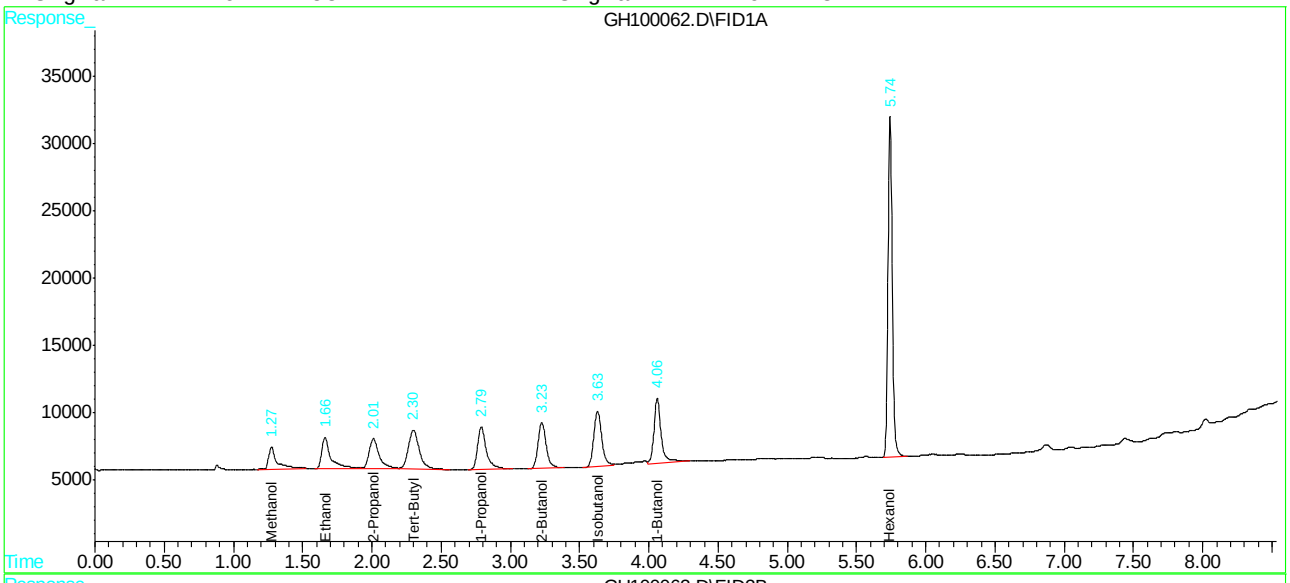
Quantitation Report (QT Reviewed)

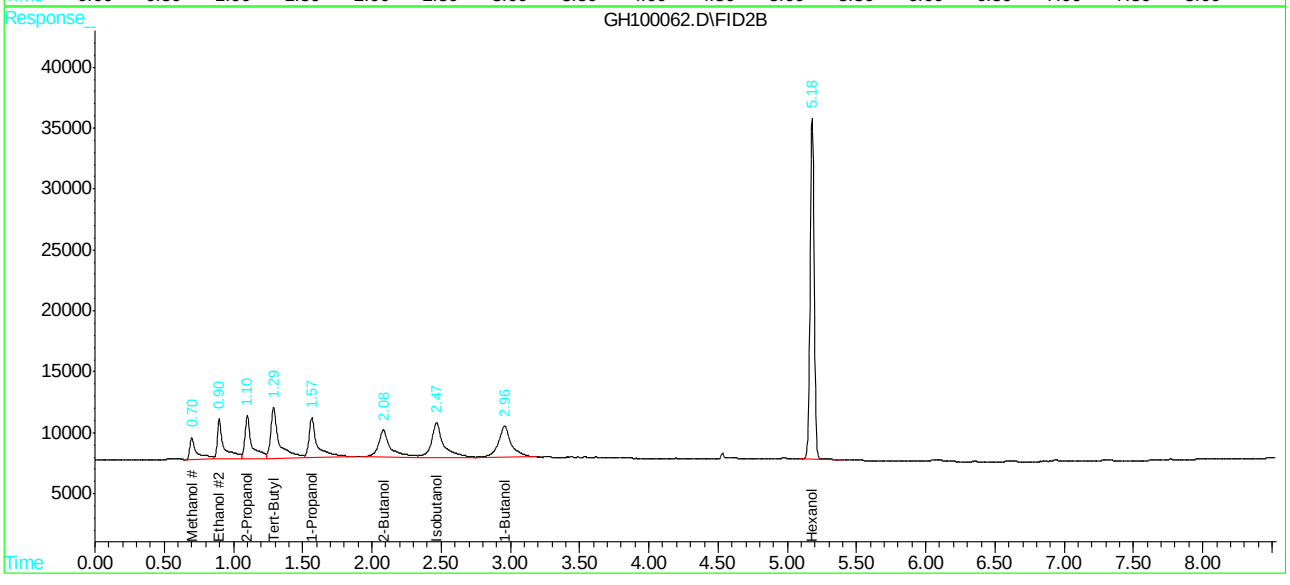
```
Data File : C:\HPCHEM\1\DATA\GH100062.D\FID1A.CH          Vial: 95
Acq On    : 19 May 2015   6:18 pm                     Operator: XULIU
Sample    : ICV4868-5000                              Inst    : GCGH
Misc      : GC45985,GGH4868,5.0,,,,1                  Multiplr: 1.00
IntFile   : autoint1.e

Data File : C:\HPCHEM\1\DATA\GH100062.D\FID2B.CH          Vial: 95
Acq On    : 19 May 2015   6:33 pm                     Operator: XULIU
Sample    : ICV4868-5000                              Inst    : GCGH
Misc      : GC45985,GGH4868,5.0,,,,1                  Multiplr: 1.00
IntFile   : autoint2.e
Quant Time: May 20  9:23 2015  Quant Results File: MGH4868.RES

Quant Method : C:\HPCHEM\1\METHODS\MGH4868.M (Chemstation Integrator)
Title        : METHOD SW846-8015B (DAI)
Last Update  : Wed May 20 09:09:51 2015
Response via : Multiple Level Calibration
DataAcq Meth : MGH4868.M

Volume Inj.     : 2ul
Signal #1 Phase : ZB-624            Signal #2 Phase: RTX-1
Signal #1 Info  : .53mm ID          Signal #2 Info : .32 mm ID
```





Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\DATA1003\GH100301.D\FID1A.CH Vial: 95
Acq On : 8 Jun 2015 10:43 am Operator: XULIU
Sample : CC4868-10000 Inst : GCGH
Misc : GC46130,GGH4887,5.0,,,,1 Multiplr: 1.00
IntFile : autoint1.e

Data File : C:\HPCHEM\1\DATA\DATA1003\GH100301.D\FID2B.CH Vial: 95
Acq On : 8 Jun 2015 10:57 am Operator: XULIU
Sample : CC4868-10000 Inst : GCGH
Misc : GC46130,GGH4887,5.0,,,,1 Multiplr: 1.00
IntFile : autoint2.e
Quant Time: Jun 8 13:23 2015 Quant Results File: MGH4868.RES

Quant Method : C:\HPCHEM\1\METHODS\MGH4868.M (Chemstation Integrator)
Title : METHOD SW846-8015B (DAI)
Last Update : Mon Jun 08 10:03:52 2015
Response via : Initial Calibration
DataAcq Meth : MGH4868.M

Volume Inj. : 2ul
Signal #1 Phase : ZB-624 Signal #2 Phase: RTX-1
Signal #1 Info : .53mm ID Signal #2 Info : .32 mm ID

	Compound	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
	System Monitoring Compounds						
10) S	Hexanol	5.75	5.17	594642	621691	4975.210	5034.545
	Spiked Amount 5000.000			Recovery	=	99.50%	100.69%
	Target Compounds						
1)	Methanol	1.28	0.71	171142	163853	11743.127	11137.848
2)	Ethanol	1.67	0.90	212850	225505	10336.602	10914.831
3)	Tert-Butyl Alcoh	2.31	1.30	318625	323602	9804.172	10077.078
4)	1-Propanol	2.80	1.57	273921	278278	9707.649	10300.092
5)	2-Propanol	2.02	1.10	228488	236614	10193.824	10548.320
7)	Isobutanol	3.63	2.47	292797	297420	9176.254	9242.911
8)	1-Butanol	4.07	2.96	281732	288784	8948.173	8910.931
9)	2-Butanol	3.23	2.09	271943	274399	9504.300	10172.837

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GH100301.D MGH4868.M Wed Jun 10 15:46:01 2015 GCGH

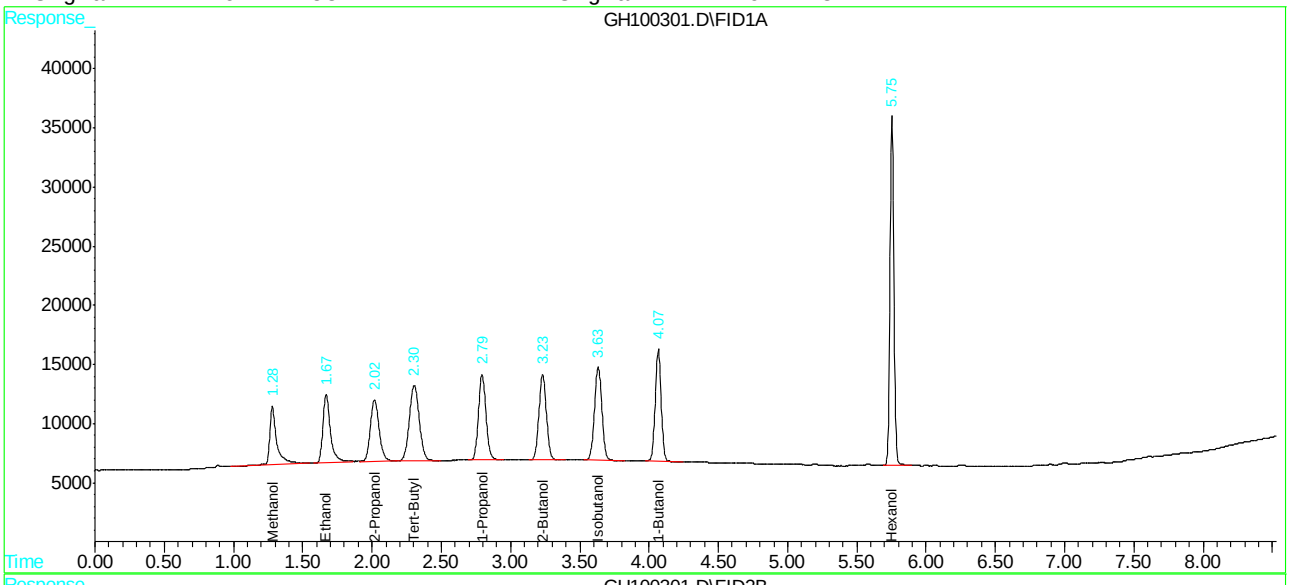
Quantitation Report (QT Reviewed)

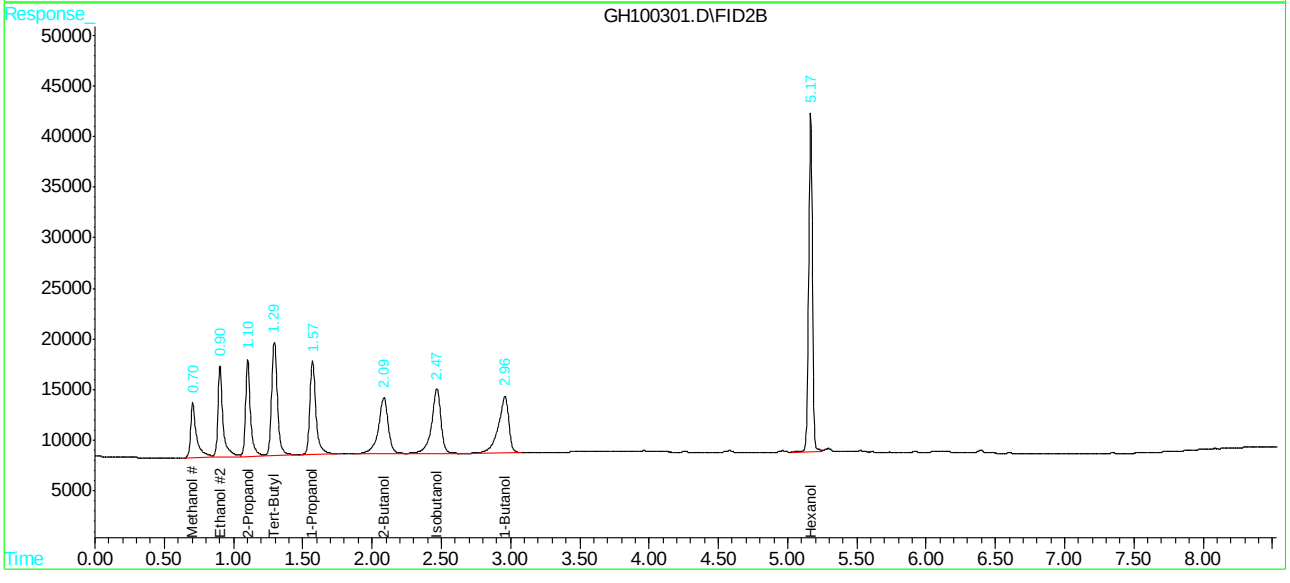
```
Data File : C:\HPCHEM\1\DATA\DATA1003\GH100301.D\FID1A.CH Vial: 95
Acq On    :  8 Jun 2015  10:43 am                    Operator: XULIU
Sample    : CC4868-10000                              Inst    : GCGH
Misc      : GC46130,GGH4887,5.0,,,,1                  Multiplr: 1.00
IntFile   : autoint1.e

Data File : C:\HPCHEM\1\DATA\DATA1003\GH100301.D\FID2B.CH Vial: 95
Acq On    :  8 Jun 2015  10:57 am                    Operator: XULIU
Sample    : CC4868-10000                              Inst    : GCGH
Misc      : GC46130,GGH4887,5.0,,,,1                  Multiplr: 1.00
IntFile   : autoint2.e
Quant Time: Jun  8 13:23 2015  Quant Results File: MGH4868.RES

Quant Method : C:\HPCHEM\1\METHODS\MGH4868.M (Chemstation Integrator)
Title        : METHOD SW846-8015B (DAI)
Last Update  : Mon Jun 08 10:03:52 2015
Response via : Multiple Level Calibration
DataAcq Meth : MGH4868.M

Volume Inj.     : 2ul
Signal #1 Phase : ZB-624            Signal #2 Phase: RTX-1
Signal #1 Info  : .53mm ID          Signal #2 Info : .32 mm ID
```





Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GH100310.D\FID1A.CH Vial: 95
Acq On : 8 Jun 2015 1:33 pm Operator: XULIU
Sample : ECC4868-5000 Inst : GCGH
Misc : GC46145,GGH4888,5.0,,,,1 Multiplr: 1.00
IntFile : autoint1.e

Data File : C:\HPCHEM\1\DATA\GH100310.D\FID2B.CH Vial: 95
Acq On : 8 Jun 2015 1:47 pm Operator: XULIU
Sample : ECC4868-5000 Inst : GCGH
Misc : GC46145,GGH4888,5.0,,,,1 Multiplr: 1.00
IntFile : autoint2.e
Quant Time: Jun 9 9:24 2015 Quant Results File: MGH4868.RES

Quant Method : C:\HPCHEM\1\METHODS\MGH4868.M (Chemstation Integrator)
Title : METHOD SW846-8015B (DAI)
Last Update : Tue Jun 09 09:05:03 2015
Response via : Initial Calibration
DataAcq Meth : MGH4868.M

Volume Inj. : 2ul
Signal #1 Phase : ZB-624 Signal #2 Phase: RTX-1
Signal #1 Info : .53mm ID Signal #2 Info : .32 mm ID

	Compound	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
	System Monitoring Compounds						
10) S	Hexanol	5.75	5.17	660764	544886	5528.439	4412.563
Spiked Amount	5000.000			Recovery	=	110.57%	88.25%
	Target Compounds						
1)	Methanol	1.28	0.69f	86050	109042	5904.461	7412.084
2)	Ethanol	1.67	0.91	94269	95053	4577.983	4600.756
3)	Tert-Butyl Alcoh	2.30	1.30	150636	155021	4635.115	4827.415
4)	1-Propanol	2.79	1.58	119708	129457	4242.416	4791.667
5)	2-Propanol	2.01	1.11	104883	111949	4679.285	4990.729
7)	Isobutanol	3.63	2.47	141356	142353	4430.115	4423.920
8)	1-Butanol	4.07	2.96	131840	152939	4187.404	4719.197
9)	2-Butanol	3.23	2.08	128592	129900	4494.224	4815.782

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GH100310.D MGH4868.M Tue Jun 09 09:24:37 2015 GCGH

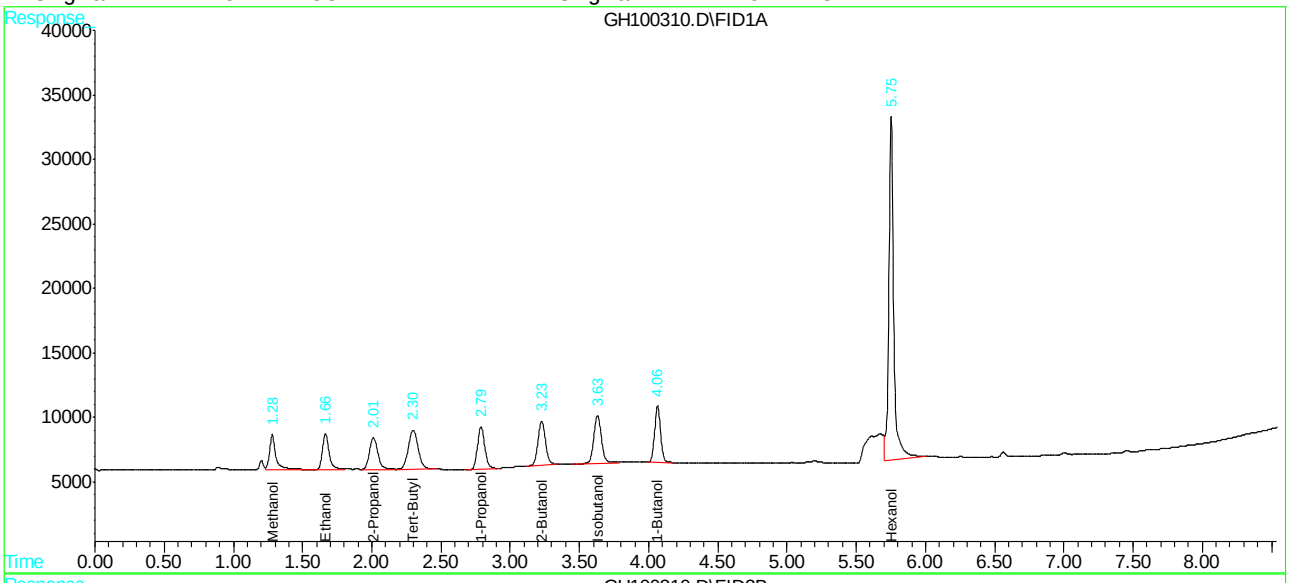
Quantitation Report (QT Reviewed)

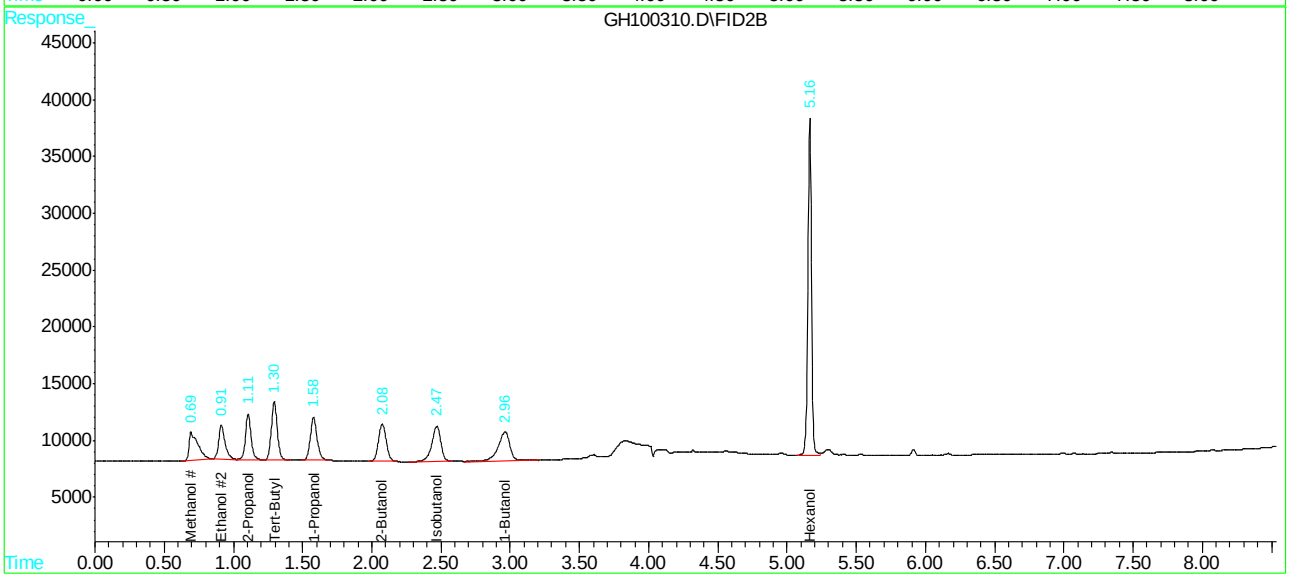
Data File : C:\HPCHEM\1\DATA\GH100310.D\FID1A.CH Vial: 95
Acq On : 8 Jun 2015 1:33 pm Operator: XULIU
Sample : ECC4868-5000 Inst : GCGH
Misc : GC46145,GGH4888,5.0,,,,1 Multiplr: 1.00
IntFile : autoint1.e

Data File : C:\HPCHEM\1\DATA\GH100310.D\FID2B.CH Vial: 95
Acq On : 8 Jun 2015 1:47 pm Operator: XULIU
Sample : ECC4868-5000 Inst : GCGH
Misc : GC46145,GGH4888,5.0,,,,1 Multiplr: 1.00
IntFile : autoint2.e
Quant Time: Jun 9 9:24 2015 Quant Results File: MGH4868.RES

Quant Method : C:\HPCHEM\1\METHODS\MGH4868.M (Chemstation Integrator)
Title : METHOD SW846-8015B (DAI)
Last Update : Tue Jun 09 09:05:03 2015
Response via : Multiple Level Calibration
DataAcq Meth : MGH4868.M

Volume Inj. : 2ul
Signal #1 Phase : ZB-624 Signal #2 Phase: RTX-1
Signal #1 Info : .53mm ID Signal #2 Info : .32 mm ID





Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GH100319.D\FID1A.CH Vial: 92
Acq On : 9 Jun 2015 10:14 am Operator: XULIU
Sample : CC4868-5000 Inst : GCGH
Misc : GC46145,GGH4889,5.0,,,,1 Multiplr: 1.00
IntFile : autoint1.e

Data File : C:\HPCHEM\1\DATA\GH100319.D\FID2B.CH Vial: 92
Acq On : 9 Jun 2015 10:28 am Operator: XULIU
Sample : CC4868-5000 Inst : GCGH
Misc : GC46145,GGH4889,5.0,,,,1 Multiplr: 1.00
IntFile : autoint2.e
Quant Time: Jun 10 9:22 2015 Quant Results File: MGH4868.RES

Quant Method : C:\HPCHEM\1\METHODS\MGH4868.M (Chemstation Integrator)
Title : METHOD SW846-8015B (DAI)
Last Update : Tue Jun 09 10:55:03 2015
Response via : Initial Calibration
DataAcq Meth : MGH4868.M

Volume Inj. : 2ul
Signal #1 Phase : ZB-624 Signal #2 Phase: RTX-1
Signal #1 Info : .53mm ID Signal #2 Info : .32 mm ID

	Compound	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
	System Monitoring Compounds						
10) S	Hexanol	5.75	5.16	627872	639079	5253.239	5175.353
Spiked Amount	5000.000			Recovery	=	105.06%	103.51%
	Target Compounds						
1)	Methanol	1.28	0.71	69707	84087	4783.053	5715.810
2)	Ethanol	1.67	0.91	85225	97960	4138.756	4741.444
3)	Tert-Butyl Alcoh	2.30	1.29	140382	148295	4319.608	4617.951
4)	1-Propanol	2.79	1.57	116006	121332	4111.192	4490.938
5)	2-Propanol	2.01	1.10	94293	105354	4206.828	4696.697
7)	Isobutanol	3.63	2.47	132236	139577	4144.275	4337.626
8)	1-Butanol	4.07	2.96	138725	137221	4406.090	4234.180
9)	2-Butanol	3.23	2.08	121640	121311	4251.267	4497.370

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GH100319.D MGH4868.M Wed Jun 10 09:22:26 2015 GCGH

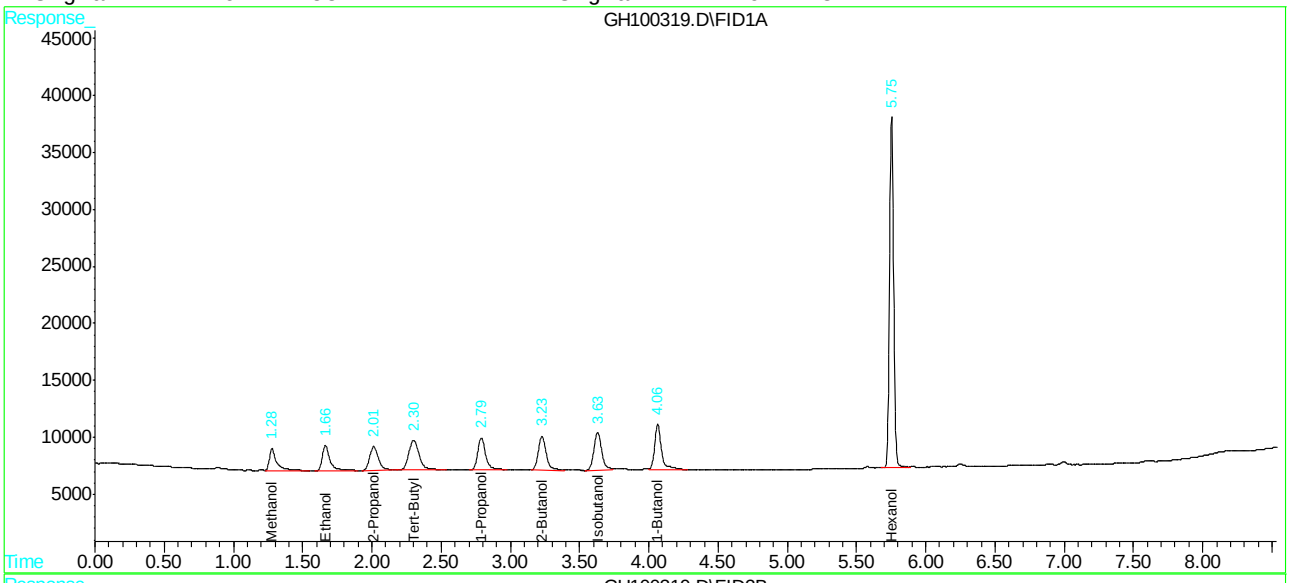
Quantitation Report (QT Reviewed)

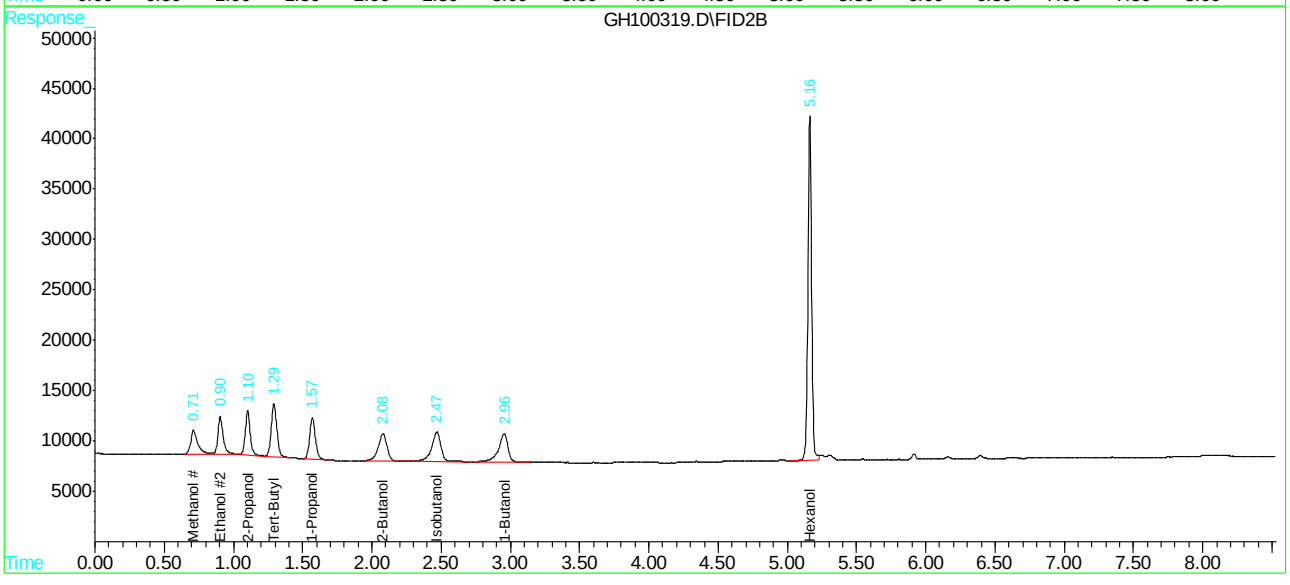
Data File : C:\HPCHEM\1\DATA\GH100319.D\FID1A.CH Vial: 92
Acq On : 9 Jun 2015 10:14 am Operator: XULIU
Sample : CC4868-5000 Inst : GCGH
Misc : GC46145,GGH4889,5.0,,,,1 Multiplr: 1.00
IntFile : autoint1.e

Data File : C:\HPCHEM\1\DATA\GH100319.D\FID2B.CH Vial: 92
Acq On : 9 Jun 2015 10:28 am Operator: XULIU
Sample : CC4868-5000 Inst : GCGH
Misc : GC46145,GGH4889,5.0,,,,1 Multiplr: 1.00
IntFile : autoint2.e
Quant Time: Jun 10 9:22 2015 Quant Results File: MGH4868.RES

Quant Method : C:\HPCHEM\1\METHODS\MGH4868.M (Chemstation Integrator)
Title : METHOD SW846-8015B (DAI)
Last Update : Tue Jun 09 10:55:03 2015
Response via : Multiple Level Calibration
DataAcq Meth : MGH4868.M

Volume Inj. : 2ul
Signal #1 Phase : ZB-624 Signal #2 Phase: RTX-1
Signal #1 Info : .53mm ID Signal #2 Info : .32 mm ID





Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GH100328.D\FID1A.CH Vial: 95
Acq On : 9 Jun 2015 1:01 pm Operator: XULIU
Sample : CC4868-10000 Inst : GCGH
Misc : GC46145,GGH4889,5.0,,,,1 Multiplr: 1.00
IntFile : autoint1.e

Data File : C:\HPCHEM\1\DATA\GH100328.D\FID2B.CH Vial: 95
Acq On : 9 Jun 2015 1:15 pm Operator: XULIU
Sample : CC4868-10000 Inst : GCGH
Misc : GC46145,GGH4889,5.0,,,,1 Multiplr: 1.00
IntFile : autoint2.e
Quant Time: Jun 10 10:09 2015 Quant Results File: MGH4868.RES

Quant Method : C:\HPCHEM\1\METHODS\MGH4868.M (Chemstation Integrator)
Title : METHOD SW846-8015B (DAI)
Last Update : Wed Jun 10 10:00:43 2015
Response via : Initial Calibration
DataAcq Meth : MGH4868.M

Volume Inj. : 2ul
Signal #1 Phase : ZB-624 Signal #2 Phase: RTX-1
Signal #1 Info : .53mm ID Signal #2 Info : .32 mm ID

	Compound	RT#1	RT#2	Resp#1	Resp#2	PPB	PPB
	System Monitoring Compounds						
10) S	Hexanol	5.75	5.17	568995	607961	4760.628	4923.357
	Spiked Amount 5000.000			Recovery	=	95.21%	98.47%
	Target Compounds						
1)	Methanol	1.26	0.70	174121	176195	11947.577	11976.806
2)	Ethanol	1.64	0.90	217380	223254	10556.575	10805.873
3)	Tert-Butyl Alcoh	2.28	1.29	322858	328956	9934.424	10243.823
4)	1-Propanol	2.77	1.57	278131	281256	9856.850	10410.309
5)	2-Propanol	1.99	1.10	232559	238071	10375.459	10613.269
7)	Isobutanol	3.62	2.47	291415	293775	9132.957	9129.654
8)	1-Butanol	4.05	2.96	277839	292568	8824.526	9027.695
9)	2-Butanol	3.21	2.07	272372	278068	9519.288	10308.833

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GH100328.D MGH4868.M Wed Jun 10 10:09:53 2015 GCGH

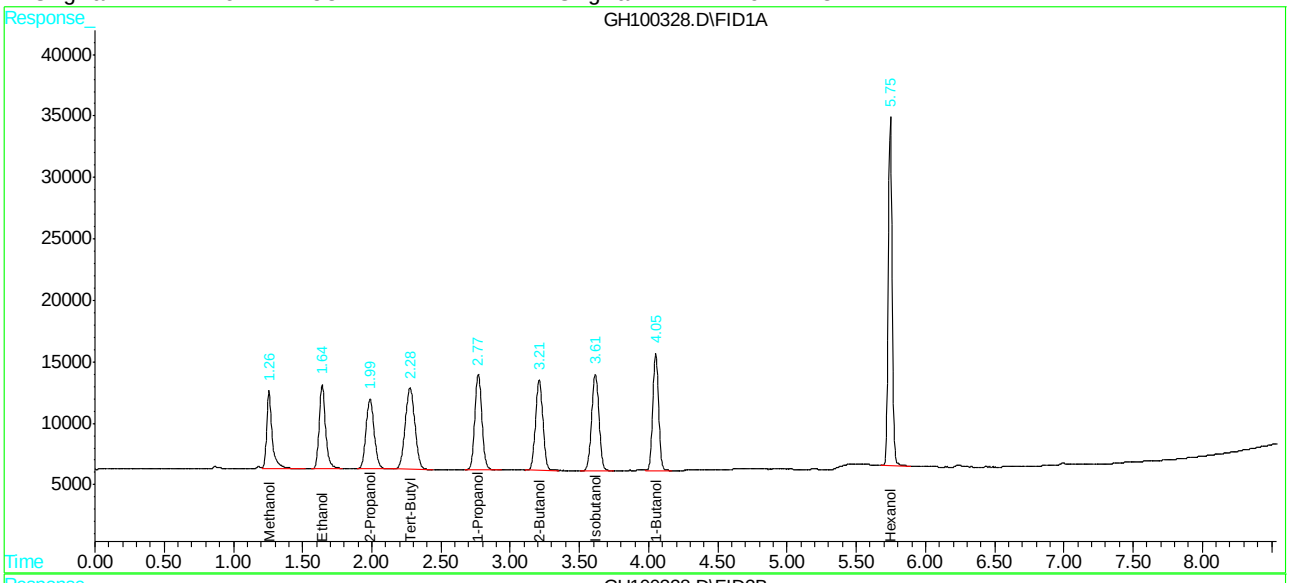
Quantitation Report (QT Reviewed)

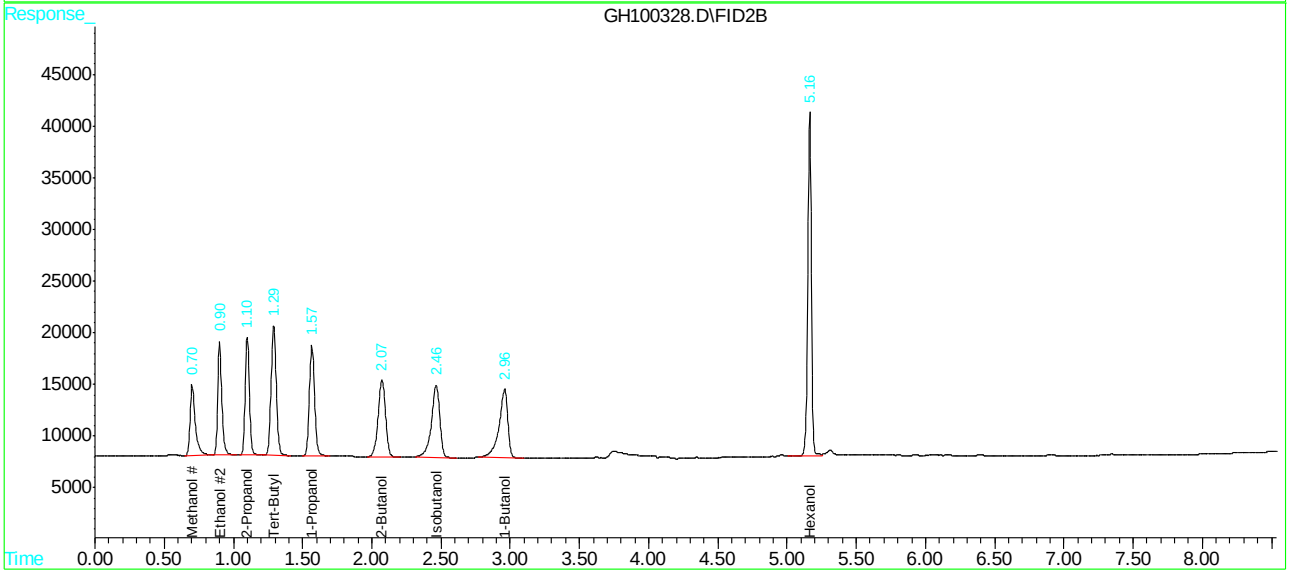
```
Data File : C:\HPCHEM\1\DATA\GH100328.D\FID1A.CH          Vial: 95
Acq On    :  9 Jun 2015   1:01 pm                     Operator: XULIU
Sample    : CC4868-10000                              Inst    : GCGH
Misc      : GC46145,GGH4889,5.0,,,,1                  Multiplr: 1.00
IntFile   : autoint1.e

Data File : C:\HPCHEM\1\DATA\GH100328.D\FID2B.CH          Vial: 95
Acq On    :  9 Jun 2015   1:15 pm                     Operator: XULIU
Sample    : CC4868-10000                              Inst    : GCGH
Misc      : GC46145,GGH4889,5.0,,,,1                  Multiplr: 1.00
IntFile   : autoint2.e
Quant Time: Jun 10 10:09 2015  Quant Results File: MGH4868.RES

Quant Method : C:\HPCHEM\1\METHODS\MGH4868.M (Chemstation Integrator)
Title        : METHOD SW846-8015B (DAI)
Last Update  : Wed Jun 10 10:00:43 2015
Response via : Multiple Level Calibration
DataAcq Meth : MGH4868.M

Volume Inj.     : 2ul
Signal #1 Phase : ZB-624            Signal #2 Phase: RTX-1
Signal #1 Info  : .53mm ID          Signal #2 Info : .32 mm ID
```





ACCUTEST

VOLATILE ANALYSIS LOG

Batch ID: GGH4868

Print Analyst Name: Xu Liu

Analyst Signature:

Date: 5/19/15

Columns: 2B6W (30m x 0.53mm x 3μm) / RTX-1 (30m x 0.32mm x 3μm)

Method 8015C ALC

Initial Cal. Method MGH4868

Standard Data

Lot #	Description	Conc.

Standard Data

Lot #	Description	Conc.
014868117	ALC SUR (5/23)	2000ppm
014868118	ALC SUD (5/12)	1000ppm
014868119	ALC SUD2 (5/23)	1000ppm

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with the criteria of Accutest SOP EQA044.

Supervisor Signature: Date: 5/20/2015

R	Data File	Sample ID	Test	MTX	Vial #	ALS #	Samp. Amt (ml or g)	MOH amt. (ul)	Secondary dilution	L+	IS	SU	Status (Data)	Comments	pH* < 2
	GH100053	2B					1						ok		
	100054	2C4868-100					1						not need.		
	100055	2C4868-100					1						ok		
	100056	2C4868-100					1						ok		
	100057	2C4868-1000					1						ok		
	100058	2C4868-5000					1						ok		
	100059	2C4868-10,000					1						ok		
	100060	2C4868-50,000					1						ok		
	100061	2C4868-100,000					1						ok		
	100062	2C4868-5000					1						ok		

5/19

MTX = Matrix Designate W for water, S for soil, O for oil. L+ =Library Search. IS = Internal Standard Area. SU = Surrogate. Sample Amt = Volume (ML) or Weight (g); MOH amt.= volume (ul) extract injected * IF pH > 2, comment on sample result. All strike outs must be initialed, dated and reason code applied as follows: 1 = reviewer correction error; 2 = transcription error; 3 = computer miscalculation; 4 = analyst's correction error

Form: OR001-9
Rev. Date: 2/14/2007

ACCUTEST

VOLATILE ANALYSIS LOG

Batch ID: GGH4887

Print Analyst Name: Xu Gu

Analyst Signature:

Date: 6/8/15

Columns: RTX-1 (30m x 0.53mm x 3µm) (30m x 0.32mm x 3µ)

Method 8015C ALC

Initial Cal. Method MGH4868

Standard Data

Lot #	Description	Conc.

Standard Data

Lot #	Description	Conc.
CC4868-130	ALC SUR (6/16)	2000ppm
CC4868-131	ALC STD (6/16)	1000ppm
CC4868-132	ALC STD(L) (6/16)	100ppm

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with the criteria of Accutest SOP EQA044.

Supervisor Signature: **Date:** 6/9/15

R	Data File	Sample ID	Test	MTX	Vial #	ALS #	Samp. Amt (ml or g)	MOH amt. (ul)	Secondary dilution	L+	IS	SU	Status (Data)	Comments	pH* < 2
	GH100292	ZB					1					✓	OK		
	100293	CC4868-5000					1					✓	OK	50µl STD/AC 1ml/10	
	100294	MB1					1					✓	OK		
	100295	BS					1					✓	OK	50µl STD(L)/ml/10	
	100296	JB96216-1	46130 ZHLT	S W	8		1					✓	OK		✓
	100297	JB96216-1MS	✓	S W	8		1					✓	OK	50µl STD/ml sample	✓
	100298	JB96216-1MSD	✓	S W	8		1					✓	OK	50µl STD/ml sample	✓
	100299	JB96216-2	✓	S W	8		1					✓	OK		✓
	100300	JB96216-3	✓	S W	6		1					✓	OK		✓
	100301	CC4868-10000					1					✓	OK	100µl STD/ml/10	
	~~100302~~														
	100303														
	100304														

6/8

MTX = Matrix Designate W for water, S for soil, O for oil. L+ =Library Search. IS = Internal Standard Area. SU = Surrogate.
Sample Amt = Volume (ML) or Weight (g); MOH amt.= volume (ul) extract injected * IF pH > 2, comment on sample result.
All strike outs must be initialed, dated and reason code applied as follows: 1 = reviewer correction error; 2 = transcription error; 3 = computer miscalculation; 4 = analyst's correction error

111

Form: OR001-9
Rev. Date: 2/14/2007

9.6.2

9

ACCUTEST

VOLATILE ANALYSIS LOG

Batch ID: GGH 4888

Print Analyst Name: Xu Lin

Analyst Signature:

Date: 6/8/15

Columns: ZB624 / RTX-1 (30mx0.53mmx3um) (30mx0.32mmx3)

Method 8015C ALC

Initial Cal. Method MGH4868

Standard Data

Lot #	Description	Conc.

Standard Data

Lot #	Description	Conc.
014C1868-130	ACL SUR (6/26)	2000ppm
014C1868-131	ACL STD (6/26)	200 ppm
014C1868-132	ACL STD (6/26)	100 ppm

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with the criteria of Accutest SOP EQA044.

Supervisor Signature: **Date:** 6/9/15

R	Data File	Sample ID	Test	MTX	Vial #	ALS #	Samp. Amt (ml or g)	MOH amt. (ul)	Secondary dilution	L+	IS	SU	Status (Data)	Comments	pH* < 2
	GH100302	MB1					1					✓	ok		
	100303	BS					1					✓	ok	50ul STD (1x)/methanol	
	100304	JB96432-1	46145 meth	G W	16		1					✓	ok		✓
	100305	JB96432-1MS	IPA ✓	G W	16		1					✓	ok	50ul STD/ml sample	✓
	100306	JB96432-1MSD	✓	G W	16		1					✓	ok	50ul STD/ml sample	✓
	100307	JB96432-2	✓	G W	1		1					✓	ok		✓
	100308	JB96432-3	✓	G W	2		1					✓	ok		✓
	100309	JB96432-4	✓	G W	1		1					✓	ok		✓
	100310	CC4868-5000					1					✓	ok	2nd meth 50ul STD/methanol	
	100311	MB2					1					✓	not used		
	100312	JB96432-5	46145 meth	G W	3		1					✓	RR		✓
	100313	JB96432-6	IPA ✓	G W	3		1					✓	RR		✓
	100314	JB96432-7	✓	G W	5		1					✓	RR		✓
	100315	JB96432-8	✓	G W	5		1					✓	RR		✓
	100316	CC4868-10,000					1					✓	not used	100ul STD/methanol	
														6/8	

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Sample Amt = Volume (ML) or Weight (g); MOH amt. = volume (ul) extract injected * IF pH > 2, comment on sample result.
All strike outs must be initialed, dated and reason code applied as follows: 1 = reviewer correction error; 2 = transcription error; 3 = computer miscalculation; 4 = analyst's correction error

Form: OR001-9
Rev. Date: 2/14/2007

ACCUTEST

VOLATILE ANALYSIS LOG

Batch ID: GGH 4889

Print Analyst Name: Xu Gu

Analyst Signature:

Date: 6/9/15

Columns: 2B6MC / R7X-1 (30mx0.53mm x3µm) (30mx0.32mmx3µ)

Method 8015C ACC

Initial Cal. Method MGH 4868

Standard Data

Lot #	Description	Conc.

Standard Data

Lot #	Description	Conc.
01K1868130	ACC SUR (6/26)	2000 ppm
01K1868130	ACC STD (6/26)	100 ppm
01K1868130	ACC MD(2) (6/26)	100 ppm

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with the criteria of Accutest SOP EQA044.

Supervisor Signature: Date: 6/10/15

R	Data File	Sample ID	Test	MTX	Vial #	ALS #	Samp. Amt (ml or g)	MOH amt. (ul)	Secondary dilution	L+	IS	SU	Status (Data)	Comments	pH* < 2
	GH100317	2B					1					✓	OK		
	100318	CC4868-5000					1					✓	RR	1st signal NG Solution/meOH	
	100319	CC4868-5000					1					✓	OK	Solution/meOH	
	100320	MB1					1					✓	OK		
	100321	BS					1					✓	OK	Solution(2)/meOH	
	100322	JB96432-5	46145 MeOH	W	3		1					✓	OK		✓
	100323	JB96432-5MS	2PA ✓	W	3		1					✓	OK	Solution/mL sample	✓
	100324	JB96432-5MSD	✓	W	3		1					✓	OK	Solution/5 ml sample ⊘6/9	✓
	100325	JB96432-6	✓	W	3		1					✓	OK		✓
	100326	JB96432-7	✓	W	5		1					✓	OK		✓
	100327	JB96432-8	✓	W	5		1					✓	OK	M	✓
	100328	CC4868-10,000 (100619)					1					✓	OK	100 ml Solution/meOH	
	100329	MB2					1					✓	RR	2nd signal NG	
	100330	MB2					1					✓	OK		
	100331	JB95936-1	46152 MeOH	W	3		100 ml/ml 20 ml/ml		X500			✓	OK	Turbidity + Resin	9
	100332	CC4868-5000					1					✓	OK	Solution/meOH	
														⊘6/9	

MTX = Matrix Designate W for water, S for soil, O for oil. L+ =Library Search. IS = Internal Standard Area. SU = Surrogate.
Sample Amt = Volume (ML) or Weight (g); MOH amt.= volume (ul) extract injected * IF pH > 2, comment on sample result.
All strike outs must be initialed, dated and reason code applied as follows: 1 = reviewer correction error; 2 = transcription error; 3 = computer miscalculation; 4 = analyst's correction error

Form: OR001-9
Rev. Date: 2/14/2007