AECOM

Prepared for:
UTC Aerospace Systems
Rockford, IL

Prepared by:
AECOM
Warrenville, IL
60339110
September 2015

Second Quarter 2015 GMZ Monitoring and System Performance Report

UTC Aerospace Systems Plants 1/2 Facility
Area 9/10 Remedial Action
Southeast Rockford Groundwater Contamination
Superfund Site
2421 11th Street
Rockford, IL 61104
ILD 981000417

US EPA RECORDS CENTER REGION 5
521798

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Letter of Transmittal

Attention:	Mr. Timothy Drexler (USEPA) Mr. Brian Conrath (IEPA)	Date:	September 8, 2015
	UTC Aerospace Systems Plants 1/2 Facility Area 9/10 Remedial Action Southeast Rockford Groundwater Contamination Superfund Site 2421 11th Street Rockford, Illinois 61104		
Project reference:	ILD981000417	Project number:	60339110

We are sending you the following:

Number of originals:	Number of copies:	Description:
1	1	Second Quarter 2015 GMZ Monitoring and System Performance Report

Enclosed please find the Second Quarter 2015 GMZ Monitoring and System Performance Report for UTC Aerospace Systems Plants 1/2 Facility, Area 9/10 Remedial Action, Southeast Rockford Groundwater Contamination Superfund Site, Rockford, Illinois

Thank You.

Peter Hollatz, P.E.

cc: Mr. Scott Moyer, United Technologies Corporation (cd only)
Ms. Diane Bellantoni, UTC Aerospace Systems (cd only)
Mr. Jon Alberg, AECOM
Project File

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September 8, 2015

Mr. Timothy Drexler
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Springfield, Illinois 62794-9276

Subject: Second Quarter 2015 GMZ Monitoring and System Performance Report
UTC Aerospace Systems Plants 1/2 Facility
Area 9/10 Remedial Action
Southeast Rockford Groundwater Contamination Superfund Site
2421 11th Street
Rockford, Illinois 61104
ILD981000417
AECOM Project No. 60339110

Dear Messrs. Drexler and Conrath:

This Quarterly Groundwater Management Zone (GMZ) Monitoring and System Performance Report has been prepared by AECOM Technical Services Inc. (AECOM) on behalf of UTC Aerospace Systems (UTAS, fka Hamilton Sundstrand or HS). In accordance with the approved March 2007 Operation, Maintenance, and Monitoring Plan (OM&M Plan) and the Environmental Protection Agency (EPA) letter dated April 15, 2011 providing approval for combining project reporting documents, this report contains a summary of the following: 1) GMZ groundwater monitoring data; 2) the Phase 1 and Phase 2 air sparge/soil vapor extraction (AS/SVE) system performance data; 3) the Phase 1 and Phase 2 AS/SVE system process air analytical data; 4) GMZ wells that contain contaminants of concern (COCs) above Preliminary Remediation Goals (PRGs); and 5) Quarterly Progress Report for Third Quarter 2015.

As approved in the April 15, 2011 letter from Timothy Drexler, interpretation of all sampling and system performance data will be included in the Annual GMZ Monitoring and System Performance Report submitted in March of the subsequent year.

The following GMZ wells contained COCs at concentrations above PRGs:

GMZ Monitoring Well ID	COCs > PRG Increase or Decrease from Previous Quarter (+ or -)
GMZ01	PCE (+)
SMW04	cis-1,2-DCE (+); VC (+)
SMW08	PCE (+)
SMW19	TCE (-)
PMW01	PCE (-)
PMW02	PCE (-); VC (+)

Trichloroethene (TCE), cis-1,2-Dichloroethene (cis-1,2-DCE), Tetrachloroethene (PCE), Vinyl Chloride (VC)

The above referenced COC decreases and/or increases represent only concentration changes from the previous quarter's sampling and should not be viewed as indication of a trend without the use of proper statistical methods.

Included in this report are data tables and figures summarizing the results of second quarter 2015 GMZ monitoring and AS/SVE system performance, laboratory analytical reports, supporting field documentation sheets and the Quarterly Progress Report covering the period from June 1 to August 31, 2015.

Please contact either of the undersigned with any questions you may have on the information provided.

Prepared by:

Peter Hollatz, P.E.
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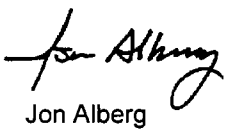
Reviewed by:



Jon Alberg
Program Manager / Engineer
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cc: Mr. Scott R. Moyer, P.G. – United Technologies Corporation
Ms. Diane Bellantoni – United Technologies Corporation
Project File

Attachments:

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Tables

Table 1
Third Quarter 2014 to Second Quarter 2015 Cumulative Groundwater Elevations
UTC Aerospace Systems
Plants 1/2 Facility
Rockford, Illinois

Well ID	Top of Casing Elevation (ft)	Depth to Groundwater (ft BTOC)	Groundwater Elevaion (ft AMSL)	Depth to Groundwater (ft BTOC)	Groundwater Elevaion (ft AMSL)	Depth to Groundwater (ft BTOC)	Groundwater Elevaion (ft AMSL)	Depth to Groundwater (ft BTOC)	Groundwater Elevaion (ft AMSL)
		8/4/2014		12/8/2014		2/16/2015		5/11/2015	
MW07FGA	727.49	28.30	699.19	28.78	698.71	29.17	698.32	29.47	698.02
MW203	728.58	29.05	699.53	29.62	698.96	29.96	698.62	30.30	698.28
SMW01	729.71	31.06	698.65	31.64	698.07	32.00	697.71	32.26	697.45
SMW02	726.77	27.58	699.19	28.11	698.66	28.54	698.23	28.77	698.00
SMW04	728.51	30.23	698.28	30.75	697.76	31.15	697.36	31.41	697.10
SMW08	728.81	30.45	698.36	30.97	697.84	31.34	697.47	31.64	697.17
SMW19	728.49	29.28	699.21	29.79	698.70	30.12	698.37	30.44	698.05
SMW20	727.69	29.30	698.39	29.94	697.75	30.26	697.43	30.52	697.17
SMW21	727.25	28.77	698.48	29.30	697.95	29.71	697.54	30.02	697.23
GMZ01	731.41	32.94	698.47	33.56	697.85	33.95	697.46	34.19	697.22
GMZ02	728.76	30.50	698.26	31.06	697.70	31.47	697.29	31.69	697.07
GMZ03	728.22	29.95	698.27	30.47	697.75	29.91	698.31	31.08	697.14
GMZ04	726.84	28.27	698.57	28.73	698.11	29.18	697.66	29.41	697.43
BGW01	728.19	29.17	699.02	29.65	698.54	30.01	698.18	30.29	697.90
BGW02	728.81	29.54	699.27	30.01	698.80	30.46	698.35	30.77	698.04
BGW03	728.96	29.62	699.34	30.12	698.84	30.48	698.48	30.79	698.17
RAMW01	728.91	30.58	698.33	31.13	697.78	31.54	697.37	31.75	697.16
RAMW02	728.90	30.48	698.42	31.00	697.90	31.40	697.50	31.64	697.26
RAMW03	728.71	30.27	698.44	30.80	697.91	31.18	697.53	31.45	697.26
RAMW04	728.80	30.13	698.67	30.63	698.17	31.04	697.76	31.32	697.48
RAMW05	727.65	29.02	698.63	29.50	698.15	29.94	697.71	30.20	697.45
RAMW06	727.64	29.05	698.59	29.53	698.11	30.01	697.63	30.22	697.42
RAMW07	732.20	33.51	698.69	34.00	698.20	34.41	697.79	34.68	697.52
RAMW08	728.45	29.65	698.80	30.14	698.31	30.54	697.91	30.83	697.62
PMW01	728.88	30.67	698.21	31.26	697.62	31.64	697.24	31.79	697.09
PMW02	728.88	30.59	698.29	31.20	697.68	31.58	697.30	31.78	697.10
Ave. GW Elev. (ft AMSL)			698.68		698.15		697.79		697.49

Notes:
NM = Not monitored
ft = feet
ft BTOC = feet below top of casing
ft AMSL = feet above mean sea level
All site well top of casing elevations re-surveyed on May 24, 2011.
RAMW04 riser was lowered due to ice damage that occurred during the 2013 winter. Well was resurveyed on July 1, 2013.

Table 2
Third Quarter 2014 to Second Quarter 2015 VOC Analytical Results - GMZ Wells
UTC Aerospace Systems
Plants 1/2 Facility
Rockford, Illinois

Well	Sample ID	Sample Date	Sample Type	Trichloroethene (TCE)	Methylene Chloride (Dichloromethane)	1,1-Dichloroethene	1,1-Dichloroethane	1,2-Dichloroethane	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Ethylbenzene	Tetrachloroethene (PCE)	Toluene	Vinyl chloride
Preliminary Remediation Goals (PRG)[A]				0.005$_c$[A]	0.005$_c$[A]	0.007$_{b,c}$[A]	0.7[A]	0.005$_c$[A]	0.07$_c$[A]	0.1$_c$[A]	0.2$_{b,c}$[A]	0.005$_c$[A]	0.7$_c$[A]	0.005$_c$[A]	1.0$_c$[A]	0.002$_c$[A]
				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
GMZ01	HS SER-GMZ01-080414	4-Aug-14		**0.0021**	0.0020 U	0.0010 U	**0.0032**	0.0010 U	**0.0016**	0.0010 U	**0.0083**	0.0010 U	0.0010 U	**0.0215**[A]	0.0010 U	0.0010 U
	HS SER-GMZ01-120814	8-Dec-14		**0.0014**	0.0020 U	0.0010 U	**0.0075**	0.0010 U	**0.0044**	0.0010 U	**0.0034**	0.0010 U	0.0010 U	**0.0126**[A]	0.0010 U	0.0010 U
	HS SER-GMZ01-021715	17-Feb-15		**0.0012**	0.0020 U	0.0010 U	**0.0065**	0.0010 U	**0.0020**	0.0010 U	**0.0042**	0.0010 U	0.0010 U	**0.0044**	0.0010 U	0.0010 U
	HS SER-GMZ01-051115	11-May-15		**0.0019**	0.0020 U	0.0010 U	**0.0088**	0.0010 U	**0.0022**	0.0010 U	**0.0063**	0.0010 U	0.0010 U	**0.0157**	0.0010 U	0.0010 U
GMZ02	HS SER-GMZ02-080614	6-Aug-14		0.00038 J	0.0020 U	0.0010 U	**0.0021**	0.0010 U	**0.0011**	0.0010 U	**0.0067**	0.0010 U	0.0010 U	0.00062 J	0.0010 U	0.0010 U
	HS SER-GMZ02-120914	9-Dec-14		0.00037 J	0.0020 U	0.0010 U	**0.0016**	0.0010 U	0.00073 J	0.0010 U	**0.0065**	0.0010 U	0.0010 U	0.00064 J	0.0010 U	0.0010 U
	HS SER-GMZ02-021915	19-Feb-15		0.0010 U	0.0020 U	0.0010 U	**0.0028**	0.0010 U	0.00074 J	0.0010 U	**0.0039**	0.0010 U	0.0010 U	0.00038 J	0.0010 U	0.0010 U
	HS SER-GMZ02-051315	13-May-15		0.0010 U	0.0020 U	0.0010 U	**0.0018**	0.0010 U	0.00042 J	0.0010 U	**0.0041**	0.0010 U	0.0010 U	0.00057 J	0.0010 U	0.0010 U
GMZ03	HS SER-GMZ03-080614	6-Aug-14		0.0010 U	0.0020 U	0.0010 U	0.00038 J	0.0010 U	0.0010 U	0.0010 U	0.00098 J	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-DUP01-080614	6-Aug-14	Field Duplicate	0.0010 U	0.0020 U	0.0010 U	0.00037 J	0.0010 U	0.00042 J	0.0010 U	**0.0010**	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-GMZ03-120914	9-Dec-14		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.00098 J	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-DUP01-120914	9-Dec-14	Field Duplicate	0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.00093 J	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-GMZ03-021815	18-Feb-15		0.0010 U	0.0020 U	0.0010 U	0.00037 J	0.0010 U	0.0010 U	0.0010 U	**0.0010**	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-GMZ03-021815	18-Feb-15	Field Duplicate	0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.00090 J	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-GMZ03-051315	13-May-15		0.0010 U	0.0020 U	0.0010 U	0.00076 J	0.0010 U	0.00050 J	0.0010 U	0.00090 J	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-DUP01-051315	13-May-15	Field Duplicate	0.0010 U	0.0020 U	0.0010 U	0.00078 J	0.0010 U	0.00055 J	0.0010 U	0.00089 J	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
GMZ04	HS SER-GMZ04-080514	5-Aug-14		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.00084 J	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-GMZ04-121014	10-Dec-14		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.00065 J	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-GMZ04-021815	18-Feb-15		0.0010 U	0.0020 U	0.0010 U	0.00038 J	0.0010 U	**0.0023**	0.0010 U	**0.0036**	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-GMZ04-051215	12-May-15		0.0010 U	0.0020 U	0.0010 U	**0.0024**	0.0010 U	**0.0030**	0.0010 U	**0.0113**	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
MW07FGA	HS SER-MW07FGA-080514	5-Aug-14		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.00049 J	0.0010 U	0.0010 U	**0.0012**	0.0010 U	0.0010 U
	HS SER-MW07FGA-120914	9-Dec-14		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.00043 J	0.0010 U	0.0010 U	**0.0012**	0.0010 U	0.0010 U
	HS SER-MW07FGA-021715	17-Feb-15		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.00044 J	0.0010 U	0.0010 U	0.00076 J	0.0010 U	0.0010 U
	HS SER-MW07FGA-051215	12-May-15		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.00046 J	0.0010 U	0.0010 U	**0.0011**	0.0010 U	0.0010 U
MW203	HS SER-MW203-080514	5-Aug-14		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	**0.0030**	0.0010 U	0.0010 U
	HS SER-MW203-120914	9-Dec-14		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	**0.0044**	0.0010 U	0.0010 U
	HS SER-MW203-021815	18-Feb-15		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	**0.0036**	0.0010 U	0.0010 U
	HS SER-MW203-051115	11-May-15		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	**0.0038**	0.0010 U	0.0010 U
SMW01	HS SER-SMW01-080414	4-Aug-14		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	**0.0024**	0.0010 U	0.0010 U	**0.0029**	0.0010 U	0.0010 U
	HS SER-SMW01-120914	9-Dec-14		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	**0.0012**	0.0010 U	0.0010 U	**0.0012**	0.0010 U	0.0010 U
	HS SER-SMW01-021715	17-Feb-15		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.00078 J	0.0010 U	0.0010 U	0.00097 J	0.0010 U	0.0010 U
	HS SER-SMW01-051215	12-May-15		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	**0.0013**	0.0010 U	0.0010 U	**0.0013**	0.0010 U	0.0010 U
SMW02	HS SER-SMW02-080414	4-Aug-14		0.0010 U	0.0020 U	0.0010 U	**0.0032**	0.0010 U	**0.0115**	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.00037 J	0.0010 U	0.0010 U
	HS SER-SMW02-120914	9-Dec-14		0.0010 U	0.0020 U	0.0010 U	**0.0030**	0.0010 U	**0.0026**	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.00042 J	0.0010 U	0.0010 U
	HS SER-SMW02-021715	17-Feb-15		0.0010 U	0.0020 U	0.0010 U	**0.0032**	0.0010 U	**0.0031**	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.00040 J	0.0010 U	0.0010 U
	HS SER-SMW02-051215	12-May-15		0.0010 U	0.0020 U	0.0010 U	**0.0033**	0.0010 U	0.00098 J	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.00074 J	0.0010 U	0.0010 U
SMW04	HS SER-SMW04-080614	6-Aug-14		**0.0106**[A]	0.0020 U	**0.0012**	**0.0084**	0.0010 U	**0.0304**	0.0010 U	**0.0039**	0.0010 U	0.0010 U	**0.0197**[A]	0.0010 U	**0.0344**[A]
	HS SER-SMW04-120914	9-Dec-14		**0.0111**[A]	0.0020 U	**0.0012**	**0.0118**	0.0010 U	**0.1200**[A]	0.00073 J	**0.0057**	0.0010 U	0.0010 U	**0.0186**[A]	0.0010 U	**0.0351**[A]
	HS SER-SMW04-021915	19-Feb-15		**0.0032**	0.0020 U	0.00084 J	**0.0113**	0.0010 U	**0.0579**	0.0010 U	0.00090 J	0.0010 U	0.0010 U	**0.0073**[A]	0.0010 U	**0.0233**[A]
	HSSER-SMW04-051315	13-May-15		**0.0042**	0.0020 U	0.00098 J	**0.0143**	0.0010 U	**0.132**[A]	0.00085 J	0.00034 J	0.0010 U	0.0010 U	**0.0050**	0.0010 U	**0.0692**[A]

See next page for notes.

Table 2
Third Quarter 2014 to Second Quarter 2015 VOC Analytical Results - GMZ Wells
UTC Aerospace Systems
Plants 1/2 Facility
Rockford, Illinois

Well	Sample ID	Sample Date	Sample Type	Trichloroethene (TCE)	Methylene Chloride (Dichloromethane)	1,1-Dichloroethene	1,1-Dichloroethane	1,2-Dichloroethane	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Ethylbenzene	Tetrachloroethene (PCE)	Toluene	Vinyl chloride
Preliminary Remediation Goals (PRG)[A]				0.005[c,A]	0.005[c,A]	0.007[b,c,A]	0.7[A]	0.005[c,A]	0.07[c,A]	0.1[c,A]	0.2[b,c,A]	0.005[c,A]	0.7[c,A]	0.005[c,A]	1.0[c,A]	0.002[c,A]
				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SMW08	HS SER-SMW08-080414	4-Aug-14		**0.0015**	0.0020 U	0.0010 U	**0.0151**	0.0010 U	**0.103[A]**	**0.0012**	**0.0043**	0.0010 U	0.0010 U	**0.0367[A]**	0.0010 U	0.0010 U
	HS SER-SMW08-120814	8-Dec-14		**0.0039**	0.0020 U	0.0010 U	**0.0165**	0.0010 U	**0.123[A]**	0.00088 J	**0.0067**	0.0010 U	0.0010 U	**0.0227[A]**	0.0010 U	0.0010 U
	HS SER-SMW08-021715	17-Feb-15		**0.0042**	0.0020 U	0.0010 U	**0.0103**	0.0010 U	**0.125[A]**	0.00085 J	**0.0016**	0.0010 U	0.0010 U	**0.0092[A]**	0.0010 U	0.0010 U
	HS SER-SMW08-051115	11-May-15		**0.0021**	0.0020 U	0.0010 U	**0.0084**	0.0010 U	**0.0040**	0.0010 U	**0.0097**	0.0010 U	0.0010 U	**0.0199[A]**	0.0010 U	0.0010 U
SMW19	HS SER-SMW19-080614	6-Aug-14		**0.0265[A]**	0.0020 U	0.0010 U	0.00047 J	0.0010 U	**0.0020**	0.0010 U	0.00067 J	0.0010 U	0.0010 U	**0.0013**	0.0010 U	0.0010 U
	HS SER-SMW19-121014	10-Dec-14		**0.0194[A]**	0.0020 U	0.0010 U	0.0010 U	0.0010 U	**0.0010**	0.0010 U	0.0010 U	0.0010 U	0.0010 U	**0.0011**	0.0010 U	0.0010 U
	HS SER-SMW19-021915	19-Feb-15		**0.0177[A]**	0.0020 U	0.0010 U	0.0010 U	0.0010 U	**0.0019**	0.0010 U	0.00041 J	0.0010 U	0.0010 U	0.00091 J	0.0010 U	0.0010 U
	HS SER-SMW19-051215	12-May-15		**0.0145[A]**	0.0020 U	0.0010 U	0.0010 U	0.0010 U	**0.0011**	0.0010 U	0.00034 J	0.0010 U	0.0010 U	**0.0010**	0.0010 U	0.0010 U
SMW20	HS SER-SMW20-080614	6-Aug-14		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-SMW20-121014	10-Dec-14		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-SMW20-021815	18-Feb-15		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-SMW20-051215	12-May-15		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.00043 J	0.0010 U	0.00027 J	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
SMW21	HS SER-SMW21-080514	5-Aug-14		0.00087 J	0.0020 U	0.0010 U	0.0010 U	0.0010 U	**0.0013**	0.0010 U	**0.0093**	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-SMW21-121014	10-Dec-14		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.00036 J	0.0010 U	**0.0031**	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-SMW21-021815	18-Feb-15		0.00037 J	0.0020 U	0.0010 U	0.00047 J	0.0010 U	**0.0028**	0.0010 U	**0.0156**	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-SMW21-051215	12-May-15		0.00022 J	0.0020 U	0.00069 J	0.00098 J	0.0010 U	**0.0054**	0.0010 U	**0.0315**	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
PMW01	HS SER-PMW01-080614	6-Aug-14		**0.0016**	0.0020 U	**0.0021**	**0.0081**	0.0010 U	**0.0021**	0.0010 U	**0.0431**	0.0010 U	0.0010 U	**0.0244[A]**	0.0010 U	0.0010 U
	HS SER-PMW01-120914	9-Dec-14		**0.0012**	0.0020 U	0.00054 J	**0.0057**	0.0010 U	0.00063 J	0.0010 U	**0.0259**	0.0010 U	0.0010 U	**0.0177[A]**	0.0010 U	0.0010 U
	HS SER-PMW01-021815	18-Feb-15		**0.0011**	0.0020 U	0.0010 U	**0.0052**	0.0010 U	0.00070 J	0.0010 U	**0.0202**	0.0010 U	0.0010 U	**0.0185[A]**	0.0010 U	0.0010 U
	HS SER-PMW01-051315	13-May-15		**0.0014**	0.0020 U	**0.0010**	**0.0088**	0.0010 U	**0.0016**	0.0010 U	**0.0394**	0.0010 U	0.0010 U	**0.0178[A]**	0.0010 U	0.0010 U
PMW02	HS SER-PMW02-080614	6-Aug-14		**0.0025**	0.0020 U	0.00052 J	**0.0069**	0.0010 U	**0.0067**	0.0010 U	**0.0078**	0.0010 U	0.0010 U	**0.0226[A]**	0.0010 U	0.00033 J
	HS SER-PMW02-120914	9-Dec-14		**0.0028**	0.0020 U	0.00060 J	**0.0074**	0.0010 U	**0.0096**	0.0010 U	**0.0056**	0.0010 U	0.0010 U	**0.0144[A]**	0.0010 U	**0.0012**
	HS SER-PMW02-021815	18-Feb-15		**0.0020**	0.0020 U	0.0010 U	**0.0036**	0.0010 U	**0.0011**	0.0010 U	**0.0162**	0.0010 U	0.0010 U	**0.0210[A]**	0.0010 U	0.0010 U
	HS SER-PMW02-051315	13-May-15		**0.0010**	0.0020 U	0.0010 U	**0.0054**	0.0010 U	**0.0055**	0.0010 U	**0.0036**	0.0010 U	0.0010 U	**0.0149[A]**	0.0010 U	**0.0021[A]**

Notes:

PRG	Preliminary Remediation Goals (PRGs) from the Record of Decision (ROD)
A	Class 1 - Groundwater Remediation Objectives
6.5[A]	Concentration exceeds the indicated standard.
15.2	Concentration was detected but did not exceed applicable standards.
0.03 U	The analyte was not detected above the laboratory estimated quantitation limit.
0.50 U	Laboratory estimated quantitation limit exceeded standard.
n/v	No standard/guideline value.
-	Parameter not analyzed / not available.
mg/L	milligrams per liter
b,c	Oral Reference Dose and/or Reference Concentration under review by USEPA. Listed values subject to change. Value listed is also the Groundwater Quality Standard for this chemical pursuant to 35 Ill.Adm.Code 620.410 for Class I Groundwater or 35 Ill.Adm.Code 620.420 for Class II Groundwater.
c	Value listed is also the Groundwater Quality Standard for this chemical pursuant to 35 Ill.Adm.Code 620.410 for Class I Groundwater or 35 Ill.Adm.Code 620.420 for Class II Groundwater.
*	LCS or LCSD exceeds the control limits
B	The analyte was detected in the method, field and/or trip blank.
H	Sample was prepped or analyzed beyond the specified holding time
J	Indicates estimated value.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

Table 3
Third Quarter 2014 to Second Quarter 2015 VOC Analytical Results - Performance Wells
UTC Aerospace Systems
Plants 1/2 Facility
Rockford, Illinois

				Trichloroethene (TCE)	Methylene Chloride (Dichloromethane)	1,1-Dichloroethene	1,1-Dichloroethane	1,2-Dichloroethane	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Ethylbenzene	Tetrachloroethene (PCE)	Toluene	Vinyl chloride
Preliminary Remediation Goals (PRG)[A]				0.005[c,A]	0.005[c,A]	0.007[b,c,A]	0.7[A]	0.005[c,A]	0.07[c,A]	0.1[c,A]	0.2[b,c,A]	0.005[c,A]	0.7[c,A]	0.005[c,A]	1.0[c,A]	0.002[c,A]
Well	**Sample ID**	**Sample Date**	**Sample Type**	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
RAMW01	HS SER-RAMW01-080514	5-Aug-14		**0.0019**	0.0010 U	0.0010 U	**0.0063**	0.0010 U	**0.0017**	0.0010 U	**0.0044**	0.00046 J	0.0010 U	**0.0139[A]**	0.0010 U	0.0010 U
	HS SER-RAMW01-121014	10-Dec-14		**0.0011**	0.0020 U	0.0010 U	**0.0043**	0.0010 U	0.00057 J	0.0010 U	**0.0042**	0.0010 U	0.0010 U	**0.0073[A]**	0.0010 U	0.0010 U
	HS SER-RAMW01-021715	17-Feb-15		0.00095 J	0.0020 U	0.0010 U	**0.0040**	0.0010 U	0.00055 J	0.0010 U	**0.0029**	0.0010 U	0.0010 U	**0.0049**	0.0010 U	0.0010 U
	HS SER-RAMW01-051415	14-May-15		**0.0010**	0.0020 U	0.0010 U	**0.0030**	0.0010 U	**0.0010**	0.0010 U	**0.0029**	0.0010 U	0.0010 U	**0.0047**	0.0010 U	0.0010 U
RAMW02	HS SER-RAMW02-080514	5-Aug-14		**0.0012**	0.0020 U	0.0010 U	**0.0042**	0.0010 U	0.00069 J	0.0010 U	**0.0040**	0.0010 U	0.0010 U	**0.0053[A]**	0.0010 U	0.0010 U
	HS SER-RAMW02-121014	10-Dec-14		0.00063 J	0.0020 U	0.0010 U	**0.0033**	0.0010 U	0.00033 J	0.0010 U	**0.0044**	0.0010 U	0.0010 U	**0.0035**	0.0010 U	0.0010 U
	HS SER-RAMW02-021715	17-Feb-15		0.00055 J	0.0020 U	0.0010 U	**0.0037**	0.0010 U	0.0010 U	0.0010 U	**0.0031**	0.0010 U	0.0010 U	**0.0027**	0.0010 U	0.0010 U
	HS SER-RAMW02-051415	14-May-15		0.00028 J	0.0020 U	0.0010 U	**0.0072**	0.0010 U	0.0010 U	0.0010 U	**0.0020**	0.0010 U	0.0010 U	**0.0020**	0.0010 U	0.0010 U
RAMW03	HS SER-RAMW03-080514	5-Aug-14		0.00037 J	0.0010 U	0.0010 U	0.00053 J	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	**0.0010**	0.0010 U	0.0010 U
	HS SER-DUP02-080514	5-Aug-14	Field Duplicate	0.00040 J	0.0010 U	0.0010 U	0.00056 J	0.0010 U	0.0010 U	0.0010 U	0.00072 J	0.0010 U	0.0010 U	0.00082 J	0.0010 U	0.0010 U
	HS SER-RAMW03-121014	10-Dec-14		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.00042 J	0.0010 U	0.0010 U	0.00054 J	0.0010 U	0.0010 U
	HS SER-DUP02-121014	10-Dec-14	Field Duplicate	0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.00040 J	0.0010 U	0.0010 U	0.00053 J	0.0010 U	0.0010 U
	HS SER-RAMW03-021715	17-Feb-15		0.00051 J	0.0020 U	0.0010 U	0.00062 J	0.0010 U	0.0010 U	0.0010 U	0.00098 J	0.0010 U	0.0010 U	**0.0011**	0.0010 U	0.0010 U
	HS SER-DUP02-021715	17-Feb-15	Field Duplicate	0.00040 J	0.0020 U	0.0010 U	0.00064 J	0.0010 U	0.0010 U	0.0010 U	0.00091 J	0.0010 U	0.0010 U	**0.0011**	0.0010 U	0.0010 U
	HS SER-RAMW03-051415	14-May-15		0.00043 J	0.0020 U	0.0010 U	0.00034 J	0.0010 U	0.00085 J	0.0010 U	0.00044 J	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-DUP02-051415	14-May-15	Field Duplicate	0.00036 J	0.0020 U	0.0010 U	0.00035 J	0.0010 U	0.0010 U	0.0010 U	0.00043 J	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
RAMW04	HS SER-RAMW04-080414	4-Aug-14		0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0007 J	0.0010 U	0.0010 U
	HS SER-RAMW04-121014	10-Dec-14		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.00034 J	0.0010 U	0.0010 U	0.00040 J	0.0010 U	0.0010 U
	HS SER-RAMW04-021715	17-Feb-15		0.0010 U	0.0020 U	0.0010 U	0.00046 J	0.0010 U	0.0010 U	0.0010 U	0.00045 J	0.0010 U	0.0010 U	0.00042 J	0.0010 U	0.0010 U
	HS SER-RAMW04-051415	14-May-15		0.0010 U	0.0020 U	0.0010 U	0.00027 J	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0004 J	0.0010 U	0.0010 U
RAMW05	HS SER-RAMW05-080414	4-Aug-14		**0.0016**	0.0020 U	0.0010 U	0.00064 J	0.0010 U	**0.0026**	0.0010 U	**0.0198**	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-RAMW05-121014	10-Dec-14		**0.0035**	0.0020 U	**0.0022**	0.00097 J	0.0010 U	**0.0036**	0.0010 U	**0.0547**	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-RAMW05-021715	17-Feb-15		**0.0043**	0.0020 U	**0.0025**	**0.0034**	0.0010 U	**0.0097**	0.0010 U	**0.161**	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-RAMW05-051415	14-May-15		**0.0014**	0.0020 U	0.00095 J	0.00046 J	0.0010 U	**0.0012**	0.0010 U	**0.0222**	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
RAMW06	HS SER-RAMW06-080414	4-Aug-14		0.0010 U	0.0020 U	0.00054 J	0.00088 J	0.0010 U	**0.0048**	0.0010 U	**0.0261**	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-RAMW06-120914	9-Dec-14		**0.0010**	0.0020 U	**0.0087[A]**	**0.0047**	0.0010 U	**0.0067**	0.0010 U	**0.1790**	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-RAMW06-021815	18-Feb-15		**0.0033**	0.0020 U	**0.0074[A]**	**0.0039**	0.0010 U	**0.0217**	0.0010 U	**0.387[A]**	0.0010 U	0.0010 U	0.00043 J	0.0010 U	0.0010 U
	HS SER-RAMW06-051315	13-May-15		**0.0019**	0.0020 U	**0.0060**	**0.0032**	0.0010 U	**0.0032**	0.0010 U	**0.145**	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
RAMW07	HS SER-RAMW07-080414	4-Aug-14		**0.0023**	0.0020 U	**0.0010**	0.00082 J	0.0010 U	**0.0014**	0.0010 U	**0.0469**	0.0010 U	0.0010 U	**0.0012**	0.0010 U	0.0010 U
	HS SER-RAMW07-120914	9-Dec-14		**0.0043**	0.0020 U	**0.0056**	**0.0027**	0.0010 U	**0.0025**	0.0010 U	**0.1300**	0.0010 U	0.0010 U	**0.0011**	0.0010 U	0.0010 U
	HS SER-RAMW07-021815	18-Feb-15		**0.0029**	0.0020 U	**0.0040**	**0.0091**	0.0010 U	**0.0053**	0.0010 U	**0.149**	0.0010 U	0.0010 U	**0.0012**	0.0010 U	0.0010 U
	HS SER-RAMW07-051315	13-May-15		0.0016 J	0.010 U	**0.0516[A]**	**0.0584**	0.0050 U	**0.0705[A]**	0.0050 U	**1.040[A]**	0.0050 U	0.0041 J	0.0032 J	0.0050 U	0.0050 U

See next page for notes.

Table 3
Third Quarter 2014 to Second Quarter 2015 VOC Analytical Results - Performance Wells
UTC Aerospace Systems
Plants 1/2 Facility
Rockford, Illinois

				Trichloroethene (TCE)	Methylene Chloride (Dichloromethane)	1,1-Dichloroethene	1,1-Dichloroethane	1,2-Dichloroethane	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Ethylbenzene	Tetrachloroethene (PCE)	Toluene	Vinyl chloride
Preliminary Remediation Goals (PRG)[A]				0.005[c,A]	0.005[c,A]	0.007[b,c,A]	0.7[A]	0.005[c,A]	0.07[c,A]	0.1[c,A]	0.2[b,c,A]	0.005[c,A]	0.7[c,A]	0.005[c,A]	1.0[c,A]	0.002[c,A]
Well	**Sample ID**	**Sample Date**	**Sample Type**	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
RAMW08	HS SER-RAMW08-080414	4-Aug-14		0.0010 U	0.0020 U	0.0010 U	0.00088 J	0.0010 U	0.0010 U	0.0010 U	0.00048 J	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-RAMW08-120914	9-Dec-14		0.0010 U	0.0020 U	0.0010 U	**0.0014**	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-RAMW08-021815	18-Feb-15		0.0010 U	0.0020 U	0.0010 U	**0.0018**	0.0010 U	0.0010 U	0.0010 U	0.00039 J	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-RAMW08-051315	13-May-15		0.0010 U	0.0020 U	0.0010 U	0.0009 J	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U

Notes:

PRG — Preliminary Remediation Goals (PRGs) from the Record of Decision (ROD)

A — Class 1 - Groundwater Remediation Objectives

6.5[A] — Concentration exceeds the indicated standard at specified well; however, compliance with the standard is only applicable to GMZ wells.

15.2 — Concentration was detected but did not exceed applicable standards.

0.50 U — Laboratory estimated quantitation limit exceeded standard.

0.03 U — The analyte was not detected above the laboratory estimated quantitation limit.

mg/L — milligrams per liter

n/v — No standard/guideline value.

\- — Parameter not analyzed / not available.

b,c — Oral Reference Dose and/or Reference Concentration under review by USEPA. Listed values subject to change. Groundwater Quality Standard for this chemical pursuant to 35 Ill.Adm.Code 620.410 for Class I Groundwater or 35 Ill.Adm.Code 620.420 for Class II Groundwater.

c — Value listed is also the Groundwater Quality Standard for this chemical pursuant to 35 Ill.Adm.Code 620.410 for Class I Groundwater or 35 Ill.Adm.Code 620.420 for Class II Groundwater.

B — The analyte was detected in the method, field and/or trip blank.

J — Indicates estimated value.

NJ — The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

considered during evaluation of this data.

Table 4.1
Cell 1 - Phase 1 SVE System Data
December 2009 - June 2015
UTC Aerospace Systems
Plants 1/2 Facility
Rockford, Illinois

CELL 1 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 1 Run Time (hr)	SVE Flow Rate (scfm)	1,1,1-Trichloroethane		1,1,2-Trichloroethane		1,1-Dichloroethane		1,2-Dichloroethane		1,1-Dichloroethene		cis-1,2-Dichloroethene		trans-1,2-Dichloroethene		Tetrachloroethene	
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)
12/10/2009		159	53	140	13000	3.76E-02	140 U	0.00E+00	45000	9.67E-02	140 U	0.00E+00	910	1.91E-03	18000	3.79E-02	140 U	0.00E+00	940	3.38E-03
12/22/2009		372	124	140	980	2.84E-03	26 U	0.00E+00	11000	2.36E-02	26 U	0.00E+00	130	2.74E-04	7300	1.54E-02	26 U	0.00E+00	390	1.40E-03
2/24/2010		1893	631	150	640	1.99E-03	6.0 U	0.00E+00	1900	4.37E-03	6.0 U	0.00E+00	28	6.31E-05	630	1.42E-03	6.0 U	0.00E+00	150	5.78E-04
3/15/2010		2345	782	140	1100	3.19E-03	8.4 U	0.00E+00	2800	6.01E-03	8.4 U	0.00E+00	37	7.79E-05	1300	2.74E-03	8.4 U	0.00E+00	180	6.48E-04
4/14/2010		2804	935	150	1400	4.34E-03	12 U	0.00E+00	4100	9.44E-03	12 U	0.00E+00	31	6.99E-05	1400	3.16E-03	12 U	0.00E+00	790	3.05E-03
5/13/2010		3495	1165	140	590	1.71E-03	7.0 U	0.00E+00	2600	5.58E-03	7.0 U	0.00E+00	13	2.74E-05	1100	2.31E-03	7.0 U	0.00E+00	300	1.08E-03
6/21/2010		4430	1477	108	710	1.59E-03	8.6 U	0.00E+00	2600	4.31E-03	8.6 U	0.00E+00	16 J	2.60E-05	570	9.25E-04	8.6 U	0.00E+00	290	8.05E-04
7/21/2010		5058	1686	140	480	1.39E-03	7.0 U	0.00E+00	2600	5.58E-03	7.0 U	0.00E+00	10	2.10E-05	630	1.33E-03	7.0 U	0.00E+00	710	2.56E-03
8/23/2010		5784	1928	0	370	0.00E+00	8.2 U	0.00E+00	2400	0.00E+00	8.2 U	0.00E+00	8.2 U	0.00E+00	540	0.00E+00	8.2 U	0.00E+00	500	0.00E+00
9/23/2010		6523	2174	145	480	1.44E-03	7.2 U	0.00E+00	2000	4.45E-03	7.2 U	0.00E+00	7.2 U	0.00E+00	250	5.45E-04	7.2 U	0.00E+00	380	1.42E-03
10/22/2010		7219	2406	140	390	1.13E-03	5.0 U	0.00E+00	1600	3.44E-03	5.0 U	0.00E+00	5.0 U	0.00E+00	160	3.37E-04	5.0 U	0.00E+00	240	8.64E-04
10/22/2010	Dup	7219	2406	140	2600	7.53E-03	10 U	0.00E+00	960	2.06E-03	10 U	0.00E+00	120	2.53E-04	490	1.03E-03	10 U	0.00E+00	140	5.04E-04
11/15/2010		7794	2598	140	420	1.22E-03	4.3 U	0.00E+00	1700	3.65E-03	4.3 U	0.00E+00	4.3 U	0.00E+00	140	2.95E-04	4.3 U	0.00E+00	140	5.04E-04
12/22/2010		8508	2777	150	600	1.86E-03	4.2 U	0.00E+00	1600	3.68E-03	4.2 U	0.00E+00	8.5	1.92E-05	510	1.15E-03	4.2 U	0.00E+00	75	2.89E-04
1/24/2011		9302	2975	170	360	1.27E-03	5.2 U	0.00E+00	1700	4.43E-03	5.2 U	0.00E+00	5.2 U	0.00E+00	140	3.58E-04	5.2 U	0.00E+00	45	1.97E-04
2/25/2011		10071	3167	165	280	9.56E-04	4.0 U	0.00E+00	1600	4.05E-03	4.0 U	0.00E+00	4.5	1.12E-05	120	2.98E-04	4.0 U	0.00E+00	34	1.44E-04
3/18/2011		10573	3293	165	200	6.83E-04	6.3 U	0.00E+00	1900	4.81E-03	6.3 U	0.00E+00	6.3 U	0.00E+00	130	3.22E-04	6.3 U	0.00E+00	32	1.36E-04
4/15/2011		11241	3460	160	180 J,B	5.96E-04	4.5 U	0.00E+00	1700	4.17E-03	4.5 U	0.00E+00	4.5 U	0.00E+00	110	2.65E-04	4.5 U	0.00E+00	43	1.77E-04
5/19/2011		12061	3665	160	110	3.64E-04	4.3 U	0.00E+00	1100	2.70E-03	4.3 U	0.00E+00	4.3 U	0.00E+00	85	2.04E-04	4.3 U	0.00E+00	55	2.26E-04
6/16/2011		12722	3830	170	150	5.27E-04	2.3 U	0.00E+00	730	1.90E-03	2.3 U	0.00E+00	2.6	7.15E-06	63	1.61E-04	2.3 U	0.00E+00	110	4.61E-04
7/15/2011		13417	4472	170	140	4.92E-04	1.2 U	0.00E+00	390	1.02E-03	1.2 U	0.00E+00	2.2	5.62E-06	47	1.20E-04	1.2	3.07E-06	170	7.43E-04
8/22/2011		14324	4775	170	150	5.27E-04	1.1 U	0.00E+00	210	5.48E-04	1.1 U	0.00E+00	2.1	5.37E-06	36	9.20E-05	1.1 U	0.00E+00	180	7.87E-04
9/15/2011		14905	4968	170	130	4.57E-04	1.1 U	0.00E+00	130	3.39E-04	1.1 U	0.00E+00	1.5	3.83E-06	40	1.02E-04	1.1 U	0.00E+00	180	7.87E-04
10/14/2011		15598	5199	160	65	2.15E-04	0.74 U	0.00E+00	100	2.45E-04	0.74 U	0.00E+00	1.4	3.37E-06	43	1.03E-04	0.86	2.07E-06	130	5.35E-04
11/21/2011		16510	5503	170	49 J,B	1.72E-04	0.74 U	0.00E+00	68		0.74 U	0.00E+00	2.9	7.41E-06	28	7.15E-05	1.1	2.81E-06	61	2.67E-04
12/14/2011		17010	5670	170	53	1.86E-04	0.78 U	0.00E+00	45	1.17E-04	0.78 U	0.00E+00	2.7	6.90E-06	18	4.60E-05	0.78 U	0.00E+00	57	2.49E-04
1/19/2012		17923	5974	170	51	1.79E-04	0.79 U	0.00E+00	41	1.07E-04	0.79 U	0.00E+00	1	2.56E-06	12	3.07E-05	0.79 U	0.00E+00	39	1.70E-04
2/15/2012		18566	6189	170	46	1.62E-04	0.78 U	0.00E+00	30	7.82E-05	0.78 U	0.00E+00	9.4	2.40E-05	10	2.56E-05	0.78 U	0.00E+00	37	1.62E-04
3/15/2012		19262	6421	170	38 J,B	1.34E-04	0.71 U	0.00E+00	34	8.87E-05	0.71 U	0.00E+00	0.8	2.04E-06	7.8	1.99E-05	0.71 U	0.00E+00	32	1.40E-04
4/19/2012		20102	6701	160	55	1.82E-04	0.76 U	0.00E+00	38	9.33E-05	0.76 U	0.00E+00	0.76 U	0.00E+00	7.4	1.78E-05	0.76 U	0.00E+00	58	2.39E-04
5/16/2012		20748	6916	160	51	1.69E-04	0.76 U	0.00E+00	36	8.84E-05	0.76 U	0.00E+00	0.76 U	0.00E+00	7.1	1.71E-05	0.76 U	0.00E+00	77	3.17E-04
Pulse -off period June 1, 2012 to August 14, 2012																				
8/14/2012		21282	7094	160	120	3.97E-04	1.3 U	0.00E+00	51	1.25E-04	1.3 U	0.00E+00	1.3 U	0.00E+00	8.3	2.00E-05	1.3 U	0.00E+00	350	1.44E-03
9/17/2012		21952	7317	160	190	6.29E-04	1.1 U	0.00E+00	77	1.89E-04	1.1 U	0.00E+00	2	4.81E-06	9.8	2.36E-05	1.1 U	0.00E+00	270	1.11E-03
Pulse -off period September 17, 2012 to November 15, 2012																				
11/15/2012		21959	7320	160	160	5.29E-04	1.0 U	0.00E+00	56	1.37E-04	1.0 U	0.00E+00	7.2	1.73E-05	9.1	2.19E-05	1.0 U	0.00E+00	220	9.05E-04
12/14/2012		22554	7518	170	140	4.92E-04	1.2 U	0.00E+00	99	2.58E-04	1.2 U	0.00E+00	3.5	8.94E-06	7.4	1.89E-05	1.2 U	0.00E+00	87	3.80E-04
Pulse -off period December 14, 2012 to February 26, 2013																				
2/26/2013		22556	7518	160	110	3.64E-04	0.99 U	0.00E+00	83	2.04E-04	0.99 U	0.00E+00	0.99 U	1.73E-05	5.6	1.35E-05	0.99 U	0.00E+00	62	2.55E-04
4/11/2013		23581	7723	160	85	2.81E-04	1.2 U	0.00E+00	54	1.33E-04	1.2 U	0.00E+00	3.8	1.26E-05	7.4	1.78E-05	1.2 U	0.00E+00	38	1.56E-04
Pulse -off period April 11, 2013 to May 10, 2013																				
5/10/2013		23583	7724	160	71	2.35E-04	1.1 U	0.00E+00	55	1.35E-04	1.1 U	0.00E+00	1.7	5.63E-06	6	1.44E-05	1.1 U	0.00E+00	37	1.52E-04
7/15/2013		25160	8039	160	190	6.29E-04	1.2 U	0.00E+00	79	1.94E-04	1.2 U	0.00E+00	4.7	1.56E-05	11	2.65E-05	1.2 U	0.00E+00	190	7.82E-04
Pulse -off period July 15, 2013 to September 9, 2013																				
9/9/2013		25162	8040	160	180	5.96E-04	1.3 U	0.00E+00	67	1.64E-04	1.3 U	0.00E+00	1.6	3.85E-06	9.3	2.24E-05	1.3 U	0.00E+00	270	1.11E-03
11/18/2013		26825	8372	160	120	3.97E-04	1.1 U	0.00E+00	35	8.59E-05	1.1 U	0.00E+00	3.2	7.70E-06	7.3	1.76E-05	1.1 U	0.00E+00	81	3.33E-04
Pulse -off period November 18, 2013 to January 15, 2014																				
1/15/2014		28218	8651	160	100	3.31E-04	1.1 U	0.00E+00	30	7.36E-05	1.1 U	0.00E+00	1.3	3.13E-06	4.7	1.13E-05	1.1 U	0.00E+00	69	2.84E-04
3/14/2014		29432	8894	160	78	2.58E-04	1.1 U	0.00E+00	34	8.35E-05	1.1 U	0.00E+00	3.8	9.14E-06	6.1	1.47E-05	1.1 U	0.00E+00	30	1.23E-04
Pulse -off period March 14, 2014 to May 15, 2014																				
5/15/2014		29914	8990	160	95	3.14E-04	1.2 U	0.00E+00	32	7.86E-05	1.2 U	0.00E+00	1.9	4.57E-06	6	1.44E-05	1.2 U	0.00E+00	55	2.26E-04
7/23/2014		31567	9321	160	160	5.29E-04	1.2 U	0.00E+00	41	1.01E-04	1.2 U	0.00E+00	3.6	8.66E-06	9.3	2.24E-05	1.2 U	0.00E+00	170	6.99E-04
Pulse -off period July 23, 2014 to September 16, 2014																				
9/16/2014		32432	9494	160	480	1.59E-03	2.2 U	0.00E+00	11	2.70E-05	2.2 U	0.00E+00	4	9.62E-06	8.7	2.09E-05	2.2 U	0.00E+00	14	5.76E-05
11/14/2014		33847	9777	160	60	1.99E-04	1.1 U	0.00E+00	14	3.44E-05	1.1 U	0.00E+00	1.6	3.85E-06	3.6	8.66E-06	1.1 U	0.00E+00	50	2.06E-04
Pulse -off period November 14, 2014 to January 9, 2015																				
1/9/2015		33855	9778	160	86	2.85E-04	1.1 U	0.00E+00	20	4.91E-05	1.1 U	0.00E+00	1.1	2.65E-06	4.0	9.62E-06	1.1 U	0.00E+00	55	2.26E-04
1/9/2015	Dup	-	-	160	84	2.78E-04	1.2 U	0.00E+00	20	4.91E-05	1.2 U	0.00E+00	1.2 U	0.00E+00	4.6	1.11E-05	1.2 U	0.00E+00	80	3.29E-04
3/13/2015		35189	10045	160	58	1.92E-04	1.3 U	0.00E+00	17	4.17E-05	1.3 U	0.00E+00	2.4	5.77E-06	3.6	8.66E-06	1.3 U	0.00E+00	32	1.32E-04
Pulse -off period March 13, 2015 to May 15, 2015																				
5/15/2015		35194	10046	160	63	2.08E-04	2.3 U	0.00E+00	15	3.68E-05	2.3 U	0.00E+00	2.3 U	0.00E+00	2.7	6.49E-06	2.3 U	0.00E+00	67	2.76E-04

Notes:

Mass removal rate = (flow rate in scfm)(concentration in ppmv)(60)(MW) / (387*1000000)

"U" indicates non-detection at the specified reporting limit, for ND compounds, zero is used in mass removal calculations.

MW molecular weight (values from the U.S. National Library of Medicine)

SCFM standard cubic feet per minute

J Indicates estimated value.

B The analyte was detected in the method, field and/or trip blank.

When a duplicate sample was collected, the original sample results are used in the mass calculations.

Table 4.1
Cell 1 - Phase 1 SVE System Data
December 2009 - June 2015
UTC Aerospace Systems
Plants 1/2 Facility
Rockford, Illinois

CELL 1 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 1 Run Time (hr)	SVE Flow Rate (scfm)	Trichloroethene		Vinyl chloride		Methylene Chloride		Carbon Tetrachloride		Chloroform		Chloroethane		Benzene		Toluene	
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)
12/10/2009		159	53	140	260	7.41E-04	8100	1.10E-02	140 U	0.00E+00	140 U	0.00E+00	140 U	0.00E+00	17000	2.38E-02	140 U	0.00E+00	560	1.12E-03
12/22/2009		372	124	140	41	1.17E-04	470	6.38E-04	26 U	0.00E+00	26 U	0.00E+00	26 U	0.00E+00	1700	2.38E-03	26 U	0.00E+00	32	6.40E-05
2/24/2010		1893	631	150	24	7.33E-05	33	4.60E-05	6.0 U	0.00E+00	6.0 U	0.00E+00	6.0 U	0.00E+00	130	1.95E-04	19	3.45E-05	6.0 U	0.00E+00
3/15/2010		2345	782	140	30	8.56E-05	32	4.34E-05	8.4 U	0.00E+00	8.4 U	0.00E+00	8.4 U	0.00E+00	170	2.38E-04	8.4 U	0.00E+00	8.4 U	0.00E+00
4/14/2010		2804	935	150	86	2.63E-04	91	1.32E-04	12 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	320	4.80E-04	14	2.54E-05	12 U	0.00E+00
5/13/2010		3495	1165	140	32	9.13E-05	10	1.36E-05	7.0 U	0.00E+00	7.0 U	0.00E+00	7.0 U	0.00E+00	100	1.40E-04	12	2.03E-05	7.0 U	0.00E+00
6/21/2010		4430	1477	108	30	6.60E-05	8.6 U	0.00E+00	8.6 UJ	0.00E+00	8.6 U	0.00E+00	8.6 U	0.00E+00	87 J	9.40E-05	10	1.31E-05	8.6 U	0.00E+00
7/21/2010		5058	1686	140	42	1.20E-04	7.0 U	0.00E+00	7.0 U	0.00E+00	7.0 U	0.00E+00	7.0 U	0.00E+00	60	8.40E-05	7.0 U	0.00E+00	7.0 U	0.00E+00
8/23/2010		5784	1928	0	48	0.00E+00	8.2 U	0.00E+00	8.2 U	0.00E+00	8.2 U	0.00E+00	8.2 U	0.00E+00	38	0.00E+00	24	0.00E+00	8.2 U	0.00E+00
9/23/2010		6523	2174	145	31	9.16E-05	7.2 U	0.00E+00	7.2 U	0.00E+00	7.2 U	0.00E+00	7.2 U	0.00E+00	15	2.18E-05	17	2.99E-05	7.2 U	0.00E+00
10/22/2010		7219	2406	140	21	5.99E-05	5.0 U	0.00E+00	5.0 U	0.00E+00	5.0 U	0.00E+00	5.0 U	0.00E+00	11	1.54E-05	7.1	1.20E-05	5.0 U	0.00E+00
10/22/2010	Dup	7219	2406	140	49	1.40E-04	10 U	0.00E+00	10 U	0.00E+00	10 U	0.00E+00	10 U	0.00E+00	10 U	0.00E+00	10 U	0.00E+00	10 U	0.00E+00
11/15/2010		7794	2598	140	16	4.56E-05	4.3 U	0.00E+00	4.3 U	0.00E+00	4.3 U	0.00E+00	4.3 U	0.00E+00	12	1.68E-05	4.3 U	0.00E+00	4.3 U	0.00E+00
12/22/2010		8508	2777	150	11	3.36E-05	4.2 U	0.00E+00	4.2 U	0.00E+00	4.2 U	0.00E+00	4.2 U	0.00E+00	10	1.50E-05	5.3	9.63E-06	4.2 U	0.00E+00
1/24/2011		9302	2975	170	8.6	2.98E-05	5.2 U	0.00E+00	5.2 U	0.00E+00	5.2 U	0.00E+00	5.2 U	0.00E+00	5.2 U	0.00E+00	5.2 U	0.00E+00	5.2 U	0.00E+00
2/25/2011		10071	3167	165	7.4	2.49E-05	4.0 U	0.00E+00	4.0 U	0.00E+00	4.0 U	0.00E+00	4.0 U	0.00E+00	16 U	0.00E+00	4.0 U	0.00E+00	4.0 U	0.00E+00
3/18/2011		10573	3293	165	6.4	2.15E-05	6.3 U	0.00E+00	6.3 U	0.00E+00	6.3 U	0.00E+00	6.3 U	0.00E+00	25 U	0.00E+00	6.3 U	0.00E+00	6.3 U	0.00E+00
4/15/2011		11241	3460	160	8.6	2.80E-05	4.5 U	0.00E+00	4.5 U	0.00E+00	4.5 U	0.00E+00	4.5 U	0.00E+00	18 U	0.00E+00	4.5 U	0.00E+00	4.5 U	0.00E+00
5/19/2011		12061	3665	160	8	2.61E-05	4.3 U	0.00E+00	4.3 U	0.00E+00	4.3 U	0.00E+00	4.3 U	0.00E+00	17 U	0.00E+00	4.3 U	0.00E+00	4.3 U	0.00E+00
6/16/2011		12722	3830	170	12	4.16E-05	2.3 U	0.00E+00	2.3 U	0.00E+00	2.3 U	0.00E+00	2.3 U	0.00E+00	9.2 U	0.00E+00	2.3 U	0.00E+00	2.3 U	0.00E+00
7/15/2011		13417	4472	170	14	4.85E-05	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.6 U	0.00E+00	1.5	3.09E-06	1.2 U	0.00E+00
8/22/2011		14324	4775	170	16	5.54E-05	1.1 U	0.00E+00	2.3 UJ,B	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.5 U	0.00E+00	6.7	1.38E-05	1.1 U	0.00E+00
9/15/2011		14905	4968	170	14	4.85E-05	1.5	2.47E-06	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.5 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00
10/14/2011		15598	5199	160	9.8	3.19E-05	3.5	5.43E-06	1.3	2.74E-06	0.74 U	0.00E+00	0.74 U	0.00E+00	3.0 U	0.00E+00	0.74 U	0.00E+00	1.8	4.11E-06
11/21/2011		16510	5503	170	7.3	2.53E-05	1	1.65E-06	7.4 U	0.00E+00	0.74 U	0.00E+00	0.74 U	0.00E+00	3.0 U	0.00E+00	0.74 U	0.00E+00	0.74 U	0.00E+00
12/14/2011		17010	5670	170	5.8	2.01E-05	0.78 U	0.00E+00	7.8 U	0.00E+00	0.78 U	0.00E+00	0.78 U	0.00E+00	3.1 U	0.00E+00	0.78 U	0.00E+00	0.78 U	0.00E+00
1/19/2012		17923	5974	170	5	1.73E-05	0.79 U	0.00E+00	1.9	4.25E-06	0.79 U	0.00E+00	0.79 U	0.00E+00	3.2 U	0.00E+00	0.79 U	0.00E+00	0.79 U	0.00E+00
2/15/2012		18566	6189	170	4.3	1.49E-05	0.89	1.47E-06	0.78 U	0.00E+00	0.78 U	0.00E+00	0.78 U	0.00E+00	3.1 U	0.00E+00	1.2	2.47E-06	0.78 U	0.00E+00
3/15/2012		19262	6421	170	3.9	1.35E-05	0.71 U	0.00E+00	0.71 U	0.00E+00	0.71 U	0.00E+00	0.71 U	0.00E+00	2.8 U	0.00E+00	0.71 U	0.00E+00	1.8	4.37E-06
4/19/2012		20102	6701	160	5.7	1.86E-05	0.76 U	0.00E+00	0.76 U	0.00E+00	0.76 U	0.00E+00	0.76 U	0.00E+00	3.0 U	0.00E+00	0.76 U	0.00E+00	0.76 U	0.00E+00
5/16/2012		20748	6916	160	6.1	1.99E-05	0.76 U	0.00E+00	0.76 U	0.00E+00	0.76 U	0.00E+00	0.76 U	0.00E+00	3.0 U	0.00E+00	0.76 U	0.00E+00	0.76 U	0.00E+00
Pulse -off period June 1, 2012 to August 14, 2012																				
8/14/2012		21282	7094	160	15	4.89E-05	1.3 U	0.00E+00	13 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	5.2 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00
9/17/2012		21952	7317	160	25	8.15E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.3 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00
Pulse -off period September 17, 2012 to November 15, 2012																				
11/15/2012		21959	7320	160	18	5.87E-05	1.0 U	0.00E+00	10 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00	4.1 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00
12/14/2012		22554	7518	170	13	4.50E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.8 U	0.00E+00	2.1	4.32E-06	7	1.70E-05
Pulse -off period December 14, 2012 to February 26, 2013																				
2/26/2013		22556	7518	160	6.7	2.18E-05	0.99 U	0.00E+00	9.9 U	0.00E+00	0.99 U	0.00E+00	0.99 U	0.00E+00	4.0 U	0.00E+00	0.99 U	0.00E+00	0.99 U	0.00E+00
4/11/2013		23581	7723	160	8.2	2.67E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.6 U	0.00E+00	1.2 U	0.00E+00	1.4	3.20E-06
Pulse -off period April 11, 2013 to May 10, 2013																				
5/10/2013		23583	7724	160	6.1	1.99E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.5 U	0.00E+00	1.1 U	0.00E+00	1.7	3.89E-06
7/15/2013		25160	8039	160	23	7.50E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.7 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
Pulse -off period July 15, 2013 to September 9, 2013																				
9/9/2013		25162	8040	160	21	6.84E-05	1.3 U	0.00E+00	13 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	5.1 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00
11/18/2013		26825	8372	160	12	3.91E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.5 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00
Pulse -off period November 18, 2013 to January 15, 2014																				
1/15/2014		28218	8651	160	9.1	2.97E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.5 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00
3/14/2014		29432	8894	160	7	2.28E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.4 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00
Pulse -off period March 14, 2014 to May 15, 2014																				
5/15/2014		29914	8990	160	6.8	2.22E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.8 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
7/23/2014		31567	9321	160	18	5.87E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.7 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
Pulse -off period July 23, 2014 to September 16, 2014																				
9/16/2014		32432	9494	160	13	4.24E-05	2.2 U	0.00E+00	22 U	0.00E+00	2.2 U	0.00E+00	2.2 U	0.00E+00	9.0 U	0.00E+00	2.2 U	0.00E+00	2.2 U	0.00E+00
11/14/2014		33847	9777	160	6.9	2.25E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.6 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00
Pulse -off period November 14, 2014 to January 9, 2015																				
1/9/2015		33855	9778	160	8.2	2.67E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.5 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00
1/9/2015	Dup	-	-	160	8.6	2.80E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.7 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
3/13/2015		35189	10045	160	5.8	1.89E-05	1.3 U	0.00E+00	13 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	5.2 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00
Pulse -off period March 13, 2015 to May 15, 2015																				
5/15/2015		35194	10046	160	7.1	2.31E-05	2.3 U	0.00E+00	23 U	0.00E+00	2.3 U	0.00E+00	2.3 U	0.00E+00	9.2 U	0.00E+00	2.3 U	0.00E+00	2.3 U	0.00E+00

Notes:

Mass removal rate = (flow rate in scfm)(concentration in ppmv)(60)(MW) / (387*1000000)

"U" indicates non-detection at the specified reporting limit; for ND compounds, zero is used in mass removal calculations

MW molecular weight (values from the U.S. National Library of Medicine)
SCFM standard cubic feet per minute
J Indicates estimated value.
B The analyte was detected in the method, field and/or trip blank.

When a duplicate sample was collected, the original sample results are used in the mass calculations.

Table 4.1
Cell 1 - Phase 1 SVE System Data
December 2009 - June 2015
UTC Aerospace Systems
Plants 1/2 Facility
Rockford, Illinois

CELL 1 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 1 Run Time (hr)	SVE Flow Rate (scfm)	Ethylbenzene		m&p-Xylenes		o-Xylenes		Acetone		Methyl Ethyl Ketone (MEK)		Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)		
12/10/2009		159	53	140	250	5.76E-04	1800	4.15E-03	470	1.08E-03	3800	4.79E-03	140 U	0.00E+00	2.25E-01	11.91
12/22/2009		372	124	140	26 U	0.00E+00	26 U	0.00E+00	26 U	0.00E+00	100 U	0.00E+00	26 U	0.00E+00	4.67E-02	15.23
2/24/2010		1893	631	150	6.0 U	0.00E+00	6.0 U	0.00E+00	6.0 U	0.00E+00	98	1.32E-04	370	6.20E-04	9.52E-03	20.06
3/15/2010		2345	782	140	8.4 U	0.00E+00	8.4 U	0.00E+00	8.4 U	0.00E+00	34 U	0.00E+00	8.4 U	0.00E+00	1.30E-02	22.02
4/14/2010		2804	935	150	12 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	50 U	0.00E+00	12 U	0.00E+00	2.10E-02	25.22
5/13/2010		3495	1165	140	7.0 U	0.00E+00	7.0 U	0.00E+00	7.0 U	0.00E+00	28 U	0.00E+00	7.0 U	0.00E+00	1.10E-02	27.75
6/21/2010		4430	1477	108	8.6 U	0.00E+00	8.6 U	0.00E+00	8.6 U	0.00E+00	34 J	3.31E-05	8.6 U	0.00E+00	7.86E-03	30.20
7/21/2010		5058	1686	140	7.0 U	0.00E+00	7.0 U	0.00E+00	7.0 U	0.00E+00	28 U	0.00E+00	7.0 U	0.00E+00	1.11E-02	32.52
8/23/2010		5784	1928	0	8.2 U	0.00E+00	8.2 U	0.00E+00	8.2 U	0.00E+00	53	0.00E+00	8.2 U	0.00E+00	0.00E+00	32.52
9/23/2010		6523	2174	145	7.2 U	0.00E+00	7.2 U	0.00E+00	7.2 U	0.00E+00	29 U	0.00E+00	7.2 U	0.00E+00	7.99E-03	34.49
10/22/2010		7219	2406	140	5.0 U	0.00E+00	5.0 U	0.00E+00	5.0 U	0.00E+00	45	5.67E-05	5.0 U	0.00E+00	5.91E-03	35.86
10/22/2010	Dup	7219	2406	140	10 U	0.00E+00	10 U	0.00E+00	10 U	0.00E+00	41 U	0.00E+00	10 U	0.00E+00	1.15E-02	37.16
11/15/2010		7794	2598	140	4.3 U	0.00E+00	4.3 U	0.00E+00	4.3 U	0.00E+00	17 U	0.00E+00	4.3 U	0.00E+00	5.73E-03	36.96
12/22/2010		8508	2777	150	4.2 U	0.00E+00	4.2 U	0.00E+00	4.2 U	0.00E+00	16 NJ	2.16E-05	4.2 U	0.00E+00	7.08E-03	38.22
1/24/2011		9302	2975	170	5.2 U	0.00E+00	5.2 U	0.00E+00	5.2 U	0.00E+00	21 U	0.00E+00	5.2 U	0.00E+00	6.28E-03	39.47
2/25/2011		10071	3167	165	4.0 U	0.00E+00	4.0 U	0.00E+00	4.0 U	0.00E+00	16 U	0.00E+00	16 U	0.00E+00	5.48E-03	40.53
3/18/2011		10573	3293	165	6.3 U	0.00E+00	6.3 U	0.00E+00	6.3 U	0.00E+00	25 U	0.00E+00	25 U	0.00E+00	5.97E-03	41.27
4/15/2011		11241	3460	160	4.5 U	0.00E+00	4.5 U	0.00E+00	4.5 U	0.00E+00	18 U	0.00E+00	18 U	0.00E+00	5.24E-03	42.15
5/19/2011		12061	3665	160	4.3 U	0.00E+00	4.3 U	0.00E+00	4.3 U	0.00E+00	17 U	0.00E+00	17 U	0.00E+00	3.52E-03	42.87
6/16/2011		12722	3830	170	2.3 U	0.00E+00	2.3 U	0.00E+00	2.3 U	0.00E+00	9.2 U	0.00E+00	9.2 U	0.00E+00	3.12E-03	43.39
7/15/2011		13417	4472	170	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	7.4	1.13E-05	4.6 U	0.00E+00	2.44E-03	44.96
8/22/2011		14324	4775	170	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	44 J,B	6.74E-05	4.5 U	0.00E+00	2.10E-03	45.59
9/15/2011		14905	4968	170	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	5.6	8.57E-06	4.5 U	0.00E+00	1.75E-03	45.93
10/14/2011		15598	5199	160	0.74 U	0.00E+00	0.74 U	0.00E+00	0.74 U	0.00E+00	18	2.59E-05	3.0 U	0.00E+00	1.17E-03	46.20
11/21/2011		16510	5503	170	0.74 U	0.00E+00	0.74 U	0.00E+00	0.74 U	0.00E+00	14	2.14E-05	3.0 U	0.00E+00	5.69E-04	46.37
12/14/2011		17010	5670	170	0.78 U	0.00E+00	0.78 U	0.00E+00	0.78 U	0.00E+00	7.8 UJ	0.00E+00	3.1 U	0.00E+00	6.26E-04	46.48
1/19/2012		17923	5974	170	0.79 U	0.00E+00	0.79 U	0.00E+00	0.79 U	0.00E+00	3.2	4.90E-06	3.2 U	0.00E+00	5.16E-04	46.63
2/15/2012		18566	6189	170	0.78 U	0.00E+00	0.78 U	0.00E+00	0.78 U	0.00E+00	20	3.06E-05	3.1 U	0.00E+00	5.01E-04	46.74
3/15/2012		19262	6421	170	0.71 U	0.00E+00	0.71 U	0.00E+00	0.71 U	0.00E+00	2.8 U	0.00E+00	2.8 U	0.00E+00	4.02E-04	46.84
4/19/2012		20102	6701	160	0.76 U	0.00E+00	0.76 U	0.00E+00	0.76 U	0.00E+00	3.0 U	0.00E+00	3.0 U	0.00E+00	5.50E-04	46.99
5/16/2012		20748	6916	160	0.76 U	0.00E+00	0.76 U	0.00E+00	0.76 U	0.00E+00	3.0 U	0.00E+00	3.0 U	0.00E+00	6.11E-04	47.12
Pulse -off period June 1, 2012 to August 14, 2012																
8/14/2012		21282	7094	160	1.3 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	13 U	0.00E+00	5.2 U	0.00E+00	2.03E-03	47.48
9/17/2012		21952	7317	160	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.3 U	0.00E+00	2.04E-03	47.94
Pulse -off period September 17, 2012 to November 15, 2012																
11/15/2012		21959	7320	160	1.0 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00	10 U	0.00E+00	4.1 U	0.00E+00	1.67E-03	47.94
12/14/2012		22554	7518	170	1.2 U	0.00E+00	1.5	4.20E-06	1.2 U	0.00E+00	12 U	0.00E+00	4.8 U	0.00E+00	1.23E-03	48.19
Pulse -off period December 14, 2012 to February 26, 2013																
2/26/2013		22556	7518	160	0.99 U	0.00E+00	0.99 U	0.00E+00	0.99 U	0.00E+00	9.9 U	0.00E+00	4.0 U	0.00E+00	8.75E-04	48.19
4/11/2013		23581	7723	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.6 U	0.00E+00	6.30E-04	48.32
Pulse -off period April 11, 2013 to May 10, 2013																
5/10/2013		23583	7724	160	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.5 U	0.00E+00	5.66E-04	48.32
7/15/2013		25160	8039	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.7 U	0.00E+00	1.72E-03	48.86
Pulse -off period July 15, 2013 to September 9, 2013																
9/9/2013		25162	8040	160	1.3 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	13 U	0.00E+00	5.1 U	0.00E+00	1.97E-03	48.86
11/18/2013		26825	8372	160	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.5 U	0.00E+00	8.81E-04	49.15
Pulse -off period November 18, 2013 to January 15, 2014																
1/15/2014		28218	8651	160	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.5 U	0.00E+00	7.32E-04	49.36
3/14/2014		29432	8894	160	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.4 U	0.00E+00	5.12E-04	49.48
Pulse -off period March 14, 2014 to May 15, 2014																
5/15/2014		29914	8990	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.8 U	0.00E+00	6.60E-04	49.54
7/23/2014		31567	9321	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.7 U	0.00E+00	1.42E-03	50.01
Pulse -off period July 23, 2014 to September 16, 2014																
9/16/2014		32432	9494	160	2.2 U	0.00E+00	2.2 U	0.00E+00	2.2 U	0.00E+00	22 U	0.00E+00	9.0 U	0.00E+00	1.75E-03	50.32
11/14/2014		33847	9777	160	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.6 U	0.00E+00	4.74E-04	50.45
Pulse -off period November 14, 2014 to January 9, 2015																
1/9/2015		33855	9778	160	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.5 U	0.00E+00	5.99E-04	50.45
1/9/2015	Dup	-	-	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.7 U	0.00E+00	6.95E-04	-
3/13/2015		35189	10045	160	1.3 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	13 U	0.00E+00	5.2 U	0.00E+00	3.99E-04	50.56
Pulse -off period March 13, 2015 to May 15, 2015																
5/15/2015		35194	10046	160	2.3 U	0.00E+00	2.3 U	0.00E+00	2.3 U	0.00E+00	23 U	0.00E+00	9.2 U	0.00E+00	5.51E-04	50.56

Notes:

Mass removal rate = (flow rate in scfm)(concentration in ppmv)(60)(MW) / (387*1000000)

"U" indicates non-detection at the specified reporting limit; for ND compounds, zero is used in mass removal calculations.

MW molecular weight (values from the U.S. National Library of Medicine)
SCFM standard cubic feet per minute
J Indicates estimated value.
B The analyte was detected in the method, field and/or trip blank.

When a duplicate sample was collected, the original sample results are used in the mass calculations.

Table 4.2
Cell 2 - Phase 1 SVE System Data
December 2009 - June 2015
UTC Aerospace Systems
Plants 1/2 Facility
Rockford, Illinois

CELL 2 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 2 Run Time (hr)	SVE Flow Rate (scfm)	1,1,1-Trichloroethane		1,1,2-Trichloroethane		1,1-Dichloroethane		1,2-Dichloroethane		1,1-Dichloroethene	
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)
12/11/2009		178	59	150	40000	1.24E-01	86 U	0.00E+00	21000	4.83E-02	86 U	0.00E+00	4500	1.01E-02
12/15/2009		205	68	140	27000	7.82E-02	110 U	0.00E+00	14000	3.01E-02	110 U	0.00E+00	3100	6.52E-03
12/29/2009		539	180	140	24000	6.95E-02	100 U	0.00E+00	9100	1.95E-02	100 U	0.00E+00	2100	4.42E-03
1/13/2010		903	301	150	9100	2.82E-02	35 U	0.00E+00	3700	8.52E-03	35 U	0.00E+00	880	1.98E-03
1/27/2010		1224	408	150	13000	4.03E-02	40 U	0.00E+00	4300	9.90E-03	40 U	0.00E+00	1100	2.48E-03
1/27/2010	Dup	1224	408	150	14000	4.34E-02	40 U	0.00E+00	4800	1.10E-02	40 U	0.00E+00	1200	2.71E-03
2/24/2010		1893	631	150	8000	2.48E-02	22 U	0.00E+00	3000	6.90E-03	22 U	0.00E+00	520	1.17E-03
3/15/2010		2345	782	140	17000	4.92E-02	48 U	0.00E+00	8000	1.72E-02	48 U	0.00E+00	1100	2.31E-03
4/14/2010		2804	935	150	8400	2.61E-02	23 U	0.00E+00	2200	5.06E-03	23 U	0.00E+00	480	1.08E-03
5/13/2010		3495	1165	140	8000	2.32E-02	11 U	0.00E+00	3100	6.66E-03	11 U	0.00E+00	480	1.01E-03
6/21/2010		4430	1477	108	5800	1.30E-02	23 U	0.00E+00	3000 J	4.97E-03	23 U	0.00E+00	360 J	5.84E-04
7/21/2010		5058	1686	140	4500	1.30E-02	14 U	0.00E+00	1600	3.44E-03	14 U	0.00E+00	280	5.89E-04
8/23/2010		5784	1928	0	7100	0.00E+00	20 U	0.00E+00	2700	0.00E+00	20 U	0.00E+00	290	0.00E+00
9/23/2010		6523	2174	145	4300	1.29E-02	12 U	0.00E+00	1600	3.56E-03	12 U	0.00E+00	270	5.88E-04
10/22/2010		7219	2406	140	2500	7.24E-03	10 U	0.00E+00	890	1.91E-03	10 U	0.00E+00	110	2.31E-04
11/15/2010		7794	2598	140	3200	9.27E-03	11 U	0.00E+00	1100	2.36E-03	11 U	0.00E+00	130	2.74E-04
12/22/2010		8508	2955	150	4000	1.24E-02	14 U	0.00E+00	1500	3.45E-03	14 U	0.00E+00	240	5.41E-04
1/24/2011		9302	3352	170	780	2.74E-03	2.7 U	0.00E+00	800	2.09E-03	2.7 U	0.00E+00	22	5.62E-05
2/25/2011		10071	3737	165	1500	5.12E-03	4.0 U	0.00E+00	1100	2.78E-03	4.0 U	0.00E+00	44	1.09E-04
3/18/2011		10573	3988	165	370	1.26E-03	1.0 U	0.00E+00	160	4.05E-04	1.0 U	0.00E+00	11	2.73E-05
4/15/2011		11241	4322	160	300 J,B	9.93E-04	1.0 U	0.00E+00	95	2.33E-04	1.0 U	0.00E+00	12	2.89E-05
5/19/2011		12061	4732	160	93	3.08E-04	1.1 U	0.00E+00	39	9.57E-05	1.1 U	0.00E+00	3.5	8.42E-06
6/16/2011		12722	5062	170	99	3.48E-04	1.2 U	0.00E+00	48	1.25E-04	1.2 U	0.00E+00	2.4	6.13E-06
7/15/2011		13417	4472	170	77	2.71E-04	1.2 U	0.00E+00	25	6.52E-05	1.2 U	0.00E+00	1.7	4.34E-06
8/22/2011		14324	4775	170	78	2.74E-04	1.2 U	0.00E+00	31	8.09E-05	1.2 U	0.00E+00	1.2	3.07E-06
9/15/2011		14905	4968	170	69	2.43E-04	1.1 U	0.00E+00	20	5.22E-05	1.1 U	0.00E+00	1.1 U	0.00E+00
10/14/2011		15598	5199	160	43	1.42E-04	0.82 U	0.00E+00	12	2.95E-05	0.82 U	0.00E+00	0.82 U	0.00E+00
11/21/2011		16510	5503	170	28 J,B	9.85E-05	1.6 U	0.00E+00	7.7	2.01E-05	1.6 U	0.00E+00	1.6 U	0.00E+00
12/14/2011		17010	5670	170	26	9.14E-05	0.76 U	0.00E+00	5.2	1.36E-05	0.76 U	0.00E+00	2.4	6.13E-06
1/19/2012		17923	5974	170	25	8.79E-05	0.74 U	0.00E+00	6.9	1.80E-05	0.74 U	0.00E+00	0.74 U	0.00E+00
2/15/2012		18566	6189	170	31	1.09E-04	0.73 U	0.00E+00	7.6	1.98E-05	0.73 U	0.00E+00	1.9	4.85E-06
3/15/2012		19262	6421	170	29 J,B	1.02E-04	0.71 U	0.00E+00	8.1	2.11E-05	0.71 U	0.00E+00	0.71 U	0.00E+00
4/19/2012		20102	6701	160	31	1.03E-04	0.76 U	0.00E+00	11	2.70E-05	0.76 U	0.00E+00	0.76 U	0.00E+00
5/16/2012		20748	6916	160	28	9.27E-05	0.78 U	0.00E+00	11	2.70E-05	0.78 U	0.00E+00	0.78 U	0.00E+00

Table 4.2
Cell 2 - Phase 1 SVE System Data
December 2009 - June 2015
UTC Aerospace Systems
Plants 1/2 Facility
Rockford, Illinois

CELL 2 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 2 Run Time (hr)	SVE Flow Rate (scfm)	cis-1,2-Dichloroethene		trans-1,2-Dichloroethene		Tetrachloroethene		Trichloroethene		Vinyl chloride	
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)
12/11/2009		178	59	150	25000	5.64E-02	86 U	0.00E+00	1500	5.78E-03	330	1.01E-03	4400	6.40E-03
12/15/2009		205	68	140	16000	3.37E-02	110 U	0.00E+00	950	3.42E-03	240	6.84E-04	3500	4.75E-03
12/29/2009		539	180	140	9200	1.94E-02	100 U	0.00E+00	1000	3.60E-03	240	6.84E-04	1500	2.03E-03
1/13/2010		903	301	150	3200	7.21E-03	35 U	0.00E+00	610	2.35E-03	130	3.97E-04	250	3.63E-04
1/27/2010		1224	408	150	3900	8.79E-03	40 U	0.00E+00	600	2.31E-03	150	4.58E-04	200	2.91E-04
1/27/2010	Dup	1224	408	150	4400	9.92E-03	40 U	0.00E+00	630	2.43E-03	180	5.50E-04	240	3.49E-04
2/24/2010		1893	631	150	2300	5.19E-03	22 U	0.00E+00	200	7.71E-04	98	2.99E-04	73	1.06E-04
3/15/2010		2345	782	140	6300	1.33E-02	48 U	0.00E+00	860	3.10E-03	210	5.99E-04	62	8.41E-05
4/14/2010		2804	935	150	2000	4.51E-03	23 U	0.00E+00	1300	5.01E-03	190	5.81E-04	69	1.00E-04
5/13/2010		3495	1165	140	2800	5.89E-03	11 U	0.00E+00	380	1.37E-03	78	2.22E-04	42	5.70E-05
6/21/2010		4430	1477	108	2100	3.41E-03	23 U	0.00E+00	300	8.33E-04	88	1.94E-04	23 U	0.00E+00
7/21/2010		5058	1686	140	1200	2.53E-03	14 U	0.00E+00	260	9.36E-04	80	2.28E-04	14 U	0.00E+00
8/23/2010		5784	1928	0	1400	0.00E+00	20 U	0.00E+00	620	0.00E+00	150	0.00E+00	20 U	0.00E+00
9/23/2010		6523	2174	145	940	2.05E-03	12 U	0.00E+00	290	1.08E-03	74	2.19E-04	12	1.69E-05
10/22/2010		7219	2406	140	470	9.89E-04	10 U	0.00E+00	180	6.48E-04	42	1.20E-04	10 U	0.00E+00
11/15/2010		7794	2598	140	440	9.26E-04	11 U	0.00E+00	120	4.32E-04	35	9.98E-05	11 U	0.00E+00
12/22/2010		8508	2955	150	730	1.65E-03	14 U	0.00E+00	72	2.78E-04	27	8.25E-05	14 U	0.00E+00
1/24/2011		9302	3352	170	390	9.96E-04	2.7 U	0.00E+00	26	1.14E-04	9	3.12E-05	2.7 U	0.00E+00
2/25/2011		10071	3737	165	560	1.39E-03	4.0 U	0.00E+00	32	1.36E-04	15	5.04E-05	4.0 U	0.00E+00
3/18/2011		10573	3988	165	62	1.54E-04	1.0 U	0.00E+00	19	8.06E-05	7.3	2.45E-05	1.0 U	0.00E+00
4/15/2011		11241	4322	160	41	9.86E-05	1.0 U	0.00E+00	20	8.23E-05	8.5	2.77E-05	1.0 U	0.00E+00
5/19/2011		12061	4732	160	21	5.05E-05	1.1 U	0.00E+00	14	5.76E-05	11	3.59E-05	1.1 U	0.00E+00
6/16/2011		12722	5062	170	21	5.37E-05	1.2 U	0.00E+00	30	1.31E-04	15	5.19E-05	1.2 U	0.00E+00
7/15/2011		13417	4472	170	18	4.60E-05	1.2 U	0.00E+00	30	1.31E-04	21	7.27E-05	1.2 U	0.00E+00
8/22/2011		14324	4775	170	17	4.34E-05	1.2 U	0.00E+00	54	2.36E-04	22	7.62E-05	1.2 U	0.00E+00
9/15/2011		14905	4968	170	12	3.07E-05	1.1 U	0.00E+00	32	1.40E-04	18	6.23E-05	1.1 U	0.00E+00
10/14/2011		15598	5199	160	6.3	1.52E-05	0.82 U	0.00E+00	8.4	3.46E-05	9.1	2.97E-05	0.82 U	0.00E+00
11/21/2011		16510	5503	170	4.1	1.05E-05	1.6 U	0.00E+00	7	3.06E-05	5.1	1.77E-05	1.6 U	0.00E+00
12/14/2011		17010	5670	170	4.2	1.07E-05	0.76 U	0.00E+00	6.9	3.02E-05	3.4	1.18E-05	0.76 U	0.00E+00
1/19/2012		17923	5974	170	3	7.67E-06	0.74 U	0.00E+00	4.4	1.92E-05	2.9	1.00E-05	0.74 U	0.00E+00
2/15/2012		18566	6189	170	3.5	8.94E-06	0.73 U	0.00E+00	4.8	2.10E-05	2.2	7.62E-06	0.73 U	0.00E+00
3/15/2012		19262	6421	170	3.7	9.45E-06	0.71 U	0.00E+00	3.9	1.70E-05	2.4	8.31E-06	0.71 U	0.00E+00
4/19/2012		20102	6701	160	4.6	1.11E-05	0.76 U	0.00E+00	8.2	3.37E-05	4.3	1.40E-05	0.76 U	0.00E+00
5/16/2012		20748	6916	160	5	1.20E-05	0.78 U	0.00E+00	11	4.53E-05	5.3	1.73E-05	0.78 U	0.00E+00

Table 4.2
Cell 2 - Phase 1 SVE System Data
December 2009 - June 2015
UTC Aerospace Systems
Plants 1/2 Facility
Rockford, Illinois

CELL 2 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 2 Run Time (hr)	SVE Flow Rate (scfm)	Methylene Chloride		Carbon Tetrachloride		Chloroform		Chloroethane		Benzene		Toluene	
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)
12/11/2009		178	59	150	86 U	0.00E+00	86 U	0.00E+00	86 U	0.00E+00	210	3.15E-04	86 U	0.00E+00	200	4.29E-04
12/15/2009		205	68	140	110 U	0.00E+00	110 U	0.00E+00	110 U	0.00E+00	370	5.18E-04	110 U	0.00E+00	140	2.80E-04
12/29/2009		539	180	140	100 U	0.00E+00	100 U	0.00E+00	100 U	0.00E+00	120	1.68E-04	100 U	0.00E+00	100 U	0.00E+00
1/13/2010		903	301	150	35 U	0.00E+00	35 U	0.00E+00	35 U	0.00E+00	170	2.55E-04	35 U	0.00E+00	35 U	0.00E+00
1/27/2010		1224	408	150	40 U	0.00E+00	40 U	0.00E+00	40 U	0.00E+00	120	1.80E-04	40 U	0.00E+00	40 U	0.00E+00
1/27/2010	Dup	1224	408	150	40 U	0.00E+00	40 U	0.00E+00	40 U	0.00E+00	130	1.95E-04	40 U	0.00E+00	40 U	0.00E+00
2/24/2010		1893	631	150	22 U	0.00E+00	22 U	0.00E+00	22 U	0.00E+00	38	5.70E-05	22 U	0.00E+00	22 U	0.00E+00
3/15/2010		2345	782	140	48 U	0.00E+00	48 U	0.00E+00	48 U	0.00E+00	180	2.52E-04	48 U	0.00E+00	48 U	0.00E+00
4/14/2010		2804	935	150	23 U	0.00E+00	23 U	0.00E+00	23 U	0.00E+00	23 U	0.00E+00	23 U	0.00E+00	23 U	0.00E+00
5/13/2010		3495	1165	140	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	20	2.80E-05	11 U	0.00E+00	11 U	0.00E+00
6/21/2010		4430	1477	108	23 UJ	0.00E+00	23 U	0.00E+00	23 U	0.00E+00	33 J	3.56E-05	23 U	0.00E+00	23 U	0.00E+00
7/21/2010		5058	1686	140	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00
8/23/2010		5784	1928	0	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	21	0.00E+00	20 U	0.00E+00	20 U	0.00E+00
9/23/2010		6523	2174	145	12 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00
10/22/2010		7219	2406	140	10 U	0.00E+00	10 U	0.00E+00	10 U	0.00E+00	10 U	0.00E+00	10 U	0.00E+00	10 U	0.00E+00
11/15/2010		7794	2598	140	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00
12/22/2010		8508	2955	150	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00
1/24/2011		9302	3352	170	2.7 U	0.00E+00	2.7 U	0.00E+00	2.7 U	0.00E+00	2.7 U	0.00E+00	2.7 U	0.00E+00	3.1	7.53E-06
2/25/2011		10071	3737	165	4.0 U	0.00E+00	4.0 U	0.00E+00	4.0 U	0.00E+00	16 U	0.00E+00	4.0 U	0.00E+00	4.0 U	0.00E+00
3/18/2011		10573	3988	165	1.0 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00	4.0 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00
4/15/2011		11241	4322	160	1.0 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00	4.1 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00
5/19/2011		12061	4732	160	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.5 U	0.00E+00	8.1	1.57E-05	1.1 U	0.00E+00
6/16/2011		12722	5062	170	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.7 U	0.00E+00	1.9	3.91E-06	1.2 U	0.00E+00
7/15/2011		13417	4472	170	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.6 U	0.00E+00	5.3	1.09E-05	1.2 U	0.00E+00
8/22/2011		14324	4775	170	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.7 U	0.00E+00	1.6	3.29E-06	1.2 U	0.00E+00
9/15/2011		14905	4968	170	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.5 U	0.00E+00	4.6	9.47E-06	1.1 U	0.00E+00
10/14/2011		15598	5199	160	0.82 U	0.00E+00	0.82 U	0.00E+00	0.82 U	0.00E+00	3.3 U	0.00E+00	0.82 U	0.00E+00	0.82 U	0.00E+00
11/21/2011		16510	5503	170	1.6 UJ	0.00E+00	1.6 U	0.00E+00	1.6 U	0.00E+00	6.4 U	0.00E+00	1.6 U	0.00E+00	1.6 U	0.00E+00
12/14/2011		17010	5670	170	7.6 U	0.00E+00	0.76 U	0.00E+00	0.76 U	0.00E+00	3.0 U	0.00E+00	0.78	1.61E-06	0.76 U	0.00E+00
1/19/2012		17923	5974	170	1.9	4.25E-06	0.74 U	0.00E+00	0.74 U	0.00E+00	3.0 U	0.00E+00	0.74 U	0.00E+00	1	2.43E-06
2/15/2012		18566	6189	170	0.73 U	0.00E+00	0.73 U	0.00E+00	0.73 U	0.00E+00	2.9 U	0.00E+00	0.73 U	0.00E+00	0.73 U	0.00E+00
3/15/2012		19262	6421	170	0.71 U	0.00E+00	0.71 U	0.00E+00	0.71 U	0.00E+00	2.8 U	0.00E+00	0.71 U	0.00E+00	1.6	3.89E-06
4/19/2012		20102	6701	160	0.76 U	0.00E+00	0.76 U	0.00E+00	0.76 U	0.00E+00	3.0 U	0.00E+00	0.76 U	0.00E+00	0.76 U	0.00E+00
5/16/2012		20748	6916	160	0.78 U	0.00E+00	0.78 U	0.00E+00	0.78 U	0.00E+00	3.1 U	0.00E+00	0.78 U	0.00E+00	0.78 U	0.00E+00

Table 4.2
Cell 2 - Phase 1 SVE System Data
December 2009 - June 2015
UTC Aerospace Systems
Plants 1/2 Facility
Rockford, Illinois

CELL 2 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 2 Run Time (hr)	SVE Flow Rate (scfm)	Ethylbenzene		m&p-Xylenes		o-Xylenes		Acetone		Methyl Ethyl Ketone (MEK)		Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)		
12/11/2009		178	59	150	86 U	0.00E+00	240	5.93E-04	110	2.72E-04	340 U	0.00E+00	86 U	0.00E+00	2.54E-01	15.05
12/15/2009		205	68	140	110 U	0.00E+00	230	5.30E-04	110 U	0.00E+00	430 U	0.00E+00	110 U	0.00E+00	1.59E-01	16.48
12/29/2009		539	180	140	100 U	0.00E+00	100 U	0.00E+00	100 U	0.00E+00	420 U	0.00E+00	100 U	0.00E+00	1.19E-01	29.76
1/13/2010		903	301	150	35 U	0.00E+00	35 U	0.00E+00	35 U	0.00E+00	140 U	0.00E+00	35 U	0.00E+00	4.93E-02	35.75
1/27/2010		1224	408	150	40 U	0.00E+00	40 U	0.00E+00	40 U	0.00E+00	160 U	0.00E+00	40 U	0.00E+00	6.47E-02	42.68
1/27/2010	Dup	1224	408	150	40 U	0.00E+00	40 U	0.00E+00	40 U	0.00E+00	160 U	0.00E+00	40 U	0.00E+00	7.06E-02	43.31
2/24/2010		1893	631	150	22 U	0.00E+00	22 U	0.00E+00	22 U	0.00E+00	87 U	0.00E+00	22 U	0.00E+00	3.93E-02	51.44
3/15/2010		2345	782	140	48 U	0.00E+00	48 U	0.00E+00	48 U	0.00E+00	190 U	0.00E+00	48 U	0.00E+00	8.60E-02	64.40
4/14/2010		2804	935	150	23 U	0.00E+00	23 U	0.00E+00	23 U	0.00E+00	92 U	0.00E+00	23 U	0.00E+00	4.24E-02	70.89
5/13/2010		3495	1165	140	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	43 U	0.00E+00	11 U	0.00E+00	3.84E-02	79.74
6/21/2010		4430	1477	108	23 U	0.00E+00	23 U	0.00E+00	23 U	0.00E+00	92 U	0.00E+00	23 U	0.00E+00	2.30E-02	86.90
7/21/2010		5058	1686	140	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00	58 U	0.00E+00	14 U	0.00E+00	2.07E-02	91.24
8/23/2010		5784	1928	0	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	81 U	0.00E+00	20 U	0.00E+00	0.00E+00	91.24
9/23/2010		6523	2174	145	12 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	47 U	0.00E+00	12 U	0.00E+00	2.04E-02	96.27
10/22/2010		7219	2406	140	10 U	0.00E+00	10 U	0.00E+00	10 U	0.00E+00	42 U	0.00E+00	10 U	0.00E+00	1.11E-02	98.85
11/15/2010		7794	2598	140	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	44 U	0.00E+00	11 U	0.00E+00	1.34E-02	101.41
12/22/2010		8508	2955	150	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00	56 U	0.00E+00	14 U	0.00E+00	1.84E-02	107.99
1/24/2011		9302	3352	170	2.7 U	0.00E+00	2.7 U	0.00E+00	2.7 U	0.00E+00	11 U	0.00E+00	11	2.09E-05	6.06E-03	110.39
2/25/2011		10071	3737	165	4.0 U	0.00E+00	4.0 U	0.00E+00	4.0 U	0.00E+00	16 U	0.00E+00	16 U	0.00E+00	9.59E-03	114.08
3/18/2011		10573	3988	165	1.0 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00	15	2.23E-05	4.0 U	0.00E+00	1.98E-03	114.57
4/15/2011		11241	4322	160	1.0 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00	8.2 J,B	1.18E-05	4.1 U	0.00E+00	1.48E-03	115.07
5/19/2011		12061	4732	160	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11	1.58E-05	4.5 U	0.00E+00	5.87E-04	115.31
6/16/2011		12722	5062	170	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	19	2.91E-05	4.7 U	0.00E+00	7.49E-04	115.55
7/15/2011		13417	4472	170	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	19	2.91E-05	4.6 U	0.00E+00	6.30E-04	115.18
8/22/2011		14324	4775	170	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	6.8 J,B	1.04E-05	4.7 U	0.00E+00	7.28E-04	115.40
9/15/2011		14905	4968	170	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11	1.68E-05	4.5 U	0.00E+00	5.54E-04	115.51
10/14/2011		15598	5199	160	0.82 U	0.00E+00	0.82 U	0.00E+00	0.82 U	0.00E+00	5	7.20E-06	3.3 U	0.00E+00	2.58E-04	115.57
11/21/2011		16510	5503	170	1.6 U	0.00E+00	1.6 U	0.00E+00	1.6 U	0.00E+00	6.4 UJ	0.00E+00	6.4 U	0.00E+00	1.77E-04	115.62
12/14/2011		17010	5670	170	0.76 U	0.00E+00	0.76 U	0.00E+00	0.76 U	0.00E+00	7.6 UJ	0.00E+00	3.0 U	0.00E+00	1.65E-04	115.65
1/19/2012		17923	5974	170	0.79	2.21E-06	1.5	4.20E-06	1.1	3.08E-06	14	2.14E-05	3.0 U	0.00E+00	1.80E-04	115.71
2/15/2012		18566	6189	170	0.73 U	0.00E+00	0.73 U	0.00E+00	0.73 U	0.00E+00	7.9	1.21E-05	2.9 U	0.00E+00	1.83E-04	115.74
3/15/2012		19262	6421	170	0.71 U	0.00E+00	0.71 U	0.00E+00	0.71 U	0.00E+00	8.9	1.36E-05	2.8 U	0.00E+00	1.75E-04	115.79
4/19/2012		20102	6701	160	0.76 U	0.00E+00	0.76 U	0.00E+00	0.76 U	0.00E+00	3.0 U	0.00E+00	3.0 U	0.00E+00	1.88E-04	115.84
5/16/2012		20748	6916	160	0.78 U	0.00E+00	0.78 U	0.00E+00	0.78 U	0.00E+00	3.1 U	0.00E+00	3.1 U	0.00E+00	1.94E-04	115.88

Table 4.2
Cell 2 - Phase 1 SVE System Data
December 2009 - June 2015
UTC Aerospace Systems
Plants 1/2 Facility
Rockford, Illinois

CELL 2 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 2 Run Time (hr)	SVE Flow Rate (scfm)	1,1,1-Trichloroethane		1,1,2-Trichloroethane		1,1-Dichloroethane		1,2-Dichloroethane		1,1-Dichloroethene	
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)
Pulse -off period June 1, 2012 to August 14, 2012														
8/14/2012		21282	7094	160	370	1.22E-03	1.3 U	0.00E+00	160	3.93E-04	1.3 U	0.00E+00	4.5	1.08E-05
9/17/2012		21952	7317	160	180	5.96E-04	1.1 U	0.00E+00	36	8.84E-05	1.1 U	0.00E+00	1.1 U	0.00E+00
Pulse -off period September 17, 2012 to November 15, 2012														
11/15/2012		21959	7320	160	430	1.42E-03	1.1 U	0.00E+00	140	3.44E-04	1.1 U	0.00E+00	12	2.89E-05
12/14/2012		22554	7518	170	610	2.14E-03	1.9 U	0.00E+00	11	2.87E-05	1.9 U	0.00E+00	12	3.07E-05
Pulse -off period December 14, 2012 to February 26, 2013														
2/26/2013		22556	7518	160	1.9	6.29E-06	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
4/11/2013		23581	7723	160	140	4.63E-04	1.2 U	0.00E+00	10	2.45E-05	1.2 U	0.00E+00	4	9.62E-06
Pulse -off period April 11, 2013 to May 10, 2013														
5/10/2013		23583	7724	160	210	6.95E-04	1.1 U	0.00E+00	62	1.52E-04	1.2 U	0.00E+00	3.9	9.38E-06
7/15/2013		25160	8039	160	160	5.29E-04	1.1 U	0.00E+00	20	4.91E-05	1.1 U	0.00E+00	3.7	8.90E-06
7/15/2013	Dup	25160	8039	160	160	5.29E-04	1.2 U	0.00E+00	20	4.91E-05	1.2 U	0.00E+00	3.2	7.70E-06
Pulse -off period July 15, 2013 to September 9, 2013														
9/9/2013		25162	8040	160	380	1.26E-03	2.0 U	0.00E+00	110	2.70E-04	2.0 U	0.00E+00	3.4	8.18E-06
11/18/2013		26825	8372	160	44	1.46E-04	1.1 U	0.00E+00	11	2.70E-05	1.1 U	0.00E+00	1.3	3.13E-06
Pulse -off period November 18, 2013 to January 15, 2014														
1/15/2014		28218	8651	160	160	5.29E-04	1.2 U	0.00E+00	55	1.35E-04	1.2 U	0.00E+00	3.3	7.94E-06
3/14/2014		29432	8894	160	16	5.29E-05	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
3/14/2014	Dup	29432	8894	160	19	6.29E-05	1.2 U	0.00E+00	1.6	3.93E-06	1.2 U	0.00E+00	1.2 U	0.00E+00
Pulse -off period March 14, 2014 to May 15, 2014														
5/15/2014		29914	8990	160	240	7.94E-04	1.1 U	0.00E+00	99	2.43E-04	1.1 U	0.00E+00	4.8	1.15E-05
7/23/2014		31567	9321	160	89	2.95E-04	1.2 U	0.00E+00	20	4.91E-05	1.2 U	0.00E+00	1.8	4.33E-06
Pulse -off period July 23, 2014 to September 16, 2014														
9/16/2014		32432	9494	160	310	1.03E-03	2.1 U	0.00E+00	120	2.95E-04	2.1 U	0.00E+00	3.9	9.38E-06
11/14/2014		33847	9777	160	42	1.39E-04	1.1 U	0.00E+00	7.8	1.91E-05	1.1 U	0.00E+00	1.1 U	0.00E+00
Pulse -off period November 14, 2014 to January 9, 2015														
1/9/2015		33855	9778	160	210	6.95E-04	1.2 U	0.00E+00	69	1.69E-04	1.2 U	0.00E+00	3.7	8.90E-06
3/13/2015		35189	10045	160	18	5.96E-05	1.3 U	0.00E+00	5.4	1.33E-05	1.3 U	0.00E+00	1.3 U	0.00E+00
Pulse -off period March 13, 2015 to May 15, 2015														
5/15/2015		35194	10046	160	240	7.94E-04	1.2 U	0.00E+00	76	1.87E-04	1.2 U	0.00E+00	3.0	7.21E-06

Notes:

Mass removal rate = (flow rate in scfm)(concentration in ppmv)(60)(MW) / (387*1000000)

"U" indicates non-detection at the specified reporting limit; for ND compounds, zero is used in mass removal calculations.

MW	molecular weight (values from the U.S. National Library of Medicine)
SCFM	standard cubic feet per minute
J	Indicates estimated value.
B	The analyte was detected in the method, field and/or trip blank.

When a duplicate sample was collected, the original sample results are used in the mass calculations.

Table 4.2
Cell 2 - Phase 1 SVE System Data
December 2009 - June 2015
UTC Aerospace Systems
Plants 1/2 Facility
Rockford, Illinois

CELL 2 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 2 Run Time (hr)	SVE Flow Rate (scfm)	cis-1,2-Dichloroethene		trans-1,2-Dichloroethene		Tetrachloroethene		Trichloroethene		Vinyl chloride	
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)
Pulse -off period June 1, 2012 to August 14, 2012														
8/14/2012		21282	7094	160	11	2.65E-05	1.3 U	0.00E+00	16	6.58E-05	12	3.91E-05	1.3 U	0.00E+00
9/17/2012		21952	7317	160	10	2.40E-05	1.1 U	0.00E+00	20	8.23E-05	29	9.45E-05	1.1 U	0.00E+00
Pulse -off period September 17, 2012 to November 15, 2012														
11/15/2012		21959	7320	160	13	3.13E-05	1.1 U	0.00E+00	41	1.69E-04	26	8.47E-05	1.1 U	0.00E+00
12/14/2012		22554	7518	170	4	1.02E-05	1.9 U	0.00E+00	5.3	2.32E-05	17	5.89E-05	1.9 U	0.00E+00
Pulse -off period December 14, 2012 to February 26, 2013														
2/26/2013		22556	7518	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
4/11/2013		23581	7723	160	3.3	7.94E-06	1.2 U	0.00E+00	5.4	2.22E-05	8	2.61E-05	1.2 U	0.00E+00
Pulse -off period April 11, 2013 to May 10, 2013														
5/10/2013		23583	7724	160	5.4	1.30E-05	1.1 U	0.00E+00	6.4	2.63E-05	9.5	3.10E-05	1.1 U	0.00E+00
7/15/2013		25160	8039	160	3.7	8.90E-06	1.1 U	0.00E+00	21	8.64E-05	24	7.82E-05	1.1 U	0.00E+00
7/15/2013	Dup	25160	8039	160	3.5	8.42E-06	1.2 U	0.00E+00	17	6.99E-05	24	7.82E-05	1.2 U	0.00E+00
Pulse -off period July 15, 2013 to September 9, 2013														
9/9/2013		25162	8040	160	7	1.68E-05	2.0 U	0.00E+00	49	2.02E-04	31	1.01E-04	2.0 U	0.00E+00
11/18/2013		26825	8372	160	2.3	5.53E-06	1.1 U	0.00E+00	14	5.76E-05	8.4	2.74E-05	1.1 U	0.00E+00
Pulse -off period November 18, 2013 to January 15, 2014														
1/15/2014		28218	8651	160	2.9	6.97E-06	1.2 U	0.00E+00	7.2	2.96E-05	7.2	2.35E-05	1.2 U	0.00E+00
3/14/2014		29432	8894	160	1.9	4.57E-06	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
3/14/2014	Dup	29432	8894	160	1.8	4.33E-06	1.2 U	0.00E+00	1.7	6.99E-06	1.5	4.89E-06	1.2 U	0.00E+00
Pulse -off period March 14, 2014 to May 15, 2014														
5/15/2014		29914	8990	160	7.8	1.88E-05	1.1 U	0.00E+00	14	5.76E-05	6.6	2.15E-05	1.1 U	0.00E+00
7/23/2014		31567	9321	160	3.7	8.90E-06	1.2 U	0.00E+00	11	4.52E-05	19	6.19E-05	1.2 U	0.00E+00
Pulse -off period July 23, 2014 to September 16, 2014														
9/16/2014		32432	9494	160	6	1.44E-05	2.1 U	0.00E+00	19	7.82E-05	26	8.47E-05	2.1 U	0.00E+00
11/14/2014		33847	9777	160	1.6	3.85E-06	1.1 U	0.00E+00	11	4.52E-05	7.3	2.38E-05	1.1 U	0.00E+00
Pulse -off period November 14, 2014 to January 9, 2015														
1/9/2015		33855	9778	160	3.4	8.18E-06	1.2 U	0.00E+00	8.2	3.37E-05	9.3	3.03E-05	1.2 U	0.00E+00
3/13/2015		35189	10045	160	1.3 U	0.00E+00	1.3 U	0.00E+00	3.5	1.44E-05	3.0	9.78E-06	1.3 U	0.00E+00
Pulse -off period March 13, 2015 to May 15, 2015														
5/15/2015		35194	10046	160	3.5	8.42E-06	1.2 U	0.00E+00	8.2	3.37E-05	5.4	1.76E-05	1.2 U	0.00E+00

Notes:

Mass removal rate = (flow rate in scfm)(concentration in ppmv)(60)(MW) / (387*1000000)

"U" indicates non-detection at the specified reporting limit; for ND compounds, zero is used in mass removal calculations.

MW	molecular weight (values from the U.S. National Library of Medicine)
SCFM	standard cubic feet per minute
J	Indicates estimated value.
B	The analyte was detected in the method, field and/or trip blank.

When a duplicate sample was collected, the original sample results are used in the mass calculations.

Table 4.2
Cell 2 - Phase 1 SVE System Data
December 2009 - June 2015
UTC Aerospace Systems
Plants 1/2 Facility
Rockford, Illinois

CELL 2 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 2 Run Time (hr)	SVE Flow Rate (scfm)	Methylene Chloride		Carbon Tetrachloride		Chloroform		Chloroethane		Benzene		Toluene	
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)
Pulse -off period June 1, 2012 to August 14, 2012																
8/14/2012		21282	7094	160	13 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	5.3 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00
9/17/2012		21952	7317	160	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.3 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00
Pulse -off period September 17, 2012 to November 15, 2012																
11/15/2012		21959	7320	160	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.5 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00
12/14/2012		22554	7518	170	19 U	0.00E+00	1.9 U	0.00E+00	1.9 U	0.00E+00	7.4 U	0.00E+00	1.9 U	0.00E+00	1.9 U	0.00E+00
Pulse -off period December 14, 2012 to February 26, 2013																
2/26/2013		22556	7518	160	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	5 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
4/11/2013		23581	7723	160	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.7 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
Pulse -off period April 11, 2013 to May 10, 2013																
5/10/2013		23583	7724	160	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	18	2.88E-05	1.1 U	0.00E+00	1.1 U	0.00E+00
7/15/2013		25160	8039	160	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.6 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00
7/15/2013	Dup	25160	8039	160	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.7 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
Pulse -off period July 15, 2013 to September 9, 2013																
9/9/2013		25162	8040	160	20 U	0.00E+00	2.0 U	0.00E+00	2.0 U	0.00E+00	8.0 U	0.00E+00	2.0 U	0.00E+00	2.0 U	0.00E+00
11/18/2013		26825	8372	160	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.6 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00
Pulse -off period November 18, 2013 to January 15, 2014																
1/15/2014		28218	8651	160	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.7 U	0.00E+00	1.2 U	0.00E+00	4.9	1.12E-05
3/14/2014		29432	8894	160	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.9 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
3/14/2014	Dup	29432	8894	160	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	5.0 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
Pulse -off period March 14, 2014 to May 15, 2014																
5/15/2014		29914	8990	160	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	16	2.56E-05	1.1 U	0.00E+00	1.1 U	0.00E+00
7/23/2014		31567	9321	160	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.6 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
Pulse -off period July 23, 2014 to September 16, 2014																
9/16/2014		32432	9494	160	21 U	0.00E+00	2.1 U	0.00E+00	2.1 U	0.00E+00	8.3 U	0.00E+00	3.5	6.78E-06	2.1 U	0.00E+00
11/14/2014		33847	9777	160	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.6 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00
Pulse -off period November 14, 2014 to January 9, 2015																
1/9/2015		33855	9778	160	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.8 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
3/13/2015		35189	10045	160	13 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	5.0 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00
Pulse -off period March 13, 2015 to May 15, 2015																
5/15/2015		35194	10046	160	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	7.0	1.12E-05	1.2 U	0.00E+00	1.2 U	0.00E+00

Notes:

Mass removal rate = (flow rate in scfm)(concentration in ppmv)(60)(MW) / (387*1000000)

"U" indicates non-detection at the specified reporting limit; for ND compounds, zero is used in mass removal calculations.

MW	molecular weight (values from the U.S. National Library of Medicine)
SCFM	standard cubic feet per minute
J	Indicates estimated value.
B	The analyte was detected in the method, field and/or trip blank.

When a duplicate sample was collected, the original sample results are used in the mass calculations.

Table 4.2
Cell 2 - Phase 1 SVE System Data
December 2009 - June 2015
UTC Aerospace Systems
Plants 1/2 Facility
Rockford, Illinois

CELL 2 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 2 Run Time (hr)	SVE Flow Rate (scfm)	Ethylbenzene		m&p-Xylenes		o-Xylenes		Acetone		Methyl Ethyl Ketone (MEK)		Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)		
Pulse -off period June 1, 2012 to August 14, 2012																
8/14/2012		21282	7094	160	1.3 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	21	3.03E-05	5.3 U	0.00E+00	1.79E-03	116.20
9/17/2012		21952	7317	160	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.3 U	0.00E+00	8.85E-04	116.40
Pulse -off period September 17, 2012 to November 15, 2012																
11/15/2012		21959	7320	160	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.5 U	0.00E+00	2.08E-03	116.40
12/14/2012		22554	7518	170	1.9 U	0.00E+00	1.9 U	0.00E+00	1.9 U	0.00E+00	19 U	0.00E+00	7.4 U	0.00E+00	2.30E-03	116.86
Pulse -off period December 14, 2012 to February 26, 2013																
2/26/2013		22556	7518	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	5 U	0.00E+00	6.29E-06	116.86
4/11/2013		23581	7723	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.7 U	0.00E+00	5.54E-04	116.97
Pulse -off period April 11, 2013 to May 10, 2013																
5/10/2013		23583	7724	160	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.5 U	0.00E+00	9.56E-04	116.97
7/15/2013		25160	8039	160	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.6 U	0.00E+00	7.61E-04	117.21
7/15/2013	Dup	25160	8039	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.7 U	0.00E+00	7.43E-04	-
Pulse -off period July 15, 2013 to September 9, 2013																
9/9/2013		25162	8040	160	2.0 U	0.00E+00	2.0 U	0.00E+00	2.0 U	0.00E+00	20 U	0.00E+00	8.0 U	0.00E+00	1.86E-03	117.21
11/18/2013		26825	8372	160	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.6 U	0.00E+00	2.66E-04	117.30
Pulse -off period November 18, 2013 to January 15, 2014																
1/15/2014		28218	8651	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	7.44E-04	117.51
3/14/2014		29432	8894	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	5.75E-05	117.52
3/14/2014	Dup	29432	8894	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	5.0 U	0.00E+00	8.30E-05	-
Pulse -off period March 14, 2014 to May 15, 2014																
5/15/2014		29914	8990	160	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	25	3.60E-05	11 U	0.00E+00	1.21E-03	117.64
7/23/2014		31567	9321	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.6 U	0.00E+00	4.64E-04	117.79
Pulse -off period July 23, 2014 to September 16, 2014																
9/16/2014		32432	9494	160	2.1 U	0.00E+00	2.1 U	0.00E+00	2.1 U	0.00E+00	21 U	0.00E+00	21 U	0.00E+00	1.51E-03	118.05
11/14/2014		33847	9777	160	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.6 U	0.00E+00	2.31E-04	118.12
Pulse -off period November 14, 2014 to January 9, 2015																
1/9/2015		33855	9778	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.8 U	0.00E+00	9.45E-04	118.12
3/13/2015		35189	10045	160	1.3 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	13 U	0.00E+00	5.0 U	0.00E+00	9.70E-05	118.15
Pulse -off period March 13, 2015 to May 15, 2015																
5/15/2015		35194	10046	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.6 U	0.00E+00	1.06E-03	118.15

Notes:

Mass removal rate = (flow rate in scfm)(concentration in ppmv)(60)(MW) / (387*1000000)

"U" indicates non-detection at the specified reporting limit; for ND compounds, zero is used in mass removal calculations.

MW	molecular weight (values from the U.S. National Library of Medicine)
SCFM	standard cubic feet per minute
J	Indicates estimated value.
B	The analyte was detected in the method, field and/or trip blank.

When a duplicate sample was collected, the original sample results are used in the mass calculations.

Table 4.3
Cell 3 - Phase 1 SVE System Data
December 2009 - June 2015
UTC Aerospace Systems
Plants 1/2 Facility
Rockford, Illinois

CELL 3 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 3 Run Time (hr)	SVE Flow Rate (scfm)	1,1,1-Trichloroethane		1,1,2-Trichloroethane		1,1-Dichloroethane		1,2-Dichloroethane		1,1-Dichloroethene	
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)
12/14/2009		181	60	140	94000	2.72E-01	270 U	0.00E+00	1100	2.36E-03	270 U	0.00E+00	2300	4.84E-03
12/16/2009		229	76	150	46000	1.43E-01	110 U	0.00E+00	710	1.63E-03	110 U	0.00E+00	1100	2.48E-03
1/5/2010		707	236	140	42000	1.22E-01	150 U	0.00E+00	290	6.23E-04	150 U	0.00E+00	980	2.06E-03
1/21/2010		1084	361	150	15000	4.65E-02	42 U	0.00E+00	260	5.98E-04	42 U	0.00E+00	280	6.31E-04
1/21/2010	Dup	1084	361	150	16000	4.96E-02	43 U	0.00E+00	280	6.44E-04	43 U	0.00E+00	290	6.54E-04
2/24/2010		1893	631	150	11000	3.41E-02	28 U	0.00E+00	240	5.52E-04	28 U	0.00E+00	280	6.31E-04
3/15/2010		2345	782	140	20000	5.79E-02	21 U	0.00E+00	400	8.59E-04	21 U	0.00E+00	510	1.07E-03
4/14/2010		2804	935	150	31000	9.62E-02	100 U	0.00E+00	380	8.75E-04	100 U	0.00E+00	1100	2.48E-03
5/13/2010		3495	1165	140	8300	2.40E-02	12 U	0.00E+00	220	4.73E-04	12 U	0.00E+00	190	4.00E-04
6/21/2010		4430	1477	108	7200	1.61E-02	21 U	0.00E+00	220	3.65E-04	21 U	0.00E+00	150	2.43E-04
7/21/2010		5058	1686	140	6100	1.77E-02	20 U	0.00E+00	120	2.58E-04	20 U	0.00E+00	130	2.74E-04
8/23/2010		5784	1928	0	8000	0.00E+00	20 U	0.00E+00	200	0.00E+00	20 U	0.00E+00	120	0.00E+00
9/23/2010		6523	2174	145	6600	1.98E-02	11 U	0.00E+00	140	3.11E-04	11 U	0.00E+00	140	3.05E-04
10/22/2010		7219	2406	140	3700	1.07E-02	14 U	0.00E+00	91	1.95E-04	14 U	0.00E+00	66	1.39E-04
11/15/2010		7794	2598	140	4600	1.33E-02	15 U	0.00E+00	120	2.58E-04	15 U	0.00E+00	64	1.35E-04
12/22/2010		8508	2777	150	5600	1.74E-02	20 U	0.00E+00	150	3.45E-04	20 U	0.00E+00	120	2.71E-04
1/24/2011		9302	2975	170	2200	7.74E-03	8.3 U	0.00E+00	130	3.39E-04	8.3 U	0.00E+00	27	6.90E-05
2/25/2011		10071	3167	165	1300	4.44E-03	4.0 U	0.00E+00	45	1.14E-04	4.0 U	0.00E+00	25	6.20E-05
3/18/2011		10573	3293	165	360	1.23E-03	1.3 U	0.00E+00	24	6.08E-05	1.3 U	0.00E+00	5.4	1.34E-05
4/15/2011		11241	3460	160	160 J,B	5.29E-04	1.0 U	0.00E+00	17	4.17E-05	1.0 U	0.00E+00	2.8	6.73E-06
5/19/2011		12061	3665	160	64	2.12E-04	1.2 U	0.00E+00	10	2.45E-05	1.2 U	0.00E+00	1.4	3.37E-06
6/16/2011		12722	3830	170	160	5.63E-04	1.2 U	0.00E+00	280	7.30E-04	1.2 U	0.00E+00	2.5	6.39E-06
7/15/2011		13417	4472	170	190	6.68E-04	1.2 U	0.00E+00	8.3	2.16E-05	1.2 U	0.00E+00	2.8	7.15E-06
8/22/2011		14324	4775	170	1600	5.63E-03	4.3 U	0.00E+00	19	4.96E-05	4.3 U	0.00E+00	21	5.37E-05
9/15/2011		14905	4968	170	800	2.81E-03	3.7 U	0.00E+00	9.5	2.48E-05	3.7 U	0.00E+00	12	3.07E-05
10/14/2011		15598	5199	160	750	2.48E-03	3.0 U	0.00E+00	10	2.45E-05	3.0 U	0.00E+00	13	3.13E-05
11/21/2011		16510	5503	170	380	1.34E-03	1.4 U	0.00E+00	6.6	1.72E-05	1.4 U	0.00E+00	5.6	1.43E-05
12/14/2011		17010	5670	170	830	2.92E-03	3.5 U	0.00E+00	8.7	2.27E-05	3.5 U	0.00E+00	70	1.79E-04
1/19/2012		17923	5974	170	800	2.81E-03	3.0 U	0.00E+00	12	3.13E-05	3.0 U	0.00E+00	13	3.32E-05
2/15/2012		18566	6189	170	1600	5.63E-03	4.5 U	0.00E+00	22	5.74E-05	4.5 U	0.00E+00	260	6.64E-04
3/15/2012		19262	6421	170	1600	5.63E-03	5.1 U	0.00E+00	28	7.30E-05	5.1 U	0.00E+00	22	5.62E-05
4/19/2012		20102	6701	160	580	1.92E-03	1.8 U	0.00E+00	14	3.44E-05	1.8 U	0.00E+00	5.8	1.39E-05
5/16/2012		20748	6916	160	300	9.93E-04	0.80 U	0.00E+00	9.3	2.28E-05	0.80 U	0.00E+00	3.7	8.90E-06

See notes on last page.

Table 4.3
Cell 3 - Phase 1 SVE System Data
December 2009 - June 2015
UTC Aerospace Systems
Plants 1/2 Facility
Rockford, Illinois

CELL 3 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 3 Run Time (hr)	SVE Flow Rate (scfm)	cis-1,2-Dichloroethene		trans-1,2-Dichloroethene		Tetrachloroethene		Trichloroethene		Vinyl chloride		Methylen
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)
12/14/2009		181	60	140	8100	1.70E-02	270 U	0.00E+00	750	2.70E-03	1000	2.85E-03	270 U	0.00E+00	270 U
12/16/2009		229	76	150	5500	1.24E-02	110 U	0.00E+00	400	1.54E-03	550	1.68E-03	110 U	0.00E+00	110 U
1/5/2010		707	236	140	1500	3.16E-03	150 U	0.00E+00	240	8.64E-04	250	7.13E-04	150 U	0.00E+00	220
1/21/2010		1084	361	150	1600	3.61E-03	42 U	0.00E+00	170	6.56E-04	140	4.28E-04	42 U	0.00E+00	42 U
1/21/2010	Dup	1084	361	150	1700	3.83E-03	43 U	0.00E+00	170	6.56E-04	140	4.28E-04	43 U	0.00E+00	43 U
2/24/2010		1893	631	150	1100	2.48E-03	28 U	0.00E+00	140	5.40E-04	66	2.02E-04	28 U	0.00E+00	28 U
3/15/2010		2345	782	140	1900	4.00E-03	21 U	0.00E+00	280	1.01E-03	120	3.42E-04	51	6.92E-05	21 U
4/14/2010		2804	935	150	1200	2.71E-03	100 U	0.00E+00	820	3.16E-03	190	5.81E-04	100 U	0.00E+00	100 U
5/13/2010		3495	1165	140	960	2.02E-03	12 U	0.00E+00	200	7.20E-04	43	1.23E-04	12 U	0.00E+00	12 U
6/21/2010		4430	1477	108	660	1.07E-03	21 U	0.00E+00	160	4.44E-04	55	1.21E-04	21 U	0.00E+00	21 U
7/21/2010		5058	1686	140	460	9.68E-04	20 U	0.00E+00	120	4.32E-04	44	1.25E-04	20 U	0.00E+00	20 U
8/23/2010		5784	1928	0	490	0.00E+00	20 U	0.00E+00	220	0.00E+00	66	0.00E+00	20 U	0.00E+00	20 U
9/23/2010		6523	2174	145	440	9.59E-04	11 U	0.00E+00	160	5.96E-04	50	1.48E-04	11 U	0.00E+00	11 U
10/22/2010		7219	2406	140	210	4.42E-04	14 U	0.00E+00	110	3.96E-04	31	8.84E-05	14 U	0.00E+00	14 U
11/15/2010		7794	2598	140	170	3.58E-04	15 U	0.00E+00	88	3.17E-04	29	8.27E-05	15 U	0.00E+00	15 U
12/22/2010		8508	2777	150	330	7.44E-04	20 U	0.00E+00	56	2.16E-04	21	6.42E-05	20 U	0.00E+00	20 U
1/24/2011		9302	2975	170	200	5.11E-04	8.3 U	0.00E+00	35	1.53E-04	17	5.89E-05	8.3 U	0.00E+00	8.3 U
2/25/2011		10071	3167	165	72	1.79E-04	4.0 U	0.00E+00	28	1.19E-04	16	5.38E-05	4.0 U	0.00E+00	4.0 U
3/18/2011		10573	3293	165	35	8.68E-05	1.3 U	0.00E+00	13	5.51E-05	5.9	1.98E-05	1.3 U	0.00E+00	1.3 U
4/15/2011		11241	3460	160	28	6.73E-05	1.0 U	0.00E+00	15	6.17E-05	7.7	2.51E-05	1.0 U	0.00E+00	1.0 U
5/19/2011		12061	3665	160	12	2.89E-05	1.2 U	0.00E+00	9.6	3.95E-05	6.9	2.25E-05	1.2 U	0.00E+00	1.2 U
6/16/2011		12722	3830	170	34	8.69E-05	1.2 U	0.00E+00	61	2.67E-04	9.8	3.39E-05	1.2 U	0.00E+00	1.2 U
7/15/2011		13417	4472	170	23	5.88E-05	1.2 U	0.00E+00	22	9.62E-05	9.3	3.22E-05	1.2 U	0.00E+00	1.2 U
8/22/2011		14324	4775	170	130	3.32E-04	4.3 U	0.00E+00	39	1.70E-04	21	7.27E-05	4.3 U	0.00E+00	4.3 U
9/15/2011		14905	4968	170	62	1.58E-04	3.7 U	0.00E+00	24	1.05E-04	14	4.85E-05	3.7 U	0.00E+00	3.7 U
10/14/2011		15598	5199	160	37	8.90E-05	3.0 U	0.00E+00	15	6.17E-05	13	4.24E-05	3.0 U	0.00E+00	3.0 U
11/21/2011		16510	5503	170	24	6.13E-05	1.4 U	0.00E+00	7.9	3.45E-05	9.2	3.19E-05	1.4 U	0.00E+00	1.4 UJ
12/14/2011		17010	5670	170	33	8.43E-05	3.5 U	0.00E+00	6.9	3.02E-05	22	7.62E-05	3.5 U	0.00E+00	35 U
1/19/2012		17923	5974	170	33	8.43E-05	3.0 U	0.00E+00	6.4	2.80E-05	12	4.16E-05	3.0 U	0.00E+00	3.0 U
2/15/2012		18566	6189	170	95	2.43E-04	4.5 U	0.00E+00	6.7	2.93E-05	24	8.31E-05	4.5 U	0.00E+00	4.5 U
3/15/2012		19262	6421	170	59	1.51E-04	5.1 U	0.00E+00	7.3	3.19E-05	30	1.04E-04	5.1 U	0.00E+00	5.1 U
4/19/2012		20102	6701	160	23	5.53E-05	1.8 U	0.00E+00	11	4.53E-05	19	6.19E-05	1.8 U	0.00E+00	1.8 U
5/16/2012		20748	6916	160	21	5.05E-05	0.80 U	0.00E+00	7.5	3.09E-05	18	5.87E-05	0.80 U	0.00E+00	0.80 U

See notes on last page.

Table 4.3
Cell 3 - Phase 1 SVE System Data
December 2009 - June 2015
UTC Aerospace Systems
Plants 1/2 Facility
Rockford, Illinois

CELL 3 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 3 Run Time (hr)	SVE Flow Rate (scfm)	e Chloride	Carbon Tetrachloride		Chloroform		Chloroethane		Benzene		Toluene		Ethylbenzene		m&p-Xylenes	
					Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)
12/14/2009		181	60	140	0.00E+00	270 U	0.00E+00	270 U	0.00E+00	270 U	0.00E+00	270 U	0.00E+00	270 U	0.00E+00	270 U	0.00E+00	1600	3.69E-03
12/16/2009		229	76	150	0.00E+00	110 U	0.00E+00	110 U	0.00E+00	110 U	0.00E+00	110 U	0.00E+00	110 U	0.00E+00	110 U	0.00E+00	540	1.33E-03
1/5/2010		707	236	140	4.06E-04	150 U	0.00E+00	150 U	0.00E+00	150 U	0.00E+00	150 U	0.00E+00	150 U	0.00E+00	150 U	0.00E+00	150 U	0.00E+00
1/21/2010		1084	361	150	0.00E+00	42 U	0.00E+00	42 U	0.00E+00	42 U	0.00E+00	42 U	0.00E+00	42 U	0.00E+00	42 U	0.00E+00	42 U	0.00E+00
1/21/2010	Dup	1084	361	150	0.00E+00	43 U	0.00E+00	43 U	0.00E+00	43 U	0.00E+00	43 U	0.00E+00	43 U	0.00E+00	43 U	0.00E+00	43 U	0.00E+00
2/24/2010		1893	631	150	0.00E+00	28 U	0.00E+00	28 U	0.00E+00	28 U	0.00E+00	28 U	0.00E+00	28 U	0.00E+00	28 U	0.00E+00	28 U	0.00E+00
3/15/2010		2345	782	140	0.00E+00	21 U	0.00E+00	21 U	0.00E+00	21 U	0.00E+00	21 U	0.00E+00	21 U	0.00E+00	21 U	0.00E+00	21 U	0.00E+00
4/14/2010		2804	935	150	0.00E+00	100 U	0.00E+00	100 U	0.00E+00	100 U	0.00E+00	100 U	0.00E+00	100 U	0.00E+00	100 U	0.00E+00	100 U	0.00E+00
5/13/2010		3495	1165	140	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00
6/21/2010		4430	1477	108	0.00E+00	21 U	0.00E+00	21 U	0.00E+00	21 U	0.00E+00	21 U	0.00E+00	21 U	0.00E+00	21 U	0.00E+00	21 U	0.00E+00
7/21/2010		5058	1686	140	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00
8/23/2010		5784	1928	0	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00
9/23/2010		6523	2174	145	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00
10/22/2010		7219	2406	140	0.00E+00	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00
11/15/2010		7794	2598	140	0.00E+00	15 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00
12/22/2010		8508	2777	150	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00
1/24/2011		9302	2975	170	0.00E+00	8.3 U	0.00E+00	8.3 U	0.00E+00	8.3 U	0.00E+00	8.3 U	0.00E+00	8.3 U	0.00E+00	8.3 U	0.00E+00	8.3 U	0.00E+00
2/25/2011		10071	3167	165	0.00E+00	4.0 U	0.00E+00	4.0 U	0.00E+00	16 U	0.00E+00	4.0 U	0.00E+00	4.0 U	0.00E+00	4.0 U	0.00E+00	4.0 U	0.00E+00
3/18/2011		10573	3293	165	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	5.4 U	0.00E+00	1.9	3.80E-06	1.3 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00
4/15/2011		11241	3460	160	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00	4.1 U	0.00E+00	2.6	5.04E-06	1.0 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00
5/19/2011		12061	3665	160	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.8 U	0.00E+00	1.9	3.68E-06	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
6/16/2011		12722	3830	170	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.7 U	0.00E+00	1.6	3.29E-06	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
7/15/2011		13417	4472	170	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.8 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
8/22/2011		14324	4775	170	0.00E+00	4.3 U	0.00E+00	4.3 U	0.00E+00	17 U	0.00E+00	4.3 U	0.00E+00	4.3 U	0.00E+00	4.3 U	0.00E+00	4.3 U	0.00E+00
9/15/2011		14905	4968	170	0.00E+00	3.7 U	0.00E+00	3.7 U	0.00E+00	15 U	0.00E+00	4.1	8.44E-06	3.7 U	0.00E+00	3.7 U	0.00E+00	3.7 U	0.00E+00
10/14/2011		15598	5199	160	0.00E+00	3.0 U	0.00E+00	3.0 U	0.00E+00	12 U	0.00E+00	3.0 U	0.00E+00	3.0 U	0.00E+00	3.0 U	0.00E+00	3.0 U	0.00E+00
11/21/2011		16510	5503	170	0.00E+00	1.4 U	0.00E+00	1.4 U	0.00E+00	5.5 U	0.00E+00	1.4 U	0.00E+00	1.4 U	0.00E+00	1.4 U	0.00E+00	1.4 U	0.00E+00
12/14/2011		17010	5670	170	0.00E+00	3.5 U	0.00E+00	3.5 U	0.00E+00	14 U	0.00E+00	3.5 U	0.00E+00	3.5 U	0.00E+00	3.5 U	0.00E+00	3.5 U	0.00E+00
1/19/2012		17923	5974	170	0.00E+00	3.0 U	0.00E+00	3.0 U	0.00E+00	12 U	0.00E+00	3.0 U	0.00E+00	3.0 U	0.00E+00	3.0 U	0.00E+00	3.0 U	0.00E+00
2/15/2012		18566	6189	170	0.00E+00	4.5 U	0.00E+00	4.5 U	0.00E+00	18 U	0.00E+00	4.5 U	0.00E+00	4.5 U	0.00E+00	4.5 U	0.00E+00	4.5 U	0.00E+00
3/15/2012		19262	6421	170	0.00E+00	5.1 U	0.00E+00	5.1 U	0.00E+00	20 U	0.00E+00	5.1 U	0.00E+00	5.1 U	0.00E+00	5.1 U	0.00E+00	5.1 U	0.00E+00
4/19/2012		20102	6701	160	0.00E+00	1.8 U	0.00E+00	1.8 U	0.00E+00	7.3 U	0.00E+00	1.8 U	0.00E+00	1.8 U	0.00E+00	1.8 U	0.00E+00	1.8 U	0.00E+00
5/16/2012		20748	6916	160	0.00E+00	0.80 U	0.00E+00	0.80 U	0.00E+00	3.2 U	0.00E+00	0.80 U	0.00E+00	0.80 U	0.00E+00	0.80 U	0.00E+00	0.80 U	0.00E+00

See notes on last page.

Table 4.3
Cell 3 - Phase 1 SVE System Data
December 2009 - June 2015
UTC Aerospace Systems
Plants 1/2 Facility
Rockford, Illinois

CELL 3 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 3 Run Time (hr)	SVE Flow Rate (scfm)	o-Xylenes		Acetone		Methyl Ethyl Ketone (MEK)		Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)		
12/14/2009		181	60	140	510	1.18E-03	1100 U	0.00E+00	270 U	0.00E+00	3.07E-01	18.51
12/16/2009		229	76	150	240	5.93E-04	590	7.97E-04	110 U	0.00E+00	1.65E-01	21.16
1/5/2010		707	236	140	150 U	0.00E+00	590 U	0.00E+00	150 U	0.00E+00	1.29E-01	41.78
1/21/2010		1084	361	150	42 U	0.00E+00	170 U	0.00E+00	42 U	0.00E+00	5.25E-02	48.37
1/21/2010	Dup	1084	361	150	43 U	0.00E+00	170 U	0.00E+00	43 U	0.00E+00	5.59E-02	48.80
2/24/2010		1893	631	150	28 U	0.00E+00	110 U	0.00E+00	28 U	0.00E+00	3.85E-02	58.76
3/15/2010		2345	782	140	21 U	0.00E+00	83 U	0.00E+00	21 U	0.00E+00	6.53E-02	68.60
4/14/2010		2804	935	150	100 U	0.00E+00	420 U	0.00E+00	100 U	0.00E+00	1.06E-01	84.81
5/13/2010		3495	1165	140	12 U	0.00E+00	48 U	0.00E+00	12 U	0.00E+00	2.78E-02	91.21
6/21/2010		4430	1477	108	21 U	0.00E+00	83 U	0.00E+00	21 U	0.00E+00	1.83E-02	96.92
7/21/2010		5058	1686	140	20 U	0.00E+00	79 U	0.00E+00	20 U	0.00E+00	1.97E-02	101.05
8/23/2010		5784	1928	0	20 U	0.00E+00	81 U	0.00E+00	20 U	0.00E+00	0.00E+00	101.05
9/23/2010		6523	2174	145	11 U	0.00E+00	43 U	0.00E+00	11 U	0.00E+00	2.21E-02	106.49
10/22/2010		7219	2406	140	14 U	0.00E+00	55 U	0.00E+00	14 U	0.00E+00	1.20E-02	109.27
11/15/2010		7794	2598	140	15 U	0.00E+00	59 U	0.00E+00	15 U	0.00E+00	1.45E-02	112.05
12/22/2010		8508	2777	150	20 U	0.00E+00	82 U	0.00E+00	20 U	0.00E+00	1.90E-02	115.44
1/24/2011		9302	2975	170	8.3 U	0.00E+00	33 U	0.00E+00	8.3 U	0.00E+00	8.87E-03	117.20
2/25/2011		10071	3167	165	4.0 U	0.00E+00	16 U	0.00E+00	16 U	0.00E+00	4.96E-03	118.15
3/18/2011		10573	3293	165	1.3 U	0.00E+00	10	1.49E-05	5.4 U	0.00E+00	1.48E-03	118.34
4/15/2011		11241	3460	160	1.0 U	0.00E+00	7.3 J,B	1.05E-05	4.1 U	0.00E+00	7.48E-04	118.47
5/19/2011		12061	3665	160	1.2 U	0.00E+00	4.8 U	0.00E+00	4.8 U	0.00E+00	3.34E-04	118.53
6/16/2011		12722	3830	170	1.2 U	0.00E+00	6.8	1.04E-05	4.7 U	0.00E+00	1.70E-03	118.81
7/15/2011		13417	4472	170	1.2 U	0.00E+00	7.7	1.18E-05	4.8 U	0.00E+00	8.96E-04	119.39
8/22/2011		14324	4775	170	4.3 U	0.00E+00	17 U	0.00E+00	17 U	0.00E+00	6.30E-03	121.30
9/15/2011		14905	4968	170	3.7 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00	3.19E-03	121.91
10/14/2011		15598	5199	160	3.0 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	2.73E-03	122.54
11/21/2011		16510	5503	170	1.4 U	0.00E+00	5.5 UJ	0.00E+00	5.5 U	0.00E+00	1.50E-03	123.00
12/14/2011		17010	5670	170	3.5 U	0.00E+00	380 J	5.82E-04	58	1.10E-04	4.00E-03	123.67
1/19/2012		17923	5974	170	3.0 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	3.03E-03	124.59
2/15/2012		18566	6189	170	4.5 U	0.00E+00	18 U	0.00E+00	18 U	0.00E+00	6.70E-03	126.03
3/15/2012		19262	6421	170	5.1 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	6.04E-03	127.43
4/19/2012		20102	6701	160	1.8 U	0.00E+00	7.3 U	0.00E+00	7.3 U	0.00E+00	2.13E-03	128.02
5/16/2012		20748	6916	160	0.80 U	0.00E+00	3.2 U	0.00E+00	3.2 U	0.00E+00	1.16E-03	128.27

See notes on last page.

Table 4.3
Cell 3 - Phase 1 SVE System Data
December 2009 - June 2015
UTC Aerospace Systems
Plants 1/2 Facility
Rockford, Illinois

CELL 3 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 3 Run Time (hr)	SVE Flow Rate (scfm)	1,1,1-Trichloroethane		1,1,2-Trichloroethane		1,1-Dichloroethane		1,2-Dichloroethane		1,1-Dichloroethene	
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)
Pulse -off period June 1, 2012 to August 14, 2012														
8/14/2012		21282	7094	160	1200	3.97E-03	4.7 U	0.00E+00	20	4.91E-05	4.7 U	0.00E+00	17	4.09E-05
9/17/2012		21952	7317	160	5000	1.65E-02	16 U	0.00E+00	38	9.33E-05	16 U	0.00E+00	16 U	0.00E+00
Pulse -off period September 17, 2012 to November 15, 2012														
11/15/2012		21959	7320	160	640	2.12E-03	2.1 U	0.00E+00	130	3.19E-04	2.1 U	0.00E+00	22	5.29E-05
12/14/2012		22554	7518	170	1100	3.87E-03	4.6 U	0.00E+00	17 J	4.43E-05	4.6 U	0.00E+00	15	3.83E-05
12/14/2012	Dup	22554	7518	170	1100 J	3.87E-03	4.5 U	0.00E+00	25 J	6.52E-05	4.5 U	0.00E+00	17 J	4.34E-05
Pulse -off period December 14, 2012 to February 26, 2013														
2/26/2013		22556	7519	160	640	2.12E-03	2.4 U	0.00E+00	12	2.95E-05	2.4 U	0.00E+00	8	1.92E-05
4/11/2013		23581	8134	160	180	5.96E-04	1.2 U	0.00E+00	7	1.72E-05	1.2 U	0.00E+00	2.8	6.73E-06
Pulse -off period April 11, 2013 to May 10, 2013														
5/10/2013		23583	8135	160	200	6.62E-04	1.1 U	0.00E+00	5.5	1.35E-05	1.1 U	0.00E+00	3.3	7.94E-06
7/15/2013		25160	9082	160	64	2.12E-04	1.2 U	0.00E+00	3.6	8.84E-06	1.2 U	0.00E+00	1.2 U	0.00E+00
Pulse -off period July 15, 2013 to September 9, 2013														
9/9/2013		25162	9083	160	390	1.29E-03	1.7 U	0.00E+00	5.6	1.37E-05	1.7 U	0.00E+00	3	9.93E-06
11/18/2013		26825	10081	160	350	1.16E-03	1.2 U	0.00E+00	8.2	2.01E-05	1.2 U	0.00E+00	6.6	2.18E-05
Pulse -off period November 18, 2013 to January 15, 2014														
1/15/2014		28218	10916	160	240	7.94E-04	1.2 U	0.00E+00	5	1.23E-05	1.2 U	0.00E+00	4.1	1.36E-05
3/14/2014		29432	11645	160	72	2.38E-04	1.2 U	0.00E+00	8.7	2.14E-05	1.2 U	0.00E+00	2.4	7.94E-06
Pulse -off period March 14, 2014 to May 15, 2014														
5/15/2014		29914	11934	160	770	2.55E-03	2.3 U	0.00E+00	15	3.68E-05	2.3 U	0.00E+00	12	3.97E-05
7/23/2014		31567	12926	160	130	4.30E-04	1.4 U	0.00E+00	5	1.23E-05	1.4 U	0.00E+00	1.4	4.63E-06
Pulse -off period July 23, 2014 to September 16, 2014														
9/16/2014		32432	13099	160	390	1.29E-03	2.4 U	0.00E+00	15	3.68E-05	2.4 U	0.00E+00	3	7.21E-06
11/14/2014		33847	13948	160	180	5.96E-04	1.2 U	0.00E+00	5.2	1.28E-05	1.2 U	0.00E+00	3	9.93E-06
Pulse -off period November 14, 2014 to January 9, 2015														
1/9/2015		33855	13949	160	220	7.28E-04	1.1 U	0.00E+00	4.7	1.15E-05	1.1 U	0.00E+00	2.2	5.29E-06
3/13/2015		35189	14750	160	200	6.62E-04	1.2 U	0.00E+00	4.4	1.08E-05	1.2 U	0.00E+00	3.1	1.03E-05
Pulse -off period March 13, 2015 to May 15, 2015														
5/15/2015		35194	14751	160	300	9.93E-04	1.2 U	0.00E+00	5.6	1.37E-05	1.2 U	0.00E+00	3.1	7.45E-06

Notes:

Mass removal rate = (flow rate in scfm)(concentration in ppmv)(60)(MW) / (387*1000000)

"U" indicates non-detection at the specified reporting limit; for ND compounds, zero is used in mass removal calculations.

MW	molecular weight (values from the U.S. National Library of Medicine)
SCFM	standard cubic feet per minute
J	Indicates estimated value.
B	The analyte was detected in the method, field and/or trip blank.

When a duplicate sample was collected, the original sample results are used in the mass calculations.

See notes on last page.

Table 4.3
Cell 3 - Phase 1 SVE System Data
December 2009 - June 2015
UTC Aerospace Systems
Plants 1/2 Facility
Rockford, Illinois

CELL 3 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 3 Run Time (hr)	SVE Flow Rate (scfm)	cis-1,2-Dichloroethene		trans-1,2-Dichloroethene		Tetrachloroethene		Trichloroethene		Vinyl chloride		Methylen
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)
Pulse -off period June 1, 2012 to August 14, 2012															
8/14/2012		21282	7094	160	8.4	2.02E-05	4.7 U	0.00E+00	26	1.07E-04	25	8.15E-05	4.7 U	0.00E+00	47 U
9/17/2012		21952	7317	160	130	3.13E-04	16 U	0.00E+00	100	4.11E-04	180	5.87E-04	16 U	0.00E+00	160 U
Pulse -off period September 17, 2012 to November 15, 2012															
11/15/2012		21959	7320	160	18	4.33E-05	2.1 U	0.00E+00	18	7.40E-05	39	1.27E-04	2.1 U	0.00E+00	21 U
12/14/2012		22554	7518	170	70 J	1.79E-04	4.6 U	0.00E+00	7.1 J	3.10E-05	90 J	3.12E-04	4.6 U	0.00E+00	46 U
12/14/2012	Dup	22554	7518	170	36 J	9.20E-05	4.5 U	0.00E+00	49 J	2.14E-04	52 J	1.80E-04	4.5 U	0.00E+00	45 U
Pulse -off period December 14, 2012 to February 26, 2013															
2/26/2013		22556	7519	160	23	5.53E-05	2.4 U	0.00E+00	15	6.17E-05	36	1.17E-04	2.4 U	0.00E+00	24 U
4/11/2013		23581	8134	160	28	6.73E-05	1.2 U	0.00E+00	4.6	1.89E-05	15	4.89E-05	1.2 U	0.00E+00	12 U
Pulse -off period April 11, 2013 to May 10, 2013															
5/10/2013		23583	8135	160	22	5.29E-05	1.1 U	0.00E+00	4.4	1.81E-05	13	4.24E-05	1.1 U	0.00E+00	11 U
7/15/2013		25160	9082	160	1.9	4.57E-06	1.2 U	0.00E+00	14	5.76E-05	10	3.26E-05	1.2 U	0.00E+00	12 U
Pulse -off period July 15, 2013 to September 9, 2013															
9/9/2013		25162	9083	160	2	4.81E-06	1.7 U	0.00E+00	21	8.64E-05	12	3.91E-05	1.7 U	0.00E+00	17 U
11/18/2013		26825	10081	160	45	1.08E-04	1.2 U	0.00E+00	5.7	2.34E-05	14	4.56E-05	1.2 U	0.00E+00	12 U
Pulse -off period November 18, 2013 to January 15, 2014															
1/15/2014		28218	10916	160	16	3.85E-05	1.2 U	0.00E+00	18	7.40E-05	7.6	2.48E-05	1.2 U	0.00E+00	12 U
3/14/2014		29432	11645	160	6.4	1.54E-05	1.2 U	0.00E+00	9.5	3.91E-05	8.1	2.64E-05	1.2 U	0.00E+00	12 U
Pulse -off period March 14, 2014 to May 15, 2014															
5/15/2014		29914	11934	160	86	2.07E-04	2.3 U	0.00E+00	6.9	2.84E-05	20	6.52E-05	2.3 U	0.00E+00	23 U
7/23/2014		31567	12926	160	10	2.40E-05	1.4 U	0.00E+00	10	4.11E-05	9	2.93E-05	1.4 U	0.00E+00	14 U
Pulse -off period July 23, 2014 to September 16, 2014															
9/16/2014		32432	13099	160	8.4	2.02E-05	2.4 U	0.00E+00	17	6.99E-05	14	4.56E-05	2.4 U	0.00E+00	24 U
11/14/2014		33847	13948	160	25	6.01E-05	1.2 U	0.00E+00	18	7.40E-05	6.2	2.02E-05	1.2 U	0.00E+00	12 U
Pulse -off period November 14, 2014 to January 9, 2015															
1/9/2015		33855	13949	160	18	4.33E-05	1.1 U	0.00E+00	11	4.52E-05	6	1.96E-05	1.1 U	0.00E+00	11 U
3/13/2015		35189	14750	160	14	3.37E-05	1.2 U	0.00E+00	4.2	1.73E-05	14	4.56E-05	1.2 U	0.00E+00	12 U
Pulse -off period March 13, 2015 to May 15, 2015															
5/15/2015		35194	14751	160	10	2.40E-05	1.2 U	0.00E+00	8.1	3.33E-05	10	3.26E-05	1.2 U	0.00E+00	12 U

Notes:

Mass removal rate = (flow rate in scfm)(concentration in ppmv)(60)(MW) / (387*1000000)

"U" indicates non-detection at the specified reporting limit; for ND compounds, zero is used in mass removal calculations.

MW	molecular weight (values from the U.S. National Library of Medicine)
SCFM	standard cubic feet per minute
J	Indicates estimated value.
B	The analyte was detected in the method, field and/or trip blank.

When a duplicate sample was collected, the original sample results are used in the mass calculations.

See notes on last page.

Table 4.3
Cell 3 - Phase 1 SVE System Data
December 2009 - June 2015
UTC Aerospace Systems
Plants 1/2 Facility
Rockford, Illinois

CELL 3 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 3 Run Time (hr)	SVE Flow Rate (scfm)	e Chloride	Carbon Tetrachloride		Chloroform		Chloroethane		Benzene		Toluene		Ethylbenzene		m&p-Xylenes	
					Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)
Pulse -off period June 1, 2012 to August 14, 2012																			
8/14/2012		21282	7094	160	0.00E+00	4.7 U	0.00E+00	4.7 U	0.00E+00	19 U	0.00E+00	4.7 U	0.00E+00	4.7 U	0.00E+00	4.7 U	0.00E+00	4.7 U	0.00E+00
9/17/2012		21952	7317	160	0.00E+00	16 U	0.00E+00	16 U	0.00E+00	65 U	0.00E+00	16 U	0.00E+00	16 U	0.00E+00	16 U	0.00E+00	16 U	0.00E+00
Pulse -off period September 17, 2012 to November 15, 2012																			
11/15/2012		21959	7320	160	0.00E+00	2.1 U	0.00E+00	2.1 U	0.00E+00	8.5 U	0.00E+00	2.1 U	0.00E+00	2.1 U	0.00E+00	2.1 U	0.00E+00	2.1 U	0.00E+00
12/14/2012		22554	7518	170	0.00E+00	4.6 U	0.00E+00	4.6 U	0.00E+00	18 U	0.00E+00	4.6 U	0.00E+00	4.6 U	0.00E+00	4.6 U	0.00E+00	4.6 U	0.00E+00
12/14/2012	Dup	22554	7518	170	0.00E+00	4.5 U	0.00E+00	4.5 U	0.00E+00	18 U	0.00E+00	4.5 U	0.00E+00	4.5 U	0.00E+00	4.5 U	0.00E+00	4.5 U	0.00E+00
Pulse -off period December 14, 2012 to February 26, 2013																			
2/26/2013		22556	7519	160	0.00E+00	2.4 U	0.00E+00	2.4 U	0.00E+00	9.5 U	0.00E+00	2.4 U	0.00E+00	2.4 U	0.00E+00	2.4 U	0.00E+00	2.4 U	0.00E+00
4/11/2013		23581	8134	160	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.7 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
Pulse -off period April 11, 2013 to May 10, 2013																			
5/10/2013		23583	8135	160	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.3 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00
7/15/2013		25160	9082	160	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.7 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
Pulse -off period July 15, 2013 to September 9, 2013																			
9/9/2013		25162	9083	160	0.00E+00	1.7 U	0.00E+00	1.7 U	0.00E+00	6.8 U	0.00E+00	1.7 U	0.00E+00	1.7 U	0.00E+00	1.7 U	0.00E+00	1.7 U	0.00E+00
11/18/2013		26825	10081	160	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.7 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
Pulse -off period November 18, 2013 to January 15, 2014																			
1/15/2014		28218	10916	160	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.6 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
3/14/2014		29432	11645	160	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.9 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
Pulse -off period March 14, 2014 to May 15, 2014																			
5/15/2014		29914	11934	160	0.00E+00	2.3 U	0.00E+00	2.3 U	0.00E+00	9.3 U	0.00E+00	2.3 U	0.00E+00	2.3 U	0.00E+00	2.3 U	0.00E+00	2.3 U	0.00E+00
7/23/2014		31567	12926	160	0.00E+00	1.4 U	0.00E+00	1.4 U	0.00E+00	5.6 U	0.00E+00	1.4 U	0.00E+00	1.4 U	0.00E+00	1.4 U	0.00E+00	1.4 U	0.00E+00
Pulse -off period July 23, 2014 to September 16, 2014																			
9/16/2014		32432	13099	160	0.00E+00	2.4 U	0.00E+00	2.4 U	0.00E+00	9.5 U	0.00E+00	3	5.81E-06	2.4 U	0.00E+00	2.4 U	0.00E+00	2.4 U	0.00E+00
11/14/2014		33847	13948	160	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.6 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
Pulse -off period November 14, 2014 to January 9, 2015																			
1/9/2015		33855	13949	160	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.3 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00
3/13/2015		35189	14750	160	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.6 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
Pulse -off period March 13, 2015 to May 15, 2015																			
5/15/2015		35194	14751	160	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.7 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00

Notes:

Mass removal rate = (flow rate in scfm)(concentration in ppmv)(60)(MW) / (387*1000000)

"U" indicates non-detection at the specified reporting limit; for ND compounds, zero is used in mass removal calculations.

MW	molecular weight (values from the U.S. National Library of Medicine)
SCFM	standard cubic feet per minute
J	Indicates estimated value.
B	The analyte was detected in the method, field and/or trip blank.

When a duplicate sample was collected, the original sample results are used in the mass calculations.

See notes on last page.

Table 4.3
Cell 3 - Phase 1 SVE System Data
December 2009 - June 2015
UTC Aerospace Systems
Plants 1/2 Facility
Rockford, Illinois

CELL 3 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 3 Run Time (hr)	SVE Flow Rate (scfm)	o-Xylenes		Acetone		Methyl Ethyl Ketone (MEK)		Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)		
Pulse -off period June 1, 2012 to August 14, 2012												
8/14/2012		21282	7094	160	4.7 U	0.00E+00	47 U	0.00E+00	19 U	0.00E+00	4.27E-03	129.03
9/17/2012		21952	7317	160	16 U	0.00E+00	160 U	0.00E+00	65 U	0.00E+00	1.80E-02	133.04
Pulse -off period September 17, 2012 to November 15, 2012												
11/15/2012		21959	7320	160	2.1 U	0.00E+00	21 U	0.00E+00	8.5 U	0.00E+00	2.73E-03	133.05
12/14/2012		22554	7518	170	4.6 U	0.00E+00	46 U	0.00E+00	18 U	0.00E+00	4.47E-03	133.94
12/14/2012	Dup	22554	7518	170	4.5 U	0.00E+00	45 U	0.00E+00	18 U	0.00E+00	4.46E-03	-
Pulse -off period December 14, 2012 to February 26, 2013												
2/26/2013		22556	7519	160	2.4 U	0.00E+00	24 U	0.00E+00	9.5 U	0.00E+00	2.40E-03	133.94
4/11/2013		23581	8134	160	1.2 U	0.00E+00	12 U	0.00E+00	4.7 U	0.00E+00	7.55E-04	134.40
Pulse -off period April 11, 2013 to May 10, 2013												
5/10/2013		23583	8135	160	1.1 U	0.00E+00	11 U	0.00E+00	4.3 U	0.00E+00	7.97E-04	134.40
7/15/2013		25160	9082	160	1.2 U	0.00E+00	12 U	0.00E+00	4.7 U	0.00E+00	3.15E-04	134.70
Pulse -off period July 15, 2013 to September 9, 2013												
9/9/2013		25162	9083	160	1.7 U	0.00E+00	17 U	0.00E+00	6.8 U	0.00E+00	1.44E-03	134.70
11/18/2013		26825	10081	160	1.2 U	0.00E+00	12 U	0.00E+00	4.7 U	0.00E+00	1.38E-03	136.08
Pulse -off period November 18, 2013 to January 15, 2014												
1/15/2014		28218	10916	160	1.2 U	0.00E+00	12 U	0.00E+00	4.6 U	0.00E+00	9.57E-04	136.88
3/14/2014		29432	11645	160	1.2 U	0.00E+00	12 U	0.00E+00	4.9 U	0.00E+00	3.48E-04	137.13
Pulse -off period March 14, 2014 to May 15, 2014												
5/15/2014		29914	11934	160	2.3 U	0.00E+00	23 U	0.00E+00	9.3 U	0.00E+00	2.92E-03	137.98
7/23/2014		31567	12926	160	1.4 U	0.00E+00	14 U	0.00E+00	5.6 U	0.00E+00	5.42E-04	138.52
Pulse -off period July 23, 2014 to September 16, 2014												
9/16/2014		32432	13099	160	2.4 U	0.00E+00	24 U	0.00E+00	9.5 U	0.00E+00	1.48E-03	138.77
11/14/2014		33847	13948	160	1.2 U	0.00E+00	12	1.73E-05	4.6 U	0.00E+00	7.90E-04	139.44
Pulse -off period November 14, 2014 to January 9, 2015												
1/9/2015		33855	13949	160	1.1 U	0.00E+00	11 U	0.00E+00	4.3 U	0.00E+00	8.53E-04	139.44
3/13/2015		35189	14750	160	1.2 U	0.00E+00	12 U	0.00E+00	4.6 U	0.00E+00	7.79E-04	140.07
Pulse -off period March 13, 2015 to May 15, 2015												
5/15/2015		35194	14751	160	1.2 U	0.00E+00	12 U	0.00E+00	4.7 U	0.00E+00	1.10E-03	140.07

Notes:

Mass removal rate = (flow rate in scfm)(concentration in *ppmv*)(60)(MW) / (387*1000000)

"U" indicates non-detection at the specified reporting limit; for ND compounds, zero is used in mass removal calculations.

MW	Molecular weight (Values from the U.S. National Library of Medicine)
SCFM	standard cubic feet per minute
J	Indicates estimated value.
B	The analyte was detected in the method, field and/or trip blank.

When a duplicate sample was collected, the original sample results are used in the mass calculations.

See notes on last page.

Table 4.4
Cell 4 - Phase 2 SVE System Data
March 2011 - June 2015
UTC Aerospace Systems
Plants 1/2 Facility
Rockford, Illinois

CELL 4 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 4 Run Time (hr)	SVE Flow Rate (scfm)	1,1,1-Trichloroethane		1,1,2-Trichloroethane		1,1-Dichloroethane		1,2-Dichloroethane		1,1-Dichloroethene		cis-1,2-Dichloroethene	
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)
3/11/2011		222	222	500	150000	1.55E+00	600 U	0.00E+00	1800	1.38E-02	600 U	0.00E+00	860	6.46E-03	1400	1.05E-02
3/18/2011		366	366	500	41000	4.24E-01	150 U	0.00E+00	1000	7.67E-03	150 U	0.00E+00	250	1.88E-03	460	3.46E-03
3/18/2011	Dup	366	366	500	40000	4.14E-01	130 U	0.00E+00	1000	7.67E-03	130 U	0.00E+00	300	2.25E-03	480	3.61E-03
3/25/2011		463	463	500	22000	2.28E-01	62 U	0.00E+00	980	7.52E-03	62 U	0.00E+00	87	6.54E-04	290	2.18E-03
3/30/2011		558	558	500	25000	2.59E-01	68 U	0.00E+00	820	6.29E-03	68 U	0.00E+00	190	1.43E-03	290	2.18E-03
4/8/2011		764	764	500	22000	2.28E-01	80 U	0.00E+00	1000	7.67E-03	80 U	0.00E+00	170	1.28E-03	340	2.56E-03
4/15/2011		924	924	500	18000	1.86E-01	84 U	0.00E+00	930	7.13E-03	84 U	0.00E+00	110	8.27E-04	280	2.10E-03
4/15/2011	Dup	924	924	500	16000 J	1.65E-01	60 U	0.00E+00	820 J	6.29E-03	60 U	0.00E+00	60 UJ	0.00E+00	260 J	1.95E-03
5/19/2011		1685	1685	500	11000	1.14E-01	11 U	0.00E+00	640	4.91E-03	11 U	0.00E+00	100	7.52E-04	190	1.43E-03
6/16/2011		2191	2191	420	10000	8.69E-02	11 U	0.00E+00	530	3.42E-03	11 U	0.00E+00	110 J	6.94E-04	160	1.01E-03
6/16/2011	Dup	2191	2191	420	9600	8.34E-02	11 U	0.00E+00	510	3.29E-03	11 U	0.00E+00	110 J	6.94E-04	160	1.01E-03
7/15/2011		2750	2750	420	7600	6.60E-02	24 U	0.00E+00	290	1.87E-03	24 U	0.00E+00	58	3.66E-04	79	4.99E-04
8/22/2011		3133	3133	420	9000	7.82E-02	27 U	0.00E+00	410	2.64E-03	27 U	0.00E+00	92	5.81E-04	160	1.01E-03
8/22/2011	Dup	3133	3133	420	9000	7.82E-02	22 U	0.00E+00	400	2.58E-03	22 U	0.00E+00	80	5.05E-04	150	9.47E-04
9/15/2011		3630	3630	420	7000	6.08E-02	22 U	0.00E+00	250	1.61E-03	22 U	0.00E+00	55	3.47E-04	97	6.12E-04
10/14/2011		4226	4226	420	4400	3.82E-02	19 U	0.00E+00	180	1.16E-03	19 U	0.00E+00	59	3.72E-04	60	3.79E-04
11/21/2011		5019	5019	380	3700	2.91E-02	16 U	0.00E+00	170	9.91E-04	16 U	0.00E+00	320	1.83E-03	63	3.60E-04
12/14/2011		5343	5343	260	4000	2.15E-02	19 U	0.00E+00	140	5.58E-04	19 U	0.00E+00	300	1.17E-03	55	2.15E-04
1/19/2012		5993	5993	0	5200	0.00E+00	24 U	0.00E+00	160	0.00E+00	24 U	0.00E+00	58	0.00E+00	38	0.00E+00
2/15/2012		6368	6368	260	4200	2.26E-02	19 U	0.00E+00	100	3.99E-04	19 U	0.00E+00	700	2.74E-03	53	2.07E-04
3/15/2012		6946	6946	350	4000	2.90E-02	15 U	0.00E+00	120	6.44E-04	15 U	0.00E+00	38	2.00E-04	38	2.00E-04
4/19/2012		7629	7629	380	5200	4.09E-02	16 U	0.00E+00	160	9.33E-04	16 U	0.00E+00	42	2.40E-04	43	2.46E-04
5/16/2012		8143	8143	420	4100	3.56E-02	15 U	0.00E+00	110	7.09E-04	15 U	0.00E+00	43	2.71E-04	40	2.53E-04

See notes on last page.

Table 4.4
Cell 4 - Phase 2 SVE System Data
March 2011 - June 2015
UTC Aerospace Systems
Plants 1/2 Facility
Rockford, Illinois

CELL 4 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 4 Run Time (hr)	SVE Flow Rate (scfm)	trans-1,2-Dichloroethene		Tetrachloroethene		Trichloroethene		Vinyl chloride		Methylene Chloride		Carbon Tetrachloride	
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)
3/11/2011		222	222	500	600 U	0.00E+00	7200	9.26E-02	3900	3.97E-02	600 U	0.00E+00	600 U	0.00E+00	600 U	0.00E+00
3/18/2011		366	366	500	150 U	0.00E+00	2900	3.73E-02	1600	1.63E-02	150 U	0.00E+00	150 U	0.00E+00	150 U	0.00E+00
3/18/2011	Dup	366	366	500	130 U	0.00E+00	3000	3.86E-02	1600	1.63E-02	130 UJ	0.00E+00	130 U	0.00E+00	130 U	0.00E+00
3/25/2011		463	463	500	62 U	0.00E+00	3200	4.11E-02	970	9.88E-03	62 U	0.00E+00	61 NJ	4.02E-04	62 U	0.00E+00
3/30/2011		558	558	500	68 U	0.00E+00	2500	3.21E-02	1000	1.02E-02	68 U	0.00E+00	68 U	0.00E+00	68 U	0.00E+00
4/8/2011		764	764	500	80 U	0.00E+00	2400	3.09E-02	1000	1.02E-02	80 U	0.00E+00	80 U	0.00E+00	80 U	0.00E+00
4/15/2011		924	924	500	84 U	0.00E+00	1700	2.19E-02	920	9.37E-03	84 U	0.00E+00	84 U	0.00E+00	84 U	0.00E+00
4/15/2011	Dup	924	924	500	60 U	0.00E+00	1500 J	1.93E-02	830 J	8.45E-03	60 U	0.00E+00	60 U	0.00E+00	60 U	0.00E+00
5/19/2011		1685	1685	500	11 U	0.00E+00	1400	1.80E-02	530	5.40E-03	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00
6/16/2011		2191	2191	420	11 U	0.00E+00	1000	1.08E-02	410	3.51E-03	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00
6/16/2011	Dup	2191	2191	420	11 U	0.00E+00	960	1.04E-02	400	3.42E-03	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00
7/15/2011		2750	2750	420	24 U	0.00E+00	570	6.16E-03	250	2.14E-03	24 U	0.00E+00	28	1.55E-04	24 U	0.00E+00
8/22/2011		3133	3133	420	27 U	0.00E+00	920	9.93E-03	380	3.25E-03	27 U	0.00E+00	27 U	0.00E+00	27 U	0.00E+00
8/22/2011	Dup	3133	3133	420	22 U	0.00E+00	940	1.02E-02	360	3.08E-03	22 U	0.00E+00	22 U	0.00E+00	22 U	0.00E+00
9/15/2011		3630	3630	420	22 U	0.00E+00	660	7.13E-03	270	2.31E-03	22 U	0.00E+00	22 U	0.00E+00	22 U	0.00E+00
10/14/2011		4226	4226	420	19 U	0.00E+00	390	4.21E-03	180	1.54E-03	19 U	0.00E+00	19 U	0.00E+00	19 U	0.00E+00
11/21/2011		5019	5019	380	16 U	0.00E+00	360	3.52E-03	180	1.39E-03	16 U	0.00E+00	160 U	0.00E+00	16 U	0.00E+00
12/14/2011		5343	5343	260	19 U	0.00E+00	360	2.41E-03	160	8.47E-04	19 U	0.00E+00	190 U	0.00E+00	19 U	0.00E+00
1/19/2012		5993	5993	0	24 U	0.00E+00	320	0.00E+00	180	0.00E+00	24 U	0.00E+00	24 U	0.00E+00	24 U	0.00E+00
2/15/2012		6368	6368	260	19 U	0.00E+00	280	1.87E-03	150	7.94E-04	19 U	0.00E+00	19 U	0.00E+00	19 U	0.00E+00
3/15/2012		6946	6946	350	15 U	0.00E+00	240	2.16E-03	140	9.98E-04	15 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00
4/19/2012		7629	7629	380	16 U	0.00E+00	400	3.91E-03	180	1.39E-03	16 U	0.00E+00	16 U	0.00E+00	16 U	0.00E+00
5/16/2012		8143	8143	420	15 U	0.00E+00	320	3.46E-03	150	1.28E-03	15 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00

See notes on last page.

Table 4.4
Cell 4 - Phase 2 SVE System Data
March 2011 - June 2015
UTC Aerospace Systems
Plants 1/2 Facility
Rockford, Illinois

CELL 4 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 4 Run Time (hr)	SVE Flow Rate (scfm)	Chloroform		Chloroethane		Benzene		Toluene		Ethylbenzene		m&p-Xylenes		o-Xylenes		Acetone	
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)
3/11/2011		222	222	500	600 U	0.00E+00	2400 U	0.00E+00	600 U	0.00E+00	600 U	0.00E+00	600 U	0.00E+00	710	5.84E-03	600 U	0.00E+00	2400 U	0.00E+00
3/18/2011		366	366	500	150 U	0.00E+00	750 J	3.75E-03	150 U	0.00E+00	620 J	4.43E-03	150 U	0.00E+00	240	1.98E-03	200	1.65E-03	1500 J	6.75E-03
3/18/2011	Dup	366	366	500	130 U	0.00E+00	1100 J	5.50E-03	130 U	0.00E+00	380 J	2.71E-03	130 U	0.00E+00	250	2.06E-03	240	1.98E-03	690 J	3.11E-03
3/25/2011		463	463	500	62 U	0.00E+00	610	3.05E-03	62 U	0.00E+00	140	1.00E-03	62 U	0.00E+00	78	6.42E-04	67	5.51E-04	250 U	0.00E+00
3/30/2011		558	558	500	68 U	0.00E+00	470	2.35E-03	68 U	0.00E+00	190	1.36E-03	68 U	0.00E+00	250	2.06E-03	140	1.15E-03	270 U	0.00E+00
4/8/2011		764	764	500	80 U	0.00E+00	430	2.15E-03	80 U	0.00E+00	200	1.43E-03	120	9.88E-04	560	4.61E-03	260	2.14E-03	320 U	0.00E+00
4/15/2011		924	924	500	84 U	0.00E+00	340 U	0.00E+00	84 U	0.00E+00	170	1.21E-03	110	9.05E-04	540	4.44E-03	260	2.14E-03	340 U	0.00E+00
4/15/2011	Dup	924	924	500	60 U	0.00E+00	260 J	1.30E-03	60 U	0.00E+00	140 J	1.00E-03	99 J	8.15E-04	540 J	4.44E-03	230 J	1.89E-03	240 J,B	1.08E-03
5/19/2011		1685	1685	500	11 U	0.00E+00	67	3.35E-04	26	1.57E-04	100	7.14E-04	140	1.15E-03	920	7.57E-03	420	3.46E-03	81	3.65E-04
6/16/2011		2191	2191	420	11 U	0.00E+00	46 U	0.00E+00	14	7.12E-05	51	3.06E-04	83	5.74E-04	600	4.15E-03	280	1.94E-03	46 J,B	1.74E-04
6/16/2011	Dup	2191	2191	420	11 U	0.00E+00	45 U	0.00E+00	12	6.10E-05	53	3.18E-04	78	5.39E-04	580	4.01E-03	270	1.87E-03	69 J,B	2.61E-04
7/15/2011		2750	2750	420	24 U	0.00E+00	95 U	0.00E+00	24 U	0.00E+00	28	1.68E-04	41	2.83E-04	270	1.87E-03	120	8.30E-04	180	6.81E-04
8/22/2011		3133	3133	420	27 U	0.00E+00	110 U	0.00E+00	27 U	0.00E+00	35 J	2.10E-04	59 J	4.08E-04	340	2.35E-03	140	9.68E-04	110 U	0.00E+00
8/22/2011	Dup	3133	3133	420	22 U	0.00E+00	90 U	0.00E+00	22 U	0.00E+00	22 UJ	0.00E+00	30 J	2.07E-04	310	2.14E-03	130	8.99E-04	90 U	0.00E+00
9/15/2011		3630	3630	420	22 U	0.00E+00	90 U	0.00E+00	22 U	0.00E+00	22 U	0.00E+00	31	2.14E-04	340	2.35E-03	130	8.99E-04	90 U	0.00E+00
10/14/2011		4226	4226	420	19 U	0.00E+00	77 U	0.00E+00	19 U	0.00E+00	38	2.28E-04	19 U	0.00E+00	170	1.18E-03	70	4.84E-04	77 U	0.00E+00
11/21/2011		5019	5019	380	16 U	0.00E+00	63 U	0.00E+00	16 U	0.00E+00	16 U	0.00E+00	17	1.06E-04	220	1.38E-03	100	6.25E-04	160 U	0.00E+00
12/14/2011		5343	5343	260	19 U	0.00E+00	74 U	0.00E+00	19 U	0.00E+00	19 U	0.00E+00	19 U	0.00E+00	76	3.25E-04	55	2.35E-04	190 UJ	0.00E+00
1/19/2012		5993	5993	0	24 U	0.00E+00	97 U	0.00E+00	24 U	0.00E+00	36	0.00E+00	24 U	0.00E+00	78	0.00E+00	50	0.00E+00	97 U	0.00E+00
2/15/2012		6368	6368	260	19 U	0.00E+00	78 U	0.00E+00	19 U	0.00E+00	19 U	0.00E+00	19 U	0.00E+00	58	2.48E-04	40	1.71E-04	300	7.02E-04
3/15/2012		6946	6946	350	15 U	0.00E+00	58 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00	44	2.53E-04	31	1.79E-04	58 U	0.00E+00
4/19/2012		7629	7629	380	16 U	0.00E+00	62 U	0.00E+00	16 U	0.00E+00	16 U	0.00E+00	16 U	0.00E+00	48	3.00E-04	33	2.06E-04	62 U	0.00E+00
5/16/2012		8143	8143	420	15 U	0.00E+00	61 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00	28	1.94E-04	23	1.59E-04	61 U	0.00E+00

See notes on last page.

Table 4.4
Cell 4 - Phase 2 SVE System Data
March 2011 - June 2015
UTC Aerospace Systems
Plants 1/2 Facility
Rockford, Illinois

CELL 4 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 4 Run Time (hr)	SVE Flow Rate (scfm)	Methyl Ethyl Ketone (MEK)		Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)
					Conc (ppbv)	Mass Removal Rate (lb/hr)		
3/11/2011		222	222	500	2400 U	0.00E+00	1.72E+00	381.87
3/18/2011		366	366	500	590 U	0.00E+00	5.09E-01	453.50
3/18/2011	Dup	366	366	500	540 U	0.00E+00	4.97E-01	453.50
3/25/2011		463	463	500	250 U	0.00E+00	2.95E-01	482.07
3/30/2011		558	558	500	270 U	0.00E+00	3.18E-01	512.25
4/8/2011		764	764	500	320 U	0.00E+00	2.91E-01	572.27
4/15/2011		924	924	500	340 U	0.00E+00	2.36E-01	610.05
4/15/2011	Dup	924	924	500	240 U	0.00E+00	2.12E-01	610.05
5/19/2011		1685	1685	500	43 U	0.00E+00	1.58E-01	730.28
6/16/2011		2191	2191	420	46 U	0.00E+00	1.14E-01	753.86
6/16/2011	Dup	2191	2191	420	45 U	0.00E+00	1.09E-01	785.55
7/15/2011		2750	2750	420	95 U	0.00E+00	8.10E-02	830.85
8/22/2011		3133	3133	420	110 U	0.00E+00	9.95E-02	868.97
8/22/2011	Dup	3133	3133	420	90 U	0.00E+00	9.87E-02	868.65
9/15/2011		3630	3630	420	90 U	0.00E+00	7.63E-02	906.88
10/14/2011		4226	4226	420	77 U	0.00E+00	4.78E-02	935.35
11/21/2011		5019	5019	380	63 U	0.00E+00	3.93E-02	966.50
12/14/2011		5343	5343	260	74 U	0.00E+00	2.73E-02	975.34
1/19/2012		5993	5993	0	97 U	0.00E+00	0.00E+00	975.34
2/15/2012		6368	6368	260	78 U	0.00E+00	2.97E-02	986.48
3/15/2012		6946	6946	350	58 U	0.00E+00	3.36E-02	1005.89
4/19/2012		7629	7629	380	62 U	0.00E+00	4.81E-02	1038.74
5/16/2012		8143	8143	420	61 U	0.00E+00	4.19E-02	1060.30

See notes on last page.

Table 4.4
Cell 4 - Phase 2 SVE System Data
March 2011 - June 2015
UTC Aerospace Systems
Plants 1/2 Facility
Rockford, Illinois

CELL 4 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 4 Run Time (hr)	SVE Flow Rate (scfm)	1,1,1-Trichloroethane		1,1,2-Trichloroethane		1,1-Dichloroethane		1,2-Dichloroethane		1,1-Dichloroethene		cis-1,2-Dichloroethene	
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)
Pulse -off period June 1, 2012 to August 14, 2012																
8/14/2012		8546	8546	420	5000	4.34E-02	16 U	0.00E+00	98	6.32E-04	16 U	0.00E+00	66	4.17E-04	27	1.70E-04
9/17/2012		9033	9033	470	3700	3.60E-02	15 U	0.00E+00	140	1.01E-03	15 U	0.00E+00	15 U	0.00E+00	26	1.84E-04
Pulse -off period September 17, 2012 to November 15, 2012																
11/15/2012		9037	9037	420	4900 J	4.26E-02	28 U	0.00E+00	74 J	4.77E-04	28 U	0.00E+00	110 J	6.94E-04	29 J	1.83E-04
11/15/2012	Dup	9037	9037	420	8700	7.56E-02	24 U	0.00E+00	200 J	1.29E-03	24 U	0.00E+00	220	1.39E-03	360 J	2.27E-03
12/14/2012		9439	9439	150	500	1.55E-03	1.9 U	0.00E+00	14	3.22E-05	1.9 U	0.00E+00	6.8	1.53E-05	18	4.06E-05
Pulse -off period December 14, 2012 to February 26, 2013																
2/26/2013		9439	9439	0	520	0.00E+00	2.2 U	0.00E+00	23	0.00E+00	2.2 U	0.00E+00	5.7	0.00E+00	28	0.00E+00
4/11/2013		9876	9876	340	430	3.02E-03	1.8 U	0.00E+00	26	1.36E-04	1.8 U	0.00E+00	7.1	3.63E-05	28	1.43E-04
Pulse -off period April 11, 2013 to May 10, 2013																
5/10/2013		9882	9882	340	270	1.90E-03	1.1 U	0.00E+00	23	1.20E-04	1.1 U	0.00E+00	3.4	1.74E-05	30	1.53E-04
7/15/2013		10907	10907	340	100	7.03E-04	1.1 U	0.00E+00	13	6.78E-05	1.1 U	0.00E+00	1.7	8.69E-06	14	7.15E-05
Pulse -off period July 15, 2013 to September 9, 2013																
9/9/2013		10914	10914	340	170	1.20E-03	1.2 U	0.00E+00	17	8.87E-05	1.2 U	0.00E+00	2.2	1.12E-05	27	1.38E-04
11/18/2013		11992	11992	260	330	1.77E-03	1.1 U	0.00E+00	7.9	3.15E-05	1.1 U	0.00E+00	5.2	2.03E-05	14	5.47E-05
Pulse -off period November 18, 2013 to March 14, 2014																
1/15/2014		11997	11997	320	200	1.32E-03	1.2 U	0.00E+00	5.5	2.70E-05	1.2 U	0.00E+00	3.3	1.59E-05	9.6	4.62E-05
3/14/2014		12980	12980	180	430	1.60E-03	2.6 U	0.00E+00	6.2	1.71E-05	2.6 U	0.00E+00	8.2	2.22E-05	18	4.87E-05
Pulse -off period March 14, 2014 to May 15, 2014																
5/15/2014		12986	12986	180	470	1.75E-03	1.1 U	0.00E+00	10	2.76E-05	1.1 U	0.00E+00	6.9	1.87E-05	22	5.95E-05
7/23/2014		14627	14627	300	14	8.69E-05	1.3 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	1.6	0.00E+00
Pulse -off period July 23, 2014 to September 16, 2014																
9/16/2014		14634	14628	320	150	9.93E-04	1.2 U	0.00E+00	9	4.42E-05	1.2 U	0.00E+00	1.7	8.18E-06	15	7.21E-05
11/14/2014		16008	16008	320	220	1.46E-03	0.96 U	0.00E+00	5	2.45E-05	0.96 U	0.00E+00	3.6	1.73E-05	8.9	4.28E-05
Pulse -off period November 14, 2014 to January 9, 2015																
1/9/2015		16015	16015	260	150	8.07E-04	1.1 U	0.00E+00	4.1	1.64E-05	1.1 U	0.00E+00	2.2	8.60E-06	7.4	2.89E-05
3/13/2015		17178	17178	220	190	8.65E-04	1.2 U	0.00E+00	4.9	1.65E-05	1.2 U	0.00E+00	3.1	1.03E-05	5.5	1.82E-05
Pulse -off period March 13, 2015 to May 15, 2015																
5/15/2015		17186	17186	320	180	1.19E-03	2.6 U	0.00E+00	4.3	2.11E-05	2.6 U	0.00E+00	2.8	1.35E-05	5.2	2.50E-05

Notes:

Mass removal rate = (flow rate in scfm)(concentration in ppmv)(60)(MW) / (387*1000000)

"U" indicates non-detection at the specified reporting limit; for ND compounds, zero is used in mass removal calculations.

MW	Molecular weight (values from the U.S. National Library of Medicine)
SCFM	standard cubic feet per minute
J	Indicates estimated value.
B	The analyte was detected in the method, field and/or trip blank.

When a duplicate sample was collected, the original sample results are used in the mass calculations.

See notes on last page.

Table 4.4
Cell 4 - Phase 2 SVE System Data
March 2011 - June 2015
UTC Aerospace Systems
Plants 1/2 Facility
Rockford, Illinois

CELL 4 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 4 Run Time (hr)	SVE Flow Rate (scfm)	trans-1,2-Dichloroethene		Tetrachloroethene		Trichloroethene		Vinyl chloride		Methylene Chloride		Carbon Tetrachloride	
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)
Pulse -off period June 1, 2012 to August 14, 2012																
8/14/2012		8546	8546	420	16 U	0.00E+00	490	5.29E-03	180	1.54E-03	16 U	0.00E+00	160 U	0.00E+00	16 U	0.00E+00
9/17/2012		9033	9033	470	15 U	0.00E+00	410	4.95E-03	220	2.11E-03	15 U	0.00E+00	150 U	0.00E+00	15 U	0.00E+00
Pulse -off period September 17, 2012 to November 15, 2012																
11/15/2012		9037	9037	420	28 U	0.00E+00	260 J	2.81E-03	150 J	1.28E-03	28 U	0.00E+00	280 U	0.00E+00	28 U	0.00E+00
11/15/2012	Dup	9037	9037	420	24 U	0.00E+00	1200 J	1.30E-02	390 J	3.34E-03	24 U	0.00E+00	240 U	0.00E+00	24 U	0.00E+00
12/14/2012		9439	9439	150	1.9 U	0.00E+00	62	2.39E-04	28	8.56E-05	1.9 U	0.00E+00	19 U	0.00E+00	1.9 U	0.00E+00
Pulse -off period December 14, 2012 to February 26, 2013																
2/26/2013		9439	9439	0	2.2 U	0.00E+00	130	0.00E+00	27	0.00E+00	2.2 U	0.00E+00	22 U	0.00E+00	2.2 U	0.00E+00
4/11/2013		9876	9876	340	1.8 U	0.00E+00	98	8.57E-04	25	1.73E-04	1.8 U	0.00E+00	18 U	0.00E+00	1.8 U	0.00E+00
Pulse -off period April 11, 2013 to May 10, 2013																
5/10/2013		9882	9882	340	1.1 U	0.00E+00	120	1.05E-03	23	1.59E-04	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00
7/15/2013		10907	10907	340	1.1 U	0.00E+00	180	1.57E-03	30	2.08E-04	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00
Pulse -off period July 15, 2013 to September 9, 2013																
9/9/2013		10914	10914	340	1.2	6.13E-06	350	3.06E-03	50	3.46E-04	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00
11/18/2013		11992	11992	260	1.1 U	0.00E+00	50	3.34E-04	13	6.89E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00
Pulse -off period November 18, 2013 to March 14, 2014																
1/15/2014		11997	11997	320	1.2 U	0.00E+00	51	4.20E-04	11	7.17E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00
3/14/2014		12980	12980	180	2.6 U	0.00E+00	7.8	3.61E-05	14	5.13E-05	2.6 U	0.00E+00	26 U	0.00E+00	2.6 U	0.00E+00
Pulse -off period March 14, 2014 to May 15, 2014																
5/15/2014		12986	12986	180	1.1 U	0.00E+00	38	1.76E-04	17	6.23E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00
7/23/2014		14627	14627	300	1.3 U	0.00E+00	15	1.16E-04	2.4	1.47E-05	1.3 U	0.00E+00	13 U	0.00E+00	1.3 U	0.00E+00
Pulse -off period July 23, 2014 to September 16, 2014																
9/16/2014		14634	14628	320	1.2 U	0.00E+00	200	1.65E-03	39	2.54E-04	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00
11/14/2014		16008	16008	320	0.96 U	0.00E+00	69	5.68E-04	12	7.82E-05	0.96 U	0.00E+00	9.6 U	0.00E+00	0.96 U	0.00E+00
Pulse -off period November 14, 2014 to January 9, 2015																
1/9/2015		16015	16015	260	1.1 U	0.00E+00	50	3.34E-04	11	5.83E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00
3/13/2015		17178	17178	220	1.2 U	0.00E+00	27	1.53E-04	6.9	3.09E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00
Pulse -off period March 13, 2015 to May 15, 2015																
5/15/2015		17186	17186	320	2.6 U	0.00E+00	45	3.70E-04	9.8	6.39E-05	2.6 U	0.00E+00	26 U	0.00E+00	2.6 U	0.00E+00

Notes:

Mass removal rate = (flow rate in scfm)(concentration in ppmv)(60)(MW) / (387*1000000)

"U" indicates non-detection at the specified reporting limit; for ND compounds, zero is used in mass removal calculations.

MW	molecular weight (values from the U.S. National Library of Medicine)
SCFM	standard cubic feet per minute
J	Indicates estimated value.
B	The analyte was detected in the method, field and/or trip blank.

When a duplicate sample was collected, the original sample results are used in the mass calculations.

See notes on last page.

Table 4.4
Cell 4 - Phase 2 SVE System Data
March 2011 - June 2015
UTC Aerospace Systems
Plants 1/2 Facility
Rockford, Illinois

CELL 4 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 4 Run Time (hr)	SVE Flow Rate (scfm)	Chloroform		Chloroethane		Benzene		Toluene		Ethylbenzene		m&p-Xylenes		o-Xylenes		Acetone	
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)
Pulse -off period June 1, 2012 to August 14, 2012																				
8/14/2012		8546	8546	420	16 U	0.00E+00	63 U	0.00E+00	16 U	0.00E+00	16 U	0.00E+00	16 U	0.00E+00	16 U	0.00E+00	16 U	0.00E+00	160 U	0.00E+00
9/17/2012		9033	9033	470	15 U	0.00E+00	61 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00	150 U	0.00E+00
Pulse -off period September 17, 2012 to November 15, 2012																				
11/15/2012		9037	9037	420	28 U	0.00E+00	110 U	0.00E+00	28 U	0.00E+00	28 U	0.00E+00	28 U	0.00E+00	28 U	0.00E+00	28 U	0.00E+00	280 U	0.00E+00
11/15/2012	Dup	9037	9037	420	24 U	0.00E+00	94 U	0.00E+00	24 U	0.00E+00	24 U	0.00E+00	24 U	0.00E+00	24 U	0.00E+00	24 U	0.00E+00	240 U	0.00E+00
12/14/2012		9439	9439	150	1.9 U	0.00E+00	7.5 U	0.00E+00	1.9 U	0.00E+00	1.9 U	0.00E+00	1.9 U	0.00E+00	1.9 U	0.00E+00	1.9 U	0.00E+00	19 U	0.00E+00
Pulse -off period December 14, 2012 to February 26, 2013																				
2/26/2013		9439	9439	0	2.2 U	0.00E+00	8.7 U	0.00E+00	2.2 U	0.00E+00	2.2 U	0.00E+00	2.2 U	0.00E+00	2.2 U	0.00E+00	2.2 U	0.00E+00	22 U	0.00E+00
4/11/2013		9876	9876	340	1.8 U	0.00E+00	7.1 U	0.00E+00	1.8 U	0.00E+00	1.8 U	0.00E+00	1.8 U	0.00E+00	1.8 U	0.00E+00	1.8 U	0.00E+00	18 U	0.00E+00
Pulse -off period April 11, 2013 to May 10, 2013																				
5/10/2013		9882	9882	340	1.1 U	0.00E+00	4.5 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00
7/15/2013		10907	10907	340	1.1 U	0.00E+00	4.6 U	0.00E+00	1.1 U	0.00E+00	19	9.23E-05	1.2	6.72E-06	2.2	1.23E-05	1.1 U	0.00E+00	24	7.35E-05
Pulse -off period July 15, 2013 to September 9, 2013																				
9/9/2013		10914	10914	340	1.2 U	0.00E+00	4.6 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	14	4.29E-05
11/18/2013		11992	11992	260	1.1 U	0.00E+00	4.4 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00
Pulse -off period November 18, 2013 to March 14, 2014																				
1/15/2014		11997	11997	320	1.2 U	0.00E+00	4.8 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00
3/14/2014		12980	12980	180	2.6 U	0.00E+00	10 U	0.00E+00	2.6 U	0.00E+00	2.6 U	0.00E+00	2.6 U	0.00E+00	2.6 U	0.00E+00	2.6 U	0.00E+00	26 U	0.00E+00
Pulse -off period March 14, 2014 to May 15, 2014																				
5/15/2014		12986	12986	180	1.1 U	0.00E+00	4.6 U	0.00E+00	1.1 U	0.00E+00	3.9	1.00E-05	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00
7/23/2014		14627	14627	300	1.3 U	0.00E+00	5.2 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	13 U	0.00E+00
Pulse -off period July 23, 2014 to September 16, 2014																				
9/16/2014		14634	14628	320	1.2 U	0.00E+00	4.9 U	0.00E+00	2	7.75E-06	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	21	6.05E-05
11/14/2014		16008	16008	320	0.96 U	0.00E+00	3.8 U	0.00E+00	0.96 U	0.00E+00	0.96 U	0.00E+00	0.96 U	0.00E+00	0.96 U	0.00E+00	0.96 U	0.00E+00	9.6 U	0.00E+00
Pulse -off period November 14, 2014 to January 9, 2015																				
1/9/2015		16015	16015	260	1.1 U	0.00E+00	4.4 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00
3/13/2015		17178	17178	220	1.2 U	0.00E+00	4.8 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00
Pulse -off period March 13, 2015 to May 15, 2015																				
5/15/2015		17186	17186	320	2.6 U	0.00E+00	10 U	0.00E+00	2.6 U	0.00E+00	2.6 U	0.00E+00	2.6 U	0.00E+00	2.6 U	0.00E+00	2.6 U	0.00E+00	26 U	0.00E+00

Notes:

Mass removal rate = (flow rate in scfm)(concentration in ppmv)(60)(MW) / (387*1000000)

"U" indicates non-detection at the specified reporting limit; for ND compounds, zero is used in mass removal calculations.

MW	Molecular weight (values from the U.S. National Library of Medicine)
SCFM	standard cubic feet per minute
J	Indicates estimated value.
B	The analyte was detected in the method, field and/or trip blank.

When a duplicate sample was collected, the original sample results are used in the mass calculations.

See notes on last page.

Table 4.4
Cell 4 - Phase 2 SVE System Data
March 2011 - June 2015
UTC Aerospace Systems
Plants 1/2 Facility
Rockford, Illinois

CELL 4 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 4 Run Time (hr)	SVE Flow Rate (scfm)	Methyl Ethyl Ketone (MEK)		Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)
					Conc (ppbv)	Mass Removal Rate (lb/hr)		
Pulse -off period June 1, 2012 to August 14, 2012								
8/14/2012		8546	8546	420	63 U	0.00E+00	5.15E-02	1081.05
9/17/2012		9033	9033	470	61 U	0.00E+00	4.42E-02	1102.58
Pulse -off period September 17, 2012 to November 15, 2012								
11/15/2012		9037	9037	420	110 U	0.00E+00	4.80E-02	1102.78
11/15/2012	Dup	9037	9037	420	94 U	0.00E+00	9.68E-02	1102.97
12/14/2012		9439	9439	150	7.5 U	0.00E+00	1.96E-03	1103.57
Pulse -off period December 14, 2012 to February 26, 2013								
2/26/2013		9439	9439	0	8.7 U	0.00E+00	0.00E+00	1103.57
4/11/2013		9876	9876	340	7.1 U	0.00E+00	4.37E-03	1105.48
Pulse -off period April 11, 2013 to May 10, 2013								
5/10/2013		9882	9882	340	4.5 U	0.00E+00	3.40E-03	1105.50
7/15/2013		10907	10907	340	4.9	1.86E-05	2.84E-03	1108.40
Pulse -off period July 15, 2013 to September 9, 2013								
9/9/2013		10914	10914	340	4.6 U	0.00E+00	4.89E-03	1108.44
11/18/2013		11992	11992	260	4.4 U	0.00E+00	2.28E-03	1110.90
Pulse -off period November 18, 2013 to March 14, 2014								
1/15/2014		11997	11997	320	4.8 U	0.00E+00	1.90E-03	1110.91
3/14/2014		12980	12980	180	10 U	0.00E+00	1.78E-03	1112.65
Pulse -off period March 14, 2014 to May 15, 2014								
5/15/2014		12986	12986	180	4.6 U	0.00E+00	2.10E-03	1112.67
7/23/2014		14627	14627	300	5.2 U	0.00E+00	2.17E-04	1113.02
Pulse -off period July 23, 2014 to September 16, 2014								
9/16/2014		14634	14628	320	4.9 U	0.00E+00	3.09E-03	1113.03
11/14/2014		16008	16008	320	3.8 U	0.00E+00	2.19E-03	1116.04
Pulse -off period November 14, 2014 to January 9, 2015								
1/9/2015		16015	16015	260	4.4 U	0.00E+00	1.25E-03	1116.05
3/13/2015		17178	17178	220	4.8 U	0.00E+00	1.09E-03	1117.32
Pulse -off period March 13, 2015 to May 15, 2015								
5/15/2015		17186	17186	320	10 U	0.00E+00	1.68E-03	1117.34

Notes:

Mass removal rate = (flow rate in scfm)(concentration in ppmv)(60)(MW) / (387*1000000)

"U" indicates non-detection at the specified reporting limit; for ND compounds, zero is used in mass removal calculations.

MW	molecular weight (values from the U.S. National Library of Medicine)
SCFM	standard cubic feet per minute
J	Indicates estimated value.
B	The analyte was detected in the method, field and/or trip blank.

When a duplicate sample was collected, the original sample results are used in the mass calculations.

See notes on last page.

Table 4.5
Cell 5 - Phase 2 SVE System Data
March 2011 - March 2015
UTC Aerospace Systems
Plants 1/2 Facility
Rockford, Illinois

CELL 5 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 5 Run Time (hr)	SVE Flow Rate (scfm)	1,1,1-Trichloroethane		1,1,2-Trichloroethane		1,1-Dichloroethane		1,2-Dichloroethane		1,1-Dichloroethene	
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)
3/11/2011		218	218	360	28000	2.08E-01	100 U	0.00E+00	2400	1.33E-02	100 U	0.00E+00	740	4.00E-03
3/18/2011		362	362	360	13000	9.68E-02	52 U	0.00E+00	1100	6.08E-03	52 U	0.00E+00	280	1.52E-03
3/25/2011		459	459	360	8900	6.63E-02	30 U	0.00E+00	650	3.59E-03	30 U	0.00E+00	200	1.08E-03
3/30/2011		553	553	360	4600	3.43E-02	13 U	0.00E+00	310	1.71E-03	13 U	0.00E+00	100	5.41E-04
4/8/2011		759	759	360	4600	3.43E-02	20 U	0.00E+00	330	1.82E-03	20 U	0.00E+00	95	5.14E-04
4/15/2011		920	920	360	4600	3.43E-02	20 U	0.00E+00	370	2.04E-03	20 U	0.00E+00	69	3.73E-04
5/19/2011		1681	1681	330	2800	1.91E-02	12 U	0.00E+00	250	1.27E-03	12 U	0.00E+00	34	1.69E-04
6/16/2011		2187	2187	300	1800	1.12E-02	7.8 U	0.00E+00	170	7.82E-04	7.8 U	0.00E+00	23 J	1.04E-04
7/15/2011		2745	2745	220	2400	1.09E-02	7.6 U	0.00E+00	180	6.08E-04	7.6 U	0.00E+00	27	8.93E-05
8/22/2011		3129	3129	260	1700	9.14E-03	5.0 U	0.00E+00	150	5.98E-04	5.0 U	0.00E+00	21	8.21E-05
9/15/2011		3626	3626	220	1400	6.37E-03	4.5 U	0.00E+00	69	2.33E-04	4.5 U	0.00E+00	22	7.27E-05
10/14/2011		4222	4222	220	980	4.46E-03	3.9 U	0.00E+00	57	1.92E-04	3.9 U	0.00E+00	19	6.28E-05
11/21/2011		5015	5015	200	690	2.85E-03	3.2 U	0.00E+00	55	1.69E-04	3.2 U	0.00E+00	45	1.35E-04
11/21/2011	Dup	5015	5015	200	700	2.90E-03	3.1 U	0.00E+00	57	1.75E-04	3.1 U	0.00E+00	59	1.77E-04
12/14/2011		5339	5339	200	890	3.68E-03	3.2 U	0.00E+00	62	1.90E-04	3.2 U	0.00E+00	64	1.92E-04
1/19/2012		5958	5958	0	540	0.00E+00	2.8 U	0.00E+00	17	0.00E+00	2.8 U	0.00E+00	9.9	0.00E+00
2/15/2012		6364	6364	0	990	0.00E+00	4.1 U	0.00E+00	24	0.00E+00	4.1 U	0.00E+00	100	0.00E+00
3/15/2012		6942	6942	0	1100	0.00E+00	3.8 U	0.00E+00	43	0.00E+00	3.8 U	0.00E+00	20	0.00E+00
4/19/2012		7625	7625	80	650	1.08E-03	2.4 U	0.00E+00	28	3.44E-05	2.4 U	0.00E+00	8.1	9.74E-06
5/16/2012		8138	8138	200	650	2.69E-03	2.0 U	0.00E+00	28	8.59E-05	2.0 U	0.00E+00	8.9	2.68E-05
Pulse -off period June 1, 2012 to August 14, 2012														
8/14/2012		8541	8541	360	710	3.23E-03	2.5 U	0.00E+00	44	1.49E-04	2.5 U	0.00E+00	11	3.64E-05
9/17/2012		9029	9029	360	2000	8.27E-03	8.0 U	0.00E+00	29	8.90E-05	8.0 U	0.00E+00	19	5.71E-05
Pulse -off period September 17, 2012 to November 15, 2012														
11/15/2012		9033	9033	220	1200	5.46E-03	4.4 U	0.00E+00	19	6.41E-05	4.4 U	0.00E+00	33	1.09E-04
12/14/2012		9436	9436	200	1200	4.96E-03	4.8 U	0.00E+00	35	1.07E-04	4.8 U	0.00E+00	16	4.81E-05
Pulse -off period December 14, 2012 to February 26, 2013														
2/26/2013		9511	9511	440	70	6.37E-04	6.8 U	0.00E+00	6.8 U	0.00E+00	6.8 U	0.00E+00	6.8 U	0.00E+00
4/11/2013		9952	9952	420	1600	1.39E-02	8	6.95E-05	160	1.03E-03	5.1 U	0.00E+00	20	1.26E-04
Pulse -off period April 11, 2013 to May 10, 2013														
5/10/2013		9958	9958	420	1200	1.04E-02	5.4 U	0.00E+00	86	5.54E-04	5.4 U	0.00E+00	12	7.57E-05
7/15/2013		10984	10984	360	1600	1.19E-02	12	8.93E-05	100	5.52E-04	4.7 U	0.00E+00	25	1.35E-04
Pulse -off period July 15, 2013 to September 9, 2013														
9/9/2013		10991	10991	380	810	6.37E-03	4 U	0.00E+00	30	1.75E-04	4 U	0.00E+00	6.3	3.60E-05
11/18/2013		12069	12069	380	1600	1.26E-02	7.6 U	0.00E+00	87	5.07E-04	7.6 U	0.00E+00	23	1.31E-04
Pulse -off period November 18, 2013 to January 15, 2014														
1/15/2014		12074	12074	380	950	7.47E-03	3.5 U	0.00E+00	24	1.40E-04	3.5 U	0.00E+00	10	5.71E-05
3/14/2014		13057	13057	380	1400	1.10E-02	7.8 U	0.00E+00	32	1.87E-04	7.8 U	0.00E+00	24	1.37E-04
Pulse -off period March 14, 2014 to May 15, 2014														
5/15/2014		13063	13063	300	1000	6.20E-03	3.0 U	0.00E+00	20	9.21E-05	3.0 U	0.00E+00	14	6.31E-05
7/23/2014		14714	14714	100	670	1.39E-03	2.2 U	0.00E+00	19	2.92E-05	2.2 U	0.00E+00	9.6	1.44E-05
Pulse -off period July 23, 2014 to September 16, 2014														
9/16/2014		14721	14715	120	470	1.17E-03	2.3 U	0.00E+00	10	1.84E-05	2.3 U	0.00E+00	4.8	8.66E-06
11/14/2014		16095	16095	290	660	3.96E-03	2.4 U	0.00E+00	15	6.67E-05	2.4 U	0.00E+00	8.5	3.70E-05
Pulse -off period November 14, 2014 to January 9, 2015														
1/9/2015		16102	16102	180	360	1.34E-03	1.1 U	0.00E+00	4.6	1.27E-05	1.1 U	0.00E+00	4.0	1.08E-05
3/13/2015		17322	17322	260	660	3.55E-03	2.4 U	0.00E+00	22	8.78E-05	2.4 U	0.00E+00	8.0	3.13E-05
Pulse -off period March 13, 2015 to May 15, 2015														
5/15/2015		17329	17329	260	360	1.94E-03	1.1 U	0.00E+00	7.3	2.91E-05	1.1 U	0.00E+00	2.5	9.77E-06

Notes:

Mass removal rate = (flow rate in scfm)(concentration in ppmv)(60)(MW) / (387*1000000)

"U" indicates non-detection at the specified reporting limit, for ND compounds, zero is used in mass removal calculations.

MW	molecular weight (values from the U.S. National Library of Medicine)
SCFM	standard cubic feet per minute
J	Indicates estimated value
B	The analyte was detected in the method, field and/or trip blank

When a duplicate sample was collected, the original sample results are used in the mass calculations.

Table 4.5
Cell 5 - Phase 2 SVE System Data
March 2011 - March 2015
UTC Aerospace Systems
Plants 1/2 Facility
Rockford, Illinois

CELL 5 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 5 Run Time (hr)	SVE Flow Rate (scfm)	cis-1,2-Dichloroethene		trans-1,2-Dichloroethene		Tetrachloroethene		Trichloroethene		Vinyl chloride		Methylene Chloride	
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)
3/11/2011		218	218	360	10000	5 41E-02	100 U	0.00E+00	5900	5.46E-02	1400	1.03E-02	100 U	0 00E+00	100 U	0.00E+00
3/18/2011		362	362	360	4800	2.60E-02	52 U	0.00E+00	6800	6 29E-02	1100	8.07E-03	52 U	0.00E+00	52 U	0.00E+00
3/25/2011		459	459	360	2600	1.41E-02	30 U	0.00E+00	5400	5 00E-02	760	5 57E-03	30 U	0.00E+00	33	1.56E-04
3/30/2011		553	553	360	1300	7.03E-03	13 U	0.00E+00	4000	3.70E-02	420	3.08E-03	13 U	0.00E+00	13 U	0 00E+00
4/8/2011		759	759	360	1100	5.95E-03	20 U	0.00E+00	5700	5.28E-02	560	4.11E-03	20 U	0 00E+00	20 U	0.00E+00
4/15/2011		920	920	360	980	5 30E-03	20 U	0 00E+00	4600	4 26E-02	560	4.11E-03	20 U	0 00E+00	20 U	0.00E+00
5/19/2011		1681	1681	330	730	3 62E-03	12 U	0 00E+00	7800	6.62E-02	360	2.42E-03	12 U	0.00E+00	12 U	0.00E+00
6/16/2011		2187	2187	300	520	2.34E-03	7.8 U	0.00E+00	2400	1.85E-02	180	1 10E-03	7 8 U	0.00E+00	7.8 U	0.00E+00
7/15/2011		2745	2745	220	840	2.78E-03	7.6 U	0.00E+00	2700	1 53E-02	280	1 25E-03	7 6 U	0.00E+00	20	5.79E-05
8/22/2011		3129	3129	260	690	2.70E-03	5.0 U	0.00E+00	2000	1.34E-02	160	8 47E-04	5 0 U	0.00E+00	5.0 U	0.00E+00
9/15/2011		3626	3626	220	380	1.26E-03	4.5 U	0.00E+00	1100	6.22E-03	83	3.72E-04	4.5 U	0.00E+00	4.5 U	0.00E+00
10/14/2011		4222	4222	220	310	1.03E-03	3 9 U	0.00E+00	760	4 30E-03	50	2.24E-04	3.9 U	0.00E+00	3.9 U	0.00E+00
11/21/2011		5015	5015	200	290	8 72E-04	3 2 U	0.00E+00	380	1 95E-03	27	1.10E-04	3.2 U	0.00E+00	32 U	0.00E+00
11/21/2011	Dup	5015	5015	200	300	9.02E-04	3 1 U	0.00E+00	390	2 01E-03	28	1.14E-04	3.1 U	0.00E+00	31 U	0.00E+00
12/14/2011		5339	5339	200	270	8.12E-04	3 2 U	0.00E+00	350	1 80E-03	24	9.78E-05	3.2 U	0.00E+00	32 U	0.00E+00
1/19/2012		5958	5958	0	69	0.00E+00	2.8 U	0.00E+00	78	0.00E+00	10	0.00E+00	2 8 U	0 00E+00	2.8 U	0.00E+00
2/15/2012		6364	6364	0	230	0.00E+00	4.1 U	0 00E+00	150	0.00E+00	19	0.00E+00	4.1 U	0.00E+00	4.1 U	0.00E+00
3/15/2012		6942	6942	0	220	0.00E+00	3.8 U	0 00E+00	140	0.00E+00	25	0.00E+00	3.8 U	0.00E+00	3.8 U	0 00E+00
4/19/2012		7625	7625	80	130	1.56E-04	2.4 U	0.00E+00	100	2.06E-04	19	3.10E-05	2.4 U	0.00E+00	2 4 U	0.00E+00
5/16/2012		8138	8138	200	110	3.31E-04	2.0 U	0.00E+00	130	6 68E-04	24	9.78E-05	2.0 U	0.00E+00	2.0 U	0.00E+00
Pulse -off period June 1, 2012 to August 14, 2012																
8/14/2012		8541	8541	360	110	3.64E-04	2 5 U	0.00E+00	540	3.05E-03	64	2.87E-04	2.5 U	0.00E+00	25 U	0.00E+00
9/17/2012		9029	9029	360	42	1.26E-04	8.0 U	0.00E+00	190	9.77E-04	71	2.89E-04	8.0 U	0.00E+00	80 U	0.00E+00
Pulse -off period September 17, 2012 to November 15, 2012																
11/15/2012		9033	9033	220	8	2.65E-05	4.4 U	0.00E+00	55	3 11E-04	39	1.75E-04	4.4 U	0.00E+00	44 U	0.00E+00
12/14/2012		9436	9436	200	37	1.11E-04	4.8 U	0.00E+00	61	3.14E-04	60	2.44E-04	4.8 U	0.00E+00	48 U	0.00E+00
Pulse -off period December 14, 2012 to February 26, 2013																
2/26/2013		9511	9511	440	6.8 U	0.00E+00	6.8 U	0.00E+00	6.8 U	0.00E+00	6 8 U	0.00E+00	6.8 U	0.00E+00	68 U	0.00E+00
4/11/2013		9952	9952	420	88	5.56E-04	5.1 U	0.00E+00	320	3.46E-03	110	9.41E-04	5.1 U	0.00E+00	51 U	0.00E+00
Pulse -off period April 11, 2013 to May 10, 2013																
5/10/2013		9958	9958	420	45	2 84E-04	5.4 U	0.00E+00	220	2.38E-03	79	6.76E-04	5.4 U	0.00E+00	54 U	0.00E+00
7/15/2013		10984	10984	360	38	2.06E-04	4.7 U	0.00E+00	310	2.87E-03	100	7.33E-04	4.7 U	0.00E+00	47 U	0.00E+00
Pulse -off period July 15, 2013 to September 9, 2013																
9/9/2013		10991	10991	380	16	9 14E-05	4 U	0.00E+00	170	1.66E-03	62	4.80E-04	4 U	0.00E+00	40 U	0.00E+00
11/18/2013		12069	12069	380	50	2.86E-04	7.6 U	0.00E+00	180	1 76E-03	71	5.50E-04	7.6 U	0.00E+00	76 U	0.00E+00
Pulse -off period November 18, 2013 to January 15, 2014																
1/15/2014		12074	12074	380	23	1.31E-04	3.5 U	0.00E+00	82	8.01E-04	37	2.86E-04	3.5 U	0.00E+00	35 U	0.00E+00
3/14/2014		13057	13057	380	88	5.03E-04	7.8 U	0.00E+00	30	2.93E-04	41	3.17E-04	7.8 U	0.00E+00	78 U	0.00E+00
Pulse -off period March 14, 2014 to May 15, 2014																
5/15/2014		13063	13063	300	65	2 93E-04	3.0 U	0 00E+00	71	5.48E-04	33	2.02E-04	3.0 U	0.00E+00	30 U	0.00E+00
7/23/2014		14714	14714	100	12	1.80E-05	2.2 U	0.00E+00	47	1.21E-04	14	2.85E-05	2.2 U	0.00E+00	22 U	0.00E+00
Pulse -off period July 23, 2014 to September 16, 2014																
9/16/2014		14721	14715	120	6 9	1.24E-05	2.3 U	0.00E+00	79	2 44E-04	22	5.38E-05	2.3 U	0.00E+00	23 U	0.00E+00
11/14/2014		16095	16095	290	19	8.28E-05	2 4 U	0.00E+00	32	2.39E-04	11	6.50E-05	2.4 U	0.00E+00	24 U	0.00E+00
Pulse -off period November 14, 2014 to January 9, 2015																
1/9/2015		16102	16102	180	7.2	1.95E-05	1.1 U	0.00E+00	12	5.55E-05	4.9	1 80E-05	1.1 U	0.00E+00	11 U	0.00E+00
3/13/2015		17322	17322	260	16	6.25E-05	2.4 U	0.00E+00	29	1.94E-04	12	6 36E-05	2.4 U	0.00E+00	24 U	0 00E+00
Pulse -off period March 13, 2015 to May 15, 2015																
5/15/2015		17329	17329	260	5 9	2.31E-05	1.1 U	0.00E+00	31	2 07E-04	8 2	4.34E-05	1.1 U	0.00E+00	11 U	0.00E+00

Notes:

Mass removal rate = (flow rate in scfm)(concentration in ppmv)(60)(MW) / (387*1000000)

"U" indicates non-detection at the specified reporting limit; for ND compounds, zero is used in mass removal calculations

MW	molecular weight (values from the U.S. National Library of Medicine)
SCFM	standard cubic feet per minute
J	Indicates estimated value.
B	The analyte was detected in the method, field and/or trip blank.

When a duplicate sample was collected, the original sample results are used in the mass calculations.

See notes on last page.

Table 4.5
Cell 5 - Phase 2 SVE System Data
March 2011 - March 2015
UTC Aerospace Systems
Plants 1/2 Facility
Rockford, Illinois

CELL 5 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 5 Run Time (hr)	SVE Flow Rate (scfm)	Carbon Tetrachloride		Chloroform		Chloroethane		Benzene		Toluene	
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)
3/11/2011		218	218	360	100 U	0.00E+00	100 U	0.00E+00	420 U	0.00E+00	100 U	0.00E+00	350	1.80E-03
3/18/2011		362	362	360	52 U	0.00E+00	52 U	0.00E+00	210 U	0.00E+00	52 U	0.00E+00	120 JB	6.17E-04
3/25/2011		459	459	360	30 U	0.00E+00	30 U	0.00E+00	120 U	0.00E+00	30 U	0.00E+00	73	3.75E-04
3/30/2011		553	553	360	13 U	0.00E+00	13 U	0.00E+00	51 U	0.00E+00	13 U	0.00E+00	37	1.90E-04
4/8/2011		759	759	360	20 U	0.00E+00	20 U	0.00E+00	81 U	0.00E+00	20 U	0.00E+00	57	2.93E-04
4/15/2011		920	920	360	20 U	0.00E+00	20 U	0.00E+00	81 U	0.00E+00	20 U	0.00E+00	85	4.37E-04
5/19/2011		1681	1681	330	12 U	0.00E+00	12 U	0.00E+00	47 U	0.00E+00	12 U	0.00E+00	120	5.66E-04
6/16/2011		2187	2187	300	7.8 U	0.00E+00	7.8 U	0.00E+00	31 U	0.00E+00	12	4.36E-05	7.8 U	0.00E+00
7/15/2011		2745	2745	220	7.6 U	0.00E+00	7.6 U	0.00E+00	30 U	0.00E+00	7.6 U	0.00E+00	49	1.54E-04
8/22/2011		3129	3129	260	5.0 U	0.00E+00	5.0 U	0.00E+00	20 U	0.00E+00	7.6	2.39E-05	5.0 U	0.00E+00
9/15/2011		3626	3626	220	4.5 U	0.00E+00	4.5 U	0.00E+00	18 U	0.00E+00	5	1.33E-05	4.5 U	0.00E+00
10/14/2011		4222	4222	220	3.9 U	0.00E+00	3.9 U	0.00E+00	16 U	0.00E+00	3.9 U	0.00E+00	3.9 U	0.00E+00
11/21/2011		5015	5015	200	3.2 U	0.00E+00	3.2 U	0.00E+00	13 U	0.00E+00	3.2 U	0.00E+00	3.2 U	0.00E+00
11/21/2011	Dup	5015	5015	200	3.1 U	0.00E+00	3.1 U	0.00E+00	12 U	0.00E+00	3.1 U	0.00E+00	3.1 U	0.00E+00
12/14/2011		5339	5339	200	3.2 U	0.00E+00	3.2 U	0.00E+00	13 U	0.00E+00	3.2 U	0.00E+00	3.2 U	0.00E+00
1/19/2012		5958	5958	0	2.8 U	0.00E+00	2.8 U	0.00E+00	11 U	0.00E+00	2.8 U	0.00E+00	2.8 U	0.00E+00
2/15/2012		6364	6364	0	4.1 U	0.00E+00	4.1 U	0.00E+00	16 U	0.00E+00	4.1 U	0.00E+00	4.1 U	0.00E+00
3/15/2012		6942	6942	0	3.8 U	0.00E+00	3.8 U	0.00E+00	15 U	0.00E+00	3.8 U	0.00E+00	3.8 U	0.00E+00
4/19/2012		7625	7625	80	2.4 U	0.00E+00	2.4 U	0.00E+00	9.4 U	0.00E+00	2.4 U	0.00E+00	2.4 U	0.00E+00
5/16/2012		8138	8138	200	2.0 U	0.00E+00	2.0 U	0.00E+00	7.9 U	0.00E+00	2.0 U	0.00E+00	2.0 U	0.00E+00
Pulse -off period June 1, 2012 to August 14, 2012														
8/14/2012		8541	8541	360	2.5 U	0.00E+00	2.5 U	0.00E+00	9.9 U	0.00E+00	2.5 U	0.00E+00	2.5 U	0.00E+00
9/17/2012		9029	9029	360	8.0 U	0.00E+00	8.0 U	0.00E+00	32 U	0.00E+00	8.0 U	0.00E+00	8.0 U	0.00E+00
Pulse -off period September 17, 2012 to November 15, 2012														
11/15/2012		9033	9033	220	4.4 U	0.00E+00	4.4 U	0.00E+00	18 U	0.00E+00	4.4 U	0.00E+00	4.4 U	0.00E+00
12/14/2012		9436	9436	200	4.8 U	0.00E+00	4.8 U	0.00E+00	19 U	0.00E+00	4.8 U	0.00E+00	4.8 U	0.00E+00
Pulse -off period December 14, 2012 to February 26, 2013														
2/26/2013		9511	9511	440	6.8 U	0.00E+00	6.8 U	0.00E+00	27 U	0.00E+00	12	6.39E-05	6.8 U	0.00E+00
4/11/2013		9952	9952	420	5.1 U	0.00E+00	5.1 U	0.00E+00	20 U	0.00E+00	5.1 U	0.00E+00	5.1 U	0.00E+00
Pulse -off period April 11, 2013 to May 10, 2013														
5/10/2013		9958	9958	420	5.4 U	0.00E+00	5.4 U	0.00E+00	22 U	0.00E+00	5.4 U	0.00E+00	5.4 U	0.00E+00
7/15/2013		10984	10984	360	4.7 U	0.00E+00	4.7 U	0.00E+00	19 U	0.00E+00	4.7 U	0.00E+00	4.7 U	0.00E+00
Pulse -off period July 15, 2013 to September 9, 2013														
9/9/2013		10991	10991	380	4 U	0.00E+00	4 U	0.00E+00	16 U	0.00E+00	4 U	0.00E+00	4 U	0.00E+00
11/18/2013		12069	12069	380	7.6 U	0.00E+00	7.6 U	0.00E+00	31 U	0.00E+00	7.6 U	0.00E+00	7.6 U	0.00E+00
Pulse -off period November 18, 2013 to January 15, 2014														
1/15/2014		12074	12074	380	3.5 U	0.00E+00	3.5 U	0.00E+00	14 U	0.00E+00	3.5 U	0.00E+00	3.5 U	0.00E+00
3/14/2014		13057	13057	380	7.8 U	0.00E+00	7.8 U	0.00E+00	31 U	0.00E+00	7.8 U	0.00E+00	7.8 U	0.00E+00
Pulse -off period March 14, 2014 to May 15, 2014														
5/15/2014		13063	13063	300	3.0 U	0.00E+00	3.0 U	0.00E+00	12 U	0.00E+00	3.0 U	0.00E+00	3.0 U	0.00E+00
7/23/2014		14714	14714	100	2.2 U	0.00E+00	2.2 U	0.00E+00	9.0 U	0.00E+00	2.2 U	0.00E+00	2.2 U	0.00E+00
Pulse -off period July 23, 2014 to September 16, 2014														
9/16/2014		14721	14715	120	2.3 U	0.00E+00	2.3 U	0.00E+00	9.4 U	0.00E+00	6.4	9.30E-06	2.3 U	0.00E+00
11/14/2014		16095	16095	290	2.4 U	0.00E+00	2.4 U	0.00E+00	9.7 U	0.00E+00	2.4 U	0.00E+00	2.4 U	0.00E+00
Pulse -off period November 14, 2014 to January 9, 2015														
1/9/2015		16102	16102	180	1.1 U	0.00E+00	1.1 U	0.00E+00	4.6 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00
3/13/2015		17322	17322	260	2.4 U	0.00E+00	2.4 U	0.00E+00	9.5 U	0.00E+00	2.4 U	0.00E+00	2.4 U	0.00E+00
Pulse -off period March 13, 2015 to May 15, 2015														
5/15/2015		17329	17329	260	1.1 U	0.00E+00	1.1 U	0.00E+00	4.5 U	0.00E+00	1.1 U	0.00E+00	1.4	5.20E-06

Notes:

Mass removal rate = (flow rate in scfm)(concentration in ppmv)(60)(MW) / (387*1000000)

"U" indicates non-detection at the specified reporting limit; for ND compounds, zero is used in mass removal calculations.

MW	molecular weight (values from the U S. National Library of Medicine)
SCFM	standard cubic feet per minute
J	Indicates estimated value.
B	The analyte was detected in the method, field and/or trip blank.

When a duplicate sample was collected, the original sample results are used in the mass calculations.

Table 4.5
Cell 5 - Phase 2 SVE System Data
March 2011 - March 2015
UTC Aerospace Systems
Plants 1/2 Facility
Rockford, Illinois

CELL 5 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 5 Run Time (hr)	SVE Flow Rate (scfm)	Ethylbenzene		m&p-Xylenes		o-Xylenes		Acetone		Methyl Ethyl Ketone (MEK)		Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)		
3/11/2011		218	218	360	100 U	0.00E+00	100 U	0.00E+00	100 U	0.00E+00	420 U	0.00E+00	420 U	0.00E+00	3.47E-01	75.54
3/18/2011		362	362	360	52 U	0.00E+00	59	3.50E-04	110	6.52E-04	210 U	0.00E+00	210 U	0.00E+00	2.03E-01	104.77
3/25/2011		459	459	360	30 U	0.00E+00	30 U	0.00E+00	47	2.79E-04	130	4.21E-04	120 U	0.00E+00	1.42E-01	118.53
3/30/2011		553	553	360	16	9.48E-05	23	1.36E-04	46	2.73E-04	99	3.21E-04	51 U	0.00E+00	8.47E-02	126.48
4/8/2011		759	759	360	38	2.25E-04	84	4.98E-04	120	7.11E-04	81 U	0.00E+00	81 U	0.00E+00	1.01E-01	147.32
4/15/2011		920	920	360	45	2.67E-04	160	9.48E-04	140	8.30E-04	180 J,B	5.83E-04	81 U	0.00E+00	9.17E-02	162.08
5/19/2011		1681	1681	330	12 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	360	1.07E-03	47 U	0.00E+00	9.44E-02	233.92
6/16/2011		2187	2187	300	15	7.41E-05	54	2.67E-04	64	3.16E-04	69 J,B	1.86E-04	31 U	0.00E+00	3.49E-02	251.58
7/15/2011		2745	2745	220	13	4.71E-05	120	4.35E-04	140	5.07E-04	94	1.86E-04	30 U	0.00E+00	3.23E-02	269.61
8/22/2011		3129	3129	260	5.9	2.52E-05	19	8.13E-05	29	1.24E-04	62 J,B	1.45E-04	20 U	0.00E+00	2.71E-02	280.03
9/15/2011		3626	3626	220	4.5 U	0.00E+00	14	5.07E-05	17	6.16E-05	49	9.71E-05	18 U	0.00E+00	1.47E-02	287.36
10/14/2011		4222	4222	220	3.9 U	0.00E+00	7.1	2.57E-05	10	3.62E-05	16 U	0.00E+00	16 U	0.00E+00	1.03E-02	293.51
11/21/2011		5015	5015	200	3.2 U	0.00E+00	4.5	1.48E-05	6.1	2.01E-05	36	6.48E-05	13 U	0.00E+00	6.19E-03	298.43
11/21/2011	Dup	5015	5015	200	3.1 U	0.00E+00	4.2	1.38E-05	6.2	2.04E-05	31 U	0.00E+00	12 U	0.00E+00	6.30E-03	298.51
12/14/2011		5339	5339	200	3.2 U	0.00E+00	3.2 U	0.00E+00	3.2 U	0.00E+00	32 UJ	0.00E+00	13 U	0.00E+00	6.77E-03	300.62
1/19/2012		5958	5958	0	2.8 U	0.00E+00	2.8 U	0.00E+00	2.8 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	0.00E+00	300.62
2/15/2012		6364	6364	0	4.1 U	0.00E+00	4.1 U	0.00E+00	4.1 U	0.00E+00	16 U	0.00E+00	16 U	0.00E+00	0.00E+00	300.62
3/15/2012		6942	6942	0	3.8 U	0.00E+00	3.8 U	0.00E+00	3.8 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00	0.00E+00	300.62
4/19/2012		7625	7625	80	2.4 U	0.00E+00	2.4 U	0.00E+00	2.4 U	0.00E+00	9.4 U	0.00E+00	9.4 U	0.00E+00	1.51E-03	301.65
5/16/2012		8138	8138	200	2.0 U	0.00E+00	2.0 U	0.00E+00	2.0 U	0.00E+00	7.9 U	0.00E+00	7.9 U	0.00E+00	3.90E-03	303.65
Pulse -off period June 1, 2012 to August 14, 2012																
8/14/2012		8541	8541	360	2.5 U	0.00E+00	2.5 U	0.00E+00	2.5 U	0.00E+00	25 U	0.00E+00	9.9 U	0.00E+00	7.12E-03	306.52
9/17/2012		9029	9029	360	8.0 U	0.00E+00	8.0 U	0.00E+00	8.0 U	0.00E+00	80 U	0.00E+00	32 U	0.00E+00	9.81E-03	311.31
Pulse -off period September 17, 2012 to November 15, 2012																
11/15/2012		9033	9033	220	4.4 U	0.00E+00	4.4 U	0.00E+00	4.4 U	0.00E+00	44 U	0.00E+00	18 U	0.00E+00	6.15E-03	311.34
12/14/2012		9436	9436	200	4.8 U	0.00E+00	4.8 U	0.00E+00	4.8 U	0.00E+00	48 U	0.00E+00	19 U	0.00E+00	5.79E-03	313.67
Pulse -off period December 14, 2012 to February 26, 2013																
2/26/2013		9511	9511	440	6.8 U	0.00E+00	6.8 U	0.00E+00	6.8 U	0.00E+00	68 U	0.00E+00	27 U	0.00E+00	7.01E-04	313.72
4/11/2013		9952	9952	420	5.1 U	0.00E+00	5.1 U	0.00E+00	5.1 U	0.00E+00	51 U	0.00E+00	20 U	0.00E+00	2.01E-02	322.58
Pulse -off period Apnl 11, 2013 to May 10, 2013																
5/10/2013		9958	9958	420	5.4 U	0.00E+00	5.4 U	0.00E+00	5.4 U	0.00E+00	54 U	0.00E+00	22 U	0.00E+00	1.44E-02	322.66
7/15/2013		10984	10984	360	4.7 U	0.00E+00	4.7 U	0.00E+00	4.7 U	0.00E+00	47 U	0.00E+00	19 U	0.00E+00	1.65E-02	339.59
Pulse -off period July 15, 2013 to September 9, 2013																
9/9/2013		10991	10991	380	4 U	0.00E+00	4 U	0.00E+00	4 U	0.00E+00	40 U	0.00E+00	40 U	0.00E+00	8.81E-03	339.65
11/18/2013		12069	12069	380	7.6 U	0.00E+00	7.6 U	0.00E+00	7.6 U	0.00E+00	76 U	0.00E+00	31 U	0.00E+00	1.58E-02	356.69
Pulse -off period November 18, 2013 to January 15, 2014																
1/15/2014		12074	12074	380	3.5 U	0.00E+00	3.5 U	0.00E+00	3.5 U	0.00E+00	35 U	0.00E+00	14 U	0.00E+00	8.88E-03	356.73
3/14/2014		13057	13057	380	7.8 U	0.00E+00	7.8 U	0.00E+00	7.8 U	0.00E+00	78 U	0.00E+00	31 U	0.00E+00	1.24E-02	368.96
Pulse -off period March 14, 2014 to May 15, 2014																
5/15/2014		13063	13063	300	3.0 U	0.00E+00	3.0 U	0.00E+00	3.0 U	0.00E+00	30 U	0.00E+00	12 U	0.00E+00	7.40E-03	369.01
7/23/2014		14714	14714	100	2.2 U	0.00E+00	2.2 U	0.00E+00	2.2 U	0.00E+00	22 U	0.00E+00	9.0 U	0.00E+00	1.60E-03	371.61
Pulse -off period July 23, 2014 to September 16, 2014																
9/16/2014		14721	14715	120	2.3 U	0.00E+00	2.3 U	0.00E+00	2.3 U	0.00E+00	32	3.46E-05	9.4 U	0.00E+00	1.55E-03	371.61
11/14/2014		16095	16095	290	2.4 U	0.00E+00	2.4 U	0.00E+00	2.8	1.34E-05	24 U	0.00E+00	9.7 U	0.00E+00	4.46E-03	377.77
Pulse -off period November 14, 2014 to January 9, 2015																
1/9/2015		16102	16102	180	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.6 U	0.00E+00	1.46E-03	377.78
3/13/2015		17322	17322	260	2.4 U	0.00E+00	2.4 U	0.00E+00	2.4 U	0.00E+00	24 U	0.00E+00	9.5 U	0.00E+00	3.99E-03	382.64
Pulse -off period March 13, 2015 to May 15, 2015																
5/15/2015		17329	17329	260	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.5 U	0.00E+00	2.25E-03	382.66

Notes:

Mass removal rate = (flow rate in scfm)(concentration in ppmv)(60)(MW) / (387*1000000)

"U" indicates non-detection at the specified reporting limit, for ND compounds, zero is used in mass removal calculations.

MW	molecular weight (values from the U.S. National Library of Medicine)
SCFM	standard cubic feet per minute
J	Indicates estimated value
B	The analyte was detected in the method, field and/or trip blank

When a duplicate sample was collected, the original sample results are used in the mass calculations.

See notes on last page.

Table 4.6
VOC Mass Removal - Phase 1 and Phase 2 AS/SVE Systems
December 2009 - June 2015
UTC Aerospace Systems
Plants 1/2 Facility
Rockford, Illinois

Date	Cell 1			Cell 2			Cell 3			Cell 4			Cell 5			Total Cumulative Mass Removal (lb)
	Total Run Time (hr)	Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)	Run Time (hr)	Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)	Run Time (hr)	Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)	Run Time (hr)	Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)	Run Time (hr)	Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)	
12/3/2009	0						SYSTEM STARTUP									0.00
12/10/2009	53	0.22	11.91													11.91
12/11/2009				59	0.25	15.05										26.97
12/14/2009							60	0.31	18.51							45.48
12/15/2009				68	0.16	16.48										46.91
12/16/2009							76	0.17	21.16							49.55
12/22/2009	124	0.05	15.23													52.86
12/29/2009				180	0.12	29.76										66.15
1/5/2010							236	0.13	41.78							86.77
1/13/2010				301	0.05	35.75										92.75
1/21/2010							361	0.05	48.37							99.35
1/27/2010				408	0.06	42.68										106.27
2/24/2010	631	0.01	20.06	631	0.04	51.44	631	0.04	58.76							130.26
3/15/2010	782	0.01	22.02	782	0.09	64.40	782	0.07	68.60							155.02
4/14/2010	935	0.02	25.22	935	0.04	70.89	935	0.11	84.81							180.92
5/13/2010	1165	0.01	27.75	1165	0.04	79.74	1165	0.03	91.21							198.69
6/21/2010	1477	0.01	30.20	1477	0.02	86.90	1477	0.02	96.92							214.02
7/21/2010	1686	0.01	32.52	1686	0.02	91.24	1686	0.02	101.05							224.81
8/23/2010	1928	0.00	32.52	1928	0.00	91.24	1928	0.00	101.05							224.81
9/23/2010	2174	0.01	34.49	2174	0.02	96.27	2174	0.02	106.49							237.25
10/22/2010	2406	0.01	35.86	2406	0.01	98.85	2406	0.01	109.27							243.98
11/15/2010	2598	0.01	36.96	2598	0.01	101.41	2598	0.01	112.05							250.42
12/22/2010	2777	0.01	38.22	2955	0.02	107.99	2777	0.02	115.44							261.65
1/24/2011	2975	0.01	39.47	3352	0.01	110.39	2975	0.01	117.20							267.06
2/25/2011	3167	0.01	40.53	3737	0.01	114.08	3167	0.00	118.15							272.76
3/11/2011										222	1.72	381.87	218	0.35	75.54	730.17
3/18/2011	3293	0.01	41.27	3988	0.00	114.57	3293	0.00	118.34	366	0.51	453.50	362	0.20	104.77	832.46
3/25/2011										463	0.29	482.07	459	0.14	118.53	874.78
3/30/2011										558	0.32	512.25	553	0.08	126.48	912.92
4/8/2011										764	0.29	572.27	759	0.10	147.32	993.77
4/15/2011	3460	0.01	42.15	4322	0.00	115.07	3460	0.00	118.47	924	0.24	610.05	920	0.09	162.08	1047.81
5/19/2011	3665	0.00	42.87	4732	0.00	115.31	3665	0.00	118.53	1685	0.16	730.28	1681	0.09	233.92	1240.92
6/16/2011	3830	0.00	43.39	5062	0.00	115.55	3830	0.00	118.81	2191	0.11	753.86	2187	0.03	251.58	1283.20
7/15/2011	4472	0.00	44.96	4472	0.00	115.18	4472	0.00	119.39	2750	0.08	830.85	2745	0.03	269.61	1380.36
8/22/2011	4775	0.00	45.59	4775	0.00	115.40	4775	0.01	121.30	3133	0.10	868.97	3129	0.03	280.03	1431.44
9/15/2011	4968	0.00	45.93	4968	0.00	115.51	4968	0.00	121.91	3630	0.08	906.88	3626	0.01	287.36	1477.64
10/14/2011	5199	0.00	46.20	5199	0.00	115.57	5199	0.00	122.54	4226	0.05	935.35	4222	0.01	293.51	1513.18
11/21/2011	5503	0.00	46.43	5503	0.00	115.62	5503	0.00	123.00	5019	0.04	966.50	5015	0.01	298.43	1549.98
12/14/2011	5670	0.00	46.53	5670	0.00	115.65	5670	0.00	123.67	5343	0.03	975.34	5339	0.01	300.62	1561.80
1/19/2012	5974	0.00	46.69	5974	0.00	115.71	5974	0.00	124.59	5993	0.00	975.34	5958	0.00	300.62	1562.94
2/15/2012	6189	0.00	46.80	6189	0.00	115.74	6189	0.01	126.03	6368	0.03	986.48	6364	0.00	300.62	1575.67
3/15/2012	6421	0.00	46.89	6421	0.00	115.79	6421	0.01	127.43	6946	0.03	1005.89	6942	0.00	300.62	1596.62
4/19/2012	6701	0.00	47.04	6701	0.00	115.84	6701	0.00	128.02	7629	0.05	1038.74	7625	0.00	301.65	1631.30
5/16/2012	6916	0.00	47.18	6916	0.00	115.88	6916	0.00	128.27	8143	0.04	1060.30	8138	0.00	303.65	1655.28

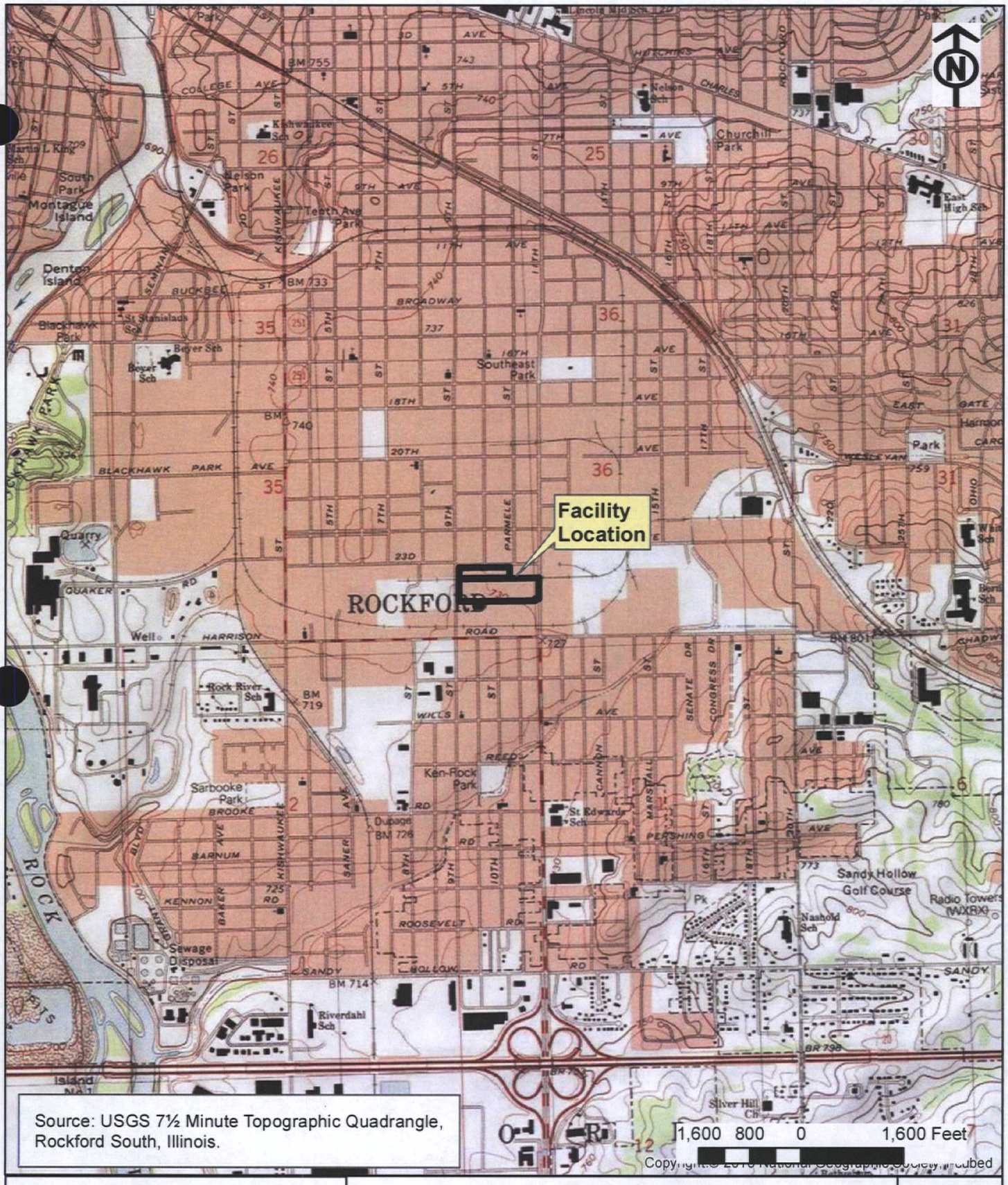
Table 4.6
VOC Mass Removal - Phase 1 and Phase 2 AS/SVE Systems
December 2009 - June 2015
UTC Aerospace Systems
Plants 1/2 Facility
Rockford, Illinois

Date	Cell 1			Cell 2			Cell 3			Cell 4			Cell 5			Total Cumulative Mass Removal (lb)
	Total Run Time (hr)	Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)	Run Time (hr)	Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)	Run Time (hr)	Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)	Run Time (hr)	Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)	Run Time (hr)	Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)	
Pulse -off period June 1, 2012 to August 14, 2012																
8/14/2012	7094	0.00	47.54	7094	0.00	116.20	7094	0.00	129.03	8546	0.05	1081.05	8541	0.01	306.52	1680.34
9/17/2012	7317	0.00	47.99	7317	0.00	116.40	7317	0.02	133.04	9033	0.04	1102.58	9029	0.01	311.31	1711.33
Pulse -off period September 17, 2012 to November 14, 2012																
11/15/2012	7320	0.00	48.00	7320	0.00	116.40	7320	0.00	133.05	9037	0.05	1102.78	9033	0.01	311.34	1711.56
12/14/2012	7518	0.00	48.24	7518	0.00	116.86	7518	0.00	133.94	9439	0.00	1103.57	9436	0.01	313.67	1716.27
Pulse -off period December 14, 2012 to February 26, 2013																
2/26/2013	7518	0.00	48.19	7518	0.00	116.86	7519	0.00	133.94	9439	0.00	1103.57	9511	0.00	313.72	1716.32
4/11/2013	7723	0.00	48.32	7723	0.00	116.97	8134	0.00	134.40	9876	0.00	1105.48	9952	0.02	322.58	1727.74
Pulse -off period April 11, 2013 to May 10, 2013																
5/10/2013	7724	0.00	48.32	7724	0.00	116.97	8135	0.00	134.40	9882	0.00	1105.50	9958	0.01	322.66	1727.85
7/15/2013	8039	0.00	48.86	8039	0.00	117.21	9082	0.00	134.70	10907	0.00	1108.40	10984	0.02	339.59	1748.76
Pulse -off period July 15, 2013 to September 9, 2013																
9/9/2013	8040	0.00	48.86	8040	0.00	117.21	9083	0.00	134.70	10914	0.00	1108.44	10991	0.01	339.65	1748.86
11/18/2013	8372	0.00	49.15	8372	0.00	117.30	10081	0.00	136.08	11992	0.00	1110.90	12069	0.02	356.69	1770.12
Pulse -off period November 18, 2013 to January 15, 2014																
1/15/2014	8651	0.00	49.36	8651	0.00	117.51	10916	0.00	136.88	11997	0.00	1110.91	12074	0.01	356.73	1771.39
3/14/2014	8894	0.00	49.48	8894	0.00	117.52	11645	0.00	137.13	12980	0.00	1112.65	13057	0.01	368.96	1785.75
Pulse -off period March 14, 2014 to May 15, 2014																
5/15/2014	8990	0.00	49.54	8990	0.00	117.64	11934	0.00	137.98	12986	0.00	1112.67	13063	0.01	369.01	1786.83
7/23/2014	9321	0.00	50.01	9321	0.00	117.79	12926	0.00	138.52	14627	0.00	1113.02	14714	0.00	371.61	1790.95
Pulse -off period July 23, 2014 to September 16, 2014																
9/16/2014	9494	0.00	50.32	9494	0.00	118.05	13099	0.00	138.77	14628	0.00	1113.03	14715	0.00	371.61	1791.78
11/14/2014	9777	0.00	50.45	9777	0.00	118.12	13948	0.00	139.44	16008	0.00	1116.04	16095	0.00	377.77	1801.82
Pulse -off period November 14, 2014 to January 9, 2015																
1/9/2015	9778	0.00	50.45	9778	0.00	118.12	13949	0.00	139.44	16015	0.00	1116.05	16102	0.00	377.78	1801.84
3/13/2015	10045	0.00	50.56	10045	0.00	118.15	14750	0.00	140.07	17178	0.00	1117.32	17322	0.00	382.64	1808.74
Pulse -off period March 13, 2015 to May 15, 2015																
5/15/2015	10046	0.00	50.56	10046	0.00	118.15	14751	0.00	140.07	17186	0.00	1117.34	17329	0.00	382.66	1808.77

FIGURES

FIGURES

Figures



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Facility Location Map
Area 9/10 Remedial Action
Southeast Rockford Groundwater
Contamination Superfund Site
Rockford, IL

FIGURE NUMBER
1

DRAWN BY:	DATE:	PROJECT NUMBER:	SHEET NUMBER:
JG	07/30/15	60339110. 4213	1 of 1

Path: U:\Cad_Drive_New\UTC\60288803 UTC Rockford SER 9-10\Q2 2015\GIS\Site Location Map.mxd

AECOM

AREA 9/10 REMEDIAL ACTION ROCKFORD, ILLINOIS PROJECT NO. 60312350.4213			GMZ / PERFORMANCE WELL NETWORK
DATE: 07/27/15	DRWN: JG		FIGURE 2

Files: U:\Cad_Drive_New\UTC\60312880\3 UTC Rockford SER 9-10\02 2015\Well Network.dwg Layout: ANSI_B Plotted: Jul 27, 2015 - 11:32am

AECOM

AREA 9/10 REMEDIAL ACTION
ROCKFORD, ILLINOIS
PROJECT NO. 60339110. 4213

DATE: 07/28/15 | DRWN: JG

SECOND QUARTER 2015
POTENTIOMETRIC SURFACE MAP

FIGURE 3

File: U:\Cad_Drive_New\UTC\60339803 UTC Rockford SER 9-10\02 2015\Potentiometric Surface 02 2015.dwg Layout: ANSI_B-LJ User: gardnj Plotted: Aug 03, 2015 - 9:42am

GMZ01	
Date	PCE
4-Aug-14	0.0215
8-Dec-14	0.0126
17-Feb-15	<PRG
11-May-15	0.0157

SMW08		
Date	cis-1,2-DCE	PCE
4-Aug-14	0.1030	0.0367
8-Dec-14	0.1230	0.0227
17-Feb-15	0.1250	0.0092
11-May-15	<PRG	0.0199

SMW19	
Date	TCE
6-Aug-14	0.0265
10-Dec-14	0.0194
19-Feb-15	0.0177
12-May-15	0.0145

SMW04				
Date	TCE	cis-1,2-DCE	PCE	Vinyl chloride
6-Aug-14	0.0106	<PRG	0.0197	0.0344
9-Dec-14	0.0111	0.1200	0.0185	0.0351
19-Feb-15	<PRG	<PRG	0.0073	0.0233
13-May-15	<PRG	0.1320	<PRG	0.0692

PMW02		
Date	PCE	Vinyl chloride
6-Aug-14	0.0226	<PRG
9-Dec-14	0.0144	<PRG
18-Feb-15	0.0210	<PRG
13-May-15	0.0149	0.0021

PMW01	
Date	PCE
6-Aug-14	0.0244
9-Dec-14	0.0177
18-Feb-15	0.0185
13-May-15	0.0178

LEGEND:

- GMZ Monitoring Well
- Site and GMZ Boundary

NOTES:

1. Values are listed only for those wells in which a Volatile Organic Compound (VOC) was identified above the Preliminary Remediation Goal (PRG) for the previous four events.
2. U - Laboratory estimated quantitation limit exceeded PRG
3. NJ - Estimated concentration
4. J - Indicates estimated value
5. B - The analyte was detected in the method, field and/or trip blank.

Preliminary Remediation Goals (PRG)	
Trichloroethene (TCE)	0.005 mg/L
cis-1,2-Dichloroethene (DCE)	0.07 mg/L
Tetrachloroethene (PCE)	0.005 mg/L
Vinyl chloride	0.002 mg/L

Trichloroethene (TCE)
Methylene Chloride (Dichloromethane)
1,1-Dichloroethene
1,1-Dichloroethane
1,2-Dichloroethane
cis-1,2-Dichloroethene
trans-1,2-Dichloroethene
1,2-Dichloroethene (Total)
1,1,1-Trichloroethane
1,1,2-Trichloroethane
Ethylbenzene
Tetrachloroethene (PCE)
Toluene
Vinyl chloride
Preliminary Remediation Goals (PRG)A
Results are in mg/L

N

65 0 130

1"=130'

AECOM

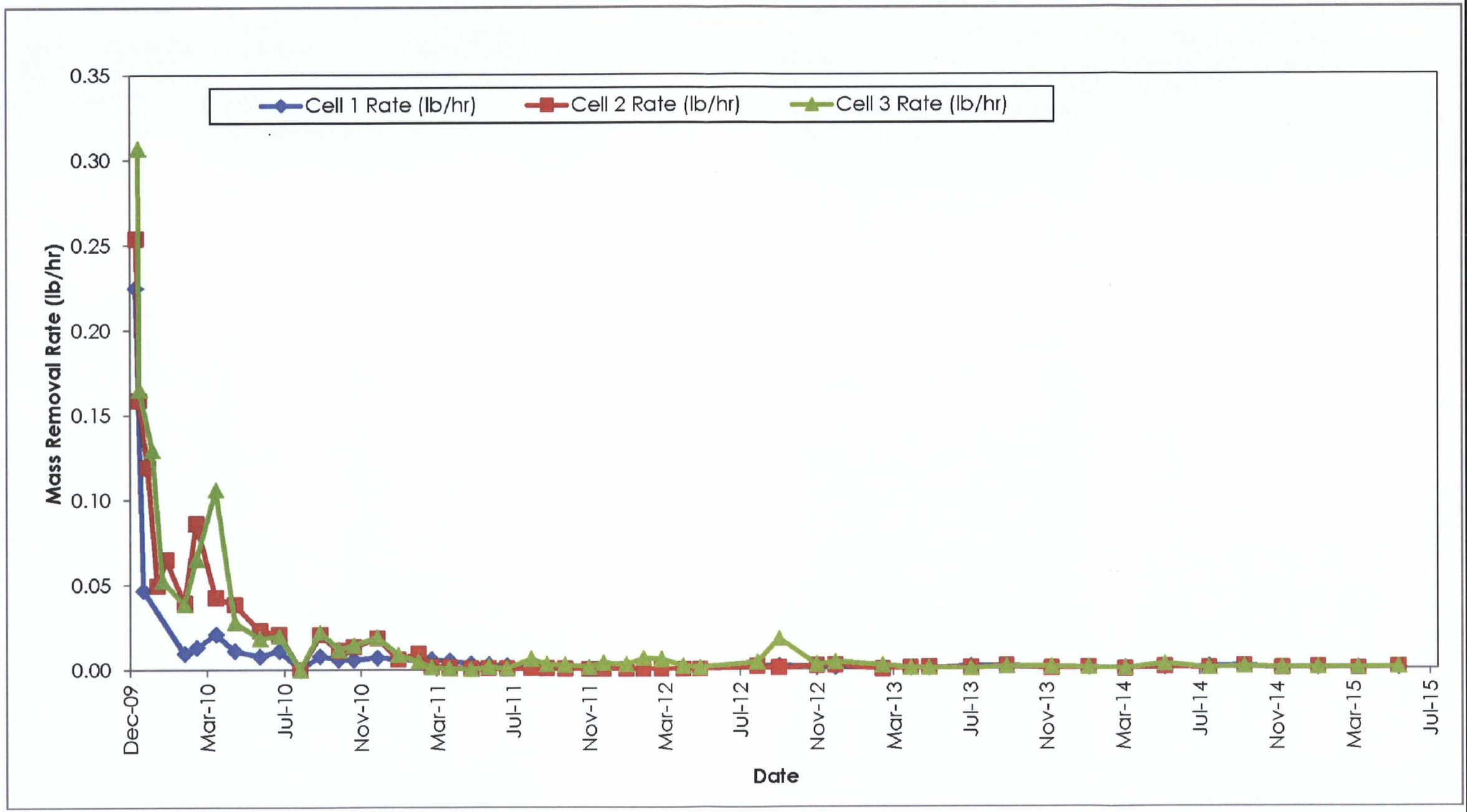
AREA 9/10 REMEDIAL ACTION
ROCKFORD, ILLINOIS
PROJECT NO. 60339110. 4213

DATE: 07/30/15 | DRWN: JG

VOC ANALYTICAL RESULTS EXCEEDING THE PRG SECOND QUARTER 2015

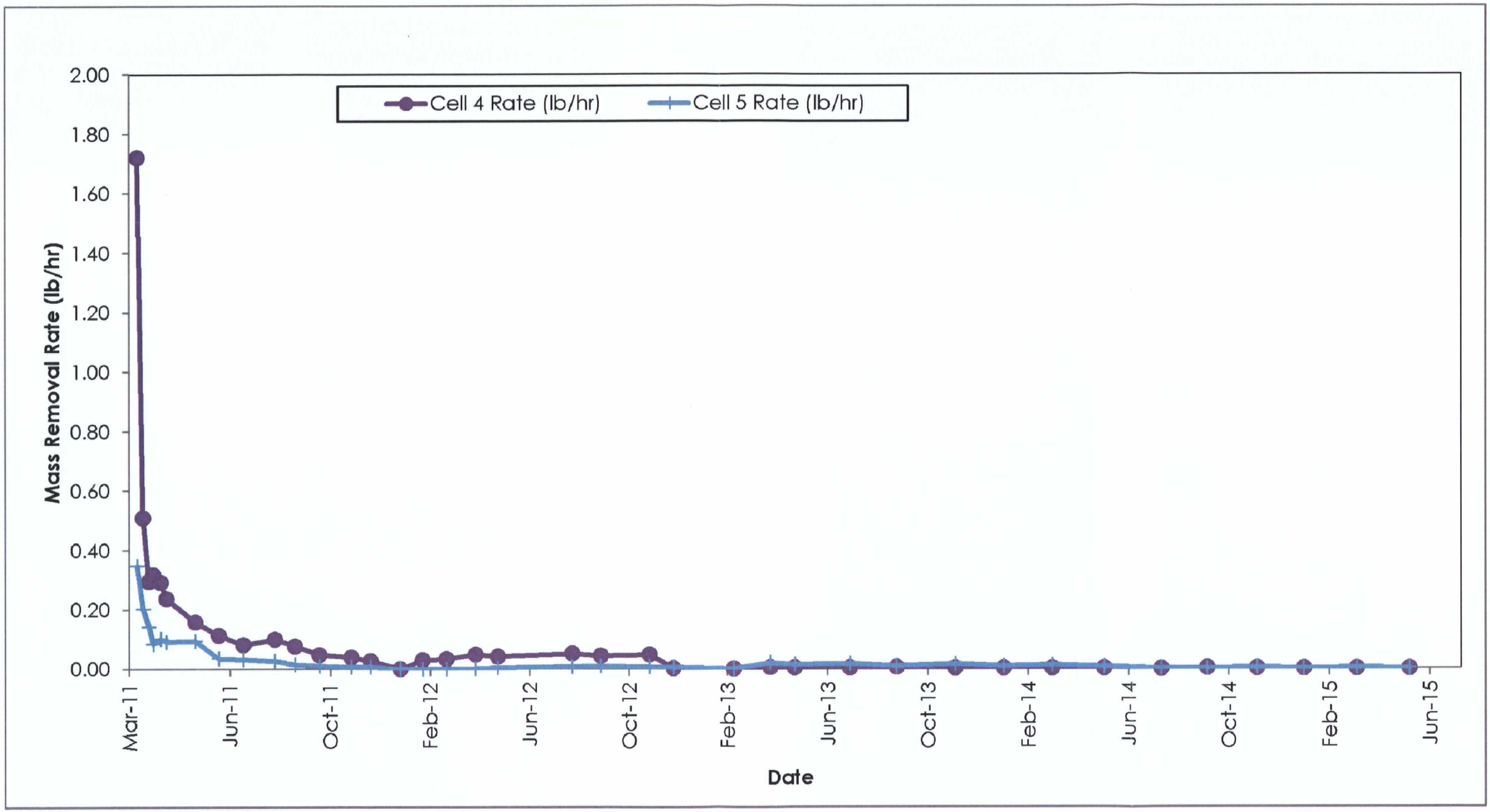
FIGURE 4

File: U:\Cad_Drive_New\UTC\60288803 UTC Rockford SER 9-10\02 2015\VOC Analytical Results.dwg Layout: ANSI_B1-LJ User: gundj Plotted: Aug 07, 2015 - 2:02pm



AECOM

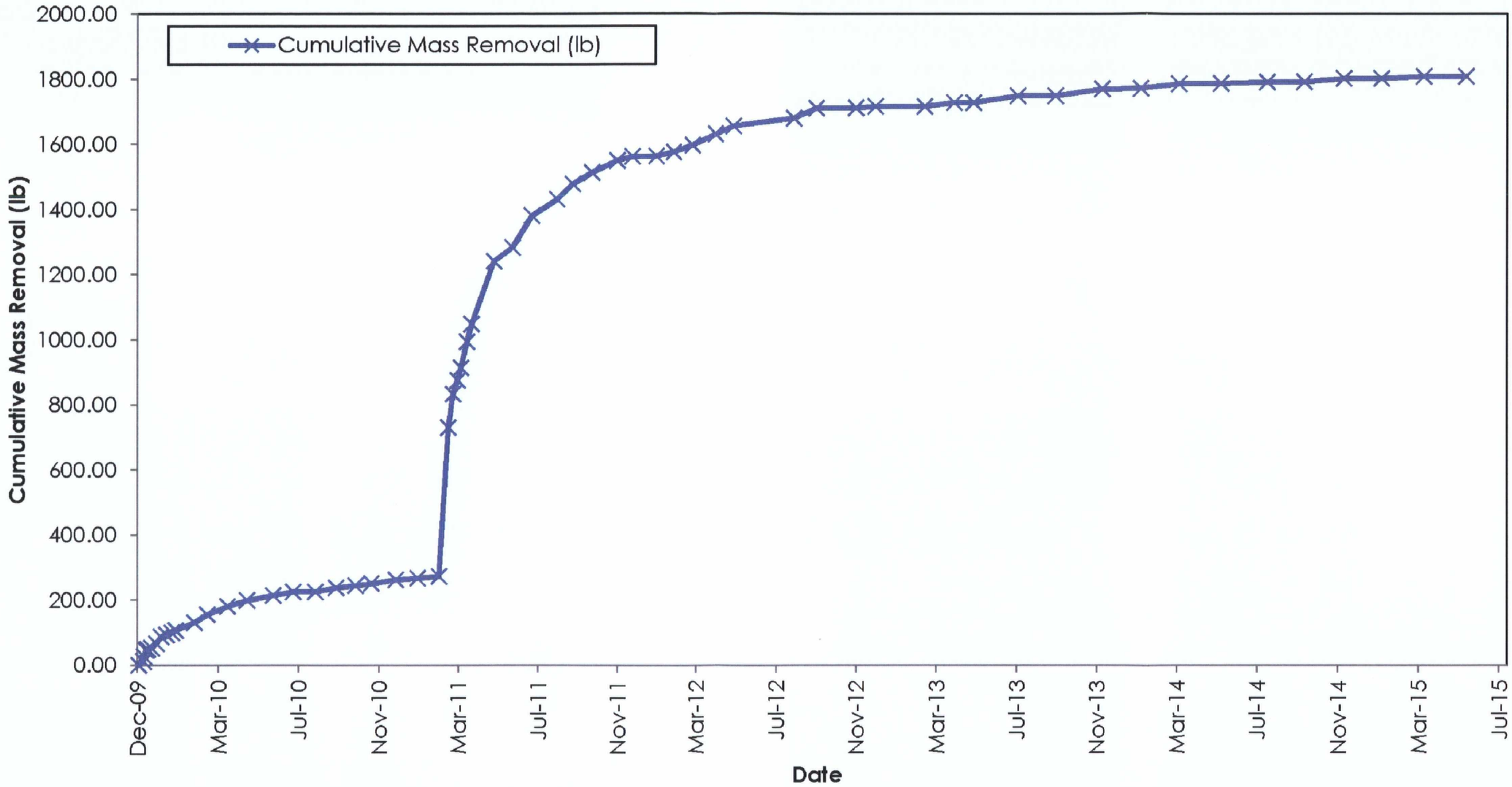
AREA 9/10 REMEDIAL ACTION ROCKFORD, ILLINOIS PROJECT NO. 60339110. 4213	AVERAGE VOC MASS REMOVAL RATE VS TIME PHASE 1 AS/SVE SYSTEM
DATE: 07/30/15 DRWN: JG	FIGURE 7



AECOM

AREA 9/10 REMEDIAL ACTION ROCKFORD, ILLINOIS PROJECT NO. 60339110. 4213	AVERAGE VOC MASS REMOVAL RATE VS TIME PHASE 2 AS/SVE SYSTEM
DATE: 07/30/15 DRWN: JG	FIGURE 8

File: U:\Cad_Drive_New\UTC\60288803 UTC Rockford SER 9-10\02 2015\VOC vs Time Phase 2.dwg Layout: ANSI_B1-LJ User: garciaj Plotted: Jul 31, 2015 - 8:32am



AECOM

AREA 9/10 REMEDIAL ACTION ROCKFORD, ILLINOIS PROJECT NO. 60339110. 4213			CUMULATIVE MASS REMOVAL PHASE 1/ PHASE 2 AS/SVE SYSTEM
DATE: 07/30/14	DRWN: JG		FIGURE 9

File: U:\Cad_Drive_New\UTC\60288803 UTC Rockford SER 9-10\02 - 2015\Cumulative Phase 1 & 2.dwg Layout: ANSI_B1_LJ User: gancaj Plotted: Jul 31, 2015 - 8:30am

APPENDIX

A

Appendix A

Second Quarter 2015 GMZ and Performance Monitoring Well Analytical Data

New Jersey
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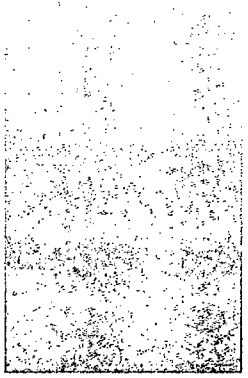
Reissue #1
08/07/15



Technical Report for

United Technologies Corporation

ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

60339110

Accutest Job Number: JB94785

Sampling Dates: 05/11/15 - 05/13/15

Report to:

AECOM, INC.
27755 Diehl Road Suite 100
Warrenville, IL 60555
peter.hollatz@aecom.com

ATTN: Peter Hollatz

Total number of pages in report: **280**

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: Marie Meidhof 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)

This report shall not be reproduced, except in its entirety, without the written approval of Accutest Laboratories. Test results relate only to samples analyzed.

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ACCUTEST LABORATORIES

August 7, 2015

Mr. Peter Hollatz
AECOM
27755 Diehl Road, Suite 100
Warrenville, IL 60555

RE: Accutest job JB94785 - Reissue

Dear Mr. Hollatz,

The final report for Accutest job number JB94785 has been edited to reflect changes to your data package. These edits have been incorporated into the revised report which is attached.

The field ID for JB94785-4 has been revised to match the sample chain-of-custody. This report incorporates these revisions.

Our apologies for any inconvenience the above issue may have caused you. Please contact me at 732-355-4552 if I may be of further assistance in this matter, or if you have any further questions regarding this data report.

Sincerely,

Accutest Laboratories

Marie Meidhof
Project Manager

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Sample Summary

United Technologies Corporation

Job No: JB94785

ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Project No: 60339110

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
JB94785-1	05/11/15	13:15	AH	05/15/15	AQ	Ground Water	HSSER-SMW08-051115
JB94785-2	05/11/15	14:35	AH	05/15/15	AQ	Ground Water	HSSER-GMZ01-051115
JB94785-3	05/11/15	16:25	AH	05/15/15	AQ	Ground Water	HSSER-MW203-051115
JB94785-4	05/12/15	08:00	AH	05/15/15	AQ	Ground Water	HSSER-SMW01-051215
JB94785-5	05/12/15	12:30	AH	05/15/15	AQ	Field Blank Water	HSSER-FBLK01-051115
JB94785-6	05/12/15	10:10	AH	05/15/15	AQ	Ground Water	HSSER-SMW02-051215
JB94785-7	05/12/15	11:35	AH	05/15/15	AQ	Ground Water	HSSER-MW07FGA-051215
JB94785-8	05/12/15	12:45	AH	05/15/15	AQ	Ground Water	HSSER-SMW19-051215
JB94785-9	05/12/15	14:10	AH	05/15/15	AQ	Ground Water	HSSER-SMW21-051215
JB94785-10	05/12/15	15:30	AH	05/15/15	AQ	Ground Water	HSSER-GMZ04-051215
JB94785-11	05/12/15	16:35	AH	05/15/15	AQ	Ground Water	HSSER-SMW20-051215
JB94785-12	05/13/15	08:10	AH	05/15/15	AQ	Ground Water	HSSER-GMZ03-051315
JB94785-13	05/13/15	09:30	AH	05/15/15	AQ	Ground Water	HSSER-GMZ02-051315

Sample Summary
(continued)

United Technologies Corporation

Job No: JB94785

ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Project No: 60339110

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
JB94785-13D	05/13/15	09:30	AH	05/15/15	AQ	Water Dup/MSD	HSSER-MSD01-051315
JB94785-13S	05/13/15	09:30	AH	05/15/15	AQ	Water Matrix Spike	HSSER-MS01-051315
JB94785-14	05/13/15	10:45	AH	05/15/15	AQ	Ground Water	HSSER-PMW01-051315
JB94785-15	05/13/15	12:30	AH	05/15/15	AQ	Ground Water	HSSER-PMW02-051315
JB94785-16	05/13/15	11:30	AH	05/15/15	AQ	Ground Water	HSSER-EBLK01-051315
JB94785-17	05/13/15	13:35	AH	05/15/15	AQ	Ground Water	HSSER-SMW04-051315
JB94785-18	05/13/15	00:00	AH	05/15/15	AQ	Ground Water	HSSER-DUP01-051315
JB94785-19	05/13/15	13:35	AH	05/15/15	AQ	Trip Blank Water	HSSER-TRIP01-051315

ACCUTEST LABORATORIES

2

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	United Technologies Corporation	**Job No**	JB94785
Site:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL	**Report Date**	5/27/2015 4:39:34 PM

On 05/15/2015, 17 Sample(s), 1 Trip Blank(s) and 1 Field Blank(s) were received at Accutest Laboratories at a maximum corrected temperature of 3 C. Samples were intact and chemically preserved, unless noted below. An Accutest Job Number of JB94785 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:** VU9007

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JB94653-3MS, JB94653-3MSD were used as the QC samples indicated.
- Matrix Spike / Matrix Spike Duplicate Recovery(s) for Tetrachloroethene are outside control limits. Outside control limits due to high level in sample relative to spike amount.

Matrix: AQ **Batch ID:** VU9008

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JB94785-13MS, JB94785-13MSD were used as the QC samples indicated.

Matrix: AQ **Batch ID:** VU9009

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JB94614-5DUP, JB94785-16MS were used as the QC samples indicated.

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: JB94785
Account: United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Collected: 05/11/15 thru 05/13/15

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JB94785-1	**HSSER-SMW08-051115**					
1,1-Dichloroethane		0.0084	0.0010	0.00017	mg/l	SW846 8260C
cis-1,2-Dichloroethene		0.0040	0.0010	0.00027	mg/l	SW846 8260C
Tetrachloroethene		0.0199	0.0010	0.00040	mg/l	SW846 8260C
1,1,1-Trichloroethane		0.0097	0.0010	0.00025	mg/l	SW846 8260C
Trichloroethene		0.0021	0.0010	0.00022	mg/l	SW846 8260C
JB94785-2	**HSSER-GMZ01-051115**					
1,1-Dichloroethane		0.0088	0.0010	0.00017	mg/l	SW846 8260C
cis-1,2-Dichloroethene		0.0022	0.0010	0.00027	mg/l	SW846 8260C
Tetrachloroethene		0.0157	0.0010	0.00040	mg/l	SW846 8260C
1,1,1-Trichloroethane		0.0063	0.0010	0.00025	mg/l	SW846 8260C
Trichloroethene		0.0019	0.0010	0.00022	mg/l	SW846 8260C
JB94785-3	**HSSER-MW203-051115**					
Tetrachloroethene		0.0038	0.0010	0.00040	mg/l	SW846 8260C
JB94785-4	**HSSER-SMW01-051215**					
Tetrachloroethene		0.0013	0.0010	0.00040	mg/l	SW846 8260C
1,1,1-Trichloroethane		0.0013	0.0010	0.00025	mg/l	SW846 8260C
JB94785-5	**HSSER-FBLK01-051115**					
Toluene		0.00061 J	0.0010	0.00016	mg/l	SW846 8260C
JB94785-6	**HSSER-SMW02-051215**					
1,1-Dichloroethane		0.0033	0.0010	0.00017	mg/l	SW846 8260C
cis-1,2-Dichloroethene		0.00098 J	0.0010	0.00027	mg/l	SW846 8260C
Tetrachloroethene		0.00074 J	0.0010	0.00040	mg/l	SW846 8260C
JB94785-7	**HSSER-MW07FGA-051215**					
Tetrachloroethene		0.0011	0.0010	0.00040	mg/l	SW846 8260C
1,1,1-Trichloroethane		0.00046 J	0.0010	0.00025	mg/l	SW846 8260C
JB94785-8	**HSSER-SMW19-051215**					
cis-1,2-Dichloroethene		0.0011	0.0010	0.00027	mg/l	SW846 8260C
Tetrachloroethene		0.0010	0.0010	0.00040	mg/l	SW846 8260C
1,1,1-Trichloroethane		0.00034 J	0.0010	0.00025	mg/l	SW846 8260C

Summary of Hits

Job Number: JB94785
Account: United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Collected: 05/11/15 thru 05/13/15

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Trichloroethene		0.0145	0.0010	0.00022	mg/l	SW846 8260C
JB94785-9	**HSSER-SMW21-051215**					
1,1-Dichloroethane		0.00098 J	0.0010	0.00017	mg/l	SW846 8260C
1,1-Dichloroethene		0.00069 J	0.0010	0.00051	mg/l	SW846 8260C
cis-1,2-Dichloroethene		0.0054	0.0010	0.00027	mg/l	SW846 8260C
1,1,1-Trichloroethane		0.0315	0.0010	0.00025	mg/l	SW846 8260C
Trichloroethene		0.00022 J	0.0010	0.00022	mg/l	SW846 8260C
JB94785-10	**HSSER-GMZ04-051215**					
1,1-Dichloroethane		0.0024	0.0010	0.00017	mg/l	SW846 8260C
cis-1,2-Dichloroethene		0.0030	0.0010	0.00027	mg/l	SW846 8260C
1,1,1-Trichloroethane		0.0113	0.0010	0.00025	mg/l	SW846 8260C
JB94785-11	**HSSER-SMW20-051215**					
cis-1,2-Dichloroethene		0.00043 J	0.0010	0.00027	mg/l	SW846 8260C
1,1,1-Trichloroethane		0.00027 J	0.0010	0.00025	mg/l	SW846 8260C
JB94785-12	**HSSER-GMZ03-051315**					
1,1-Dichloroethane		0.00076 J	0.0010	0.00017	mg/l	SW846 8260C
cis-1,2-Dichloroethene		0.00050 J	0.0010	0.00027	mg/l	SW846 8260C
1,1,1-Trichloroethane		0.00090 J	0.0010	0.00025	mg/l	SW846 8260C
JB94785-13	**HSSER-GMZ02-051315**					
1,1-Dichloroethane		0.0018	0.0010	0.00017	mg/l	SW846 8260C
cis-1,2-Dichloroethene		0.00042 J	0.0010	0.00027	mg/l	SW846 8260C
Tetrachloroethene		0.00057 J	0.0010	0.00040	mg/l	SW846 8260C
1,1,1-Trichloroethane		0.0041	0.0010	0.00025	mg/l	SW846 8260C
JB94785-14	**HSSER-PMW01-051315**					
1,1-Dichloroethane		0.0088	0.0010	0.00017	mg/l	SW846 8260C
1,1-Dichloroethene		0.0010	0.0010	0.00051	mg/l	SW846 8260C
cis-1,2-Dichloroethene		0.0016	0.0010	0.00027	mg/l	SW846 8260C
Tetrachloroethene		0.0178	0.0010	0.00040	mg/l	SW846 8260C
1,1,1-Trichloroethane		0.0394	0.0010	0.00025	mg/l	SW846 8260C
Trichloroethene		0.0014	0.0010	0.00022	mg/l	SW846 8260C

Summary of Hits

Job Number: JB94785
Account: United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Collected: 05/11/15 thru 05/13/15

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JB94785-15	**HSSER-PMW02-051315**					
1,1-Dichloroethane		0.0054	0.0010	0.00017	mg/l	SW846 8260C
cis-1,2-Dichloroethene		0.0055	0.0010	0.00027	mg/l	SW846 8260C
Tetrachloroethene		0.0149	0.0010	0.00040	mg/l	SW846 8260C
1,1,1-Trichloroethane		0.0036	0.0010	0.00025	mg/l	SW846 8260C
Trichloroethene		0.0010	0.0010	0.00022	mg/l	SW846 8260C
Vinyl chloride		0.0021	0.0010	0.00015	mg/l	SW846 8260C
JB94785-16	**HSSER-EBLK01-051315**					
Toluene		0.00028 J	0.0010	0.00016	mg/l	SW846 8260C
JB94785-17	**HSSER-SMW04-051315**					
1,1-Dichloroethane		0.0143	0.0010	0.00017	mg/l	SW846 8260C
1,1-Dichloroethene		0.00098 J	0.0010	0.00051	mg/l	SW846 8260C
cis-1,2-Dichloroethene		0.132	0.0010	0.00027	mg/l	SW846 8260C
trans-1,2-Dichloroethene		0.00085 J	0.0010	0.00065	mg/l	SW846 8260C
Tetrachloroethene		0.0050	0.0010	0.00040	mg/l	SW846 8260C
1,1,1-Trichloroethane		0.00034 J	0.0010	0.00025	mg/l	SW846 8260C
Trichloroethene		0.0042	0.0010	0.00022	mg/l	SW846 8260C
Vinyl chloride		0.0692	0.0010	0.00015	mg/l	SW846 8260C
JB94785-18	**HSSER-DUP01-051315**					
1,1-Dichloroethane		0.00078 J	0.0010	0.00017	mg/l	SW846 8260C
cis-1,2-Dichloroethene		0.00055 J	0.0010	0.00027	mg/l	SW846 8260C
1,1,1-Trichloroethane		0.00089 J	0.0010	0.00025	mg/l	SW846 8260C
JB94785-19	**HSSER-TRIP01-051315**					
Methylene chloride		0.00073 J	0.0020	0.00073	mg/l	SW846 8260C

New Jersey
ACCUTEST
LABORATORIES

Sample Results

Report of Analysis

Accutest Laboratories

Report of Analysis

Client Sample ID:	HSSER-SMW08-051115		
Lab Sample ID:	JB94785-1	**Date Sampled:**	05/11/15
Matrix:	AQ - Ground Water	**Date Received:**	05/15/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U195280.D	1	05/19/15	NH	n/a	n/a	VU9008
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	0.0084	0.0010	0.00017	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00018	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00051	mg/l	
156-59-2	cis-1,2-Dichloroethene	0.0040	0.0010	0.00027	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00065	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00027	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.00073	mg/l	
127-18-4	Tetrachloroethene	0.0199	0.0010	0.00040	mg/l	
108-88-3	Toluene	ND	0.0010	0.00016	mg/l	
71-55-6	1,1,1-Trichloroethane	0.0097	0.0010	0.00025	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00021	mg/l	
79-01-6	Trichloroethene	0.0021	0.0010	0.00022	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00015	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		76-120%
17060-07-0	1,2-Dichloroethane-D4	106%		73-122%
2037-26-5	Toluene-D8	100%		84-119%
460-00-4	4-Bromofluorobenzene	101%		78-117%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	HSSER-GMZ01-051115		
Lab Sample ID:	JB94785-2	**Date Sampled:**	05/11/15
Matrix:	AQ - Ground Water	**Date Received:**	05/15/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U195281.D	1	05/19/15	NH	n/a	n/a	VU9008
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	0.0088	0.0010	0.00017	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00018	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00051	mg/l	
156-59-2	cis-1,2-Dichloroethene	0.0022	0.0010	0.00027	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00065	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00027	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.00073	mg/l	
127-18-4	Tetrachloroethene	0.0157	0.0010	0.00040	mg/l	
108-88-3	Toluene	ND	0.0010	0.00016	mg/l	
71-55-6	1,1,1-Trichloroethane	0.0063	0.0010	0.00025	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00021	mg/l	
79-01-6	Trichloroethene	0.0019	0.0010	0.00022	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00015	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		76-120%
17060-07-0	1,2-Dichloroethane-D4	106%		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
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	HSSER-MW203-051115		
Lab Sample ID:	JB94785-3	**Date Sampled:**	05/11/15
Matrix:	AQ - Ground Water	**Date Received:**	05/15/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U195282.D	1	05/19/15	NH	n/a	n/a	VU9008
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	ND	0.0010	0.00017	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00018	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00051	mg/l	
156-59-2	cis-1,2-Dichloroethene	ND	0.0010	0.00027	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00065	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00027	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.00073	mg/l	
127-18-4	Tetrachloroethene	0.0038	0.0010	0.00040	mg/l	
108-88-3	Toluene	ND	0.0010	0.00016	mg/l	
71-55-6	1,1,1-Trichloroethane	ND	0.0010	0.00025	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00021	mg/l	
79-01-6	Trichloroethene	ND	0.0010	0.00022	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00015	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		76-120%
17060-07-0	1,2-Dichloroethane-D4	105%		73-122%
2037-26-5	Toluene-D8	99%		84-119%
460-00-4	4-Bromofluorobenzene	101%		78-117%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	HSSER-SMW01-051215		
Lab Sample ID:	JB94785-4	**Date Sampled:**	05/12/15
Matrix:	AQ - Ground Water	**Date Received:**	05/15/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U195283.D	1	05/19/15	NH	n/a	n/a	VU9008
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	ND	0.0010	0.00017	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00018	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00051	mg/l	
156-59-2	cis-1,2-Dichloroethene	ND	0.0010	0.00027	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00065	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00027	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.00073	mg/l	
127-18-4	Tetrachloroethene	0.0013	0.0010	0.00040	mg/l	
108-88-3	Toluene	ND	0.0010	0.00016	mg/l	
71-55-6	1,1,1-Trichloroethane	0.0013	0.0010	0.00025	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00021	mg/l	
79-01-6	Trichloroethene	ND	0.0010	0.00022	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00015	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		76-120%
17060-07-0	1,2-Dichloroethane-D4	106%		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
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	HSSER-FBLK01-051115		
Lab Sample ID:	JB94785-5	**Date Sampled:**	05/12/15
Matrix:	AQ - Field Blank Water	**Date Received:**	05/15/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U195284.D	1	05/19/15	NH	n/a	n/a	VU9008
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	ND	0.0010	0.00017	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00018	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00051	mg/l	
156-59-2	cis-1,2-Dichloroethene	ND	0.0010	0.00027	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00065	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00027	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.00073	mg/l	
127-18-4	Tetrachloroethene	ND	0.0010	0.00040	mg/l	
108-88-3	Toluene	0.00061	0.0010	0.00016	mg/l	J
71-55-6	1,1,1-Trichloroethane	ND	0.0010	0.00025	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00021	mg/l	
79-01-6	Trichloroethene	ND	0.0010	0.00022	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00015	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		76-120%
17060-07-0	1,2-Dichloroethane-D4	106%		73-122%
2037-26-5	Toluene-D8	100%		84-119%
460-00-4	4-Bromofluorobenzene	100%		78-117%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	HSSER-SMW02-051215		
Lab Sample ID:	JB94785-6	**Date Sampled:**	05/12/15
Matrix:	AQ - Ground Water	**Date Received:**	05/15/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U195286.D	1	05/19/15	NH	n/a	n/a	VU9008
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	0.0033	0.0010	0.00017	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00018	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00051	mg/l	
156-59-2	cis-1,2-Dichloroethene	0.00098	0.0010	0.00027	mg/l	J
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00065	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00027	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.00073	mg/l	
127-18-4	Tetrachloroethene	0.00074	0.0010	0.00040	mg/l	J
108-88-3	Toluene	ND	0.0010	0.00016	mg/l	
71-55-6	1,1,1-Trichloroethane	ND	0.0010	0.00025	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00021	mg/l	
79-01-6	Trichloroethene	ND	0.0010	0.00022	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00015	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		76-120%
17060-07-0	1,2-Dichloroethane-D4	106%		73-122%
2037-26-5	Toluene-D8	100%		84-119%
460-00-4	4-Bromofluorobenzene	100%		78-117%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	HSSER-MW07FGA-051215		
Lab Sample ID:	JB94785-7	**Date Sampled:**	05/12/15
Matrix:	AQ - Ground Water	**Date Received:**	05/15/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U195287.D	1	05/19/15	NH	n/a	n/a	VU9008
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	ND	0.0010	0.00017	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00018	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00051	mg/l	
156-59-2	cis-1,2-Dichloroethene	ND	0.0010	0.00027	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00065	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00027	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.00073	mg/l	
127-18-4	Tetrachloroethene	0.0011	0.0010	0.00040	mg/l	
108-88-3	Toluene	ND	0.0010	0.00016	mg/l	
71-55-6	1,1,1-Trichloroethane	0.00046	0.0010	0.00025	mg/l	J
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00021	mg/l	
79-01-6	Trichloroethene	ND	0.0010	0.00022	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00015	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		76-120%
17060-07-0	1,2-Dichloroethane-D4	106%		73-122%
2037-26-5	Toluene-D8	99%		84-119%
460-00-4	4-Bromofluorobenzene	101%		78-117%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	HSSER-SMW19-051215		
Lab Sample ID:	JB94785-8	**Date Sampled:**	05/12/15
Matrix:	AQ - Ground Water	**Date Received:**	05/15/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U195288.D	1	05/19/15	NH	n/a	n/a	VU9008
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	ND	0.0010	0.00017	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00018	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00051	mg/l	
156-59-2	cis-1,2-Dichloroethene	0.0011	0.0010	0.00027	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00065	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00027	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.00073	mg/l	
127-18-4	Tetrachloroethene	0.0010	0.0010	0.00040	mg/l	
108-88-3	Toluene	ND	0.0010	0.00016	mg/l	
71-55-6	1,1,1-Trichloroethane	0.00034	0.0010	0.00025	mg/l	J
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00021	mg/l	
79-01-6	Trichloroethene	0.0145	0.0010	0.00022	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00015	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		76-120%
17060-07-0	1,2-Dichloroethane-D4	105%		73-122%
2037-26-5	Toluene-D8	100%		84-119%
460-00-4	4-Bromofluorobenzene	100%		78-117%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	HSSER-SMW21-051215		
Lab Sample ID:	JB94785-9	**Date Sampled:**	05/12/15
Matrix:	AQ - Ground Water	**Date Received:**	05/15/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U195289.D	1	05/19/15	NH	n/a	n/a	VU9008
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	0.00098	0.0010	0.00017	mg/l	J
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00018	mg/l	
75-35-4	1,1-Dichloroethene	0.00069	0.0010	0.00051	mg/l	J
156-59-2	cis-1,2-Dichloroethene	0.0054	0.0010	0.00027	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00065	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00027	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.00073	mg/l	
127-18-4	Tetrachloroethene	ND	0.0010	0.00040	mg/l	
108-88-3	Toluene	ND	0.0010	0.00016	mg/l	
71-55-6	1,1,1-Trichloroethane	0.0315	0.0010	0.00025	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00021	mg/l	
79-01-6	Trichloroethene	0.00022	0.0010	0.00022	mg/l	J
75-01-4	Vinyl chloride	ND	0.0010	0.00015	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		76-120%
17060-07-0	1,2-Dichloroethane-D4	105%		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
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	HSSER-GMZ04-051215		
Lab Sample ID:	JB94785-10	**Date Sampled:**	05/12/15
Matrix:	AQ - Ground Water	**Date Received:**	05/15/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U195290.D	1	05/19/15	NH	n/a	n/a	VU9008
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	0.0024	0.0010	0.00017	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00018	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00051	mg/l	
156-59-2	cis-1,2-Dichloroethene	0.0030	0.0010	0.00027	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00065	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00027	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.00073	mg/l	
127-18-4	Tetrachloroethene	ND	0.0010	0.00040	mg/l	
108-88-3	Toluene	ND	0.0010	0.00016	mg/l	
71-55-6	1,1,1-Trichloroethane	0.0113	0.0010	0.00025	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00021	mg/l	
79-01-6	Trichloroethene	ND	0.0010	0.00022	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00015	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		76-120%
17060-07-0	1,2-Dichloroethane-D4	106%		73-122%
2037-26-5	Toluene-D8	100%		84-119%
460-00-4	4-Bromofluorobenzene	101%		78-117%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	HSSER-SMW20-051215		
Lab Sample ID:	JB94785-11	**Date Sampled:**	05/12/15
Matrix:	AQ - Ground Water	**Date Received:**	05/15/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U195291.D	1	05/19/15	NH	n/a	n/a	VU9008
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	ND	0.0010	0.00017	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00018	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00051	mg/l	
156-59-2	cis-1,2-Dichloroethene	0.00043	0.0010	0.00027	mg/l	J
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00065	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00027	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.00073	mg/l	
127-18-4	Tetrachloroethene	ND	0.0010	0.00040	mg/l	
108-88-3	Toluene	ND	0.0010	0.00016	mg/l	
71-55-6	1,1,1-Trichloroethane	0.00027	0.0010	0.00025	mg/l	J
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00021	mg/l	
79-01-6	Trichloroethene	ND	0.0010	0.00022	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00015	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		76-120%
17060-07-0	1,2-Dichloroethane-D4	106%		73-122%
2037-26-5	Toluene-D8	99%		84-119%
460-00-4	4-Bromofluorobenzene	101%		78-117%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	HSSER-GMZ03-051315		
Lab Sample ID:	JB94785-12	**Date Sampled:**	05/13/15
Matrix:	AQ - Ground Water	**Date Received:**	05/15/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U195292.D	1	05/19/15	NH	n/a	n/a	VU9008
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	0.00076	0.0010	0.00017	mg/l	J
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00018	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00051	mg/l	
156-59-2	cis-1,2-Dichloroethene	0.00050	0.0010	0.00027	mg/l	J
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00065	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00027	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.00073	mg/l	
127-18-4	Tetrachloroethene	ND	0.0010	0.00040	mg/l	
108-88-3	Toluene	ND	0.0010	0.00016	mg/l	
71-55-6	1,1,1-Trichloroethane	0.00090	0.0010	0.00025	mg/l	J
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00021	mg/l	
79-01-6	Trichloroethene	ND	0.0010	0.00022	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00015	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		76-120%
17060-07-0	1,2-Dichloroethane-D4	106%		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
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	HSSER-GMZ02-051315		
Lab Sample ID:	JB94785-13	**Date Sampled:**	05/13/15
Matrix:	AQ - Ground Water	**Date Received:**	05/15/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U195278.D	1	05/19/15	NH	n/a	n/a	VU9008
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	0.0018	0.0010	0.00017	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00018	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00051	mg/l	
156-59-2	cis-1,2-Dichloroethene	0.00042	0.0010	0.00027	mg/l	J
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00065	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00027	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.00073	mg/l	
127-18-4	Tetrachloroethene	0.00057	0.0010	0.00040	mg/l	J
108-88-3	Toluene	ND	0.0010	0.00016	mg/l	
71-55-6	1,1,1-Trichloroethane	0.0041	0.0010	0.00025	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00021	mg/l	
79-01-6	Trichloroethene	ND	0.0010	0.00022	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00015	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		76-120%
17060-07-0	1,2-Dichloroethane-D4	105%		73-122%
2037-26-5	Toluene-D8	99%		84-119%
460-00-4	4-Bromofluorobenzene	101%		78-117%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	HSSER-PMW01-051315		
Lab Sample ID:	JB94785-14	**Date Sampled:**	05/13/15
Matrix:	AQ - Ground Water	**Date Received:**	05/15/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U195293.D	1	05/19/15	NH	n/a	n/a	VU9008
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	0.0088	0.0010	0.00017	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00018	mg/l	
75-35-4	1,1-Dichloroethene	0.0010	0.0010	0.00051	mg/l	
156-59-2	cis-1,2-Dichloroethene	0.0016	0.0010	0.00027	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00065	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00027	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.00073	mg/l	
127-18-4	Tetrachloroethene	0.0178	0.0010	0.00040	mg/l	
108-88-3	Toluene	ND	0.0010	0.00016	mg/l	
71-55-6	1,1,1-Trichloroethane	0.0394	0.0010	0.00025	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00021	mg/l	
79-01-6	Trichloroethene	0.0014	0.0010	0.00022	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00015	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		76-120%
17060-07-0	1,2-Dichloroethane-D4	106%		73-122%
2037-26-5	Toluene-D8	99%		84-119%
460-00-4	4-Bromofluorobenzene	101%		78-117%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	HSSER-PMW02-051315		
Lab Sample ID:	JB94785-15	**Date Sampled:**	05/13/15
Matrix:	AQ - Ground Water	**Date Received:**	05/15/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U195294.D	1	05/19/15	NH	n/a	n/a	VU9008
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	0.0054	0.0010	0.00017	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00018	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00051	mg/l	
156-59-2	cis-1,2-Dichloroethene	0.0055	0.0010	0.00027	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00065	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00027	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.00073	mg/l	
127-18-4	Tetrachloroethene	0.0149	0.0010	0.00040	mg/l	
108-88-3	Toluene	ND	0.0010	0.00016	mg/l	
71-55-6	1,1,1-Trichloroethane	0.0036	0.0010	0.00025	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00021	mg/l	
79-01-6	Trichloroethene	0.0010	0.0010	0.00022	mg/l	
75-01-4	Vinyl chloride	0.0021	0.0010	0.00015	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		76-120%
17060-07-0	1,2-Dichloroethane-D4	106%		73-122%
2037-26-5	Toluene-D8	100%		84-119%
460-00-4	4-Bromofluorobenzene	100%		78-117%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	HSSER-EBLK01-051315		
Lab Sample ID:	JB94785-16	**Date Sampled:**	05/13/15
Matrix:	AQ - Ground Water	**Date Received:**	05/15/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U195306.D	1	05/19/15	NH	n/a	n/a	VU9009
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	ND	0.0010	0.00017	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00018	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00051	mg/l	
156-59-2	cis-1,2-Dichloroethene	ND	0.0010	0.00027	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00065	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00027	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.00073	mg/l	
127-18-4	Tetrachloroethene	ND	0.0010	0.00040	mg/l	
108-88-3	Toluene	0.00028	0.0010	0.00016	mg/l	J
71-55-6	1,1,1-Trichloroethane	ND	0.0010	0.00025	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00021	mg/l	
79-01-6	Trichloroethene	ND	0.0010	0.00022	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00015	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		76-120%
17060-07-0	1,2-Dichloroethane-D4	107%		73-122%
2037-26-5	Toluene-D8	101%		84-119%
460-00-4	4-Bromofluorobenzene	100%		78-117%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	HSSER-SMW04-051315		
Lab Sample ID:	JB94785-17	**Date Sampled:**	05/13/15
Matrix:	AQ - Ground Water	**Date Received:**	05/15/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U195268.D	1	05/18/15	NH	n/a	n/a	VU9007
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	0.0143	0.0010	0.00017	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00018	mg/l	
75-35-4	1,1-Dichloroethene	0.00098	0.0010	0.00051	mg/l	J
156-59-2	cis-1,2-Dichloroethene	0.132	0.0010	0.00027	mg/l	
156-60-5	trans-1,2-Dichloroethene	0.00085	0.0010	0.00065	mg/l	J
100-41-4	Ethylbenzene	ND	0.0010	0.00027	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.00073	mg/l	
127-18-4	Tetrachloroethene	0.0050	0.0010	0.00040	mg/l	
108-88-3	Toluene	ND	0.0010	0.00016	mg/l	
71-55-6	1,1,1-Trichloroethane	0.00034	0.0010	0.00025	mg/l	J
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00021	mg/l	
79-01-6	Trichloroethene	0.0042	0.0010	0.00022	mg/l	
75-01-4	Vinyl chloride	0.0692	0.0010	0.00015	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		76-120%
17060-07-0	1,2-Dichloroethane-D4	106%		73-122%
2037-26-5	Toluene-D8	99%		84-119%
460-00-4	4-Bromofluorobenzene	101%		78-117%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	HSSER-DUP01-051315		
Lab Sample ID:	JB94785-18	**Date Sampled:**	05/13/15
Matrix:	AQ - Ground Water	**Date Received:**	05/15/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U195269.D	1	05/18/15	NH	n/a	n/a	VU9007
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	0.00078	0.0010	0.00017	mg/l	J
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00018	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00051	mg/l	
156-59-2	cis-1,2-Dichloroethene	0.00055	0.0010	0.00027	mg/l	J
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00065	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00027	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.00073	mg/l	
127-18-4	Tetrachloroethene	ND	0.0010	0.00040	mg/l	
108-88-3	Toluene	ND	0.0010	0.00016	mg/l	
71-55-6	1,1,1-Trichloroethane	0.00089	0.0010	0.00025	mg/l	J
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00021	mg/l	
79-01-6	Trichloroethene	ND	0.0010	0.00022	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00015	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		76-120%
17060-07-0	1,2-Dichloroethane-D4	106%		73-122%
2037-26-5	Toluene-D8	99%		84-119%
460-00-4	4-Bromofluorobenzene	101%		78-117%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	HSSER-TRIP01-051315		
Lab Sample ID:	JB94785-19	**Date Sampled:**	05/13/15
Matrix:	AQ - Trip Blank Water	**Date Received:**	05/15/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U195279.D	1	05/19/15	NH	n/a	n/a	VU9008
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	ND	0.0010	0.00017	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00018	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00051	mg/l	
156-59-2	cis-1,2-Dichloroethene	ND	0.0010	0.00027	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00065	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00027	mg/l	
75-09-2	Methylene chloride	0.00073	0.0020	0.00073	mg/l	J
127-18-4	Tetrachloroethene	ND	0.0010	0.00040	mg/l	
108-88-3	Toluene	ND	0.0010	0.00016	mg/l	
71-55-6	1,1,1-Trichloroethane	ND	0.0010	0.00025	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00021	mg/l	
79-01-6	Trichloroethene	ND	0.0010	0.00022	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00015	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		76-120%
17060-07-0	1,2-Dichloroethane-D4	106%		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
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
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

ACCUTEST LABORATORIES

GW
WTB

CHAIN OF CUSTODY

PAGE 1 OF 2

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2235 Route 130, Dayton, NJ 08810
TEL 732-329-0200 FAX: 732-329-3499 3480
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FED-EX Tracking # 6250603535985
Bottle Order Control #
Accutest Quote #
Accutest Job # JB94785

Client / Reporting Information

Company Name: AECOM
Street Address: 27755 Diehl Rd Suite 100
City / State / Zip: Warrenville IL 60555
Project Contact: Peter Hollatz Peter.Hollatz@aecom.com
E-mail
Phone #: 630-839-5386
Fax #: 630-836-1711
Sampler(s) Name(s): Allan Hollatz
Phone #: 630-849-4621

Project Information

Project Name: UTAS- Plants 1/2 Facility
Street
City / State: Rockford IL
Project #: 60339110
Client Purchase Order #: 59048ACM
Project Manager: Peter Hollatz

Billing Information (if different from Report to)
Company Name
Street Address
City / State / Zip
Attention:

Requested Analysis (see TEST CODE sheet)

VOC 8260 B

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL - Sludge
SED - Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB - Field Blank
EB - Equipment Blank
RB - Rinse Blank
TB - Trip Blank

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	VOC 8260 B	LAB USE ONLY
1	HSSER-SMW08-051115		5-11-15	1315	AH	GW	3	X								X	V1100
2	HSSER-GM201-051115	☒	5-11-15	1435	AH	GW	3	X								X	
3	HSSER-MW203-051115		5-11-15	1625	AH	GW	3	X								X	
4	HSSER-SMW01-051215		5-12-15	0800	AH	GW	3	X								X	
5	HSSER-FBLK01-051115		5-11-15	1230	AH	GW	3	X								X	
6	HSSER-SMW02-051215		5-12-15	1010	AH	GW	3	X								X	
7	HSSER-MW07FGA-051215		5-12-15	1135	AH	GW	3	X								X	
8	HSSER-SMW19-051215		5-12-15	1245	AH	GW	3	X								X	
9	HSSER-SMW21-051215		5-12-15	1410	AH	GW	3	X								X	
10	HSSER-GM201-051215		5-12-15	1530	AH	GW	3	X								X	
11	HSSER-SMW20-051215	☒	5-12-15	1635	AH	GW	3	X								X	
12	~~GMZ~~ HSSER-GM203-051315		5-13-15	0810	AH	GW	3	X								X	

Turnaround Time (Business days)

☒ Std. 10 Business Days
☐ 5 Day RUSH
☐ 3 Day RUSH
☐ 2 Day RUSH
☐ 1 Day RUSH
☐ other

Approved By (Accutest PM): / Date.

INITIAL ASESSMENT TB/[illegible]
LABEL VERIFICATION HL

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information

☐ Commercial "A" (Level 1)
☐ Commercial "B" (Level 2)
☐ FULLT1 (Level 3+4)
☐ NJ Reduced
☐ Commercial "C"
☐ NJ Data of Known Quality Protocol Reporting
☐ NYASP Category A
☐ NYASP Category B
☐ State Forms
☐ EDD Format
☐ Other

Commercial "A" = Results Only, Commercial "B" = Results + QC Summary
NJ Reduced = Results + QC Summary + Partial Raw data

Comments / Special Instructions

List 13 VOC
Level IV Data
VOA QC Recd 5/15/15 [illegible]

Sample Custody must be documented below each time samples change possession, including courier delivery. 10:15

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 Allan Hollatz	5-14-15 1800	1 [signature]	2 [signature]	5/15/15	2 [signature]
3		3	4		4
5		5	Custody Seal # 142 ☒ Intact ☐ Not Intact	Preserved where applicable ☐	On Ice ☒ Cooler Temp. 4.2 °C

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JB94785: Chain of Custody
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ACCUTEST LABORATORIES

CHAIN OF CUSTODY

2235 Route 130, Dayton, NJ 08810
TEL. 732-329-0200 FAX. 732-329-3499/3480
www.accutest.com

FED EX Tracking # 625066353985 | Bottle Order Control #
Accutest Quote # | Accutest Job # JB94785

Client / Reporting Information

Company Name: AECOM
Street Address: 27755 Diehl Rd suite 100
City: Warrenville State: IL Zip: 60555
Project Contact: Peter.Hallstrom@aecom.com E-mail:
Phone #: 630-839-5386 Fax #: 630 836-1711
Sampler(s) Name(s): Allan Hallett Phone #: 630 849-4621

Project Information

Project Name: UTAS Plants 1/2 Facility
Street:
City: Radford State: IL
Project #: 60329110
Client Purchase Order #: 590484CM
Project Manager: Peter Hallstrom
Attention:

Billing Information (If different from Report to)

Company Name:
Street Address:
City: State: Zip:

Requested Analysis (see TEST CODE sheet)

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL - Sludge; SED - Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB - Field Blank; EB - Equipment Blank; RB - Rinse Blank; TB - Trip Blank

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	VOC	LAB USE ONLY
13	HSSER-GMW02-051315		5-13-15	0945	AH	GW	3	X								X	
14	HSSER-MSG1-051315			0945	AH	GW	3	X								X	
15	HSSER-GB001-051315			0945	AH	GW	3	X								X	
16	HSSER-PMW01-051315			1055	AH	GW	3	X								X	
17	HSSER-PMW03-051315			1230	AH	GW	3	X								X	
18	HSSER-EBEN01-051315			1130	AH	GW	3	X								X	
19	HSSER-SMW04-051315			1335	AH	GW	3	X								X	
20	HSSER-DUP01-051315			0000	AH	GW	3	X								X	
21	HSSER-TripBlk-051115		5-11-15	—	AH	GW	2	X								X	

Turnaround Time (Business days)

Approved By (Accutest PM) / Date:

- [X] Std. 10 Business Days
- [ ] 5 Day RUSH
- [ ] 3 Day RUSH
- [ ] 2 Day RUSH
- [ ] 1 Day RUSH
- [ ] other

Emergency & Rush T/A data available VIA Labtrk

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] NJ Reduced
- [ ] Commercial "C"
- [ ] NJ Data of Known Quality Protocol Reporting
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format
- [ ] Other

Commercial "A" = Results Only, Commercial "B" = Results + QC Summary
NJ Reduced = Results + QC Summary + Partial Raw data

Comments / Special Instructions

*List of 13 VOC
Level IV Data

Sample Custody must be documented below each time samples change possession, including courier delivery. (0.15)

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 Allan Hallett	5-14-15 1800	1 Relf	2 Relf	5/15/15	2
3		3	4		4
5		5	Custody Seal #	Intact / Not Intact	Preserved where applicable: Yes / No

Cooler Temp: 4.2 / 4.0

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: JB94785 **Client:** AECOM **Project:** UTAS - Plants 1/2 Facility

Date / Time Received: 5/15/2015 10:15:00 AM **Delivery Method:** FedEx **Airbill #'s:** 625063535985

Cooler Temps (Initial/Adjusted): #1: (4.2/3); 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 -10 ID on label reads "HSSER-GM204" not "HSSER-GM201". Date and time ok
-13 All vials have collection time of 09:30, not 09:45. ID and date ok
-14 Collection time on labels 10:45, not 10:55. ID and date ok

Accutest Laboratories
V:732.329.0200

2235 US Highway 130
F: 732.329.3499

Dayton, New Jersey
www/accutest.com

5.1

JB94785: Chain of Custody
Page 3 of 4

ACCUTEST LABORATORIES

Sample Receipt Summary - Problem Resolution

Accutest Job Number: JB94785 **Initiator:** ANDREWS

CSR: Marie **Response Date:** 5/18/2015

Response: -10, ID should be HSSER-GMZ04.
-13, login sample time as 9:30.
-14, login sample time as 10:45.

Confirmed by A. Hollatz.

Please note that after the "GM" in the ID, the next item is "Z" not "2".

5.1 5

Accutest Laboratories
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Dayton, New Jersey
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JB94785: Chain of Custody
Page 4 of 4

Internal Sample Tracking Chronicle

United Technologies Corporation

Job No: JB94785

ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Project No: 60339110

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JB94785-1 Collected: 11-MAY-15 13:15 By: AH HSSER-SMW08-051115				Received: 15-MAY-15	By: AM	
JB94785-1	SW846 8260C	19-MAY-15 01:31	NH			V8260SL
JB94785-2 Collected: 11-MAY-15 14:35 By: AH HSSER-GMZ01-051115				Received: 15-MAY-15	By: AM	
JB94785-2	SW846 8260C	19-MAY-15 02:00	NH			V8260SL
JB94785-3 Collected: 11-MAY-15 16:25 By: AH HSSER-MW203-051115				Received: 15-MAY-15	By: AM	
JB94785-3	SW846 8260C	19-MAY-15 02:29	NH			V8260SL
JB94785-4 Collected: 12-MAY-15 08:00 By: AH HSSER-SMW01-051215				Received: 15-MAY-15	By: AM	
JB94785-4	SW846 8260C	19-MAY-15 02:58	NH			V8260SL
JB94785-5 Collected: 12-MAY-15 12:30 By: AH HSSER-FBLK01-051115				Received: 15-MAY-15	By: AM	
JB94785-5	SW846 8260C	19-MAY-15 03:27	NH			V8260SL
JB94785-6 Collected: 12-MAY-15 10:10 By: AH HSSER-SMW02-051215				Received: 15-MAY-15	By: AM	
JB94785-6	SW846 8260C	19-MAY-15 03:57	NH			V8260SL
JB94785-7 Collected: 12-MAY-15 11:35 By: AH HSSER-MW07FGA-051215				Received: 15-MAY-15	By: AM	
JB94785-7	SW846 8260C	19-MAY-15 04:26	NH			V8260SL
JB94785-8 Collected: 12-MAY-15 12:45 By: AH HSSER-SMW19-051215				Received: 15-MAY-15	By: AM	
JB94785-8	SW846 8260C	19-MAY-15 04:55	NH			V8260SL

Internal Sample Tracking Chronicle

United Technologies Corporation

Job No: JB94785

ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Project No: 60339110

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JB94785-9 Collected: 12-MAY-15 14:10 By: AH Received: 15-MAY-15 By: AM HSSER-SMW21-051215						
JB94785-9	SW846 8260C	19-MAY-15 05:24	NH			V8260SL
JB94785-10 Collected: 12-MAY-15 15:30 By: AH Received: 15-MAY-15 By: AM HSSER-GMZ04-051215						
JB94785-10	SW846 8260C	19-MAY-15 05:53	NH			V8260SL
JB94785-11 Collected: 12-MAY-15 16:35 By: AH Received: 15-MAY-15 By: AM HSSER-SMW20-051215						
JB94785-11	SW846 8260C	19-MAY-15 06:22	NH			V8260SL
JB94785-12 Collected: 13-MAY-15 08:10 By: AH Received: 15-MAY-15 By: AM HSSER-GMZ03-051315						
JB94785-12	SW846 8260C	19-MAY-15 06:51	NH			V8260SL
JB94785-13 Collected: 13-MAY-15 09:30 By: AH Received: 15-MAY-15 By: AM HSSER-GMZ02-051315						
JB94785-13	SW846 8260C	19-MAY-15 00:32	NH			V8260SL
JB94785-14 Collected: 13-MAY-15 10:45 By: AH Received: 15-MAY-15 By: AM HSSER-PMW01-051315						
JB94785-14	SW846 8260C	19-MAY-15 07:20	NH			V8260SL
JB94785-15 Collected: 13-MAY-15 12:30 By: AH Received: 15-MAY-15 By: AM HSSER-PMW02-051315						
JB94785-15	SW846 8260C	19-MAY-15 07:49	NH			V8260SL
JB94785-16 Collected: 13-MAY-15 11:30 By: AH Received: 15-MAY-15 By: AM HSSER-EBLK01-051315						
JB94785-16	SW846 8260C	19-MAY-15 13:52	NH			V8260SL

Internal Sample Tracking Chronicle

United Technologies Corporation

Job No: JB94785

ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Project No: 60339110

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JB94785-17 Collected: 13-MAY-15 13:35 By: AH Received: 15-MAY-15 By: AM						
HSSER-SMW04-051315						
JB94785-17	SW846 8260C	18-MAY-15 19:41	NH			V8260SL
JB94785-18 Collected: 13-MAY-15 00:00 By: AH Received: 15-MAY-15 By: AM						
HSSER-DUP01-051315						
JB94785-18	SW846 8260C	18-MAY-15 20:11	NH			V8260SL
JB94785-19 Collected: 13-MAY-15 13:35 By: AH Received: 15-MAY-15 By: AM						
HSSER-TRIP01-051315						
JB94785-19	SW846 8260C	19-MAY-15 01:02	NH			V8260SL

Accutest Internal Chain of Custody

Job Number: JB94785
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Received: 05/15/15

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB94785-1.2	Secured Storage	Nicole Horvath	05/19/15 09:24	Retrieve from Storage
JB94785-1.2	Nicole Horvath	GCMSU	05/19/15 09:24	Load on Instrument
JB94785-1.2	GCMSU	Nicole Horvath	05/19/15 09:37	Unload from Instrument
JB94785-1.2	Nicole Horvath	Secured Storage	05/19/15 09:37	Return to Storage
JB94785-2.2	Secured Storage	Nicole Horvath	05/19/15 09:24	Retrieve from Storage
JB94785-2.2	Nicole Horvath	GCMSU	05/19/15 09:24	Load on Instrument
JB94785-2.2	GCMSU	Nicole Horvath	05/19/15 09:37	Unload from Instrument
JB94785-2.2	Nicole Horvath	Secured Storage	05/19/15 09:37	Return to Storage
JB94785-3.2	Secured Storage	Nicole Horvath	05/19/15 09:24	Retrieve from Storage
JB94785-3.2	Nicole Horvath	GCMSU	05/19/15 09:24	Load on Instrument
JB94785-3.2	GCMSU	Nicole Horvath	05/19/15 09:37	Unload from Instrument
JB94785-3.2	Nicole Horvath	Secured Storage	05/19/15 09:37	Return to Storage
JB94785-4.2	Secured Storage	Nicole Horvath	05/19/15 09:24	Retrieve from Storage
JB94785-4.2	Nicole Horvath	GCMSU	05/19/15 09:24	Load on Instrument
JB94785-4.2	GCMSU	Nicole Horvath	05/19/15 09:37	Unload from Instrument
JB94785-4.2	Nicole Horvath	Secured Storage	05/19/15 09:37	Return to Storage
JB94785-5.1	Secured Storage	Nicole Horvath	05/19/15 09:24	Retrieve from Storage
JB94785-5.1	Nicole Horvath	GCMSU	05/19/15 09:24	Load on Instrument
JB94785-5.1	GCMSU	Nicole Horvath	05/19/15 09:37	Unload from Instrument
JB94785-5.1	Nicole Horvath	Secured Storage	05/19/15 09:37	Return to Storage
JB94785-6.1	Secured Storage	Nicole Horvath	05/19/15 09:24	Retrieve from Storage
JB94785-6.1	Nicole Horvath	GCMSU	05/19/15 09:24	Load on Instrument
JB94785-6.1	GCMSU	Nicole Horvath	05/19/15 09:37	Unload from Instrument
JB94785-6.1	Nicole Horvath	Secured Storage	05/19/15 09:37	Return to Storage
JB94785-7.1	Secured Storage	Nicole Horvath	05/19/15 09:24	Retrieve from Storage
JB94785-7.1	Nicole Horvath	GCMSU	05/19/15 09:24	Load on Instrument
JB94785-7.1	GCMSU	Nicole Horvath	05/19/15 09:37	Unload from Instrument
JB94785-7.1	Nicole Horvath	Secured Storage	05/19/15 09:37	Return to Storage
JB94785-8.2	Secured Storage	Nicole Horvath	05/19/15 09:24	Retrieve from Storage
JB94785-8.2	Nicole Horvath	GCMSU	05/19/15 09:24	Load on Instrument
JB94785-8.2	GCMSU	Nicole Horvath	05/19/15 09:37	Unload from Instrument
JB94785-8.2	Nicole Horvath	Secured Storage	05/19/15 09:37	Return to Storage
JB94785-9.1	Secured Storage	Nicole Horvath	05/19/15 09:24	Retrieve from Storage
JB94785-9.1	Nicole Horvath	GCMSU	05/19/15 09:24	Load on Instrument
JB94785-9.1	GCMSU	Nicole Horvath	05/19/15 09:37	Unload from Instrument
JB94785-9.1	Nicole Horvath	Secured Storage	05/19/15 09:37	Return to Storage

5.3

Accutest Internal Chain of Custody

Job Number: JB94785
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Received: 05/15/15

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB94785-10.2	Secured Storage	Nicole Horvath	05/19/15 09:24	Retrieve from Storage
JB94785-10.2	Nicole Horvath	GCMSU	05/19/15 09:24	Load on Instrument
JB94785-10.2	GCMSU	Nicole Horvath	05/19/15 09:37	Unload from Instrument
JB94785-10.2	Nicole Horvath	Secured Storage	05/19/15 09:37	Return to Storage
JB94785-11.2	Secured Storage	Nicole Horvath	05/19/15 09:24	Retrieve from Storage
JB94785-11.2	Nicole Horvath	GCMSU	05/19/15 09:24	Load on Instrument
JB94785-11.2	GCMSU	Nicole Horvath	05/19/15 09:37	Unload from Instrument
JB94785-11.2	Nicole Horvath	Secured Storage	05/19/15 09:37	Return to Storage
JB94785-12.2	Secured Storage	Nicole Horvath	05/19/15 09:24	Retrieve from Storage
JB94785-12.2	Nicole Horvath	GCMSU	05/19/15 09:24	Load on Instrument
JB94785-12.2	GCMSU	Nicole Horvath	05/19/15 09:37	Unload from Instrument
JB94785-12.2	Nicole Horvath	Secured Storage	05/19/15 09:37	Return to Storage
JB94785-13.2	Secured Storage	Nicole Horvath	05/19/15 09:24	Retrieve from Storage
JB94785-13.2	Nicole Horvath	GCMSU	05/19/15 09:24	Load on Instrument
JB94785-13.2	GCMSU	Nicole Horvath	05/19/15 09:37	Unload from Instrument
JB94785-13.2	Nicole Horvath	Secured Storage	05/19/15 09:37	Return to Storage
JB94785-13.4	Secured Storage	Nicole Horvath	05/19/15 09:24	Retrieve from Storage
JB94785-13.4	Nicole Horvath	GCMSU	05/19/15 09:24	Load on Instrument
JB94785-13.4	GCMSU	Nicole Horvath	05/19/15 09:37	Unload from Instrument
JB94785-13.4	Nicole Horvath	Secured Storage	05/19/15 09:37	Return to Storage
JB94785-13.8	Secured Storage	Nicole Horvath	05/19/15 09:24	Retrieve from Storage
JB94785-13.8	Nicole Horvath	GCMSU	05/19/15 09:24	Load on Instrument
JB94785-13.8	GCMSU	Nicole Horvath	05/19/15 09:37	Unload from Instrument
JB94785-13.8	Nicole Horvath	Secured Storage	05/19/15 09:37	Return to Storage
JB94785-14.2	Secured Storage	Nicole Horvath	05/19/15 09:24	Retrieve from Storage
JB94785-14.2	Nicole Horvath	GCMSU	05/19/15 09:24	Load on Instrument
JB94785-14.2	GCMSU	Nicole Horvath	05/19/15 09:37	Unload from Instrument
JB94785-14.2	Nicole Horvath	Secured Storage	05/19/15 09:37	Return to Storage
JB94785-15.2	Secured Storage	Nicole Horvath	05/19/15 09:24	Retrieve from Storage
JB94785-15.2	Nicole Horvath	GCMSU	05/19/15 09:24	Load on Instrument
JB94785-15.2	GCMSU	Nicole Horvath	05/19/15 09:37	Unload from Instrument
JB94785-15.2	Nicole Horvath	Secured Storage	05/19/15 09:37	Return to Storage
JB94785-16.1	Secured Storage	Nicole Horvath	05/19/15 14:33	Retrieve from Storage
JB94785-16.1	Nicole Horvath	GCMSU	05/19/15 14:33	Load on Instrument
JB94785-16.1	GCMSU	Nicole Horvath	05/20/15 12:42	Unload from Instrument

Accutest Internal Chain of Custody

Job Number: JB94785
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Received: 05/15/15

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB94785-16.1	Nicole Horvath	Secured Storage	05/20/15 12:42	Return to Storage
JB94785-16.2	Secured Storage	Nicole Horvath	05/19/15 11:34	Retrieve from Storage
JB94785-16.2	Nicole Horvath	GCMSU	05/19/15 11:34	Load on Instrument
JB94785-16.2	GCMSU	Nicole Horvath	05/20/15 12:42	Unload from Instrument
JB94785-16.2	Nicole Horvath	Secured Storage	05/20/15 12:42	Return to Storage
JB94785-17.2	Secured Storage	Nicole Horvath	05/19/15 09:24	Retrieve from Storage
JB94785-17.2	Nicole Horvath	GCMSU	05/19/15 09:24	Load on Instrument
JB94785-17.2	GCMSU	Nicole Horvath	05/19/15 09:37	Unload from Instrument
JB94785-17.2	Nicole Horvath	Secured Storage	05/19/15 09:37	Return to Storage
JB94785-18.2	Secured Storage	Nicole Horvath	05/19/15 09:24	Retrieve from Storage
JB94785-18.2	Nicole Horvath	GCMSU	05/19/15 09:24	Load on Instrument
JB94785-18.2	GCMSU	Nicole Horvath	05/19/15 09:37	Unload from Instrument
JB94785-18.2	Nicole Horvath	Secured Storage	05/19/15 09:37	Return to Storage
JB94785-19.1	Secured Storage	Nicole Horvath	05/19/15 09:24	Retrieve from Storage
JB94785-19.1	Nicole Horvath	GCMSU	05/19/15 09:24	Load on Instrument
JB94785-19.1	GCMSU	Nicole Horvath	05/19/15 09:37	Unload from Instrument
JB94785-19.1	Nicole Horvath	Secured Storage	05/19/15 09:37	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

Raw Data: U195249.D

Method Blank Summary

Job Number: JB94785
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VU9007-MB	U195249.D	1	05/18/15	NH	n/a	n/a	VU9007

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

JB94785-17, JB94785-18

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	ND	1.0	0.17	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.18	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.51	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.27	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.65	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.27	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.73	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.40	ug/l	
108-88-3	Toluene	ND	1.0	0.16	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.21	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.22	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.15	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	103%	76-120%
17060-07-0	1,2-Dichloroethane-D4	105%	73-122%
2037-26-5	Toluene-D8	99%	84-119%
460-00-4	4-Bromofluorobenzene	100%	78-117%

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

Method Blank Summary

Job Number: JB94785
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VU9008-MB	U195273.D	1	05/18/15	NH	n/a	n/a	VU9008

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

JB94785-1, JB94785-2, JB94785-3, JB94785-4, JB94785-5, JB94785-6, JB94785-7, JB94785-8, JB94785-9, JB94785-10, JB94785-11, JB94785-12, JB94785-13, JB94785-14, JB94785-15, JB94785-19

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	ND	1.0	0.17	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.18	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.51	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.27	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.65	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.27	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.73	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.40	ug/l	
108-88-3	Toluene	ND	1.0	0.16	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.21	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.22	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.15	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	103%	76-120%
17060-07-0	1,2-Dichloroethane-D4	104%	73-122%
2037-26-5	Toluene-D8	99%	84-119%
460-00-4	4-Bromofluorobenzene	105%	78-117%

Method Blank Summary

Job Number: JB94785
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VU9009-MB	U195300.D	1	05/19/15	NH	n/a	n/a	VU9009

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

JB94785-16

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	ND	1.0	0.17	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.18	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.51	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.27	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.65	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.27	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.73	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.40	ug/l	
108-88-3	Toluene	ND	1.0	0.16	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.21	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.22	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.15	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	103%	76-120%
17060-07-0	1,2-Dichloroethane-D4	105%	73-122%
2037-26-5	Toluene-D8	100%	84-119%
460-00-4	4-Bromofluorobenzene	100%	78-117%

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

Blank Spike Summary

Job Number: JB94785
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VU9007-BS	U195250.D	1	05/18/15	NH	n/a	n/a	VU9007

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

JB94785-17, JB94785-18

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
75-34-3	1,1-Dichloroethane	50	53.6	107	80-125
107-06-2	1,2-Dichloroethane	50	56.1	112	78-131
75-35-4	1,1-Dichloroethene	50	50.4	101	73-127
156-59-2	cis-1,2-Dichloroethene	50	50.3	101	77-118
156-60-5	trans-1,2-Dichloroethene	50	49.7	99	75-118
100-41-4	Ethylbenzene	50	51.4	103	80-118
75-09-2	Methylene chloride	50	44.6	89	75-122
127-18-4	Tetrachloroethene	50	51.4	103	69-138
108-88-3	Toluene	50	51.8	104	80-122
71-55-6	1,1,1-Trichloroethane	50	55.1	110	80-131
79-00-5	1,1,2-Trichloroethane	50	51.6	103	78-122
79-01-6	Trichloroethene	50	52.1	104	83-122
75-01-4	Vinyl chloride	50	52.5	105	57-138

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	103%	76-120%
17060-07-0	1,2-Dichloroethane-D4	106%	73-122%
2037-26-5	Toluene-D8	101%	84-119%
460-00-4	4-Bromofluorobenzene	97%	78-117%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JB94785
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VU9008-BS	U195274.D	1	05/18/15	NH	n/a	n/a	VU9008

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

JB94785-1, JB94785-2, JB94785-3, JB94785-4, JB94785-5, JB94785-6, JB94785-7, JB94785-8, JB94785-9, JB94785-10, JB94785-11, JB94785-12, JB94785-13, JB94785-14, JB94785-15, JB94785-19

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
75-34-3	1,1-Dichloroethane	50	53.1	106	80-125
107-06-2	1,2-Dichloroethane	50	56.5	113	78-131
75-35-4	1,1-Dichloroethene	50	50.0	100	73-127
156-59-2	cis-1,2-Dichloroethene	50	50.5	101	77-118
156-60-5	trans-1,2-Dichloroethene	50	49.6	99	75-118
100-41-4	Ethylbenzene	50	51.4	103	80-118
75-09-2	Methylene chloride	50	44.6	89	75-122
127-18-4	Tetrachloroethene	50	51.8	104	69-138
108-88-3	Toluene	50	51.6	103	80-122
71-55-6	1,1,1-Trichloroethane	50	54.5	109	80-131
79-00-5	1,1,2-Trichloroethane	50	52.4	105	78-122
79-01-6	Trichloroethene	50	52.4	105	83-122
75-01-4	Vinyl chloride	50	53.7	107	57-138

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	103%	76-120%
17060-07-0	1,2-Dichloroethane-D4	106%	73-122%
2037-26-5	Toluene-D8	100%	84-119%
460-00-4	4-Bromofluorobenzene	98%	78-117%

* = Outside of Control Limits.

6.2.2

6

Blank Spike Summary

Job Number: JB94785
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VU9009-BS	U195301.D	1	05/19/15	NH	n/a	n/a	VU9009

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

JB94785-16

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
75-34-3	1,1-Dichloroethane	50	54.7	109	80-125
107-06-2	1,2-Dichloroethane	50	56.5	113	78-131
75-35-4	1,1-Dichloroethene	50	51.0	102	73-127
156-59-2	cis-1,2-Dichloroethene	50	50.9	102	77-118
156-60-5	trans-1,2-Dichloroethene	50	50.3	101	75-118
100-41-4	Ethylbenzene	50	51.1	102	80-118
75-09-2	Methylene chloride	50	45.5	91	75-122
127-18-4	Tetrachloroethene	50	50.7	101	69-138
108-88-3	Toluene	50	52.3	105	80-122
71-55-6	1,1,1-Trichloroethane	50	55.7	111	80-131
79-00-5	1,1,2-Trichloroethane	50	51.9	104	78-122
79-01-6	Trichloroethene	50	52.3	105	83-122
75-01-4	Vinyl chloride	50	55.1	110	57-138

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	105%	76-120%
17060-07-0	1,2-Dichloroethane-D4	107%	73-122%
2037-26-5	Toluene-D8	101%	84-119%
460-00-4	4-Bromofluorobenzene	97%	78-117%

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: JB94785
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB94785-16MS	U195311.D	1	05/19/15	NH	n/a	n/a	VU9009
JB94785-16	U195306.D	1	05/19/15	NH	n/a	n/a	VU9009

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

JB94785-16

CAS No.	Compound	JB94785-16 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
75-34-3	1,1-Dichloroethane	ND		50	59.8	120	60-129
107-06-2	1,2-Dichloroethane	ND		50	59.1	118	72-133
75-35-4	1,1-Dichloroethene	ND		50	59.9	120	40-137
156-59-2	cis-1,2-Dichloroethene	ND		50	55.7	111	57-128
156-60-5	trans-1,2-Dichloroethene	ND		50	57.8	116	53-128
100-41-4	Ethylbenzene	ND		50	54.9	110	38-139
75-09-2	Methylene chloride	ND		50	49.8	100	63-128
127-18-4	Tetrachloroethene	ND		50	56.2	112	43-145
108-88-3	Toluene	0.28	J	50	56.3	112	51-136
71-55-6	1,1,1-Trichloroethane	ND		50	61.6	123	51-141
79-00-5	1,1,2-Trichloroethane	ND		50	54.3	109	71-127
79-01-6	Trichloroethene	ND		50	57.6	115	55-136
75-01-4	Vinyl chloride	ND		50	54.9	110	34-147

CAS No.	Surrogate Recoveries	MS	JB94785-16	Limits
1868-53-7	Dibromofluoromethane	105%	104%	76-120%
17060-07-0	1,2-Dichloroethane-D4	108%	107%	73-122%
2037-26-5	Toluene-D8	101%	101%	84-119%
460-00-4	4-Bromofluorobenzene	98%	100%	78-117%

* = Outside of Control Limits.

6.3.1

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB94785
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB94653-3MS	U195259.D	10	05/18/15	NH	n/a	n/a	VU9007
JB94653-3MSD	U195260.D	10	05/18/15	NH	n/a	n/a	VU9007
JB94653-3	U195253.D	10	05/18/15	NH	n/a	n/a	VU9007

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

JB94785-17, JB94785-18

CAS No.	Compound	JB94653-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
75-34-3	1,1-Dichloroethane	ND		500	555	111	500	537	107	3	60-129/13
107-06-2	1,2-Dichloroethane	ND		500	581	116	500	572	114	2	72-133/12
75-35-4	1,1-Dichloroethene	ND		500	545	109	500	542	108	1	40-137/17
156-59-2	cis-1,2-Dichloroethene	3.5	J	500	532	106	500	526	105	1	57-128/13
156-60-5	trans-1,2-Dichloroethene	ND		500	535	107	500	532	106	1	53-128/15
100-41-4	Ethylbenzene	ND		500	531	106	500	519	104	2	38-139/12
75-09-2	Methylene chloride	ND		500	463	93	500	460	92	1	63-128/13
127-18-4	Tetrachloroethene	2990	E	500	3180	38* [a]	500	3130	28* [a]	2	43-145/15
108-88-3	Toluene	ND		500	537	107	500	528	106	2	51-136/13
71-55-6	1,1,1-Trichloroethane	ND		500	572	114	500	565	113	1	51-141/16
79-00-5	1,1,2-Trichloroethane	ND		500	536	107	500	525	105	2	71-127/12
79-01-6	Trichloroethene	3.8	J	500	553	110	500	541	107	2	55-136/14
75-01-4	Vinyl chloride	ND		500	423	85	500	416	83	2	34-147/17

CAS No.	Surrogate Recoveries	MS	MSD	JB94653-3	Limits
1868-53-7	Dibromofluoromethane	104%	103%	103%	76-120%
17060-07-0	1,2-Dichloroethane-D4	106%	106%	104%	73-122%
2037-26-5	Toluene-D8	101%	100%	99%	84-119%
460-00-4	4-Bromofluorobenzene	98%	98%	100%	78-117%

(a) Outside control limits due to high level in sample relative to spike amount.

* = Outside of Control Limits.

Raw Data: U195275.D U195276.D

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB94785
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB94785-13MS	U195275.D	1	05/18/15	NH	n/a	n/a	VU9008
JB94785-13MSD	U195276.D	1	05/18/15	NH	n/a	n/a	VU9008
JB94785-13	U195278.D	1	05/19/15	NH	n/a	n/a	VU9008

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

JB94785-1, JB94785-2, JB94785-3, JB94785-4, JB94785-5, JB94785-6, JB94785-7, JB94785-8, JB94785-9, JB94785-10, JB94785-11, JB94785-12, JB94785-13, JB94785-14, JB94785-15, JB94785-19

CAS No.	Compound	JB94785-13 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
75-34-3	1,1-Dichloroethane	1.8		50	58.2	113	50	57.9	112	1	60-129/13
107-06-2	1,2-Dichloroethane	ND		50	57.5	115	50	57.3	115	0	72-133/12
75-35-4	1,1-Dichloroethene	ND		50	57.4	115	50	56.4	113	2	40-137/17
156-59-2	cis-1,2-Dichloroethene	0.42	J	50	53.9	107	50	53.7	107	0	57-128/13
156-60-5	trans-1,2-Dichloroethene	ND		50	55.2	110	50	54.6	109	1	53-128/15
100-41-4	Ethylbenzene	ND		50	53.4	107	50	53.2	106	0	38-139/12
75-09-2	Methylene chloride	ND		50	46.7	93	50	46.9	94	0	63-128/13
127-18-4	Tetrachloroethene	0.57	J	50	54.9	109	50	54.4	108	1	43-145/15
108-88-3	Toluene	ND		50	53.5	107	50	54.0	108	1	51-136/13
71-55-6	1,1,1-Trichloroethane	4.1		50	62.9	118	50	62.4	117	1	51-141/16
79-00-5	1,1,2-Trichloroethane	ND		50	52.3	105	50	52.9	106	1	71-127/12
79-01-6	Trichloroethene	ND		50	55.4	111	50	55.8	112	1	55-136/14
75-01-4	Vinyl chloride	ND		50	48.0	96	50	46.8	94	3	34-147/17

CAS No.	Surrogate Recoveries	MS	MSD	JB94785-13	Limits
1868-53-7	Dibromofluoromethane	104%	104%	103%	76-120%
17060-07-0	1,2-Dichloroethane-D4	107%	107%	105%	73-122%
2037-26-5	Toluene-D8	100%	100%	99%	84-119%
460-00-4	4-Bromofluorobenzene	98%	99%	101%	78-117%

* = Outside of Control Limits.

6.4.2

Duplicate Summary

Job Number: JB94785
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB94614-5DUP	U195312.D	1	05/19/15	NH	n/a	n/a	VU9009
JB94614-5	U195304.D	1	05/19/15	NH	n/a	n/a	VU9009

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

JB94785-16

CAS No.	Compound	JB94614-5 ug/l	Q	DUP ug/l	Q	RPD	Limits
75-34-3	1,1-Dichloroethane	1.0 U		ND		nc	30
107-06-2	1,2-Dichloroethane	1.0 U		ND		nc	30
75-35-4	1,1-Dichloroethene	1.0 U		ND		nc	30
156-59-2	cis-1,2-Dichloroethene	1.0 U		ND		nc	30
156-60-5	trans-1,2-Dichloroethene	1.0 U		ND		nc	30
100-41-4	Ethylbenzene	1.0 U		ND		nc	30
75-09-2	Methylene chloride	2.0 U		ND		nc	30
127-18-4	Tetrachloroethene	1.0 U		ND		nc	30
108-88-3	Toluene	1.0 U		ND		nc	30
71-55-6	1,1,1-Trichloroethane	1.0 U		ND		nc	30
79-00-5	1,1,2-Trichloroethane	1.0 U		ND		nc	30
79-01-6	Trichloroethene	1.0 U		ND		nc	30
75-01-4	Vinyl chloride	1.0 U		ND		nc	30

CAS No.	Surrogate Recoveries	DUP	JB94614-5	Limits
1868-53-7	Dibromofluoromethane	104%	103%	76-120%
17060-07-0	1,2-Dichloroethane-D4	107%	106%	73-122%
2037-26-5	Toluene-D8	100%	100%	84-119%
460-00-4	4-Bromofluorobenzene	97%	101%	78-117%

* = Outside of Control Limits.

Instrument Performance Check (BFB)

Job Number: JB94785
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

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

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

6.6.1

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: JB94785
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample:	VU9007-BFB	**Injection Date:**	05/18/15
Lab File ID:	U195246.D	**Injection Time:**	08:39
Instrument ID:	GCMSU		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	13210	18.6		Pass
75	30.0 - 60.0% of mass 95	33693	47.4		Pass
95	Base peak, 100% relative abundance	71016	100.0		Pass
96	5.0 - 9.0% of mass 95	4826	6.80		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	71789	101.1		Pass
175	5.0 - 9.0% of mass 174	5608	7.90	(7.81) [a]	Pass
176	95.0 - 101.0% of mass 174	69320	97.6	(96.6) [a]	Pass
177	5.0 - 9.0% of mass 176	4671	6.58	(6.74) [b]	Pass

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

6.6.2

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
VU9007-CC8988	U195247.D	05/18/15	09:12	00:33	Continuing cal 20
VU9007-MB	U195249.D	05/18/15	10:15	01:36	Method Blank
VU9007-BS	U195250.D	05/18/15	10:44	02:05	Blank Spike
ZZZZZZ	U195251.D	05/18/15	11:25	02:46	(unrelated sample)
ZZZZZZ	U195252.D	05/18/15	11:54	03:15	(unrelated sample)
JB94653-3	U195253.D	05/18/15	12:23	03:44	(used for QC only; not part of job JB94785)
ZZZZZZ	U195254.D	05/18/15	12:52	04:13	(unrelated sample)
ZZZZZZ	U195255.D	05/18/15	13:21	04:42	(unrelated sample)
ZZZZZZ	U195256.D	05/18/15	13:50	05:11	(unrelated sample)
ZZZZZZ	U195257.D	05/18/15	14:20	05:41	(unrelated sample)
ZZZZZZ	U195258.D	05/18/15	14:49	06:10	(unrelated sample)
JB94653-3MS	U195259.D	05/18/15	15:18	06:39	Matrix Spike
JB94653-3MSD	U195260.D	05/18/15	15:48	07:09	Matrix Spike Duplicate
ZZZZZZ	U195261.D	05/18/15	16:17	07:38	(unrelated sample)
ZZZZZZ	U195262.D	05/18/15	16:46	08:07	(unrelated sample)
ZZZZZZ	U195264.D	05/18/15	17:45	09:06	(unrelated sample)
ZZZZZZ	U195265.D	05/18/15	18:14	09:35	(unrelated sample)
ZZZZZZ	U195266.D	05/18/15	18:43	10:04	(unrelated sample)
ZZZZZZ	U195267.D	05/18/15	19:12	10:33	(unrelated sample)
JB94785-17	U195268.D	05/18/15	19:41	11:02	HSSER-SMW04-051315
JB94785-18	U195269.D	05/18/15	20:11	11:32	HSSER-DUP01-051315

Instrument Performance Check (BFB)

Job Number: JB94785
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample:	VU9008-BFB	**Injection Date:**	05/18/15
Lab File ID:	U195270.D	**Injection Time:**	20:40
Instrument ID:	GCMSU		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	12813	18.6		Pass
75	30.0 - 60.0% of mass 95	32992	47.8		Pass
95	Base peak, 100% relative abundance	69037	100.0		Pass
96	5.0 - 9.0% of mass 95	4679	6.78		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	69696	101.0		Pass
175	5.0 - 9.0% of mass 174	5222	7.56	(7.49) [a]	Pass
176	95.0 - 101.0% of mass 174	67765	98.2	(97.2) [a]	Pass
177	5.0 - 9.0% of mass 176	4605	6.67	(6.80) [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
VU9008-CC8988	U195271.D	05/18/15	21:09	00:29	Continuing cal 50
VU9008-MB	U195273.D	05/18/15	22:07	01:27	Method Blank
VU9008-BS	U195274.D	05/18/15	22:36	01:56	Blank Spike
JB94785-13MS	U195275.D	05/18/15	23:05	02:25	Matrix Spike
JB94785-13MSD	U195276.D	05/18/15	23:34	02:54	Matrix Spike Duplicate
JB94785-13	U195278.D	05/19/15	00:32	03:52	HSSER-GMZ02-051315
JB94785-19	U195279.D	05/19/15	01:02	04:22	HSSER-TRIP01-051315
JB94785-1	U195280.D	05/19/15	01:31	04:51	HSSER-SMW08-051115
JB94785-2	U195281.D	05/19/15	02:00	05:20	HSSER-GMZ01-051115
JB94785-3	U195282.D	05/19/15	02:29	05:49	HSSER-MW203-051115
JB94785-4	U195283.D	05/19/15	02:58	06:18	HSSER-SMW01-051215
JB94785-5	U195284.D	05/19/15	03:27	06:47	HSSER-FBLK01-051115
JB94785-6	U195286.D	05/19/15	03:57	07:17	HSSER-SMW02-051215
JB94785-7	U195287.D	05/19/15	04:26	07:46	HSSER-MW07FGA-051215
JB94785-8	U195288.D	05/19/15	04:55	08:15	HSSER-SMW19-051215
JB94785-9	U195289.D	05/19/15	05:24	08:44	HSSER-SMW21-051215
JB94785-10	U195290.D	05/19/15	05:53	09:13	HSSER-GMZ04-051215
JB94785-11	U195291.D	05/19/15	06:22	09:42	HSSER-SMW20-051215
JB94785-12	U195292.D	05/19/15	06:51	10:11	HSSER-GMZ03-051315
JB94785-14	U195293.D	05/19/15	07:20	10:40	HSSER-PMW01-051315
JB94785-15	U195294.D	05/19/15	07:49	11:09	HSSER-PMW02-051315

Instrument Performance Check (BFB)

Job Number: JB94785
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample:	VU9009-BFB	**Injection Date:**	05/19/15
Lab File ID:	U195296.D	**Injection Time:**	09:02
Instrument ID:	GCMSU		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	12879	18.4		Pass
75	30.0 - 60.0% of mass 95	33024	47.1		Pass
95	Base peak, 100% relative abundance	70075	100.0		Pass
96	5.0 - 9.0% of mass 95	4820	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	71168	101.6		Pass
175	5.0 - 9.0% of mass 174	5353	7.64	(7.52) [a]	Pass
176	95.0 - 101.0% of mass 174	68573	97.9	(96.4) [a]	Pass
177	5.0 - 9.0% of mass 176	4667	6.66	(6.81) [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
VU9009-CC8988	U195297.D	05/19/15	09:34	00:32	Continuing cal 20
VU9009-MB	U195300.D	05/19/15	10:44	01:42	Method Blank
VU9009-BS	U195301.D	05/19/15	11:13	02:11	Blank Spike
ZZZZZZ	U195302.D	05/19/15	11:54	02:52	(unrelated sample)
ZZZZZZ	U195303.D	05/19/15	12:24	03:22	(unrelated sample)
JB94614-5	U195304.D	05/19/15	12:53	03:51	(used for QC only; not part of job JB94785)
ZZZZZZ	U195305.D	05/19/15	13:23	04:21	(unrelated sample)
JB94785-16	U195306.D	05/19/15	13:52	04:50	HSSER-EBLK01-051315
ZZZZZZ	U195307.D	05/19/15	14:22	05:20	(unrelated sample)
ZZZZZZ	U195308.D	05/19/15	14:52	05:50	(unrelated sample)
ZZZZZZ	U195309.D	05/19/15	15:22	06:20	(unrelated sample)
JB94785-16MS	U195311.D	05/19/15	16:46	07:44	Matrix Spike
JB94614-5DUP	U195312.D	05/19/15	17:19	08:17	Duplicate
ZZZZZZ	U195313.D	05/19/15	17:48	08:46	(unrelated sample)
ZZZZZZ	U195314.D	05/19/15	18:17	09:15	(unrelated sample)
ZZZZZZ	U195315.D	05/19/15	18:46	09:44	(unrelated sample)
ZZZZZZ	U195316.D	05/19/15	19:16	10:14	(unrelated sample)
ZZZZZZ	U195317.D	05/19/15	19:45	10:43	(unrelated sample)
ZZZZZZ	U195318.D	05/19/15	20:14	11:12	(unrelated sample)
ZZZZZZ	U195319.D	05/19/15	20:44	11:42	(unrelated sample)

Volatile Internal Standard Area Summary

Job Number: JB94785
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Check Std:	VU9007-CC8988	**Injection Date:**	05/18/15
Lab File ID:	U195247.D	**Injection Time:**	09:12
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	84814	7.88	273014	10.08	315527	11.00	289434	14.33	165662	16.90
Upper Limit [a]	169628	8.38	546028	10.58	631054	11.50	578868	14.83	331324	17.40
Lower Limit [b]	42407	7.38	136507	9.58	157764	10.50	144717	13.83	82831	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
VU9007-MB	86062	7.87	288854	10.08	334948	11.00	299024	14.32	162193	16.90
VU9007-BS	85725	7.88	280904	10.08	324293	11.00	295193	14.32	167741	16.90
ZZZZZZ	70787	7.87	280209	10.08	324414	11.00	291432	14.32	165062	16.90
ZZZZZZ	79718	7.87	292357	10.08	337016	11.00	299618	14.32	164690	16.90
JB94653-3	89160	7.87	292198	10.08	336072	11.00	296524	14.32	162865	16.90
ZZZZZZ	73175	7.87	291330	10.08	334464	11.00	299446	14.32	161325	16.90
ZZZZZZ	77953	7.88	287301	10.08	332632	11.00	296385	14.33	161854	16.90
ZZZZZZ	97270	7.87	289966	10.08	334104	11.00	298366	14.32	162886	16.90
ZZZZZZ	86222	7.87	287504	10.08	331148	11.00	299018	14.33	164124	16.90
ZZZZZZ	88372	7.87	292290	10.08	324734	11.00	301733	14.32	165998	16.90
JB94653-3MS	89197	7.88	291256	10.08	333599	11.00	302151	14.32	169348	16.90
JB94653-3MSD	89043	7.87	291852	10.08	336887	11.00	304998	14.33	171869	16.90
ZZZZZZ	92568	7.87	300465	10.08	343803	11.00	308714	14.32	170988	16.90
ZZZZZZ	91975	7.87	299186	10.08	341534	11.00	302273	14.32	168475	16.90
ZZZZZZ	79287	7.87	291691	10.08	335644	11.00	298921	14.32	164794	16.90
ZZZZZZ	88948	7.87	290818	10.08	336473	11.00	298830	14.32	162962	16.90
ZZZZZZ	97308	7.87	286912	10.08	331424	11.00	297899	14.33	164834	16.90
ZZZZZZ	82998	7.87	285196	10.08	331288	11.00	297122	14.32	162945	16.90
JB94785-17	83418	7.87	285423	10.08	332087	11.00	295958	14.33	162749	16.90
JB94785-18	95829	7.88	286863	10.08	333507	11.00	296602	14.32	161308	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.

6.7.1

Volatile Internal Standard Area Summary

Job Number: JB94785
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Check Std:	VU9008-CC8988	**Injection Date:**	05/18/15
Lab File ID:	U195271.D	**Injection Time:**	21:09
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	82952	7.87	277473	10.08	323189	11.00	294005	14.32	165895	16.90
Upper Limit [a]	165904	8.37	554946	10.58	646378	11.50	588010	14.82	331790	17.40
Lower Limit [b]	41476	7.37	138737	9.58	161595	10.50	147003	13.82	82948	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
VU9008-MB	88800	7.87	289803	10.08	333058	11.00	296601	14.32	154254	16.90
VU9008-BS	86953	7.88	281000	10.08	326647	11.00	292908	14.32	166198	16.90
JB94785-13MS	94838	7.87	284052	10.08	329546	11.00	297460	14.32	168070	16.90
JB94785-13MSD	98947	7.87	288201	10.08	331124	11.00	301634	14.32	168196	16.90
JB94785-13	94474	7.88	293131	10.08	337736	11.00	302111	14.32	164157	16.90
JB94785-19	80287	7.88	287774	10.08	333095	11.00	298771	14.32	162288	16.90
JB94785-1	82752	7.87	292816	10.08	337131	11.00	301594	14.33	162415	16.90
JB94785-2	84128	7.87	290200	10.08	336257	11.00	299285	14.33	161310	16.90
JB94785-3	80139	7.87	289259	10.08	333954	11.00	295950	14.32	160479	16.90
JB94785-4	84875	7.88	285287	10.08	332176	11.00	295381	14.33	160132	16.90
JB94785-5	89566	7.88	285209	10.08	329151	11.00	294307	14.32	160213	16.90
JB94785-6	86380	7.88	284043	10.08	329870	11.00	294911	14.32	160109	16.90
JB94785-7	86581	7.88	283890	10.08	330889	11.00	293622	14.33	158703	16.90
JB94785-8	87575	7.87	283546	10.08	326970	11.00	293069	14.32	159210	16.90
JB94785-9	78936	7.87	282335	10.08	326601	11.00	291282	14.33	157145	16.90
JB94785-10	77077	7.87	279262	10.08	324934	11.00	290493	14.33	156632	16.90
JB94785-11	79569	7.87	283198	10.08	330155	11.00	293104	14.32	158241	16.90
JB94785-12	89899	7.87	282011	10.08	327985	11.00	293638	14.32	158468	16.90
JB94785-14	75923	7.87	283135	10.08	327590	11.00	291840	14.32	157832	16.90
JB94785-15	76588	7.88	279348	10.08	324834	11.00	291568	14.32	158165	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.

6.7.2

Volatile Internal Standard Area Summary

Job Number: JB94785
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Check Std:	VU9009-CC8988	**Injection Date:**	05/19/15
Lab File ID:	U195297.D	**Injection Time:**	09:34
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	83596	7.88	263831	10.08	306441	11.00	281766	14.32	161348	16.90
Upper Limit [a]	167192	8.38	527662	10.58	612882	11.50	563532	14.82	322696	17.40
Lower Limit [b]	41798	7.38	131916	9.58	153221	10.50	140883	13.82	80674	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
VU9009-MB	87758	7.87	281680	10.08	328131	11.00	293905	14.32	159308	16.90
VU9009-BS	86016	7.88	270816	10.08	315836	11.00	289649	14.32	164000	16.90
ZZZZZZ	88116	7.88	275105	10.08	319289	11.00	286984	14.32	160985	16.90
ZZZZZZ	73334	7.88	284666	10.08	330889	11.00	295562	14.33	161103	16.90
JB94614-5	80346	7.87	285088	10.08	331026	11.00	295038	14.33	160935	16.90
ZZZZZZ	81102	7.87	284155	10.08	329711	11.00	295918	14.32	160189	16.90
JB94785-16	84319	7.88	280992	10.08	327913	11.00	294505	14.33	160333	16.90
ZZZZZZ	90145	7.87	280777	10.08	326680	11.00	294566	14.33	160297	16.90
ZZZZZZ	78551	7.88	279970	10.08	324733	11.00	290670	14.33	158425	16.90
ZZZZZZ	95048	7.88	267953	10.08	312176	11.00	282934	14.32	160766	16.90
JB94785-16MS	99374	7.88	274839	10.08	320771	11.00	294455	14.32	166303	16.90
JB94614-5DUP	92904	7.91	268193	10.08	313349	11.00	281410	14.33	161551	16.90
ZZZZZZ	85159	7.88	281700	10.08	328362	11.01	295624	14.32	160982	16.90
ZZZZZZ	78368	7.87	278278	10.08	325369	11.01	295063	14.32	160704	16.90
ZZZZZZ	75788	7.88	281830	10.08	328787	11.00	294296	14.33	160140	16.90
ZZZZZZ	72266	7.88	281300	10.08	328978	11.01	293699	14.32	149092	16.90
ZZZZZZ	76506	7.87	275812	10.08	318952	11.00	290673	14.33	161056	16.90
ZZZZZZ	73117	7.87	284748	10.08	331118	11.00	297413	14.33	163424	16.90
ZZZZZZ	74751	7.88	285145	10.08	328663	11.00	295538	14.33	161093	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.

6.7.3

Volatile Surrogate Recovery Summary

Job Number: JB94785
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

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
JB94785-1	U195280.D	103	106	100	101
JB94785-2	U195281.D	103	106	99	100
JB94785-3	U195282.D	103	105	99	101
JB94785-4	U195283.D	104	106	99	100
JB94785-5	U195284.D	103	106	100	100
JB94785-6	U195286.D	103	106	100	100
JB94785-7	U195287.D	104	106	99	101
JB94785-8	U195288.D	104	105	100	100
JB94785-9	U195289.D	104	105	99	100
JB94785-10	U195290.D	105	106	100	101
JB94785-11	U195291.D	104	106	99	101
JB94785-12	U195292.D	104	106	99	100
JB94785-13	U195278.D	103	105	99	101
JB94785-14	U195293.D	104	106	99	101
JB94785-15	U195294.D	104	106	100	100
JB94785-16	U195306.D	104	107	101	100
JB94785-17	U195268.D	104	106	99	101
JB94785-18	U195269.D	103	106	99	101
JB94785-19	U195279.D	103	106	99	100
JB94614-5DUP	U195312.D	104	107	100	97
JB94653-3MS	U195259.D	104	106	101	98
JB94653-3MSD	U195260.D	103	106	100	98
JB94785-13MS	U195275.D	104	107	100	98
JB94785-13MSD	U195276.D	104	107	100	99
JB94785-16MS	U195311.D	105	108	101	98
VU9007-BS	U195250.D	103	106	101	97
VU9007-MB	U195249.D	103	105	99	100
VU9008-BS	U195274.D	103	106	100	98
VU9008-MB	U195273.D	103	104	99	105
VU9009-BS	U195301.D	105	107	101	97
VU9009-MB	U195300.D	103	105	100	100

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	76-120%
S2 = 1,2-Dichloroethane-D4	73-122%
S3 = Toluene-D8	84-119%
S4 = 4-Bromofluorobenzene	78-117%

6.8.1

Initial Calibration Summary

Job Number: JB94785
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

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

6.9.1 6

Initial Calibration Summary

Job Number: JB94785 **Sample:** VU8988-ICC8988
Account: UTC United Technologies Corporation **Lab FileID:** U194822.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

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

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Initial Calibration Summary

Job Number: JB94785 **Sample:** VU8988-ICC8988
Account: UTC United Technologies Corporation **Lab FileID:** U194822.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

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

6.9.1

Initial Calibration Summary

Job Number: JB94785 **Sample:** VU8988-ICC8988
Account: UTC United Technologies Corporation **Lab FileID:** U194822.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

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

6.9.1

Initial Calibration Summary

Job Number: JB94785 **Sample:** VU8988-ICC8988
Account: UTC United Technologies Corporation **Lab FileID:** U194822.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

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: JB94785
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: VU8988-ICC8988
Lab FileID: U194822.D

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

6.9.1 6

Initial Calibration Verification

Job Number: JB94785
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: VU8988-ICV8988
Lab FileID: U194827.D

Evaluate Continuing Calibration Report

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

Vial: 15
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
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: JB94785
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: VU8988-ICV8988
Lab FileID: U194827.D

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: JB94785 **Sample:** VU8988-ICV8988
Account: UTC United Technologies Corporation **Lab FileID:** U194827.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

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

6.9.2

Continuing Calibration Summary

Job Number: JB94785 **Sample:** VU9007-CC8988
Account: UTC United Technologies Corporation **Lab FileID:** U195247.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\U\vu9907\u195247.D Vial: 3
Acq On : 18 May 2015 9:12 am Operator: NicoleH1
Sample : cc8988-20 Inst : MSU
Misc : ms84779,vu9007,5.0,,,,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	94	-0.01	7.88
2	M	tertiary butyl alcohol	1.120	1.096	2.1	84	-0.01	7.99
3		Ethanol		----------NA----------				
4	m	1,4-dioxane	0.101	0.102	-1.0	88	0.00	11.74
5	I	pentafluorobenzene	1.000	1.000	0.0	98	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	0.404	-13.8	112	0.00	4.40
12	M	dichlorodifluoromethane	0.392	0.450	-14.8	112	0.00	4.37
13	M	freon 142B		----------NA----------				
14	M	freon 114		----------NA----------				
15	M	chloromethane	0.431	0.434	-0.7	94	0.00	4.77
16	M	vinyl chloride	0.399	0.420	-5.3	98	0.00	5.05
17	M	acetaldehyde		----------NA----------				
18	M	bromomethane	0.294	0.300	-2.0	96	0.00	5.72
19	M	chloroethane	0.203	0.215	-5.9	95	0.01	5.89
		----------	True	Calc.	% Drift		----------	
20	M	trichlorofluoromethane	20.000	21.632	-8.2	114	0.00	6.32
		----------	AvgRF	CCRF	% Dev		----------	
21	M	pentane		----------NA----------				
22	M	freon 123A		----------NA----------				
23	M	ethyl ether	0.188	0.186	1.1	92	0.00	6.76
24		2-CHLOROPROPANE	0.621	0.634	-2.1	101	0.00	6.98
25	M	freon 141B		----------NA----------				
26	M	freon 123		----------NA----------				
27	M	acrolein	0.057	0.058	-1.8	97	0.00	7.06
28	M	1,1-dichloroethene	0.312	0.336	-7.7	99	0.00	7.21
29	M	acetone	0.028	0.026	7.1	87	-0.01	7.27
30	M	allyl chloride	0.178	0.189	-6.2	96	0.00	7.73
31	M	acetonitrile	0.024	0.025	-4.2	101	0.00	7.73
32	M	iodomethane	0.618	0.693	-12.1	99	0.00	7.50
33	M	carbon disulfide	1.009	1.159	-14.9	102	0.00	7.63
34		1-CHLOROPROPANE	0.029	0.030	-3.4	94	0.00	7.96
35	M	methylene chloride	0.395	0.367	7.1	94	0.00	7.93
36	M	methyl acetate	0.258	0.224	13.2	83	0.00	7.71
37	M	methyl tert butyl ether	0.981	1.007	-2.7	91	0.00	8.23

6.9.3

Continuing Calibration Summary

Job Number: JB94785 **Sample:** VU9007-CC8988
Account: UTC United Technologies Corporation **Lab FileID:** U195247.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

38	M	trans-1,2-dichloroethene	0.350	0.371	-6.0	97	0.00	8.29
39	M	di-isopropyl ether	1.070	1.020	4.7	87	0.00	8.80
40	M	ethyl tert-butyl ether	1.044	1.041	0.3	88	0.00	9.27
41	M	2-butanone	0.039	0.036	7.7	82	0.00	9.55
42	M	1,1-dichloroethane	0.590	0.632	-7.1	94	0.00	8.86
43	M	chloroprene	0.487	0.496	-1.8	93	0.00	8.96
44	M	acrylonitrile	0.106	0.105	0.9	87	0.00	8.27
45	M	vinyl acetate	0.062	0.055	11.3	84	0.00	8.83
46	M	ethyl acetate	0.046	0.039	15.2	80	0.00	9.55
47	M	2,2-dichloropropane	0.515	0.597	-15.9	107	0.00	9.59
48	M	cis-1,2-dichloroethene	0.386	0.396	-2.6	93	0.00	9.60
49	M	methyl acrylate	0.054	0.046	14.8	82	0.00	9.64
50	M	propionitrile	0.043	0.041	4.7	85	0.00	9.68
51	M	bromochloromethane	0.196	0.204	-4.1	94	0.00	9.91
52	M	tetrahydrofuran	0.120	0.106	11.7	83	0.00	9.94
53	M	chloroform	0.614	0.632	-2.9	95	0.00	9.95
54		tert-butyl Formate	0.300	0.285	5.0	85	0.00	9.98
55	M	iso-butyl alcohol	0.017	0.014	17.6	81	0.00	10.38
56	S	dibromofluoromethane (s)	0.340	0.355	-4.4	102	0.00	10.16
57	S	1,2-dichloroethane-d4 (s)	0.360	0.382	-6.1	104	0.00	10.58
58	M	freon 113	0.257	0.300	-16.7	117	0.01	7.17
59	M	methacrylonitrile	0.207	0.185	10.6	86	0.00	9.85
60	M	1,1,1-trichloroethane	0.524	0.591	-12.8	102	0.00	10.20
61	M	tert amyl alcohol		----------NA----------				
62	M	tert-amyl methyl ether	0.253	0.239	5.5	88	0.00	10.65
63		iso-octane	1.073	1.278	-19.1	118	0.00	10.60
64	I	1,4-difluorobenzene	1.000	1.000	0.0	98	0.00	11.00
65	M	Di-isobutylene		----------NA----------				
66	M	epichlorohydrin	0.029	0.023	20.7#	75	0.00	12.30
67	M	n-butyl alcohol	0.008	0.007	12.5	77	0.00	11.12
68	M	Cyclohexane	0.436	0.490	-12.4	110	0.00	10.26
69	M	carbon tetrachloride	0.413	0.486	-17.7	105	0.00	10.40
70	M	1,1-dichloropropene	0.393	0.432	-9.9	98	0.00	10.37
71	M	hexane	0.329	0.391	-18.8	118	0.00	8.56
72	M	benzene	1.207	1.214	-0.6	93	0.00	10.64
73	M	heptane	0.205	0.220	-7.3	114	0.00	10.76
74	M	isopropyl acetate	0.544	0.489	10.1	83	0.00	10.53
75	M	1,2-dichloroethane	0.376	0.421	-12.0	97	0.00	10.67
76	M	ethyl acrylate		----------NA----------				
77		tert amyl ethyl ether		----------NA----------				
78	M	trichloroethene	0.314	0.330	-5.1	93	0.00	11.35
79	M	methylcyclohexane	0.475	0.521	-9.7	106	0.00	11.56
80	M	2-nitropropane	0.115	0.112	2.6	92	0.00	12.15
81	M	2-chloroethyl vinyl ether	0.163	0.132	19.0	77	0.00	12.15
82	M	methyl methacrylate	0.083	0.074	10.8	81	0.00	11.60
83	M	1,2-dichloropropane	0.296	0.308	-4.1	91	0.00	11.63
84	M	propyl acetate	0.059	0.053	10.2	83	0.00	11.63
85	M	dibromomethane	0.193	0.201	-4.1	94	0.00	11.80
86	M	bromodichloromethane	0.415	0.436	-5.1	93	0.00	11.92
87	M	cis-1,3-dichloropropene	0.506	0.533	-5.3	92	0.00	12.39
88	S	toluene-d8 (s)	1.143	1.155	-1.0	98	0.00	12.68
89	M	4-methyl-2-pentanone	0.112	0.103	8.0	83	0.00	12.48
90	M	toluene	0.773	0.791	-2.3	92	0.00	12.76
91	M	3-methyl-1-butanol	0.014	0.012	14.3	77	0.00	12.49
92	M	trans-1,3-dichloropropene	0.462	0.499	-8.0	93	0.00	12.98
93	M	ethyl methacrylate	0.381	0.354	7.1	82	0.00	12.94
94	M	1,1,2-trichloroethane	0.229	0.231	-0.9	89	0.00	13.21
95	M	2-hexanone	0.110	0.098	10.9	79	0.00	13.38

6.9.3

Continuing Calibration Summary

Job Number: JB94785 **Sample:** VU9007-CC8988
Account: UTC United Technologies Corporation **Lab FileID:** U195247.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

96	I	chlorobenzene-d5	1.000	1.000	0.0	100	0.00	14.33
97	M	cyclohexanone	0.036	0.012	66.7#	37#	0.00	15.58
98	M	tetrachloroethene	0.359	0.365	-1.7	94	0.00	13.38
99	M	1,3-dichloropropane	0.501	0.502	-0.2	90	0.00	13.41
100	M	butyl acetate	0.212	0.183	13.7	79	0.00	13.44
101	M	dibromochloromethane	0.400	0.415	-3.7	93	0.00	13.70
102	M	1,2-dibromoethane	0.330	0.324	1.8	90	0.00	13.87
103		3,3-dimethyl-1-Butanol	0.034	0.029	14.7	76	0.00	13.56
104		n-butyl ether	1.504	1.456	3.2	88	0.00	14.21
105	M	chlorobenzene	1.014	1.042	-2.8	93	0.00	14.36
106	M	1,1,1,2-tetrachloroethane	0.384	0.407	-6.0	96	0.00	14.42
107	M	ethylbenzene	1.689	1.713	-1.4	94	0.00	14.41
108	M	m,p-xylene	0.662	0.686	-3.6	94	0.00	14.52
109	M	o-xylene	0.652	0.680	-4.3	93	0.00	14.99
110	M	styrene	1.119	1.104	1.3	89	0.00	15.00
111	M	bromoform	0.312	0.309	1.0	91	0.00	15.32
112	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	102	0.00	16.90
113	M	isopropylbenzene	3.066	3.118	-1.7	95	0.00	15.36
114	S	4-bromofluorobenzene (s)	0.886	0.860	2.9	99	0.00	15.60
115	M	bromobenzene	0.877	0.901	-2.7	94	0.00	15.83
116	M	1,1,2,2-tetrachloroethane	0.733	0.725	1.1	93	0.00	15.72
117	M	trans-1,4-dichloro-2-bute	0.211	0.211	0.0	96	0.00	15.77
118	M	1,2,3-trichloropropane	0.211	0.201	4.7	91	0.00	15.81
119	M	n-propylbenzene	3.465	3.511	-1.3	96	0.00	15.81
120	M	2-chlorotoluene	0.789	0.805	-2.0	97	0.00	15.99
121	M	4-chlorotoluene	2.209	2.205	0.2	94	0.00	16.10
122		p-Ethyltoluene		----------NA----------				
123	M	1,3,5-trimethylbenzene	2.614	2.613	0.0	94	0.00	15.97
124	M	tert-butylbenzene	2.321	2.372	-2.2	96	0.00	16.37
125	M	pentachloroethane	0.526	0.552	-4.9	100	0.00	16.48
126	M	1,2,4-trimethylbenzene	2.560	2.583	-0.9	94	0.00	16.42
127		1,2,3-trimethylbenzene		----------NA----------				
128	M	sec-butylbenzene	3.327	3.409	-2.5	96	0.00	16.61
129	M	1,3-dichlorobenzene	1.636	1.687	-3.1	96	0.00	16.84
130	M	p-isopropyltoluene	2.924	2.965	-1.4	95	0.00	16.73
131	M	1,4-dichlorobenzene	1.654	1.676	-1.3	95	0.00	16.93
132	M	benzyl chloride	1.545	1.525	1.3	95	0.00	17.06
133	M	1,2-dichlorobenzene	1.507	1.548	-2.7	94	0.00	17.37
134		p-Diethylbenzene		----------NA----------				
135	M	n-butylbenzene	1.374	1.393	-1.4	97	0.00	17.19
136		1,2,4,5-Tetramethylbenzen		----------NA----------				
137	M	1,2-dibromo-3-chloropropa	0.182	0.161	11.5	85	0.00	18.23
138		1,3,5-trichlorobenzene	1.325	1.337	-0.9	93	0.00	18.42
139	M	1,2,4-trichlorobenzene	1.128	1.138	-0.9	91	0.00	19.15
140	M	hexachlorobutadiene	0.675	0.692	-2.5	97	0.00	19.26
141	M	naphthalene	2.159	2.033	5.8	84	0.00	19.48
142		INDANE		----------NA----------				
143	M	1,2,3-trichlorobenzene	0.988	0.946	4.3	90	0.00	19.76
144	M	hexachloroethane	0.585	0.584	0.2	96	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 May 18 16:23:44 2015 T

6.9.3

Continuing Calibration Summary

Job Number: JB94785 **Sample:** VU9008-CC8988
Account: UTC United Technologies Corporation **Lab FileID:** U195271.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\U\vu9008\u195271.D Vial: 27
Acq On : 18 May 2015 9:09 pm Operator: NicoleH1
Sample : cc8988-50 Inst : MSU
Misc : ms85328,vu9008,5.0,,,,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	92	-0.01	7.87
2	M	tertiary butyl alcohol	1.120	1.142	-2.0	86	0.00	7.99
3		Ethanol		----------NA----------				
4	m	1,4-dioxane	0.101	0.107	-5.9	91	0.00	11.74
5	I	pentafluorobenzene	1.000	1.000	0.0	100	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	0.407	-14.6	104	0.00	4.40
12	M	dichlorodifluoromethane	0.392	0.443	-13.0	102	0.00	4.36
13	M	freon 142B		----------NA----------				
14	M	freon 114		----------NA----------				
15	M	chloromethane	0.431	0.442	-2.6	98	0.00	4.77
16	M	vinyl chloride	0.399	0.432	-8.3	101	0.00	5.04
17	M	acetaldehyde		----------NA----------				
18	M	bromomethane	0.294	0.308	-4.8	102	0.00	5.71
19	M	chloroethane	0.203	0.219	-7.9	99	0.00	5.89
		----------	True	Calc.	% Drift	----------		
20	M	trichlorofluoromethane	50.000	53.557	-7.1	109	0.00	6.32
		----------	AvgRF	CCRF	% Dev	----------		
21	M	pentane		----------NA----------				
22	M	freon 123A		----------NA----------				
23	M	ethyl ether	0.188	0.198	-5.3	96	0.00	6.76
24		2-CHLOROPROPANE	0.621	0.656	-5.6	100	0.00	6.98
25	M	freon 141B		----------NA----------				
26	M	freon 123		----------NA----------				
27	M	acrolein	0.057	0.056	1.8	94	0.00	7.05
28	M	1,1-dichloroethene	0.312	0.348	-11.5	99	0.00	7.20
29	M	acetone	0.028	0.027	3.6	90	0.00	7.27
30	M	allyl chloride	0.178	0.196	-10.1	96	0.00	7.74
31	M	acetonitrile	0.024	0.026	-8.3	93	0.00	7.73
32	M	iodomethane	0.618	0.714	-15.5	98	0.00	7.50
33	M	carbon disulfide	1.009	1.169	-15.9	99	0.00	7.62
34		1-CHLOROPROPANE	0.029	0.031	-6.9	99	0.00	7.96
35	M	methylene chloride	0.395	0.379	4.1	95	0.00	7.94
36	M	methyl acetate	0.258	0.239	7.4	91	0.00	7.72
37	M	methyl tert butyl ether	0.981	1.042	-6.2	94	0.00	8.23

6.9.4

Continuing Calibration Summary

Job Number: JB94785 **Sample:** VU9008-CC8988
Account: UTC United Technologies Corporation **Lab FileID:** U195271.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

38	M	trans-1,2-dichloroethene	0.350	0.382	-9.1	97	0.00	8.30
39	M	di-isopropyl ether	1.070	1.094	-2.2	92	0.00	8.80
40	M	ethyl tert-butyl ether	1.044	1.110	-6.3	92	0.00	9.26
41	M	2-butanone	0.039	0.039	0.0	91	0.00	9.56
42	M	1,1-dichloroethane	0.590	0.664	-12.5	96	0.00	8.87
43	M	chloroprene	0.487	0.539	-10.7	96	0.00	8.96
44	M	acrylonitrile	0.106	0.109	-2.8	90	0.00	8.27
45	M	vinyl acetate	0.062	0.060	3.2	87	0.00	8.83
46	M	ethyl acetate	0.046	0.043	6.5	86	0.00	9.56
47	M	2,2-dichloropropane	0.515	0.555	-7.8	96	0.00	9.59
48	M	cis-1,2-dichloroethene	0.386	0.416	-7.8	96	0.00	9.59
49	M	methyl acrylate	0.054	0.053	1.9	89	0.00	9.64
50	M	propionitrile	0.043	0.043	0.0	88	0.00	9.68
51	M	bromochloromethane	0.196	0.216	-10.2	95	0.00	9.91
52	M	tetrahydrofuran	0.120	0.114	5.0	90	0.00	9.94
53	M	chloroform	0.614	0.665	-8.3	98	0.00	9.96
54		tert-butyl Formate	0.300	0.312	-4.0	90	0.00	9.98
55	M	iso-butyl alcohol	0.017	0.013	23.5#	81	0.00	10.37
56	S	dibromofluoromethane (s)	0.340	0.355	-4.4	104	0.00	10.16
57	S	1,2-dichloroethane-d4 (s)	0.360	0.391	-8.6	108	0.00	10.58
58	M	freon 113	0.257	0.308	-19.8	103	0.00	7.16
59	M	methacrylonitrile	0.207	0.195	5.8	88	0.00	9.85
60	M	1,1,1-trichloroethane	0.524	0.608	-16.0	100	0.00	10.20
61	M	tert amyl alcohol		----------NA----------				
62	M	tert-amyl methyl ether	0.253	0.259	-2.4	93	0.00	10.65
63		iso-octane	1.073	1.343	-25.2#	101	0.00	10.60
64	I	1,4-difluorobenzene	1.000	1.000	0.0	100	0.00	11.00
65	M	Di-isobutylene		----------NA----------				
66	M	epichlorohydrin	0.029	0.025	13.8	80	0.00	12.30
67	M	n-butyl alcohol	0.008	0.008	0.0	78	0.00	11.12
68	M	Cyclohexane	0.436	0.503	-15.4	102	0.00	10.27
69	M	carbon tetrachloride	0.413	0.494	-19.6	102	0.00	10.40
70	M	1,1-dichloropropene	0.393	0.451	-14.8	98	0.00	10.38
71	M	hexane	0.329	0.407	-23.7#	104	0.00	8.56
72	M	benzene	1.207	1.259	-4.3	95	0.00	10.64
73	M	heptane	0.205	0.228	-11.2	97	0.00	10.76
74	M	isopropyl acetate	0.544	0.520	4.4	91	0.00	10.53
75	M	1,2-dichloroethane	0.376	0.440	-17.0	101	0.00	10.67
76	M	ethyl acrylate		----------NA----------				
77		tert amyl ethyl ether		----------NA----------				
78	M	trichloroethene	0.314	0.344	-9.6	95	0.00	11.34
79	M	methylcyclohexane	0.475	0.559	-17.7	98	0.00	11.55
80	M	2-nitropropane	0.115	0.121	-5.2	97	0.00	12.15
81	M	2-chloroethyl vinyl ether	0.163	0.155	4.9	84	0.00	12.15
82	M	methyl methacrylate	0.083	0.082	1.2	88	0.00	11.60
83	M	1,2-dichloropropane	0.296	0.322	-8.8	94	0.00	11.63
84	M	propyl acetate	0.059	0.056	5.1	89	0.00	11.64
85	M	dibromomethane	0.193	0.209	-8.3	96	0.00	11.80
86	M	bromodichloromethane	0.415	0.460	-10.8	95	0.00	11.92
87	M	cis-1,3-dichloropropene	0.506	0.554	-9.5	92	0.00	12.39
88	S	toluene-d8 (s)	1.143	1.152	-0.8	100	0.00	12.68
89	M	4-methyl-2-pentanone	0.112	0.110	1.8	88	0.00	12.48
90	M	toluene	0.773	0.833	-7.8	94	0.00	12.76
91	M	3-methyl-1-butanol	0.014	0.012	14.3	75	0.00	12.49
92	M	trans-1,3-dichloropropene	0.462	0.521	-12.8	93	0.00	12.98
93	M	ethyl methacrylate	0.381	0.389	-2.1	89	0.00	12.94
94	M	1,1,2-trichloroethane	0.229	0.245	-7.0	92	0.00	13.22
95	M	2-hexanone	0.110	0.104	5.5	85	0.00	13.38

6.9.4

Continuing Calibration Summary

Job Number: JB94785 **Sample:** VU9008-CC8988
Account: UTC United Technologies Corporation **Lab FileID:** U195271.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

96	I	chlorobenzene-d5	1.000	1.000	0.0	101	0.00	14.32
97	M	cyclohexanone	0.036	0.010	72.2#	28#	0.00	15.58
98	M	tetrachloroethene	0.359	0.384	-7.0	94	0.00	13.38
99	M	1,3-dichloropropane	0.501	0.537	-7.2	93	0.00	13.41
100	M	butyl acetate	0.212	0.197	7.1	84	0.00	13.44
101	M	dibromochloromethane	0.400	0.444	-11.0	94	0.00	13.70
102	M	1,2-dibromoethane	0.330	0.353	-7.0	94	0.00	13.87
103		3,3-dimethyl-1-Butanol	0.034	0.028	17.6	71	0.00	13.56
104		n-butyl ether	1.504	1.559	-3.7	90	0.00	14.21
105	M	chlorobenzene	1.014	1.093	-7.8	94	0.00	14.36
106	M	1,1,1,2-tetrachloroethane	0.384	0.423	-10.2	96	0.00	14.43
107	M	ethylbenzene	1.689	1.795	-6.3	94	0.00	14.41
108	M	m,p-xylene	0.662	0.716	-8.2	94	0.00	14.52
109	M	o-xylene	0.652	0.712	-9.2	95	0.00	14.99
110	M	styrene	1.119	1.192	-6.5	93	0.00	15.00
111	M	bromoform	0.312	0.337	-8.0	94	0.00	15.32
112	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	103	0.00	16.90
113	M	isopropylbenzene	3.066	3.300	-7.6	95	0.00	15.36
114	S	4-bromofluorobenzene (s)	0.886	0.864	2.5	101	0.00	15.60
115	M	bromobenzene	0.877	0.955	-8.9	96	0.00	15.83
116	M	1,1,2,2-tetrachloroethane	0.733	0.763	-4.1	92	0.00	15.72
117	M	trans-1,4-dichloro-2-bute	0.211	0.197	6.6	85	0.00	15.77
118	M	1,2,3-trichloropropane	0.211	0.215	-1.9	94	0.00	15.81
119	M	n-propylbenzene	3.465	3.691	-6.5	94	0.00	15.81
120	M	2-chlorotoluene	0.789	0.843	-6.8	96	0.00	15.99
121	M	4-chlorotoluene	2.209	2.311	-4.6	94	0.00	16.10
122		p-Ethyltoluene		----------NA----------				
123	M	1,3,5-trimethylbenzene	2.614	2.748	-5.1	93	0.00	15.98
124	M	tert-butylbenzene	2.321	2.519	-8.5	96	0.00	16.37
125	M	pentachloroethane	0.526	0.576	-9.5	97	0.00	16.48
126	M	1,2,4-trimethylbenzene	2.560	2.684	-4.8	94	0.00	16.42
127		1,2,3-trimethylbenzene		----------NA----------				
128	M	sec-butylbenzene	3.327	3.577	-7.5	95	0.00	16.61
129	M	1,3-dichlorobenzene	1.636	1.752	-7.1	95	0.00	16.84
130	M	p-isopropyltoluene	2.924	3.106	-6.2	94	0.00	16.73
131	M	1,4-dichlorobenzene	1.654	1.753	-6.0	94	0.00	16.93
132	M	benzyl chloride	1.545	1.410	8.7	85	0.00	17.06
133	M	1,2-dichlorobenzene	1.507	1.627	-8.0	94	0.00	17.37
134		p-Diethylbenzene		----------NA----------				
135	M	n-butylbenzene	1.374	1.446	-5.2	93	0.00	17.19
136		1,2,4,5-Tetramethylbenzen		----------NA----------				
137	M	1,2-dibromo-3-chloropropa	0.182	0.174	4.4	88	0.00	18.23
138		1,3,5-trichlorobenzene	1.325	1.412	-6.6	92	0.00	18.42
139	M	1,2,4-trichlorobenzene	1.128	1.210	-7.3	91	0.00	19.15
140	M	hexachlorobutadiene	0.675	0.707	-4.7	92	0.00	19.26
141	M	naphthalene	2.159	2.198	-1.8	87	0.00	19.48
142		INDANE		----------NA----------				
143	M	1,2,3-trichlorobenzene	0.988	1.010	-2.2	90	0.00	19.76
144	M	hexachloroethane	0.585	0.614	-5.0	93	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 Tue May 19 15:00:41 2015 T

6.9.4

Continuing Calibration Summary

Job Number: JB94785 **Sample:** VU9009-CC8988
Account: UTC United Technologies Corporation **Lab FileID:** U195297.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\U\vu9009\u195297.D Vial: 2
Acq On : 19 May 2015 9:34 am Operator: NicoleH1
Sample : cc8988-20 Inst : MSU
Misc : ms85328,vu9009,5.0,,,,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	93	0.00	7.88
2	M	tertiary butyl alcohol	1.120	1.043	6.9	79	-0.01	7.99
3		Ethanol		----------NA----------				
4	m	1,4-dioxane	0.101	0.094	6.9	80	-0.01	11.73
5	I	pentafluorobenzene	1.000	1.000	0.0	94	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	0.389	-9.6	104	0.00	4.40
12	M	dichlorodifluoromethane	0.392	0.410	-4.6	98	0.00	4.38
13	M	freon 142B		----------NA----------				
14	M	freon 114		----------NA----------				
15	M	chloromethane	0.431	0.417	3.2	87	0.00	4.76
16	M	vinyl chloride	0.399	0.402	-0.8	90	0.00	5.04
17	M	acetaldehyde		----------NA----------				
18	M	bromomethane	0.294	0.291	1.0	90	0.00	5.71
19	M	chloroethane	0.203	0.209	-3.0	89	0.01	5.89
		----------	True	Calc.	% Drift	----------		
20	M	trichlorofluoromethane	20.000	20.751	-3.8	105	0.00	6.33
		----------	AvgRF	CCRF	% Dev	----------		
21	M	pentane		----------NA----------				
22	M	freon 123A		----------NA----------				
23	M	ethyl ether	0.188	0.191	-1.6	91	0.00	6.75
24		2-CHLOROPROPANE	0.621	0.672	-8.2	104	0.00	6.98
25	M	freon 141B		----------NA----------				
26	M	freon 123		----------NA----------				
27	M	acrolein	0.057	0.055	3.5	89	0.00	7.05
28	M	1,1-dichloroethene	0.312	0.352	-12.8	101	0.00	7.20
29	M	acetone	0.028	0.023	17.9	77	-0.01	7.27
30	M	allyl chloride	0.178	0.198	-11.2	97	0.00	7.74
31	M	acetonitrile	0.024	0.026	-8.3	100	0.00	7.74
32	M	iodomethane	0.618	0.731	-18.3	101	0.00	7.51
33	M	carbon disulfide	1.009	1.224	-21.3#	104	0.00	7.63
34		1-CHLOROPROPANE	0.029	0.030	-3.4	92	0.00	7.96
35	M	methylene chloride	0.395	0.386	2.3	95	0.00	7.94
36	M	methyl acetate	0.258	0.217	15.9	78	0.00	7.71
37	M	methyl tert butyl ether	0.981	1.053	-7.3	92	0.00	8.23

6.9.5

Continuing Calibration Summary

Job Number: JB94785 **Sample:** VU9009-CC8988
Account: UTC United Technologies Corporation **Lab FileID:** U195297.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

38	M	trans-1,2-dichloroethene	0.350	0.384	-9.7	97	0.00	8.30
39	M	di-isopropyl ether	1.070	1.001	6.4	82	0.00	8.80
40	M	ethyl tert-butyl ether	1.044	1.017	2.6	83	0.00	9.27
41	M	2-butanone	0.039	0.039	0.0	86	0.00	9.56
42	M	1,1-dichloroethane	0.590	0.673	-14.1	97	0.00	8.87
43	M	chloroprene	0.487	0.479	1.6	87	0.00	8.96
44	M	acrylonitrile	0.106	0.110	-3.8	88	0.00	8.27
45	M	vinyl acetate	0.062	0.053	14.5	77	0.00	8.83
46	M	ethyl acetate	0.046	0.039	15.2	76	0.00	9.55
47	M	2,2-dichloropropane	0.515	0.613	-19.0	106	0.00	9.59
48	M	cis-1,2-dichloroethene	0.386	0.421	-9.1	96	0.00	9.59
49	M	methyl acrylate	0.054	0.049	9.3	85	0.00	9.64
50	M	propionitrile	0.043	0.043	0.0	86	0.00	9.68
51	M	bromochloromethane	0.196	0.218	-11.2	97	0.00	9.91
52	M	tetrahydrofuran	0.120	0.111	7.5	84	0.00	9.94
53	M	chloroform	0.614	0.669	-9.0	97	0.00	9.95
54		tert-butyl Formate	0.300	0.279	7.0	80	0.00	9.98
55	M	iso-butyl alcohol	0.017	0.014	17.6	78	0.00	10.37
56	S	dibromofluoromethane (s)	0.340	0.357	-5.0	99	0.00	10.16
57	S	1,2-dichloroethane-d4 (s)	0.360	0.384	-6.7	101	0.00	10.58
58	M	freon 113	0.257	0.291	-13.2	110	0.00	7.16
59	M	methacrylonitrile	0.207	0.193	6.8	87	0.00	9.85
60	M	1,1,1-trichloroethane	0.524	0.619	-18.1	103	0.00	10.20
61	M	tert amyl alcohol		----------NA----------				
62	M	tert-amyl methyl ether	0.253	0.236	6.7	85	0.00	10.64
63		iso-octane	1.073	1.214	-13.1	108	0.00	10.60
64	I	1,4-difluorobenzene	1.000	1.000	0.0	95	0.00	11.00
65	M	Di-isobutylene		----------NA----------				
66	M	epichlorohydrin	0.029	0.023	20.7#	72	0.00	12.30
67	M	n-butyl alcohol	0.008	0.007	12.5	74	0.00	11.12
68	M	Cyclohexane	0.436	0.515	-18.1	113	0.00	10.26
69	M	carbon tetrachloride	0.413	0.505	-22.3#	106	0.00	10.40
70	M	1,1-dichloropropene	0.393	0.452	-15.0	100	0.00	10.37
71	M	hexane	0.329	0.374	-13.7	110	0.00	8.56
72	M	benzene	1.207	1.272	-5.4	95	0.00	10.64
73	M	heptane	0.205	0.206	-0.5	104	0.00	10.76
74	M	isopropyl acetate	0.544	0.463	14.9	77	0.00	10.53
75	M	1,2-dichloroethane	0.376	0.441	-17.3	99	0.00	10.67
76	M	ethyl acrylate		----------NA----------				
77		tert amyl ethyl ether		----------NA----------				
78	M	trichloroethene	0.314	0.343	-9.2	93	0.00	11.34
79	M	methylcyclohexane	0.475	0.505	-6.3	99	0.00	11.55
80	M	2-nitropropane	0.115	0.115	0.0	92	0.00	12.15
81	M	2-chloroethyl vinyl ether	0.163	0.133	18.4	76	0.00	12.15
82	M	methyl methacrylate	0.083	0.078	6.0	83	0.00	11.60
83	M	1,2-dichloropropane	0.296	0.326	-10.1	94	0.00	11.63
84	M	propyl acetate	0.059	0.052	11.9	80	0.00	11.64
85	M	dibromomethane	0.193	0.209	-8.3	95	0.00	11.79
86	M	bromodichloromethane	0.415	0.457	-10.1	95	0.00	11.92
87	M	cis-1,3-dichloropropene	0.506	0.557	-10.1	93	0.00	12.38
88	S	toluene-d8 (s)	1.143	1.160	-1.5	96	0.00	12.68
89	M	4-methyl-2-pentanone	0.112	0.111	0.9	86	0.00	12.48
90	M	toluene	0.773	0.841	-8.8	95	0.00	12.76
91	M	3-methyl-1-butanol	0.014	0.013	7.1	75	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	0.372	2.4	84	0.00	12.94
94	M	1,1,2-trichloroethane	0.229	0.246	-7.4	92	0.00	13.22
95	M	2-hexanone	0.110	0.103	6.4	82	0.00	13.38

6.9.5

Continuing Calibration Summary

Job Number: JB94785 **Sample:** VU9009-CC8988
Account: UTC United Technologies Corporation **Lab FileID:** U195297.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

96	I	chlorobenzene-d5	1.000	1.000	0.0	97	0.00	14.32
97	M	cyclohexanone	0.036	0.017	52.8#	49#	0.00	15.58
98	M	tetrachloroethene	0.359	0.381	-6.1	95	0.00	13.38
99	M	1,3-dichloropropane	0.501	0.527	-5.2	92	0.00	13.41
100	M	butyl acetate	0.212	0.182	14.2	76	0.00	13.44
101	M	dibromochloromethane	0.400	0.429	-7.2	94	0.00	13.70
102	M	1,2-dibromoethane	0.330	0.346	-4.8	93	0.00	13.87
103		3,3-dimethyl-1-Butanol	0.034	0.030	11.8	76	0.00	13.57
104		n-butyl ether	1.504	1.532	-1.9	90	0.00	14.21
105	M	chlorobenzene	1.014	1.091	-7.6	95	0.00	14.36
106	M	1,1,1,2-tetrachloroethane	0.384	0.423	-10.2	97	0.00	14.42
107	M	ethylbenzene	1.689	1.792	-6.1	96	0.00	14.40
108	M	m,p-xylene	0.662	0.712	-7.6	95	0.00	14.52
109	M	o-xylene	0.652	0.711	-9.0	95	0.00	14.99
110	M	styrene	1.119	1.165	-4.1	91	0.00	15.00
111	M	bromoform	0.312	0.326	-4.5	93	0.00	15.32
112	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	100	0.00	16.90
113	M	isopropylbenzene	3.066	3.235	-5.5	96	0.00	15.36
114	S	4-bromofluorobenzene (s)	0.886	0.855	3.5	96	0.00	15.60
115	M	bromobenzene	0.877	0.943	-7.5	96	0.00	15.82
116	M	1,1,2,2-tetrachloroethane	0.733	0.758	-3.4	94	0.00	15.72
117	M	trans-1,4-dichloro-2-bute	0.211	0.201	4.7	89	0.00	15.77
118	M	1,2,3-trichloropropane	0.211	0.215	-1.9	95	0.00	15.81
119	M	n-propylbenzene	3.465	3.631	-4.8	96	0.00	15.81
120	M	2-chlorotoluene	0.789	0.836	-6.0	98	0.00	15.99
121	M	4-chlorotoluene	2.209	2.300	-4.1	96	0.00	16.10
122		p-Ethyltoluene		----------NA----------				
123	M	1,3,5-trimethylbenzene	2.614	2.719	-4.0	95	0.00	15.98
124	M	tert-butylbenzene	2.321	2.395	-3.2	95	0.00	16.37
125	M	pentachloroethane	0.526	0.571	-8.6	101	0.00	16.48
126	M	1,2,4-trimethylbenzene	2.560	2.665	-4.1	95	0.00	16.42
127		1,2,3-trimethylbenzene		----------NA----------				
128	M	sec-butylbenzene	3.327	3.539	-6.4	97	0.00	16.61
129	M	1,3-dichlorobenzene	1.636	1.751	-7.0	97	0.00	16.84
130	M	p-isopropyltoluene	2.924	3.072	-5.1	96	0.00	16.73
131	M	1,4-dichlorobenzene	1.654	1.749	-5.7	97	0.00	16.93
132	M	benzyl chloride	1.545	1.446	6.4	88	0.00	17.06
133	M	1,2-dichlorobenzene	1.507	1.630	-8.2	96	0.00	17.37
134		p-Diethylbenzene		----------NA----------				
135	M	n-butylbenzene	1.374	1.432	-4.2	97	0.00	17.19
136		1,2,4,5-Tetramethylbenzen		----------NA----------				
137	M	1,2-dibromo-3-chloropropa	0.182	0.164	9.9	84	0.00	18.23
138		1,3,5-trichlorobenzene	1.325	1.382	-4.3	94	0.00	18.42
139	M	1,2,4-trichlorobenzene	1.128	1.160	-2.8	90	0.00	19.15
140	M	hexachlorobutadiene	0.675	0.702	-4.0	96	0.00	19.26
141	M	naphthalene	2.159	2.127	1.5	86	0.00	19.48
142		INDANE		----------NA----------				
143	M	1,2,3-trichlorobenzene	0.988	0.981	0.7	91	0.00	19.76
144	M	hexachloroethane	0.585	0.594	-1.5	95	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 Tue May 19 16:35:30 2015 T

6.9.5

GC/MS Volatiles

Raw Data

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9008\
Data File : u195280.D
Acq On : 19 May 2015 1:31 am
Operator : NicoleH1
Sample : jb94785-1
Misc : ms85328,vu9008,5.0,,,,1
ALS Vial : 36 Sample Multiplier: 1

Quant Time: May 19 15:06:17 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 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	82752	500.00	ug/L	-0.01
5) pentafluorobenzene	10.080	168	292816	50.00	ug/L	0.00
64) 1,4-difluorobenzene	11.000	114	337131	50.00	ug/L	0.00
96) chlorobenzene-d5	14.325	117	301594	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.903	152	162415	50.00	ug/L	0.00
System Monitoring Compounds						
56) dibromofluoromethane (s)	10.159	113	102046	51.26	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 102.52%			
57) 1,2-dichloroethane-d4 (s)	10.582	65	111317	52.84	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 105.68%			
88) toluene-d8 (s)	12.684	98	384469	49.87	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 99.74%			
114) 4-bromofluorobenzene (s)	15.601	95	144969	50.39	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 100.78%			
Target Compounds						Qvalue
38) trans-1,2-dichloroethene	8.287	96	864	0.42	ug/L #	76
42) 1,1-dichloroethane	8.867	63	28924	8.38	ug/L	97
48) cis-1,2-dichloroethene	9.594	96	9139	4.04	ug/L	92
60) 1,1,1-trichloroethane	10.201	97	29701	9.68	ug/L	96
78) trichloroethene	11.345	95	4390	2.07	ug/L	84
98) tetrachloroethene	13.384	164	43113	19.89	ug/L	99

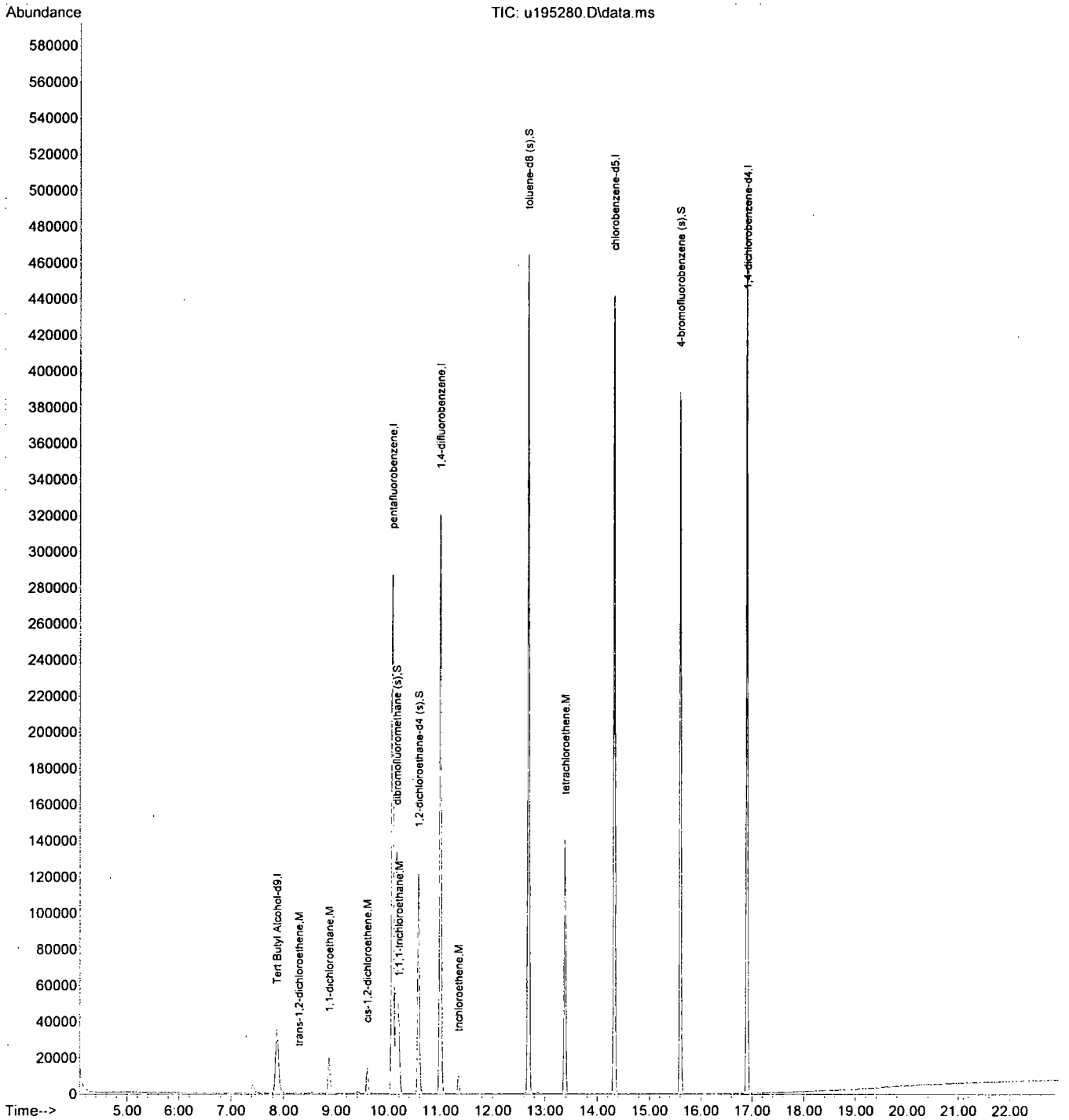
(#) = qualifier out of range (m) = manual integration (+) = signals summed

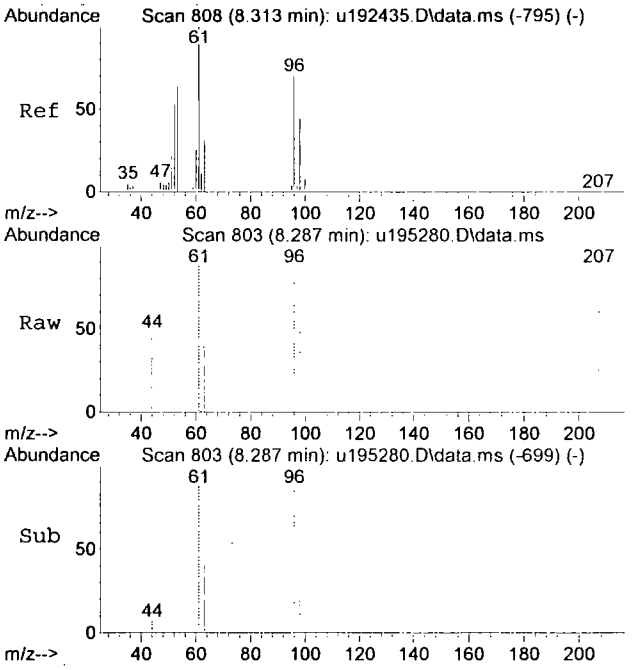
7.1.1

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9008\
Data File : u195280.D
Acq On : 19 May 2015 1:31 am
Operator : NicoleH1
Sample : jb94785-1
Misc : ms85328,vu9008,5.0,,,,1
ALS Vial : 36 Sample Multiplier: 1

Quant Time: May 19 15:06:17 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 09:25:27 2015
Response via : Initial Calibration

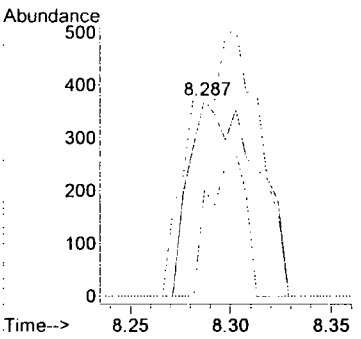


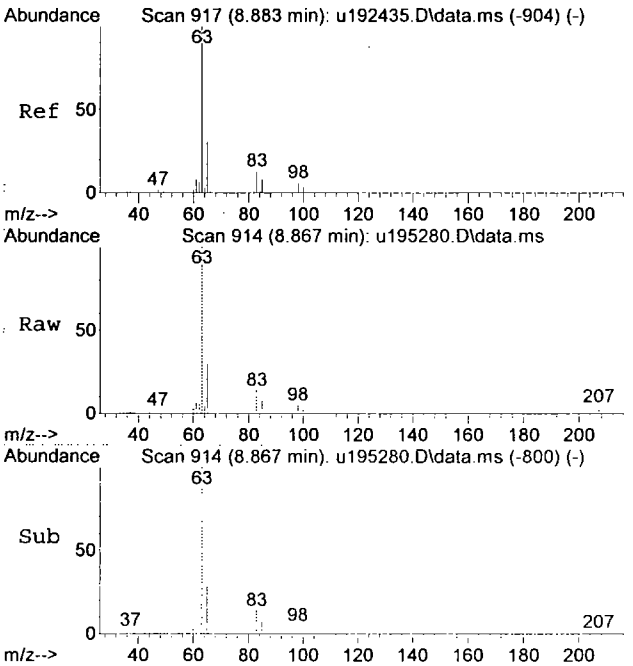


#38
trans-1,2-dichloroethene
Concen: 0.42 ug/L
RT: 8.287 min Scan# 803
Delta R.T. -0.007 min
Lab File: u195280.D
Acq: 19 May 2015 1:31 am

Tgt Ion: 96 Resp: 864

Ion	Ratio	Lower	Upper
96	100		
61	103.5	109.8	169.8#
98	54.0	34.0	94.0

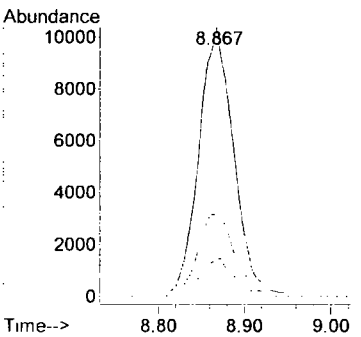


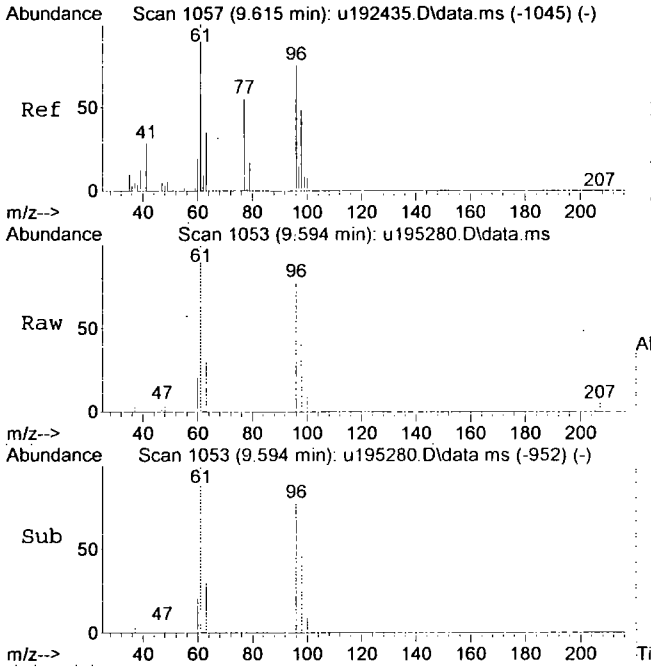


#42
1,1-dichloroethane
Concen: 8.38 ug/L
RT: 8.867 min Scan# 914
Delta R.T. 0.004 min
Lab File: u195280.D
Acq: 19 May 2015 1:31 am

Tgt Ion: 63 Resp: 28924

Ion	Ratio	Lower	Upper
63	100		
65	30.2	2.4	62.4
83	13.7	0.0	43.6

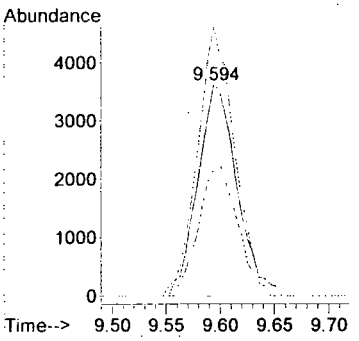


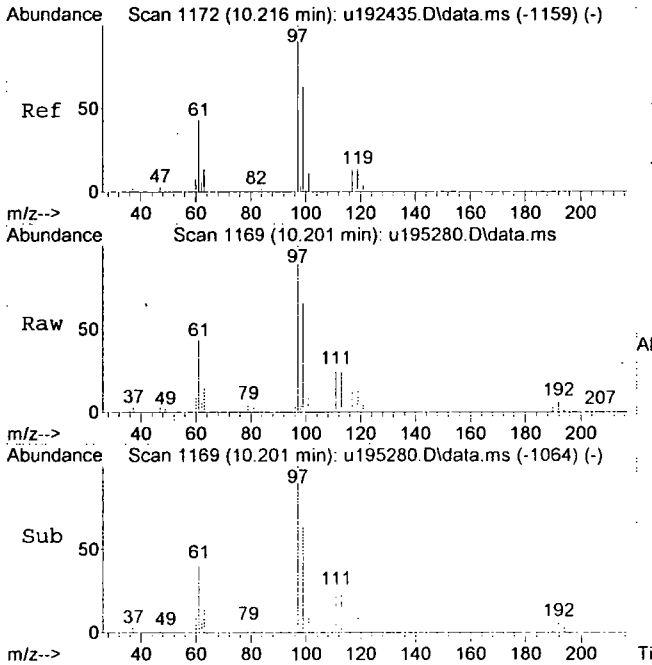


#48
cis-1,2-dichloroethene
Concen: 4.04 ug/L
RT: 9.594 min Scan# 1053
Delta R.T. -0.002 min
Lab File: u195280.D
Acq: 19 May 2015 1:31 am

Tgt Ion: 96 Resp: 9139

Ion	Ratio	Lower	Upper
96	100		
61	127.6	109.5	169.5
98	59.5	33.9	93.9

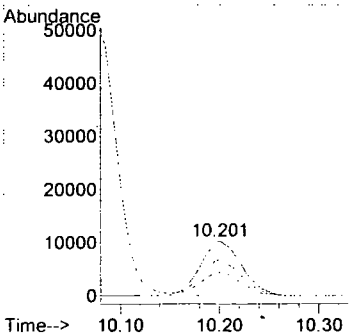




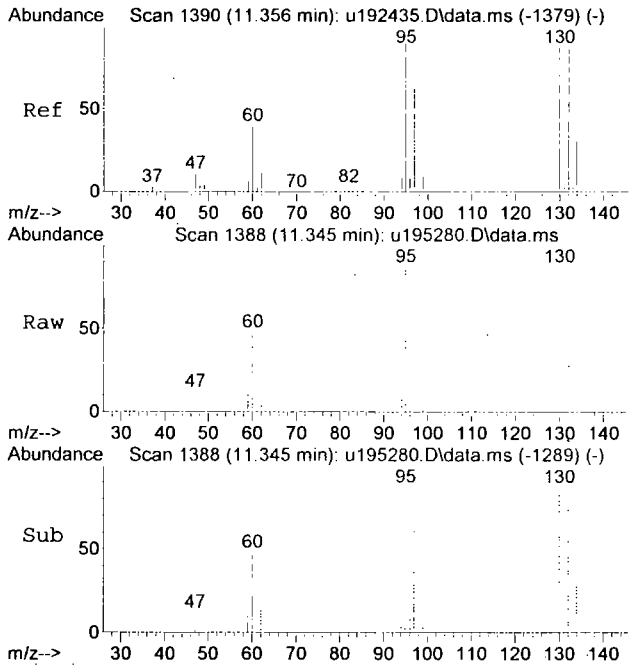
#60
1,1,1-trichloroethane
Concen: 9.68 ug/L
RT: 10.201 min Scan# 1169
Delta R.T. -0.002 min
Lab File: u195280.D
Acq: 19 May 2015 1:31 am

Tgt Ion: 97 Resp: 29701

Ion	Ratio	Lower	Upper
97	100		
99	66.4	33.3	93.3
61	43.4	11.0	71.0



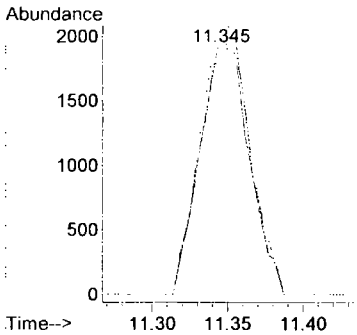
7.1.1

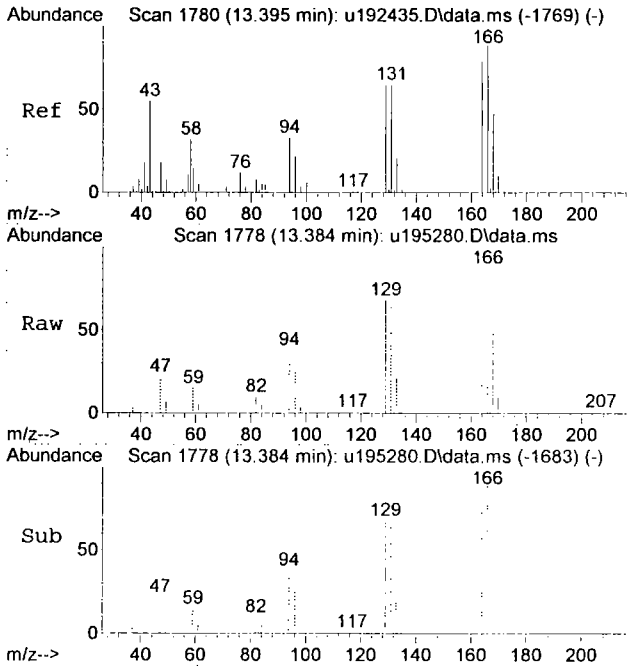


#78
trichloroethene
Concen: 2.07 ug/L
RT: 11.345 min Scan# 1388
Delta R.T. -0.002 min
Lab File: u195280.D
Acq: 19 May 2015 1:31 am

Tgt Ion: 95 Resp: 4390

Ion	Ratio	Lower	Upper
95	100		
130	95.8	80.1	140.1
132	88.0	76.3	136.3

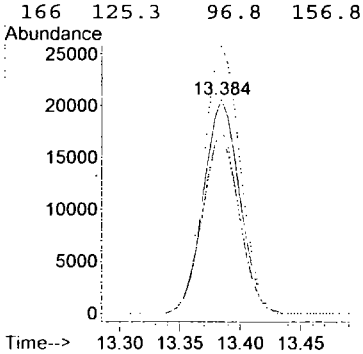




#98
tetrachloroethene
Concen: 19.89 ug/L
RT: 13.384 min Scan# 1778
Delta R.T. -0.002 min
Lab File: u195280.D
Acq: 19 May 2015 1:31 am

Tgt Ion:164 Resp: 43113

Ion	Ratio	Lower	Upper
164	100		
129	85.7	56.5	116.5
131	82.8	53.4	113.4
166	125.3	96.8	156.8



7.1.1

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9008\
Data File : u195281.D
Acq On : 19 May 2015 2:00 am
Operator : NicoleH1
Sample : jb94785-2
Misc : ms85328,vu9008,5.0,,,,1
ALS Vial : 37 Sample Multiplier: 1

Quant Time: May 19 15:07:10 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	84128	500.00	ug/L	-0.01
5) pentafluorobenzene	10.080	168	290200	50.00	ug/L	0.00
64) 1,4-difluorobenzene	11.000	114	336257	50.00	ug/L	0.00
96) chlorobenzene-d5	14.325	117	299285	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.903	152	161310	50.00	ug/L	0.00
System Monitoring Compounds						
56) dibromofluoromethane (s)	10.159	113	101812	51.60	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 103.20%			
57) 1,2-dichloroethane-d4 (s)	10.582	65	110744	53.04	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 106.08%			
88) toluene-d8 (s)	12.684	98	381230	49.58	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 99.16%			
114) 4-bromofluorobenzene (s)	15.601	95	143480	50.22	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 100.44%			
Target Compounds						Qvalue
38) trans-1,2-dichloroethene	8.297	96	618	0.30	ug/L	95
42) 1,1-dichloroethane	8.867	63	29974	8.76	ug/L	100
48) cis-1,2-dichloroethene	9.589	96	5041	2.25	ug/L	84
53) chloroform	9.960	83	899	0.25	ug/L	83
60) 1,1,1-trichloroethane	10.206	97	19016	6.26	ug/L	98
78) trichloroethene	11.345	95	4026	1.90	ug/L	92
98) tetrachloroethene	13.384	164	33711	15.67	ug/L	98

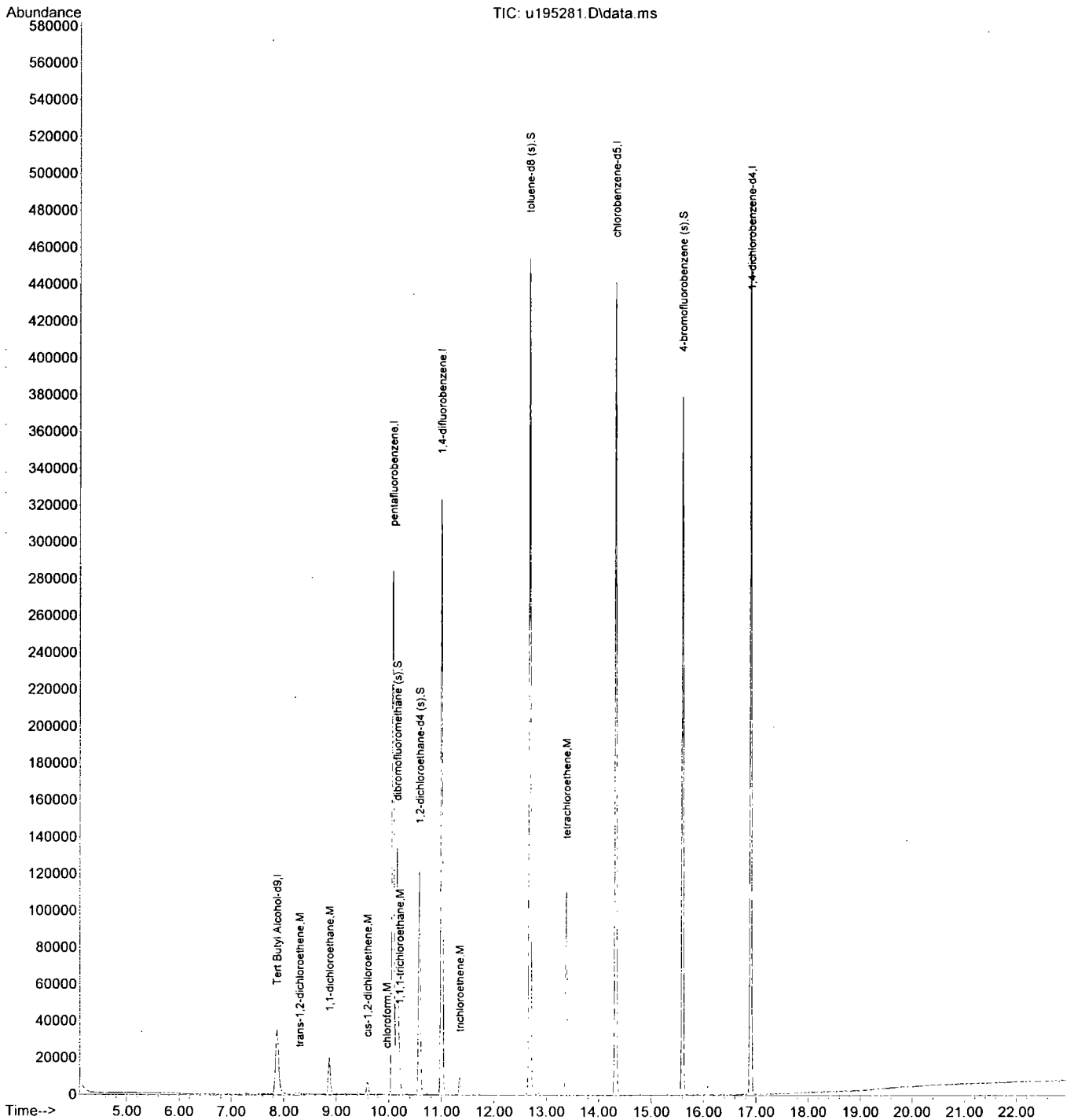
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9008\
Data File : u195281.D
Acq On : 19 May 2015 2:00 am
Operator : NicoleH1
Sample : jb94785-2
Misc : ms85328,vu9008,5.0,,,,1
ALS Vial : 37 Sample Multiplier: 1

Quant Time: May 19 15:07:10 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 Tue May 19 15:17:28 2015 T

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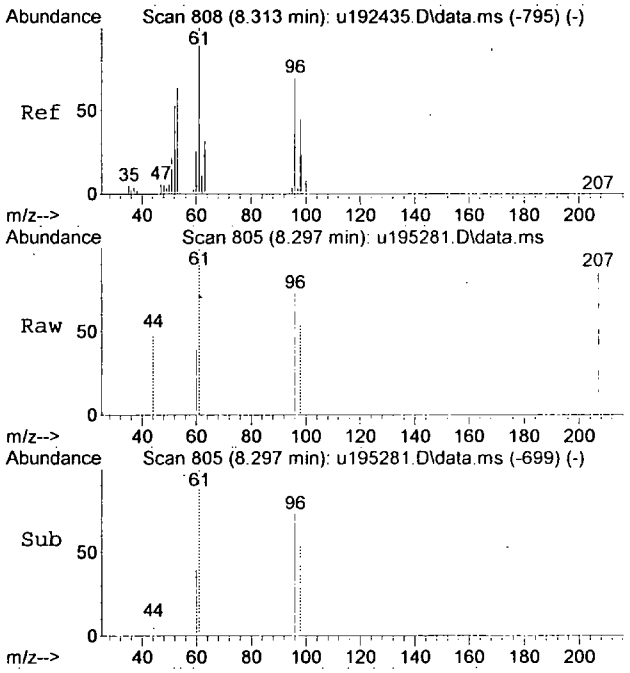
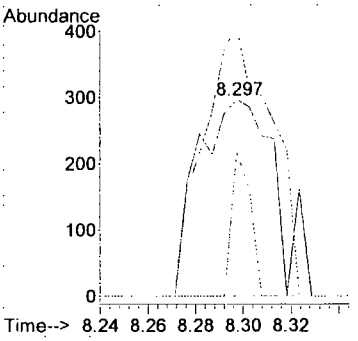
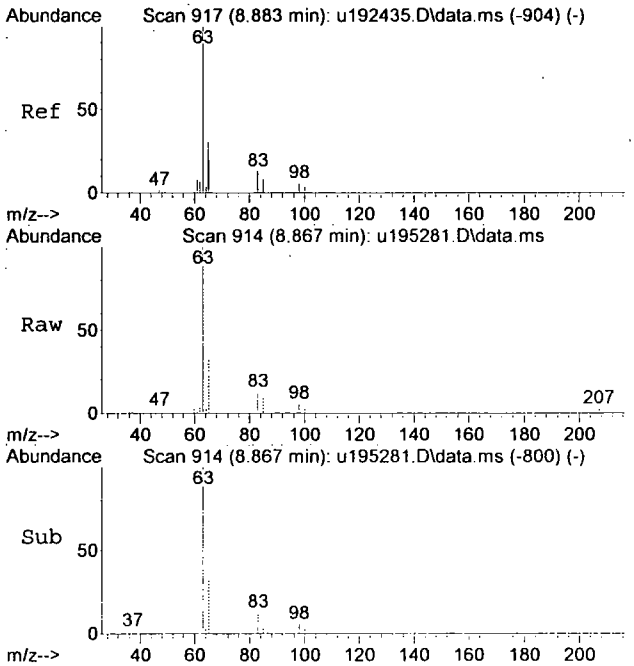


#38
trans-1,2-dichloroethene
Concen: 0.30 ug/L
RT: 8.297 min Scan# 805
Delta R.T. 0.003 min
Lab File: u195281.D
Acq: 19 May 2015 2:00 am

Tgt Ion: 96 Resp: 618

Ion	Ratio	Lower	Upper
96	100		
61	137.0	109.8	169.8
98	73.4	34.0	94.0

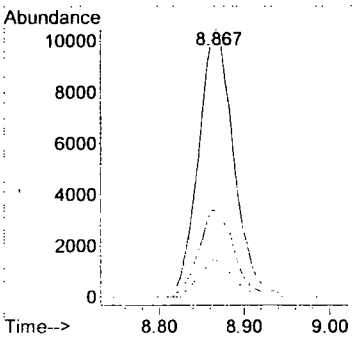


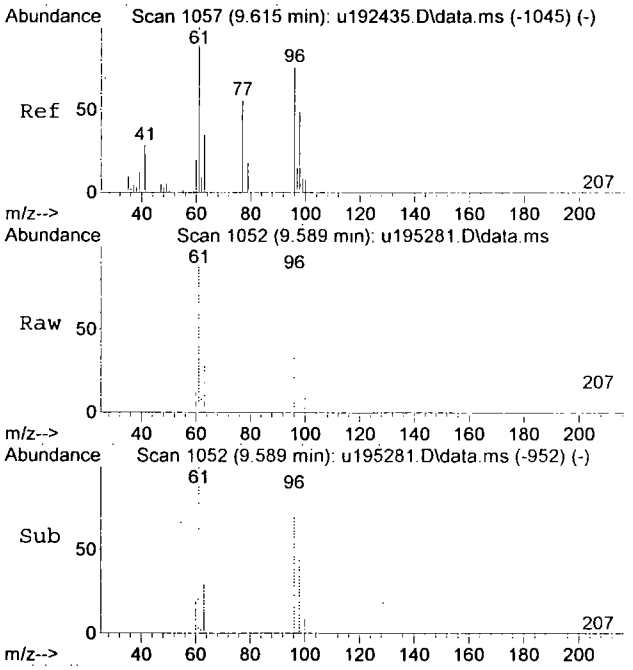


#42
1,1-dichloroethane
Concen: 8.76 ug/L
RT: 8.867 min Scan# 914
Delta R.T. 0.004 min
Lab File: u195281.D
Acq: 19 May 2015 2:00 am

Tgt Ion: 63 Resp: 29974

Ion	Ratio	Lower	Upper
63	100		
65	32.2	2.4	62.4
83	13.5	0.0	43.6

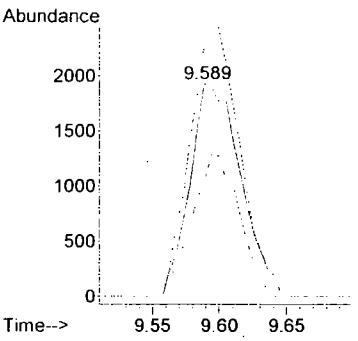


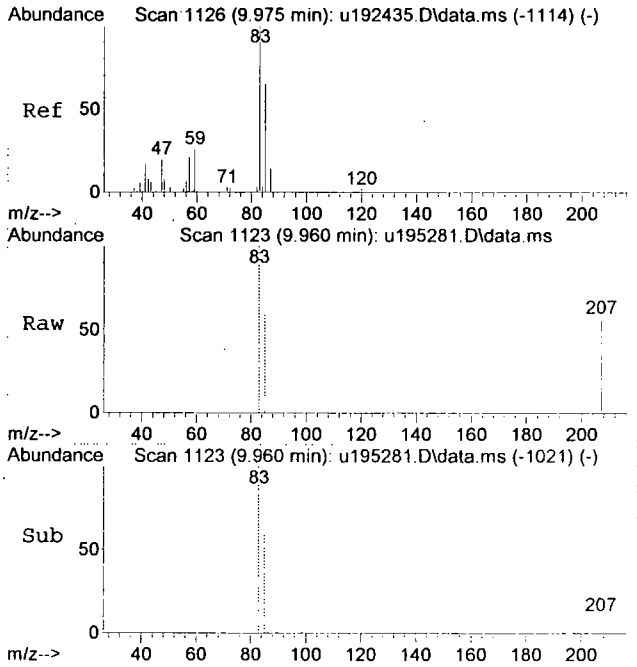


#48
cis-1,2-dichloroethene
Concen: 2.25 ug/L
RT: 9.589 min Scan# 1052
Delta R.T. -0.007 min
Lab File: u195281.D
Acq: 19 May 2015 2:00 am

Tgt Ion: 96 Resp: 5041

Ion	Ratio	Lower	Upper
96	100		
61	118.7	109.5	169.5
98	52.9	33.9	93.9

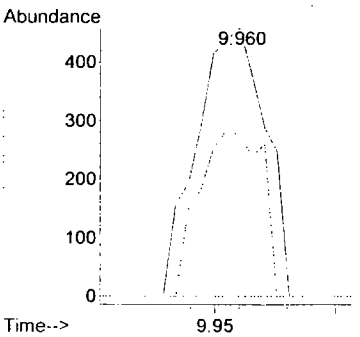


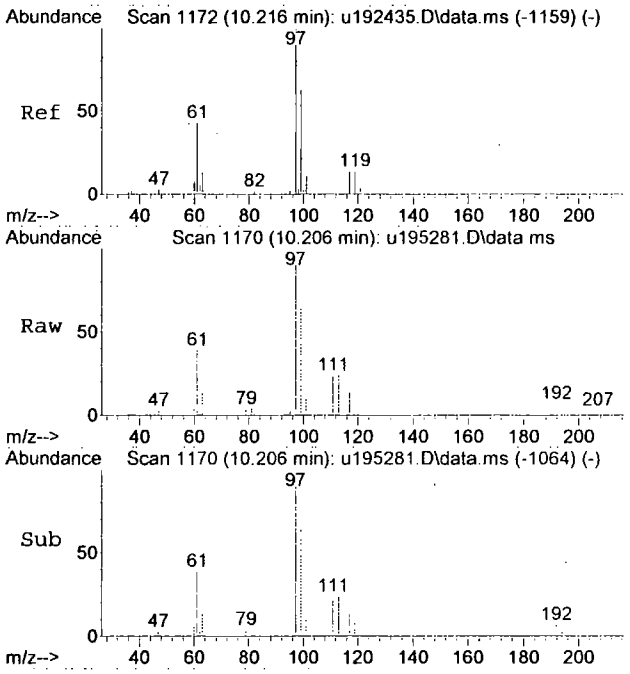


#53
chloroform
Concen: 0.25 ug/L
RT: 9.960 min Scan# 1123
Delta R.T. 0.003 min
Lab File: u195281.D
Acq: 19 May 2015 2:00 am

Tgt Ion: 83 Resp: 899

Ion	Ratio	Lower	Upper
83	100		
85	59.9	35.0	95.0
47	0.0	0.0	53.5

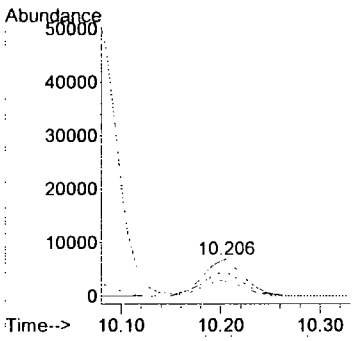


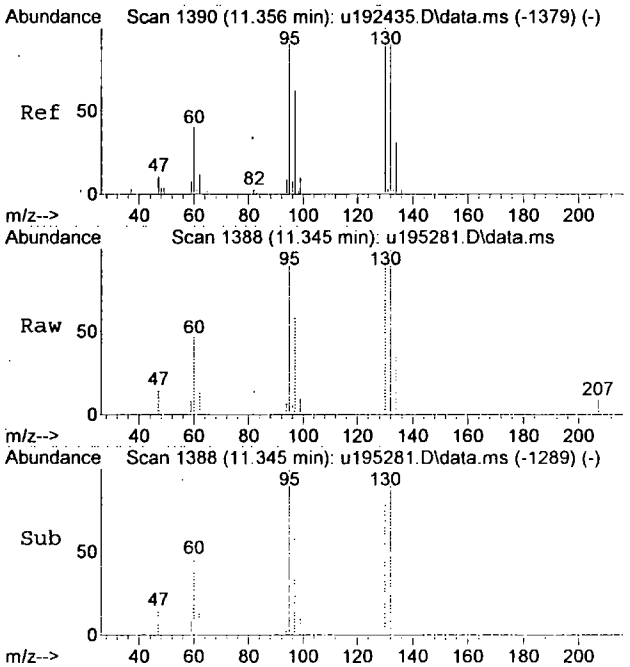


#60
1,1,1-trichloroethane
Concen: 6.26 ug/L
RT: 10.206 min Scan# 1170
Delta R.T. 0.003 min
Lab File: u195281.D
Acq: 19 May 2015 2:00 am

Tgt Ion: 97 Resp: 19016

Ion	Ratio	Lower	Upper
97	100		
99	64.4	33.3	93.3
61	38.6	11.0	71.0

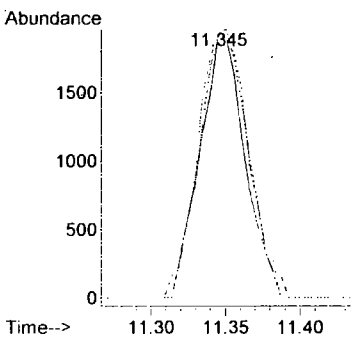




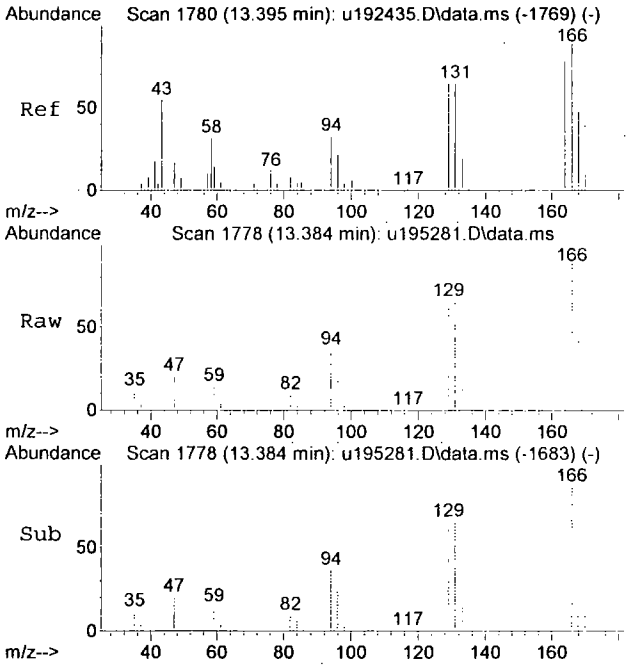
#78
trichloroethene
Concen: 1.90 ug/L
RT: 11.345 min Scan# 1388
Delta R.T. -0.002 min
Lab File: u195281.D
Acq: 19 May 2015 2:00 am

Tgt Ion: 95 Resp: 4026

Ion	Ratio	Lower	Upper
95	100		
130	100.9	80.1	140.1
132	99.5	76.3	136.3



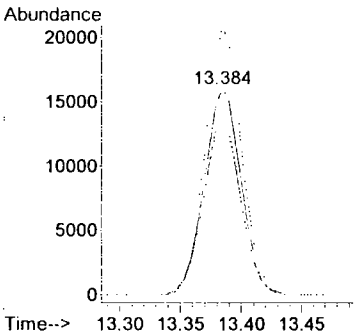
7.1.2



#98
tetrachloroethene
Concen: 15.67 ug/L
RT: 13.384 min Scan# 1778
Delta R.T. -0.002 min
Lab File: u195281.D
Acq: 19 May 2015 2:00 am

Tgt Ion:164 Resp: 33711

Ion	Ratio	Lower	Upper
164	100		
129	86.0	56.5	116.5
131	84.4	53.4	113.4
166	130.6	96.8	156.8



7.1.2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9008\
Data File : u195282.D
Acq On : 19 May 2015 2:29 am
Operator : NicoleH1
Sample : jb94785-3
Misc : ms85328,vu9008,5.0,,,,1
ALS Vial : 38 Sample Multiplier: 1

Quant Time: May 19 15:07:46 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	80139	500.00	ug/L	-0.01
5) pentafluorobenzene	10.080	168	289259	50.00	ug/L	0.00
64) 1,4-difluorobenzene	11.000	114	333954	50.00	ug/L	0.00
96) chlorobenzene-d5	14.325	117	295950	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.902	152	160479	50.00	ug/L	0.00
System Monitoring Compounds						
56) dibromofluoromethane (s)	10.158	113	100874	51.29	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 102.58%			
57) 1,2-dichloroethane-d4 (s)	10.582	65	109406	52.57	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 105.14%			
88) toluene-d8 (s)	12.683	98	378691	49.58	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 99.16%			
114) 4-bromofluorobenzene (s)	15.606	95	143869	50.62	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 101.24%			
Target Compounds						Qvalue
98) tetrachloroethene	13.384	164	8177	3.84	ug/L	96

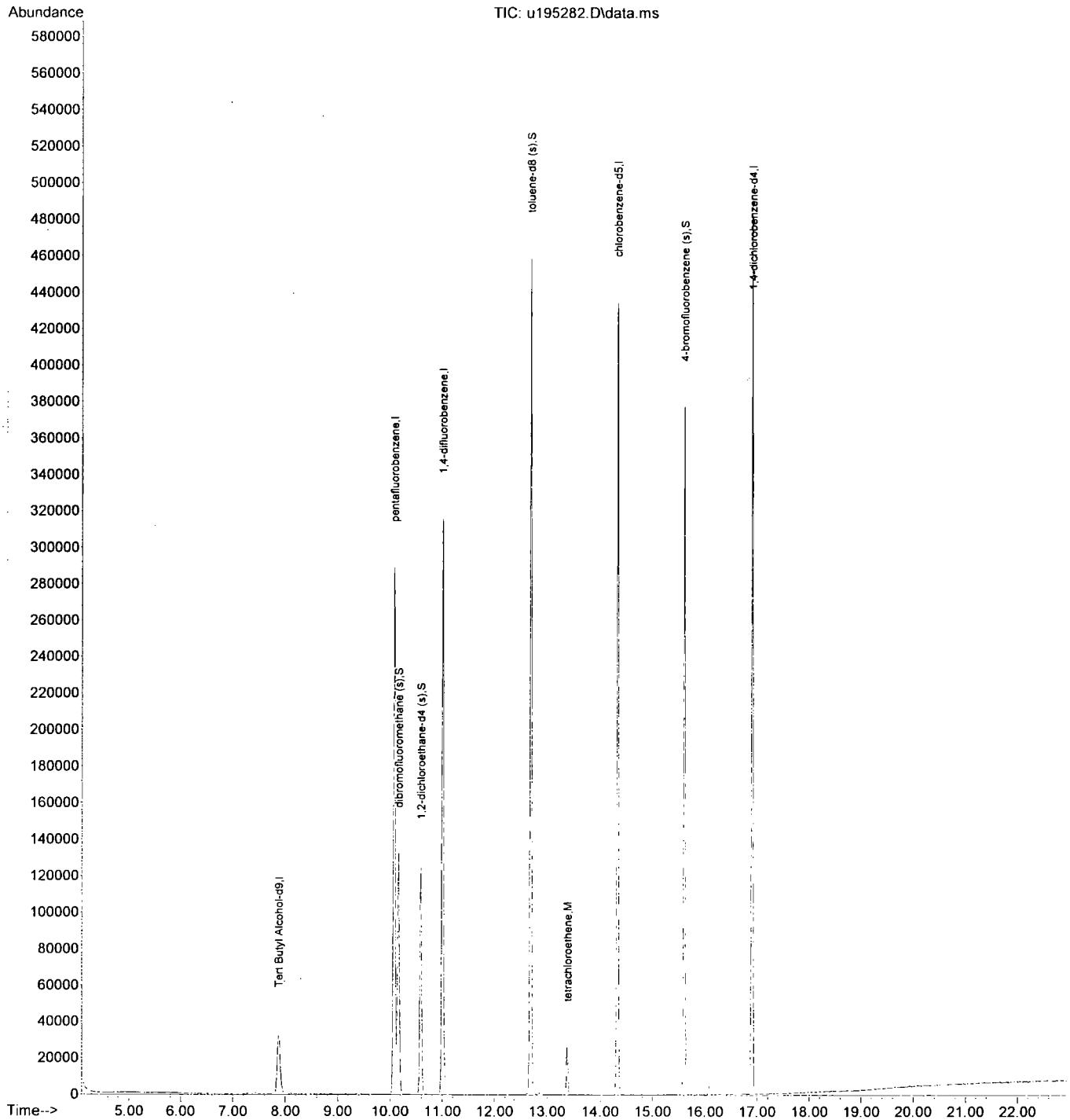
(#) = qualifier out of range (m) = manual integration (+) = signals summed

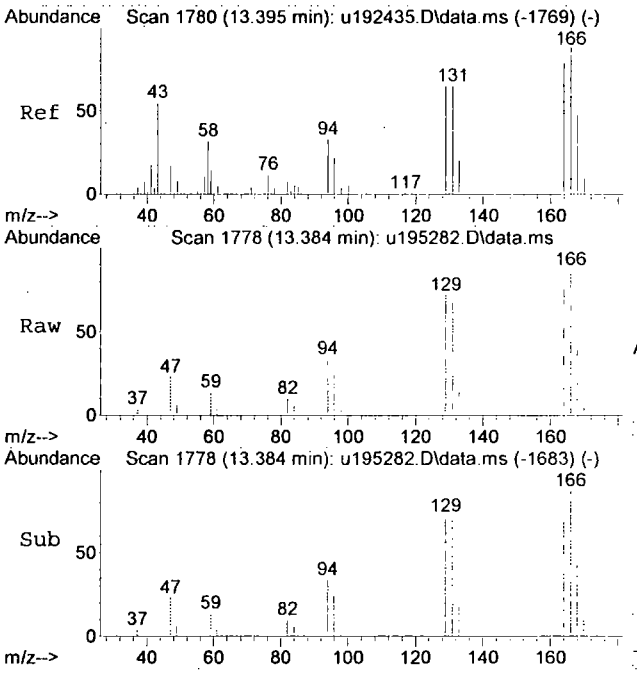
7.1.3 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9008\
Data File : u195282.D
Acq On : 19 May 2015 2:29 am
Operator : NicoleH1
Sample : jb94785-3
Misc : ms85328,vu9008,5.0,,,,1
ALS Vial : 38 Sample Multiplier: 1

Quant Time: May 19 15:07:46 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

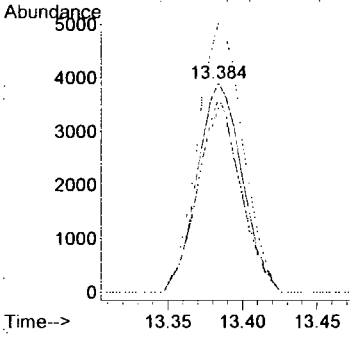




#98
tetrachloroethene
Concen: 3.84 ug/L
RT: 13.384 min Scan# 1778
Delta R.T. -0.002 min
Lab File: u195282.D
Acq: 19 May 2015 2:29 am

Tgt Ion:164 Resp: 8177

Ion	Ratio	Lower	Upper
164	100		
129	92.8	56.5	116.5
131	88.6	53.4	113.4
166	128.7	96.8	156.8



7.1.3

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9008\
Data File : u195283.D
Acq On : 19 May 2015 2:58 am
Operator : NicoleH1
Sample : jb94785-4
Misc : ms85328,vu9008,5.0,,,,1
ALS Vial : 39 Sample Multiplier: 1

Quant Time: May 19 15:08:25 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	7.879	65	84875	500.00	ug/L	0.00
5) pentafluorobenzene	10.080	168	285287	50.00	ug/L	0.00
64) 1,4-difluorobenzene	11.000	114	332176	50.00	ug/L	0.00
96) chlorobenzene-d5	14.325	117	295381	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.902	152	160132	50.00	ug/L	0.00
System Monitoring Compounds						
56) dibromofluoromethane (s)	10.158	113	100944	52.04	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 104.08%			
57) 1,2-dichloroethane-d4 (s)	10.577	65	108755	52.99	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 105.98%			
88) toluene-d8 (s)	12.683	98	375602	49.44	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 98.88%			
114) 4-bromofluorobenzene (s)	15.601	95	141246	49.80	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 99.60%			
Target Compounds						Qvalue
60) 1,1,1-trichloroethane	10.200	97	3800	1.27	ug/L	95
98) tetrachloroethene	13.384	164	2789	1.31	ug/L	98

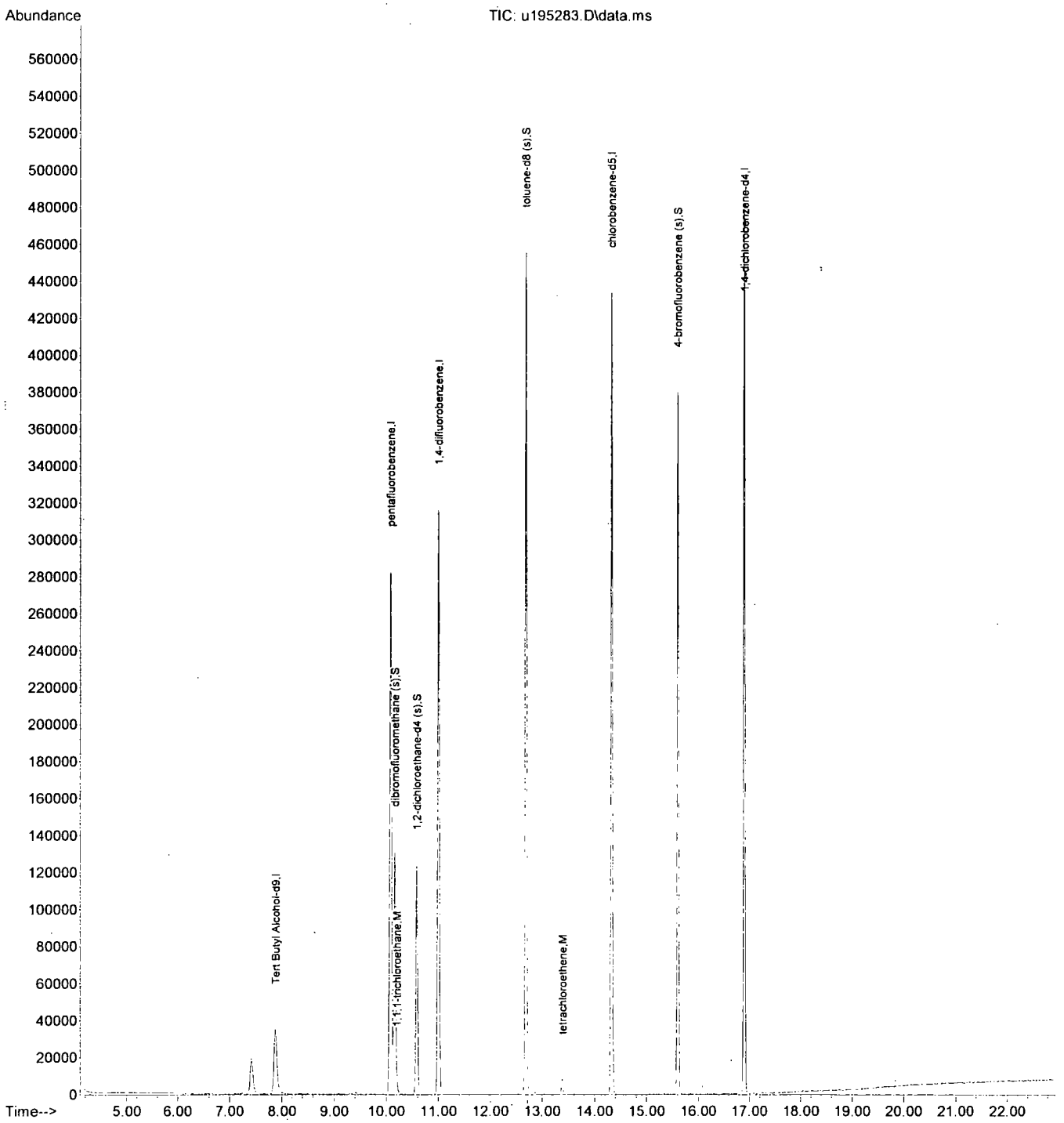
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.4 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9008\
Data File : u195283.D
Acq On : 19 May 2015 2:58 am
Operator : NicoleH1
Sample : jb94785-4
Misc : ms85328,vu9008,5.0,,,,1
ALS Vial : 39 Sample Multiplier: 1

Quant Time: May 19 15:08:25 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 Tue May 19 15:17:32 2015 T

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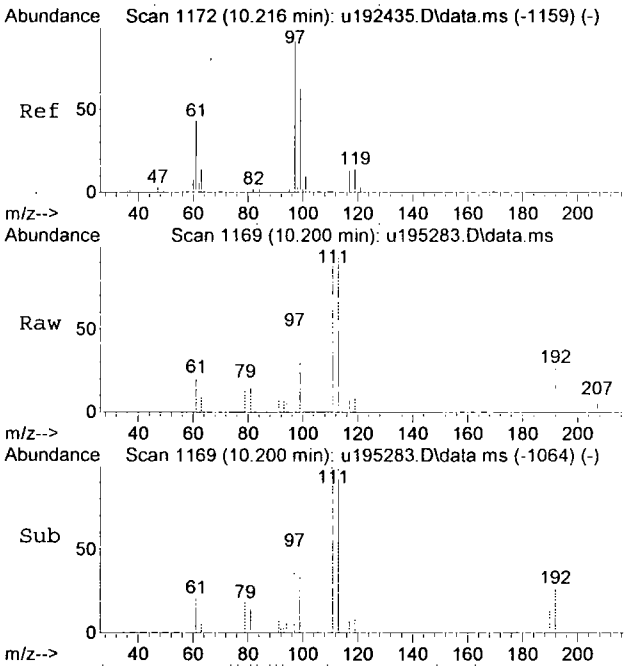
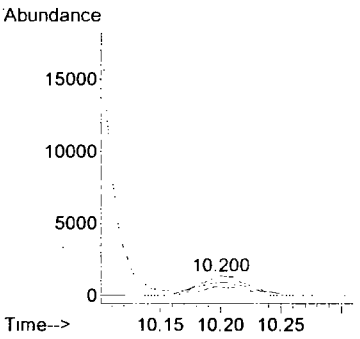
7.1.4

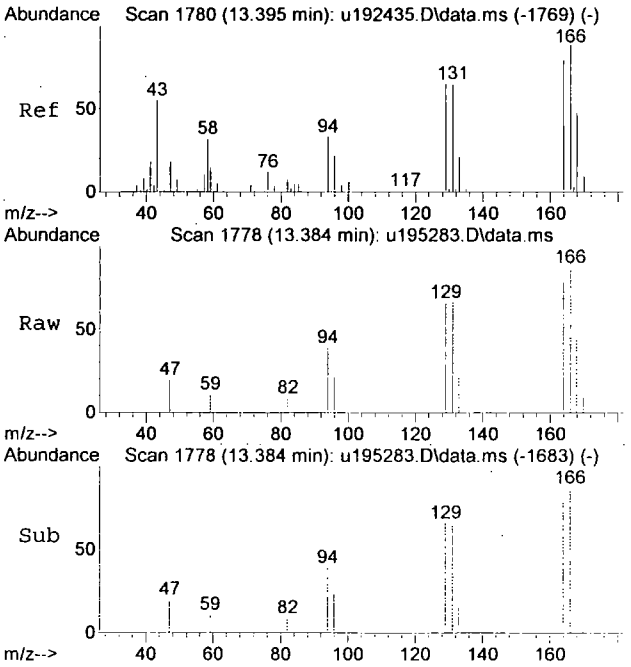


#60
1,1,1-trichloroethane
Concen: 1.27 ug/L
RT: 10.200 min Scan# 1169
Delta R.T. -0.002 min
Lab File: u195283.D
Acq: 19 May 2015 2:58 am

Tgt Ion: 97 Resp: 3800

Ion	Ratio	Lower	Upper
97	100		
99	67.8	33.3	93.3
61	42.7	11.0	71.0

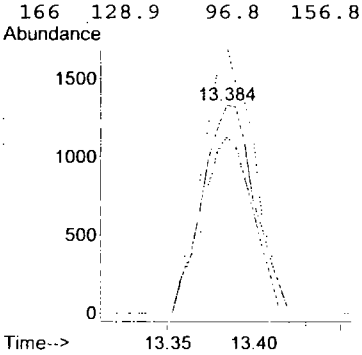




#98
tetrachloroethene
Concen: 1.31 ug/L
RT: 13.384 min Scan# 1778
Delta R.T. -0.002 min
Lab File: u195283.D
Acq: 19 May 2015 2:58 am

Tgt Ion:164 Resp: 2789

Ion	Ratio	Lower	Upper
164	100		
129	84.9	56.5	116.5
131	84.5	53.4	113.4
166	128.9	96.8	156.8



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9008\
Data File : u195284.D
Acq On : 19 May 2015 3:27 am
Operator : NicoleH1
Sample : jb94785-5
Misc : ms85328,vu9008,5.0,,,,1
ALS Vial : 40 Sample Multiplier: 1

Quant Time: May 19 15:09:01 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

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.878	65	89566	500.00	ug/L	0.00
5) pentafluorobenzene	10.079	168	285209	50.00	ug/L	0.00
64) 1,4-difluorobenzene	10.999	114	329151	50.00	ug/L	0.00
96) chlorobenzene-d5	14.324	117	294307	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.902	152	160213	50.00	ug/L	0.00
System Monitoring Compounds						
56) dibromofluoromethane (s)	10.157	113	99686	51.41	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 102.82%			
57) 1,2-dichloroethane-d4 (s)	10.581	65	108672	52.96	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 105.92%			
88) toluene-d8 (s)	12.683	98	375257	49.85	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 99.70%			
114) 4-bromofluorobenzene (s)	15.600	95	141751	49.95	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 99.90%			
Target Compounds						Qvalue
90) toluene	12.766	92	3093	0.61	ug/L	97

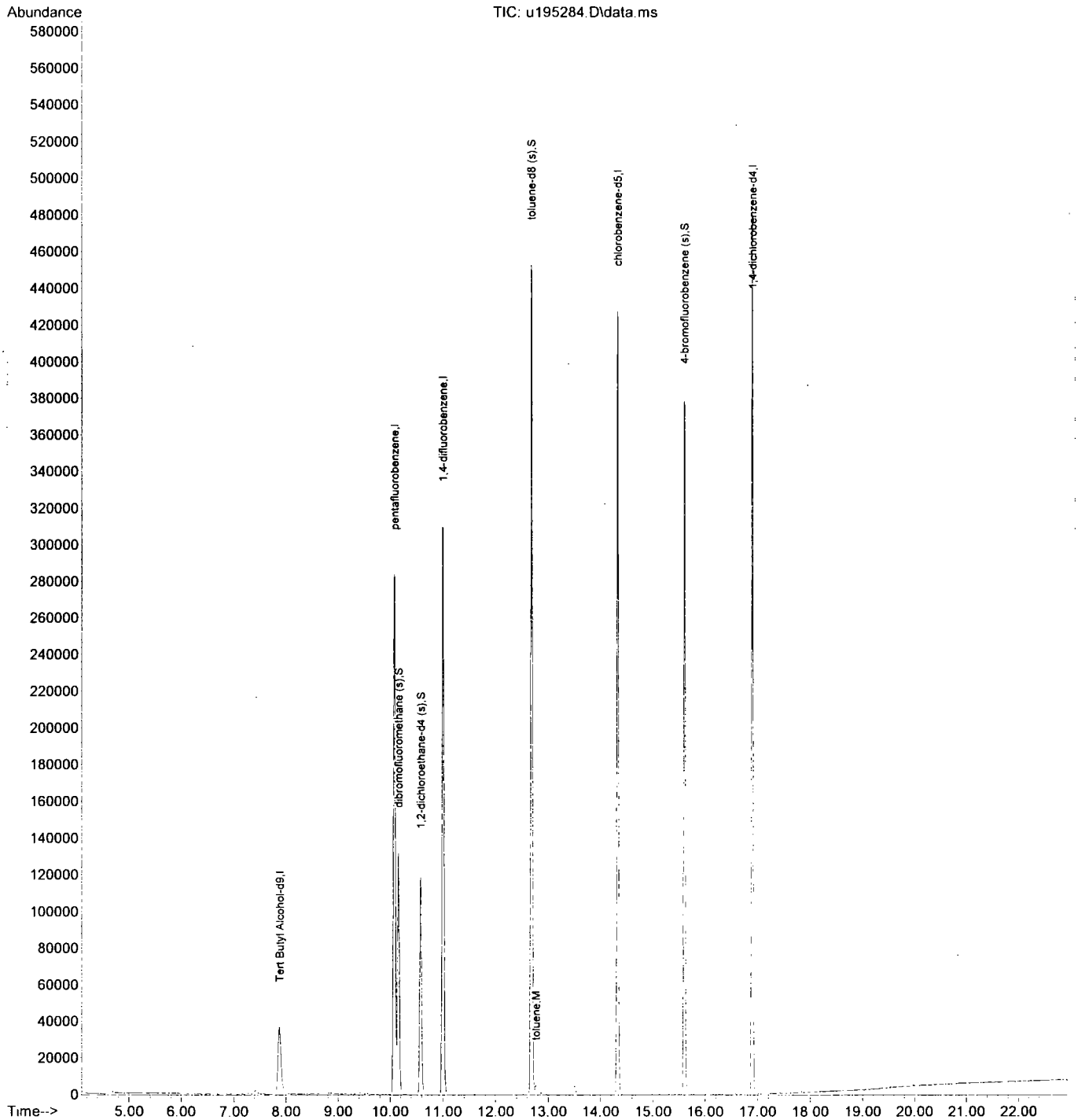
(#) = qualifier out of range (m) = manual integration (+) = signals summed

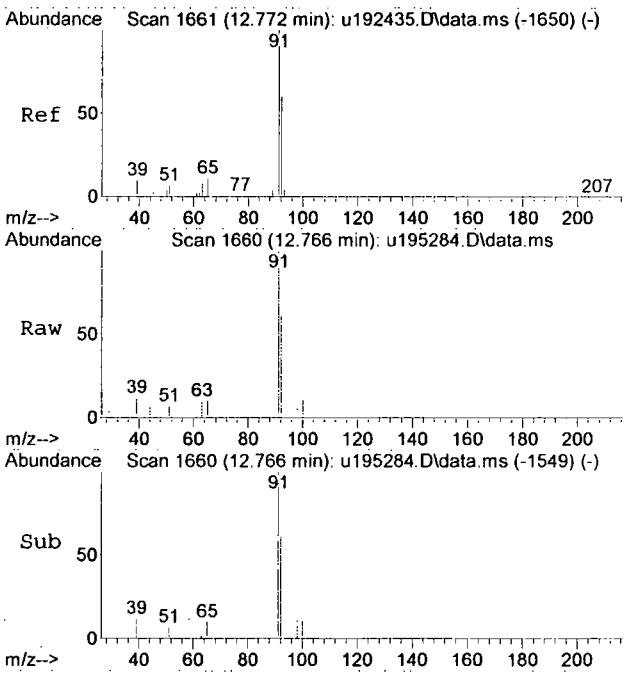
7.1.5

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9008\
Data File : u195284.D
Acq On : 19 May 2015 3:27 am
Operator : NicoleH1
Sample : jb94785-5
Misc : ms85328,vu9008,5.0,,,,1
ALS Vial : 40 Sample Multiplier: 1

Quant Time: May 19 15:09:01 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

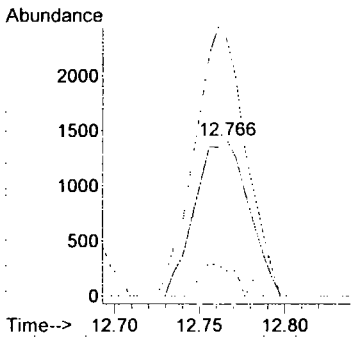




#90
toluene
Concen: 0.61 ug/L
RT: 12.766 min Scan# 1660
Delta R.T. 0.002 min
Lab File: u195284.D
Acq: 19 May 2015 3:27 am

Tgt Ion: 92 Resp: 3093

Ion	Ratio	Lower	Upper
92	100		
91	163.8	137.2	197.2
65	16.1	0.0	48.1



7.1.5

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9008\
Data File : u195286.D
Acq On : 19 May 2015 3:57 am
Operator : NicoleH1
Sample : jb94785-6
Misc : ms85328,vu9008,5.0,,,,1
ALS Vial : 41 Sample Multiplier: 1

Quant Time: May 19 15:09:42 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 09:25:27 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.878	65	86380	500.00	ug/L	0.00
5) pentafluorobenzene	10.079	168	284043	50.00	ug/L	0.00
64) 1,4-difluorobenzene	10.999	114	329870	50.00	ug/L	0.00
96) chlorobenzene-d5	14.324	117	294911	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.902	152	160109	50.00	ug/L	0.00
System Monitoring Compounds						
56) dibromofluoromethane (s)	10.158	113	99814	51.68	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 103.36%			
57) 1,2-dichloroethane-d4 (s)	10.581	65	108590	53.14	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 106.28%			
88) toluene-d8 (s)	12.683	98	376031	49.85	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 99.70%			
114) 4-bromofluorobenzene (s)	15.600	95	142216	50.15	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 100.30%			
Target Compounds						Qvalue
42) 1,1-dichloroethane	8.866	63	10995	3.28	ug/L	95
48) cis-1,2-dichloroethene	9.598	96	2144	0.98	ug/L #	76
98) tetrachloroethene	13.389	164	1560	0.74	ug/L	93

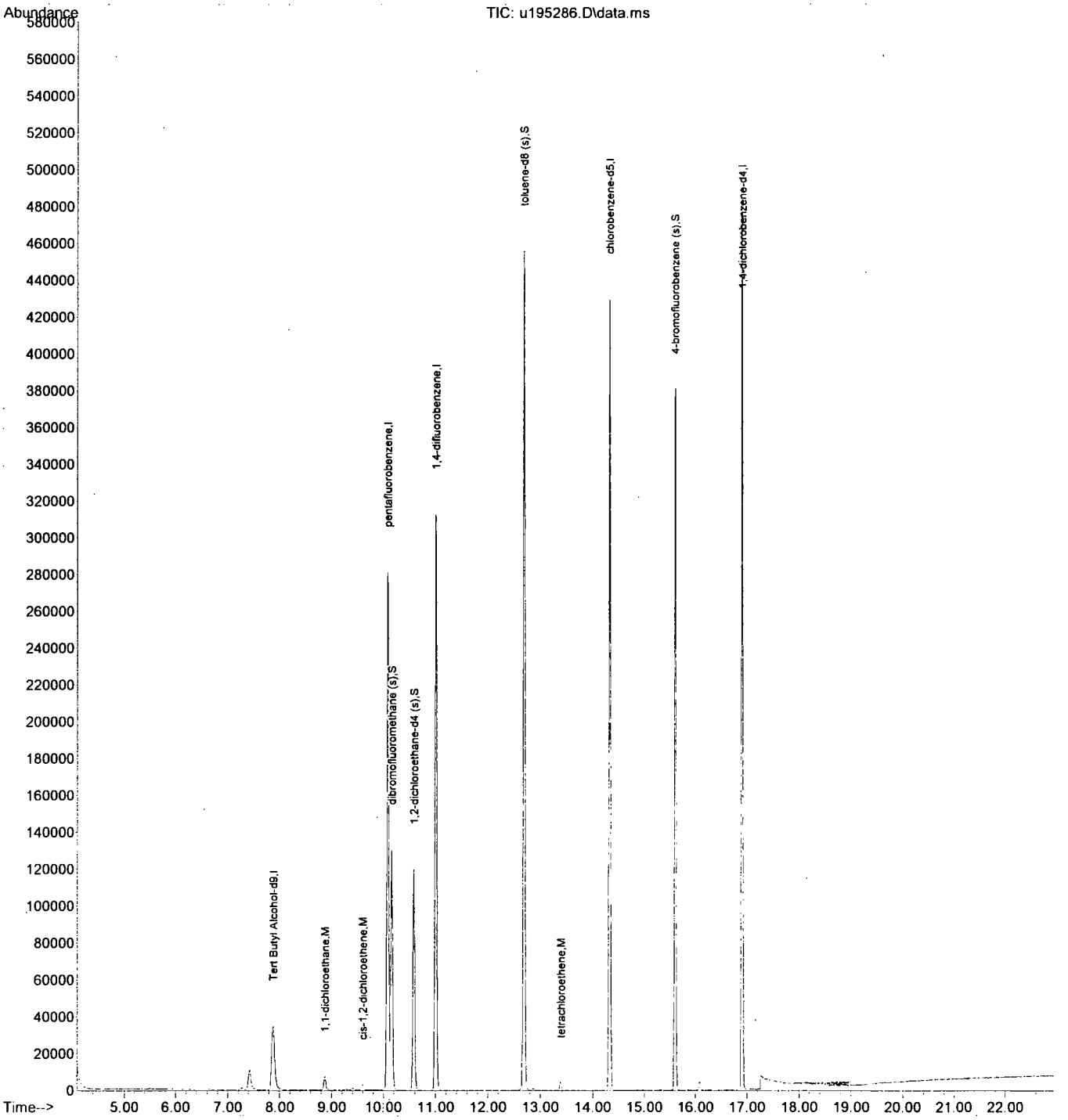
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.6

Quantitation Report (QT Reviewed)

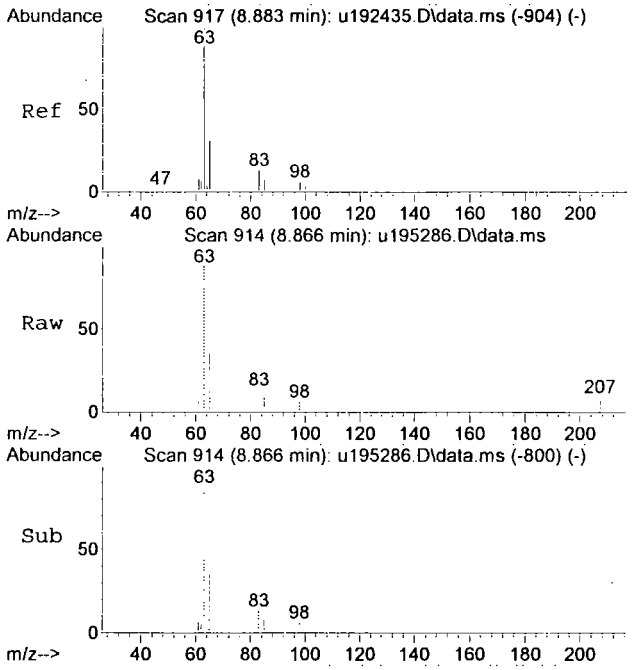
Data Path : C:\msdchem\1\DATA\U\vu9008\
Data File : u195286.D
Acq On : 19 May 2015 3:57 am
Operator : NicoleH1
Sample : jb94785-6
Misc : ms85328,vu9008,5.0,,,,1
ALS Vial : 41 Sample Multiplier: 1

Quant Time: May 19 15:09:42 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 09:25:27 2015
Response via : Initial Calibration



MU8988.M Tue May 19 15:17:36 2015 T

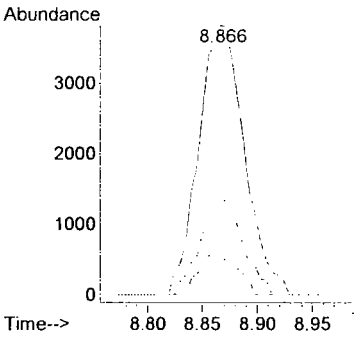
Page: 2

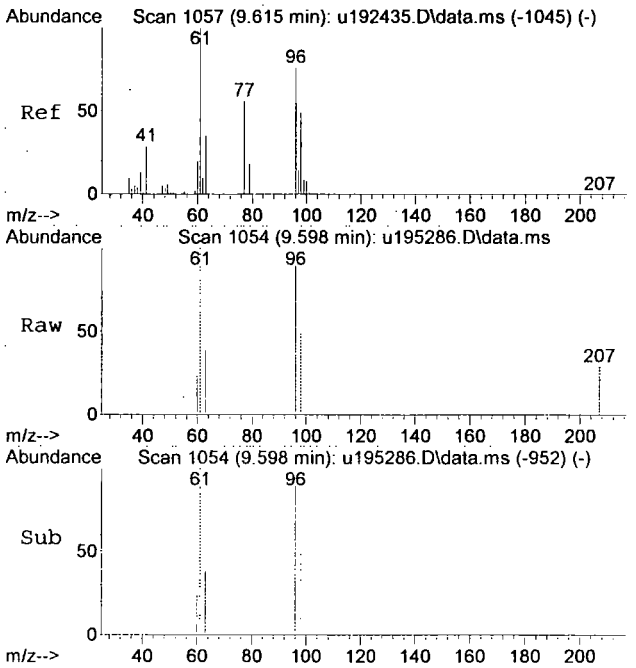


#42
1,1-dichloroethane
Concen: 3.28 ug/L
RT: 8.866 min Scan# 914
Delta R.T. 0.003 min
Lab File: u195286.D
Acq: 19 May 2015 3:57 am

Tgt Ion: 63 Resp: 10995

Ion	Ratio	Lower	Upper
63	100		
65	36.2	2.4	62.4
83	12.6	0.0	43.6

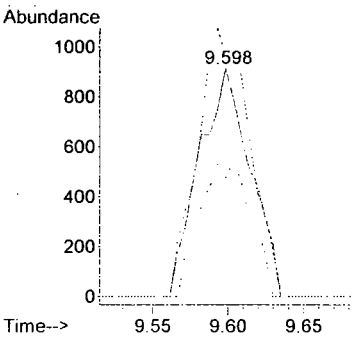


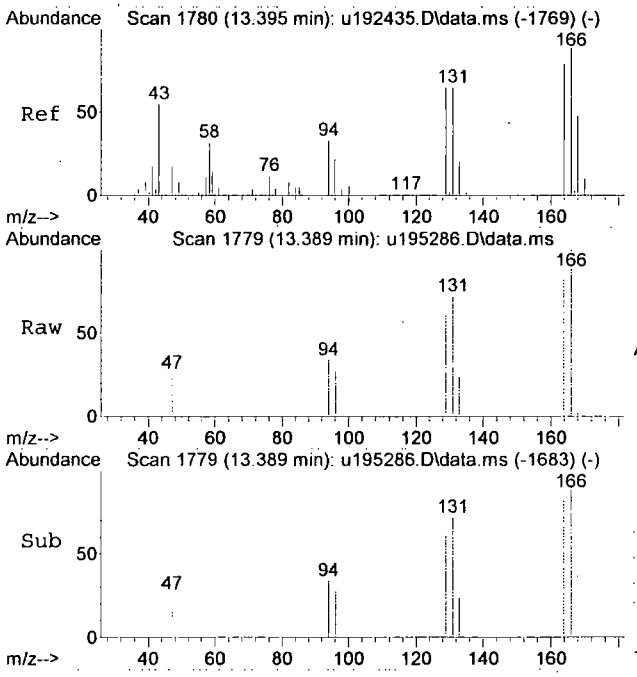


#48
cis-1,2-dichloroethene
Concen: 0.98 ug/L
RT: 9.598 min Scan# 1054
Delta R.T. 0.002 min
Lab File: u195286.D
Acq: 19 May 2015 3:57 am

Tgt Ion: 96 Resp: 2144

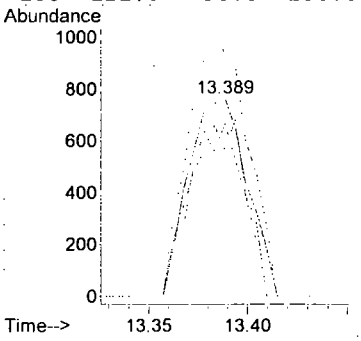
Ion	Ratio	Lower	Upper
96	100		
61	105.2	109.5	169.5#
98	51.7	33.9	93.9





#98
tetrachloroethene
Concen: 0.74 ug/L
RT: 13.389 min Scan# 1779
Delta R.T. 0.002 min
Lab File: u195286.D
Acq: 19 May 2015 3:57 am

Tgt Ion:164	Resp:	1560	
Ion	Ratio	Lower	Upper
164	100		
129	73.9	56.5	116.5
131	87.2	53.4	113.4
166	121.6	96.8	156.8



7.1.6

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9008\
Data File : u195287.D
Acq On : 19 May 2015 4:26 am
Operator : NicoleH1
Sample : jb94785-7
Misc : ms85328,vu9008,5.0,,,,1
ALS Vial : 42 Sample Multiplier: 1

Quant Time: May 19 15:10:21 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

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.879	65	86581	500.00	ug/L	0.00
5) pentafluorobenzene	10.080	168	283890	50.00	ug/L	0.00
64) 1,4-difluorobenzene	11.000	114	330889	50.00	ug/L	0.00
96) chlorobenzene-d5	14.325	117	293622	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.902	152	158703	50.00	ug/L	0.00
System Monitoring Compounds						
56) dibromofluoromethane (s)	10.158	113	99995	51.80	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 103.60%			
57) 1,2-dichloroethane-d4 (s)	10.582	65	108692	53.22	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 106.44%			
88) toluene-d8 (s)	12.683	98	376452	49.75	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 99.50%			
114) 4-bromofluorobenzene (s)	15.601	95	141512	50.34	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 100.68%			
Target Compounds						Qvalue
60) 1,1,1-trichloroethane	10.211	97	1360	0.46	ug/L	86
98) tetrachloroethene	13.384	164	2347	1.11	ug/L	97

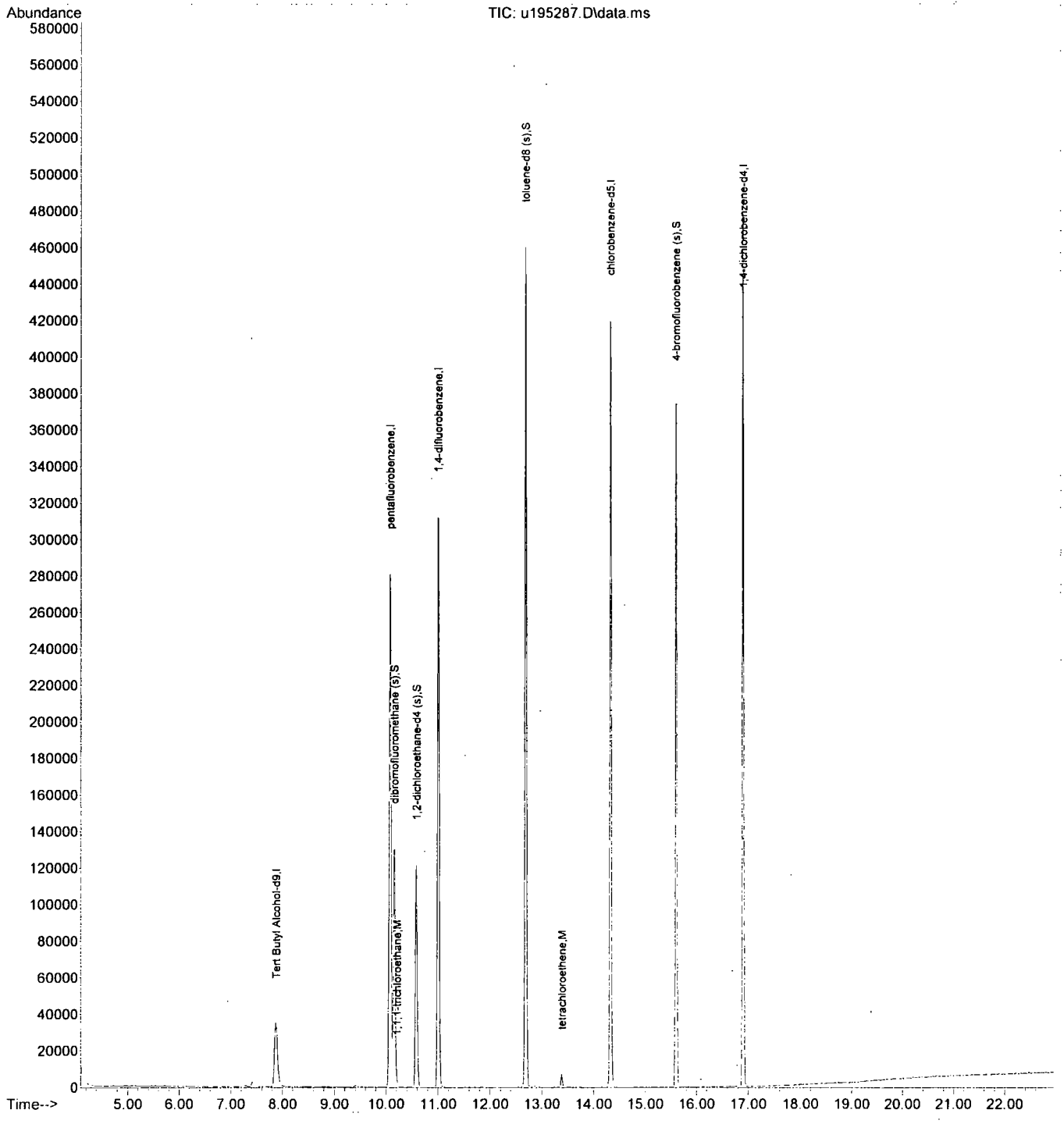
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.7

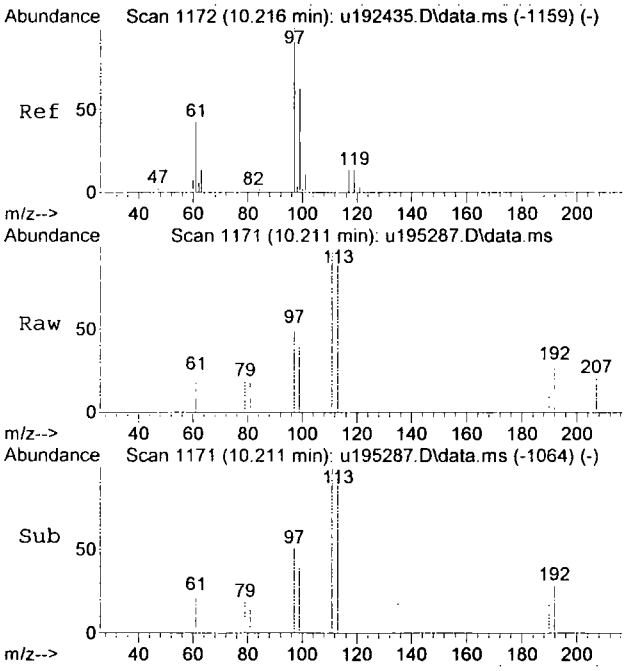
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9008\
Data File : u195287.D
Acq On : 19 May 2015 4:26 am
Operator : NicoleH1
Sample : jb94785-7
Misc : ms85328,vu9008,5.0,,,,1
ALS Vial : 42 Sample Multiplier: 1

Quant Time: May 19 15:10:21 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



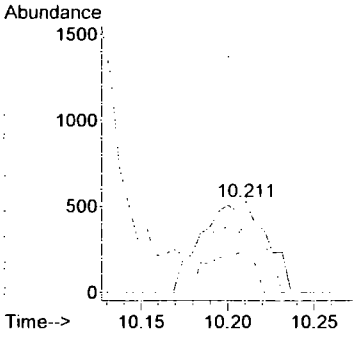
MU8988.M Tue May 19 15:17:38 2015 T

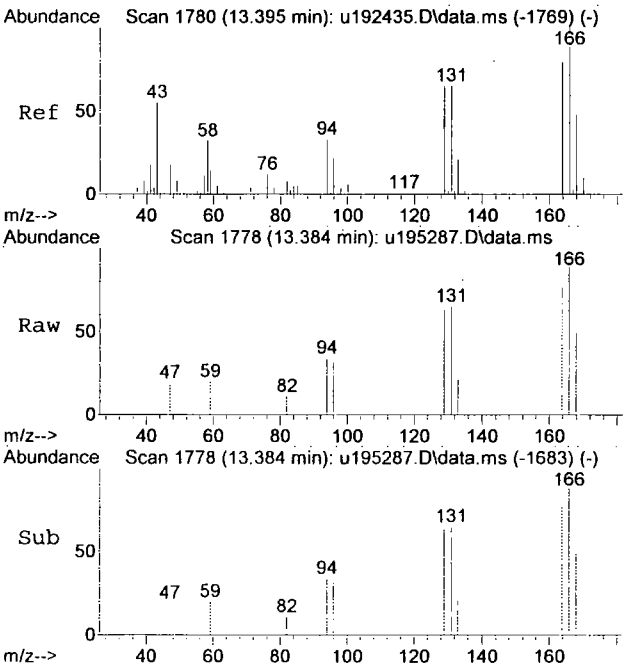


#60
1,1,1-trichloroethane
Concen: 0.46 ug/L
RT: 10.211 min Scan# 1171
Delta R.T. 0.008 min
Lab File: u195287.D
Acq: 19 May 2015 4:26 am

Tgt Ion: 97 Resp: 1360

Ion	Ratio	Lower	Upper
97	100		
99	77.0	33.3	93.3
61	46.0	11.0	71.0

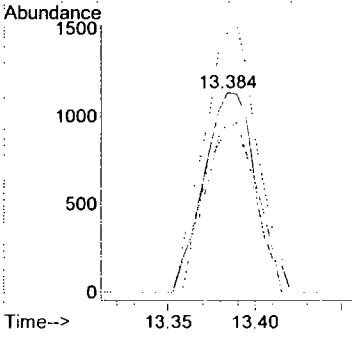




#98
tetrachloroethene
Concen: 1.11 ug/L
RT: 13.384 min Scan# 1778
Delta R.T. -0.002 min
Lab File: u195287.D
Acq: 19 May 2015 4:26 am

Tgt Ion:164 Resp: 2347

Ion	Ratio	Lower	Upper
164	100		
129	81.7	56.5	116.5
131	85.2	53.4	113.4
166	130.1	96.8	156.8



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9008\
Data File : u195288.D
Acq On : 19 May 2015 4:55 am
Operator : NicoleH1
Sample : jb94785-8
Misc : ms85328,vu9008,5.0,,,,1
ALS Vial : 43 Sample Multiplier: 1

Quant Time: May 19 15:11:02 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

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.873	65	87575	500.00	ug/L	-0.01
5) pentafluorobenzene	10.080	168	283546	50.00	ug/L	0.00
64) 1,4-difluorobenzene	11.000	114	326970	50.00	ug/L	0.00
96) chlorobenzene-d5	14.325	117	293069	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.902	152	159210	50.00	ug/L	0.00
System Monitoring Compounds						
56) dibromofluoromethane (s)	10.158	113	99871	51.80	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 103.60%			
57) 1,2-dichloroethane-d4 (s)	10.582	65	107513	52.70	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 105.40%			
88) toluene-d8 (s)	12.683	98	373791	49.99	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 99.98%			
114) 4-bromofluorobenzene (s)	15.600	95	141536	50.19	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 100.38%			
Target Compounds						Qvalue
29) acetone	7.272	58	603	3.74	ug/L #	1
48) cis-1,2-dichloroethene	9.593	96	2514	1.15	ug/L	92
60) 1,1,1-trichloroethane	10.205	97	1012	0.34	ug/L #	61
78) trichloroethene	11.345	95	29913	14.55	ug/L	98
98) tetrachloroethene	13.384	164	2101	1.00	ug/L	95

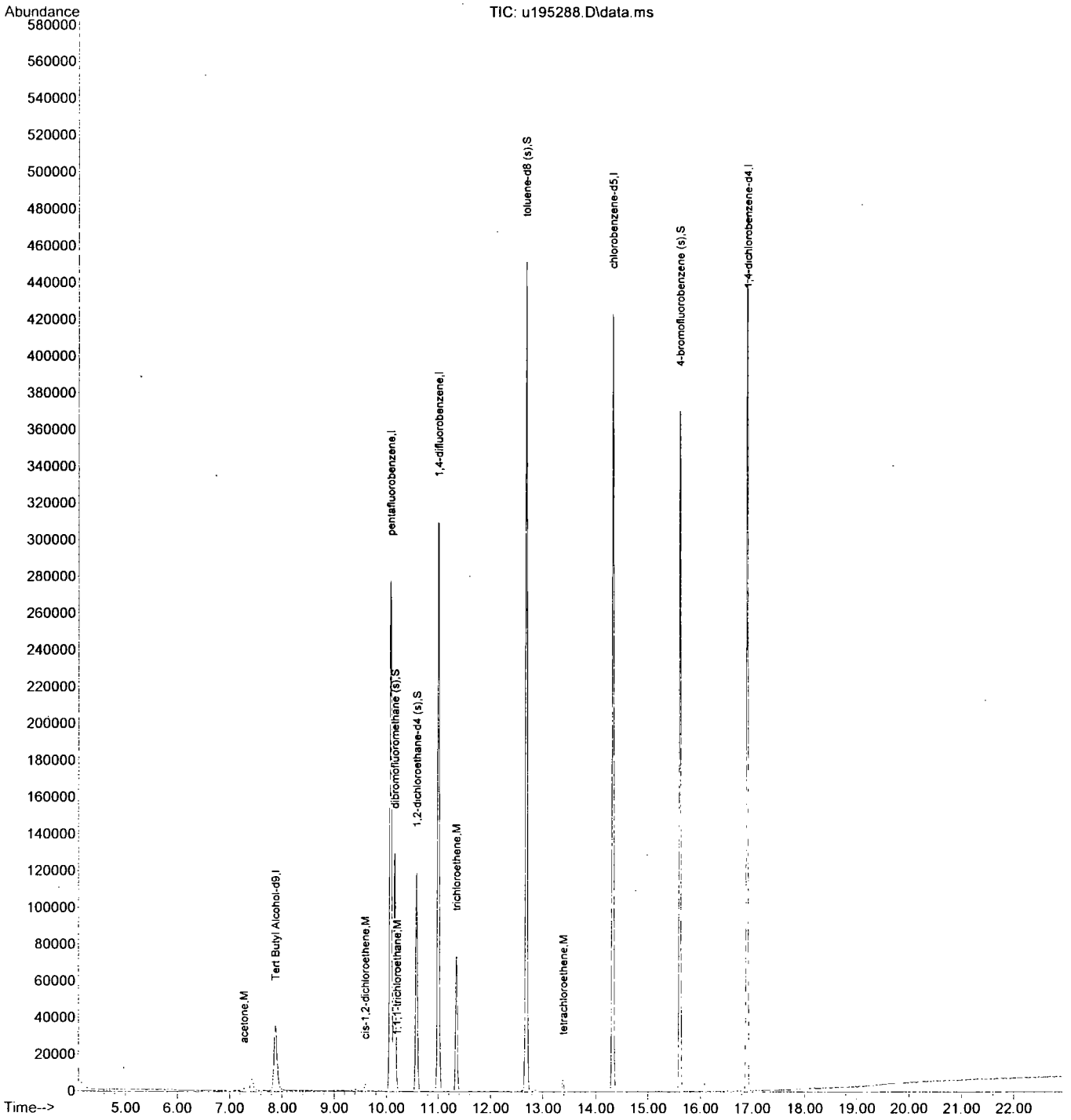
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.8

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9008\
Data File : u195288.D
Acq On : 19 May 2015 4:55 am
Operator : NicoleH1
Sample : jb94785-8
Misc : ms85328,vu9008,5.0,,,,1
ALS Vial : 43 Sample Multiplier: 1

Quant Time: May 19 15:11:02 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



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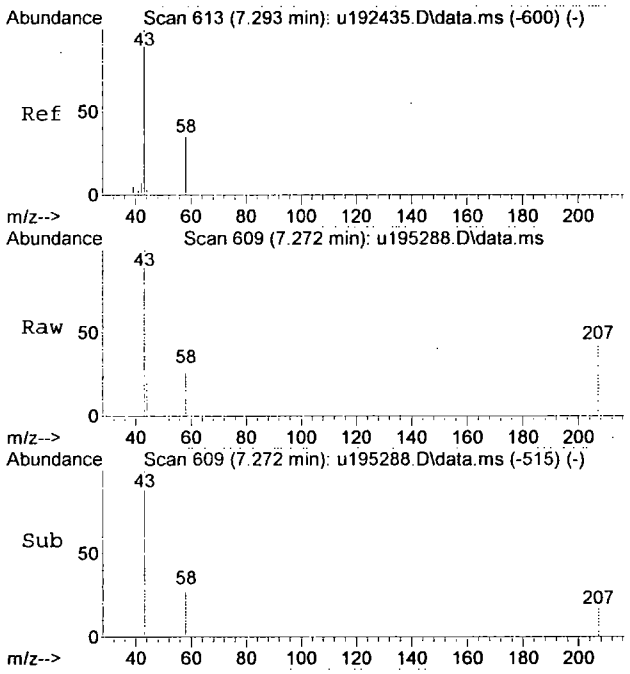
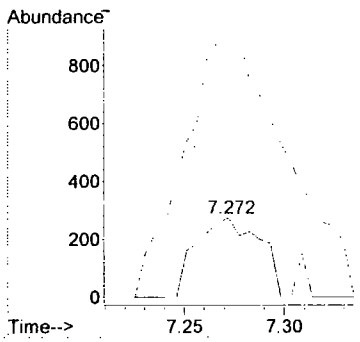
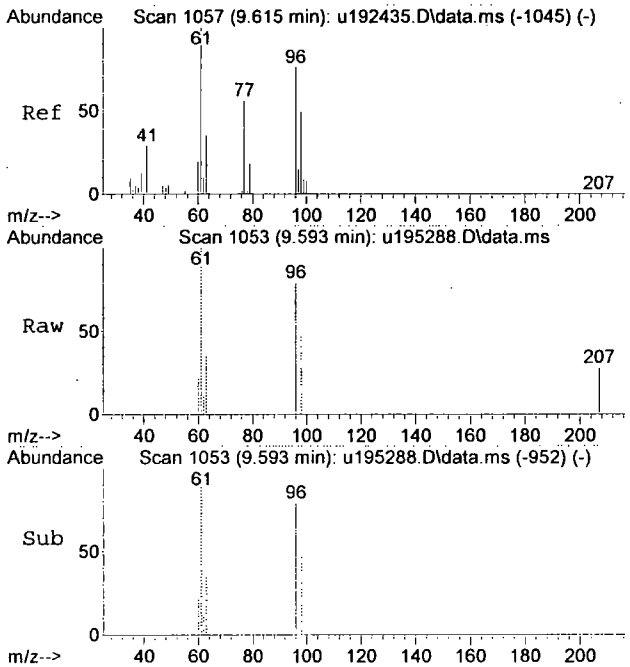


#29
acetone
Concen: 3.74 ug/L
RT: 7.272 min Scan# 609
Delta R.T. -0.008 min
Lab File: u195288.D
Acq: 19 May 2015 4:55 am

Tgt Ion: 58 Resp: 603

Ion	Ratio	Lower	Upper
58	100		
43	531.0	285.8	345.8#

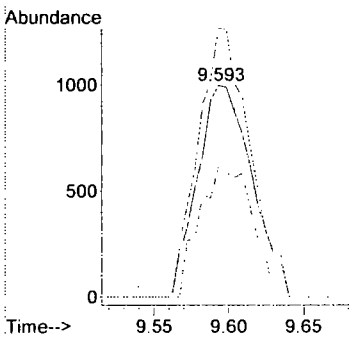


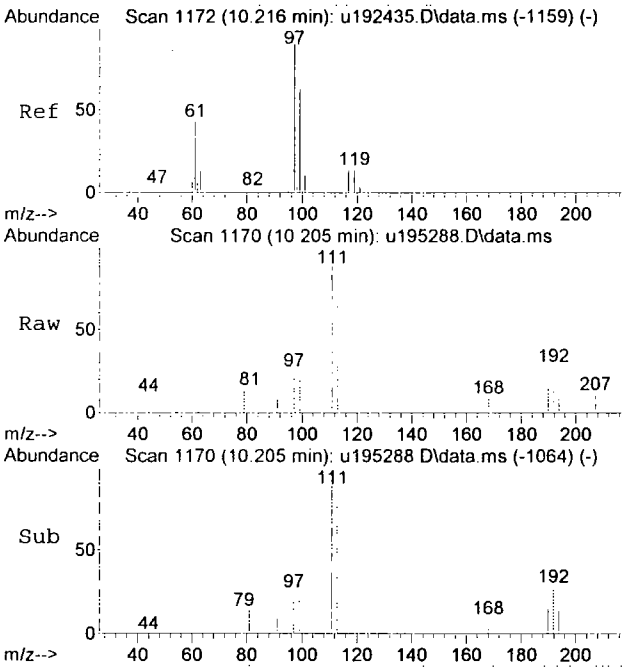


#48
cis-1,2-dichloroethene
Concen: 1.15 ug/L
RT: 9.593 min Scan# 1053
Delta R.T. -0.002 min
Lab File: u195288.D
Acq: 19 May 2015 4:55 am

Tgt Ion: 96 Resp: 2514

Ion	Ratio	Lower	Upper
96	100		
61	127.2	109.5	169.5
98	61.6	33.9	93.9

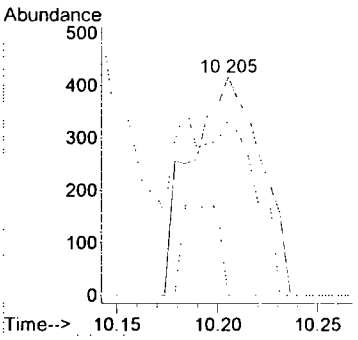


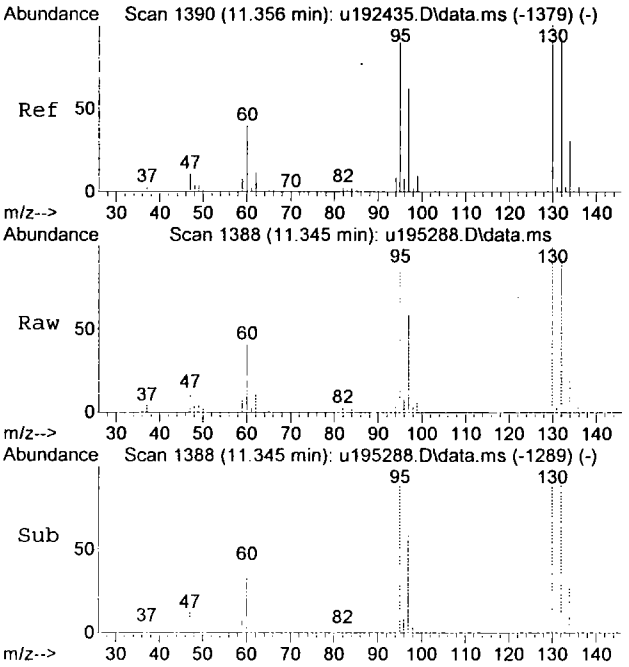


#60
1,1,1-trichloroethane
Concen: 0.34 ug/L
RT: 10.205 min Scan# 1170
Delta R.T. 0.003 min
Lab File: u195288.D
Acq: 19 May 2015 4:55 am

Tgt Ion: 97 Resp: 1012

Ion	Ratio	Lower	Upper
97	100		
99	80.5	33.3	93.3
61	0.0	11.0	71.0#

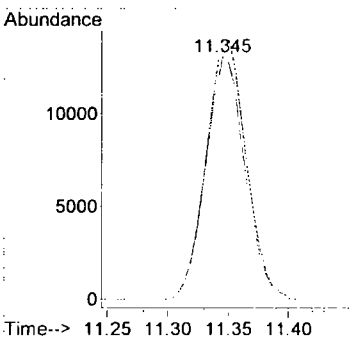




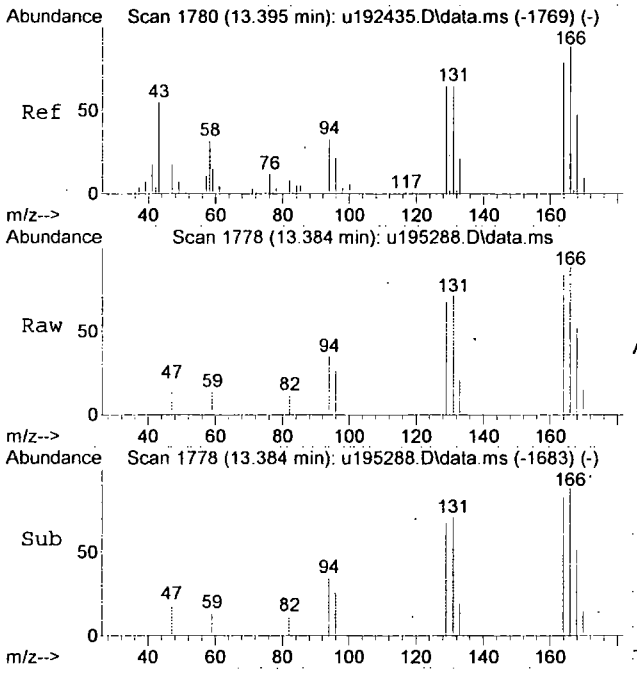
#78
trichloroethene
Concen: 14.55 ug/L
RT: 11.345 min Scan# 1388
Delta R.T. -0.002 min
Lab File: u195288.D
Acq: 19 May 2015 4:55 am

Tgt Ion: 95 Resp: 29913

Ion	Ratio	Lower	Upper
95	100		
130	110.7	80.1	140.1
132	103.7	76.3	136.3



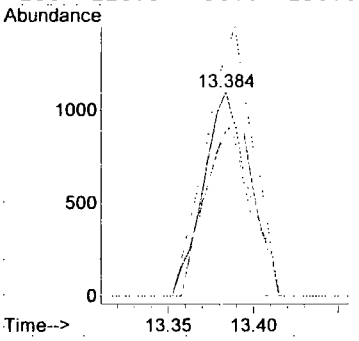
7.1.8



#98
tetrachloroethene
Concen: 1.00 ug/L
RT: 13.384 min Scan# 1778
Delta R.T. -0.002 min
Lab File: u195288.D
Acq: 19 May 2015 4:55 am

Tgt Ion:164 Resp: 2101

Ion	Ratio	Lower	Upper
164	100		
129	80.5	56.5	116.5
131	84.8	53.4	113.4
166	118.8	96.8	156.8



7.1.8

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9008\
Data File : u195289.D
Acq On : 19 May 2015 5:24 am
Operator : NicoleH1
Sample : jb94785-9
Misc : ms85328,vu9008,5.0,,,,1
ALS Vial : 44 Sample Multiplier: 1

Quant Time: May 19 15:11:44 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	78936	500.00	ug/L	-0.01
5) pentafluorobenzene	10.080	168	282335	50.00	ug/L	0.00
64) 1,4-difluorobenzene	11.000	114	326601	50.00	ug/L	0.00
96) chlorobenzene-d5	14.325	117	291282	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.903	152	157145	50.00	ug/L	0.00
System Monitoring Compounds						
56) dibromofluoromethane (s)	10.158	113	99379	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	106356	52.36	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 104.72%			
88) toluene-d8 (s)	12.684	98	371023	49.67	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 99.34%			
114) 4-bromofluorobenzene (s)	15.601	95	139310	50.05	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 100.10%			
Target Compounds						Qvalue
28) 1,1-dichloroethene	7.199	96	1210	0.69	ug/L #	76
42) 1,1-dichloroethane	8.862	63	3276	0.98	ug/L	86
48) cis-1,2-dichloroethene	9.594	96	11671	5.35	ug/L	91
60) 1,1,1-trichloroethane	10.200	97	93138	31.49	ug/L	98
78) trichloroethene	11.345	95	462	0.22	ug/L	91

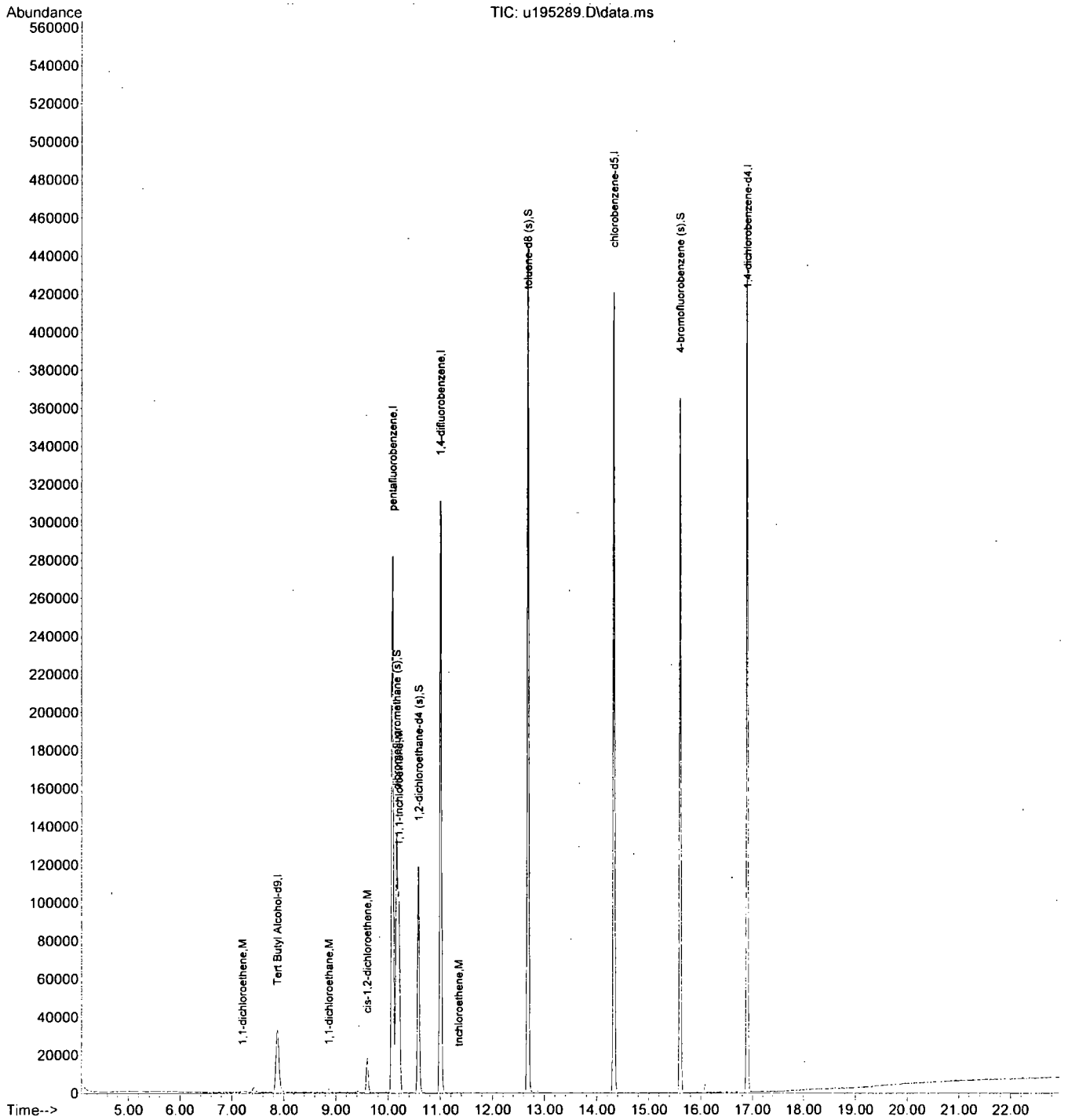
(#) = qualifier out of range (m) = manual integration (+) = signals summed

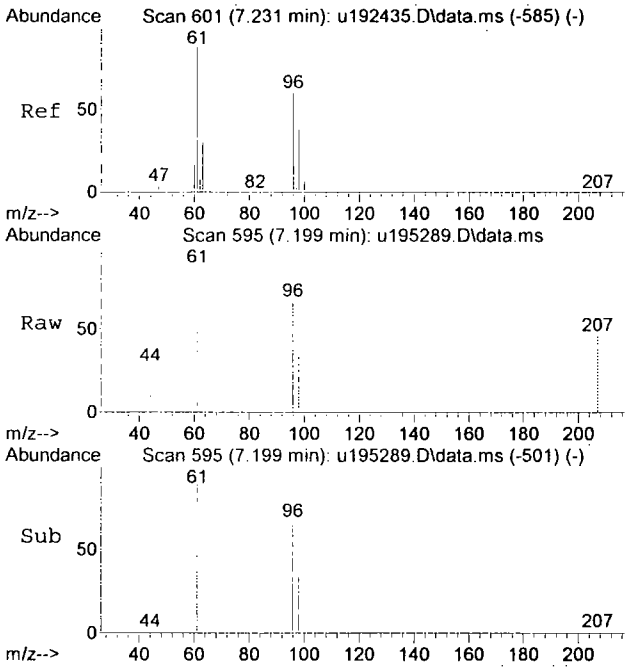
7.1.9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9008\
Data File : u195289.D
Acq On : 19 May 2015 5:24 am
Operator : NicoleH1
Sample : jb94785-9
Misc : ms85328,vu9008,5.0,,,,1
ALS Vial : 44 Sample Multiplier: 1

Quant Time: May 19 15:11:44 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

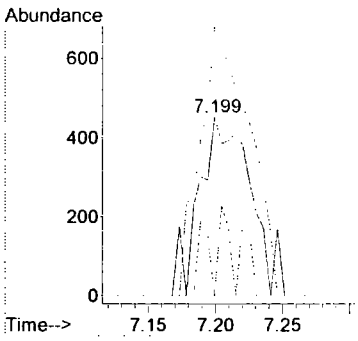


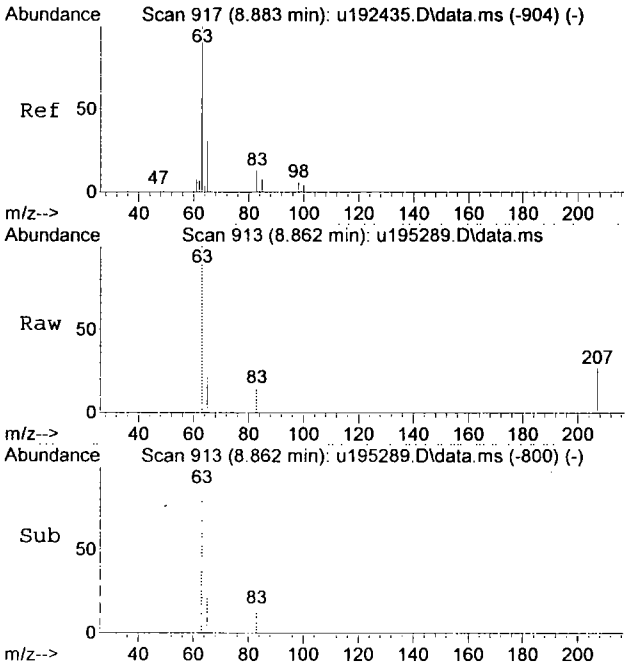


#28
1,1-dichloroethene
Concen: 0.69 ug/L
RT: 7.199 min Scan# 595
Delta R.T. -0.007 min
Lab File: u195289.D
Acq: 19 May 2015 5:24 am

Tgt Ion: 96 Resp: 1210

Ion	Ratio	Lower	Upper
96	100		
61	150.3	132.8	192.8
63	0.0	20.0	80.0#

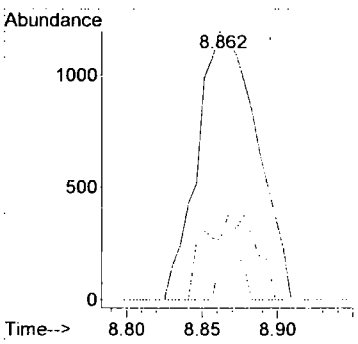




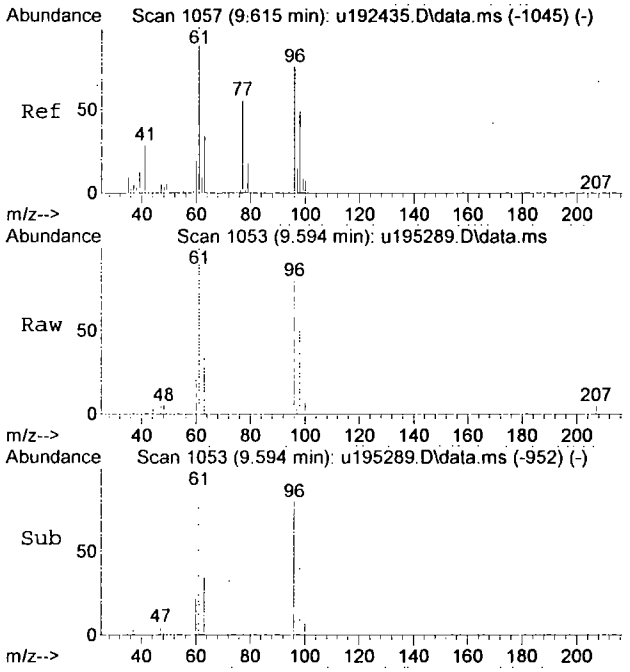
#42
1,1-dichloroethane
Concen: 0.98 ug/L
RT: 8.862 min Scan# 913
Delta R.T. -0.001 min
Lab File: u195289.D
Acq: 19 May 2015 5:24 am

Tgt Ion: 63 Resp: 3276

Ion	Ratio	Lower	Upper
63	100		
65	22.4	2.4	62.4
83	15.5	0.0	43.6



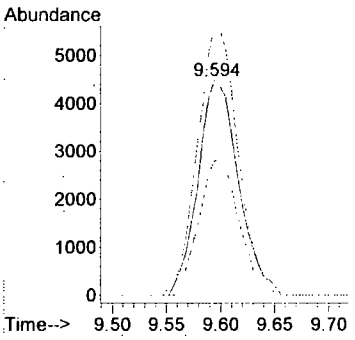
7.19

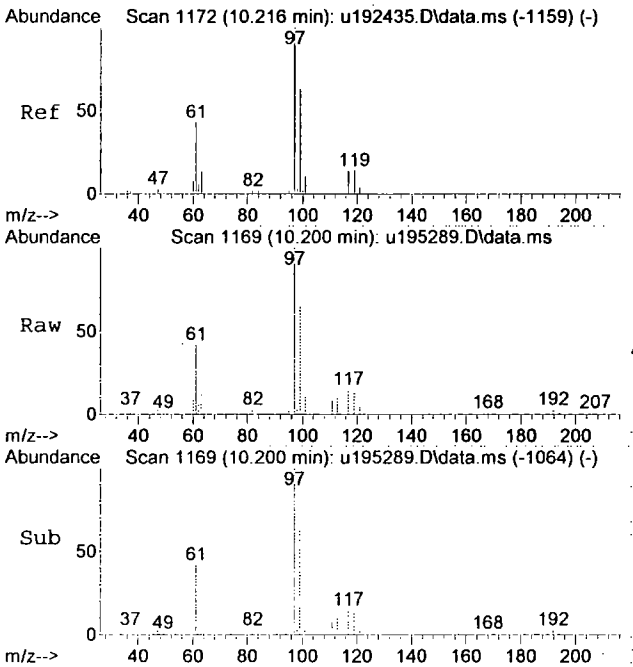


#48
cis-1,2-dichloroethene
Concen: 5.35 ug/L
RT: 9.594 min Scan# 1053
Delta R.T. -0.002 min
Lab File: u195289.D
Acq: 19 May 2015 5:24 am

Tgt Ion: 96 Resp: 11671

Ion	Ratio	Lower	Upper
96	100		
61	125.4	109.5	169.5
98	62.5	33.9	93.9

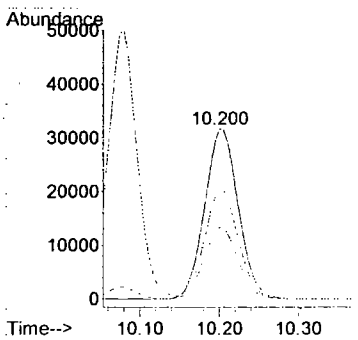




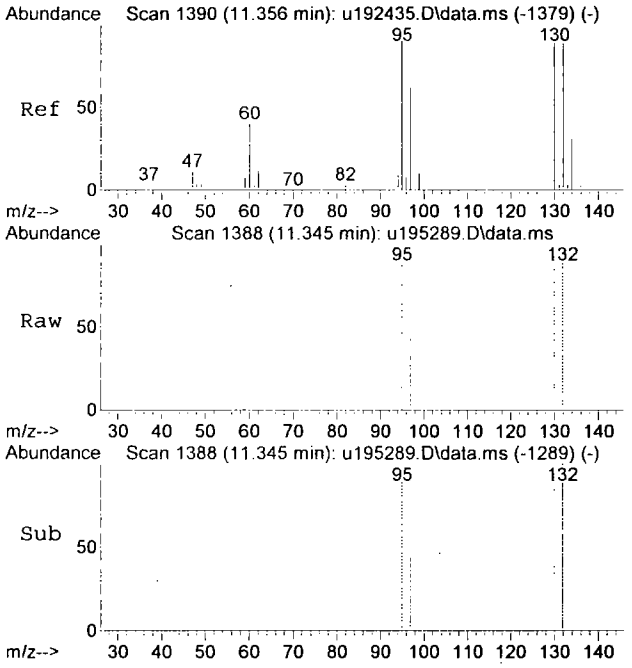
#60
1,1,1-trichloroethane
Concen: 31.49 ug/L
RT: 10.200 min Scan# 1169
Delta R.T. -0.002 min
Lab File: u195289.D
Acq: 19 May 2015 5:24 am

Tgt Ion: 97 Resp: 93138

Ion	Ratio	Lower	Upper
97	100		
99	65.1	33.3	93.3
61	42.2	11.0	71.0



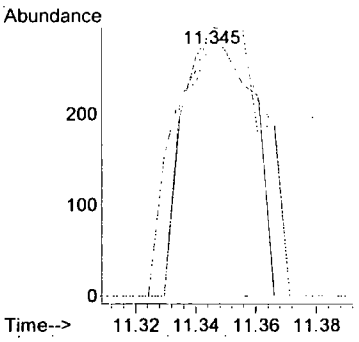
7.1.9



#78
trichloroethene
Concen: 0.22 ug/L
RT: 11.345 min Scan# 1388
Delta R.T. -0.002 min
Lab File: u195289.D
Acq: 19 May 2015 5:24 am

Tgt Ion: 95 Resp: 462

Ion	Ratio	Lower	Upper
95	100		
130	95.9	80.1	140.1
132	100.7	76.3	136.3



7.19.7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9008\
Data File : u195290.D
Acq On : 19 May 2015 5:53 am
Operator : NicoleH1
Sample : jb94785-10
Misc : ms85328,vu9008,5.0,,,,1
ALS Vial : 45 Sample Multiplier: 1

Quant Time: May 19 15:12:23 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

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.874	65	77077	500.00	ug/L	-0.01
5) pentafluorobenzene	10.080	168	279262	50.00	ug/L	0.00
64) 1,4-difluorobenzene	11.000	114	324934	50.00	ug/L	0.00
96) chlorobenzene-d5	14.325	117	290493	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.903	152	156632	50.00	ug/L	0.00
System Monitoring Compounds						
56) dibromofluoromethane (s)	10.158	113	99309	52.30	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 104.60%			
57) 1,2-dichloroethane-d4 (s)	10.582	65	106954	53.23	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 106.46%			
88) toluene-d8 (s)	12.684	98	373016	50.20	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 100.40%			
114) 4-bromofluorobenzene (s)	15.601	95	140174	50.53	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 101.06%			
Target Compounds						Qvalue
42) 1,1-dichloroethane	8.862	63	7891	2.40	ug/L	97
48) cis-1,2-dichloroethene	9.594	96	6396	2.97	ug/L	90
60) 1,1,1-trichloroethane	10.205	97	33031	11.29	ug/L	97

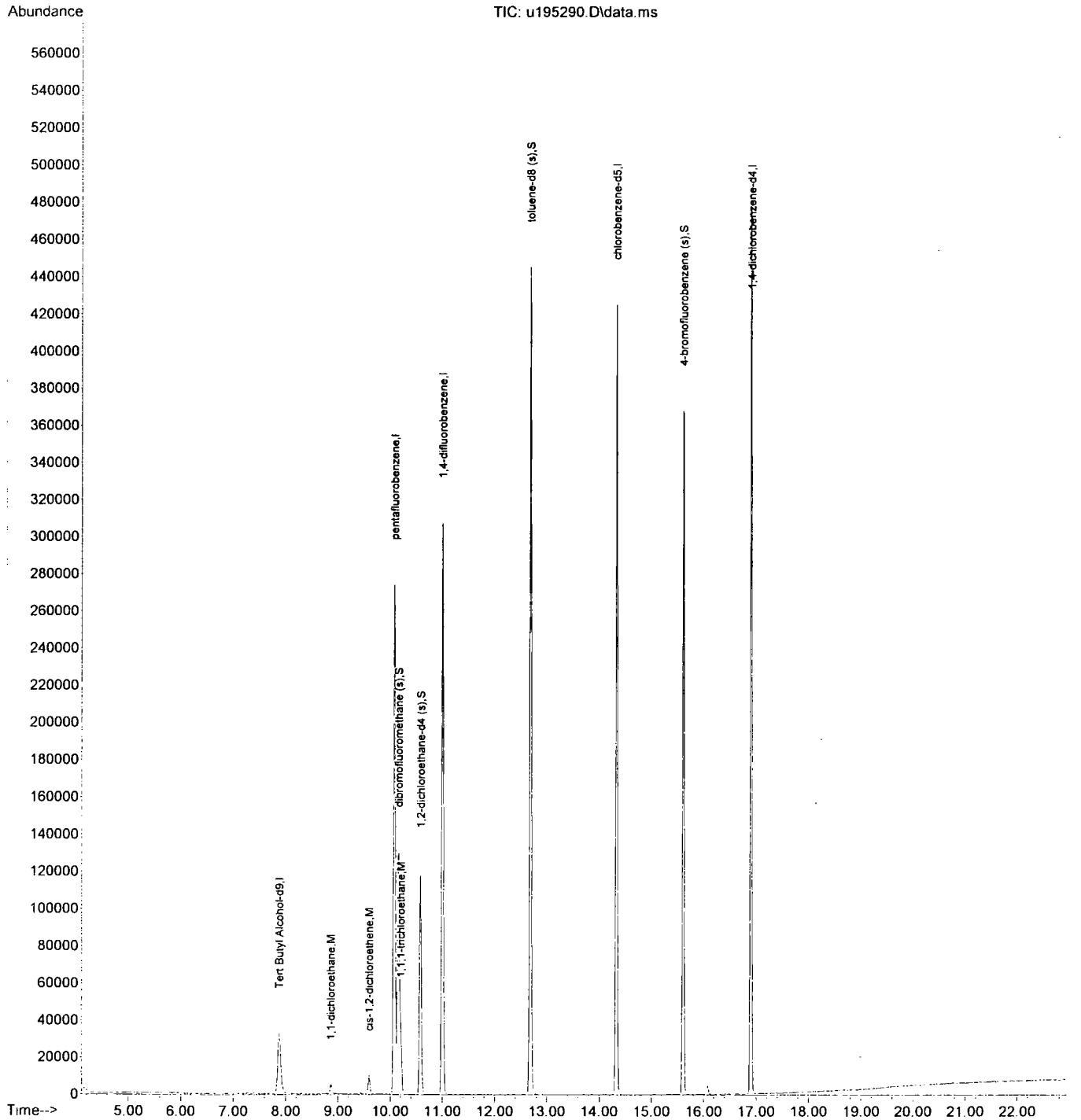
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.10 7

Quantitation Report (QT Reviewed)

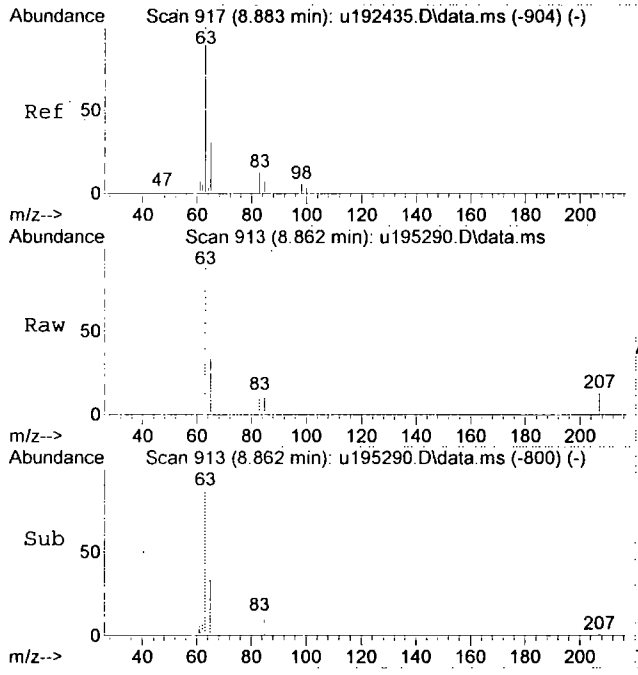
Data Path : C:\msdchem\1\DATA\U\vu9008\
Data File : u195290.D
Acq On : 19 May 2015 5:53 am
Operator : NicoleH1
Sample : jb94785-10
Misc : ms85328,vu9008,5.0,,,,1
ALS Vial : 45 Sample Multiplier: 1

Quant Time: May 19 15:12:23 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



MU8988.M Tue May 19 15:17:44 2015 T

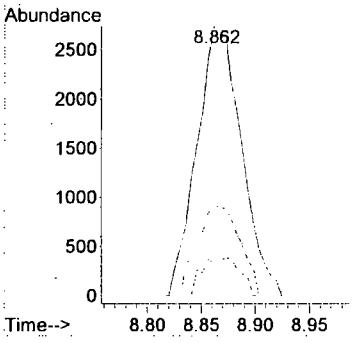
Page: 2

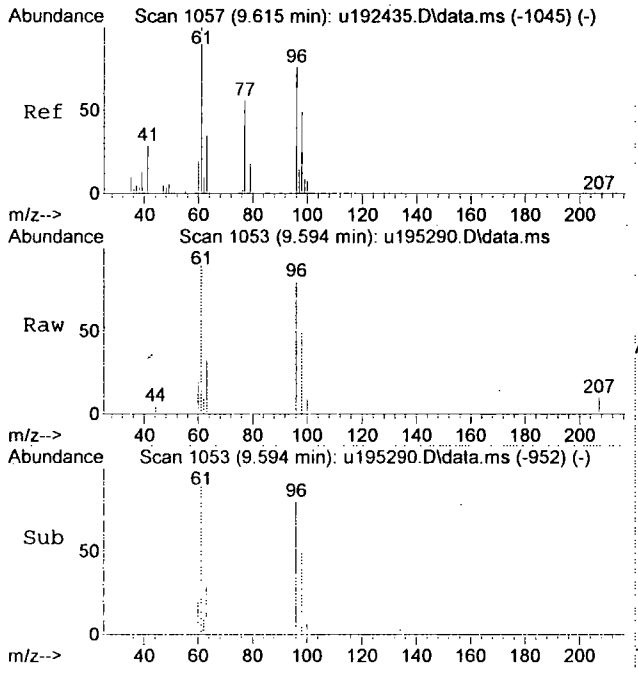


#42
1,1-dichloroethane
Concen: 2.40 ug/L
RT: 8.862 min Scan# 913
Delta R.T. -0.001 min
Lab File: u195290.D
Acq: 19 May 2015 5:53 am

Tgt Ion: 63 Resp: 7891

Ion	Ratio	Lower	Upper
63	100		
65	33.5	2.4	62.4
83	12.0	0.0	43.6

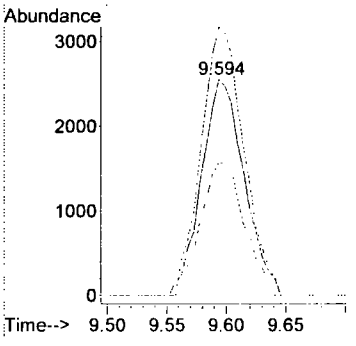




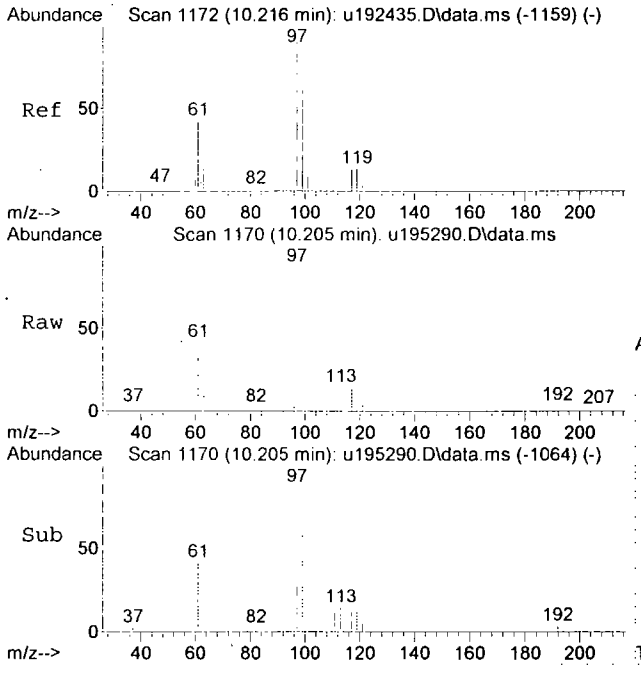
#48
cis-1,2-dichloroethene
Concen: 2.97 ug/L
RT: 9.594 min Scan# 1053
Delta R.T. -0.002 min
Lab File: u195290.D
Acq: 19 May 2015 5:53 am

Tgt Ion: 96 Resp: 6396

Ion	Ratio	Lower	Upper
96	100		
61	124.3	109.5	169.5
98	61.4	33.9	93.9



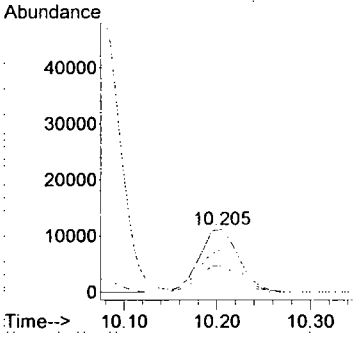
7.1.10



#60
1,1,1-trichloroethane
Concen: 11.29 ug/L
RT: 10.205 min Scan# 1170
Delta R.T. 0.003 min
Lab File: u195290.D
Acq: 19 May 2015 5:53 am

Tgt Ion: 97 Resp: 33031

Ion	Ratio	Lower	Upper
97	100		
99	66.4	33.3	93.3
61	41.6	11.0	71.0



7.1.10

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9008\
Data File : u195291.D
Acq On : 19 May 2015 6:22 am
Operator : NicoleH1
Sample : jb94785-11
Misc : ms85328,vu9008,5.0,,,,1
ALS Vial : 46 Sample Multiplier: 1

Quant Time: May 19 15:13:04 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	79569	500.00	ug/L	-0.01
5) pentafluorobenzene	10.079	168	283198	50.00	ug/L	0.00
64) 1,4-difluorobenzene	11.000	114	330155	50.00	ug/L	0.00
96) chlorobenzene-d5	14.325	117	293104	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.902	152	158241	50.00	ug/L	0.00
System Monitoring Compounds						
56) dibromofluoromethane (s)	10.158	113	100211	52.04	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 104.08%			
57) 1,2-dichloroethane-d4 (s)	10.581	65	108480	53.24	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 106.48%			
88) toluene-d8 (s)	12.683	98	373346	49.45	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 98.90%			
114) 4-bromofluorobenzene (s)	15.605	95	141008	50.31	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 100.62%			
Target Compounds						Qvalue
48) cis-1,2-dichloroethene	9.598	96	935	0.43	ug/L	83
60) 1,1,1-trichloroethane	10.195	97	801	0.27	ug/L #	72

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

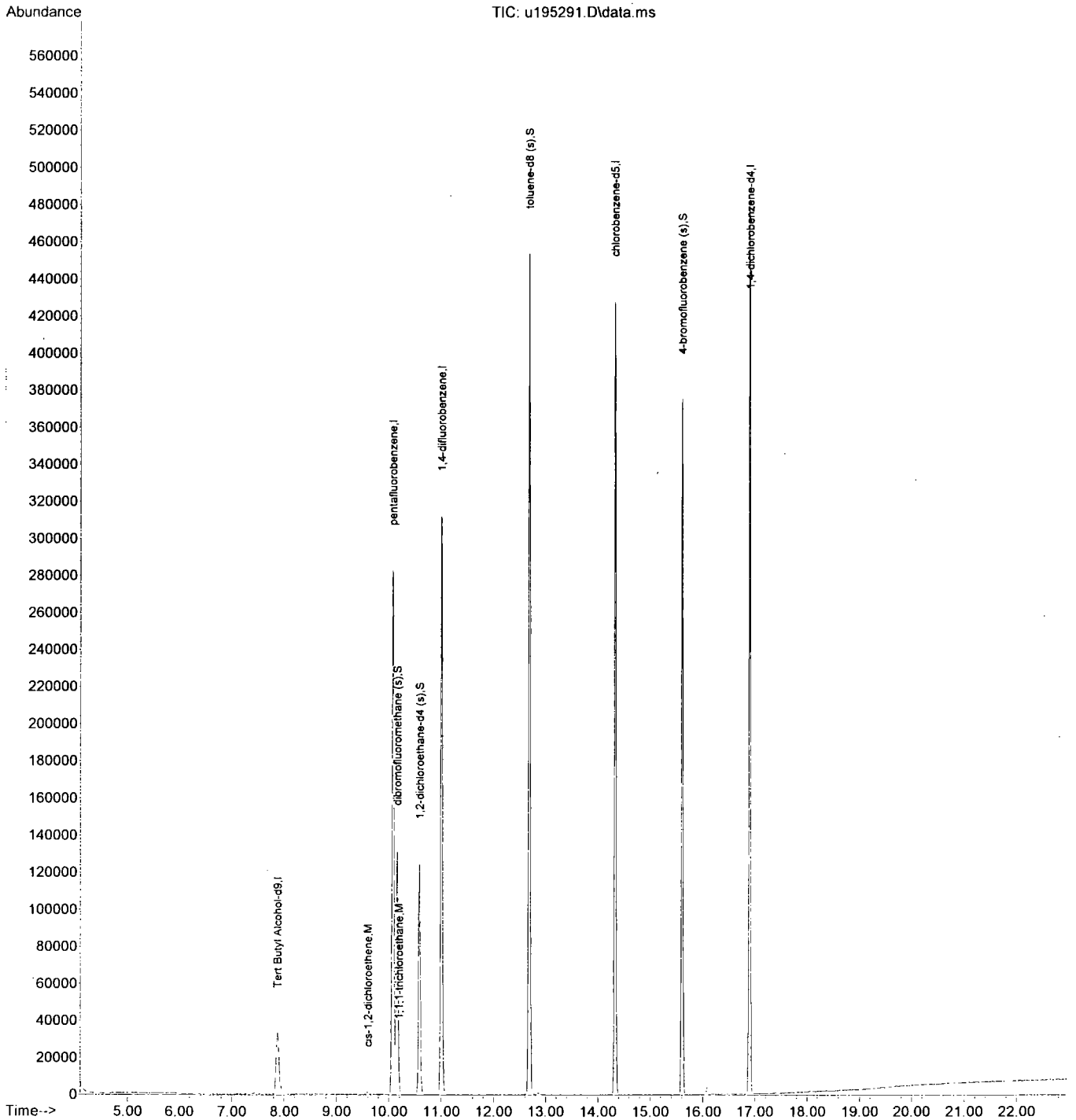
7.1.11

7

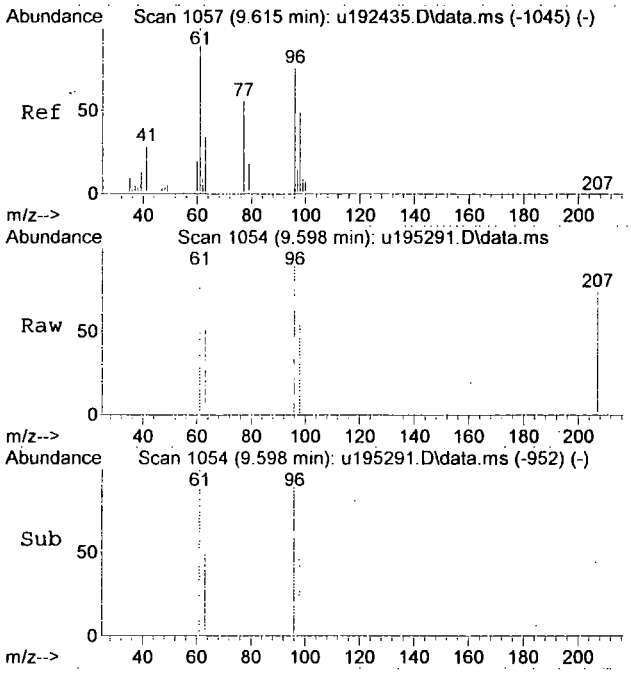
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9008\
Data File : u195291.D
Acq On : 19 May 2015 6:22 am
Operator : NicoleH1
Sample : jb94785-11
Misc : ms85328,vu9008,5.0,,,,1
ALS Vial : 46 Sample Multiplier: 1

Quant Time: May 19 15:13:04 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



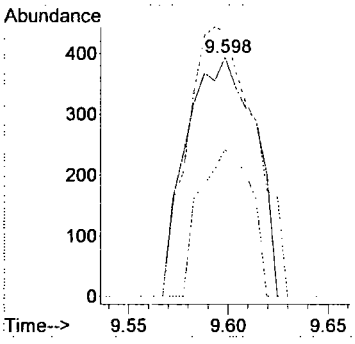
7.1.11

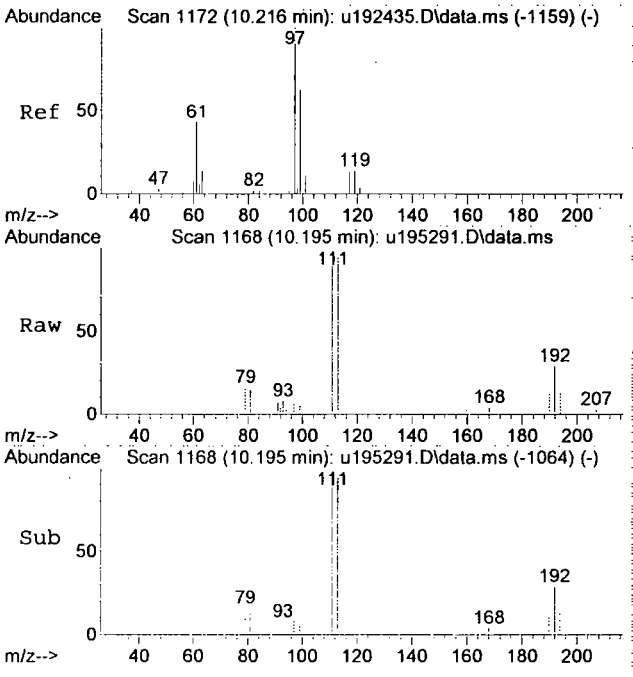


#48
cis-1,2-dichloroethene
Concen: 0.43 ug/L
RT: 9.598 min Scan# 1054
Delta R.T. 0.003 min
Lab File: u195291.D
Acq: 19 May 2015 6:22 am

Tgt Ion: 96 Resp: 935

Ion	Ratio	Lower	Upper
96	100		
61	110.7	109.5	169.5
98	61.4	33.9	93.9

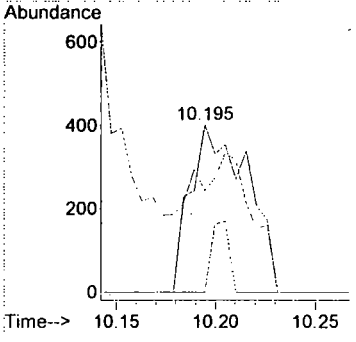




#60
1,1,1-trichloroethane
Concen: 0.27 ug/L
RT: 10.195 min Scan# 1168
Delta R.T. -0.008 min
Lab File: u195291.D
Acq: 19 May 2015 6:22 am

Tgt Ion: 97 Resp: 801

Ion	Ratio	Lower	Upper
97	100		
99	60.5	33.3	93.3
61	0.0	11.0	71.0#



7.1.11

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9008\
Data File : u195292.D
Acq On : 19 May 2015 6:51 am
Operator : NicoleH1
Sample : jb94785-12
Misc : ms85328,vu9008,5.0,,,,1
ALS Vial : 47 Sample Multiplier: 1

Quant Time: May 19 15:13:43 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	89899	500.00	ug/L	-0.01
5) pentafluorobenzene	10.079	168	282011	50.00	ug/L	0.00
64) 1,4-difluorobenzene	11.000	114	327985	50.00	ug/L	0.00
96) chlorobenzene-d5	14.325	117	293638	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.902	152	158468	50.00	ug/L	0.00
System Monitoring Compounds						
56) dibromofluoromethane (s)	10.158	113	99362	51.82	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 103.64%			
57) 1,2-dichloroethane-d4 (s)	10.581	65	107308	52.89	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 105.78%			
88) toluene-d8 (s)	12.683	98	372397	49.65	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 99.30%			
114) 4-bromofluorobenzene (s)	15.600	95	140650	50.11	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 100.22%			
Target Compounds						Qvalue
42) 1,1-dichloroethane	8.861	63	2517	0.76	ug/L	80
48) cis-1,2-dichloroethene	9.593	96	1082	0.50	ug/L	83
60) 1,1,1-trichloroethane	10.210	97	2648	0.90	ug/L	90

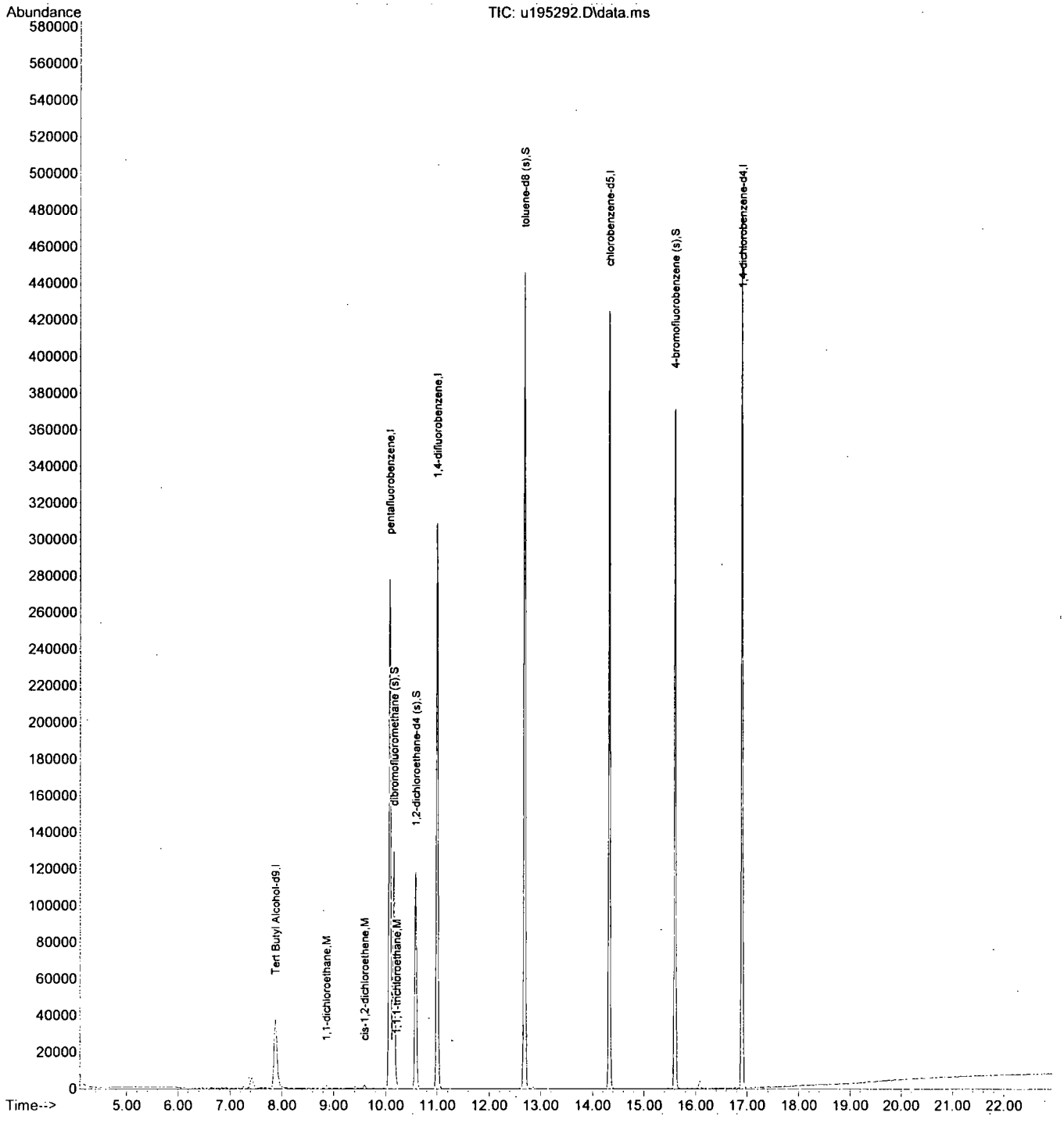
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.12

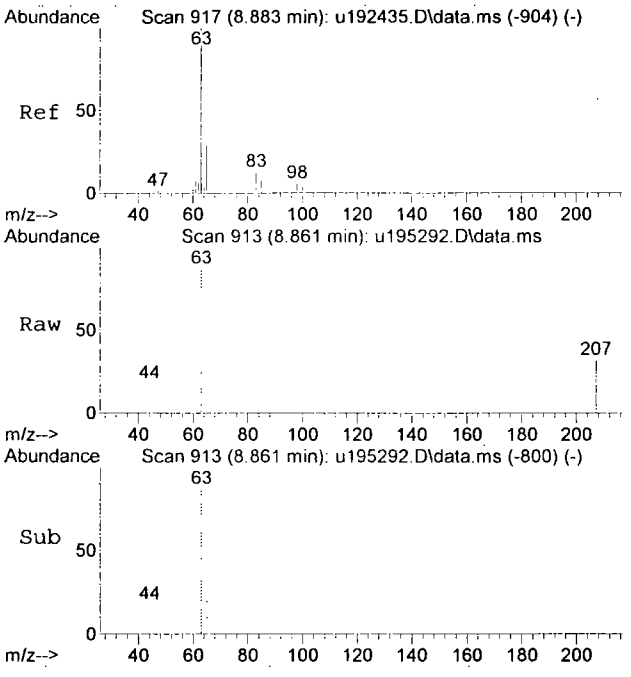
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9008\
Data File : u195292.D
Acq On : 19 May 2015 6:51 am
Operator : NicoleH1
Sample : jb94785-12
Misc : ms85328,vu9008,5.0,,,,1
ALS Vial : 47 Sample Multiplier: 1

Quant Time: May 19 15:13:43 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



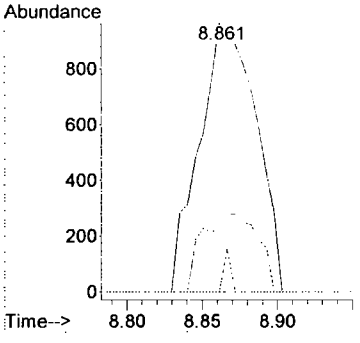
MU8988.M Tue May 19 15:17:48 2015 T

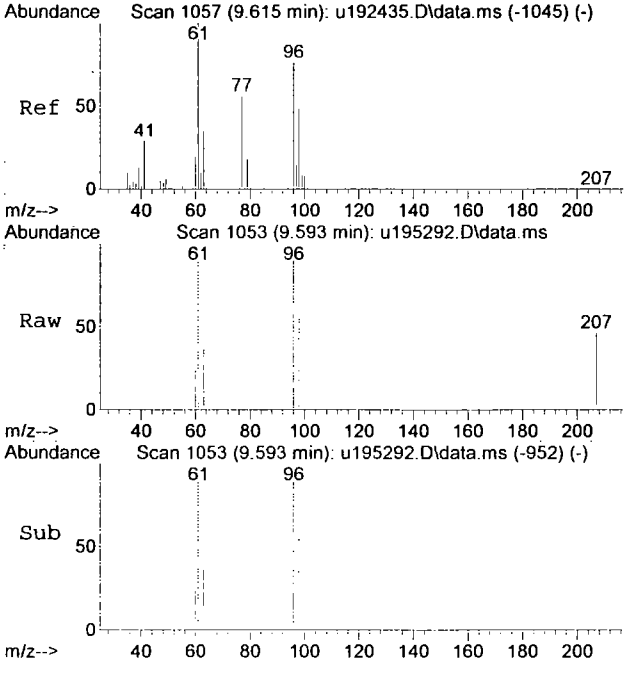


#42
1,1-dichloroethane
Concen: 0.76 ug/L
RT: 8.861 min Scan# 913
Delta R.T. -0.002 min
Lab File: u195292.D
Acq: 19 May 2015 6:51 am

Tgt Ion: 63 Resp: 2517

Ion	Ratio	Lower	Upper
63	100		
65	24.4	2.4	62.4
83	0.0	0.0	43.6

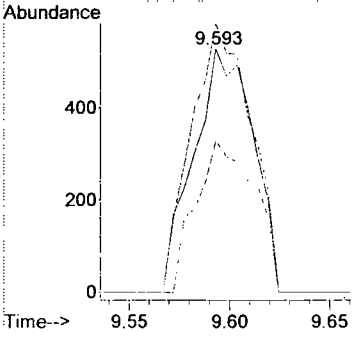




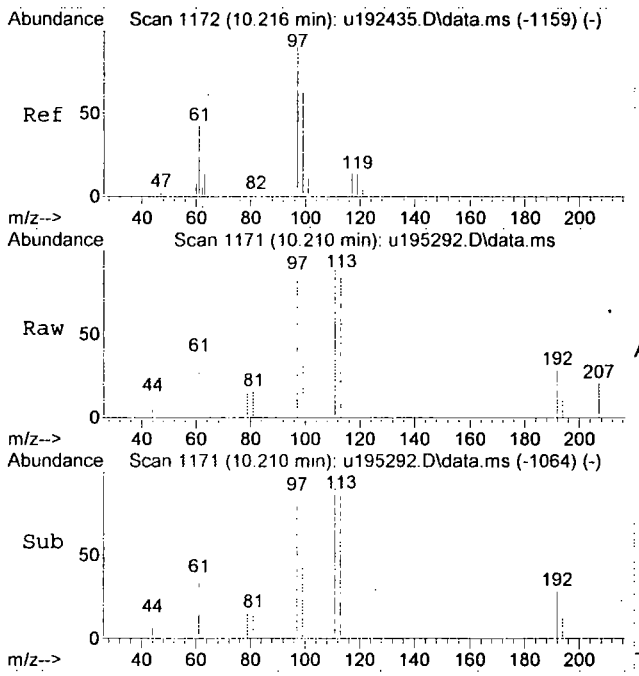
#48
cis-1,2-dichloroethene
Concen: 0.50 ug/L
RT: 9.593 min Scan# 1053
Delta R.T. -0.003 min
Lab File: u195292.D
Acq: 19 May 2015 6:51 am

Tgt Ion: 96 Resp: 1082

Ion	Ratio	Lower	Upper
96	100		
61	110.4	109.5	169.5
98	62.1	33.9	93.9



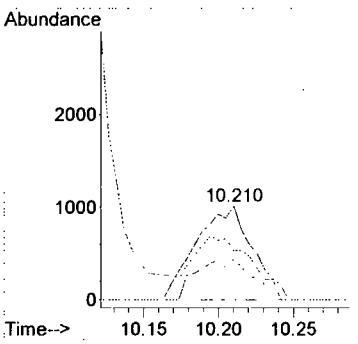
7.1.12



#60
1,1,1-trichloroethane
Concen: 0.90 ug/L
RT: 10.210 min Scan# 1171
Delta R.T. 0.008 min
Lab File: u195292.D
Acq: 19 May 2015 6:51 am

Tgt Ion: 97 Resp: 2648

Ion	Ratio	Lower	Upper
97	100		
99	52.4	33.3	93.3
61	42.8	11.0	71.0



7.1.12

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9008\
Data File : u195278.D
Acq On : 19 May 2015 12:32 am
Operator : NicoleH1
Sample : jb94785-13
Misc : ms85328,vu9008,5.0,,,,1
ALS Vial : 34 Sample Multiplier: 1

Quant Time: May 19 15:04:48 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

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.879	65	94474	500.00	ug/L	0.00
5) pentafluorobenzene	10.080	168	293131	50.00	ug/L	0.00
64) 1,4-difluorobenzene	11.000	114	337736	50.00	ug/L	0.00
96) chlorobenzene-d5	14.325	117	302111	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.902	152	164157	50.00	ug/L	0.00
System Monitoring Compounds						
56) dibromofluoromethane (s)	10.158	113	102396	51.38	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 102.76%			
57) 1,2-dichloroethane-d4 (s)	10.582	65	110759	52.52	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 105.04%			
88) toluene-d8 (s)	12.683	98	382986	49.59	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 99.18%			
114) 4-bromofluorobenzene (s)	15.600	95	146354	50.34	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 100.68%			
Target Compounds						Qvalue
42) 1,1-dichloroethane	8.872	63	6338	1.83	ug/L	95
48) cis-1,2-dichloroethene	9.599	96	959	0.42	ug/L	91
60) 1,1,1-trichloroethane	10.200	97	12664	4.12	ug/L	98
98) tetrachloroethene	13.384	164	1236	0.57	ug/L	89

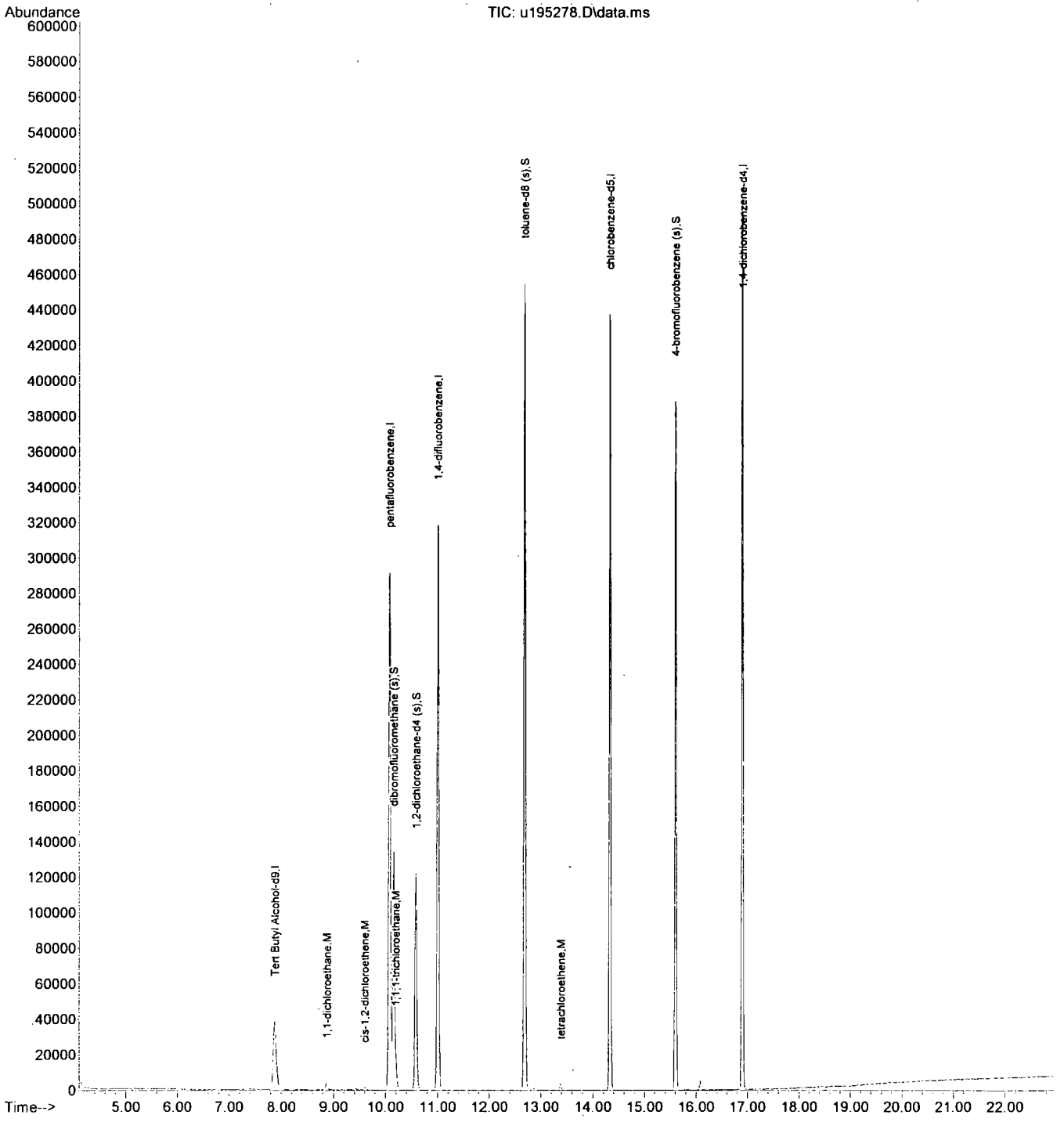
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.13

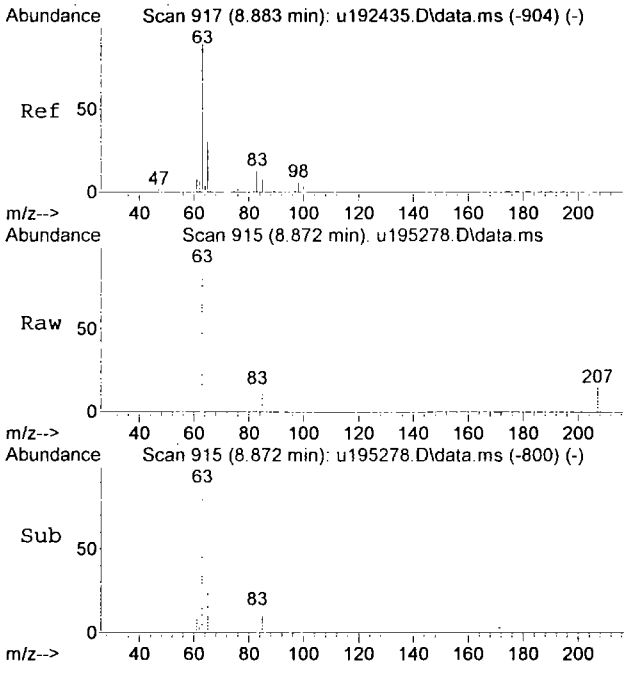
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9008\
Data File : u195278.D
Acq On : 19 May 2015 12:32 am
Operator : NicoleH1
Sample : jb94785-13
Misc : ms85328,vu9008,5.0,,,,1
ALS Vial : 34 Sample Multiplier: 1

Quant Time: May 19 15:04:48 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



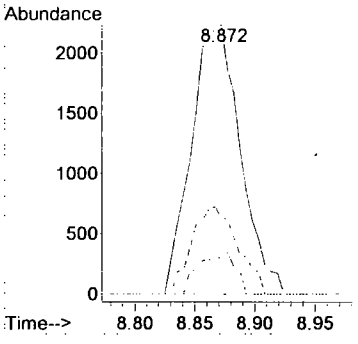
MU8988.M Tue May 19 15:17:22 2015 T

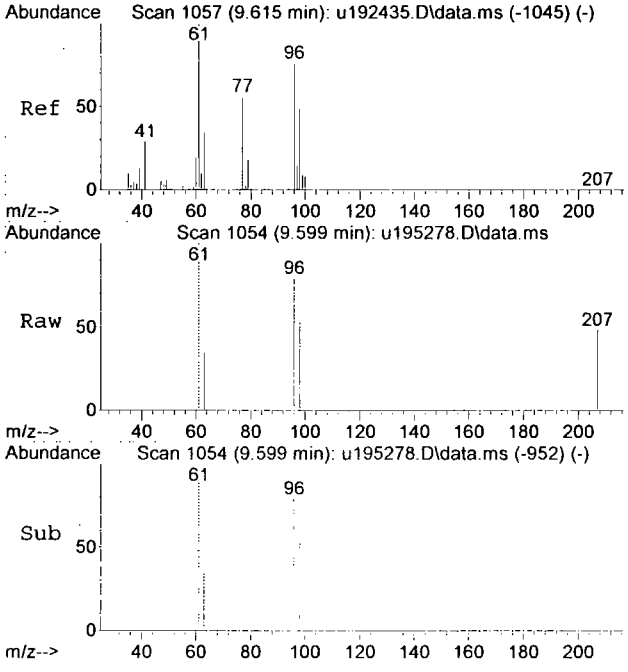


#42
1,1-dichloroethane
Concen: 1.83 ug/L
RT: 8.872 min Scan# 915
Delta R.T. 0.009 min
Lab File: u195278.D
Acq: 19 May 2015 12:32 am

Tgt Ion: 63 Resp: 6338

Ion	Ratio	Lower	Upper
63	100		
65	28.5	2.4	62.4
83	14.3	0.0	43.6

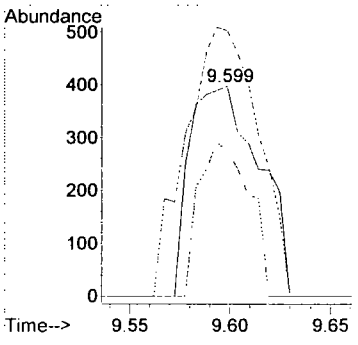




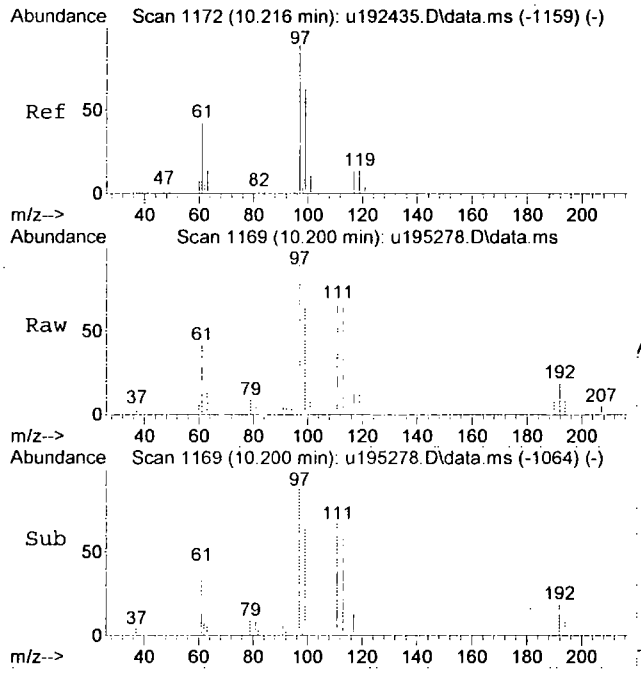
#48
cis-1,2-dichloroethene
Concen: 0.42 ug/L
RT: 9.599 min Scan# 1054
Delta R.T. 0.003 min
Lab File: u195278.D
Acq: 19 May 2015 12:32 am

Tgt Ion: 96 Resp: 959

Ion	Ratio	Lower	Upper
96	100		
61	126.7	109.5	169.5
98	69.0	33.9	93.9



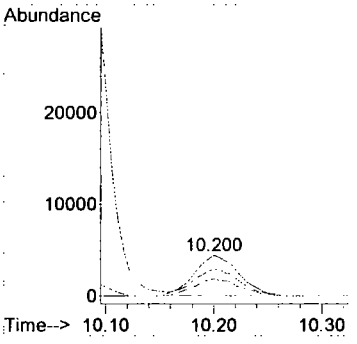
7.1.13

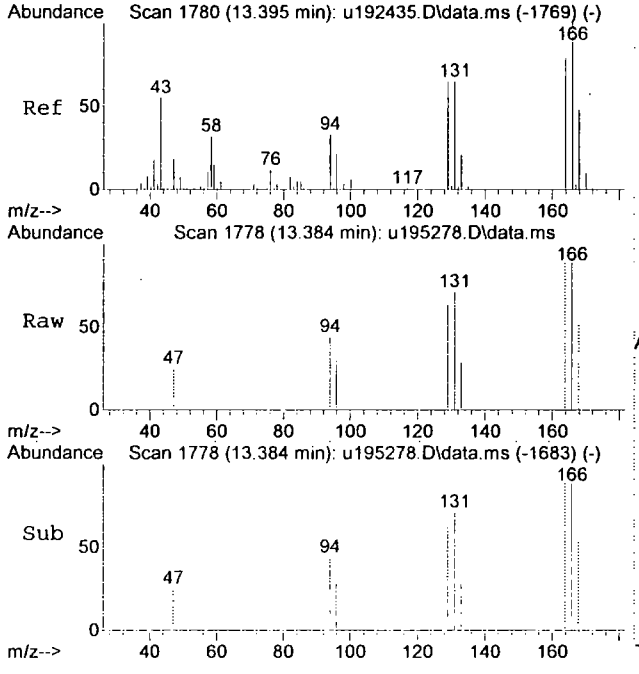


#60
1,1,1-trichloroethane
Concen: 4.12 ug/L
RT: 10.200 min Scan# 1169
Delta R.T. -0.002 min
Lab File: u195278.D
Acq: 19 May 2015 12:32 am

Tgt Ion: 97 Resp: 12664

Ion	Ratio	Lower	Upper
97	100		
99	65.4	33.3	93.3
61	41.7	11.0	71.0

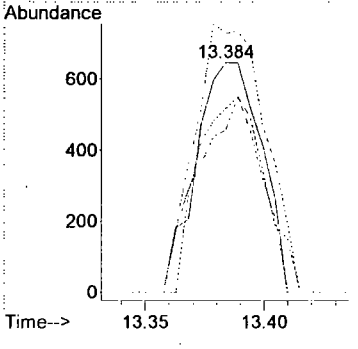




#98
tetrachloroethene
Concen: 0.57 ug/L
RT: 13.384 min Scan# 1778
Delta R.T. -0.002 min
Lab File: u195278.D
Acq: 19 May 2015 12:32 am

Tgt Ion:164 Resp: 1236

Ion	Ratio	Lower	Upper
164	100		
129	70.4	56.5	116.5
131	80.0	53.4	113.4
166	112.7	96.8	156.8



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9008\
Data File : u195293.D
Acq On : 19 May 2015 7:20 am
Operator : NicoleH1
Sample : jb94785-14
Misc : ms85328,vu9008,5.0,,,,1
ALS Vial : 48 Sample Multiplier: 1

Quant Time: May 19 15:14:26 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

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.874	65	75923	500.00	ug/L	-0.01
5) pentafluorobenzene	10.080	168	283135	50.00	ug/L	0.00
64) 1,4-difluorobenzene	11.000	114	327590	50.00	ug/L	0.00
96) chlorobenzene-d5	14.325	117	291840	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.902	152	157832	50.00	ug/L	0.00
System Monitoring Compounds						
56) dibromofluoromethane (s)	10.158	113	99977	51.93	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 103.86%			
57) 1,2-dichloroethane-d4 (s)	10.582	65	107509	52.78	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 105.56%			
88) toluene-d8 (s)	12.683	98	372599	49.73	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 99.46%			
114) 4-bromofluorobenzene (s)	15.601	95	141128	50.48	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 100.96%			
Target Compounds						Qvalue
28) 1,1-dichloroethene	7.210	96	1789	1.01	ug/L	83
42) 1,1-dichloroethane	8.867	63	29305	8.78	ug/L	97
48) cis-1,2-dichloroethene	9.599	96	3485	1.59	ug/L	82
60) 1,1,1-trichloroethane	10.205	97	116782	39.37	ug/L	97
78) trichloroethene	11.345	95	2908	1.41	ug/L	98
98) tetrachloroethene	13.384	164	37374	17.82	ug/L	99

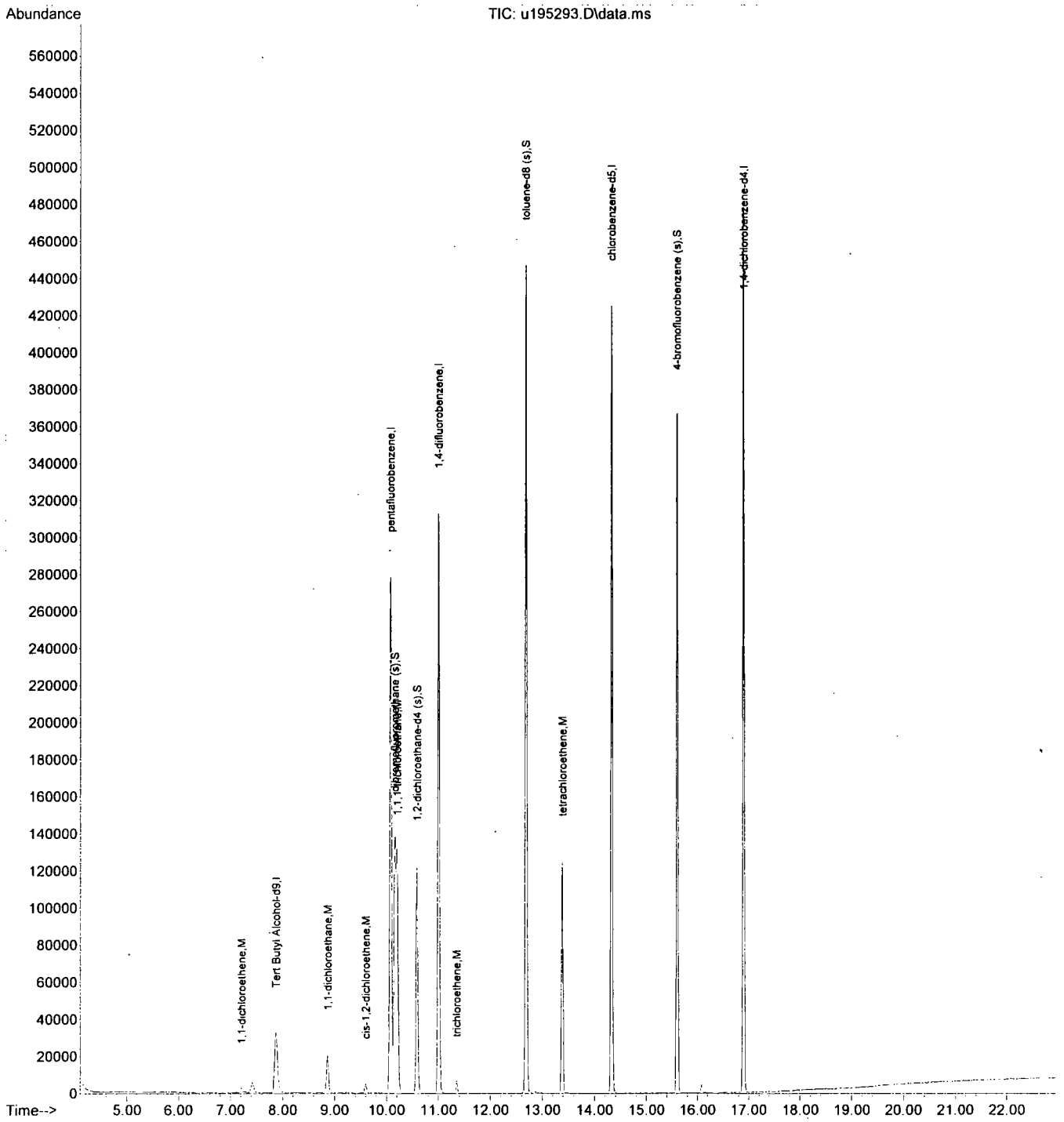
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.14 7

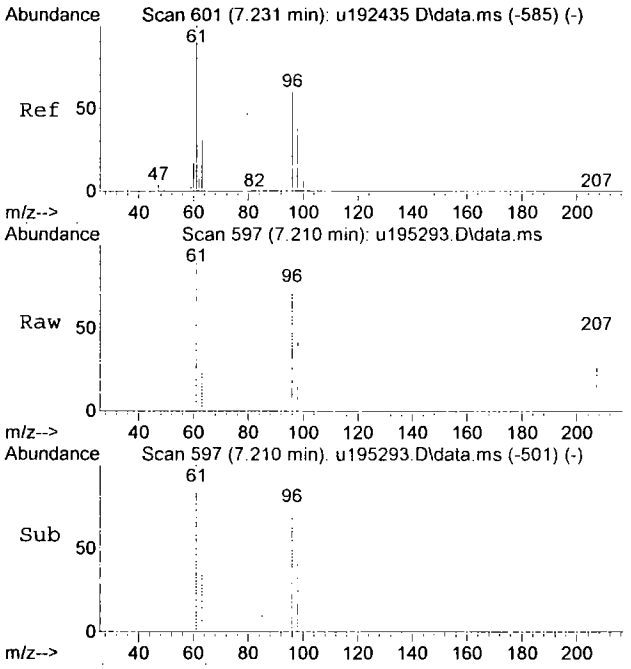
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9008\
Data File : u195293.D
Acq On : 19 May 2015 7:20 am
Operator : NicoleH1
Sample : jb94785-14
Misc : ms85328,vu9008,5.0,,,,1
ALS Vial : 48 Sample Multiplier: 1

Quant Time: May 19 15:14:26 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



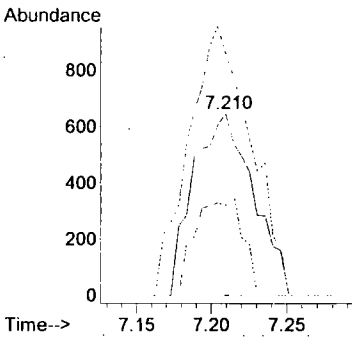
MU8988.M Tue May 19 15:17:50 2015 T

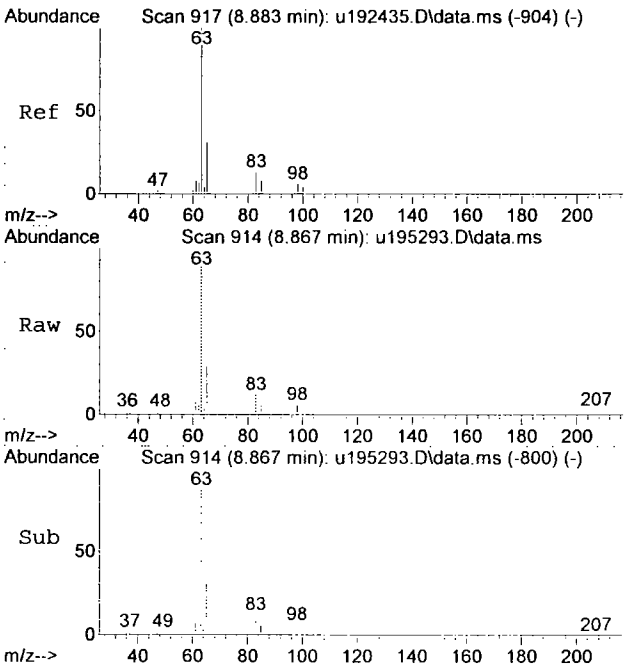


#28
1,1-dichloroethene
Concen: 1.01 ug/L
RT: 7.210 min Scan# 597
Delta R.T. 0.003 min
Lab File: u195293.D
Acq: 19 May 2015 7:20 am

Tgt Ion: 96 Resp: 1789

Ion	Ratio	Lower	Upper
96	100		
61	132.9	132.8	192.8
63	49.3	20.0	80.0

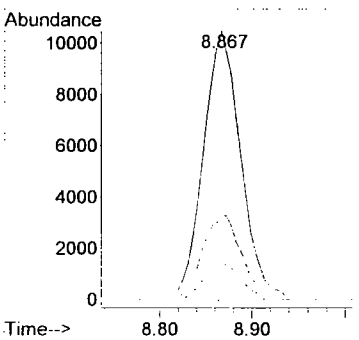


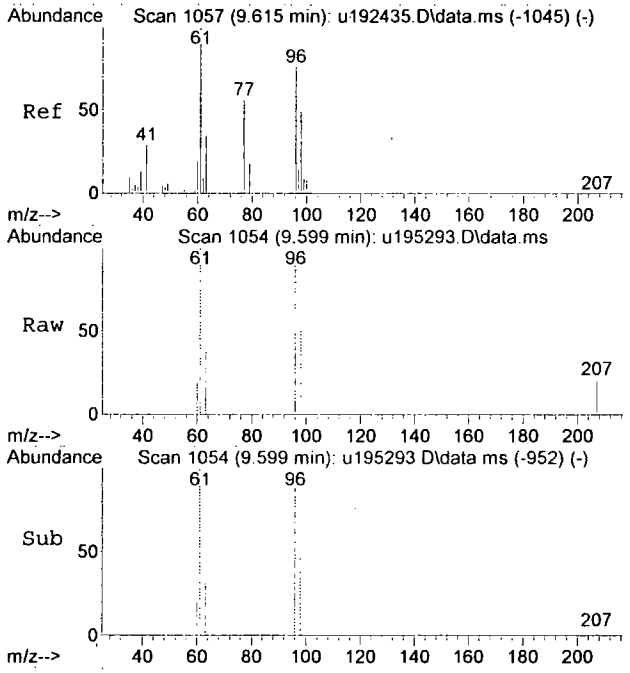


#42
1,1-dichloroethane
Concen: 8.78 ug/L
RT: 8.867 min Scan# 914
Delta R.T. 0.004 min
Lab File: u195293.D
Acq: 19 May 2015 7:20 am

Tgt Ion: 63 Resp: 29305

Ion	Ratio	Lower	Upper
63	100		
65	31.3	2.4	62.4
83	12.0	0.0	43.6

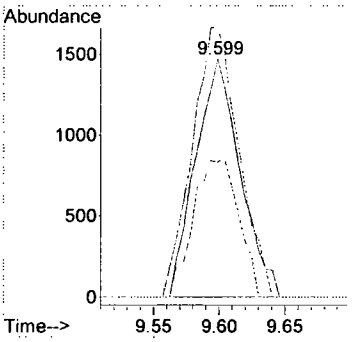


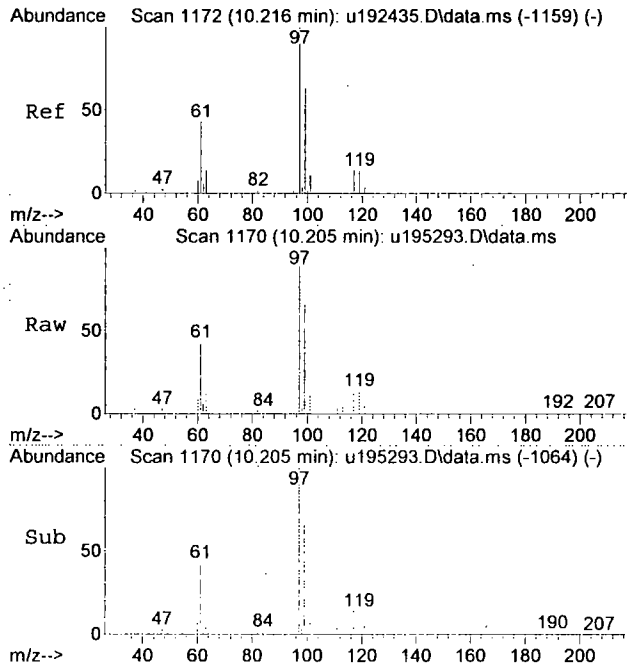


#48
cis-1,2-dichloroethene
Concen: 1.59 ug/L
RT: 9.599 min Scan# 1054
Delta R.T. 0.003 min
Lab File: u195293.D
Acq: 19 May 2015 7:20 am

Tgt Ion: 96 Resp: 3485

Ion	Ratio	Lower	Upper
96	100		
61	113.0	109.5	169.5
98	56.6	33.9	93.9

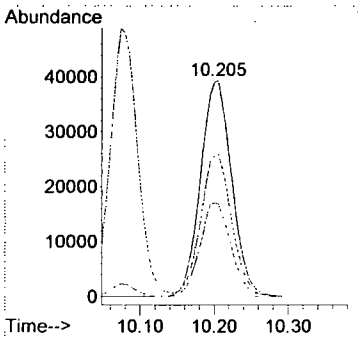


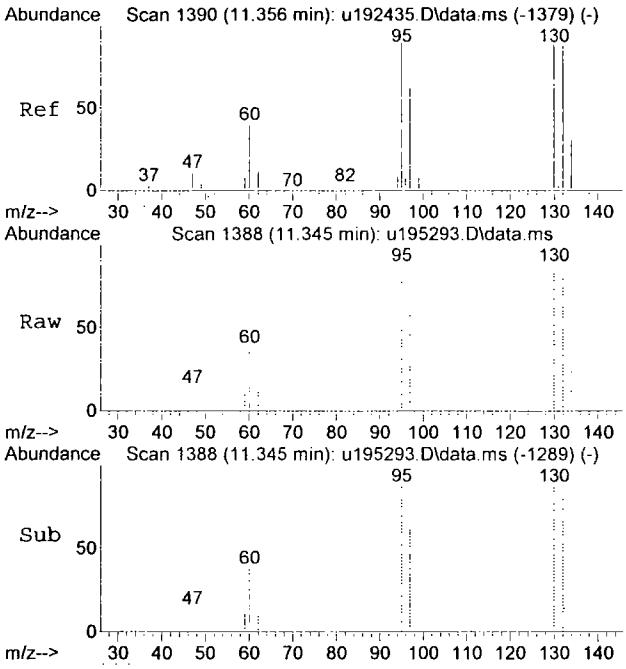


#60
1,1,1-trichloroethane
Concen: 39.37 ug/L
RT: 10.205 min Scan# 1170
Delta R.T. 0.003 min
Lab File: u195293.D
Acq: 19 May 2015 7:20 am

Tgt Ion: 97 Resp: 116782

Ion	Ratio	Lower	Upper
97	100		
99	66.2	33.3	93.3
61	42.9	11.0	71.0

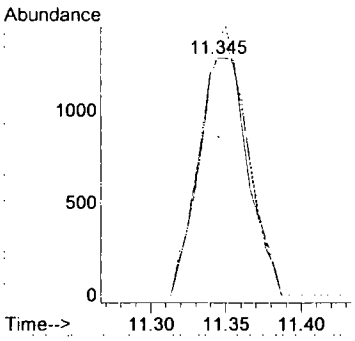


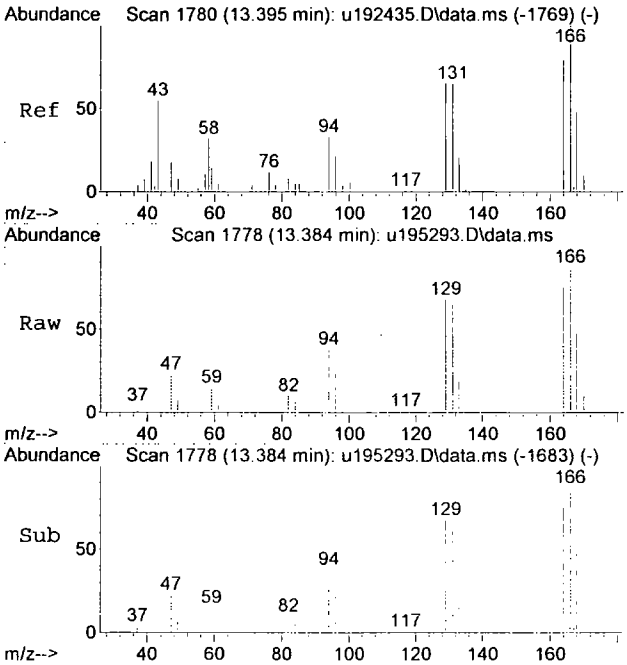


#78
trichloroethene
Concen: 1.41 ug/L
RT: 11.345 min Scan# 1388
Delta R.T. -0.002 min
Lab File: u195293.D
Acq: 19 May 2015 7:20 am

Tgt Ion: 95 Resp: 2908

Ion	Ratio	Lower	Upper
95	100		
130	107.2	80.1	140.1
132	104.8	76.3	136.3

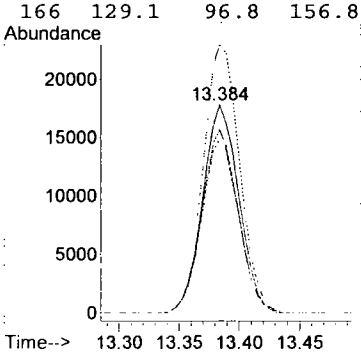




#98
tetrachloroethene
Concen: 17.82 ug/L
RT: 13.384 min Scan# 1778
Delta R.T. -0.002 min
Lab File: u195293.D
Acq: 19 May 2015 7:20 am

Tgt Ion:164 Resp: 37374

Ion	Ratio	Lower	Upper
164	100		
129	88.0	56.5	116.5
131	83.4	53.4	113.4
166	129.1	96.8	156.8



7.1.14

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9008\
Data File : u195294.D
Acq On : 19 May 2015 7:49 am
Operator : NicoleH1
Sample : jb94785-15
Misc : ms85328,vu9008,5.0,,,,1
ALS Vial : 49 Sample Multiplier: 1

Quant Time: May 19 15:15:18 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	7.878	65	76588	500.00	ug/L	0.00
5) pentafluorobenzene	10.079	168	279348	50.00	ug/L	0.00
64) 1,4-difluorobenzene	10.999	114	324834	50.00	ug/L	0.00
96) chlorobenzene-d5	14.324	117	291568	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.901	152	158165	50.00	ug/L	0.00
System Monitoring Compounds						
56) dibromofluoromethane (s)	10.157	113	99031	52.14	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 104.28%			
57) 1,2-dichloroethane-d4 (s)	10.581	65	106325	52.90	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 105.80%			
88) toluene-d8 (s)	12.682	98	371224	49.97	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 99.94%			
114) 4-bromofluorobenzene (s)	15.605	95	140568	50.18	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 100.36%			
Target Compounds						Qvalue
16) vinyl chloride	5.029	62	4773	2.14	ug/L	89
42) 1,1-dichloroethane	8.866	63	17706	5.37	ug/L	97
48) cis-1,2-dichloroethene	9.598	96	11818	5.48	ug/L	94
60) 1,1,1-trichloroethane	10.210	97	10587	3.62	ug/L	98
78) trichloroethene	11.349	95	2039	1.00	ug/L	91
98) tetrachloroethene	13.383	164	31226	14.90	ug/L	99
128) sec-butylbenzene	16.609	105	9925	0.94	ug/L	97

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

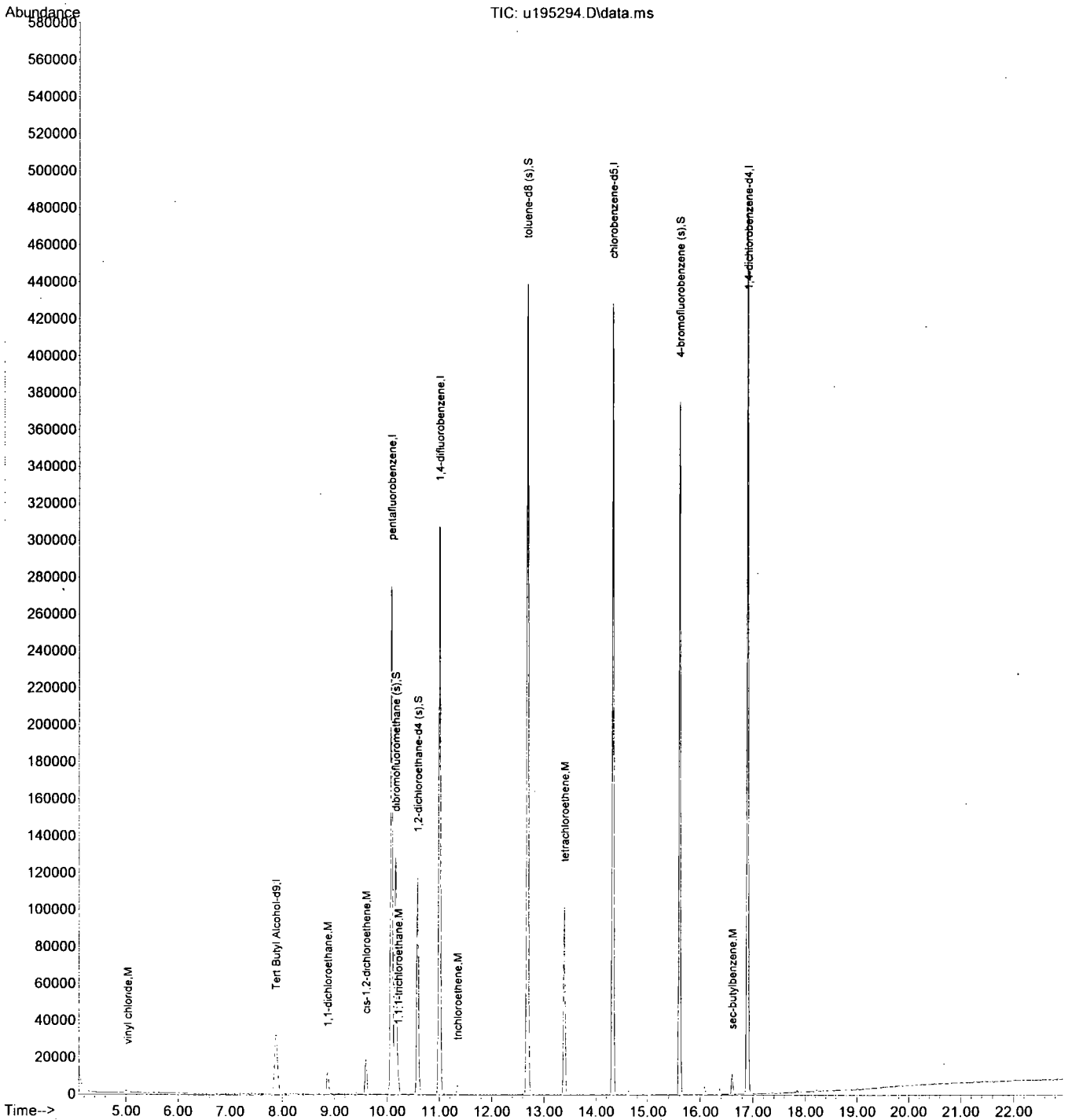
7.1.15

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9008\
Data File : u195294.D
Acq On : 19 May 2015 7:49 am
Operator : NicoleH1
Sample : jb94785-15
Misc : ms85328,vu9008,5.0,,,,1
ALS Vial : 49 Sample Multiplier: 1

Quant Time: May 19 15:15:18 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 Tue May 19 15:17:52 2015 T

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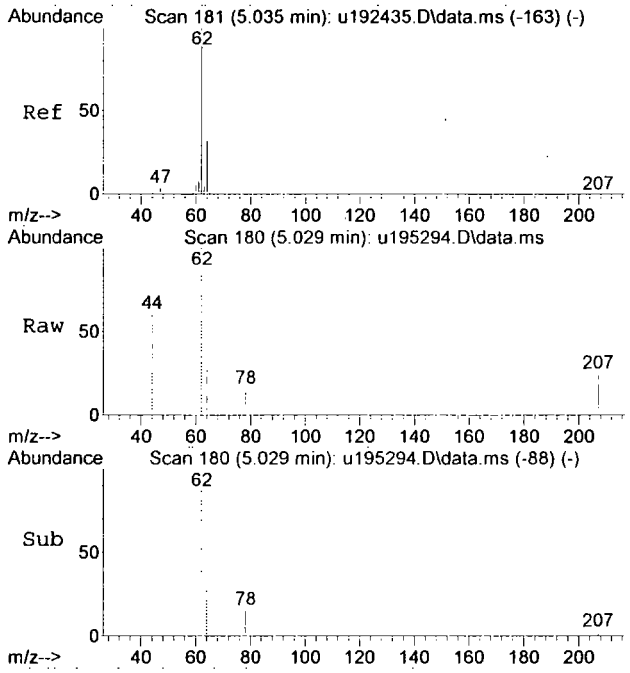
ACCUTEST LABORATORIES
JB94785
U195294.D: JB94785-15 HSSER-PMW02-051315 page 2 of 6

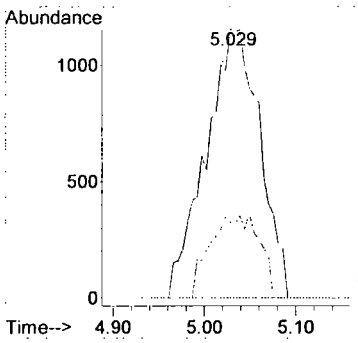
7.1.15 7

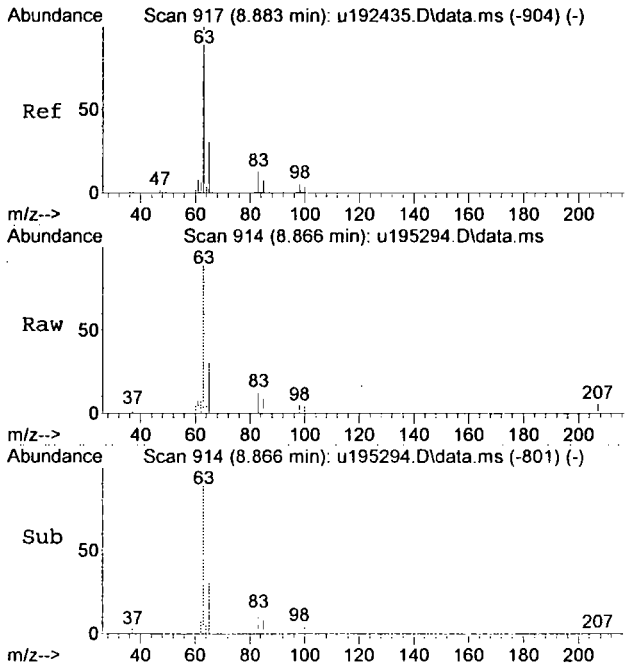


#16
vinyl chloride
Concen: 2.14 ug/L
RT: 5.029 min Scan# 180
Delta R.T. -0.019 min
Lab File: u195294.D
Acq: 19 May 2015 7:49 am

Tgt Ion: 62 Resp: 4773

Ion	Ratio	Lower	Upper
62	100		
64	28.0	2.2	62.2
61	0.0	0.0	38.9

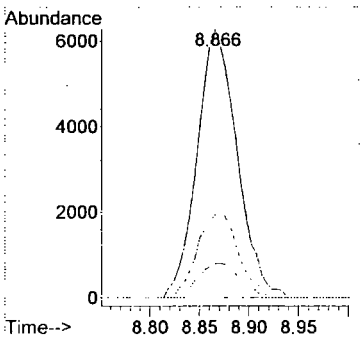


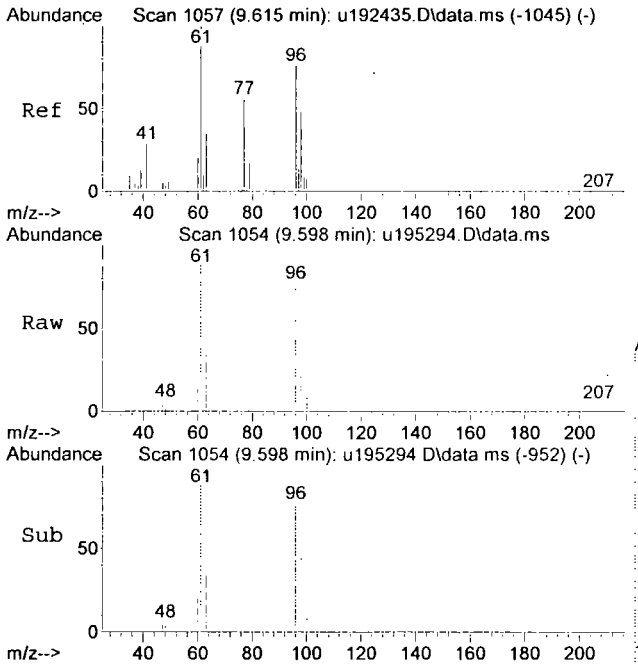


#42
1,1-dichloroethane
Concen: 5.37 ug/L
RT: 8.866 min Scan# 914
Delta R.T. 0.003 min
Lab File: u195294.D
Acq: 19 May 2015 7:49 am

Tgt Ion: 63 Resp: 17706

Ion	Ratio	Lower	Upper
63	100		
65	30.9	2.4	62.4
83	12.8	0.0	43.6

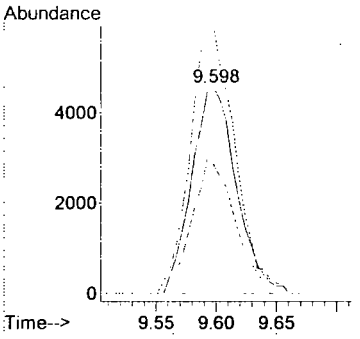


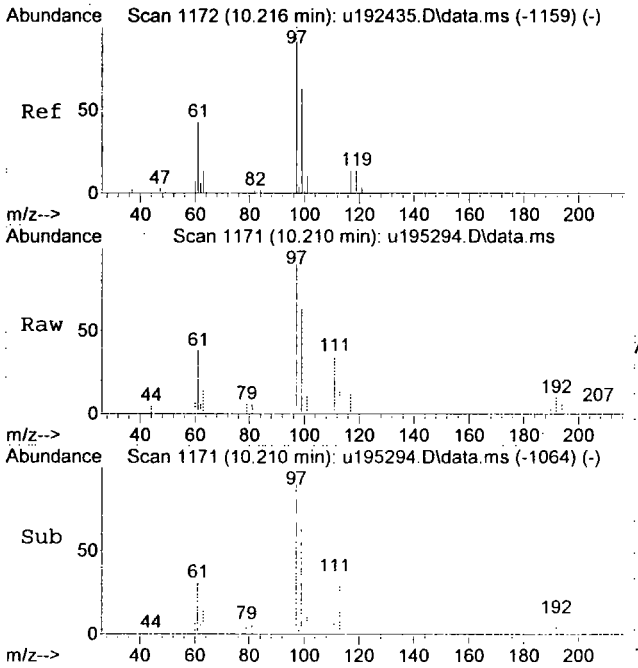


#48
cis-1,2-dichloroethene
Concen: 5.48 ug/L
RT: 9.598 min Scan# 1054
Delta R.T. 0.002 min
Lab File: u195294.D
Acq: 19 May 2015 7:49 am

Tgt Ion: 96 Resp: 11818

Ion	Ratio	Lower	Upper
96	100		
61	130.6	109.5	169.5
98	62.8	33.9	93.9

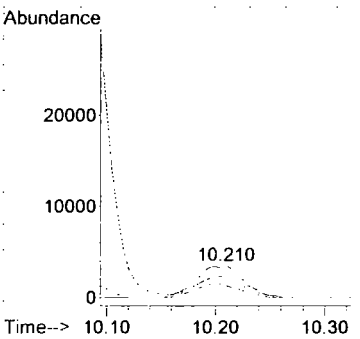


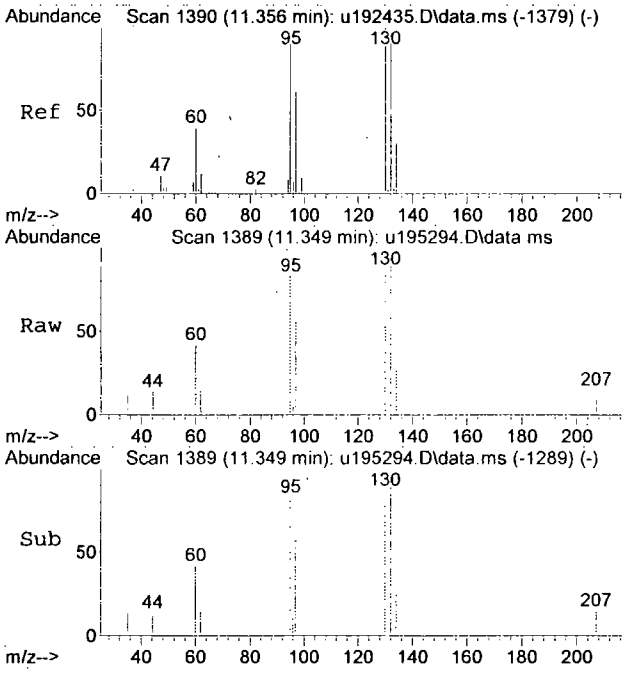


#60
1,1,1-trichloroethane
Concen: 3.62 ug/L
RT: 10.210 min Scan# 1171
Delta R.T. 0.007 min
Lab File: u195294.D
Acq: 19 May 2015 7:49 am

Tgt Ion: 97 Resp: 10587

Ion	Ratio	Lower	Upper
97	100		
99	63.2	33.3	93.3
61	37.8	11.0	71.0

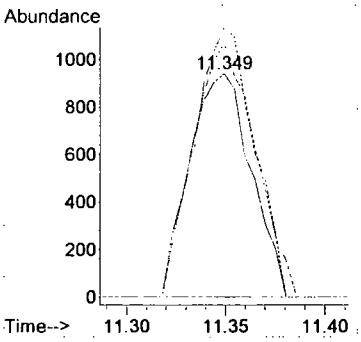


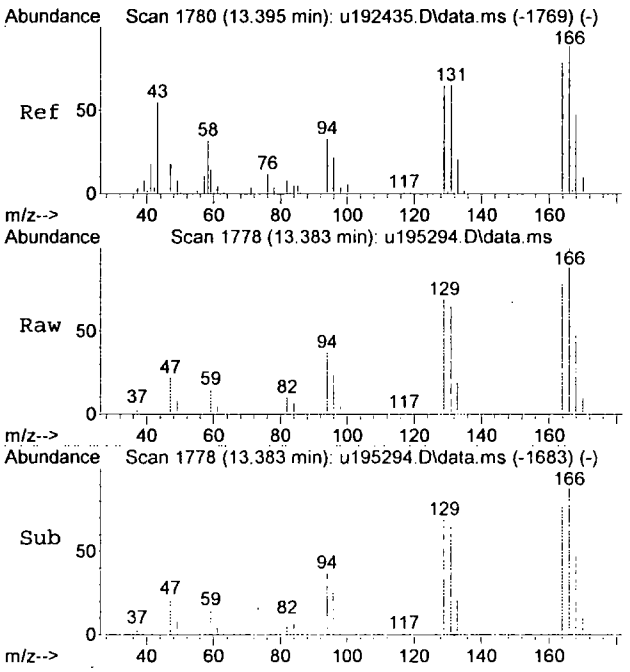


#78
trichloroethene
Concen: 1.00 ug/L
RT: 11.349 min Scan# 1389
Delta R.T. 0.002 min
Lab File: u195294.D
Acq: 19 May 2015 7:49 am

Tgt Ion: 95 Resp: 2039

Ion	Ratio	Lower	Upper
95	100		
130	120.7	80.1	140.1
132	113.6	76.3	136.3

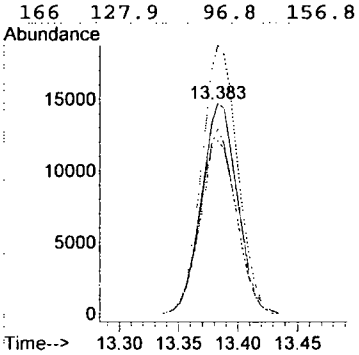




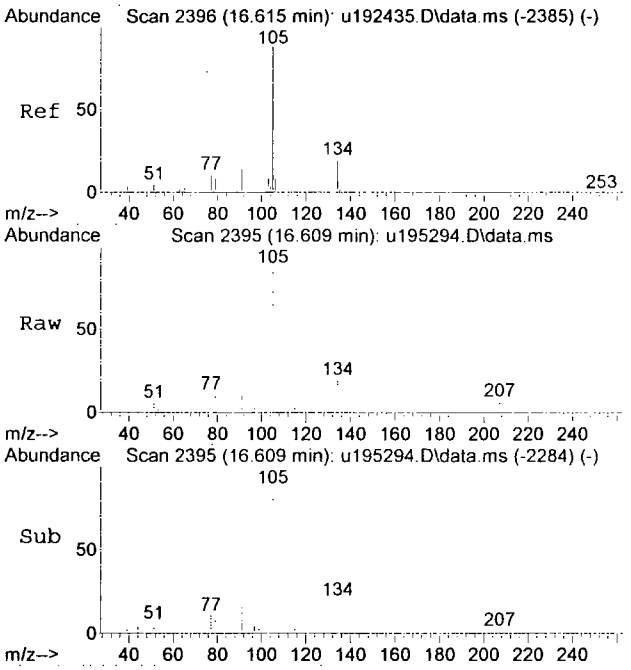
#98
tetrachloroethene
Concen: 14.90 ug/L
RT: 13.383 min Scan# 1778
Delta R.T. -0.003 min
Lab File: u195294.D
Acq: 19 May 2015 7:49 am

Tgt Ion:164 Resp: 31226

Ion	Ratio	Lower	Upper
164	100		
129	87.8	56.5	116.5
131	82.6	53.4	113.4
166	127.9	96.8	156.8



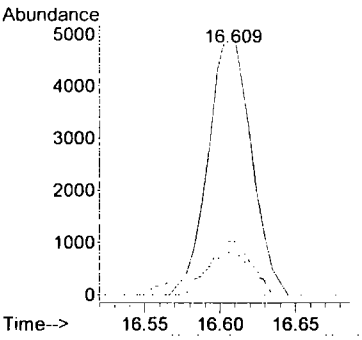
7.1.15



#128
sec-butylbenzene
Concen: 0.94 ug/L
RT: 16.609 min Scan# 2395
Delta R.T. 0.002 min
Lab File: u195294.D
Acq: 19 May 2015 7:49 am

Tgt Ion:105 Resp: 9925

Ion	Ratio	Lower	Upper
105	100		
134	20.3	0.0	50.5
91	17.3	0.0	44.7



7.1.15

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9009\
Data File : u195306.D
Acq On : 19 May 2015 1:52 pm
Operator : NicoleH1
Sample : jb94785-16
Misc : ms85328,vu9009,5.0,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: May 20 10:11:13 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	7.879	65	84319	500.00	ug/L	0.00
5) pentafluorobenzene	10.080	168	280992	50.00	ug/L	0.00
64) 1,4-difluorobenzene	11.000	114	327913	50.00	ug/L	0.00
96) chlorobenzene-d5	14.325	117	294505	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.903	152	160333	50.00	ug/L	0.00
System Monitoring Compounds						
56) dibromofluoromethane (s)	10.159	113	99197	51.92	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 103.84%			
57) 1,2-dichloroethane-d4 (s)	10.582	65	108313	53.58	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 107.16%			
88) toluene-d8 (s)	12.684	98	377922	50.40	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 100.80%			
114) 4-bromofluorobenzene (s)	15.601	95	141939	49.98	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 99.96%			
Target Compounds						Qvalue
90) toluene	12.762	92	1405	0.28	ug/L	77

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

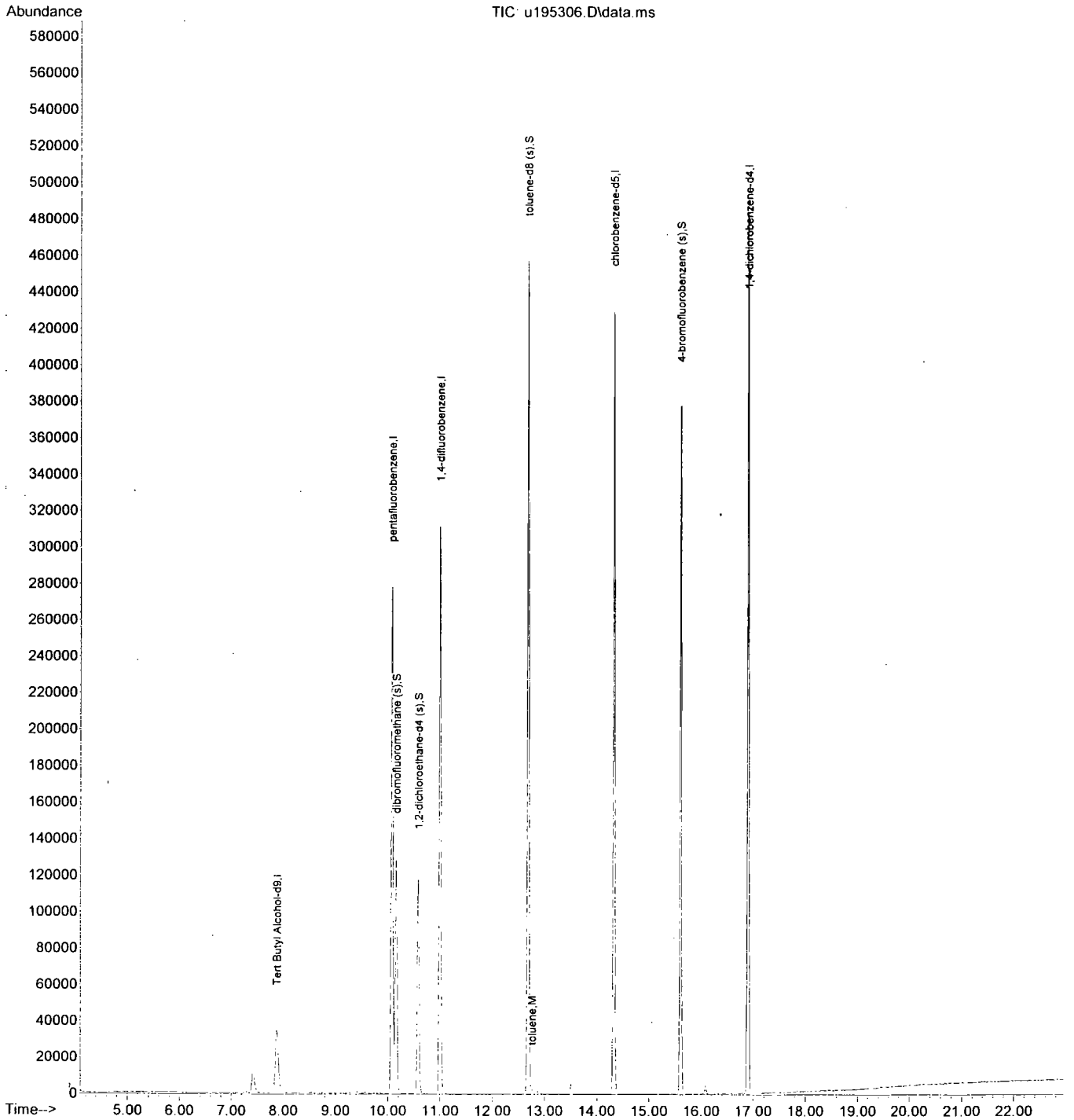
7.1.16

7

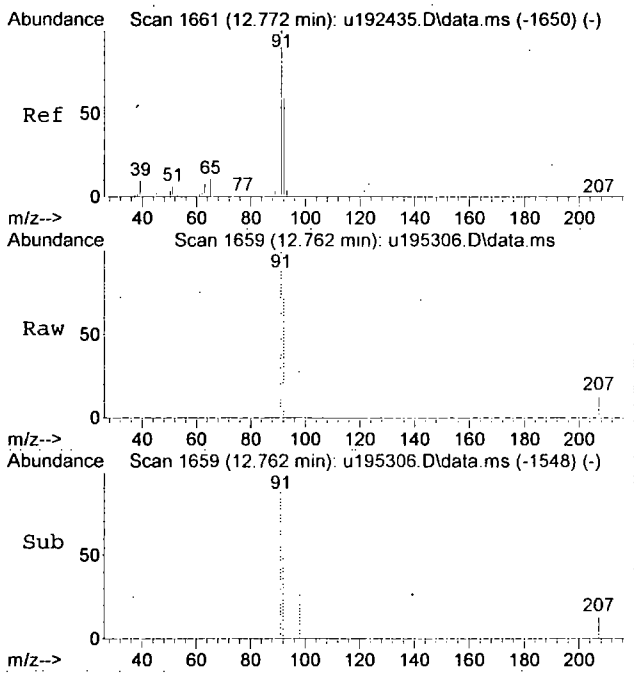
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9009\
Data File : u195306.D
Acq On : 19 May 2015 1:52 pm
Operator : NicoleH1
Sample : jb94785-16
Misc : ms85328,vu9009,5.0,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: May 20 10:11:13 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



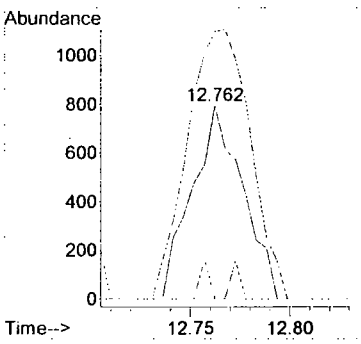
MU8988.M Wed May 20 11:09:38 2015 T



#90
toluene
Concen: 0.28 ug/L
RT: 12.762 min Scan# 1659
Delta R.T. -0.002 min
Lab File: u195306.D
Acq: 19 May 2015 1:52 pm

Tgt Ion: 92 Resp: 1405

Ion	Ratio	Lower	Upper
92	100		
91	138.2	137.2	197.2
65	0.0	0.0	48.1



7.1.16

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9907\
Data File : u195268.D
Acq On : 18 May 2015 7:41 pm
Operator : NicoleH1
Sample : jb94785-17
Misc : ms85328,vu9007,5.0,,,,1
ALS Vial : 24 Sample Multiplier: 1

Quant Time: May 19 14:46:38 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

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Tert Butyl Alcohol-d9	7.869	65	83418	500.00	ug/L		-0.02
5) pentafluorobenzene	10.080	168	285423	50.00	ug/L		0.00
64) 1,4-difluorobenzene	11.000	114	332087	50.00	ug/L		0.00
96) chlorobenzene-d5	14.325	117	295958	50.00	ug/L		0.00
112) 1,4-dichlorobenzene-d4	16.903	152	162749	50.00	ug/L		0.00
System Monitoring Compounds							
56) dibromofluoromethane (s)	10.159	113	100807	51.94	ug/L		0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 103.88%				
57) 1,2-dichloroethane-d4 (s)	10.582	65	109006	53.08	ug/L		0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 106.16%				
88) toluene-d8 (s)	12.684	98	376095	49.52	ug/L		0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 99.04%				
114) 4-bromofluorobenzene (s)	15.601	95	145049	50.32	ug/L		0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 100.64%				
Target Compounds							Qvalue
16) vinyl chloride	5.046	62	157579	69.24	ug/L		100
19) chloroethane	5.882	64	1487	1.29	ug/L		70
28) 1,1-dichloroethene	7.215	96	1738	0.98	ug/L	#	79
38) trans-1,2-dichloroethene	8.297	96	1691	0.85	ug/L		96
42) 1,1-dichloroethane	8.867	63	48126	14.30	ug/L		99
48) cis-1,2-dichloroethene	9.594	96	290056	131.61	ug/L		94
60) 1,1,1-trichloroethane	10.195	97	1017	0.34	ug/L		90
72) benzene	10.645	78	5040	0.63	ug/L		98
78) trichloroethene	11.351	95	8855	4.24	ug/L		99
98) tetrachloroethene	13.384	164	10578	4.97	ug/L		95
113) isopropylbenzene	15.361	105	4044	0.41	ug/L		98
124) tert-butylbenzene	16.370	119	13977	1.85	ug/L		96
128) sec-butylbenzene	16.605	105	75935	7.01	ug/L		99
133) 1,2-dichlorobenzene	17.373	146	5449	1.11	ug/L		97

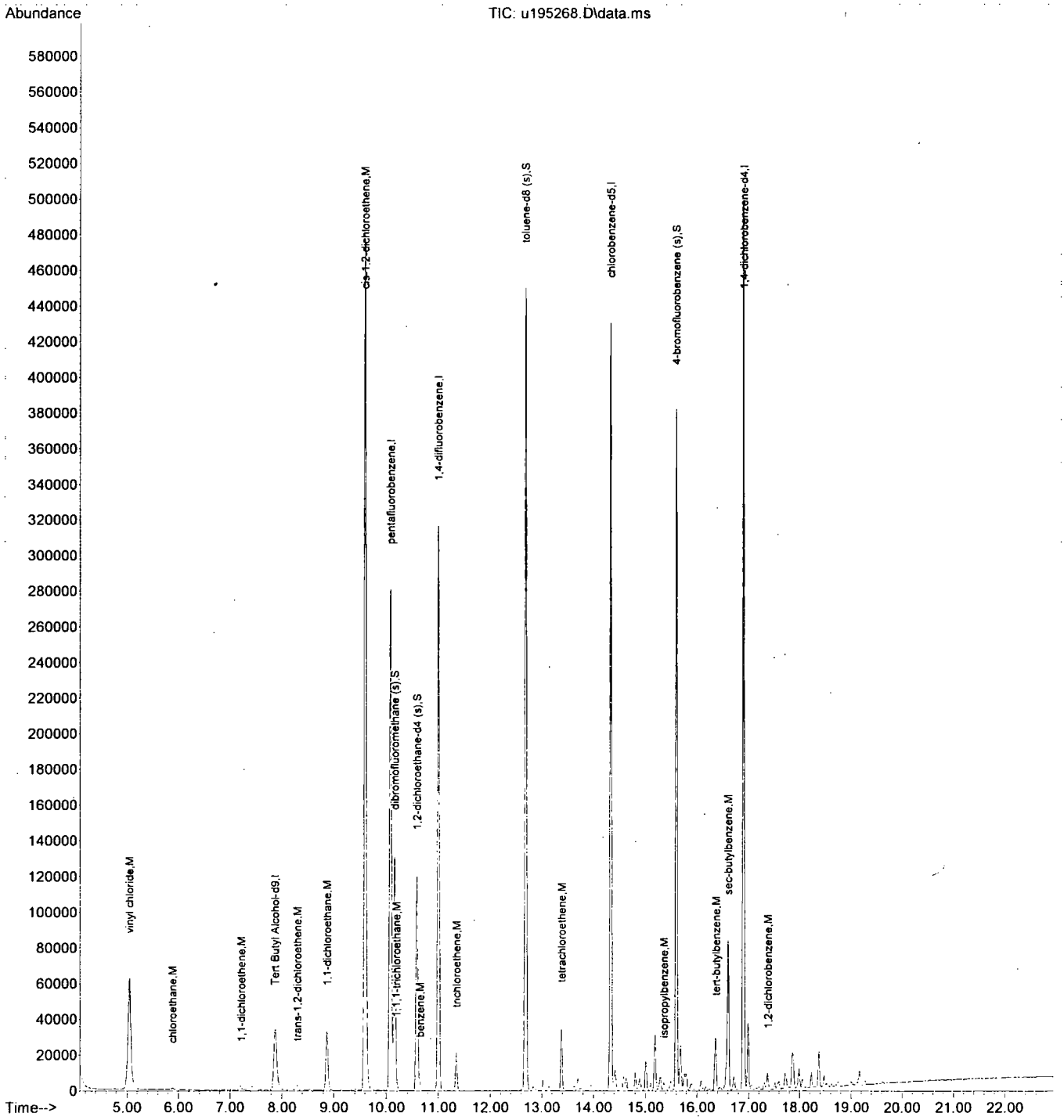
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.17 7

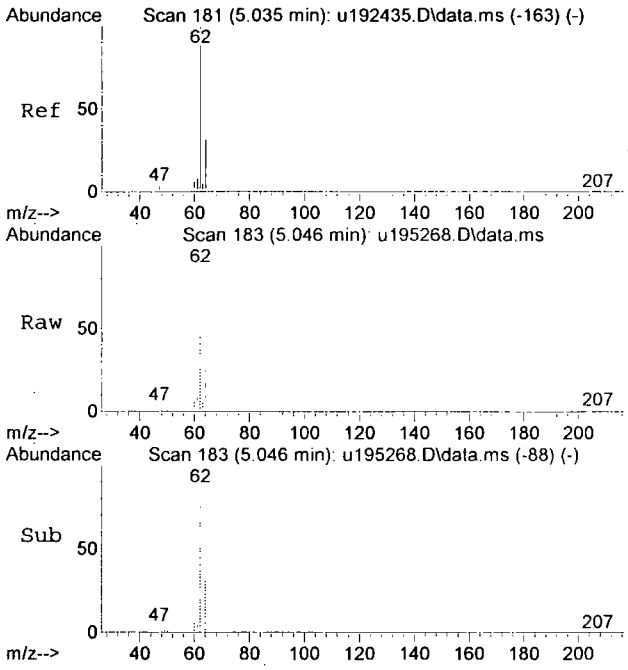
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9907\
Data File : u195268.D
Acq On : 18 May 2015 7:41 pm
Operator : NicoleH1
Sample : jb94785-17
Misc : ms85328,vu9007,5.0,,,,1
ALS Vial : 24 Sample Multiplier: 1

Quant Time: May 19 14:46:38 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



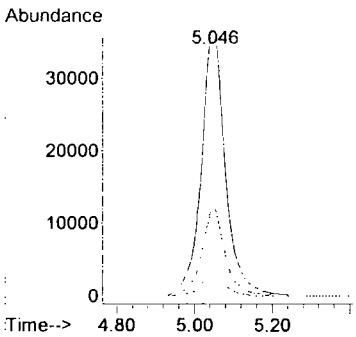
7.1.17

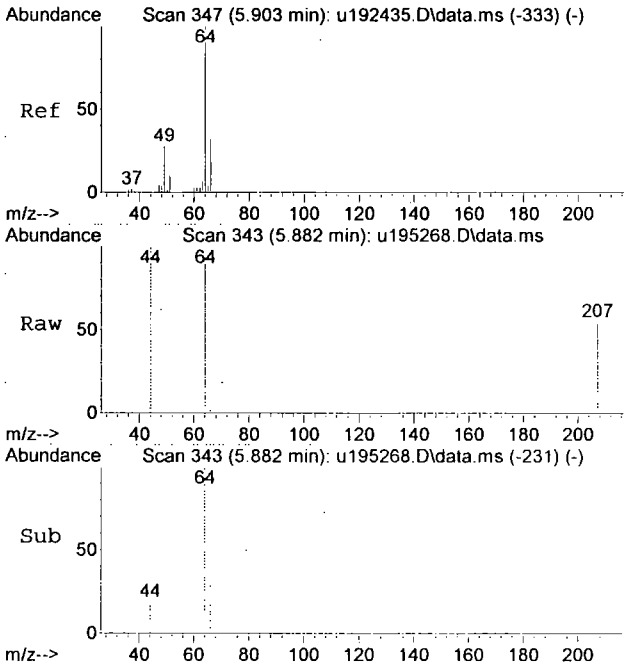


#16
vinyl chloride
Concen: 69.24 ug/L
RT: 5.046 min Scan# 183
Delta R.T. -0.002 min
Lab File: u195268.D
Acq: 18 May 2015 7:41 pm

Tgt Ion: 62 Resp: 157579

Ion	Ratio	Lower	Upper
62	100		
64	32.4	2.2	62.2
61	9.0	0.0	38.9

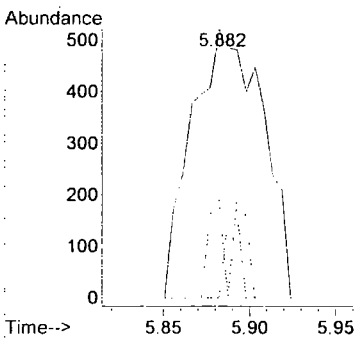




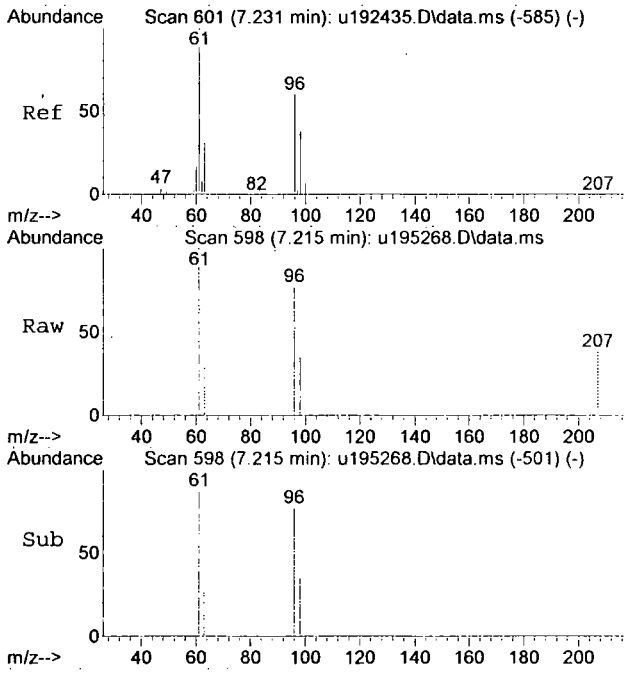
#19
chloroethane
Concen: 1.29 ug/L
RT: 5.882 min Scan# 343
Delta R.T. 0.003 min
Lab File: u195268.D
Acq: 18 May 2015 7:41 pm

Tgt Ion: 64 Resp: 1487

Ion	Ratio	Lower	Upper
64	100		
66	36.7	1.6	61.6
49	0.0	0.0	57.7



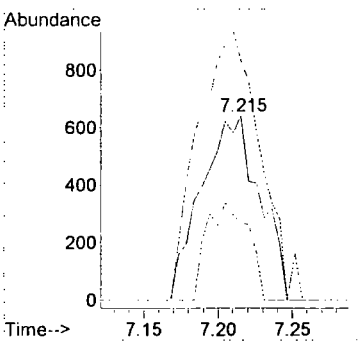
7.1.17

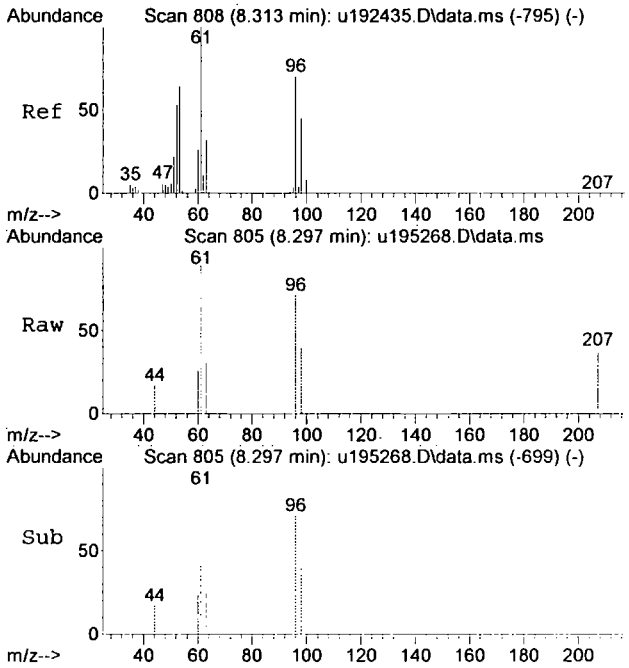


#28
1,1-dichloroethene
Concen: 0.98 ug/L
RT: 7.215 min Scan# 598
Delta R.T. 0.009 min
Lab File: u195268.D
Acq: 18 May 2015 7:41 pm

Tgt Ion: 96 Resp: 1738

Ion	Ratio	Lower	Upper
96	100		
61	130.1	132.8	192.8#
63	42.3	20.0	80.0

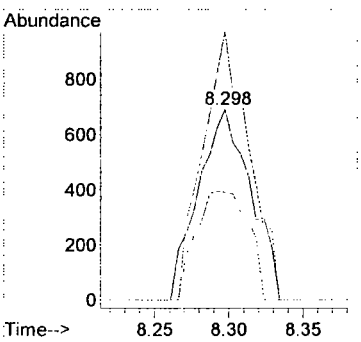




#38
trans-1,2-dichloroethene
Concen: 0.85 ug/L
RT: 8.297 min Scan# 805
Delta R.T. 0.003 min
Lab File: u195268.D
Acq: 18 May 2015 7:41 pm

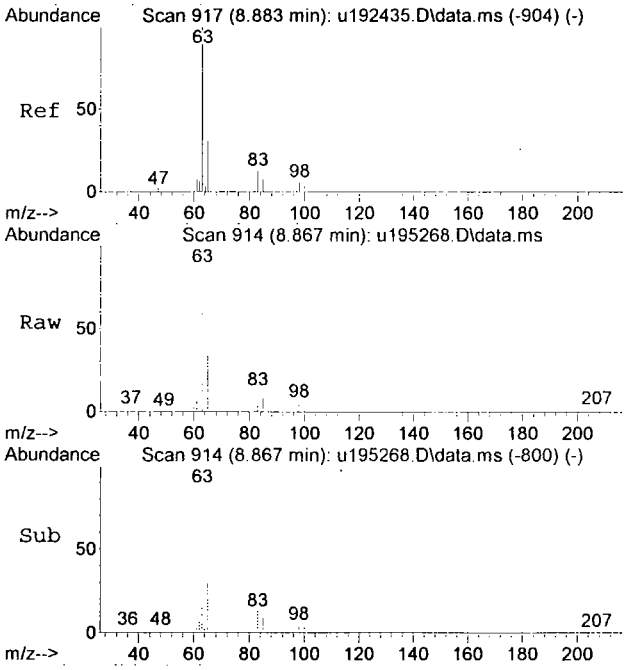
Tgt Ion: 96 Resp: 1691

Ion	Ratio	Lower	Upper
96	100		
61	141.1	109.8	169.8
98	56.6	34.0	94.0



7.1.17

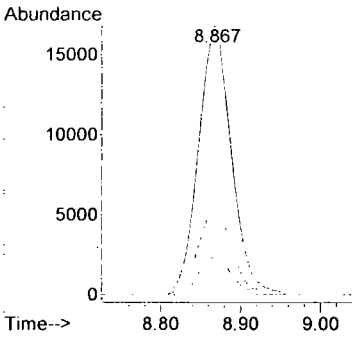
7

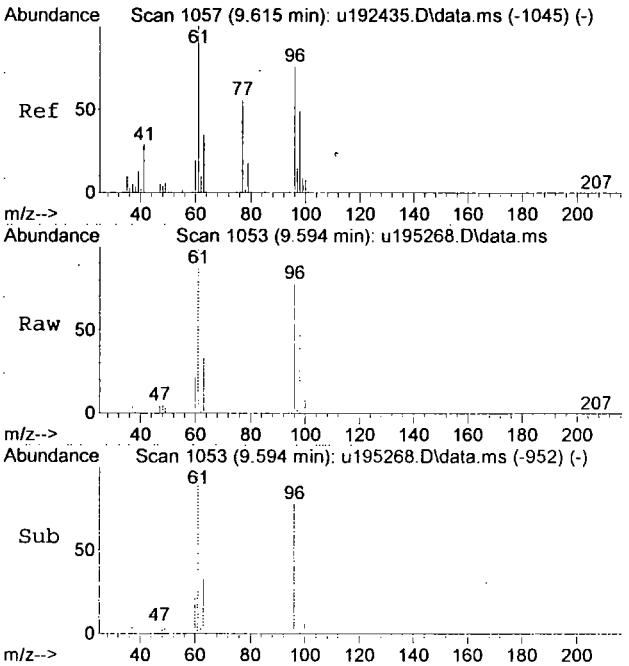


#42
1,1-dichloroethane
Concen: 14.30 ug/L
RT: 8.867 min Scan# 914
Delta R.T. 0.004 min
Lab File: u195268.D
Acq: 18 May 2015 7:41 pm

Tgt Ion: 63 Resp: 48126

Ion	Ratio	Lower	Upper
63	100		
65	32.9	2.4	62.4
83	13.5	0.0	43.6

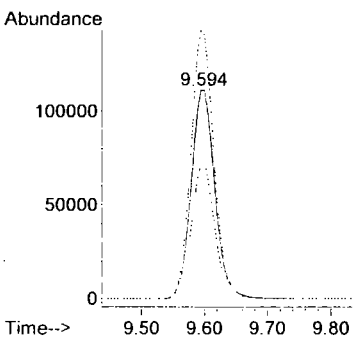




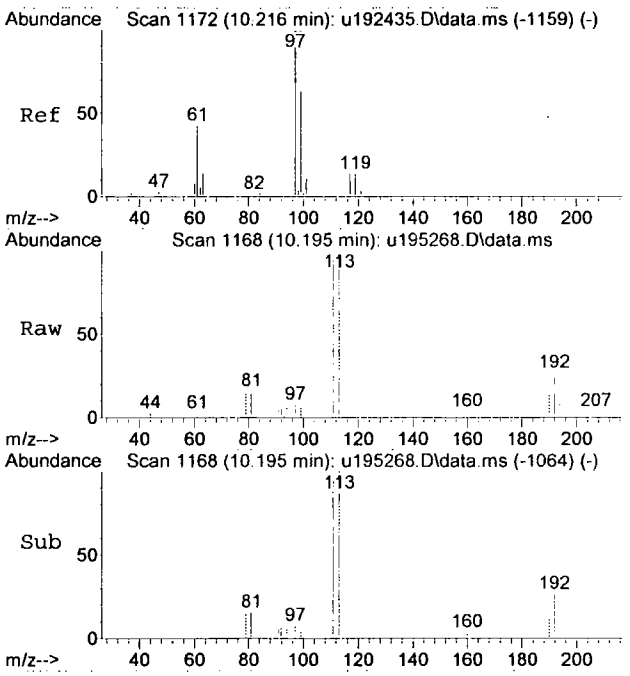
#48
cis-1,2-dichloroethene
Concen: 131.61 ug/L
RT: 9.594 min Scan# 1053
Delta R.T. -0.002 min
Lab File: u195268.D
Acq: 18 May 2015 7:41 pm

Tgt Ion: 96 Resp: 290056

Ion	Ratio	Lower	Upper
96	100		
61	128.8	109.5	169.5
98	64.9	33.9	93.9



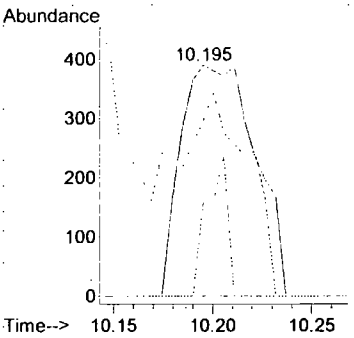
7.1.17

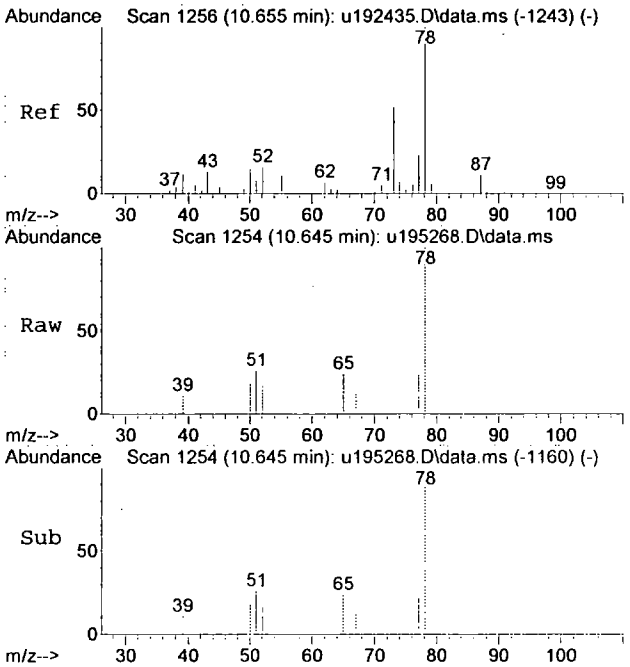


#60
1,1,1-trichloroethane
Concen: 0.34 ug/L
RT: 10.195 min Scan# 1168
Delta R.T. -0.007 min
Lab File: u195268.D
Acq: 18 May 2015 7:41 pm

Tgt Ion: 97 Resp: 1017

Ion	Ratio	Lower	Upper
97	100		
99	75.9	33.3	93.3
61	40.3	11.0	71.0

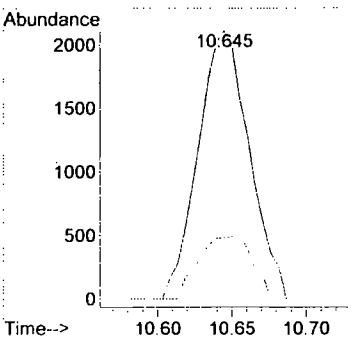




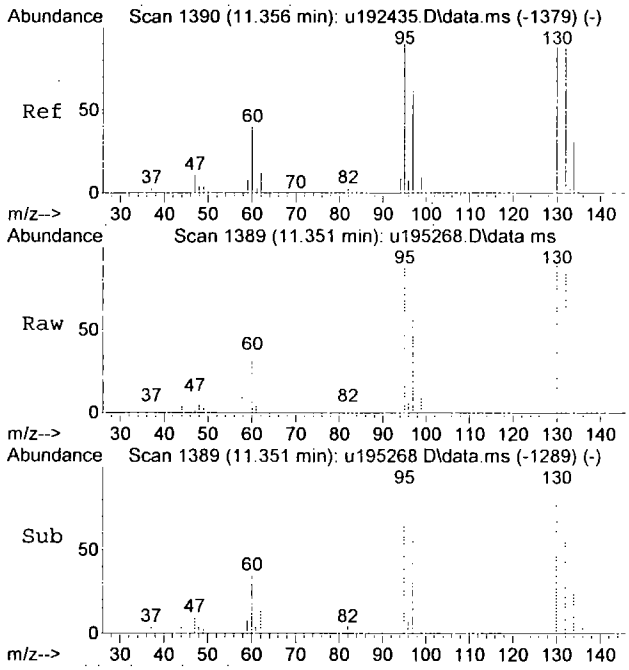
#72
benzene
Concen: 0.63 ug/L
RT: 10.645 min Scan# 1254
Delta R.T. 0.004 min
Lab File: u195268.D
Acq: 18 May 2015 7:41 pm

Tgt Ion: 78 Resp: 5040

Ion	Ratio	Lower	Upper
78	100		
77	22.7	0.0	53.9



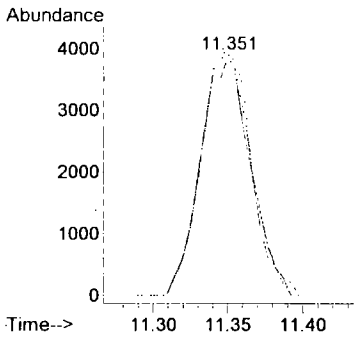
7.1.17

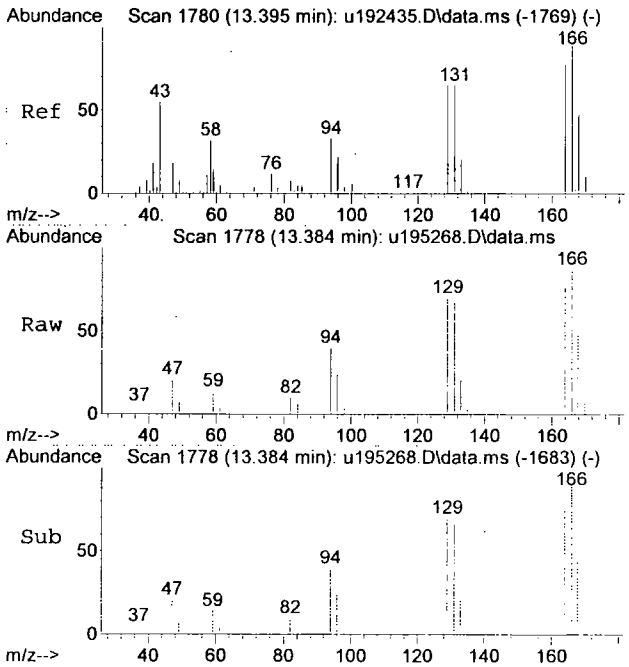


#78
trichloroethene
Concen: 4.24 ug/L
RT: 11.351 min Scan# 1389
Delta R.T. 0.003 min
Lab File: u195268.D
Acq: 18 May 2015 7:41 pm

Tgt Ion: 95 Resp: 8855

Ion	Ratio	Lower	Upper
95	100		
130	111.5	80.1	140.1
132	106.2	76.3	136.3

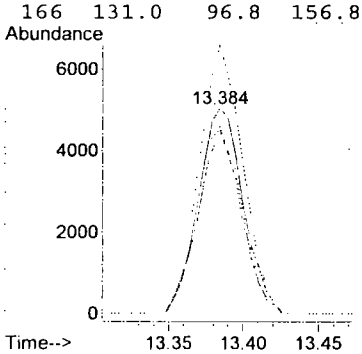




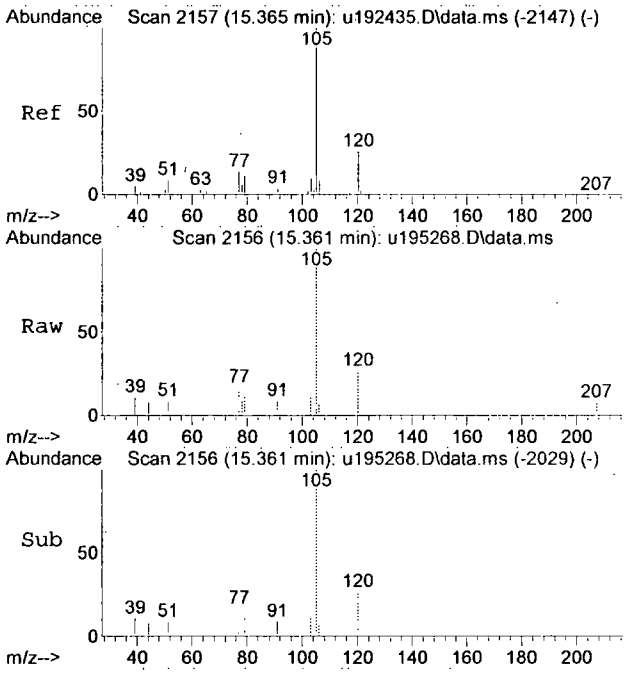
#98
tetrachloroethene
Concen: 4.97 ug/L
RT: 13.384 min Scan# 1778
Delta R.T. -0.002 min
Lab File: u195268.D
Acq: 18 May 2015 7:41 pm

Tgt Ion:164 Resp: 10578

Ion	Ratio	Lower	Upper
164	100		
129	91.6	56.5	116.5
131	89.3	53.4	113.4
166	131.0	96.8	156.8



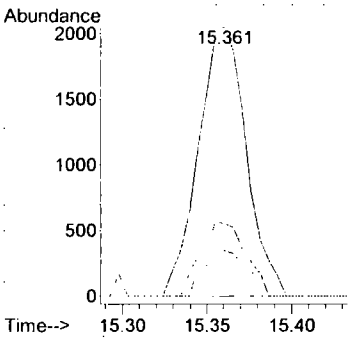
7.1.17 7

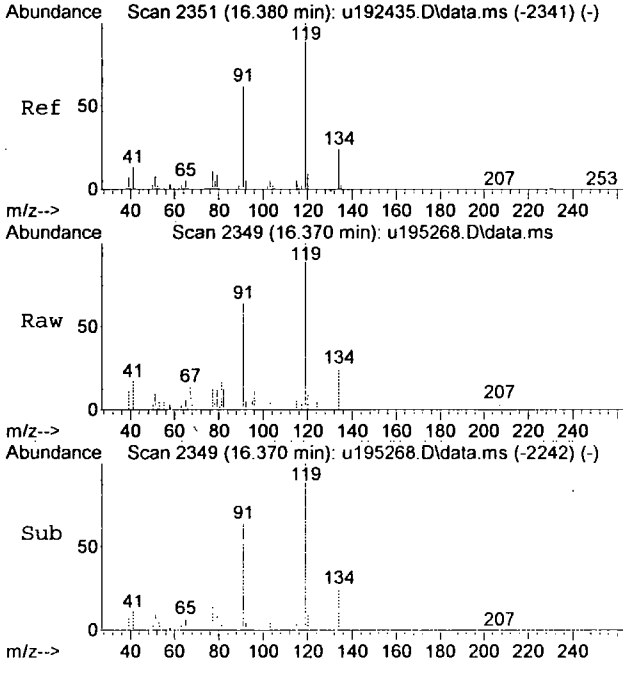


#113
isopropylbenzene
Concen: 0.41 ug/L
RT: 15.361 min Scan# 2156
Delta R.T. 0.003 min
Lab File: u195268.D
Acq: 18 May 2015 7:41 pm

Tgt Ion:105 Resp: 4044

Ion	Ratio	Lower	Upper
105	100		
120	26.8	0.0	56.7
77	16.9	0.0	44.2

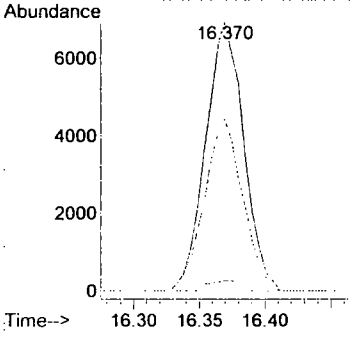




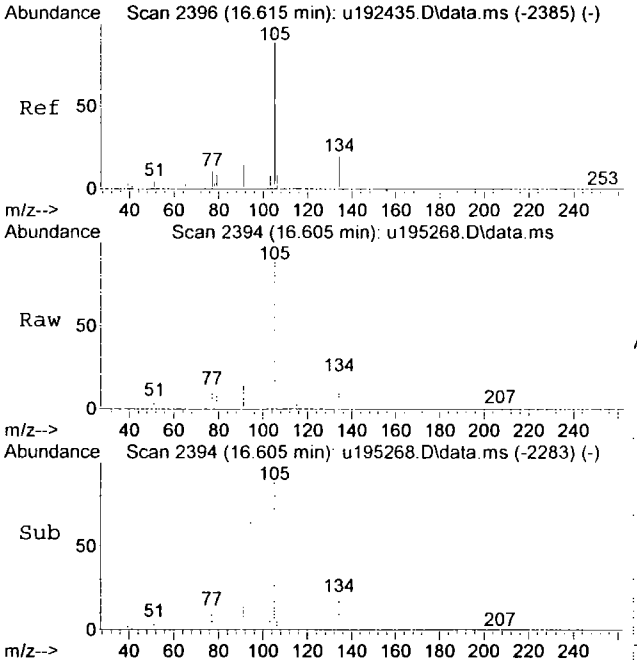
#124
tert-butylbenzene
Concen: 1.85 ug/L
RT: 16.370 min Scan# 2349
Delta R.T. -0.002 min
Lab File: u195268.D
Acq: 18 May 2015 7:41 pm

Tgt Ion:119 Resp: 13977

Ion	Ratio	Lower	Upper
119	100		
91	64.1	31.2	91.2
117	3.8	0.0	33.3



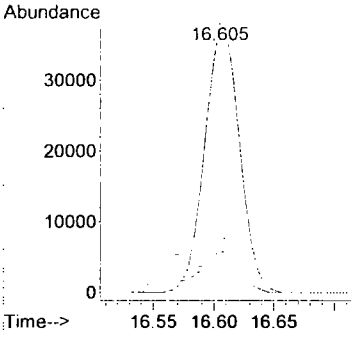
7.1.17

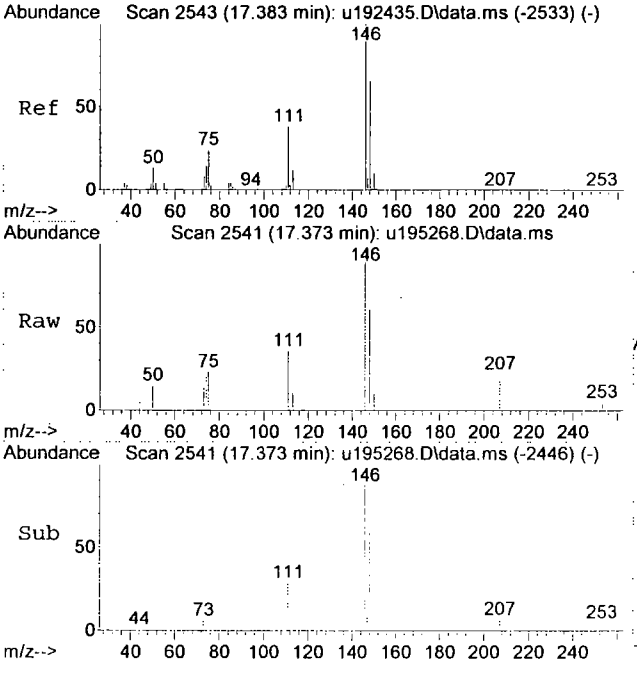


#128
sec-butylbenzene
Concen: 7.01 ug/L
RT: 16.605 min Scan# 2394
Delta R.T. -0.002 min
Lab File: u195268.D
Acq: 18 May 2015 7:41 pm

Tgt Ion:105 Resp: 75935

Ion	Ratio	Lower	Upper
105	100		
134	20.0	0.0	50.5
91	15.0	0.0	44.7

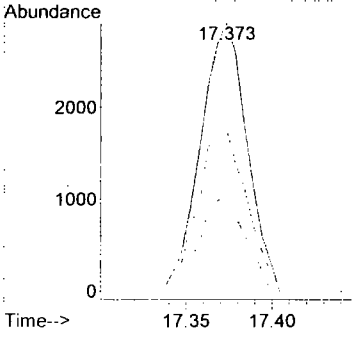




#133
1,2-dichlorobenzene
Concen: 1.11 ug/L
RT: 17.373 min Scan# 2541
Delta R.T. -0.002 min
Lab File: u195268.D
Acq: 18 May 2015 7:41 pm

Tgt Ion:146 Resp: 5449

Ion	Ratio	Lower	Upper
146	100		
111	35.8	7.0	67.0
148	61.0	33.8	93.8



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9907\
Data File : u195269.D
Acq On : 18 May 2015 8:11 pm
Operator : NicoleH1
Sample : jb94785-18
Misc : ms85328,vu9007,5.0,,,,1
ALS Vial : 25 Sample Multiplier: 1

Quant Time: May 19 14:47:18 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	7.878	65	95829	500.00	ug/L	0.00
5) pentafluorobenzene	10.079	168	286863	50.00	ug/L	0.00
64) 1,4-difluorobenzene	11.000	114	333507	50.00	ug/L	0.00
96) chlorobenzene-d5	14.325	117	296602	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.902	152	161308	50.00	ug/L	0.00
System Monitoring Compounds						
56) dibromofluoromethane (s)	10.158	113	100136	51.34	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 102.68%			
57) 1,2-dichloroethane-d4 (s)	10.581	65	109542	53.08	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 106.16%			
88) toluene-d8 (s)	12.683	98	377720	49.52	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 99.04%			
114) 4-bromofluorobenzene (s)	15.600	95	143996	50.40	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 100.80%			
Target Compounds						Qvalue
42) 1,1-dichloroethane	8.867	63	2641	0.78	ug/L	89
48) cis-1,2-dichloroethene	9.598	96	1227	0.55	ug/L	91
60) 1,1,1-trichloroethane	10.200	97	2660	0.89	ug/L	94

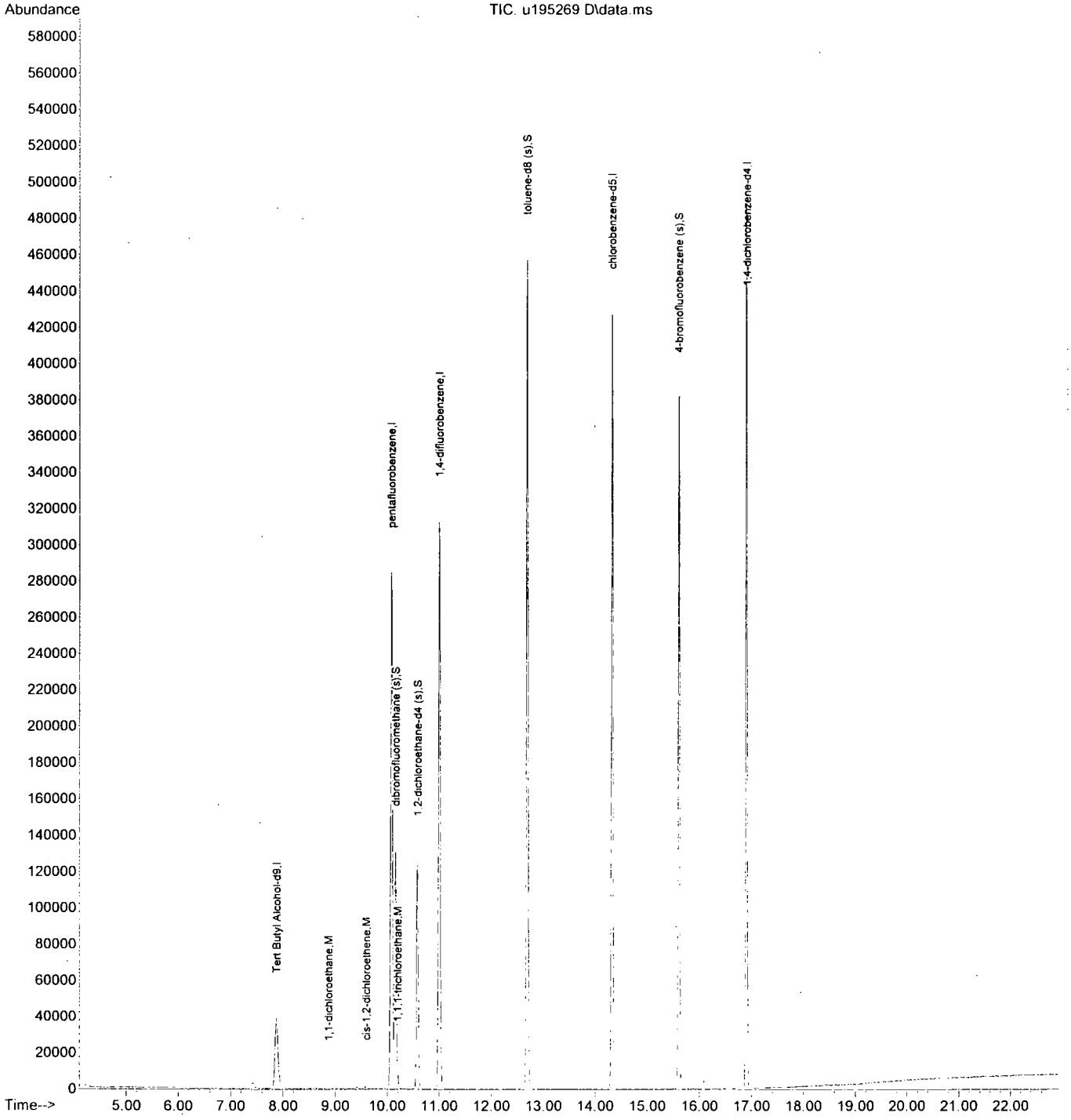
(#) = qualifier out of range (m) = manual integration (+) = signals summed

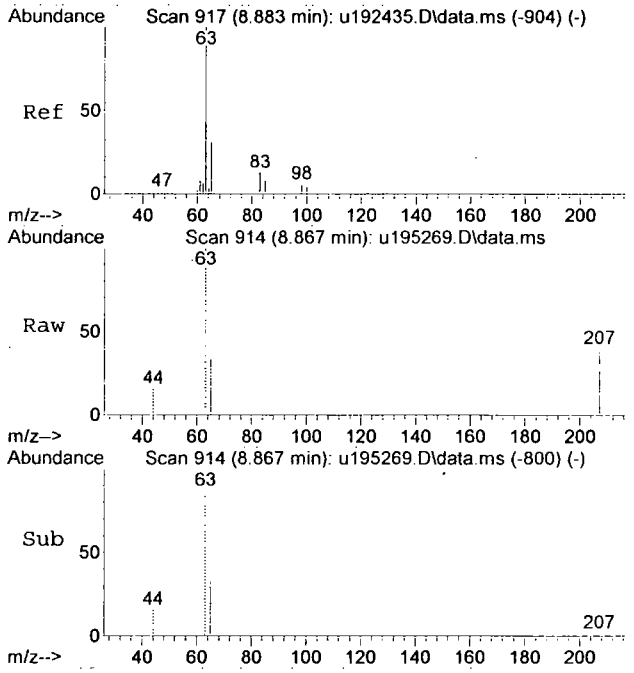
7.1.18 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9907\
Data File : u195269.D
Acq On : 18 May 2015 8:11 pm
Operator : NicoleH1
Sample : jb94785-18
Misc : ms85328,vu9007,5.0,,,,1
ALS Vial : 25 Sample Multiplier: 1

Quant Time: May 19 14:47:18 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

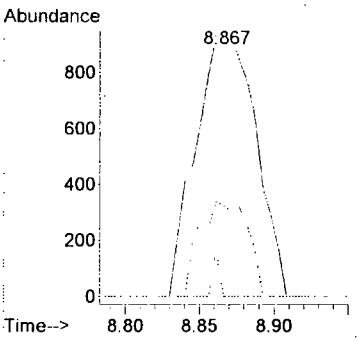


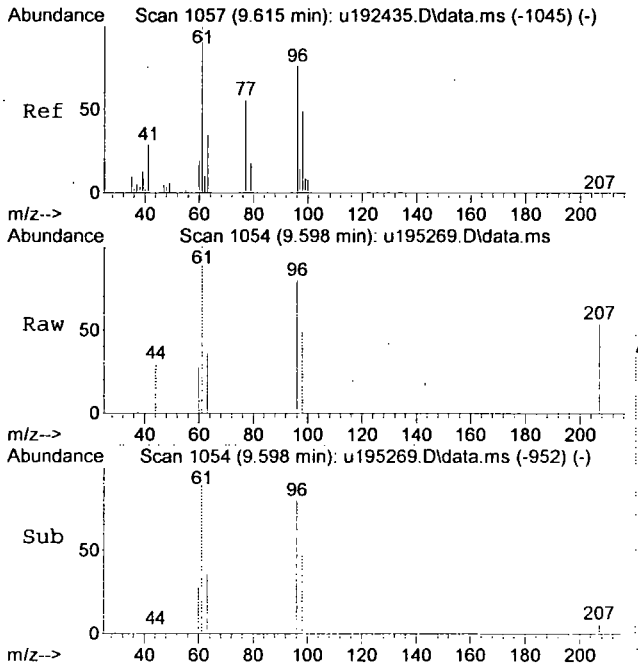


#42
1,1-dichloroethane
Concen: 0.78 ug/L
RT: 8.867 min Scan# 914
Delta R.T. 0.004 min
Lab File: u195269.D
Acq: 18 May 2015 8:11 pm

Tgt Ion: 63 Resp: 2641

Ion	Ratio	Lower	Upper
63	100		
65	33.5	2.4	62.4
83	0.0	0.0	43.6

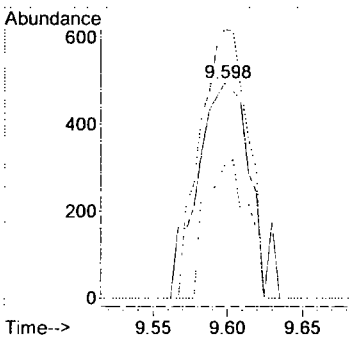




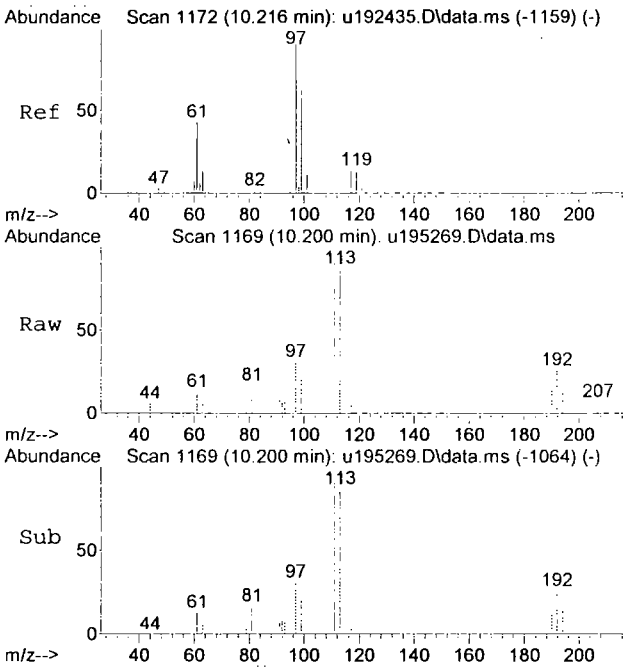
#48
cis-1,2-dichloroethene
Concen: 0.55 ug/L
RT: 9.598 min Scan# 1054
Delta R.T. 0.003 min
Lab File: u195269.D
Acq: 18 May 2015 8:11 pm

Tgt Ion: 96 Resp: 1227

Ion	Ratio	Lower	Upper
96	100		
61	124.6	109.5	169.5
98	62.1	33.9	93.9



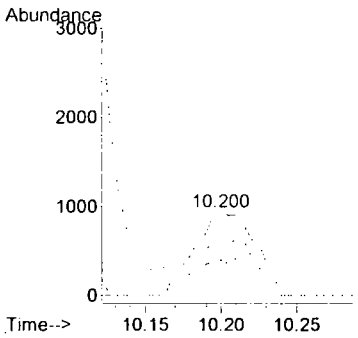
7.1.18



#60
1,1,1-trichloroethane
Concen: 0.89 ug/L
RT: 10.200 min Scan# 1169
Delta R.T. -0.003 min
Lab File: u195269.D
Acq: 18 May 2015 8:11 pm

Tgt Ion: 97 Resp: 2660

Ion	Ratio	Lower	Upper
97	100		
99	69.9	33.3	93.3
61	42.1	11.0	71.0



7.1.18

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9008\
Data File : u195279.D
Acq On : 19 May 2015 1:02 am
Operator : NicoleH1
Sample : jb94785-19
Misc : ms85328,vu9008,5.0,,,,1
ALS Vial : 35 Sample Multiplier: 1

Quant Time: May 19 15:05:31 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 09:25:27 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.879	65	80287	500.00	ug/L	0.00
5) pentafluorobenzene	10.080	168	287774	50.00	ug/L	0.00
64) 1,4-difluorobenzene	11.000	114	333095	50.00	ug/L	0.00
96) chlorobenzene-d5	14.325	117	298771	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.902	152	162288	50.00	ug/L	0.00
System Monitoring Compounds						
56) dibromofluoromethane (s)	10.158	113	100485	51.36	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 102.72%			
57) 1,2-dichloroethane-d4 (s)	10.582	65	109610	52.94	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 105.88%			
88) toluene-d8 (s)	12.683	98	378153	49.64	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 99.28%			
114) 4-bromofluorobenzene (s)	15.601	95	144436	50.25	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 100.50%			
Target Compounds						Qvalue
35) methylene chloride	7.936	84	1667	0.73	ug/L	91

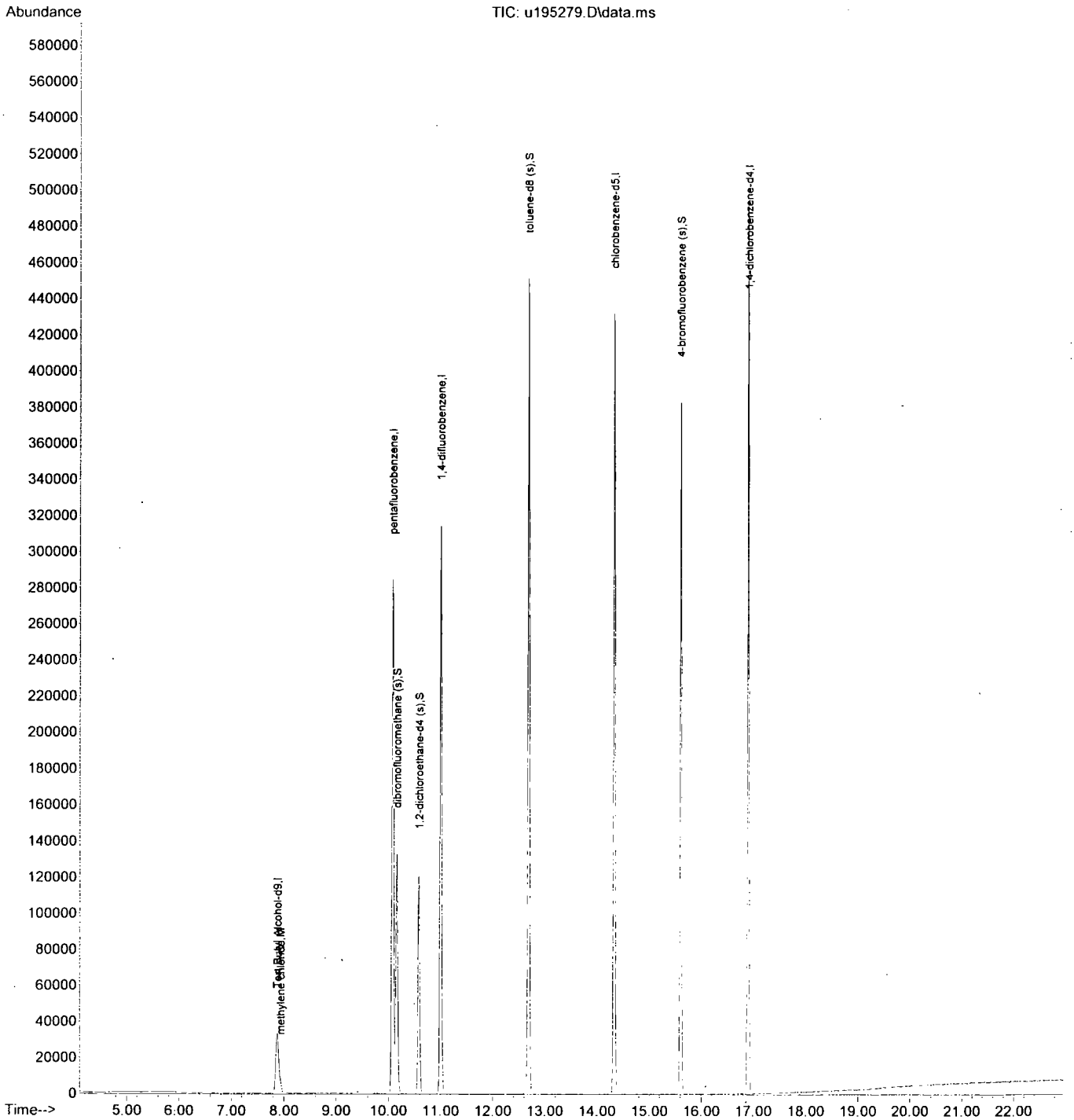
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.19 7

Quantitation Report (QT Reviewed)

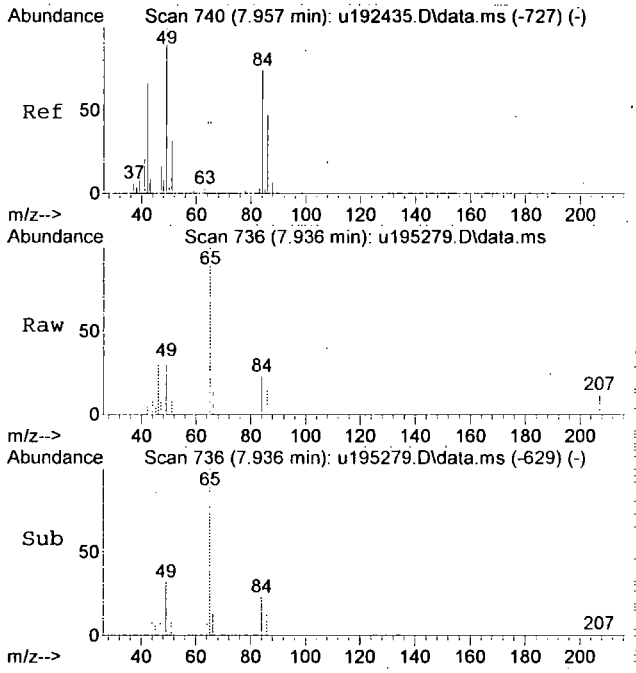
Data Path : C:\msdchem\1\DATA\U\vu9008\
Data File : u195279.D
Acq On : 19 May 2015 1:02 am
Operator : NicoleH1
Sample : jb94785-19
Misc : ms85328,vu9008,5.0,,,,1
ALS Vial : 35 Sample Multiplier: 1

Quant Time: May 19 15:05:31 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 09:25:27 2015
Response via : Initial Calibration



MU8988.M Tue May 19 15:17:24 2015 T

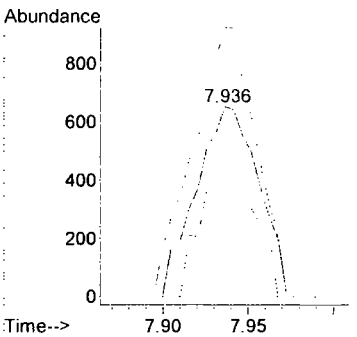
Page: 2



#35
methylene chloride
Concen: 0.73 ug/L
RT: 7.936 min Scan# 736
Delta R.T. -0.002 min
Lab File: u195279.D
Acq: 19 May 2015 1:02 am

Tgt Ion: 84 Resp: 1667

Ion	Ratio	Lower	Upper
84	100		
86	65.5	35.2	95.2
49	141.8	95.8	155.8



7.1.19

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9907\
Data File : u195249.D
Acq On : 18 May 2015 10:15 am
Operator : NicoleH1
Sample : mb
Misc : ms85150,vu9006,5.0,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 18 16:24:56 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

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.873	65	86062	500.00	ug/L	-0.01
5) pentafluorobenzene	10.079	168	288854	50.00	ug/L	0.00
64) 1,4-difluorobenzene	10.999	114	334948	50.00	ug/L	0.00
96) chlorobenzene-d5	14.324	117	299024	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.902	152	162193	50.00	ug/L	0.00
System Monitoring Compounds						
56) dibromofluoromethane (s)	10.158	113	101095	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	108661	52.29	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 104.58%			
88) toluene-d8 (s)	12.683	98	379567	49.55	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 99.10%			
114) 4-bromofluorobenzene (s)	15.600	95	143988	50.12	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 100.24%			
Target Compounds						Qvalue

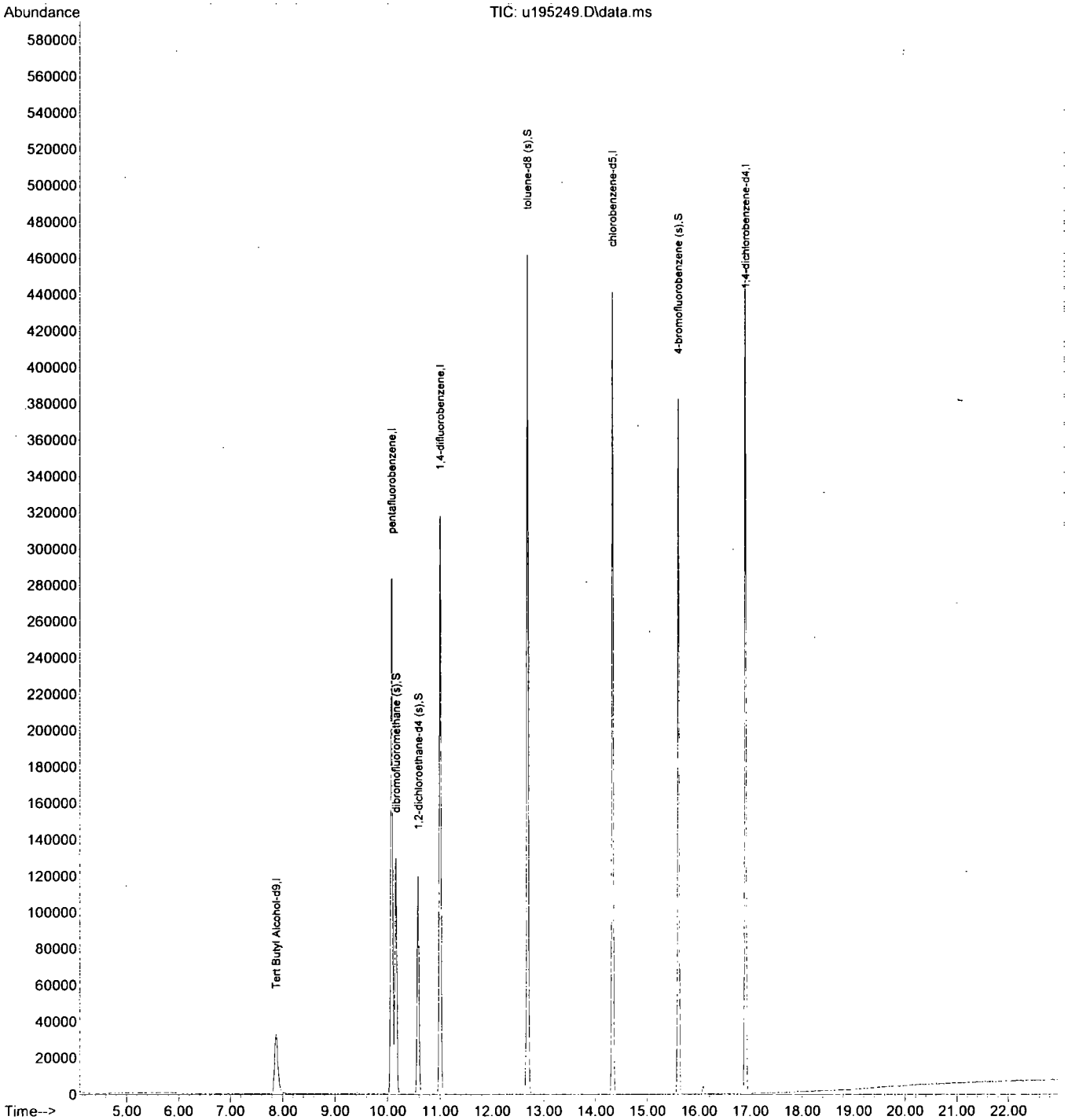
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.2.1

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9907\
Data File : u195249.D
Acq On : 18 May 2015 10:15 am
Operator : NicoleH1
Sample : mb
Misc : ms85150,vu9006,5.0,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 18 16:24:56 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 Mon May 18 16:25:04 2015 T

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9008\
Data File : u195273.D
Acq On : 18 May 2015 10:07 pm
Operator : NicoleH1
Sample : mb
Misc : ms85328,vu9008,5.0,,,,1
ALS Vial : 29 Sample Multiplier: 1

Quant Time: May 19 15:02:02 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

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.873	65	88800	500.00	ug/L	-0.01
5) pentafluorobenzene	10.079	168	289803	50.00	ug/L	0.00
64) 1,4-difluorobenzene	11.004	114	333058	50.00	ug/L	0.00
96) chlorobenzene-d5	14.324	117	296601	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.902	152	154254	50.00	ug/L	0.00
System Monitoring Compounds						
56) dibromofluoromethane (s)	10.157	113	101169	51.34	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 102.68%			
57) 1,2-dichloroethane-d4 (s)	10.581	65	108446	52.01	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 104.02%			
88) toluene-d8 (s)	12.683	98	378845	49.74	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 99.48%			
114) 4-bromofluorobenzene (s)	15.600	95	143619	52.57	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 105.14%			
Target Compounds						Qvalue

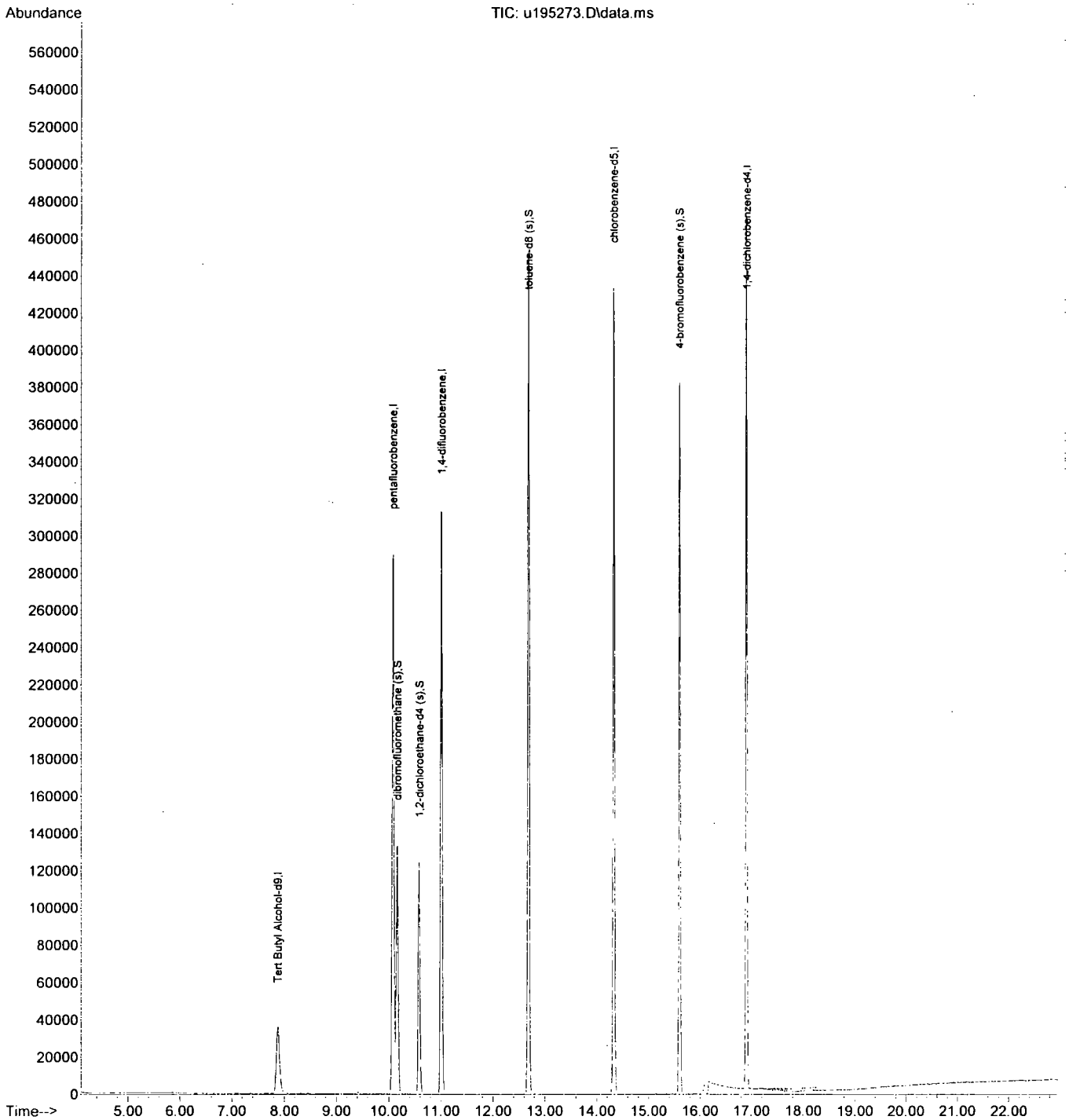
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.2.2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9008\
Data File : u195273.D
Acq On : 18 May 2015 10:07 pm
Operator : NicoleH1
Sample : mb
Misc : ms85328,vu9008,5.0,,,,1
ALS Vial : 29 Sample Multiplier: 1

Quant Time: May 19 15:02:02 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



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9009\
Data File : u195300.D
Acq On : 19 May 2015 10:44 am
Operator : NicoleH1
Sample : mb
Misc : ms85142,vu9009,5.0,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 19 16:36:57 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

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.873	65	87758	500.00	ug/L	-0.01
5) pentafluorobenzene	10.079	168	281680	50.00	ug/L	0.00
64) 1,4-difluorobenzene	10.999	114	328131	50.00	ug/L	0.00
96) chlorobenzene-d5	14.324	117	293905	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.902	152	159308	50.00	ug/L	0.00
System Monitoring Compounds						
56) dibromofluoromethane (s)	10.158	113	98831	51.60	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 103.20%			
57) 1,2-dichloroethane-d4 (s)	10.581	65	106648	52.62	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 105.24%			
88) toluene-d8 (s)	12.683	98	375944	50.10	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 100.20%			
114) 4-bromofluorobenzene (s)	15.600	95	141752	50.24	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 100.48%			
Target Compounds						Qvalue

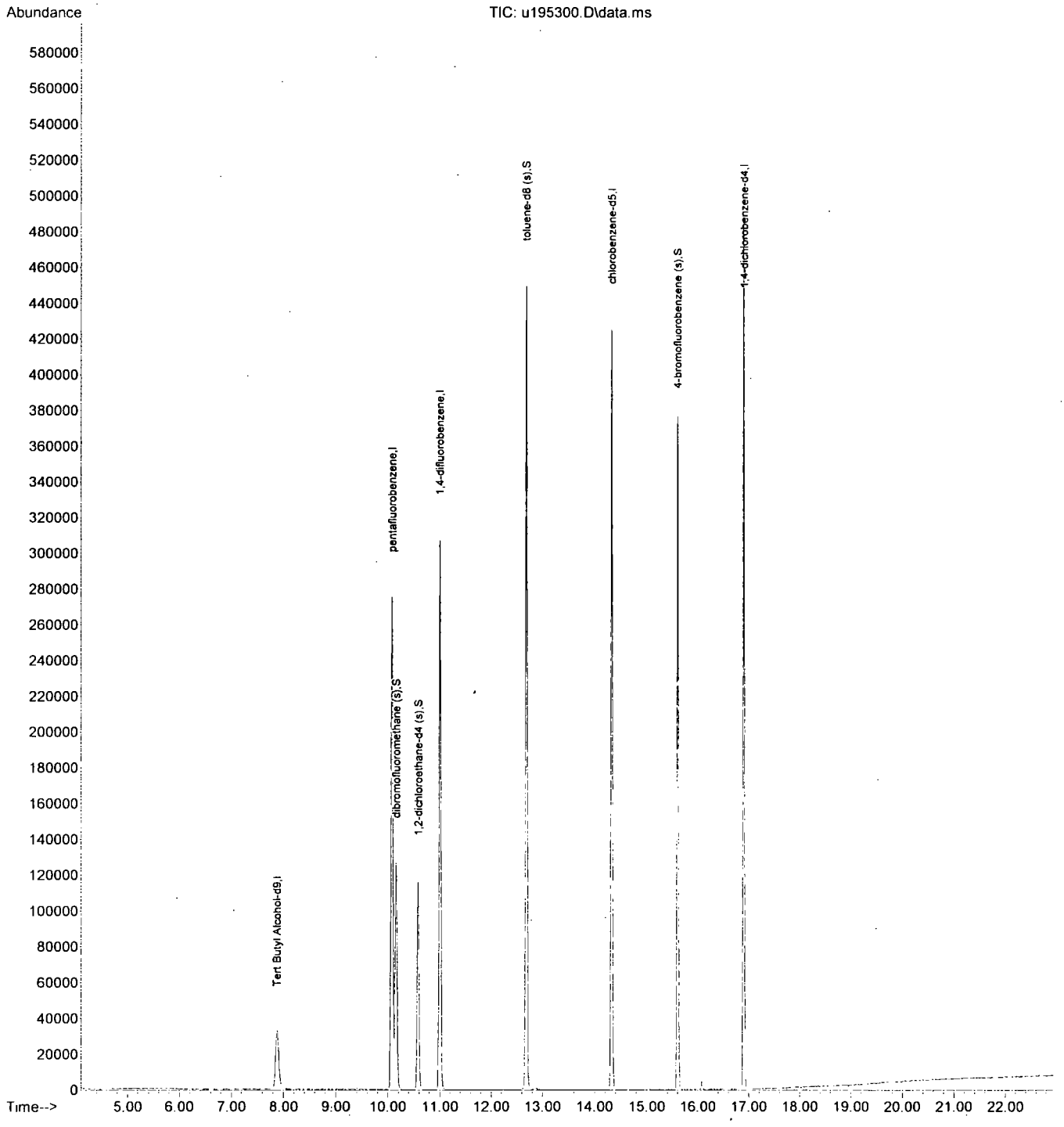
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.2.3

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9009\
Data File : u195300.D
Acq On : 19 May 2015 10:44 am
Operator : NicoleH1
Sample : mb
Misc : ms85142,vu9009,5.0,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 19 16:36:57 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



MU8988.M Tue May 19 16:37:05 2015 T

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9907\
Data File : u195250.D
Acq On : 18 May 2015 10:44 am
Operator : NicoleH1
Sample : bs
Misc : ms84779,vu9907,5.0,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 18 16:25:19 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	7.878	65	85725	500.00	ug/L		0.00
5) pentafluorobenzene	10.079	168	280904	50.00	ug/L		0.00
64) 1,4-difluorobenzene	10.999	114	324293	50.00	ug/L		0.00
96) chlorobenzene-d5	14.324	117	295193	50.00	ug/L		0.00
112) 1,4-dichlorobenzene-d4	16.902	152	167741	50.00	ug/L		0.00
System Monitoring Compounds							
56) dibromofluoromethane (s)	10.158	113	98454	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	106856	52.87	ug/L		0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 105.74%				
88) toluene-d8 (s)	12.683	98	373148	50.31	ug/L		0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 100.62%				
114) 4-bromofluorobenzene (s)	15.605	95	144337	48.58	ug/L		0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 97.16%				
Target Compounds							Qvalue
2) tertiary butyl alcohol	7.998	59	50493	262.84	ug/L		90
4) 1,4-dioxane	11.736	88	22539	1308.04	ug/L		98
11) chlorodifluoromethane	4.402	51	88456	44.37	ug/L		98
12) dichlorodifluoromethane	4.360	85	110942	50.43	ug/L		100
15) chloromethane	4.773	50	116454	48.08	ug/L		99
16) vinyl chloride	5.050	62	117650	52.53	ug/L		99
18) bromomethane	5.714	94	87708	53.10	ug/L		97
19) chloroethane	5.886	64	67930	59.66	ug/L		99
20) trichlorofluoromethane	6.315	101	159108	53.39	ug/L		97
23) ethyl ether	6.754	74	51810	49.11	ug/L		93
24) 2-CHLOROPROPANE	6.979	43	173533	49.76	ug/L		95
27) acrolein	7.047	56	186744	585.47	ug/L		99
28) 1,1-dichloroethene	7.204	96	88314	50.38	ug/L		98
29) acetone	7.267	58	7097	44.43	ug/L	#	85
30) allyl chloride	7.737	76	55612	55.64	ug/L		96
31) acetonitrile	7.732	40	70526	513.97	ug/L		91
32) iodomethane	7.502	142	181219	52.23	ug/L		97
33) carbon disulfide	7.622	76	286788	50.57	ug/L		99
34) 1-CHLOROPROPANE	7.957	63	7954	48.34	ug/L		91
35) methylene chloride	7.936	84	98875	44.61	ug/L		97
36) methyl acetate	7.711	43	61338	42.37	ug/L		99
37) methyl tert butyl ether	8.228	73	548786	99.61	ug/L		89
38) trans-1,2-dichloroethene	8.296	96	97899	49.75	ug/L		99
39) di-isopropyl ether	8.804	45	298684	49.68	ug/L		96
40) ethyl tert-butyl ether	9.264	59	294764	50.25	ug/L		99
41) 2-butanone	9.551	72	10733	48.47	ug/L	#	94
42) 1,1-dichloroethane	8.866	63	177452	53.57	ug/L		99
43) chloroprene	8.960	53	126539	46.29	ug/L		99
44) acrylonitrile	8.270	53	161425	270.50	ug/L		100
45) vinyl acetate	8.830	86	17156	48.91	ug/L		98
46) ethyl acetate	9.556	45	12150	46.59	ug/L		99
47) 2,2-dichloropropane	9.588	77	158779	54.90	ug/L		98
48) cis-1,2-dichloroethene	9.593	96	109093	50.30	ug/L		95
49) methyl acrylate	9.645	85	14118	46.67	ug/L		91
50) propionitrile	9.682	54	121751	508.61	ug/L		98
51) bromochloromethane	9.912	128	57058	51.86	ug/L		98
52) tetrahydrofuran	9.938	42	30495	45.15	ug/L		98
53) chloroform	9.954	83	178297	51.71	ug/L		99
54) tert-butyl Formate	9.975	59	88666	52.61	ug/L		98
55) iso-butyl alcohol	10.372	43	37980	404.04	ug/L		95

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9907\
Data File : u195250.D
Acq On : 18 May 2015 10:44 am
Operator : NicoleH1
Sample : bs
Misc : ms84779,vu9007,5.0,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 18 16:25:19 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	7.167	151	79783	55.36	ug/L		97
59)	methacrylonitrile	9.849	41	53124	45.74	ug/L		99
60)	1,1,1-trichloroethane	10.205	97	162261	55.14	ug/L		99
62)	tert-amyl methyl ether	10.649	87	69159	48.67	ug/L		97
63)	iso-octane	10.607	57	310529	51.49	ug/L		97
66)	epichlorohydrin	12.296	57	44382	238.91	ug/L		97
67)	n-butyl alcohol	11.120	56	135438	2552.25	ug/L		98
68)	Cyclohexane	10.262	84	148377	52.51	ug/L		94
69)	carbon tetrachloride	10.398	117	153534	57.38	ug/L		99
70)	1,1-dichloropropene	10.372	75	141047	55.37	ug/L		100
71)	hexane	8.558	57	104378	48.88	ug/L		98
72)	benzene	10.644	78	392224	50.12	ug/L		99
73)	heptane	10.764	57	65376	49.21	ug/L		98
74)	isopropyl acetate	10.534	43	171714	48.64	ug/L		99
75)	1,2-dichloroethane	10.670	62	136891	56.11	ug/L		98
78)	trichloroethene	11.344	95	106371	52.15	ug/L		98
79)	methylcyclohexane	11.553	83	160014	51.97	ug/L		99
80)	2-nitropropane	12.155	41	41013	54.83	ug/L		98
81)	2-chloroethyl vinyl ether	12.149	63	280599	264.99	ug/L		98
82)	methyl methacrylate	11.601	100	26420	48.99	ug/L	#	87
83)	1,2-dichloropropane	11.627	63	102122	53.24	ug/L		97
84)	propyl acetate	11.637	73	18289	47.56	ug/L		98
85)	dibromomethane	11.799	93	65418	52.31	ug/L		99
86)	bromodichloromethane	11.919	83	143675	53.33	ug/L		99
87)	cis-1,3-dichloropropene	12.385	75	177988	54.26	ug/L		95
89)	4-methyl-2-pentanone	12.474	58	35308	48.51	ug/L		99
90)	toluene	12.761	92	259724	51.82	ug/L		99
91)	3-methyl-1-butanol	12.489	55	87128	934.42	ug/L		99
92)	trans-1,3-dichloropropene	12.976	75	163332	54.53	ug/L		97
93)	ethyl methacrylate	12.939	69	119025	48.15	ug/L		99
94)	1,1,2-trichloroethane	13.216	83	76623	51.64	ug/L		98
95)	2-hexanone	13.378	58	33429	46.86	ug/L		100
97)	cyclohexanone	15.579	55	55536	260.07	ug/L		97
98)	tetrachloroethene	13.383	164	109052	51.39	ug/L		99
99)	1,3-dichloropropane	13.409	76	152137	51.48	ug/L		99
100)	butyl acetate	13.441	56	59258	47.39	ug/L		96
101)	dibromochloromethane	13.702	129	126039	53.38	ug/L		99
102)	1,2-dibromoethane	13.869	107	100809	51.67	ug/L		99
103)	3,3-dimethyl-1-Butanol	13.561	57	92120	465.75	ug/L		99
104)	n-butyl ether	14.215	57	444540	50.07	ug/L		99
105)	chlorobenzene	14.361	112	314874	52.61	ug/L		98
106)	1,1,1,2-tetrachloroethane	14.424	131	121126	53.41	ug/L		99
107)	ethylbenzene	14.403	91	512285	51.37	ug/L		100
108)	m,p-xylene	14.518	106	412516	105.53	ug/L		100
109)	o-xylene	14.988	106	203358	52.82	ug/L		97
110)	styrene	14.999	104	344896	52.22	ug/L		99
111)	bromoform	15.318	173	96312	52.21	ug/L		99
113)	isopropylbenzene	15.359	105	533921	51.91	ug/L		99
115)	bromobenzene	15.830	156	157964	53.67	ug/L		92
116)	1,1,2,2-tetrachloroethane	15.720	83	120623	49.06	ug/L		100
117)	trans-1,4-dichloro-2-b...	15.762	53	36323	51.28	ug/L		93
118)	1,2,3-trichloropropane	15.809	110	34897	49.25	ug/L		100
119)	n-propylbenzene	15.814	91	632027	54.37	ug/L		100
120)	2-chlorotoluene	15.992	126	137908	52.09	ug/L		97
121)	4-chlorotoluene	16.102	91	375088	50.61	ug/L		99
123)	1,3,5-trimethylbenzene	15.976	105	449793	51.30	ug/L		99
124)	tert-butylbenzene	16.368	119	408364	52.44	ug/L		100
125)	pentachloroethane	16.483	167	96266	54.57	ug/L		99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9907\
Data File : u195250.D
Acq On : 18 May 2015 10:44 am
Operator : NicoleH1
Sample : bs
Misc : ms84779,vu9007,5.0,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 18 16:25:19 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)
126) 1,2,4-trimethylbenzene	16.421	105	460975	53.67 ug/L	98
128) sec-butylbenzene	16.609	105	583522	52.29 ug/L	100
129) 1,3-dichlorobenzene	16.839	146	282461	51.45 ug/L	99
130) p-isopropyltoluene	16.734	119	520521	53.07 ug/L	99
131) 1,4-dichlorobenzene	16.928	146	286980	51.72 ug/L	99
132) benzyl chloride	17.059	91	273093	52.67 ug/L	99
133) 1,2-dichlorobenzene	17.372	146	265624	52.53 ug/L	99
135) n-butylbenzene	17.195	92	246410	53.45 ug/L	97
137) 1,2-dibromo-3-chloropr...	18.235	157	28966	47.34 ug/L	97
138) 1,3,5-trichlorobenzene	18.413	180	235379	52.94 ug/L	99
139) 1,2,4-trichlorobenzene	19.155	180	200486	52.99 ug/L	98
140) hexachlorobutadiene	19.265	225	119877	52.90 ug/L	99
141) naphthalene	19.484	128	359200	49.59 ug/L	99
143) 1,2,3-trichlorobenzene	19.756	180	165997	50.07 ug/L	98
144) hexachloroethane	17.649	201	104591	53.32 ug/L	99

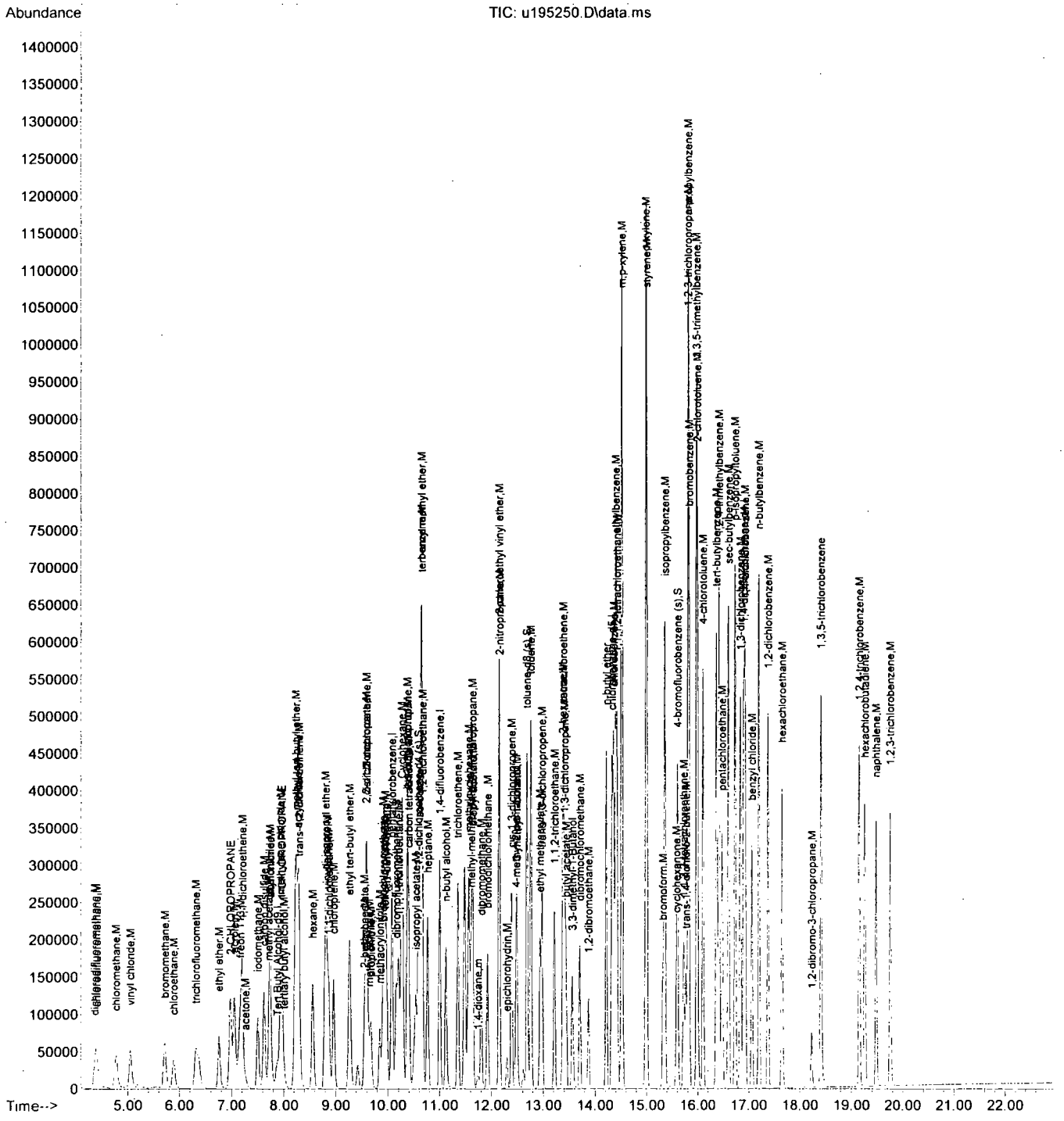
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.3.1

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9907\
Data File : u195250.D
Acq On : 18 May 2015 10:44 am
Operator : NicoleH1
Sample : bs
Misc : ms84779,vu9007,5.0,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 18 16:25:19 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\vu9008\
Data File : u195274.D
Acq On : 18 May 2015 10:36 pm
Operator : NicoleH1
Sample : bs
Misc : ms85328,vu9008,5.0,,,,1
ALS Vial : 30 Sample Multiplier: 1

Quant Time: May 18 22:59:22 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	7.878	65	86953	500.00	ug/L		0.00
5) pentafluorobenzene	10.079	168	281000	50.00	ug/L		0.00
64) 1,4-difluorobenzene	10.999	114	326647	50.00	ug/L		0.00
96) chlorobenzene-d5	14.324	117	292908	50.00	ug/L		0.00
112) 1,4-dichlorobenzene-d4	16.901	152	166198	50.00	ug/L		0.00
System Monitoring Compounds							
56) dibromofluoromethane (s)	10.157	113	98719	51.67	ug/L		0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 103.34%				
57) 1,2-dichloroethane-d4 (s)	10.581	65	107368	53.11	ug/L		0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 106.22%				
88) toluene-d8 (s)	12.682	98	374254	50.10	ug/L		0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 100.20%				
114) 4-bromofluorobenzene (s)	15.605	95	143569	48.77	ug/L		0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 97.54%				
Target Compounds							Qvalue
2) tertiary butyl alcohol	7.993	59	51891	266.31	ug/L		73
4) 1,4-dioxane	11.736	88	23181	1326.30	ug/L		98
11) chlorodifluoromethane	4.396	51	86466	43.35	ug/L		99
12) dichlorodifluoromethane	4.365	85	111206	50.54	ug/L		99
15) chloromethane	4.767	50	118093	48.74	ug/L		100
16) vinyl chloride	5.044	62	120304	53.70	ug/L		100
18) bromomethane	5.713	94	86818	52.55	ug/L		98
19) chloroethane	5.881	64	67851	59.57	ug/L		99
20) trichlorofluoromethane	6.320	101	154805	51.94	ug/L		97
23) ethyl ether	6.754	74	53775	50.95	ug/L		93
24) 2-CHLOROPROPANE	6.973	43	171934	49.29	ug/L		95
27) acrolein	7.052	56	185779	582.24	ug/L		99
28) 1,1-dichloroethene	7.203	96	87720	50.02	ug/L		96
29) acetone	7.266	58	7541	47.19	ug/L		93
30) allyl chloride	7.737	76	54766	54.78	ug/L		96
31) acetonitrile	7.737	40	73338	534.28	ug/L		90
32) iodomethane	7.501	142	180614	52.04	ug/L		98
33) carbon disulfide	7.622	76	282457	49.79	ug/L		99
34) 1-CHLOROPROPANE	7.961	63	8206	49.85	ug/L		95
35) methylene chloride	7.935	84	98964	44.63	ug/L		97
36) methyl acetate	7.711	43	63705	43.99	ug/L		99
37) methyl tert butyl ether	8.228	73	552961	100.33	ug/L		90
38) trans-1,2-dichloroethene	8.296	96	97587	49.57	ug/L		99
39) di-isopropyl ether	8.803	45	300683	49.99	ug/L		96
40) ethyl tert-butyl ether	9.263	59	295206	50.31	ug/L		99
41) 2-butanone	9.556	72	10894	49.18	ug/L		97
42) 1,1-dichloroethane	8.861	63	175910	53.08	ug/L		100
43) chloroprene	8.960	53	127033	46.46	ug/L		98
44) acrylonitrile	8.270	53	164495	275.55	ug/L		100
45) vinyl acetate	8.835	86	17239	49.13	ug/L	#	84
46) ethyl acetate	9.556	45	11997	45.99	ug/L		94
47) 2,2-dichloropropane	9.593	77	135802	46.94	ug/L		99
48) cis-1,2-dichloroethene	9.593	96	109469	50.45	ug/L		99
49) methyl acrylate	9.640	85	14541	48.05	ug/L		91
50) propionitrile	9.681	54	125349	523.46	ug/L		100
51) bromochloromethane	9.912	128	57490	52.24	ug/L		98
52) tetrahydrofuran	9.938	42	31128	46.07	ug/L		99
53) chloroform	9.953	83	179734	52.11	ug/L		98
54) tert-butyl Formate	9.974	59	87436	51.87	ug/L		99
55) iso-butyl alcohol	10.372	43	38425	408.63	ug/L		95

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9008\
Data File : u195274.D
Acq On : 18 May 2015 10:36 pm
Operator : NicoleH1
Sample : bs
Misc : ms85328,vu9008,5.0,,,,1
ALS Vial : 30 Sample Multiplier: 1

Quant Time: May 18 22:59:22 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	7.162	151	78409	54.39	ug/L		98
59)	methacrylonitrile	9.849	41	54025	46.50	ug/L		98
60)	1,1,1-trichloroethane	10.199	97	160520	54.53	ug/L		98
62)	tert-amyl methyl ether	10.643	87	70101	49.32	ug/L		93
63)	iso-octane	10.602	57	293159	48.60	ug/L		97
66)	epichlorohydrin	12.301	57	43732	233.71	ug/L		96
67)	n-butyl alcohol	11.119	56	138211	2585.73	ug/L		98
68)	Cyclohexane	10.262	84	147899	51.97	ug/L		91
69)	carbon tetrachloride	10.398	117	152864	56.72	ug/L		99
70)	1,1-dichloropropene	10.372	75	142123	55.39	ug/L		99
71)	hexane	8.557	57	98530	45.81	ug/L		97
72)	benzene	10.643	78	394018	49.98	ug/L		100
73)	heptane	10.764	57	58824	43.96	ug/L		99
74)	isopropyl acetate	10.534	43	182825	51.41	ug/L		98
75)	1,2-dichloroethane	10.670	62	138947	56.54	ug/L		98
78)	trichloroethene	11.349	95	107760	52.45	ug/L		99
79)	methylcyclohexane	11.553	83	158102	50.98	ug/L		98
80)	2-nitropropane	12.154	41	41818	55.50	ug/L		99
81)	2-chloroethyl vinyl ether	12.149	63	291037	272.86	ug/L		99
82)	methyl methacrylate	11.600	100	26857	49.44	ug/L	#	83
83)	1,2-dichloropropane	11.626	63	103284	53.46	ug/L		97
84)	propyl acetate	11.632	73	18699	48.28	ug/L		98
85)	dibromomethane	11.799	93	66570	52.85	ug/L		98
86)	bromodichloromethane	11.919	83	144869	53.38	ug/L		99
87)	cis-1,3-dichloropropene	12.390	75	174781	52.90	ug/L		97
89)	4-methyl-2-pentanone	12.478	58	36477	49.75	ug/L		98
90)	toluene	12.761	92	260447	51.59	ug/L		99
91)	3-methyl-1-butanol	12.489	55	88154	938.61	ug/L		99
92)	trans-1,3-dichloropropene	12.980	75	160276	53.12	ug/L		98
93)	ethyl methacrylate	12.939	69	122122	49.05	ug/L		100
94)	1,1,2-trichloroethane	13.216	83	78276	52.38	ug/L		97
95)	2-hexanone	13.383	58	34314	47.75	ug/L		99
97)	cyclohexanone	15.584	55	31853	150.33	ug/L		97
98)	tetrachloroethene	13.383	164	109001	51.77	ug/L		99
99)	1,3-dichloropropane	13.414	76	154936	52.83	ug/L		98
100)	butyl acetate	13.440	56	61413	49.49	ug/L		92
101)	dibromochloromethane	13.702	129	127228	54.31	ug/L		100
102)	1,2-dibromoethane	13.869	107	102241	52.82	ug/L		100
103)	3,3-dimethyl-1-Butanol	13.561	57	93108	474.41	ug/L		100
104)	n-butyl ether	14.214	57	444015	50.40	ug/L		99
105)	chlorobenzene	14.361	112	313231	52.74	ug/L		99
106)	1,1,1,2-tetrachloroethane	14.423	131	121124	53.83	ug/L		97
107)	ethylbenzene	14.402	91	508620	51.40	ug/L		100
108)	m,p-xylene	14.517	106	410814	105.92	ug/L		99
109)	o-xylene	14.988	106	203225	53.19	ug/L		98
110)	styrene	15.004	104	346274	52.84	ug/L		99
111)	bromoform	15.323	173	97085	53.04	ug/L		99
113)	isopropylbenzene	15.359	105	529168	51.93	ug/L		99
115)	bromobenzene	15.824	156	156373	53.62	ug/L		97
116)	1,1,2,2-tetrachloroethane	15.720	83	121492	49.88	ug/L		99
117)	trans-1,4-dichloro-2-b...	15.762	53	32745	46.65	ug/L		93
118)	1,2,3-trichloropropane	15.809	110	34988	49.84	ug/L		98
119)	n-propylbenzene	15.814	91	623187	54.11	ug/L		100
120)	2-chlorotoluene	15.992	126	136665	52.10	ug/L		99
121)	4-chlorotoluene	16.101	91	370592	50.47	ug/L		98
123)	1,3,5-trimethylbenzene	15.976	105	440944	50.76	ug/L		100
124)	tert-butylbenzene	16.368	119	393916	51.06	ug/L		98
125)	pentachloroethane	16.483	167	94899	54.29	ug/L		99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9008\
Data File : u195274.D
Acq On : 18 May 2015 10:36 pm
Operator : NicoleH1
Sample : bs
Misc : ms85328,vu9008,5.0,,,,1
ALS Vial : 30 Sample Multiplier: 1

Quant Time: May 18 22:59:22 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)
126) 1,2,4-trimethylbenzene	16.420	105	453292	53.26	ug/L	99
128) sec-butylbenzene	16.609	105	575005	52.00	ug/L	100
129) 1,3-dichlorobenzene	16.839	146	280532	51.57	ug/L	99
130) p-isopropyltoluene	16.734	119	510122	52.49	ug/L	98
131) 1,4-dichlorobenzene	16.928	146	286272	52.07	ug/L	99
132) benzyl chloride	17.058	91	212282	41.32	ug/L	100
133) 1,2-dichlorobenzene	17.372	146	265863	53.07	ug/L	98
135) n-butylbenzene	17.194	92	238126	52.14	ug/L	99
137) 1,2-dibromo-3-chloropr...	18.235	157	29142	48.07	ug/L	94
138) 1,3,5-trichlorobenzene	18.418	180	229977	52.21	ug/L	100
139) 1,2,4-trichlorobenzene	19.155	180	198290	52.90	ug/L	100
140) hexachlorobutadiene	19.264	225	114188	50.86	ug/L	99
141) naphthalene	19.484	128	363373	50.63	ug/L	100
143) 1,2,3-trichlorobenzene	19.761	180	164494	50.08	ug/L	99
144) hexachloroethane	17.649	201	102271	52.62	ug/L	99

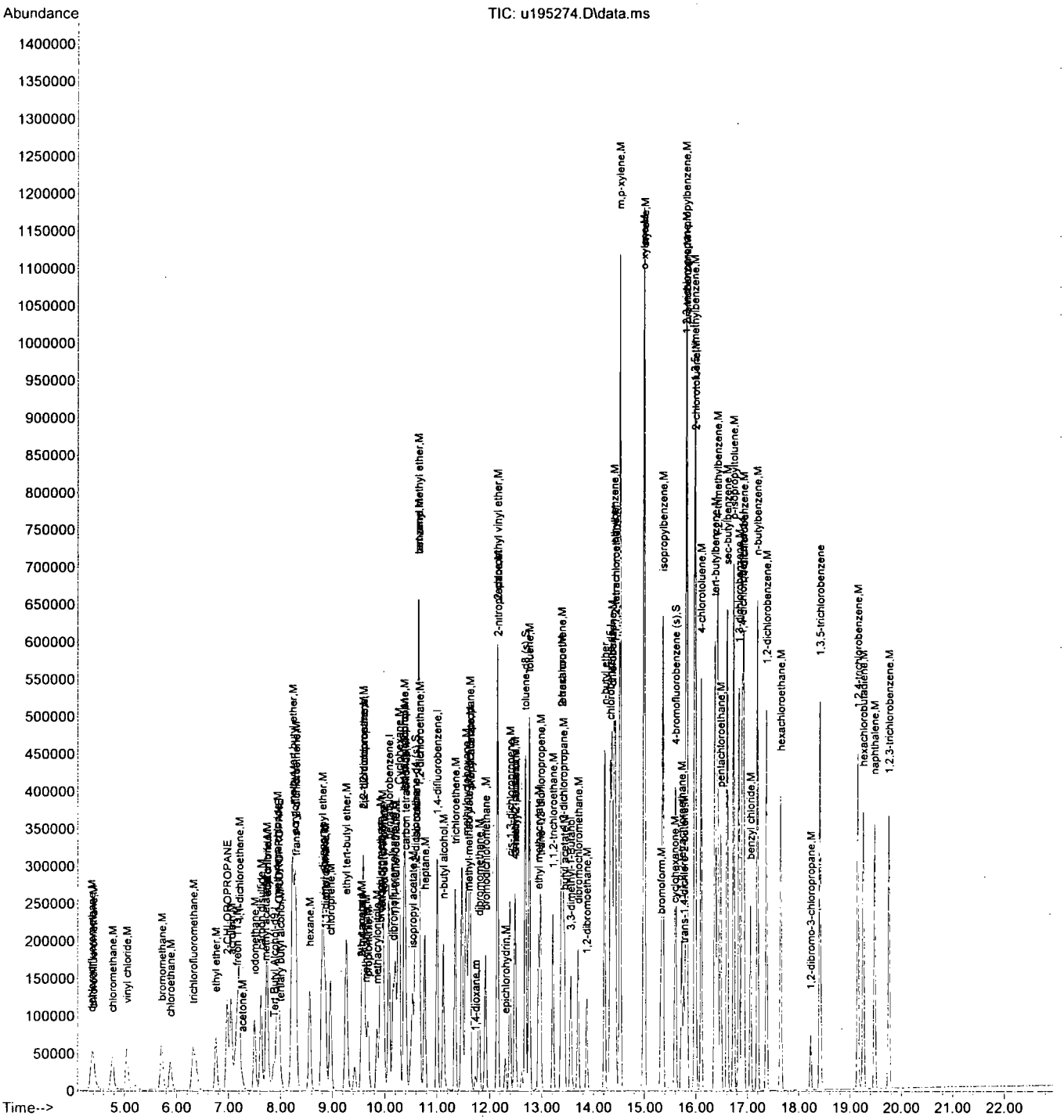
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.3.2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9008\
Data File : u195274.D
Acq On : 18 May 2015 10:36 pm
Operator : NicoleH1
Sample : bs
Misc : ms85328,vu9008,5.0,,,,1
ALS Vial : 30 Sample Multiplier: 1

Quant Time: May 18 22:59:22 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\vu9009\
Data File : u195301.D
Acq On : 19 May 2015 11:13 am
Operator : NicoleH1
Sample : bs
Misc : ms85328,vu9009,5.0,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 19 11:36:46 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	7.878	65	86016	500.00	ug/L		0.00
5) pentafluorobenzene	10.079	168	270816	50.00	ug/L		0.00
64) 1,4-difluorobenzene	11.005	114	315836	50.00	ug/L		0.00
96) chlorobenzene-d5	14.324	117	289649	50.00	ug/L		0.00
112) 1,4-dichlorobenzene-d4	16.902	152	164000	50.00	ug/L		0.00
System Monitoring Compounds							
56) dibromofluoromethane (s)	10.158	113	96519	52.42	ug/L		0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 104.84%				
57) 1,2-dichloroethane-d4 (s)	10.581	65	104316	53.54	ug/L		0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 107.08%				
88) toluene-d8 (s)	12.683	98	366542	50.75	ug/L		0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 101.50%				
114) 4-bromofluorobenzene (s)	15.605	95	140494	48.37	ug/L		0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 96.74%				
Target Compounds							Qvalue
2) tertiary butyl alcohol	7.993	59	50325	261.08	ug/L		72
4) 1,4-dioxane	11.736	88	22234	1285.98	ug/L		99
11) chlorodifluoromethane	4.396	51	85677	44.57	ug/L		98
12) dichlorodifluoromethane	4.365	85	106779	50.35	ug/L		99
15) chloromethane	4.778	50	120490	51.60	ug/L		98
16) vinyl chloride	5.050	62	119007	55.11	ug/L		100
18) bromomethane	5.714	94	87093	54.69	ug/L		99
19) chloroethane	5.886	64	68577	62.47	ug/L		98
20) trichlorofluoromethane	6.320	101	147285	51.28	ug/L		99
23) ethyl ether	6.759	74	51474	50.61	ug/L		92
24) 2-CHLOROPROPANE	6.979	43	172400	51.28	ug/L		94
27) acrolein	7.052	56	193457	629.11	ug/L		98
28) 1,1-dichloroethene	7.204	96	86199	51.00	ug/L		97
29) acetone	7.272	58	6763	43.92	ug/L	#	80
30) allyl chloride	7.737	76	54647	56.71	ug/L		94
31) acetonitrile	7.732	40	70582	533.54	ug/L		92
32) iodomethane	7.502	142	179255	53.59	ug/L		97
33) carbon disulfide	7.622	76	286468	52.39	ug/L		98
34) 1-CHLOROPROPANE	7.962	63	7883	49.69	ug/L		91
35) methylene chloride	7.941	84	97179	45.47	ug/L		95
36) methyl acetate	7.716	43	60499	43.34	ug/L		100
37) methyl tert butyl ether	8.234	73	537859	101.26	ug/L		91
38) trans-1,2-dichloroethene	8.296	96	95361	50.26	ug/L		99
39) di-isopropyl ether	8.804	45	295841	51.04	ug/L		94
40) ethyl tert-butyl ether	9.264	59	288996	51.10	ug/L		99
41) 2-butanone	9.556	72	10519	49.27	ug/L	#	94
42) 1,1-dichloroethane	8.866	63	174766	54.72	ug/L		100
43) chloroprene	8.960	53	123247	46.77	ug/L		98
44) acrylonitrile	8.270	53	158734	275.90	ug/L		99
45) vinyl acetate	8.835	86	16460	48.68	ug/L	#	85
46) ethyl acetate	9.556	45	11368	45.21	ug/L		96
47) 2,2-dichloropropane	9.593	77	156497	56.13	ug/L		98
48) cis-1,2-dichloroethene	9.598	96	106456	50.91	ug/L		97
49) methyl acrylate	9.645	85	13874	47.57	ug/L	#	88
50) propionitrile	9.682	54	119425	517.47	ug/L		98
51) bromochloromethane	9.912	128	55480	52.31	ug/L		99
52) tetrahydrofuran	9.938	42	29771	45.72	ug/L		99
53) chloroform	9.959	83	174761	52.57	ug/L		98
54) tert-butyl Formate	9.980	59	85290	52.50	ug/L		99
55) iso-butyl alcohol	10.372	43	36990	408.17	ug/L		96

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9009\
Data File : u195301.D
Acq On : 19 May 2015 11:13 am
Operator : NicoleH1
Sample : bs
Misc : ms85328,vu9009,5.0,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 19 11:36:46 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	7.167	151	75933	54.65	ug/L		100
59)	methacrylonitrile	9.849	41	52094	46.53	ug/L		98
60)	1,1,1-trichloroethane	10.199	97	157933	55.67	ug/L		99
62)	tert-amyl methyl ether	10.644	87	67481	49.26	ug/L		94
63)	iso-octane	10.607	57	298075	51.27	ug/L		97
66)	epichlorohydrin	12.296	57	42994	237.64	ug/L		97
67)	n-butyl alcohol	11.120	56	133860	2590.05	ug/L		99
68)	Cyclohexane	10.267	84	143680	52.21	ug/L		95
69)	carbon tetrachloride	10.398	117	148922	57.15	ug/L		99
70)	1,1-dichloropropene	10.372	75	137793	55.54	ug/L		99
71)	hexane	8.563	57	85139	40.94	ug/L		99
72)	benzene	10.644	78	384709	50.47	ug/L		99
73)	heptane	10.764	57	63107	48.77	ug/L		99
74)	isopropyl acetate	10.534	43	175105	50.93	ug/L		99
75)	1,2-dichloroethane	10.670	62	134347	56.54	ug/L		100
78)	trichloroethene	11.350	95	103901	52.30	ug/L		99
79)	methylcyclohexane	11.554	83	152721	50.93	ug/L		96
80)	2-nitropropane	12.155	41	39424	54.12	ug/L	#	92
81)	2-chloroethyl vinyl ether	12.150	63	272844	264.56	ug/L		99
82)	methyl methacrylate	11.601	100	25396	48.35	ug/L	#	86
83)	1,2-dichloropropane	11.627	63	100495	53.79	ug/L		98
84)	propyl acetate	11.637	73	17887	47.76	ug/L		98
85)	dibromomethane	11.799	93	63107	51.81	ug/L		98
86)	bromodichloromethane	11.919	83	140784	53.66	ug/L		97
87)	cis-1,3-dichloropropene	12.390	75	173771	54.40	ug/L		96
89)	4-methyl-2-pentanone	12.474	58	34624	48.84	ug/L		100
90)	toluene	12.761	92	255167	52.27	ug/L		100
91)	3-methyl-1-butanol	12.489	55	84864	934.51	ug/L		99
92)	trans-1,3-dichloropropene	12.981	75	158708	54.40	ug/L		97
93)	ethyl methacrylate	12.944	69	116835	48.53	ug/L		99
94)	1,1,2-trichloroethane	13.216	83	75023	51.92	ug/L		99
95)	2-hexanone	13.378	58	32626	46.96	ug/L		99
97)	cyclohexanone	15.584	55	30075	143.53	ug/L		97
98)	tetrachloroethene	13.383	164	105659	50.75	ug/L		99
99)	1,3-dichloropropane	13.415	76	149967	51.71	ug/L		99
100)	butyl acetate	13.441	56	57770	47.08	ug/L		89
101)	dibromochloromethane	13.702	129	122334	52.80	ug/L		99
102)	1,2-dibromoethane	13.870	107	97471	50.92	ug/L		99
103)	3,3-dimethyl-1-Butanol	13.561	57	90724	467.47	ug/L		100
104)	n-butyl ether	14.215	57	438411	50.32	ug/L		100
105)	chlorobenzene	14.361	112	308510	52.53	ug/L		99
106)	1,1,1,2-tetrachloroethane	14.424	131	118247	53.14	ug/L		100
107)	ethylbenzene	14.403	91	500465	51.14	ug/L		99
108)	m,p-xylene	14.518	106	402153	104.85	ug/L		98
109)	o-xylene	14.988	106	194727	51.54	ug/L		98
110)	styrene	14.999	104	334827	51.67	ug/L		98
111)	bromoform	15.318	173	93129	51.45	ug/L		99
113)	isopropylbenzene	15.360	105	510835	50.80	ug/L		99
115)	bromobenzene	15.830	156	152335	52.94	ug/L		95
116)	1,1,2,2-tetrachloroethane	15.720	83	117883	49.04	ug/L		97
117)	trans-1,4-dichloro-2-b...	15.762	53	34467	49.76	ug/L		91
118)	1,2,3-trichloropropane	15.809	110	33510	48.37	ug/L		99
119)	n-propylbenzene	15.814	91	616172	54.21	ug/L		100
120)	2-chlorotoluene	15.992	126	133101	51.42	ug/L		99
121)	4-chlorotoluene	16.102	91	363808	50.21	ug/L		99
123)	1,3,5-trimethylbenzene	15.976	105	431440	50.33	ug/L		99
124)	tert-butylbenzene	16.369	119	388998	51.10	ug/L		98
125)	pentachloroethane	16.484	167	93345	54.12	ug/L		99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9009\
Data File : u195301.D
Acq On : 19 May 2015 11:13 am
Operator : NicoleH1
Sample : bs
Misc : ms85328,vu9009,5.0,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 19 11:36:46 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

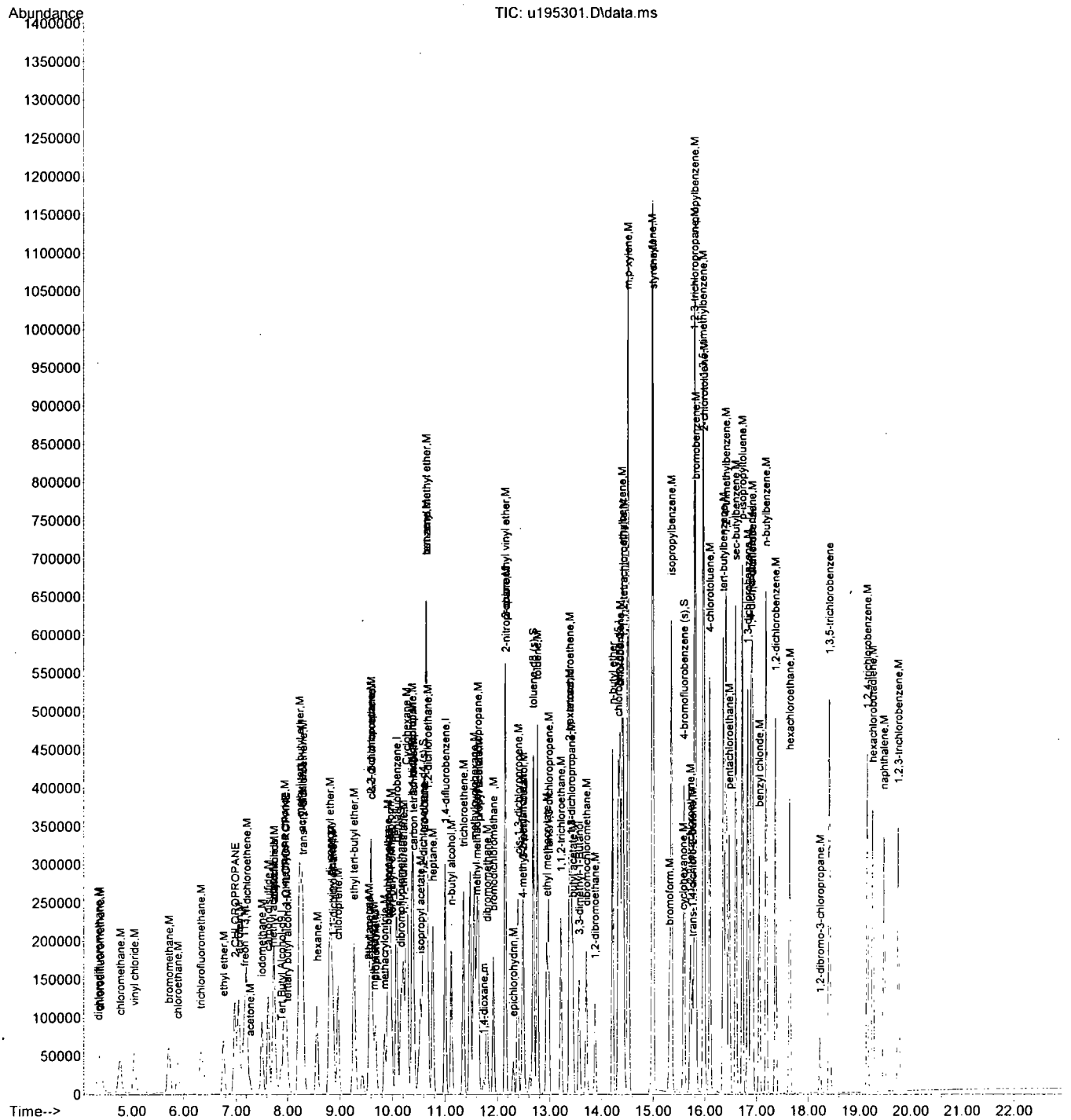
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
126) 1,2,4-trimethylbenzene	16.421	105	447134	53.24 ug/L	99
128) sec-butylbenzene	16.609	105	564067	51.70 ug/L	99
129) 1,3-dichlorobenzene	16.839	146	274967	51.23 ug/L	99
130) p-isopropyltoluene	16.734	119	500680	52.21 ug/L	98
131) 1,4-dichlorobenzene	16.928	146	278466	51.33 ug/L	100
132) benzyl chloride	17.059	91	267721	52.81 ug/L	99
133) 1,2-dichlorobenzene	17.372	146	259397	52.47 ug/L	99
135) n-butylbenzene	17.195	92	237268	52.65 ug/L	99
137) 1,2-dibromo-3-chloropr...	18.235	157	27994	46.80 ug/L	96
138) 1,3,5-trichlorobenzene	18.418	180	227390	52.31 ug/L	100
139) 1,2,4-trichlorobenzene	19.155	180	192690	52.09 ug/L	98
140) hexachlorobutadiene	19.265	225	112497	50.78 ug/L	99
141) naphthalene	19.484	128	345955	48.85 ug/L	100
143) 1,2,3-trichlorobenzene	19.761	180	157852	48.70 ug/L	100
144) hexachloroethane	17.649	201	100443	52.37 ug/L	99

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9009\
Data File : u195301.D
Acq On : 19 May 2015 11:13 am
Operator : NicoleH1
Sample : bs
Misc : ms85328,vu9009,5.0,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 19 11:36:46 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\vu9907\
Data File : u195259.D
Acq On : 18 May 2015 3:18 pm
Operator : NicoleH1
Sample : jb94653-3ms
Misc : ms85183,vu9007,5.0,,,,10
ALS Vial : 15 Sample Multiplier: 1

Quant Time: May 19 14:28:15 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 09:25:27 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Tert Butyl Alcohol-d9	7.878	65	89197	500.00	ug/L		0.00
5) pentafluorobenzene	10.079	168	291256	50.00	ug/L		0.00
64) 1,4-difluorobenzene	10.999	114	333599	50.00	ug/L		0.00
96) chlorobenzene-d5	14.324	117	302151	50.00	ug/L		0.00
112) 1,4-dichlorobenzene-d4	16.901	152	169348	50.00	ug/L		0.00
System Monitoring Compounds							
56) dibromofluoromethane (s)	10.157	113	102590	51.80	ug/L		0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 103.60%				
57) 1,2-dichloroethane-d4 (s)	10.581	65	110762	52.86	ug/L		0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 105.72%				
88) toluene-d8 (s)	12.682	98	383634	50.29	ug/L		0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 100.58%				
114) 4-bromofluorobenzene (s)	15.600	95	146792	48.94	ug/L		0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 97.88%				
Target Compounds							Qvalue
2) tertiary butyl alcohol	7.993	59	50403	252.16	ug/L	#	59
4) 1,4-dioxane	11.736	88	23581	1315.25	ug/L		98
11) chlorodifluoromethane	4.396	51	112742	54.54	ug/L		99
12) dichlorodifluoromethane	4.365	85	107591	47.17	ug/L		99
15) chloromethane	4.773	50	96691	38.51	ug/L		99
16) vinyl chloride	5.050	62	98327	42.34	ug/L		98
18) bromomethane	5.714	94	72738	42.47	ug/L		99
19) chloroethane	5.886	64	52946	44.85	ug/L		99
20) trichlorofluoromethane	6.320	101	147484	47.77	ug/L		95
23) ethyl ether	6.759	74	56362	51.53	ug/L		92
24) 2-CHLOROPROPANE	6.974	43	186515	51.58	ug/L		95
27) acrolein	7.052	56	161781	489.18	ug/L		100
28) 1,1-dichloroethene	7.204	96	99050	54.49	ug/L		98
29) acetone	7.266	58	7361	44.45	ug/L	#	79
30) allyl chloride	7.737	76	57259	55.26	ug/L		96
31) acetonitrile	7.732	40	73317	515.32	ug/L	#	91
32) iodomethane	7.502	142	206395	57.38	ug/L		98
33) carbon disulfide	7.622	76	335818	57.11	ug/L		98
34) 1-CHLOROPROPANE	7.967	63	8639	50.64	ug/L		92
35) methylene chloride	7.935	84	106466	46.32	ug/L		98
36) methyl acetate	7.716	43	66861	44.54	ug/L		100
37) methyl tert butyl ether	8.228	73	297649	52.11	ug/L		99
38) trans-1,2-dichloroethene	8.296	96	109219	53.53	ug/L		99
39) di-isopropyl ether	8.803	45	302806	48.57	ug/L		96
40) ethyl tert-butyl ether	9.269	59	312605	51.40	ug/L		99
41) 2-butanone	9.556	72	11324	49.32	ug/L	#	85
42) 1,1-dichloroethane	8.866	63	190753	55.53	ug/L		100
43) chloroprene	8.960	53	152248	53.72	ug/L		98
44) acrylonitrile	8.275	53	154964	250.44	ug/L		99
45) vinyl acetate	8.829	86	17116	47.06	ug/L	#	91
46) ethyl acetate	9.556	45	11869	43.89	ug/L		95
47) 2,2-dichloropropane	9.593	77	168883	56.32	ug/L		99
48) cis-1,2-dichloroethene	9.593	96	119688	53.22	ug/L		98
49) methyl acrylate	9.640	85	15081	48.08	ug/L	#	90
50) propionitrile	9.682	54	122083	491.87	ug/L		100
51) bromochloromethane	9.912	128	61500	53.92	ug/L		97
52) tetrahydrofuran	9.938	42	31346	44.76	ug/L		99
53) chloroform	9.953	83	190571	53.30	ug/L		100
54) tert-butyl Formate	9.980	59	73456	42.04	ug/L		97
55) iso-butyl alcohol	10.372	43	38115	391.06	ug/L		96

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9907\
Data File : u195259.D
Acq On : 18 May 2015 3:18 pm
Operator : NicoleH1
Sample : jb94653-3ms
Misc : ms85183,vu9007,5.0,,,,10
ALS Vial : 15 Sample Multiplier: 1

Quant Time: May 19 14:28:15 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 09:25:27 2015
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
58)	freon 113	7.157	151	87954	58.86	ug/L		99
59)	methacrylonitrile	9.849	41	55128	45.78	ug/L		99
60)	1,1,1-trichloroethane	10.204	97	174618	57.23	ug/L		99
62)	tert-amyl methyl ether	10.644	87	73252	49.72	ug/L		97
63)	iso-octane	10.602	57	379428	60.68	ug/L		99
66)	epichlorohydrin	12.301	57	40780	213.40	ug/L		98
67)	n-butyl alcohol	11.119	56	128268	2349.70	ug/L		97
68)	Cyclohexane	10.262	84	165650	56.99	ug/L		88
69)	carbon tetrachloride	10.398	117	166544	60.50	ug/L		99
70)	1,1-dichloropropene	10.372	75	150063	57.26	ug/L		98
71)	hexane	8.563	57	136504	62.14	ug/L		99
72)	benzene	10.644	78	416041	51.68	ug/L		99
73)	heptane	10.764	57	76404	55.90	ug/L		99
74)	isopropyl acetate	10.534	43	166131	45.74	ug/L		99
75)	1,2-dichloroethane	10.670	62	145850	58.11	ug/L		99
78)	trichloroethene	11.344	95	116020	55.29	ug/L		97
79)	methylcyclohexane	11.553	83	182154	57.52	ug/L		97
80)	2-nitropropane	12.154	41	28536	37.09	ug/L	#	1
81)	2-chloroethyl vinyl ether	12.154	63	2988	2.74	ug/L		97
82)	methyl methacrylate	11.600	100	27404	49.40	ug/L	#	88
83)	1,2-dichloropropane	11.626	63	106782	54.12	ug/L		97
84)	propyl acetate	11.637	73	18506	46.78	ug/L		95
85)	dibromomethane	11.799	93	69673	54.16	ug/L		97
86)	bromodichloromethane	11.919	83	152662	55.08	ug/L		98
87)	cis-1,3-dichloropropene	12.384	75	186232	55.19	ug/L		96
89)	4-methyl-2-pentanone	12.473	58	36251	48.41	ug/L		95
90)	toluene	12.761	92	277025	53.73	ug/L		98
91)	3-methyl-1-butanol	12.489	55	82140	856.35	ug/L		99
92)	trans-1,3-dichloropropene	12.980	75	173821	56.41	ug/L		99
93)	ethyl methacrylate	12.939	69	128423	50.51	ug/L		99
94)	1,1,2-trichloroethane	13.216	83	81876	53.64	ug/L		98
95)	2-hexanone	13.378	58	35883	48.89	ug/L		95
97)	cyclohexanone	15.584	55	29895	136.77	ug/L		98
98)	tetrachloroethene	13.383	164	691239	318.25	ug/L		99
99)	1,3-dichloropropane	13.409	76	160875	53.18	ug/L		98
100)	butyl acetate	13.441	56	59260	46.30	ug/L		94
101)	dibromochloromethane	13.702	129	134881	55.81	ug/L		100
102)	1,2-dibromoethane	13.874	107	106888	53.53	ug/L		99
103)	3,3-dimethyl-1-Butanol	13.561	57	87731	433.34	ug/L		100
104)	n-butyl ether	14.214	57	466656	51.35	ug/L		99
105)	chlorobenzene	14.361	112	330050	53.87	ug/L		99
106)	1,1,1,2-tetrachloroethane	14.423	131	128005	55.15	ug/L		99
107)	ethylbenzene	14.403	91	542400	53.14	ug/L		99
108)	m,p-xylene	14.518	106	434677	108.64	ug/L		99
109)	o-xylene	14.988	106	214379	54.40	ug/L		99
110)	styrene	14.999	104	358570	53.04	ug/L		99
111)	bromoform	15.317	173	102367	54.21	ug/L		99
113)	isopropylbenzene	15.359	105	557845	53.73	ug/L		98
115)	bromobenzene	15.825	156	162181	54.58	ug/L		98
116)	1,1,2,2-tetrachloroethane	15.720	83	129634	52.23	ug/L		100
117)	trans-1,4-dichloro-2-b...	15.762	53	34715	48.54	ug/L		92
118)	1,2,3-trichloropropane	15.809	110	36667	51.26	ug/L		98
119)	n-propylbenzene	15.814	91	623733	53.15	ug/L		100
120)	2-chlorotoluene	15.992	126	142707	53.39	ug/L		98
121)	4-chlorotoluene	16.102	91	391654	52.34	ug/L		99
123)	1,3,5-trimethylbenzene	15.976	105	464694	52.50	ug/L		99
124)	tert-butylbenzene	16.368	119	416283	52.95	ug/L		98
125)	pentachloroethane	16.483	167	98122	55.09	ug/L		99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9907\
Data File : u195259.D
Acq On : 18 May 2015 3:18 pm
Operator : NicoleH1
Sample : jb94653-3ms
Misc : ms85183,vu9007,5.0,,,,10
ALS Vial : 15 Sample Multiplier: 1

Quant Time: May 19 14:28:15 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 09:25:27 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
126) 1,2,4-trimethylbenzene	16.421	105	453420	52.29	ug/L	100
128) sec-butylbenzene	16.609	105	604550	53.66	ug/L	100
129) 1,3-dichlorobenzene	16.839	146	295637	53.34	ug/L	99
130) p-isopropyltoluene	16.734	119	527104	53.23	ug/L	98
131) 1,4-dichlorobenzene	16.928	146	296664	52.96	ug/L	100
132) benzyl chloride	17.058	91	265999	50.82	ug/L	100
133) 1,2-dichlorobenzene	17.372	146	276182	54.10	ug/L	99
135) n-butylbenzene	17.194	92	246331	52.93	ug/L	98
137) 1,2-dibromo-3-chloropr...	18.229	157	29559	47.85	ug/L	93
138) 1,3,5-trichlorobenzene	18.418	180	240219	53.52	ug/L	100
139) 1,2,4-trichlorobenzene	19.155	180	205020	53.67	ug/L	100
140) hexachlorobutadiene	19.265	225	121727	53.21	ug/L	99
141) naphthalene	19.484	128	379211	51.85	ug/L	100
143) 1,2,3-trichlorobenzene	19.756	180	171724	51.30	ug/L	99
144) hexachloroethane	17.649	201	104971	53.01	ug/L	99

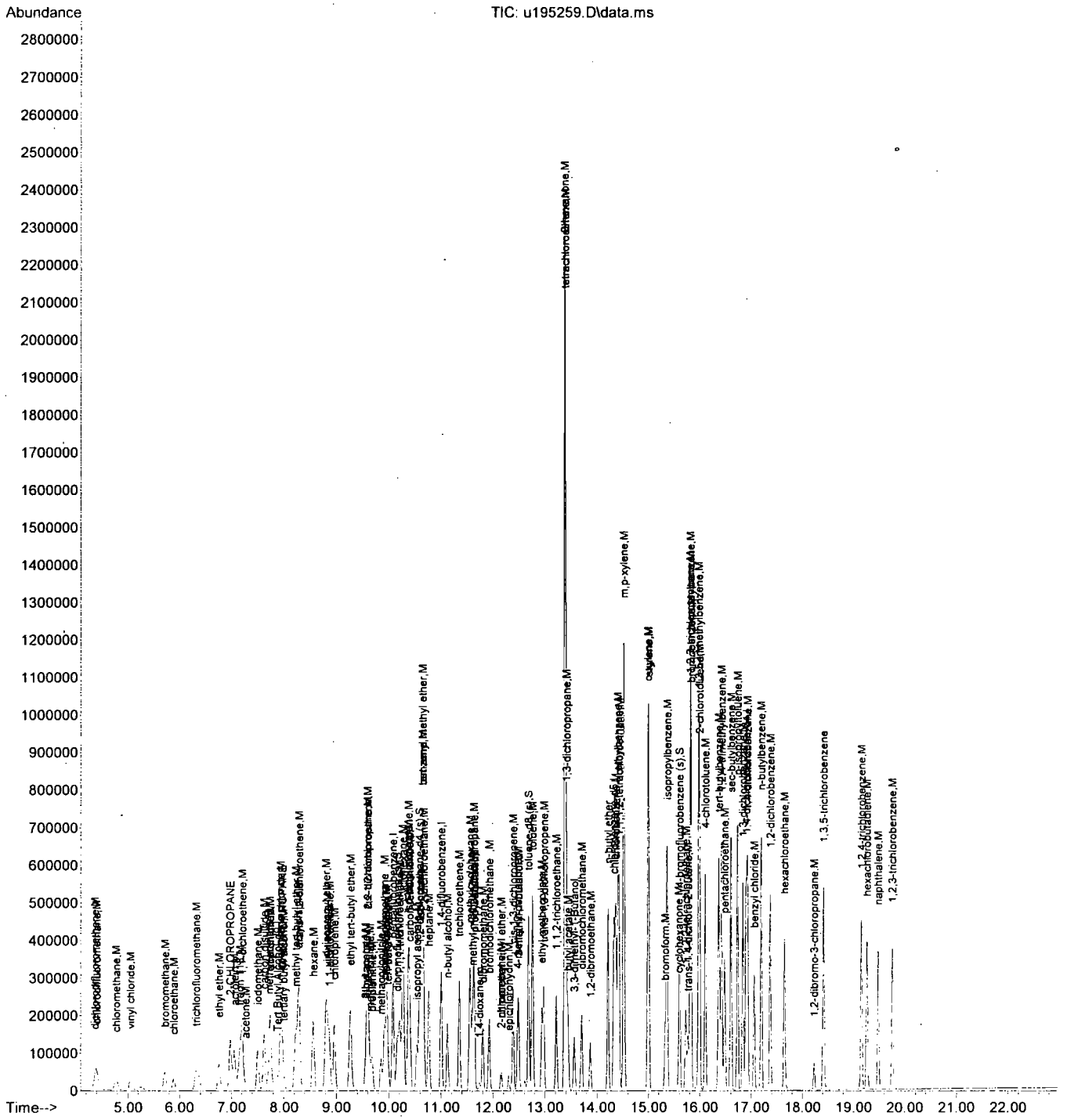
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.4.1

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9907\
Data File : u195259.D
Acq On : 18 May 2015 3:18 pm
Operator : NicoleH1
Sample : jb94653-3ms
Misc : ms85183,vu9007,5.0,,,,10
ALS Vial : 15 Sample Multiplier: 1

Quant Time: May 19 14:28:15 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 09:25:27 2015
Response via : Initial Calibration



7.4.1

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9907\
Data File : u195260.D
Acq On : 18 May 2015 3:48 pm
Operator : NicoleH1
Sample : jb94653-3msd
Misc : ms85183,vu9007,5.0,,,,10
ALS Vial : 16 Sample Multiplier: 1

Quant Time: May 19 14:33:54 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 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	89043	500.00	ug/L		-0.01
5) pentafluorobenzene	10.075	168	291852	50.00	ug/L		0.00
64) 1,4-difluorobenzene	11.001	114	336887	50.00	ug/L		0.00
96) chlorobenzene-d5	14.326	117	304998	50.00	ug/L		0.00
112) 1,4-dichlorobenzene-d4	16.898	152	171869	50.00	ug/L		0.00
System Monitoring Compounds							
56) dibromofluoromethane (s)	10.159	113	102269	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	111089	52.91	ug/L		0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 105.82%				
88) toluene-d8 (s)	12.684	98	385826	50.08	ug/L		0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 100.16%				
114) 4-bromofluorobenzene (s)	15.601	95	148756	48.87	ug/L		0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 97.74%				
Target Compounds							Qvalue
2) tertiary butyl alcohol	7.989	59	51520	258.20	ug/L		57
4) 1,4-dioxane	11.738	88	23632	1320.37	ug/L		97
11) chlorodifluoromethane	4.393	51	112700	54.41	ug/L		99
12) dichlorodifluoromethane	4.361	85	106412	46.56	ug/L		99
15) chloromethane	4.769	50	94611	37.60	ug/L		97
16) vinyl chloride	5.046	62	96872	41.63	ug/L		99
18) bromomethane	5.715	94	71420	41.62	ug/L		99
19) chloroethane	5.883	64	52599	44.46	ug/L		98
20) trichlorofluoromethane	6.316	101	147091	47.55	ug/L		97
23) ethyl ether	6.756	74	55992	51.08	ug/L		90
24) 2-CHLOROPROPANE	6.975	43	183178	50.56	ug/L		94
27) acrolein	7.048	56	160045	482.94	ug/L		99
28) 1,1-dichloroethene	7.205	96	98714	54.20	ug/L		99
29) acetone	7.263	58	7399	44.58	ug/L		94
30) allyl chloride	7.733	76	56846	54.74	ug/L		94
31) acetonitrile	7.733	40	74247	520.79	ug/L		90
32) iodomethane	7.498	142	205280	56.95	ug/L		97
33) carbon disulfide	7.618	76	331529	56.26	ug/L		98
34) 1-CHLOROPROPANE	7.958	63	8710	50.95	ug/L		96
35) methylene chloride	7.937	84	105855	45.96	ug/L		97
36) methyl acetate	7.712	43	65688	43.67	ug/L		99
37) methyl tert butyl ether	8.230	73	298444	52.14	ug/L		99
38) trans-1,2-dichloroethene	8.298	96	108816	53.22	ug/L		96
39) di-isopropyl ether	8.800	45	302352	48.40	ug/L		89
40) ethyl tert-butyl ether	9.265	59	311910	51.18	ug/L		99
41) 2-butanone	9.558	72	11216	48.75	ug/L	#	86
42) 1,1-dichloroethane	8.863	63	184805	53.69	ug/L		99
43) chloroprene	8.962	53	150149	52.87	ug/L		98
44) acrylonitrile	8.272	53	153405	247.42	ug/L		98
45) vinyl acetate	8.831	86	17264	47.37	ug/L	#	78
46) ethyl acetate	9.553	45	11849	43.73	ug/L		97
47) 2,2-dichloropropane	9.589	77	166584	55.44	ug/L		99
48) cis-1,2-dichloroethene	9.594	96	118549	52.61	ug/L		99
49) methyl acrylate	9.642	85	15070	47.95	ug/L	#	89
50) propionitrile	9.678	54	123383	496.09	ug/L		97
51) bromochloromethane	9.913	128	62265	54.47	ug/L		96
52) tetrahydrofuran	9.940	42	30483	43.44	ug/L		99
53) chloroform	9.955	83	188812	52.70	ug/L		99
54) tert-butyl Formate	9.976	59	71743	40.98	ug/L	#	95
55) iso-butyl alcohol	10.373	43	38813	397.41	ug/L		96

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9907\
Data File : u195260.D
Acq On : 18 May 2015 3:48 pm
Operator : NicoleH1
Sample : jb94653-3msd
Misc : ms85183,vu9007,5.0,,,,10
ALS Vial : 16 Sample Multiplier: 1

Quant Time: May 19 14:33:54 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 09:25:27 2015
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
58)	freon 113	7.158	151	86873	58.02	ug/L		99
59)	methacrylonitrile	9.851	41	55521	46.01	ug/L		99
60)	1,1,1-trichloroethane	10.201	97	172620	56.46	ug/L		99
62)	tert-amyl methyl ether	10.645	87	72938	49.41	ug/L		97
63)	iso-octane	10.603	57	366708	58.53	ug/L		99
66)	epichlorohydrin	12.297	57	40642	210.60	ug/L		98
67)	n-butyl alcohol	11.121	56	129563	2350.26	ug/L		97
68)	Cyclohexane	10.264	84	164595	56.08	ug/L		91
69)	carbon tetrachloride	10.400	117	165360	59.49	ug/L		99
70)	1,1-dichloropropene	10.373	75	147881	55.88	ug/L		100
71)	hexane	8.559	57	131573	59.31	ug/L		99
72)	benzene	10.645	78	410471	50.49	ug/L		100
73)	heptane	10.766	57	73226	53.05	ug/L		98
74)	isopropyl acetate	10.536	43	167897	45.78	ug/L		98
75)	1,2-dichloroethane	10.671	62	144853	57.15	ug/L		99
78)	trichloroethene	11.346	95	114578	54.07	ug/L		100
79)	methylcyclohexane	11.555	83	180731	56.51	ug/L		99
80)	2-nitropropane	12.156	41	28403	36.55	ug/L	#	1
82)	methyl methacrylate	11.602	100	27483	49.06	ug/L	#	82
83)	1,2-dichloropropane	11.628	63	105076	52.73	ug/L		96
84)	propyl acetate	11.639	73	18732	46.89	ug/L		92
85)	dibromomethane	11.801	93	69836	53.75	ug/L		98
86)	bromodichloromethane	11.921	83	152499	54.49	ug/L		98
87)	cis-1,3-dichloropropene	12.386	75	185010	54.30	ug/L		95
89)	4-methyl-2-pentanone	12.480	58	36748	48.60	ug/L		95
90)	toluene	12.763	92	274842	52.79	ug/L		99
91)	3-methyl-1-butanol	12.491	55	85100	878.56	ug/L		99
92)	trans-1,3-dichloropropene	12.977	75	174411	56.05	ug/L		97
93)	ethyl methacrylate	12.940	69	128636	50.10	ug/L		100
94)	1,1,2-trichloroethane	13.212	83	80961	52.53	ug/L		99
95)	2-hexanone	13.380	58	35379	47.74	ug/L		95
97)	cyclohexanone	15.586	55	30190	136.83	ug/L		99
98)	tetrachloroethene	13.385	164	685521	312.67	ug/L		99
99)	1,3-dichloropropane	13.411	76	159640	52.28	ug/L		99
100)	butyl acetate	13.442	56	58387	45.19	ug/L		95
101)	dibromochloromethane	13.704	129	135107	55.38	ug/L		100
102)	1,2-dibromoethane	13.871	107	106027	52.60	ug/L		97
103)	3,3-dimethyl-1-Butanol	13.563	57	91607	448.26	ug/L		99
104)	n-butyl ether	14.216	57	465639	50.76	ug/L		99
105)	chlorobenzene	14.362	112	328216	53.07	ug/L		100
106)	1,1,1,2-tetrachloroethane	14.425	131	127345	54.35	ug/L		99
107)	ethylbenzene	14.404	91	534959	51.92	ug/L		99
108)	m,p-xylene	14.519	106	431130	106.75	ug/L		100
109)	o-xylene	14.985	106	212813	53.49	ug/L		98
110)	styrene	15.000	104	357958	52.46	ug/L		100
111)	bromoform	15.319	173	102737	53.90	ug/L		99
113)	isopropylbenzene	15.356	105	552015	52.38	ug/L		99
115)	bromobenzene	15.826	156	161777	53.65	ug/L		99
116)	1,1,2,2-tetrachloroethane	15.722	83	129063	51.24	ug/L		99
117)	trans-1,4-dichloro-2-b...	15.764	53	35187	48.48	ug/L		95
118)	1,2,3-trichloropropane	15.811	110	36917	50.85	ug/L		97
119)	n-propylbenzene	15.816	91	625234	52.49	ug/L		100
120)	2-chlorotoluene	15.994	126	142079	52.38	ug/L		97
121)	4-chlorotoluene	16.103	91	388173	51.12	ug/L		98
123)	1,3,5-trimethylbenzene	15.978	105	464605	51.72	ug/L		99
124)	tert-butylbenzene	16.370	119	417472	52.33	ug/L		100
125)	pentachloroethane	16.485	167	99749	55.18	ug/L		99
126)	1,2,4-trimethylbenzene	16.422	105	454182	51.61	ug/L		100

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9907\
Data File : u195260.D
Acq On : 18 May 2015 3:48 pm
Operator : NicoleH1
Sample : jb94653-3msd
Misc : ms85183,vu9007,5.0,,,,10
ALS Vial : 16 Sample Multiplier: 1

Quant Time: May 19 14:33:54 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 09:25:27 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
128) sec-butylbenzene	16.605	105	599376	52.42	ug/L	100
129) 1,3-dichlorobenzene	16.840	146	298320	53.03	ug/L	99
130) p-isopropyltoluene	16.736	119	523113	52.05	ug/L	98
131) 1,4-dichlorobenzene	16.929	146	299700	52.72	ug/L	100
132) benzyl chloride	17.060	91	263924	49.68	ug/L	99
133) 1,2-dichlorobenzene	17.374	146	277840	53.63	ug/L	100
135) n-butylbenzene	17.196	92	244817	51.83	ug/L	100
137) 1,2-dibromo-3-chloropr...	18.236	157	29894	47.69	ug/L	99
138) 1,3,5-trichlorobenzene	18.414	180	239305	52.53	ug/L	99
139) 1,2,4-trichlorobenzene	19.156	180	205808	53.09	ug/L	100
140) hexachlorobutadiene	19.261	225	118937	51.23	ug/L	99
141) naphthalene	19.481	128	377850	50.91	ug/L	99
143) 1,2,3-trichlorobenzene	19.758	180	170865	50.30	ug/L	100
144) hexachloroethane	17.651	201	105112	52.30	ug/L	99

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

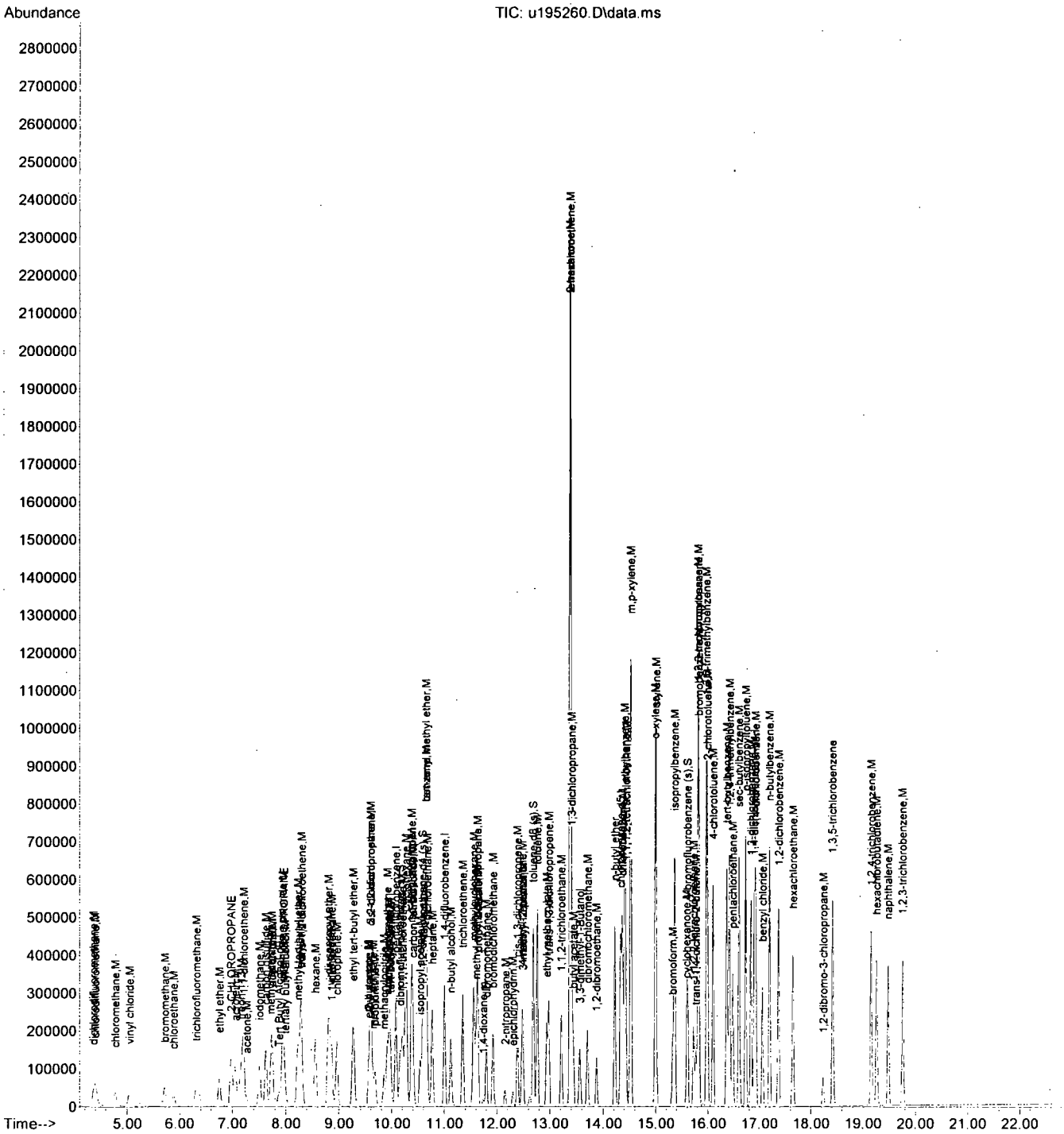
7.4.2

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9907\
Data File : u195260.D
Acq On : 18 May 2015 3:48 pm
Operator : NicoleH1
Sample : jb94653-3msd
Misc : ms85183,vu9007,5.0,,,,10
ALS Vial : 16 Sample Multiplier: 1

Quant Time: May 19 14:33:54 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 09:25:27 2015
Response via : Initial Calibration



7.4.2

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9008\
Data File : u195275.D
Acq On : 18 May 2015 11:05 pm
Operator : NicoleH1
Sample : jb94785-13ms
Misc : ms85328,vu9008,5.0,,,,1
ALS Vial : 31 Sample Multiplier: 1

Quant Time: May 19 15:02:55 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

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Tert Butyl Alcohol-d9	7.873	65	94838	500.00	ug/L		-0.01
5) pentafluorobenzene	10.079	168	284052	50.00	ug/L		0.00
64) 1,4-difluorobenzene	11.000	114	329546	50.00	ug/L		0.00
96) chlorobenzene-d5	14.325	117	297460	50.00	ug/L		0.00
112) 1,4-dichlorobenzene-d4	16.902	152	168070	50.00	ug/L		0.00
System Monitoring Compounds							
56) dibromofluoromethane (s)	10.158	113	100044	51.80	ug/L		0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 103.60%				
57) 1,2-dichloroethane-d4 (s)	10.581	65	109541	53.60	ug/L		0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 107.20%				
88) toluene-d8 (s)	12.683	98	378129	50.17	ug/L		0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 100.34%				
114) 4-bromofluorobenzene (s)	15.600	95	145269	48.80	ug/L		0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 97.60%				
Target Compounds							Qvalue
2) tertiary butyl alcohol	7.993	59	57327	269.74	ug/L		76
4) 1,4-dioxane	11.731	88	23003	1206.69	ug/L		98
11) chlorodifluoromethane	4.391	51	118364	58.71	ug/L		99
12) dichlorodifluoromethane	4.370	85	115307	51.84	ug/L		97
15) chloromethane	4.768	50	104391	42.63	ug/L		99
16) vinyl chloride	5.045	62	108770	48.03	ug/L		99
18) bromomethane	5.709	94	76329	45.70	ug/L		98
19) chloroethane	5.881	64	58012	50.39	ug/L		99
20) trichlorofluoromethane	6.321	101	159971	53.09	ug/L		98
23) ethyl ether	6.754	74	54492	51.08	ug/L		93
24) 2-CHLOROPROPANE	6.974	43	189166	53.64	ug/L		95
27) acrolein	7.047	56	148539	460.53	ug/L		99
28) 1,1-dichloroethene	7.199	96	101680	57.36	ug/L		98
29) acetone	7.267	58	7818	48.40	ug/L	#	80
30) allyl chloride	7.737	76	54758	54.18	ug/L		93
31) acetonitrile	7.732	40	72285	520.95	ug/L		90
32) iodomethane	7.502	142	204357	58.25	ug/L		98
33) carbon disulfide	7.622	76	340040	59.29	ug/L		98
34) 1-CHLOROPROPANE	7.957	63	9118	54.80	ug/L		95
35) methylene chloride	7.936	84	104732	46.72	ug/L		98
36) methyl acetate	7.711	43	59070	40.35	ug/L		100
37) methyl tert butyl ether	8.229	73	290033	52.06	ug/L		99
38) trans-1,2-dichloroethene	8.297	96	109797	55.17	ug/L		99
39) di-isopropyl ether	8.804	45	297672	48.96	ug/L		95
40) ethyl tert-butyl ether	9.264	59	303508	51.17	ug/L		99
41) 2-butanone	9.551	72	10935	48.83	ug/L	#	75
42) 1,1-dichloroethane	8.867	63	195077	58.23	ug/L		100
43) chloroprene	8.961	53	154814	56.01	ug/L		97
44) acrylonitrile	8.276	53	149618	247.93	ug/L		98
45) vinyl acetate	8.830	86	14750	41.59	ug/L		97
46) ethyl acetate	9.551	45	10501	39.82	ug/L		87
47) 2,2-dichloropropane	9.588	77	153994	52.66	ug/L		98
48) cis-1,2-dichloroethene	9.593	96	118236	53.91	ug/L		99
49) methyl acrylate	9.640	85	14730	48.15	ug/L	#	89
50) propionitrile	9.682	54	118744	490.55	ug/L		99
51) bromochloromethane	9.912	128	60348	54.25	ug/L		97
52) tetrahydrofuran	9.933	42	26677	39.06	ug/L		91
53) chloroform	9.954	83	186863	53.59	ug/L		98
54) tert-butyl Formate	10.205	59	2225	1.31	ug/L	#	24
55) iso-butyl alcohol	10.372	43	39731	417.98	ug/L		96

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9008\
Data File : u195275.D
Acq On : 18 May 2015 11:05 pm
Operator : NicoleH1
Sample : jb94785-13ms
Misc : ms85328,vu9008,5.0,,,,1
ALS Vial : 31 Sample Multiplier: 1

Quant Time: May 19 15:02:55 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

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
58)	freon 113	7.157	151	88028	60.40	ug/L		99
59)	methacrylonitrile	9.849	41	53907	45.90	ug/L		98
60)	1,1,1-trichloroethane	10.200	97	187265	62.93	ug/L		98
62)	tert-amyl methyl ether	10.644	87	71155	49.52	ug/L		96
63)	iso-octane	10.602	57	365046	59.86	ug/L		99
66)	epichlorohydrin	12.301	57	16362	86.67	ug/L		98
67)	n-butyl alcohol	11.120	56	130873	2426.91	ug/L		97
68)	Cyclohexane	10.262	84	169886	59.17	ug/L		92
69)	carbon tetrachloride	10.398	117	167907	61.75	ug/L		98
70)	1,1-dichloropropene	10.372	75	151619	58.57	ug/L		99
71)	hexane	8.563	57	131347	60.53	ug/L		98
72)	benzene	10.644	78	411688	51.76	ug/L		100
73)	heptane	10.764	57	71855	53.22	ug/L		98
74)	isopropyl acetate	10.534	43	157220	43.82	ug/L		99
75)	1,2-dichloroethane	10.670	62	142585	57.51	ug/L		98
78)	trichloroethene	11.345	95	114786	55.38	ug/L		98
79)	methylcyclohexane	11.554	83	184656	59.02	ug/L		100
80)	2-nitropropane	12.155	41	27342	35.97	ug/L	#	1
82)	methyl methacrylate	11.601	100	26632	48.60	ug/L	#	80
83)	1,2-dichloropropane	11.627	63	104659	53.69	ug/L		98
84)	propyl acetate	11.632	73	16490	42.20	ug/L		98
85)	dibromomethane	11.799	93	67338	52.98	ug/L		96
86)	bromodichloromethane	11.920	83	149059	54.45	ug/L		99
87)	cis-1,3-dichloropropene	12.385	75	178459	53.54	ug/L		95
89)	4-methyl-2-pentanone	12.474	58	36945	49.95	ug/L		98
90)	toluene	12.761	92	272733	53.55	ug/L		99
91)	3-methyl-1-butanol	12.490	55	88946	938.72	ug/L		98
92)	trans-1,3-dichloropropene	12.976	75	165027	54.22	ug/L		97
93)	ethyl methacrylate	12.939	69	126899	50.52	ug/L		100
94)	1,1,2-trichloroethane	13.216	83	78893	52.33	ug/L		99
95)	2-hexanone	13.378	58	35352	48.76	ug/L		98
97)	cyclohexanone	15.585	55	30003	139.43	ug/L		99
98)	tetrachloroethene	13.384	164	117480	54.94	ug/L		99
99)	1,3-dichloropropane	13.415	76	155963	52.37	ug/L		98
100)	butyl acetate	13.441	56	55367	43.94	ug/L		96
101)	dibromochloromethane	13.702	129	128963	54.20	ug/L		99
102)	1,2-dibromoethane	13.870	107	102251	52.01	ug/L		99
103)	3,3-dimethyl-1-Butanol	13.561	57	104196	522.79	ug/L		100
104)	n-butyl ether	14.215	57	458247	51.22	ug/L		99
105)	chlorobenzene	14.361	112	324593	53.82	ug/L		99
106)	1,1,1,2-tetrachloroethane	14.424	131	124214	54.36	ug/L		99
107)	ethylbenzene	14.403	91	536478	53.38	ug/L		99
108)	m,p-xylene	14.518	106	427215	108.46	ug/L		100
109)	o-xylene	14.989	106	210000	54.13	ug/L		95
110)	styrene	14.999	104	349504	52.52	ug/L		99
111)	bromoform	15.323	173	97536	52.47	ug/L		99
113)	isopropylbenzene	15.360	105	550797	53.45	ug/L		99
115)	bromobenzene	15.825	156	157460	53.40	ug/L		99
116)	1,1,2,2-tetrachloroethane	15.720	83	125311	50.87	ug/L		100
117)	trans-1,4-dichloro-2-b...	15.762	53	33126	46.67	ug/L		92
118)	1,2,3-trichloropropane	15.809	110	35387	49.85	ug/L		99
119)	n-propylbenzene	15.815	91	613752	52.69	ug/L		100
120)	2-chlorotoluene	15.992	126	139788	52.70	ug/L		99
121)	4-chlorotoluene	16.102	91	380140	51.19	ug/L		99
123)	1,3,5-trimethylbenzene	15.977	105	456248	51.93	ug/L		98
124)	tert-butylbenzene	16.369	119	417423	53.50	ug/L		100
125)	pentachloroethane	16.484	167	95900	54.25	ug/L		98
126)	1,2,4-trimethylbenzene	16.421	105	443671	51.55	ug/L		100

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9008\
Data File : u195275.D
Acq On : 18 May 2015 11:05 pm
Operator : NicoleH1
Sample : jb94785-13ms
Misc : ms85328,vu9008,5.0,,,,1
ALS Vial : 31 Sample Multiplier: 1

Quant Time: May 19 15:02:55 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

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
128) sec-butylbenzene	16.604	105	600274	53.68	ug/L	99
129) 1,3-dichlorobenzene	16.839	146	286694	52.12	ug/L	100
130) p-isopropyltoluene	16.735	119	516678	52.57	ug/L	98
131) 1,4-dichlorobenzene	16.928	146	287296	51.68	ug/L	99
132) benzyl chloride	17.059	91	220354	42.42	ug/L	99
133) 1,2-dichlorobenzene	17.372	146	265827	52.47	ug/L	99
135) n-butylbenzene	17.195	92	240829	52.14	ug/L	99
137) 1,2-dibromo-3-chloropr...	18.235	157	28977	47.27	ug/L	98
138) 1,3,5-trichlorobenzene	18.413	180	230350	51.71	ug/L	100
139) 1,2,4-trichlorobenzene	19.155	180	196977	51.96	ug/L	100
140) hexachlorobutadiene	19.265	225	118937	52.39	ug/L	98
141) naphthalene	19.485	128	369929	50.97	ug/L	99
143) 1,2,3-trichlorobenzene	19.756	180	164898	49.64	ug/L	99
144) hexachloroethane	17.650	201	104300	53.07	ug/L	99

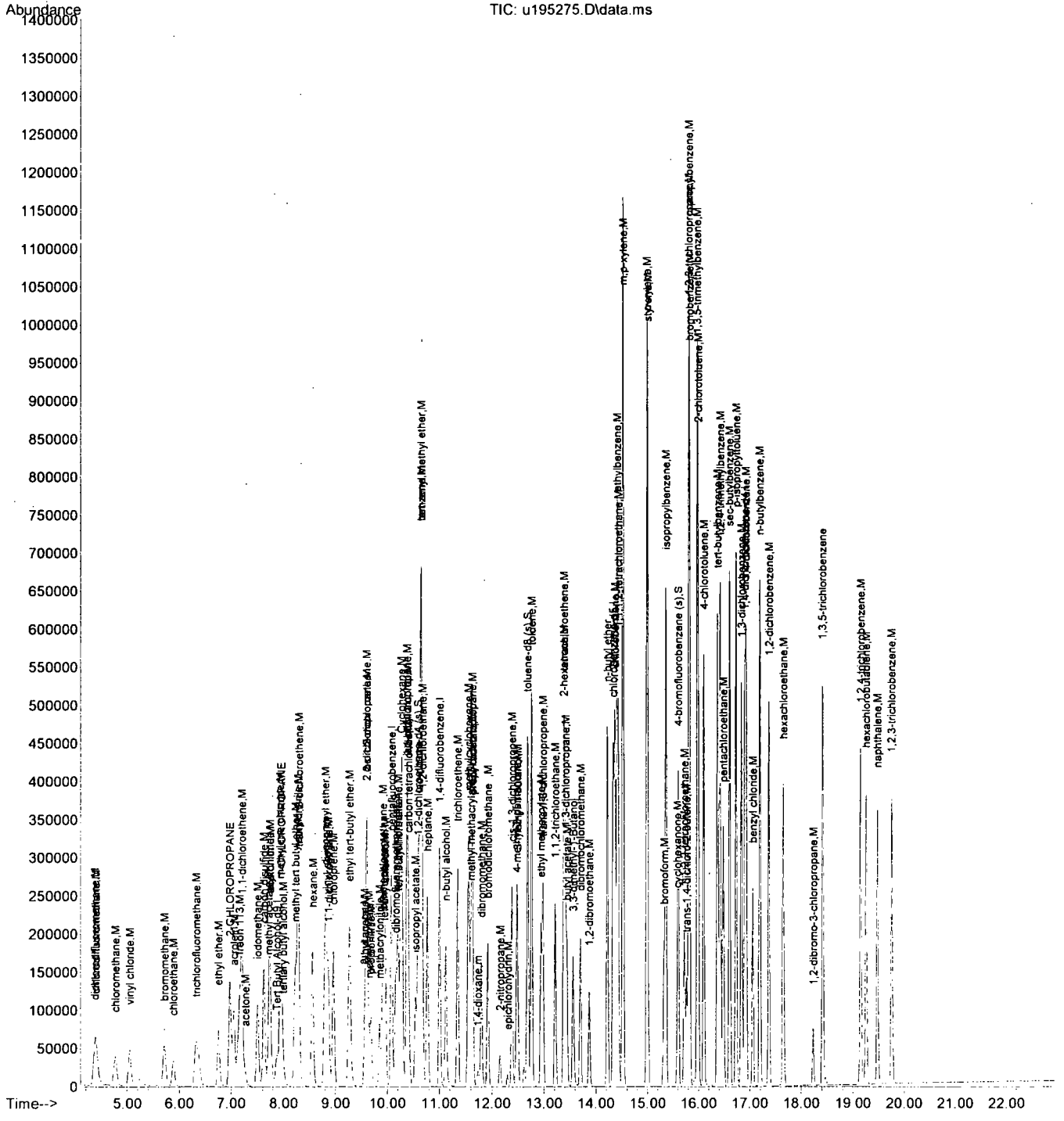
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.4.3

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9008\
Data File : u195275.D
Acq On : 18 May 2015 11:05 pm
Operator : NicoleH1
Sample : jb94785-13ms
Misc : ms85328,vu9008,5.0,,,,1
ALS Vial : 31 Sample Multiplier: 1

Quant Time: May 19 15:02:55 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



MU8988.M Tue May 19 15:02:59 2015 T

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9008\
Data File : u195276.D
Acq On : 18 May 2015 11:34 pm
Operator : NicoleH1
Sample : jb94785-13msd
Misc : ms85328,vu9008,5.0,,,,1
ALS Vial : 32 Sample Multiplier: 1

Quant Time: May 19 15:03:12 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	98947	500.00	ug/L		-0.01
5) pentafluorobenzene	10.079	168	288201	50.00	ug/L		0.00
64) 1,4-difluorobenzene	10.999	114	331124	50.00	ug/L		0.00
96) chlorobenzene-d5	14.324	117	301634	50.00	ug/L		0.00
112) 1,4-dichlorobenzene-d4	16.902	152	168196	50.00	ug/L		0.00
System Monitoring Compounds							
56) dibromofluoromethane (s)	10.158	113	101427	51.76	ug/L		0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 103.52%				
57) 1,2-dichloroethane-d4 (s)	10.581	65	110571	53.33	ug/L		0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 106.66%				
88) toluene-d8 (s)	12.683	98	380231	50.21	ug/L		0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 100.42%				
114) 4-bromofluorobenzene (s)	15.605	95	147208	49.41	ug/L		0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 98.82%				
Target Compounds							Qvalue
2) tertiary butyl alcohol	7.988	59	61007	275.14	ug/L	#	50
4) 1,4-dioxane	11.736	88	24418	1227.73	ug/L		98
11) chlorodifluoromethane	4.396	51	116086	56.75	ug/L		98
12) dichlorodifluoromethane	4.360	85	107602	47.68	ug/L		98
15) chloromethane	4.773	50	103977	41.85	ug/L		98
16) vinyl chloride	5.050	62	107591	46.82	ug/L		99
18) bromomethane	5.714	94	76898	45.38	ug/L		100
19) chloroethane	5.886	64	57255	49.01	ug/L		95
20) trichlorofluoromethane	6.320	101	158457	51.84	ug/L		96
23) ethyl ether	6.759	74	55579	51.35	ug/L		90
24) 2-CHLOROPROPANE	6.974	43	190430	53.22	ug/L		96
27) acrolein	7.052	56	149235	456.03	ug/L		100
28) 1,1-dichloroethene	7.204	96	101468	56.41	ug/L		96
29) acetone	7.266	58	8041	49.07	ug/L		92
30) allyl chloride	7.742	76	56178	54.79	ug/L		96
31) acetonitrile	7.732	40	73956	525.32	ug/L	#	90
32) iodomethane	7.502	142	206471	58.01	ug/L		98
33) carbon disulfide	7.622	76	343767	59.08	ug/L		98
34) 1-CHLOROPROPANE	7.957	63	8950	53.01	ug/L		89
35) methylene chloride	7.936	84	106587	46.87	ug/L		97
36) methyl acetate	7.716	43	59823	40.27	ug/L		100
37) methyl tert butyl ether	8.228	73	291596	51.59	ug/L		99
38) trans-1,2-dichloroethene	8.296	96	110293	54.63	ug/L		99
39) di-isopropyl ether	8.804	45	299997	48.63	ug/L		93
40) ethyl tert-butyl ether	9.269	59	305009	50.68	ug/L		99
41) 2-butanone	9.556	72	11199	49.29	ug/L	#	79
42) 1,1-dichloroethane	8.866	63	196729	57.88	ug/L		100
43) chloroprene	8.960	53	156013	55.63	ug/L		98
44) acrylonitrile	8.275	53	152214	248.60	ug/L		99
45) vinyl acetate	8.830	86	14994	41.67	ug/L		100
46) ethyl acetate	9.556	45	10760	40.21	ug/L		95
47) 2,2-dichloropropane	9.593	77	154020	51.91	ug/L		99
48) cis-1,2-dichloroethene	9.598	96	119554	53.72	ug/L		99
49) methyl acrylate	9.640	85	14988	48.29	ug/L		93
50) propionitrile	9.682	54	121998	496.74	ug/L		100
51) bromochloromethane	9.912	128	61394	54.39	ug/L		98
52) tetrahydrofuran	9.933	42	27438	39.60	ug/L		91
53) chloroform	9.959	83	188221	53.20	ug/L		99
54) tert-butyl Formate	10.205	59	2340	1.35	ug/L	#	24
55) iso-butyl alcohol	10.372	43	41143	426.61	ug/L		96

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9008\
Data File : u195276.D
Acq On : 18 May 2015 11:34 pm
Operator : NicoleH1
Sample : jb94785-13msd
Misc : ms85328,vu9008,5.0,,,,1
ALS Vial : 32 Sample Multiplier: 1

Quant Time: May 19 15:03:12 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	7.162	151	84909	57.42	ug/L		96
59)	methacrylonitrile	9.849	41	54396	45.65	ug/L		97
60)	1,1,1-trichloroethane	10.199	97	188327	62.38	ug/L		98
62)	tert-amyl methyl ether	10.649	87	70915	48.64	ug/L		98
63)	iso-octane	10.602	57	345745	55.88	ug/L		99
66)	epichlorohydrin	12.296	57	15449	81.45	ug/L		99
67)	n-butyl alcohol	11.120	56	138713	2560.04	ug/L		99
68)	Cyclohexane	10.262	84	166463	57.70	ug/L		87
69)	carbon tetrachloride	10.398	117	169167	61.92	ug/L		99
70)	1,1-dichloropropene	10.372	75	152570	58.66	ug/L		99
71)	hexane	8.558	57	123910	56.83	ug/L		100
72)	benzene	10.644	78	415784	52.03	ug/L		100
73)	heptane	10.764	57	68884	50.78	ug/L		98
74)	isopropyl acetate	10.534	43	158372	43.93	ug/L		99
75)	1,2-dichloroethane	10.670	62	142646	57.26	ug/L		99
78)	trichloroethene	11.344	95	116249	55.82	ug/L		98
79)	methylcyclohexane	11.553	83	178854	56.90	ug/L		97
80)	2-nitropropane	12.155	41	27948	36.59	ug/L	#	1
82)	methyl methacrylate	11.601	100	27373	49.71	ug/L	#	87
83)	1,2-dichloropropane	11.627	63	104663	53.44	ug/L		98
84)	propyl acetate	11.632	73	16671	42.46	ug/L		98
85)	dibromomethane	11.799	93	67603	52.94	ug/L		96
86)	bromodichloromethane	11.925	83	149674	54.41	ug/L		98
87)	cis-1,3-dichloropropene	12.385	75	179284	53.53	ug/L		95
89)	4-methyl-2-pentanone	12.479	58	37974	51.09	ug/L		100
90)	toluene	12.761	92	276206	53.97	ug/L		99
91)	3-methyl-1-butanol	12.489	55	94624	993.88	ug/L		99
92)	trans-1,3-dichloropropene	12.981	75	166597	54.47	ug/L		99
93)	ethyl methacrylate	12.939	69	130408	51.67	ug/L		99
94)	1,1,2-trichloroethane	13.216	83	80075	52.86	ug/L		98
95)	2-hexanone	13.383	58	36101	49.56	ug/L		96
97)	cyclohexanone	15.584	55	31895	146.17	ug/L		98
98)	tetrachloroethene	13.383	164	117937	54.39	ug/L		98
99)	1,3-dichloropropane	13.415	76	156887	51.95	ug/L		98
100)	butyl acetate	13.441	56	55585	43.50	ug/L		97
101)	dibromochloromethane	13.702	129	131294	54.42	ug/L		98
102)	1,2-dibromoethane	13.875	107	103679	52.01	ug/L		99
103)	3,3-dimethyl-1-Butanol	13.561	57	112797	558.11	ug/L		99
104)	n-butyl ether	14.215	57	462796	51.01	ug/L		99
105)	chlorobenzene	14.361	112	328079	53.64	ug/L		99
106)	1,1,1,2-tetrachloroethane	14.424	131	125389	54.11	ug/L		97
107)	ethylbenzene	14.403	91	542322	53.22	ug/L		99
108)	m,p-xylene	14.518	106	430608	107.81	ug/L		100
109)	o-xylene	14.988	106	211606	53.78	ug/L		96
110)	styrene	14.999	104	352998	52.31	ug/L		99
111)	bromoform	15.323	173	98770	52.40	ug/L		98
113)	isopropylbenzene	15.359	105	554181	53.74	ug/L		99
115)	bromobenzene	15.830	156	158754	53.79	ug/L		94
116)	1,1,2,2-tetrachloroethane	15.720	83	127247	51.62	ug/L		99
117)	trans-1,4-dichloro-2-b...	15.767	53	33760	47.53	ug/L		92
118)	1,2,3-trichloropropane	15.809	110	35995	50.67	ug/L		99
119)	n-propylbenzene	15.814	91	617653	52.99	ug/L		100
120)	2-chlorotoluene	15.992	126	140835	53.05	ug/L		99
121)	4-chlorotoluene	16.102	91	384116	51.69	ug/L		99
123)	1,3,5-trimethylbenzene	15.976	105	459554	52.27	ug/L		99
124)	tert-butylbenzene	16.368	119	418982	53.66	ug/L		98
125)	pentachloroethane	16.483	167	96840	54.75	ug/L		98
126)	1,2,4-trimethylbenzene	16.421	105	446674	51.86	ug/L		100

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9008\
Data File : u195276.D
Acq On : 18 May 2015 11:34 pm
Operator : NicoleH1
Sample : jb94785-13msd
Misc : ms85328,vu9008,5.0,,,,1
ALS Vial : 32 Sample Multiplier: 1

Quant Time: May 19 15:03:12 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	16.609	105	603927	53.97 ug/L	99
129) 1,3-dichlorobenzene	16.839	146	290591	52.79 ug/L	99
130) p-isopropyltoluene	16.734	119	522183	53.09 ug/L	99
131) 1,4-dichlorobenzene	16.928	146	289826	52.09 ug/L	99
132) benzyl chloride	17.059	91	219766	42.27 ug/L	99
133) 1,2-dichlorobenzene	17.372	146	270101	53.27 ug/L	100
135) n-butylbenzene	17.194	92	243696	52.72 ug/L	98
137) 1,2-dibromo-3-chloropr...	18.235	157	29306	47.77 ug/L	96
138) 1,3,5-trichlorobenzene	18.418	180	233240	52.32 ug/L	100
139) 1,2,4-trichlorobenzene	19.155	180	198519	52.33 ug/L	100
140) hexachlorobutadiene	19.265	225	120089	52.85 ug/L	99
141) naphthalene	19.484	128	376046	51.77 ug/L	99
143) 1,2,3-trichlorobenzene	19.756	180	167257	50.31 ug/L	99
144) hexachloroethane	17.649	201	105941	53.86 ug/L	99

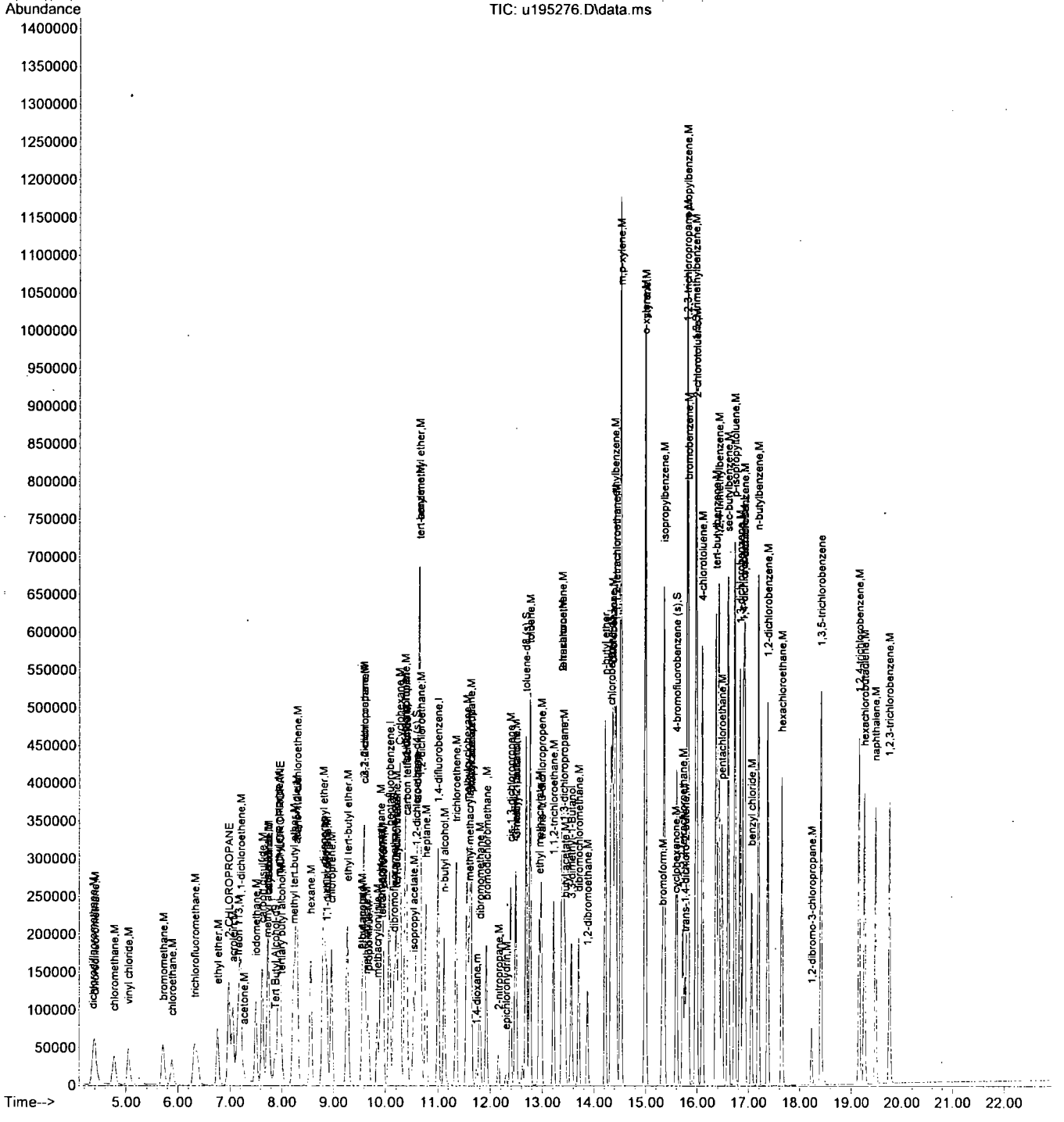
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.4.4

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9008\
Data File : u195276.D
Acq On : 18 May 2015 11:34 pm
Operator : NicoleH1
Sample : jb94785-13msd
Misc : ms85328,vu9008,5.0,,,,1
ALS Vial : 32 Sample Multiplier: 1

Quant Time: May 19 15:03:12 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\vu9009\
Data File : u195311.D
Acq On : 19 May 2015 4:46 pm
Operator : NicoleH1
Sample : jb94785-16ms
Misc : ms85328,vu9009,5.0,,,,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: May 20 10:18:13 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	7.878	65	99374	500.00	ug/L		0.00
5) pentafluorobenzene	10.079	168	274839	50.00	ug/L		0.00
64) 1,4-difluorobenzene	10.999	114	320771	50.00	ug/L		0.00
96) chlorobenzene-d5	14.324	117	294455	50.00	ug/L		0.00
112) 1,4-dichlorobenzene-d4	16.902	152	166303	50.00	ug/L		0.00
System Monitoring Compounds							
56) dibromofluoromethane (s)	10.158	113	97657	52.26	ug/L		0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 104.52%				
57) 1,2-dichloroethane-d4 (s)	10.581	65	107068	54.15	ug/L		0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 108.30%				
88) toluene-d8 (s)	12.683	98	370158	50.46	ug/L		0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 100.92%				
114) 4-bromofluorobenzene (s)	15.605	95	143721	48.79	ug/L		0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 97.58%				
Target Compounds							Qvalue
2) tertiary butyl alcohol	7.998	59	57578	258.56	ug/L		72
4) 1,4-dioxane	11.736	88	23176	1160.27	ug/L		97
11) chlorodifluoromethane	4.396	51	108909	55.83	ug/L		98
12) dichlorodifluoromethane	4.365	85	124038	57.63	ug/L		99
15) chloromethane	4.778	50	121525	51.29	ug/L		98
16) vinyl chloride	5.050	62	120211	54.86	ug/L		99
18) bromomethane	5.719	94	84430	52.25	ug/L		98
19) chloroethane	5.886	64	63420	56.93	ug/L		100
20) trichlorofluoromethane	6.325	101	161617	55.41	ug/L		97
23) ethyl ether	6.759	74	55077	53.36	ug/L		90
24) 2-CHLOROPROPANE	6.979	43	195787	57.38	ug/L		95
27) acrolein	7.057	56	142803	457.59	ug/L		98
28) 1,1-dichloroethene	7.209	96	102725	59.89	ug/L		99
29) acetone	7.272	58	8221	52.60	ug/L		100
30) allyl chloride	7.742	76	58762	60.09	ug/L		99
31) acetonitrile	7.742	40	69166	515.18	ug/L	#	72
32) iodomethane	7.507	142	206825	60.93	ug/L		99
33) carbon disulfide	7.627	76	352269	63.48	ug/L		98
34) 1-CHLOROPROPANE	7.962	63	9387	58.31	ug/L		93
35) methylene chloride	7.941	84	108087	49.84	ug/L		94
36) methyl acetate	7.716	43	61780	43.61	ug/L		100
37) methyl tert butyl ether	8.234	73	293360	54.42	ug/L		100
38) trans-1,2-dichloroethene	8.296	96	111301	57.81	ug/L		99
39) di-isopropyl ether	8.803	45	287291	48.84	ug/L		99
40) ethyl tert-butyl ether	9.269	59	288693	50.30	ug/L		99
41) 2-butanone	9.556	72	11643	53.74	ug/L	#	79
42) 1,1-dichloroethane	8.866	63	193764	59.78	ug/L		99
43) chloroprene	8.960	53	147318	55.08	ug/L		97
44) acrylonitrile	8.275	53	156402	267.86	ug/L		99
45) vinyl acetate	8.830	86	15482	45.11	ug/L	#	93
46) ethyl acetate	9.551	45	11016	43.17	ug/L		96
47) 2,2-dichloropropane	9.593	77	176016	62.21	ug/L		97
48) cis-1,2-dichloroethene	9.598	96	118101	55.65	ug/L		96
49) methyl acrylate	9.645	85	14599	49.32	ug/L		99
50) propionitrile	9.682	54	124900	533.28	ug/L		97
51) bromochloromethane	9.912	128	60612	56.31	ug/L		98
52) tetrahydrofuran	9.938	42	28929	43.78	ug/L		94
53) chloroform	9.959	83	187846	55.68	ug/L		98
54) tert-butyl Formate	9.980	59	19404	11.77	ug/L	#	56
55) iso-butyl alcohol	10.372	43	39793	432.67	ug/L		94

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9009\
Data File : u195311.D
Acq On : 19 May 2015 4:46 pm
Operator : NicoleH1
Sample : jb94785-16ms
Misc : ms85328,vu9009,5.0,,,,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: May 20 10:18:13 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	7.167	151	82878	58.77	ug/L		98
59)	methacrylonitrile	9.849	41	55360	48.72	ug/L		99
60)	1,1,1-trichloroethane	10.205	97	177235	61.56	ug/L		97
62)	tert-amyl methyl ether	10.644	87	66269	47.67	ug/L		93
63)	iso-octane	10.602	57	368867	62.52	ug/L		99
66)	epichlorohydrin	12.296	57	32910	179.10	ug/L		99
67)	n-butyl alcohol	11.119	56	140380	2674.42	ug/L		99
68)	Cyclohexane	10.262	84	173389	62.04	ug/L		92
69)	carbon tetrachloride	10.398	117	168744	63.76	ug/L		99
70)	1,1-dichloropropene	10.372	75	153151	60.78	ug/L		100
71)	hexane	8.558	57	131575	62.29	ug/L		99
72)	benzene	10.644	78	417522	53.93	ug/L		100
73)	heptane	10.764	57	74197	56.46	ug/L		98
74)	isopropyl acetate	10.534	43	154860	44.34	ug/L		98
75)	1,2-dichloroethane	10.670	62	142570	59.08	ug/L		100
78)	trichloroethene	11.344	95	116246	57.62	ug/L		98
79)	methylcyclohexane	11.553	83	178876	58.74	ug/L		97
80)	2-nitropropane	12.155	41	28170	38.07	ug/L	#	1
82)	methyl methacrylate	11.600	100	26783	50.21	ug/L	#	88
83)	1,2-dichloropropane	11.627	63	106079	55.91	ug/L		98
84)	propyl acetate	11.632	73	17144	45.07	ug/L		97
85)	dibromomethane	11.799	93	67380	54.47	ug/L		96
86)	bromodichloromethane	11.919	83	150540	56.49	ug/L		97
87)	cis-1,3-dichloropropene	12.385	75	183495	56.56	ug/L		95
89)	4-methyl-2-pentanone	12.474	58	37974	52.74	ug/L		99
90)	toluene	12.761	92	279189	56.31	ug/L		99
91)	3-methyl-1-butanol	12.489	55	96385	1045.05	ug/L		100
92)	trans-1,3-dichloropropene	12.975	75	169931	57.35	ug/L		97
93)	ethyl methacrylate	12.939	69	129130	52.82	ug/L		99
94)	1,1,2-trichloroethane	13.216	83	79697	54.30	ug/L		99
95)	2-hexanone	13.378	58	36687	51.99	ug/L		99
97)	cyclohexanone	15.584	55	32390	152.06	ug/L		98
98)	tetrachloroethene	13.383	164	119016	56.23	ug/L		100
99)	1,3-dichloropropane	13.409	76	158152	53.64	ug/L		98
100)	butyl acetate	13.441	56	55598	44.57	ug/L		99
101)	dibromochloromethane	13.702	129	130620	55.46	ug/L		99
102)	1,2-dibromoethane	13.869	107	103248	53.06	ug/L		99
103)	3,3-dimethyl-1-Butanol	13.561	57	117138	593.72	ug/L		97
104)	n-butyl ether	14.214	57	471672	53.26	ug/L		100
105)	chlorobenzene	14.361	112	330197	55.30	ug/L		99
106)	1,1,1,2-tetrachloroethane	14.424	131	125058	55.29	ug/L		99
107)	ethylbenzene	14.408	91	545960	54.88	ug/L		99
108)	m,p-xylene	14.518	106	434660	111.48	ug/L		100
109)	o-xylene	14.988	106	215238	56.04	ug/L		96
110)	styrene	14.999	104	357406	54.25	ug/L		99
111)	bromoform	15.323	173	98150	53.34	ug/L		99
113)	isopropylbenzene	15.359	105	564647	55.38	ug/L		99
115)	bromobenzene	15.825	156	160255	54.92	ug/L		97
116)	1,1,2,2-tetrachloroethane	15.725	83	126778	52.01	ug/L		97
117)	trans-1,4-dichloro-2-b...	15.767	53	34184	48.67	ug/L		94
118)	1,2,3-trichloropropane	15.809	110	36374	51.78	ug/L		95
119)	n-propylbenzene	15.814	91	637106	55.28	ug/L		100
120)	2-chlorotoluene	15.992	126	143323	54.60	ug/L		99
121)	4-chlorotoluene	16.102	91	390948	53.20	ug/L		99
123)	1,3,5-trimethylbenzene	15.976	105	470006	54.07	ug/L		99
124)	tert-butylbenzene	16.368	119	423041	54.80	ug/L		99
125)	pentachloroethane	16.483	167	94299	53.92	ug/L		99
126)	1,2,4-trimethylbenzene	16.421	105	457307	53.70	ug/L		99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9009\
Data File : u195311.D
Acq On : 19 May 2015 4:46 pm
Operator : NicoleH1
Sample : jb94785-16ms
Misc : ms85328,vu9009,5.0,,,,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: May 20 10:18:13 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	16.609	105	615882	55.66 ug/L	99
129) 1,3-dichlorobenzene	16.839	146	294605	54.13 ug/L	99
130) p-isopropyltoluene	16.734	119	532527	54.76 ug/L	98
131) 1,4-dichlorobenzene	16.928	146	294771	53.58 ug/L	100
132) benzyl chloride	17.058	91	255119	49.63 ug/L	99
133) 1,2-dichlorobenzene	17.372	146	272280	54.31 ug/L	99
135) n-butylbenzene	17.194	92	251726	55.08 ug/L	99
137) 1,2-dibromo-3-chloropr...	18.235	157	30198	49.78 ug/L	95
138) 1,3,5-trichlorobenzene	18.418	180	236130	53.57 ug/L	100
139) 1,2,4-trichlorobenzene	19.155	180	200816	53.54 ug/L	100
140) hexachlorobutadiene	19.265	225	117428	52.27 ug/L	98
141) naphthalene	19.484	128	375874	52.34 ug/L	99
143) 1,2,3-trichlorobenzene	19.761	180	167562	50.98 ug/L	99
144) hexachloroethane	17.649	201	105547	54.27 ug/L	99

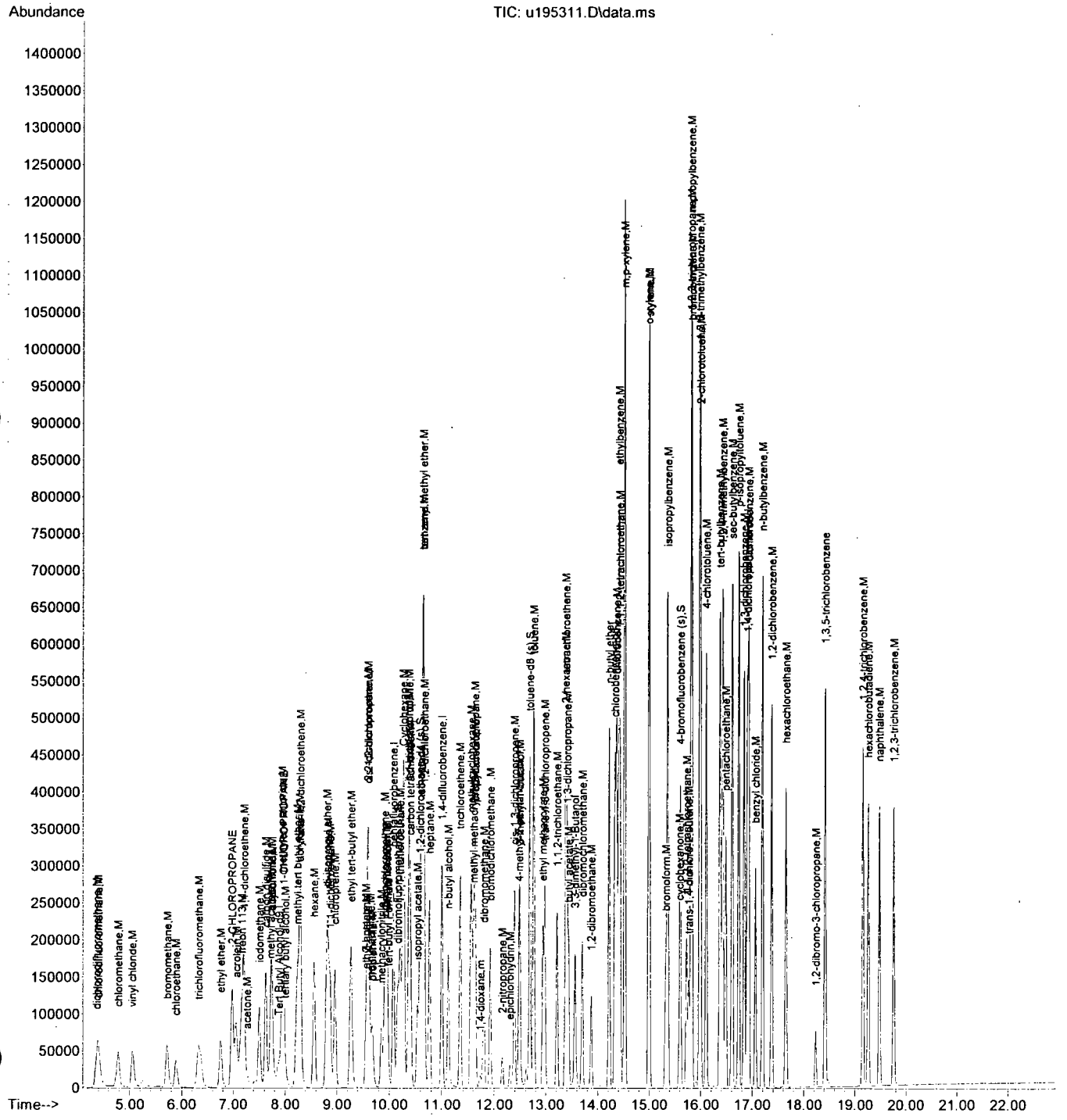
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.4.5

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9009\
Data File : u195311.D
Acq On : 19 May 2015 4:46 pm
Operator : NicoleH1
Sample : jb94785-16ms
Misc : ms85328,vu9009,5.0,,,,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: May 20 10:18:13 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\vu9009\
Data File : u195312.D
Acq On : 19 May 2015 5:19 pm
Operator : NicoleH1
Sample : jb94614-5dup
Misc : ms85142,vu9009,5.0,,,,1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: May 20 10:18:57 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

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.907	65	92904	500.00	ug/L	0.02
5) pentafluorobenzene	10.077	168	268193	50.00	ug/L	0.00
64) 1,4-difluorobenzene	11.002	114	313349	50.00	ug/L	0.00
96) chlorobenzene-d5	14.327	117	281410	50.00	ug/L	0.00
112) 1,4-dichlorobenzene-d4	16.905	152	161551	50.00	ug/L	0.00
System Monitoring Compounds						
56) dibromofluoromethane (s)	10.161	113	94501	51.82	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 103.64%			
57) 1,2-dichloroethane-d4 (s)	10.579	65	103206	53.49	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 106.98%			
88) toluene-d8 (s)	12.686	98	357848	49.94	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 99.88%			
114) 4-bromofluorobenzene (s)	15.603	95	139040	48.59	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 97.18%			
Target Compounds						Qvalue

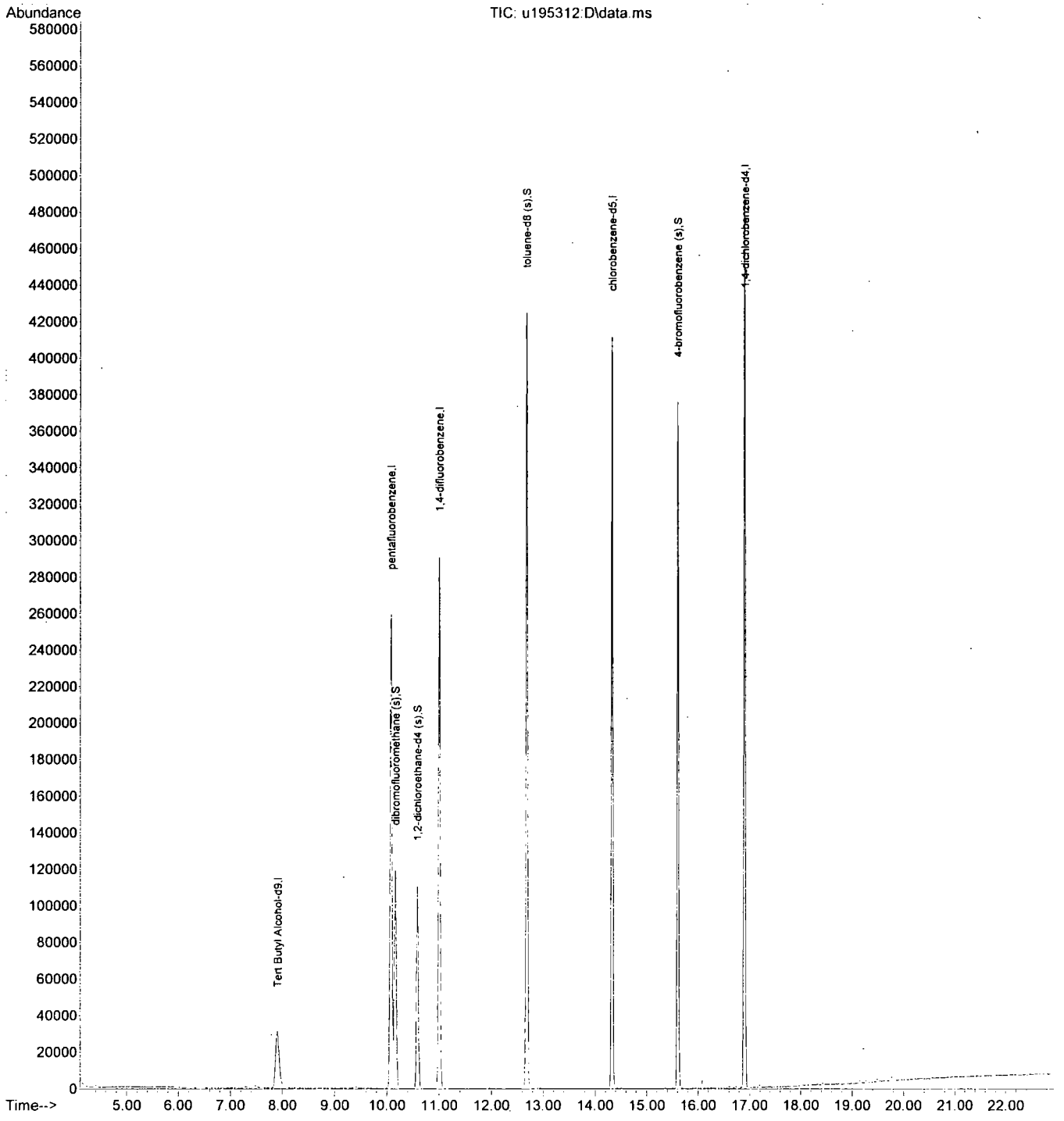
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.5.1

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9009\
Data File : u195312.D
Acq On : 19 May 2015 5:19 pm
Operator : NicoleH1
Sample : jb94614-5dup
Misc : ms85142,vu9009,5.0,,,,1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: May 20 10:18:57 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



MU8988.M Wed May 20 11:09:46 2015 T

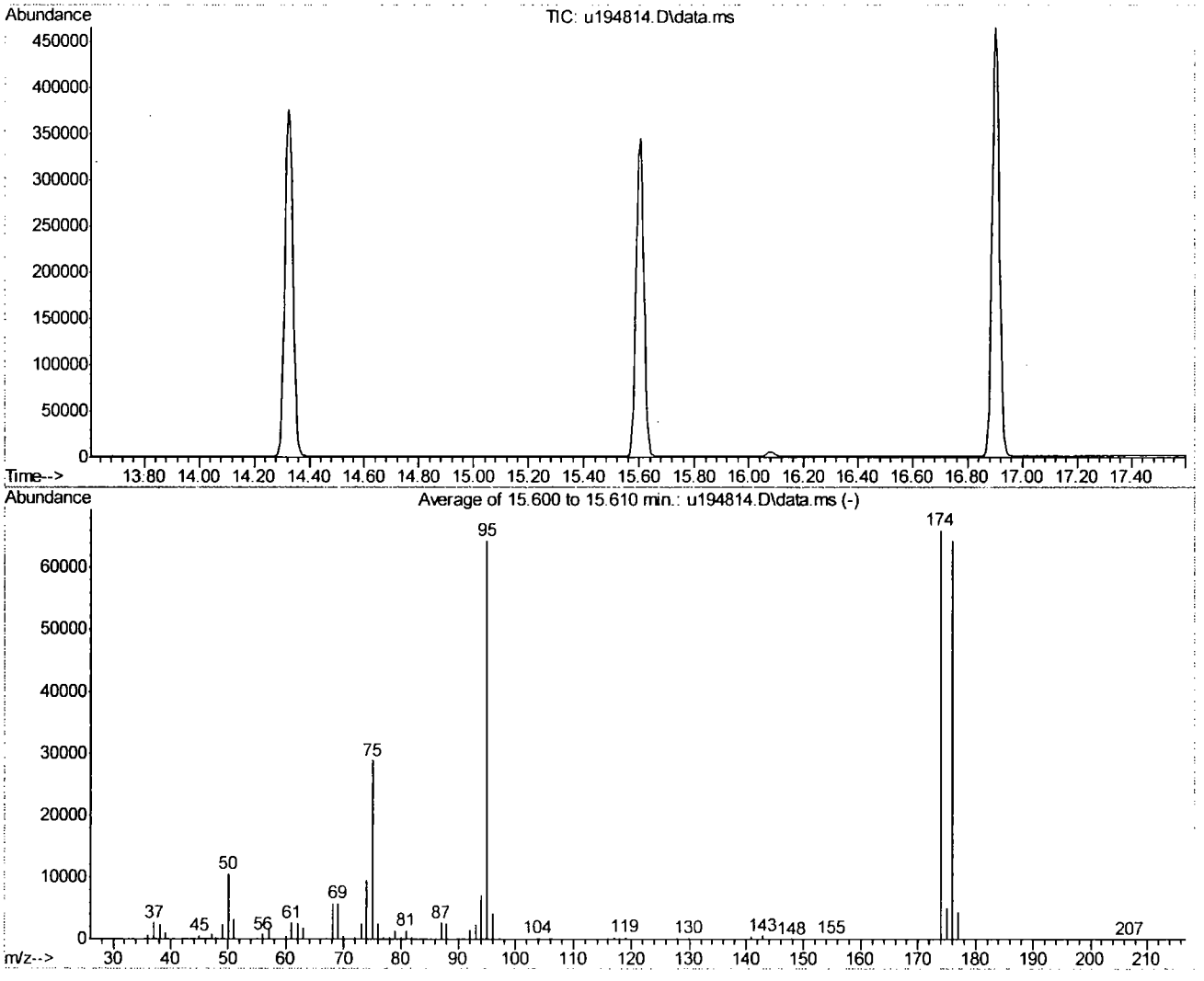
Page: 2

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

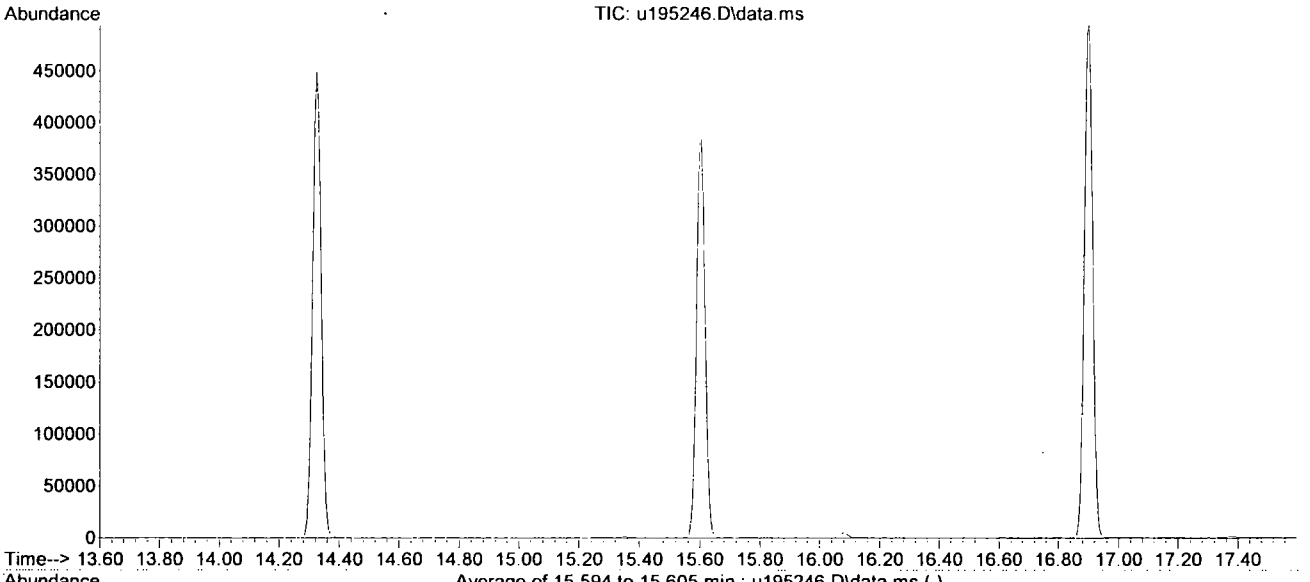
Average of 15.600 to 15.610 min.: u194814.D\data.ms
bfb
Modified:subtracted

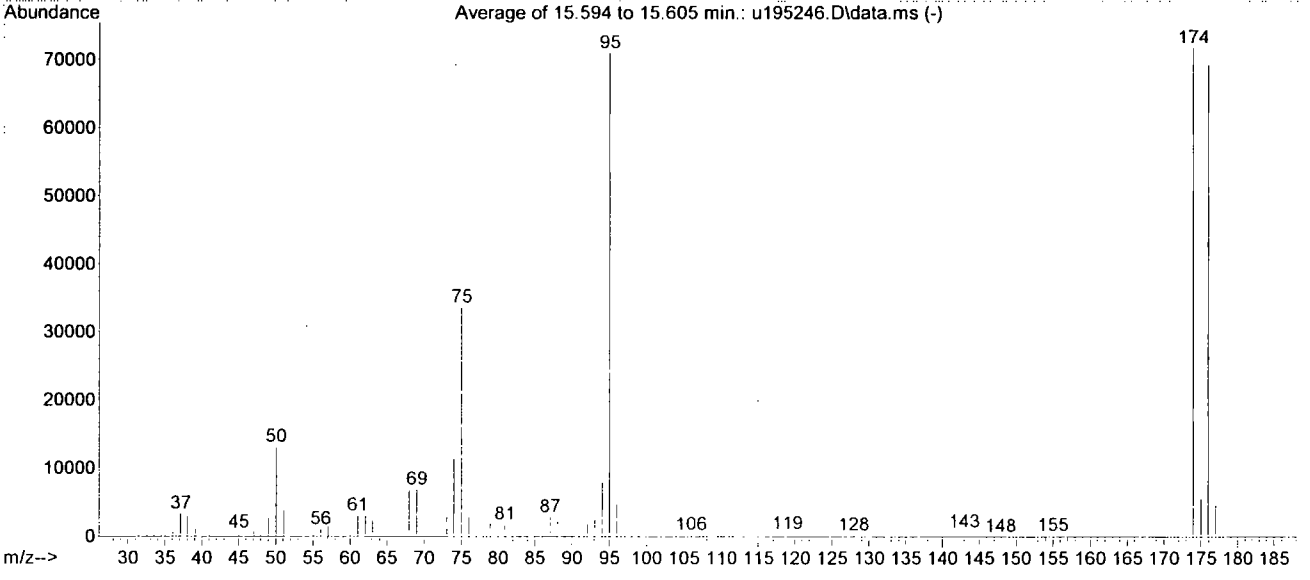
m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
97.10	102	142.95	630				
103.95	230	147.90	128				
105.95	203	154.90	175				
115.90	209	156.95	104				
116.95	333	173.95	66064				
117.90	220	175.00	5120				
118.95	363	175.95	64296				
127.90	227	176.95	4382				
129.95	235	177.95	54				
130.85	51	207.00	74				
140.90	576						

BFB

Data File : C:\msdchem\1\DATA\U\vu9907\u195246.D Vial: 2
Acq On : 18 May 2015 8:39 am Operator: NicoleH1
Sample : bfb Inst : MSU
Misc : ms84779,vu9007,5.0,,,,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





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	18.6	13210	PASS
75	95	30	60	47.4	33693	PASS
95	95	100	100	100.0	71016	PASS
96	95	5	9	6.8	4826	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	101.1	71789	PASS
175	174	5	9	7.8	5608	PASS
176	174	95	101	96.6	69320	PASS
177	176	5	9	6.7	4671	PASS

u195246.D MU8988.M Mon May 18 16:21:56 2015 T

Average of 15.594 to 15.605 min.: u195246.D\data.ms
bfb
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.05	632	52.05	135	69.05	6928	80.95	1820
37.10	3383	55.05	187	70.10	570	81.95	413
38.05	3075	56.05	1091	72.10	343	87.05	2917
39.15	1238	57.05	1817	73.05	3036	88.05	2831
44.05	382	60.05	606	74.05	11468	91.00	280
45.05	595	61.05	3113	75.05	33693	92.05	1937
47.10	811	62.05	3034	76.05	2976	93.05	2829
48.05	419	63.05	2410	77.05	444	94.05	8263
49.05	2730	64.10	216	78.00	340	95.05	71016
50.05	13210	67.10	221	78.95	1909	96.05	4826
51.10	3900	68.05	6826	80.00	606	97.05	113

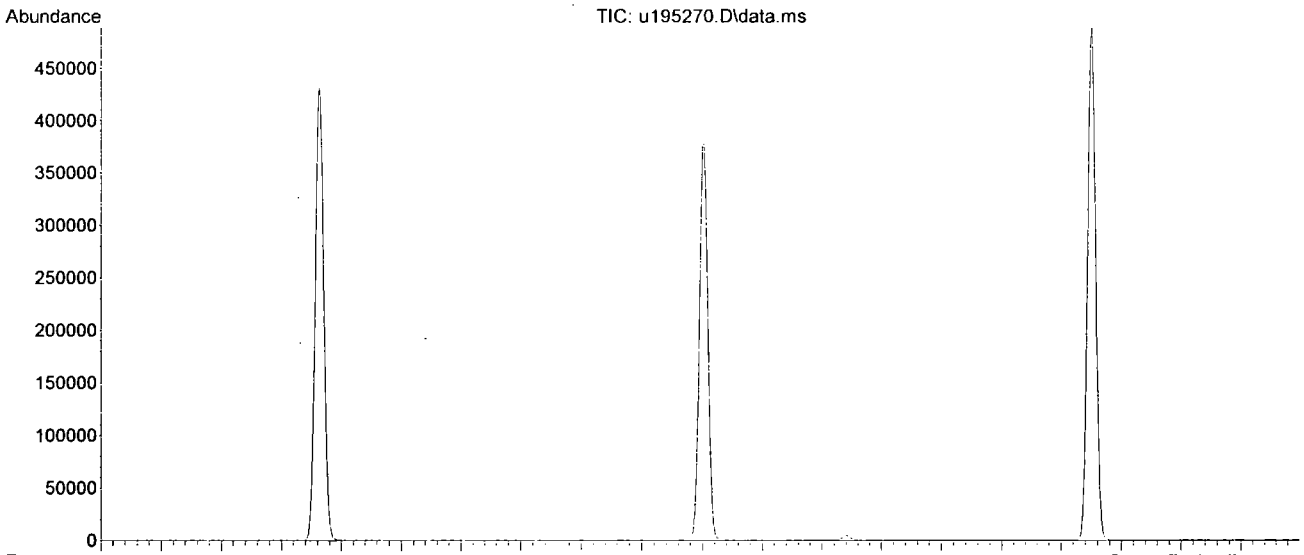
Average of 15.594 to 15.605 min.: u195246.D\data.ms
bfb
Modified:subtracted

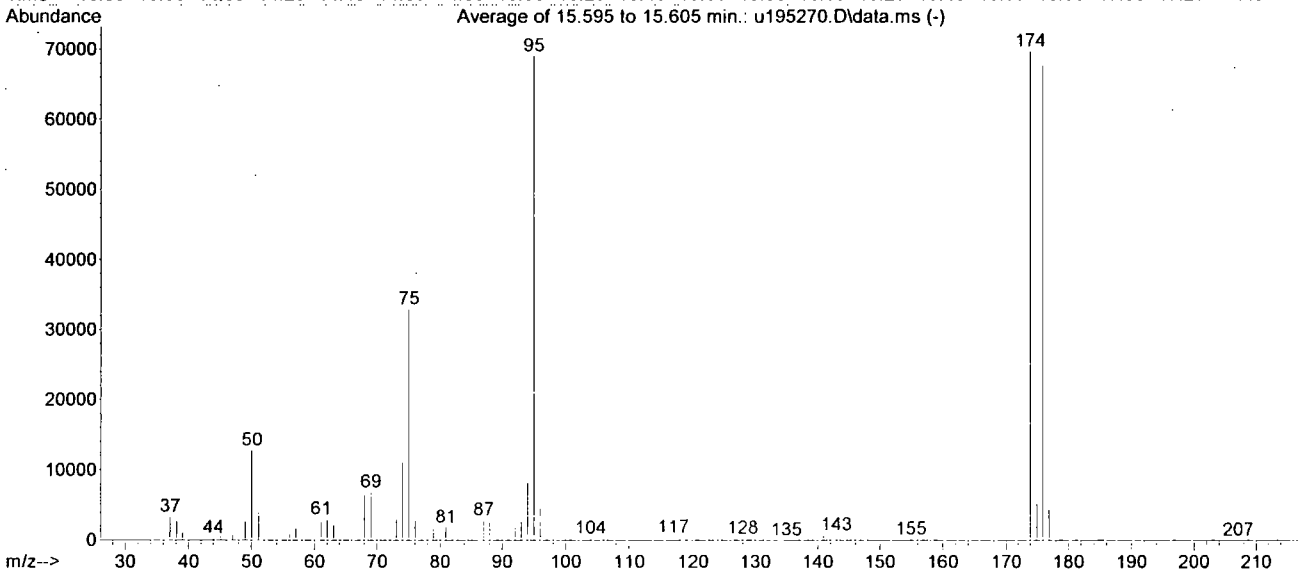
m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
103.95	284	142.95	744				
105.95	301	145.95	54				
115.90	252	147.90	113				
116.95	435	155.00	223				
117.90	230	156.95	59				
118.95	437	171.95	52				
127.95	255	173.95	71789				
128.95	51	175.00	5608				
129.95	239	175.95	69320				
140.90	716	176.95	4671				
141.95	55	178.05	119				

BFB

Data File : C:\msdchem\1\DATA\U\vu9008\u195270.D Vial: 26
Acq On : 18 May 2015 8:40 pm Operator: NicoleH1
Sample : bfb Inst : MSU
Misc : ms85328,vu9008,5.0,,,,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





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	18.6	12813	PASS
75	95	30	60	47.8	32992	PASS
95	95	100	100	100.0	69037	PASS
96	95	5	9	6.8	4679	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	101.0	69696	PASS
175	174	5	9	7.5	5222	PASS
176	174	95	101	97.2	67765	PASS
177	176	5	9	6.8	4605	PASS

u195270.D MU8988.M Tue May 19 14:59:27 2015 T

Average of 15.595 to 15.605 min.: u195270.D\data.ms
bfb
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.10	608	52.10	175	69.05	6900	80.95	1842
37.10	3365	55.05	118	70.10	468	82.00	372
38.10	2849	56.05	989	72.05	326	87.05	2885
39.10	1196	57.05	1756	73.05	3015	88.00	2669
44.00	335	60.05	639	74.05	11191	91.00	271
45.10	598	61.05	3046	75.05	32992	92.05	1951
47.10	777	62.05	2945	76.05	2851	93.05	2798
48.10	411	63.05	2228	77.05	369	94.05	8205
49.05	2750	64.10	188	78.05	277	95.05	69037
50.05	12813	67.10	202	78.95	1783	96.05	4679
51.10	3990	68.05	6647	80.00	525	97.05	155

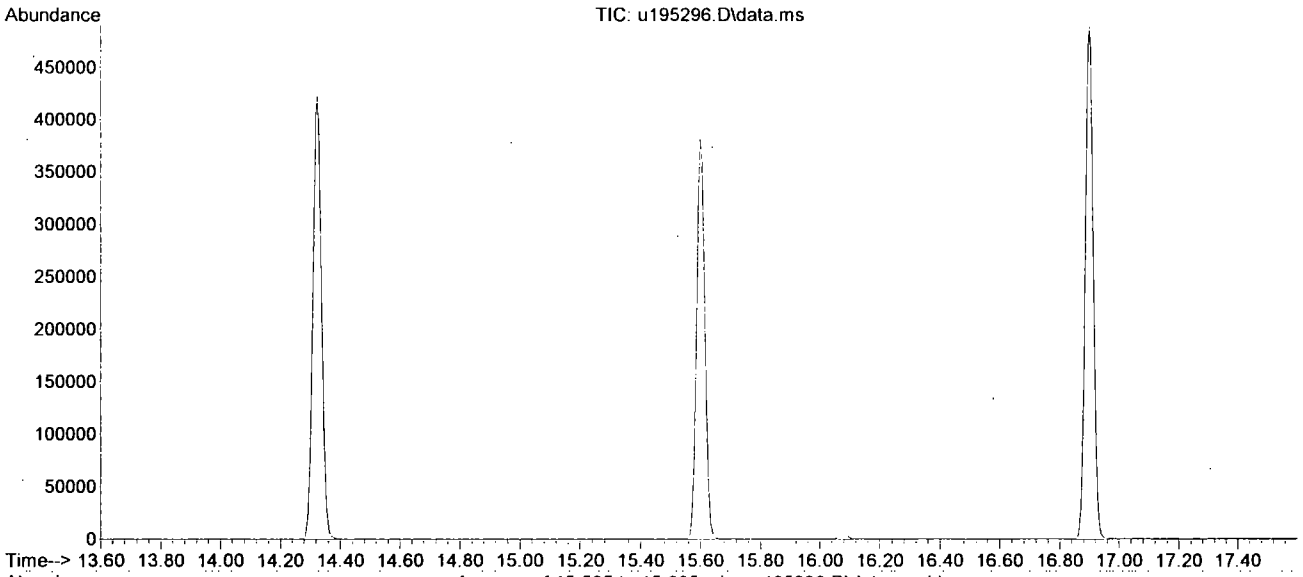
Average of 15.595 to 15.605 min.: u195270.D\data.ms
bfb
Modified:subtracted

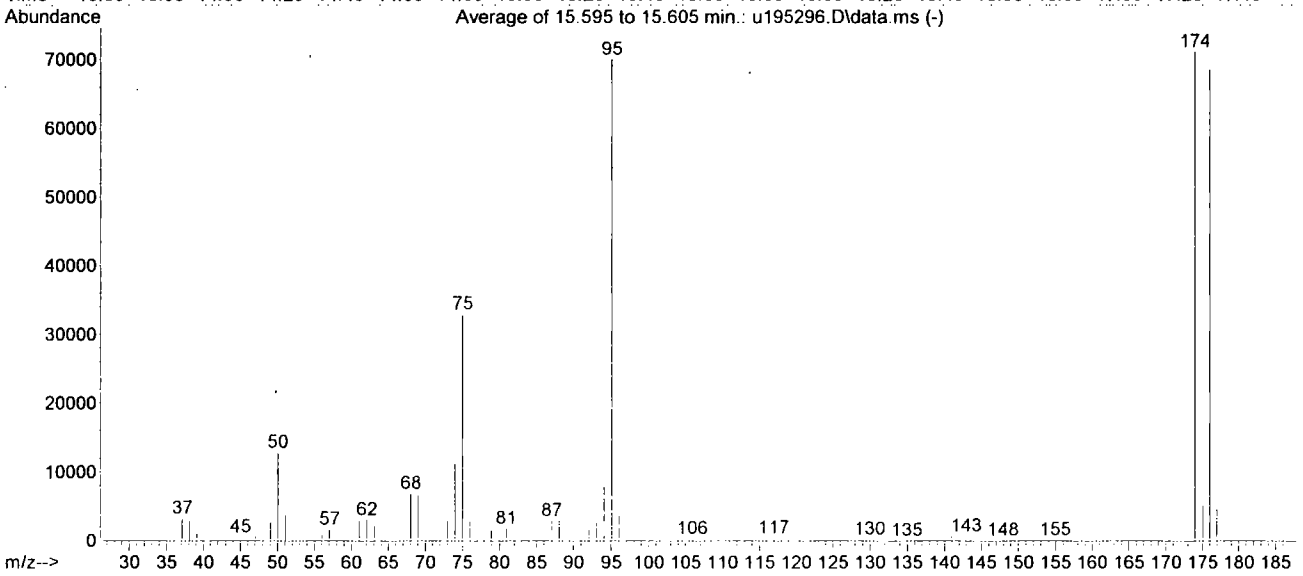
m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
103.95	304	145.85	62				
105.95	297	147.90	175				
115.95	230	154.95	170				
116.95	437	157.00	117				
118.00	228	173.95	69696				
118.95	348	175.00	5222				
127.95	316	175.95	67765				
129.90	268	176.95	4605				
134.95	61	177.95	52				
140.95	718	207.05	19				
142.95	761						

BFB

Data File : C:\msdchem\1\DATA\U\vu9009\u195296.D Vial: 1
Acq On : 19 May 2015 9:02 am Operator: NicoleH1
Sample : bfb Inst : MSU
Misc : ms85328,vu9009,5.0,,,,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





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	18.4	12879	PASS
75	95	30	60	47.1	33024	PASS
95	95	100	100	100.0	70075	PASS
96	95	5	9	6.9	4820	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	101.6	71168	PASS
175	174	5	9	7.5	5353	PASS
176	174	95	101	96.4	68573	PASS
177	176	5	9	6.8	4667	PASS

u195296.D MU8988.M Tue May 19 16:34:19 2015 T

Average of 15.595 to 15.605 min.: u195296.D\data.ms
bfb
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.10	623	51.10	3925	68.05	6894	80.00	540
37.10	3310	52.10	197	69.05	6772	80.95	1850
38.10	2999	55.10	197	70.10	494	82.00	448
39.15	1145	56.05	1041	72.05	401	87.05	2971
40.05	53	57.05	1722	73.05	2956	88.05	2964
44.05	436	60.05	665	74.05	11299	90.95	232
45.05	600	61.05	3074	75.05	33024	92.05	1893
47.05	831	62.05	3140	76.05	2882	93.05	2865
48.10	389	63.10	2246	77.05	407	94.05	8086
49.05	2767	64.10	228	78.00	271	95.05	70075
50.05	12879	67.05	61	78.95	1895	96.05	4820

Average of 15.595 to 15.605 min.: u195296.D\data.ms
bfb
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
97.05	59	140.95	710				
103.95	286	142.95	743				
105.95	347	147.95	143				
115.95	269	154.95	182				
116.95	430	157.05	68				
117.95	270	173.95	71168				
118.95	382	175.05	5353				
127.95	240	175.95	68573				
129.95	268	176.95	4667				
134.95	110	177.95	50				
136.95	52						

7.6.4

7

ACCUTEST LABORATORIES
JB94785

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

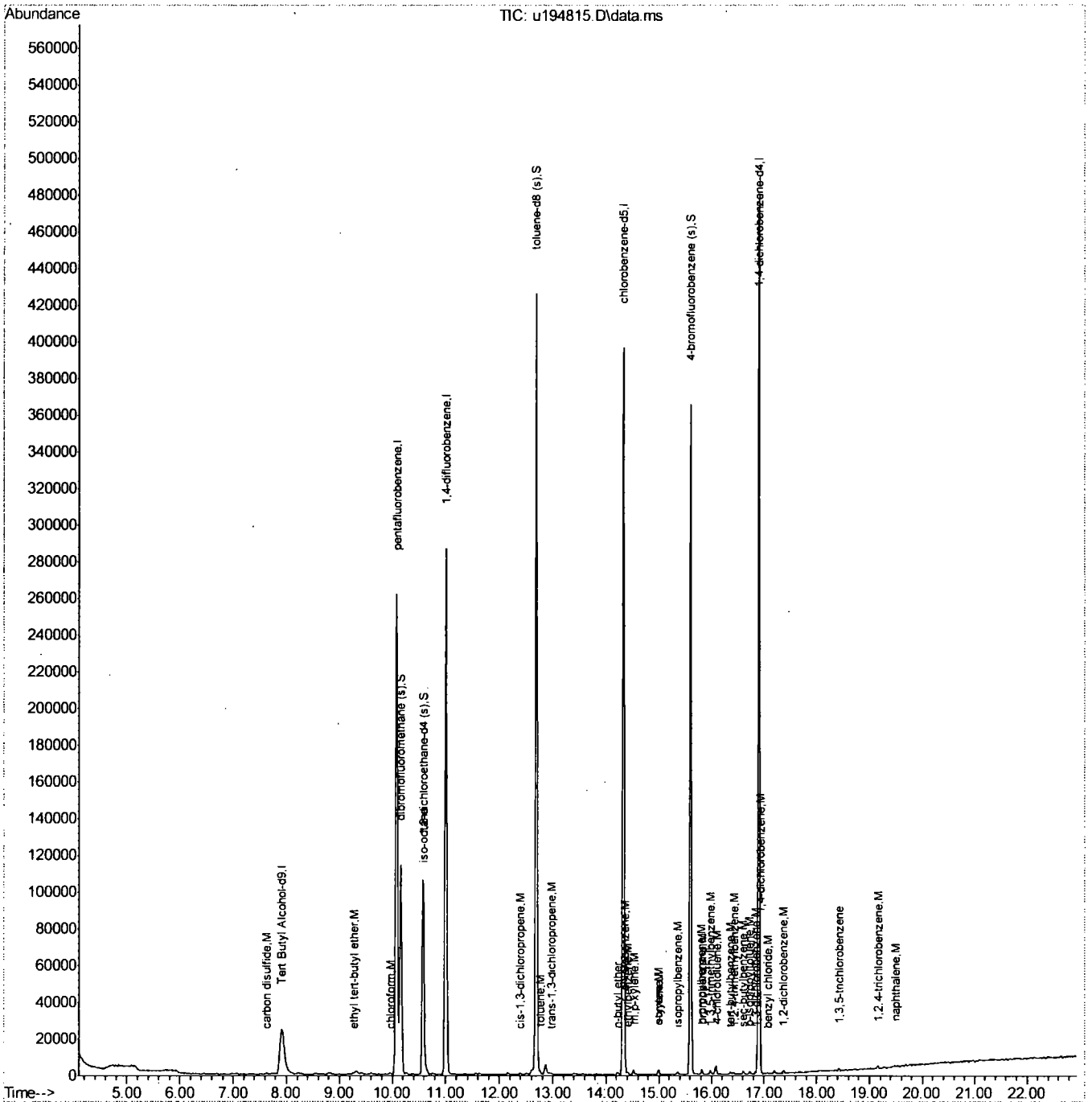
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Tert Butyl Alcohol-d9	7.914	65	88452	500.00	ug/L		0.03
5) pentafluorobenzene	10.079	168	276060	50.00	ug/L		0.00
64) 1,4-difluorobenzene	11.004	114	317063	50.00	ug/L		0.00
96) chlorobenzene-d5	14.329	117	283205	50.00	ug/L		0.00
112) 1,4-dichlorobenzene-d4	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



7.7.1

ACCUTEST LABORATORIES JB94785

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

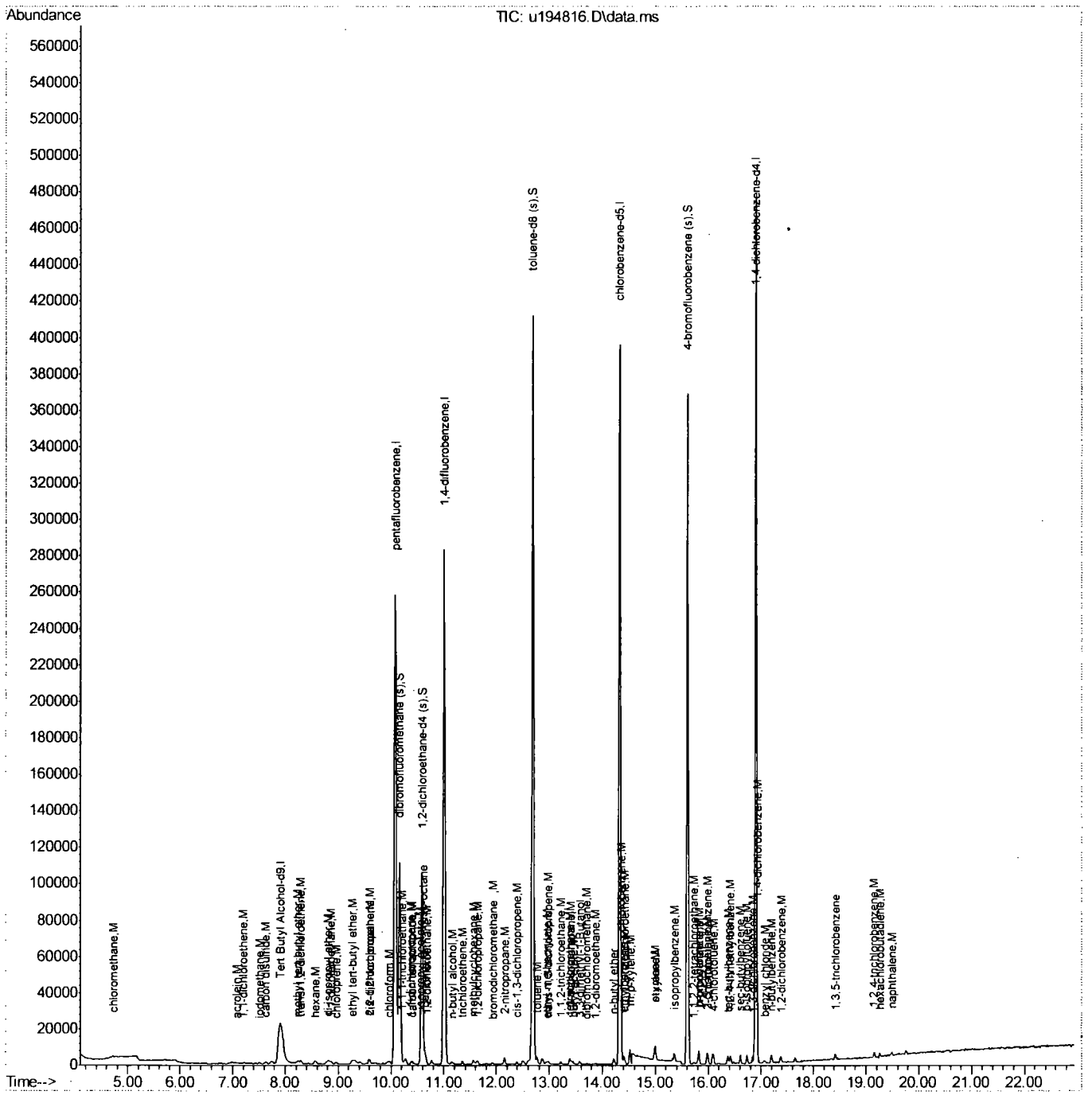
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.7.2

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
Lab FileID: U194816.D
Injection Time: 05/01/15 11:57

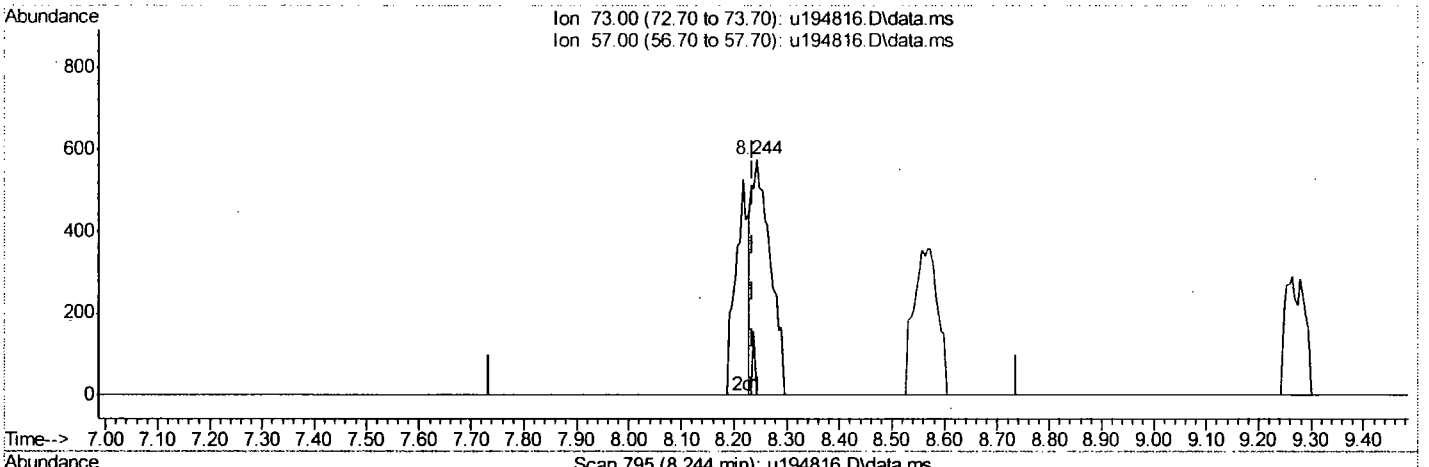
Method: SW846 8260C
Analyst approved: 05/04/15 09:57 Mei Chen
Supervisor approved: 05/04/15 15:36 Jessica Reitan-Chu

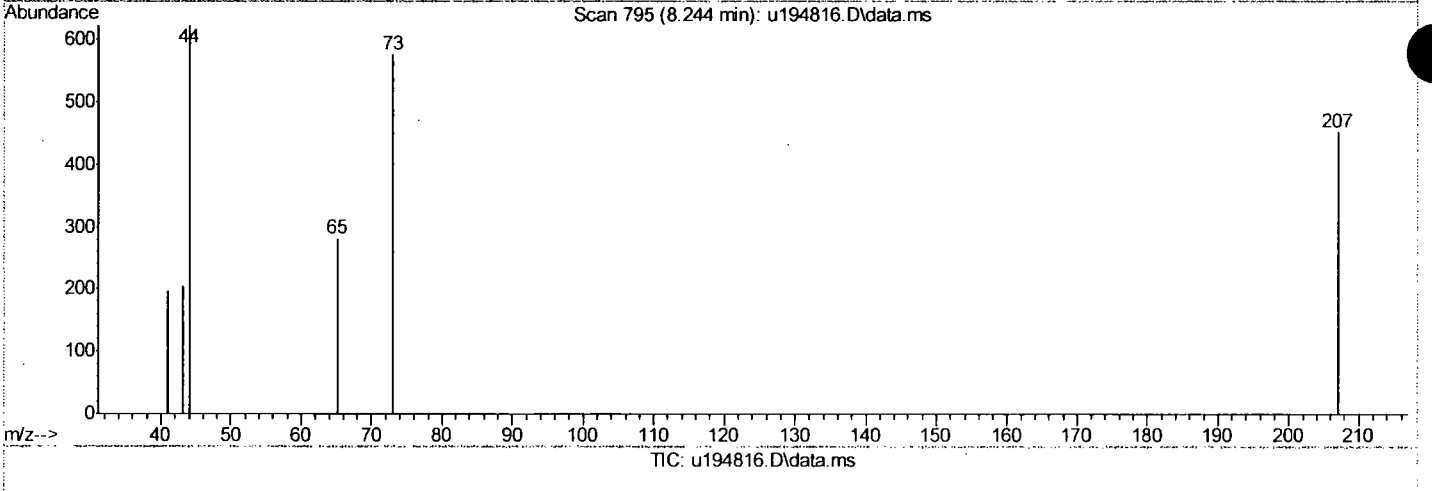
Parameter	CAS	Sig#	R.T. (min.)	Reason
Methyl Tert Butyl Ether	1634-04-4		8.24	Split peak

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

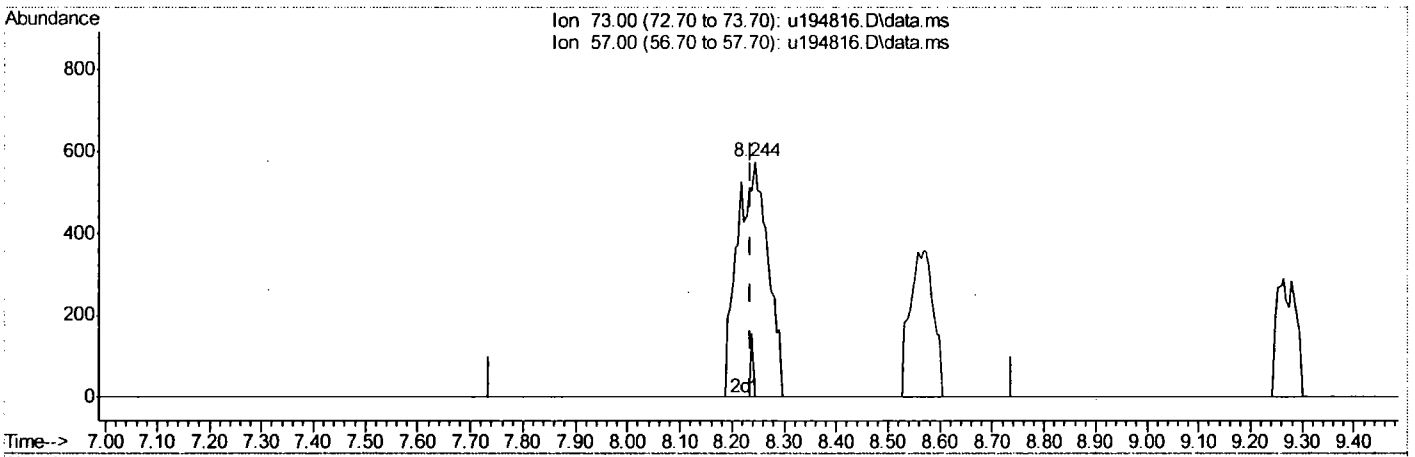
Ion	Exp%	Act%
73.00	100	100
57.00	21.90	0.00
0.00	0.00	0.00
0.00	0.00	0.00

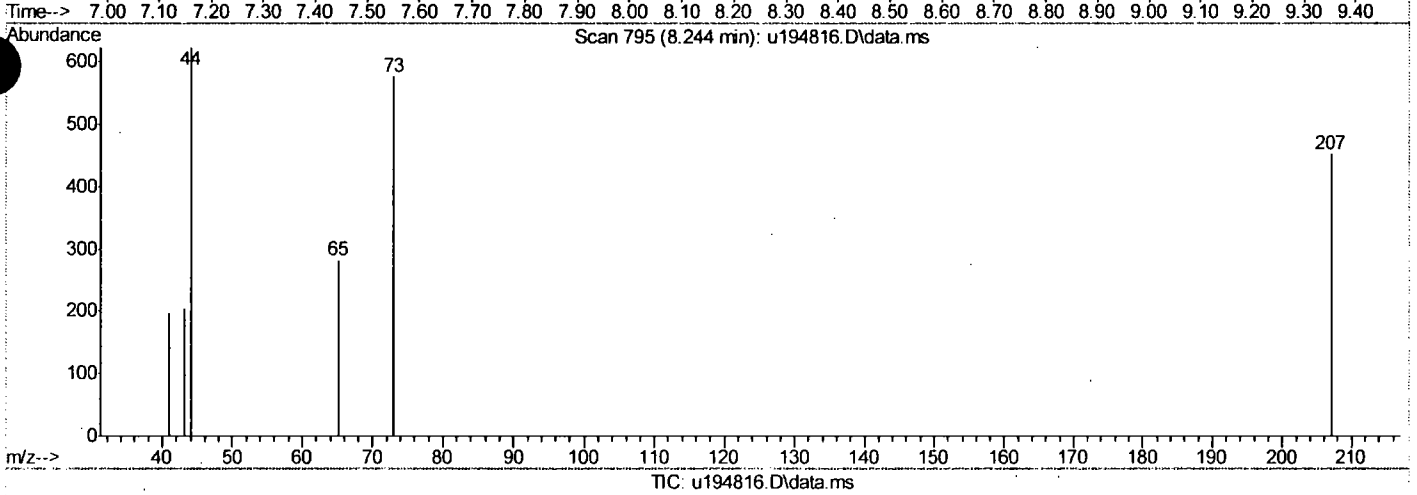
ACCUTEST LABORATORIES JB94785

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

7.7.2.3

7

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

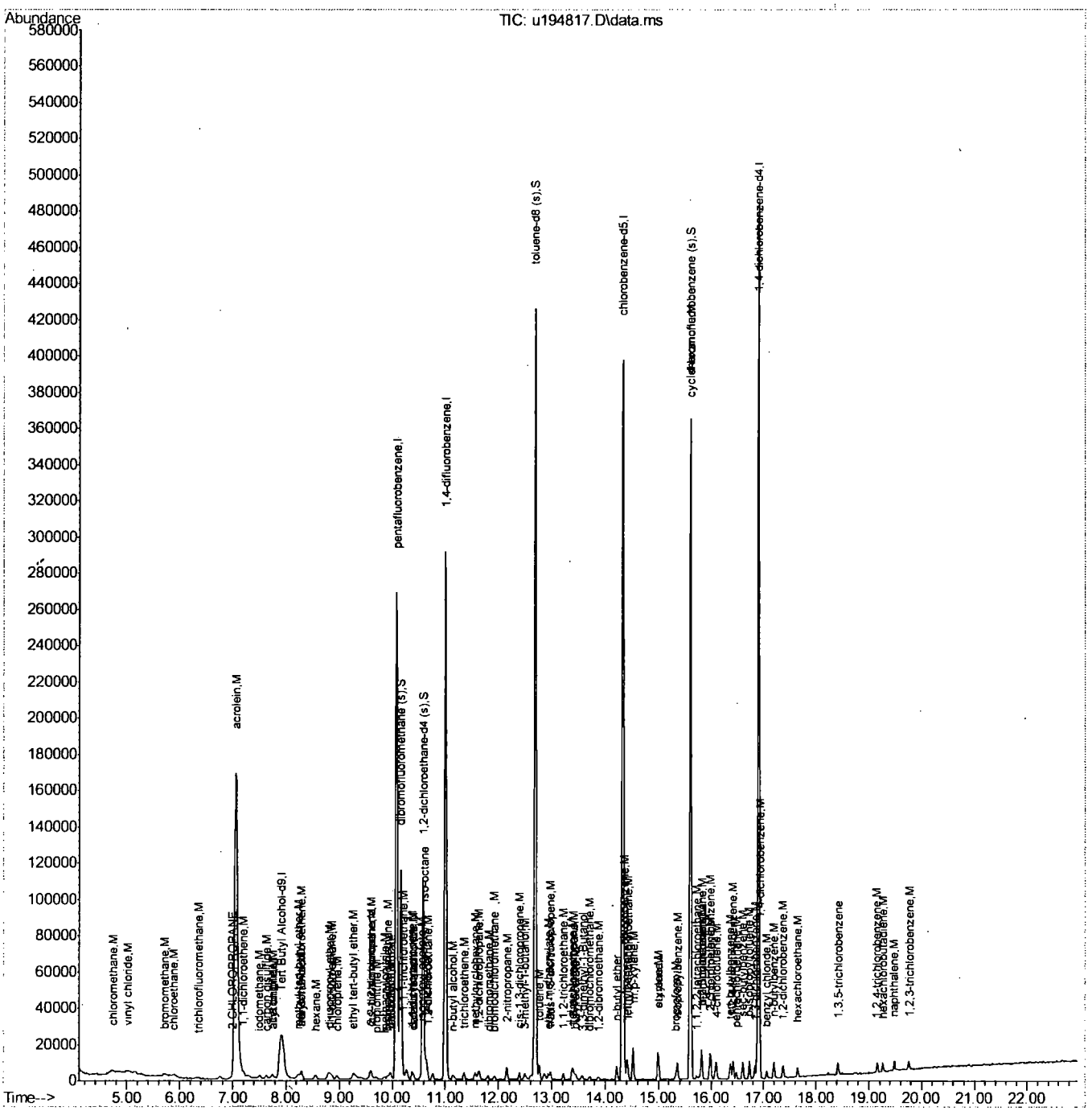
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.7.3

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



7.7.3

Manual Integration Approval Summary

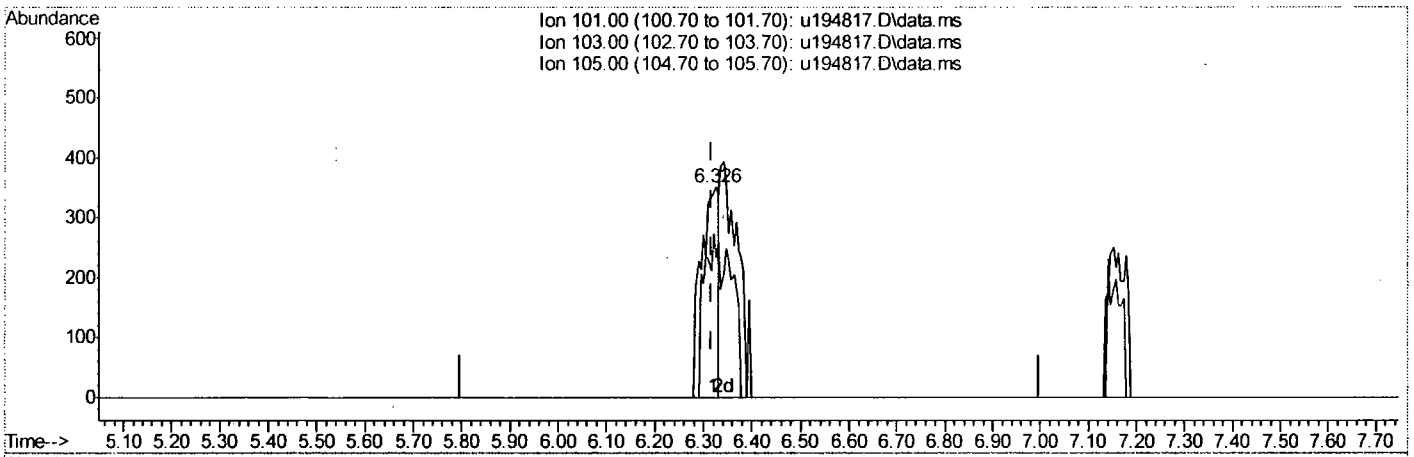
Sample Number:	VU8988-IC8988	**Method:**	SW846 8260C
Lab FileID:	U194817.D	**Analyst approved:**	05/04/15 09:57 Mei Chen
Injection Time:	05/01/15 12:26	**Supervisor approved:**	05/04/15 15:36 Jessica Reitan-Chu

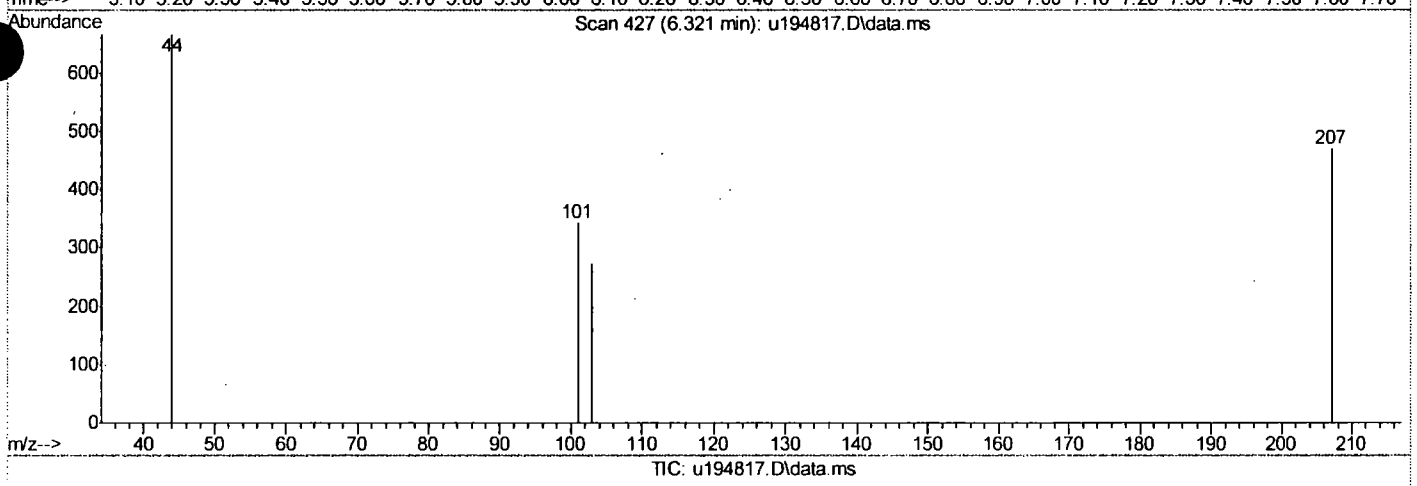
Parameter	CAS	Sig#	R.T. (min.)	Reason
Trichlorofluoromethane	75-69-4		6.34	Split peak

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

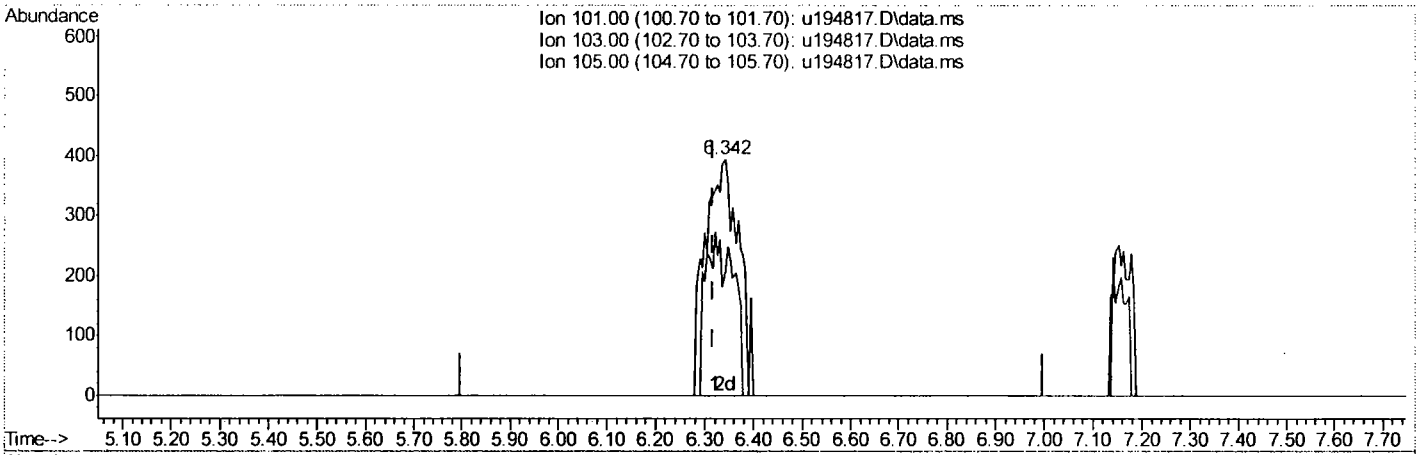
response 886

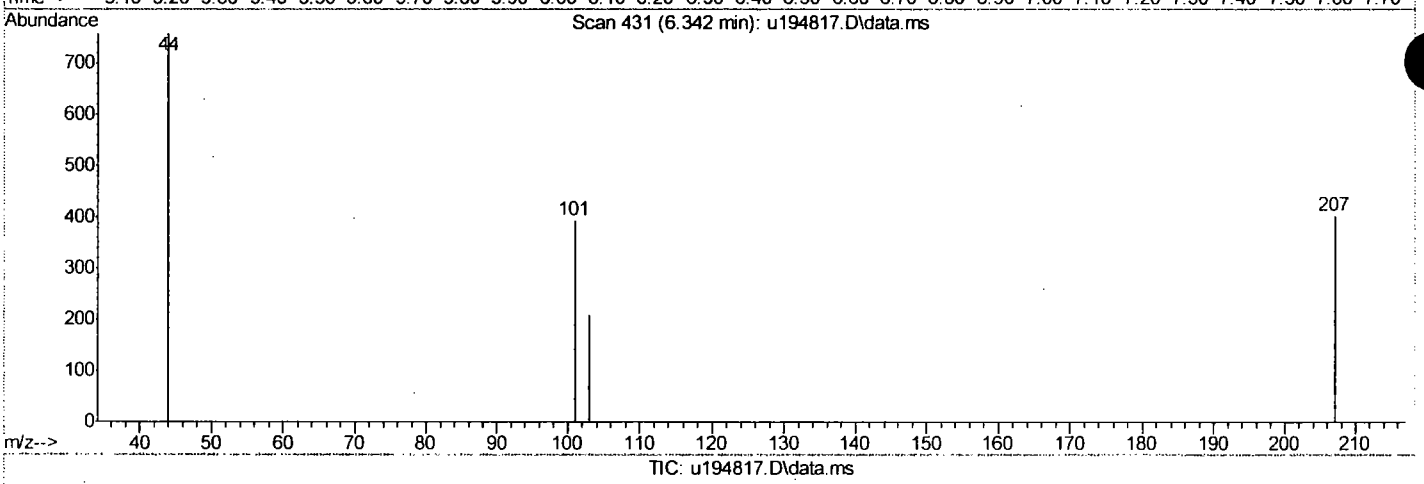
Ion	Exp%	Act%
101.00	100	100
103.00	62.50	79.88
105.00	10.00	0.00
0.00	0.00	0.00

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

7.7.3.3

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

7.7.4

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

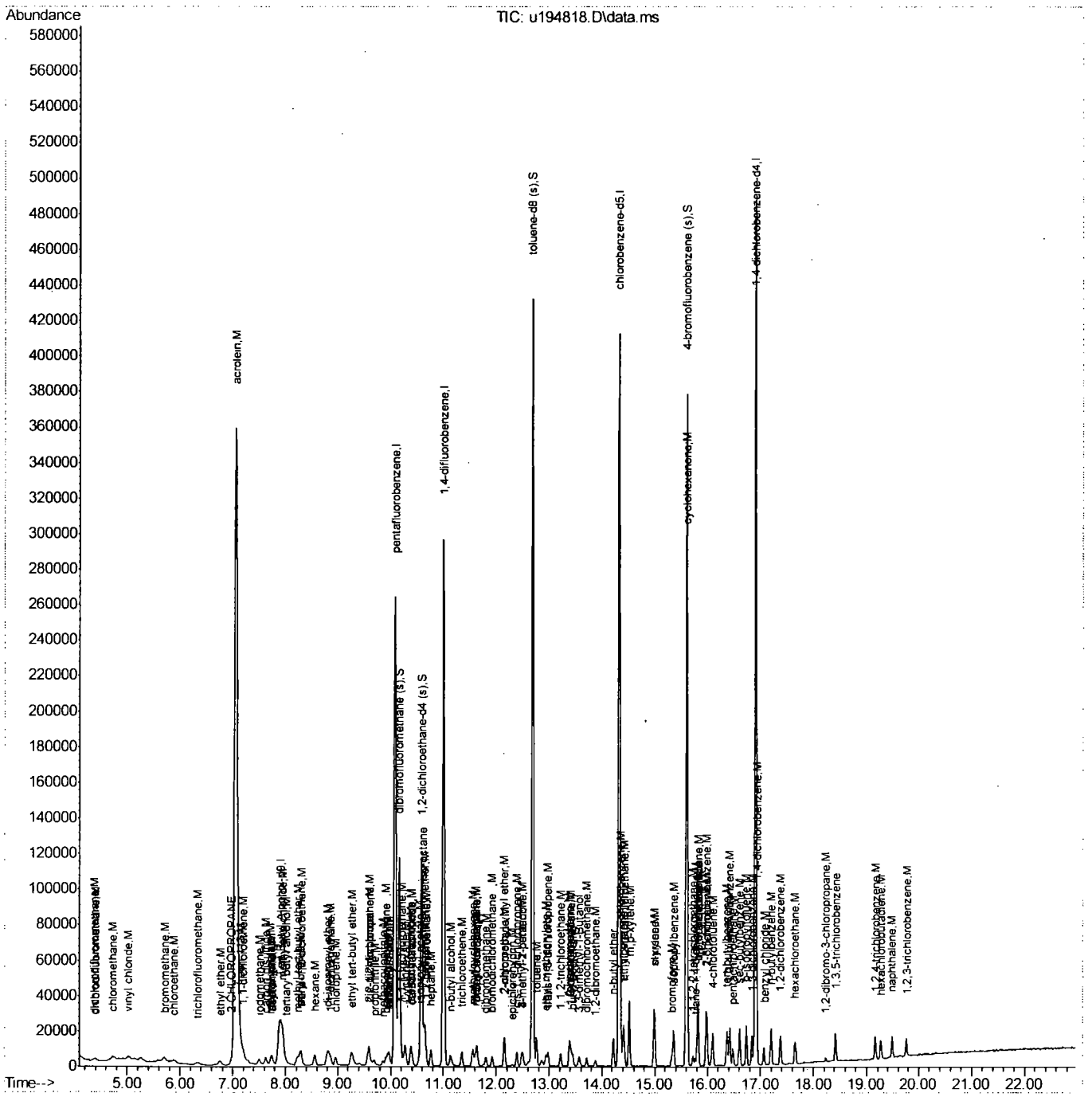
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.7.4

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



ACCUTEST LABORATORIES JB94785

7.7.4

Manual Integration Approval Summary

Sample Number: VU8988-IC8988
Lab FileID: U194818.D
Injection Time: 05/01/15 12:55

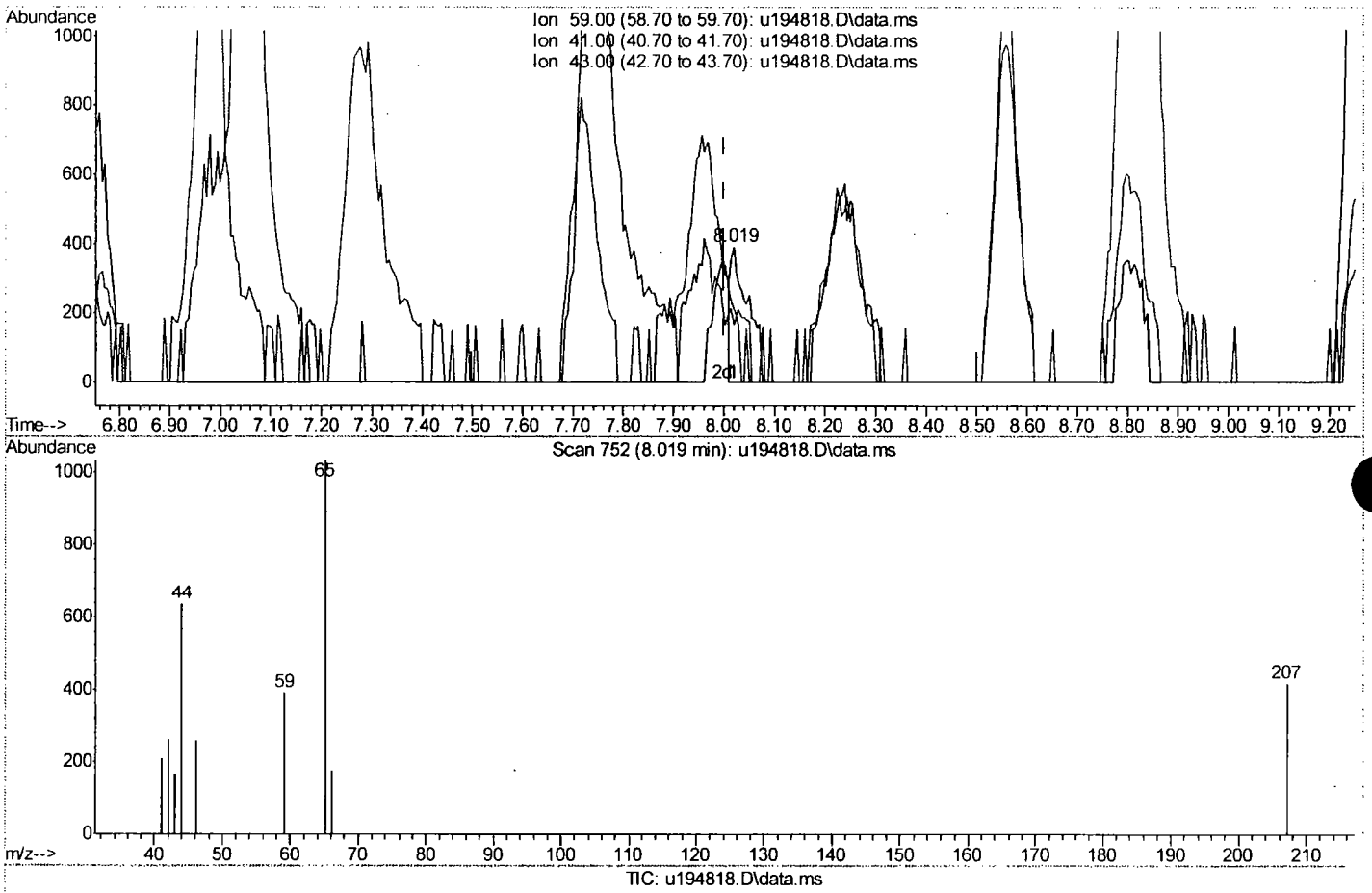
Method: SW846 8260C
Analyst approved: 05/04/15 09:57 Mei Chen
Supervisor approved: 05/04/15 15:36 Jessica Reitan-Chu

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



(2) tertiary butyl alcohol (M)

8.019min (+0.017) 4.90ug/L

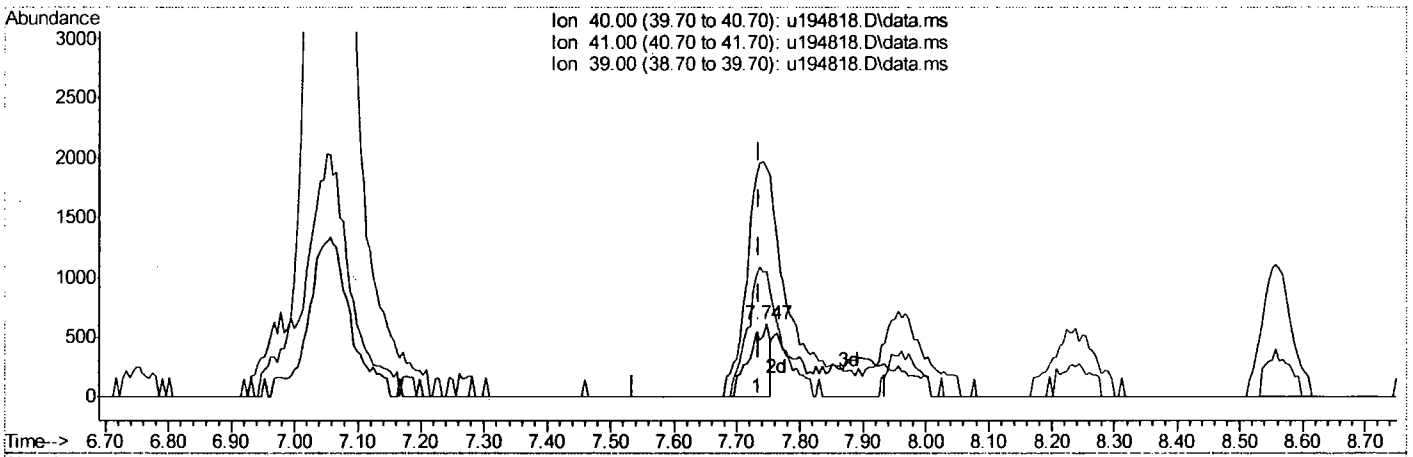
response 944

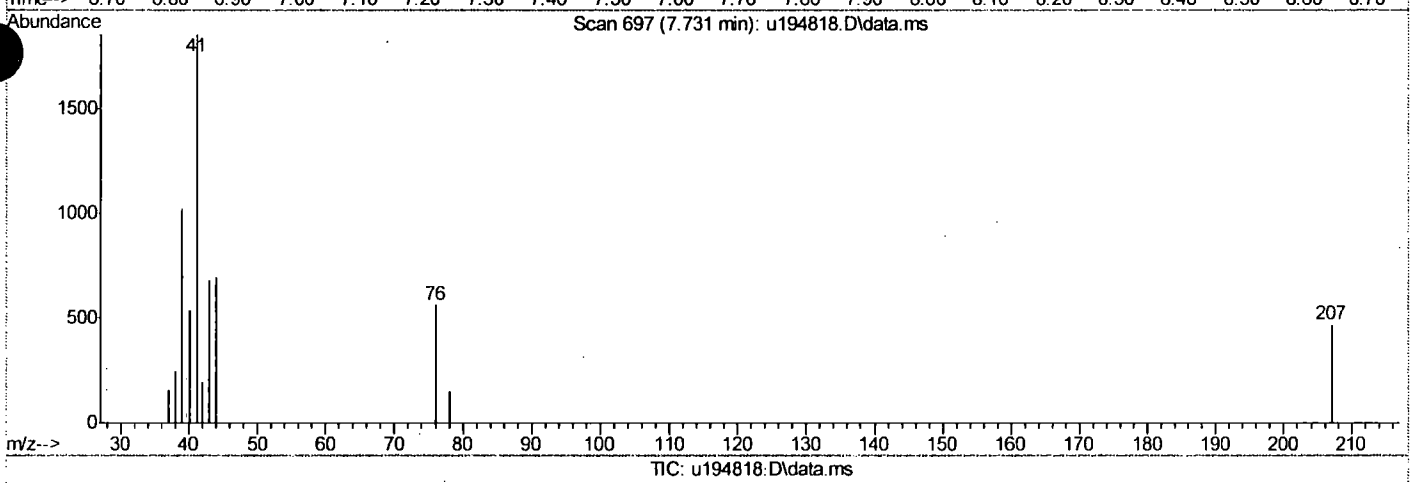
Ion	Exp%	Act%
59.00	100	100
41.00	33.30	30.35
43.00	20.30	27.70
0.00	0.00	0.00

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

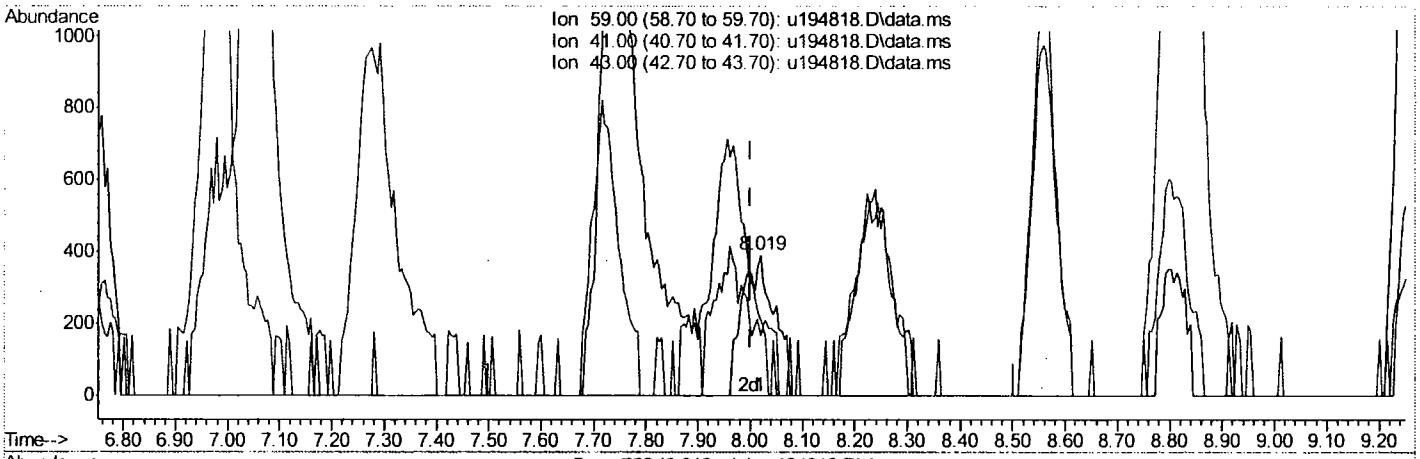
Ion	Exp%	Act%
40.00	100	100
41.00	396.60	306.86#
39.00	197.10	188.87
0.00	0.00	0.00

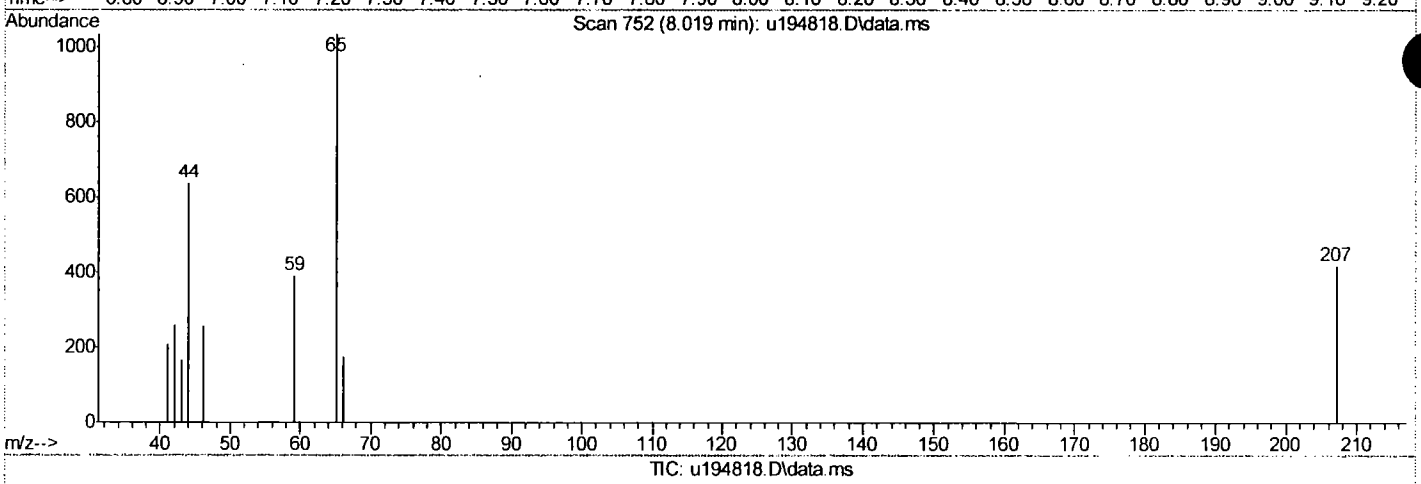
7.7.4.3

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

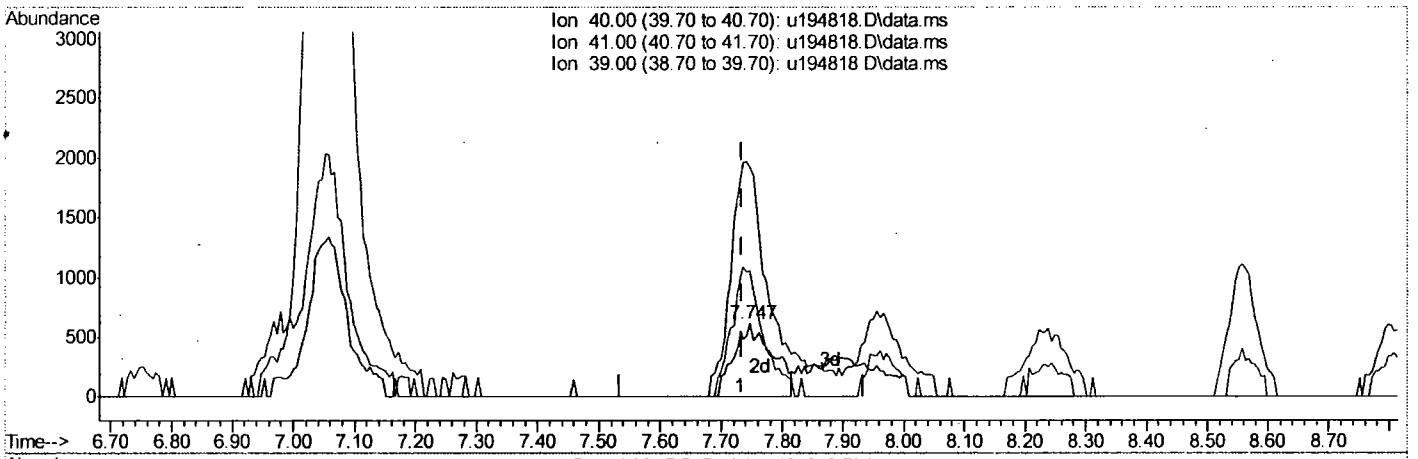
Ion	Exp%	Act%
59.00	100	100
41.00	33.30	53.45
43.00	20.30	42.71
0.00	0.00	0.00

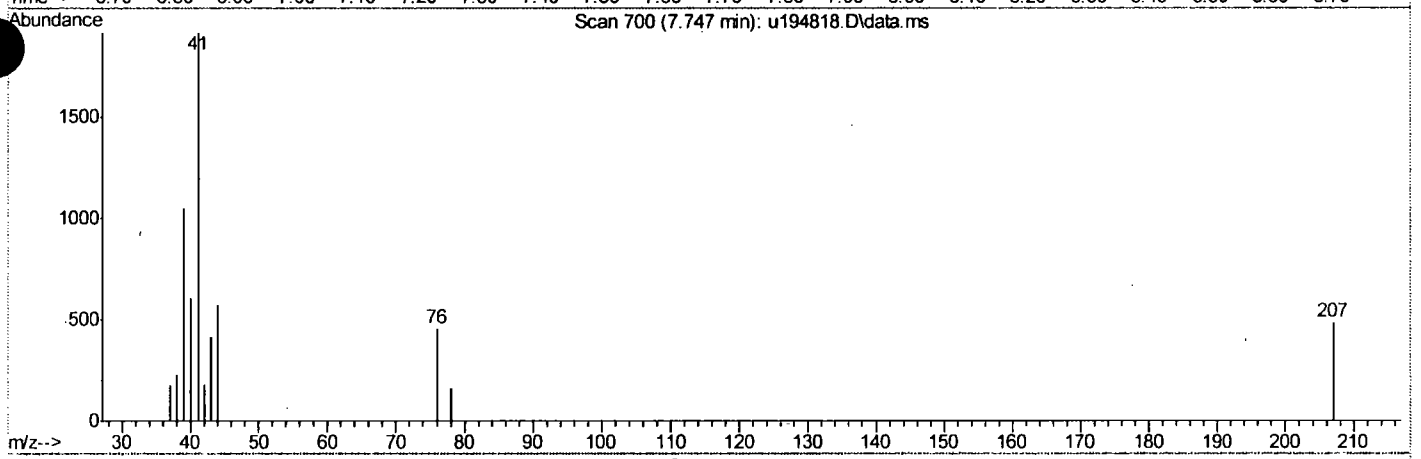
7.7.4.4

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\
Data File : u194818.D
Acq On : 1 May 2015 12:55 pm
Operator : NicoleHl
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

7.7.5

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

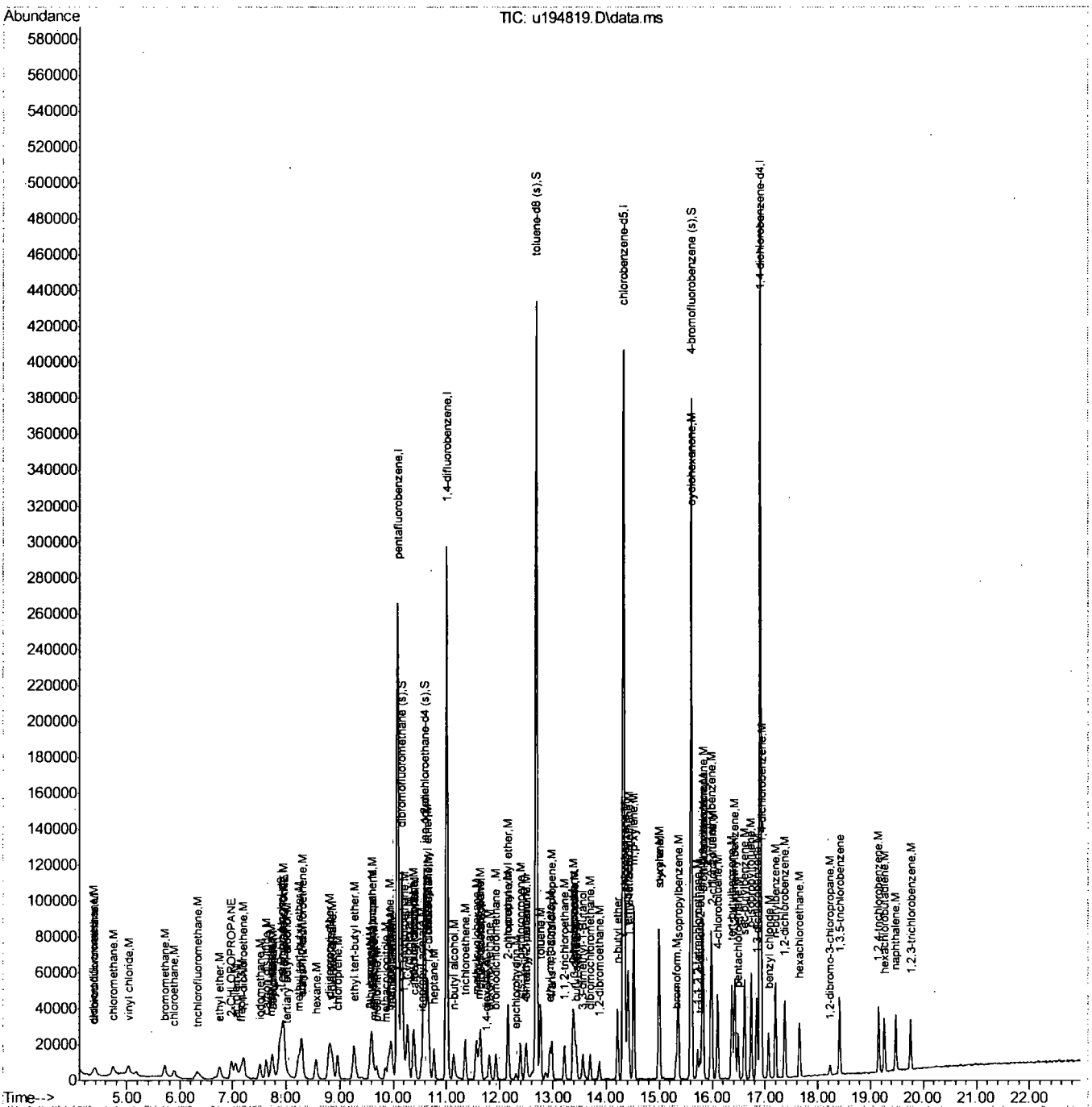
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.7.5 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



7.7.5

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

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

7.7.6

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

7.7.6

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

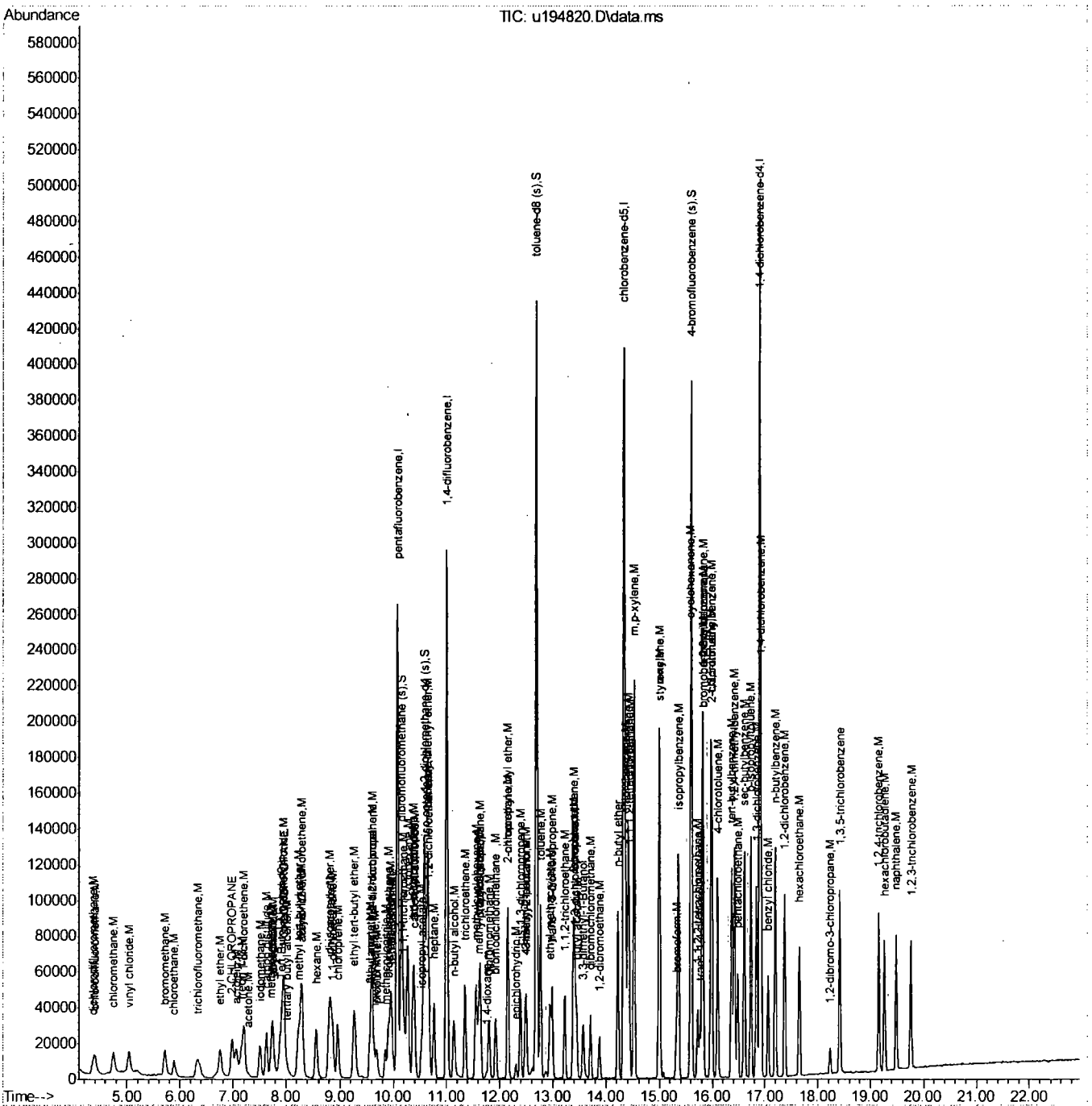
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.7.6

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

7.2.7

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

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

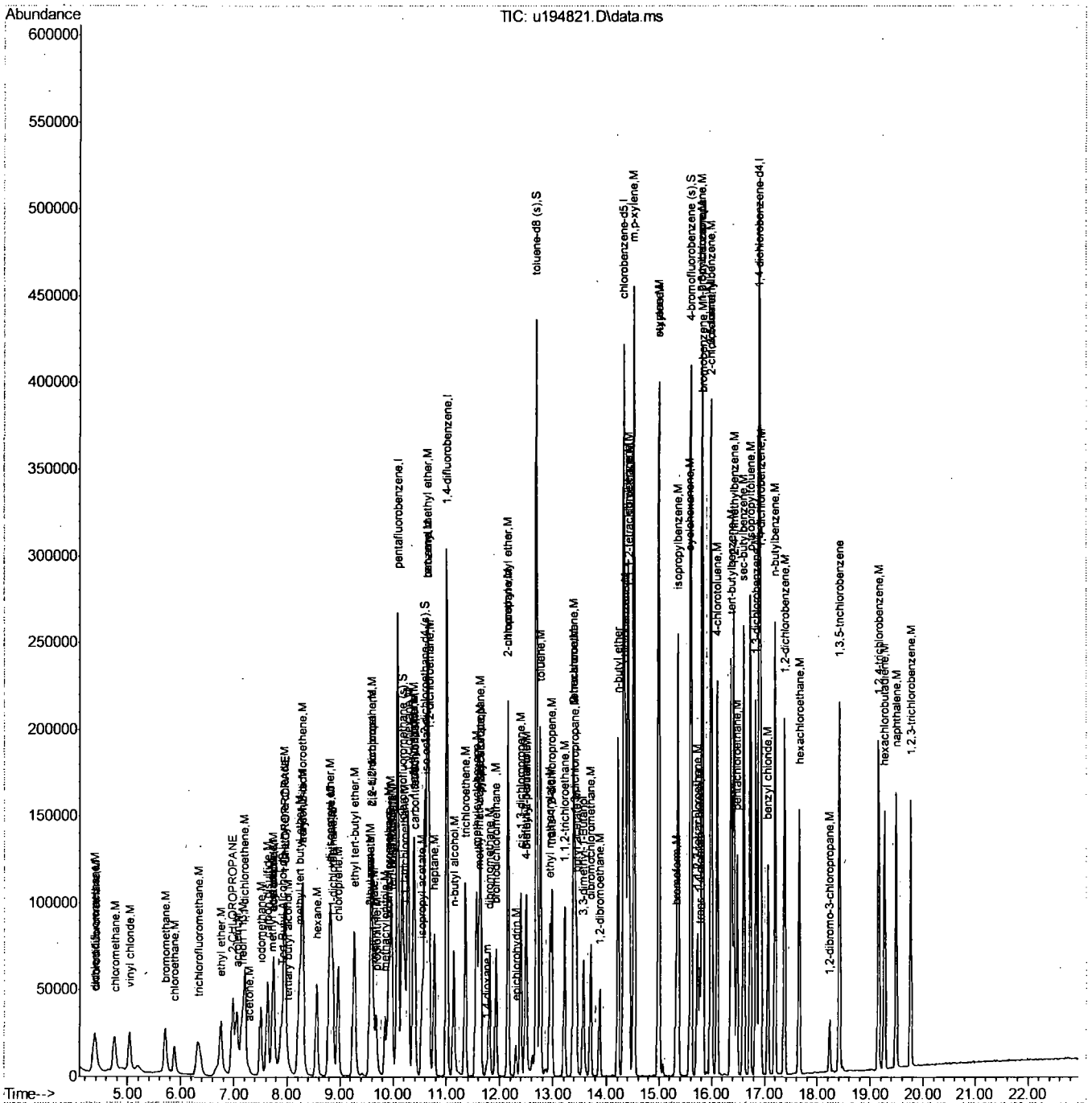
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.7.7

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

7.7.8

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

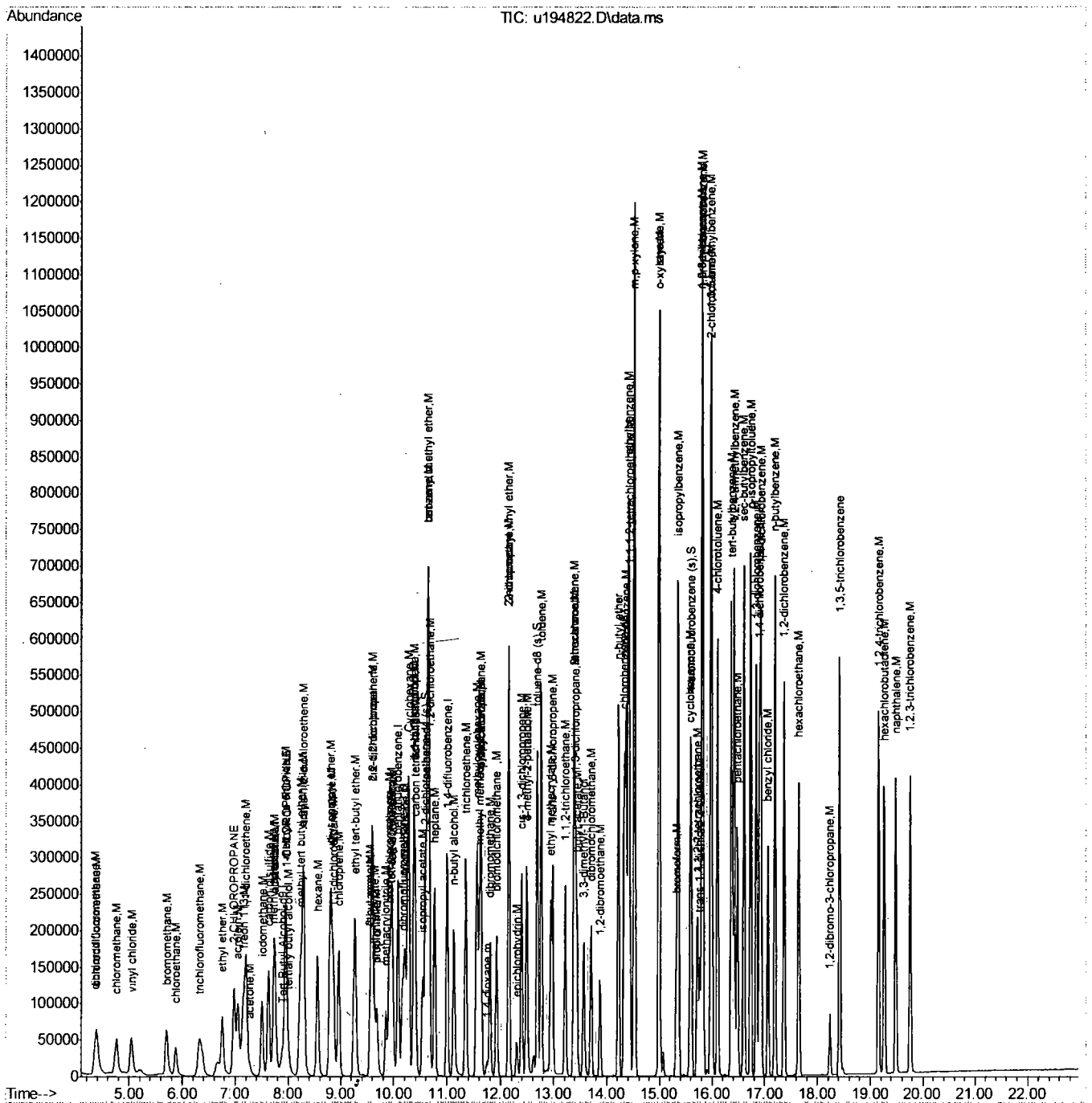
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.7.8

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



7.7.8

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

7.7.9

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

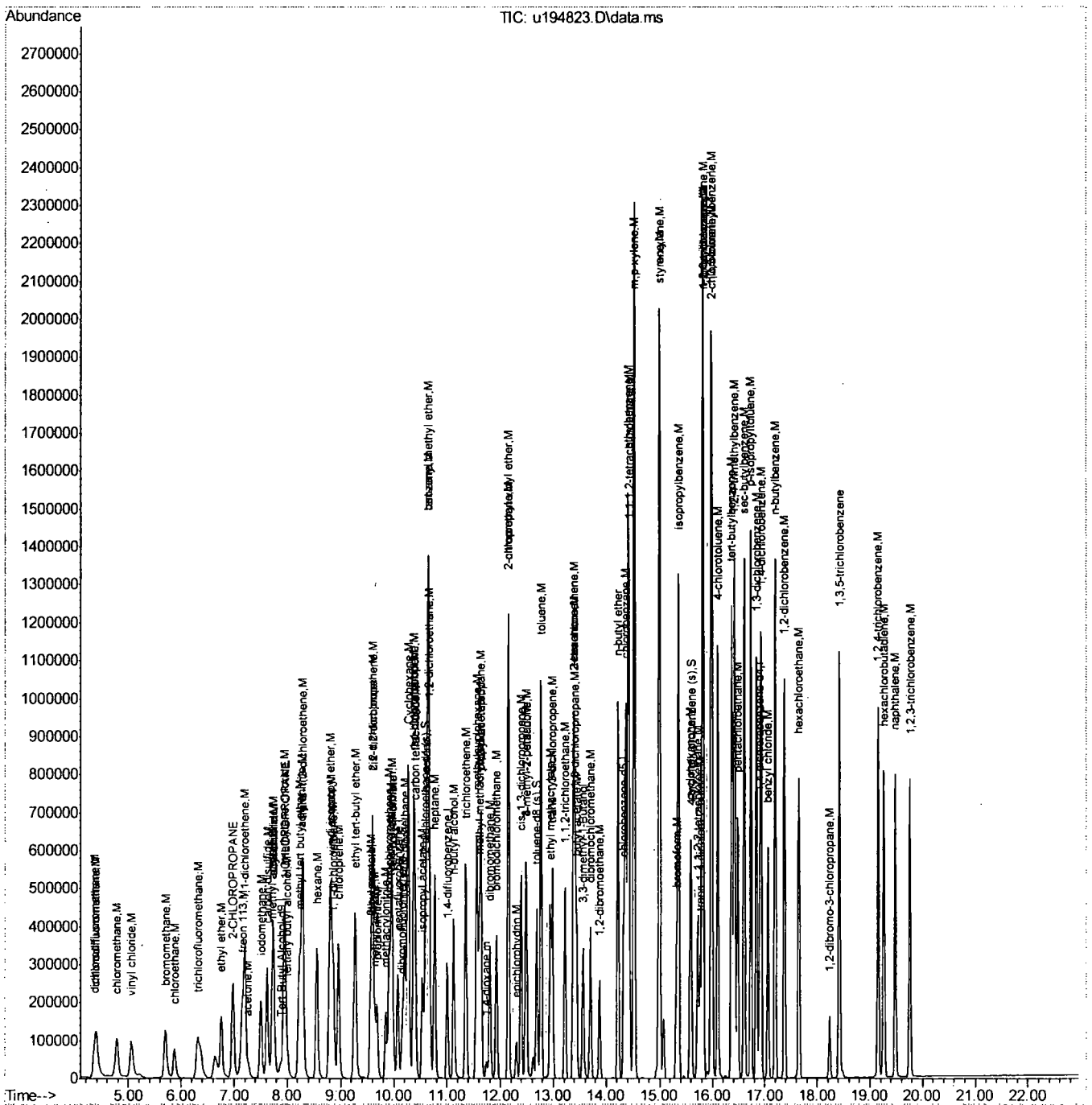
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.7.9

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



7.7.9

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

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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

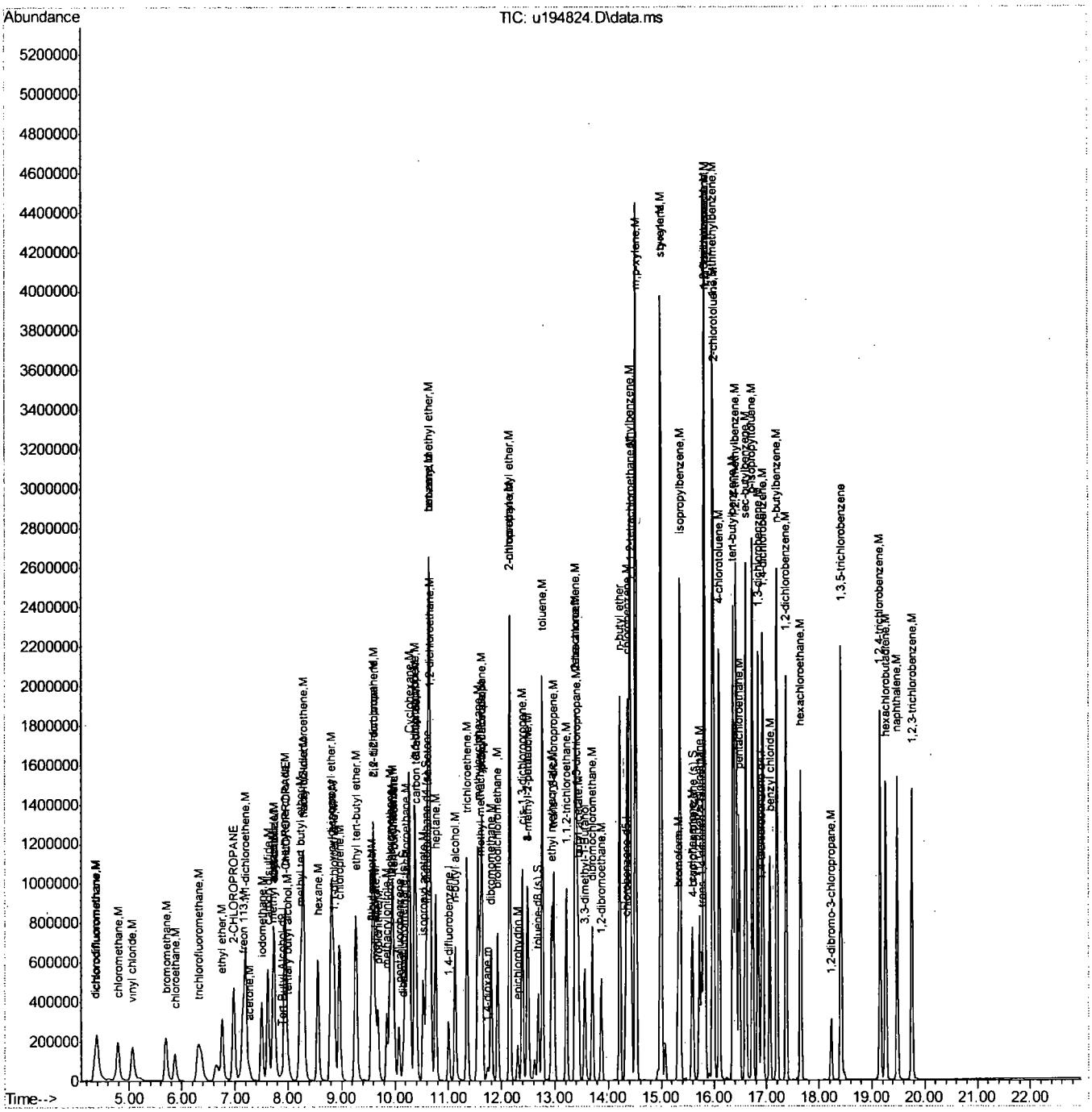
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.7.10 7

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



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

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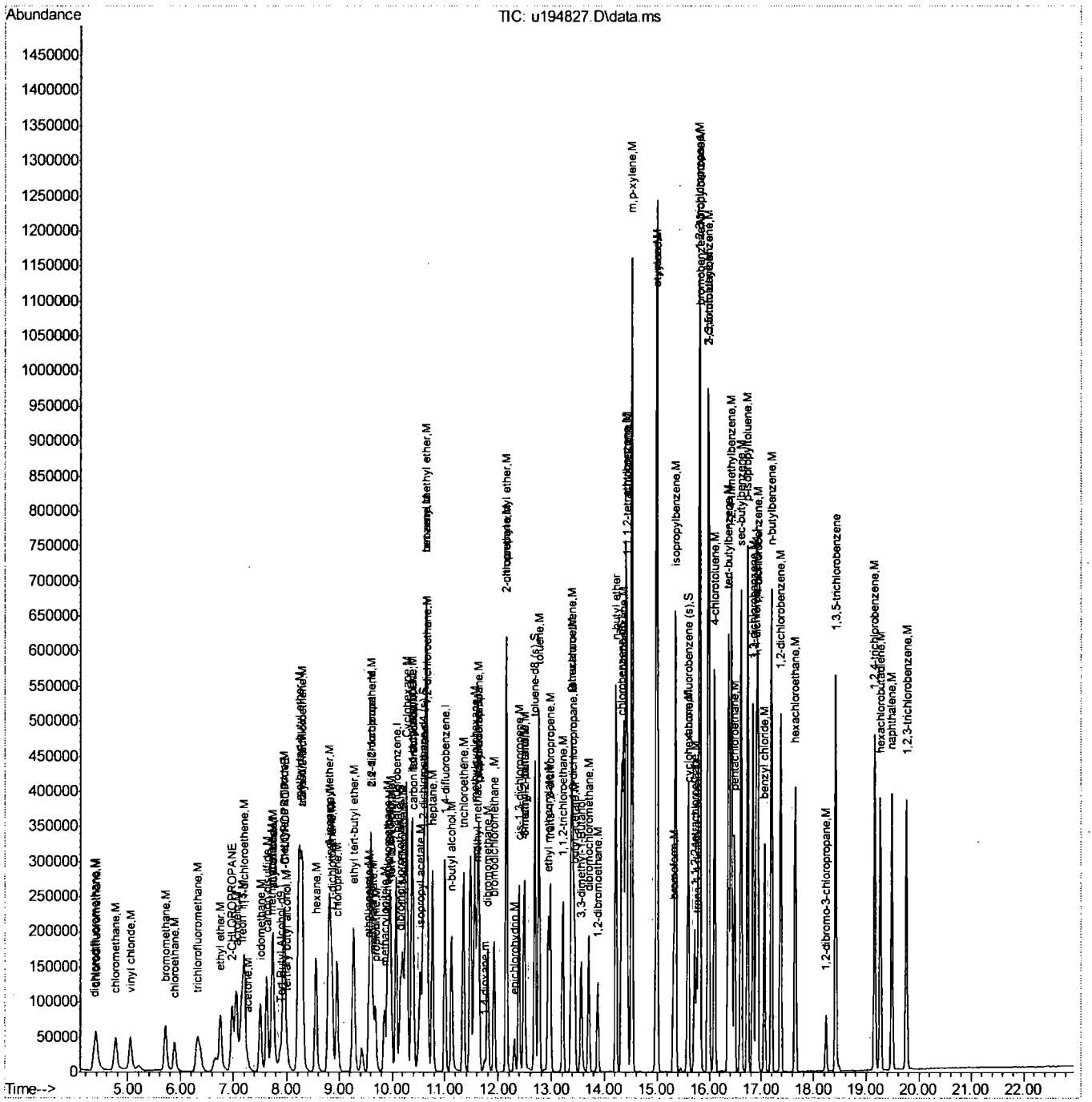
Quantitation Report (QT Reviewed)

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



7.7.11

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9907\
Data File : u195247.D
Acq On : 18 May 2015 9:12 am
Operator : NicoleH1
Sample : cc8988-20
Misc : ms84779,vu9007,5.0,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 18 16:23:31 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 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	84814	500.00	ug/L		-0.01
5) pentafluorobenzene	10.077	168	273014	50.00	ug/L		0.00
64) 1,4-difluorobenzene	10.997	114	315527	50.00	ug/L		0.00
96) chlorobenzene-d5	14.327	117	289434	50.00	ug/L		0.00
112) 1,4-dichlorobenzene-d4	16.900	152	165662	50.00	ug/L		0.00
System Monitoring Compounds							
56) dibromofluoromethane (s)	10.155	113	97009	52.26	ug/L		0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 104.52%				
57) 1,2-dichloroethane-d4 (s)	10.579	65	104261	53.08	ug/L		0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 106.16%				
88) toluene-d8 (s)	12.681	98	364291	50.48	ug/L		0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 100.96%				
114) 4-bromofluorobenzene (s)	15.603	95	142512	48.57	ug/L		0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 97.14%				
Target Compounds							Qvalue
2) tertiary butyl alcohol	7.991	59	18594	97.83	ug/L	#	51
4) 1,4-dioxane	11.740	88	8662	508.10	ug/L		98
11) chlorodifluoromethane	4.399	51	44113	22.77	ug/L		99
12) dichlorodifluoromethane	4.368	85	49148	22.99	ug/L		99
15) chloromethane	4.765	50	47395	20.14	ug/L		98
16) vinyl chloride	5.048	62	45914	21.09	ug/L		96
18) bromomethane	5.717	94	32795	20.43	ug/L		98
19) chloroethane	5.889	64	23444	21.19	ug/L		99
20) trichlorofluoromethane	6.318	101	61936	21.63	ug/L		99
23) ethyl ether	6.757	74	20339	19.84	ug/L		88
24) 2-CHLOROPROPANE	6.982	43	69199	20.42	ug/L		95
27) acrolein	7.055	56	63687	205.44	ug/L		99
28) 1,1-dichloroethene	7.207	96	36656	21.51	ug/L		98
29) acetone	7.270	58	2799	18.03	ug/L		86
30) allyl chloride	7.735	76	20643	21.25	ug/L		95
31) acetonitrile	7.735	40	27722	207.87	ug/L		94
32) iodomethane	7.505	142	75672	22.44	ug/L		99
33) carbon disulfide	7.625	76	126565	22.96	ug/L		97
34) 1-CHLOROPROPANE	7.960	63	3261	20.39	ug/L		92
35) methylene chloride	7.934	84	40112	18.62	ug/L		97
36) methyl acetate	7.714	43	24433	17.36	ug/L		98
37) methyl tert butyl ether	8.232	73	109978	20.54	ug/L		99
38) trans-1,2-dichloroethene	8.294	96	40493	21.17	ug/L		98
39) di-isopropyl ether	8.801	45	111375	19.06	ug/L		93
40) ethyl tert-butyl ether	9.267	59	113631	19.93	ug/L		98
41) 2-butanone	9.554	72	3927	18.25	ug/L	#	92
42) 1,1-dichloroethane	8.864	63	69034	21.44	ug/L		99
43) chloroprene	8.958	53	54209	20.40	ug/L		99
44) acrylonitrile	8.268	53	57269	98.74	ug/L		96
45) vinyl acetate	8.828	86	6060	17.78	ug/L	#	89
46) ethyl acetate	9.554	45	4284	16.90	ug/L		97
47) 2,2-dichloropropane	9.591	77	65204	23.20	ug/L		99
48) cis-1,2-dichloroethene	9.596	96	43248	20.52	ug/L		95
49) methyl acrylate	9.638	85	5032	17.11	ug/L	#	85
50) propionitrile	9.680	54	45199	194.27	ug/L		97
51) bromochloromethane	9.910	128	22302	20.86	ug/L		99
52) tetrahydrofuran	9.936	42	11530	17.56	ug/L		98
53) chloroform	9.952	83	68997	20.59	ug/L		97
54) tert-butyl Formate	9.978	59	31165	19.03	ug/L		98
55) iso-butyl alcohol	10.375	43	14773	161.70	ug/L		93

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9907\
Data File : u195247.D
Acq On : 18 May 2015 9:12 am
Operator : NicoleH1
Sample : cc8988-20
Misc : ms84779,vu9007,5.0,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 18 16:23:31 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 09:25:27 2015
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
58)	freon 113	7.170	151	32767	23.39	ug/L		95
59)	methacrylonitrile	9.852	41	20213	17.91	ug/L		98
60)	1,1,1-trichloroethane	10.203	97	64517	22.56	ug/L		98
62)	tert-amyl methyl ether	10.647	87	26046	18.86	ug/L		94
63)	iso-octane	10.600	57	139613	23.82	ug/L		99
66)	epichlorohydrin	12.299	57	14775	81.74	ug/L		99
67)	n-butyl alcohol	11.117	56	46986	910.02	ug/L		98
68)	Cyclohexane	10.260	84	61789	22.48	ug/L	#	84
69)	carbon tetrachloride	10.401	117	61317	23.55	ug/L		98
70)	1,1-dichloropropene	10.370	75	54470	21.98	ug/L		99
71)	hexane	8.556	57	49340	23.75	ug/L		99
72)	benzene	10.642	78	153162	20.11	ug/L		99
73)	heptane	10.762	57	27747	21.46	ug/L		97
74)	isopropyl acetate	10.532	43	61699	17.96	ug/L		97
75)	1,2-dichloroethane	10.668	62	53112	22.37	ug/L		98
78)	trichloroethene	11.347	95	41612	20.97	ug/L		99
79)	methylcyclohexane	11.557	83	65812	21.97	ug/L		100
80)	2-nitropropane	12.153	41	14116	19.40	ug/L	#	81
81)	2-chloroethyl vinyl ether	12.147	63	83027	80.59	ug/L		98
82)	methyl methacrylate	11.598	100	9311	17.75	ug/L	#	84
83)	1,2-dichloropropane	11.630	63	38828	20.80	ug/L		98
84)	propyl acetate	11.635	73	6639	17.74	ug/L		94
85)	dibromomethane	11.797	93	25314	20.80	ug/L		95
86)	bromodichloromethane	11.917	83	55029	20.99	ug/L		99
87)	cis-1,3-dichloropropene	12.388	75	67306	21.09	ug/L		97
89)	4-methyl-2-pentanone	12.477	58	13023	18.39	ug/L	#	93
90)	toluene	12.759	92	99863	20.48	ug/L		97
91)	3-methyl-1-butanol	12.487	55	31311	345.13	ug/L		99
92)	trans-1,3-dichloropropene	12.979	75	62952	21.60	ug/L		97
93)	ethyl methacrylate	12.942	69	44663	18.57	ug/L		98
94)	1,1,2-trichloroethane	13.214	83	29105	20.16	ug/L		97
95)	2-hexanone	13.381	58	12316	17.74	ug/L		92
97)	cyclohexanone	15.582	55	14136	67.51	ug/L		98
98)	tetrachloroethene	13.381	164	42304	20.33	ug/L		99
99)	1,3-dichloropropane	13.413	76	58072	20.04	ug/L		96
100)	butyl acetate	13.439	56	21203	17.29	ug/L		96
101)	dibromochloromethane	13.700	129	48093	20.77	ug/L		98
102)	1,2-dibromoethane	13.873	107	37563	19.64	ug/L		100
103)	3,3-dimethyl-1-Butanol	13.559	57	33739	173.97	ug/L		100
104)	n-butyl ether	14.212	57	168538	19.36	ug/L		100
105)	chlorobenzene	14.359	112	120660	20.56	ug/L		98
106)	1,1,1,2-tetrachloroethane	14.422	131	47131	21.20	ug/L		99
107)	ethylbenzene	14.406	91	198353	20.29	ug/L		100
108)	m,p-xylene	14.521	106	158866	41.45	ug/L		98
109)	o-xylene	14.986	106	78700	20.85	ug/L		97
110)	styrene	15.002	104	127797	19.73	ug/L		99
111)	bromoform	15.321	173	35799	19.79	ug/L		99
113)	isopropylbenzene	15.357	105	206585	20.34	ug/L		99
115)	bromobenzene	15.828	156	59736	20.55	ug/L		95
116)	1,1,2,2-tetrachloroethane	15.723	83	48073	19.80	ug/L		97
117)	trans-1,4-dichloro-2-b...	15.765	53	13972	19.97	ug/L		96
118)	1,2,3-trichloropropane	15.807	110	13329	19.05	ug/L		98
119)	n-propylbenzene	15.812	91	232685	20.27	ug/L		99
120)	2-chlorotoluene	15.990	126	53370	20.41	ug/L		99
121)	4-chlorotoluene	16.100	91	146103	19.96	ug/L		99
123)	1,3,5-trimethylbenzene	15.974	105	173124	19.99	ug/L		98
124)	tert-butylbenzene	16.366	119	157147	20.43	ug/L		98
125)	pentachloroethane	16.481	167	36610	21.01	ug/L		97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9907\
Data File : u195247.D
Acq On : 18 May 2015 9:12 am
Operator : NicoleH1
Sample : cc8988-20
Misc : ms84779,vu9007,5.0,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 18 16:23:31 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 09:25:27 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
126) 1,2,4-trimethylbenzene	16.419	105	171141	20.17 ug/L	98
128) sec-butylbenzene	16.607	105	225896	20.50 ug/L	99
129) 1,3-dichlorobenzene	16.837	146	111803	20.62 ug/L	99
130) p-isopropyltoluene	16.732	119	196470	20.28 ug/L	98
131) 1,4-dichlorobenzene	16.931	146	111055	20.27 ug/L	100
132) benzyl chloride	17.062	91	101076	19.74 ug/L	99
133) 1,2-dichlorobenzene	17.370	146	102564	20.54 ug/L	98
135) n-butylbenzene	17.192	92	92284	20.27 ug/L	98
137) 1,2-dibromo-3-chloropr...	18.233	157	10669	17.66 ug/L	94
138) 1,3,5-trichlorobenzene	18.416	180	88572	20.17 ug/L	100
139) 1,2,4-trichlorobenzene	19.153	180	75409	20.18 ug/L	99
140) hexachlorobutadiene	19.263	225	45827	20.48 ug/L	99
141) naphthalene	19.482	128	134689	18.83 ug/L	99
143) 1,2,3-trichlorobenzene	19.759	180	62696	19.15 ug/L	98
144) hexachloroethane	17.647	201	38716	19.98 ug/L	98

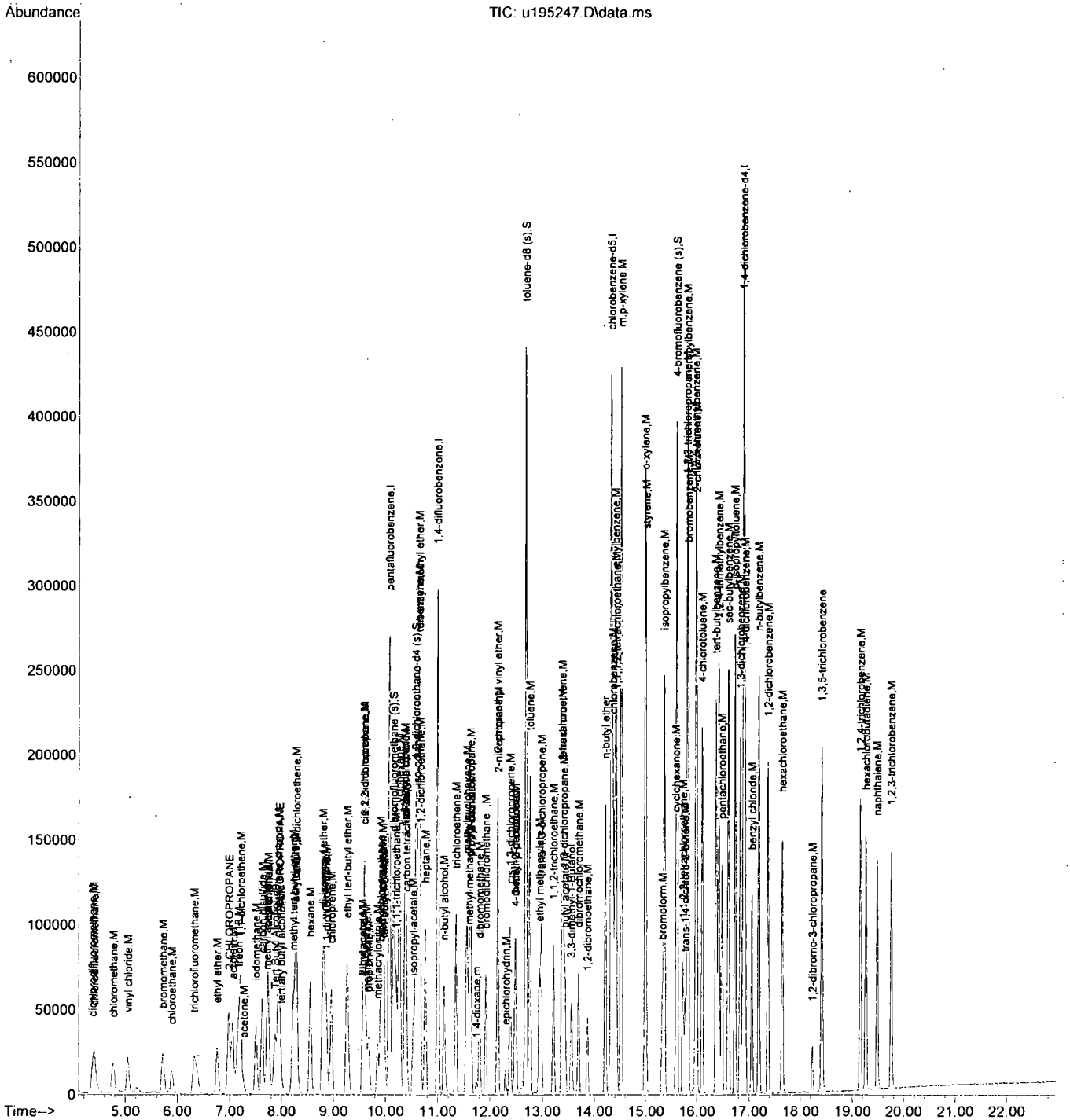
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.7.12 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9907\
Data File : u195247.D
Acq On : 18 May 2015 9:12 am
Operator : NicoleH1
Sample : cc8988-20
Misc : ms84779,vu9007,5.0,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 18 16:23:31 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 09:25:27 2015
Response via : Initial Calibration



7.7.12
7
ACCUTEST LABORATORIES

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9008\
Data File : u195271.D
Acq On : 18 May 2015 9:09 pm
Operator : NicoleH1
Sample : cc8988-50
Misc : ms85328,vu9008,5.0,,,,1
ALS Vial : 27 Sample Multiplier: 1

Quant Time: May 19 15:00:17 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 09:25:27 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Tert Butyl Alcohol-d9	7.872	65	82952	500.00	ug/L		-0.01
5) pentafluorobenzene	10.079	168	277473	50.00	ug/L		0.00
64) 1,4-difluorobenzene	11.004	114	323189	50.00	ug/L		0.00
96) chlorobenzene-d5	14.324	117	294005	50.00	ug/L		0.00
112) 1,4-dichlorobenzene-d4	16.901	152	165895	50.00	ug/L		0.00
System Monitoring Compounds							
56) dibromofluoromethane (s)	10.157	113	98482	52.20	ug/L		0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 104.40%				
57) 1,2-dichloroethane-d4 (s)	10.580	65	108515	54.36	ug/L		0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 108.72%				
88) toluene-d8 (s)	12.682	98	372460	50.39	ug/L		0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 100.78%				
114) 4-bromofluorobenzene (s)	15.605	95	143287	48.77	ug/L		0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 97.54%				
Target Compounds							Qvalue
2) tertiary butyl alcohol	7.993	59	47375	254.86	ug/L		59
4) 1,4-dioxane	11.736	88	22191	1330.90	ug/L		97
11) chlorodifluoromethane	4.396	51	112908	57.33	ug/L		100
12) dichlorodifluoromethane	4.364	85	122830	56.53	ug/L		97
15) chloromethane	4.772	50	122752	51.31	ug/L		99
16) vinyl chloride	5.044	62	119961	54.22	ug/L		100
18) bromomethane	5.713	94	85437	52.37	ug/L		97
19) chloroethane	5.886	64	60881	54.13	ug/L		97
20) trichlorofluoromethane	6.320	101	157667	53.56	ug/L		98
23) ethyl ether	6.759	74	55073	52.85	ug/L		92
24) 2-CHLOROPROPANE	6.978	43	181981	52.83	ug/L		95
27) acrolein	7.046	56	155447	493.37	ug/L		98
28) 1,1-dichloroethene	7.203	96	96426	55.68	ug/L		99
29) acetone	7.271	58	7567	47.96	ug/L		86
30) allyl chloride	7.736	76	54318	55.02	ug/L		96
31) acetonitrile	7.731	40	72533	535.13	ug/L	#	89
32) iodomethane	7.501	142	198154	57.82	ug/L		98
33) carbon disulfide	7.621	76	324367	57.90	ug/L		97
34) 1-CHLOROPROPANE	7.961	63	8585	52.82	ug/L		94
35) methylene chloride	7.935	84	105044	47.97	ug/L		96
36) methyl acetate	7.715	43	66210	46.30	ug/L		100
37) methyl tert butyl ether	8.233	73	289051	53.11	ug/L		99
38) trans-1,2-dichloroethene	8.296	96	106003	54.53	ug/L		99
39) di-isopropyl ether	8.803	45	303569	51.11	ug/L		93
40) ethyl tert-butyl ether	9.263	59	307931	53.14	ug/L		99
41) 2-butanone	9.556	72	10786	49.31	ug/L		98
42) 1,1-dichloroethane	8.866	63	184177	56.28	ug/L		97
43) chloroprene	8.960	53	149554	55.39	ug/L		98
44) acrylonitrile	8.270	53	150796	255.81	ug/L		99
45) vinyl acetate	8.834	86	16719	48.26	ug/L	#	86
46) ethyl acetate	9.556	45	11954	46.40	ug/L		96
47) 2,2-dichloropropane	9.592	77	153998	53.91	ug/L		100
48) cis-1,2-dichloroethene	9.592	96	115307	53.82	ug/L		98
49) methyl acrylate	9.639	85	14588	48.82	ug/L		94
50) propionitrile	9.681	54	118804	502.43	ug/L		99
51) bromochloromethane	9.911	128	59810	55.04	ug/L		97
52) tetrahydrofuran	9.937	42	31538	47.27	ug/L		98
53) chloroform	9.958	83	184591	54.19	ug/L		99
54) tert-butyl Formate	9.979	59	86456	51.94	ug/L		99
55) iso-butyl alcohol	10.371	43	37160	400.20	ug/L		97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9008\
Data File : u195271.D
Acq On : 18 May 2015 9:09 pm
Operator : NicoleH1
Sample : cc8988-50
Misc : ms85328,vu9008,5.0,,,,1
ALS Vial : 27 Sample Multiplier: 1

Quant Time: May 19 15:00:17 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 09:25:27 2015
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
58)	freon 113	7.156	151	85346	59.95	ug/L		97
59)	methacrylonitrile	9.848	41	53984	47.06	ug/L		99
60)	1,1,1-trichloroethane	10.204	97	168672	58.03	ug/L		98
62)	tert-amyl methyl ether	10.648	87	71761	51.13	ug/L		97
63)	iso-octane	10.601	57	372714	62.57	ug/L		99
66)	epichlorohydrin	12.300	57	40734	220.02	ug/L		98
67)	n-butyl alcohol	11.119	56	122514	2316.59	ug/L		99
68)	Cyclohexane	10.267	84	162540	57.72	ug/L		95
69)	carbon tetrachloride	10.397	117	159779	59.92	ug/L		99
70)	1,1-dichloropropene	10.377	75	145878	57.46	ug/L		100
71)	hexane	8.562	57	131616	61.85	ug/L		99
72)	benzene	10.643	78	406795	52.15	ug/L		100
73)	heptane	10.763	57	73775	55.72	ug/L		100
74)	isopropyl acetate	10.533	43	168089	47.77	ug/L		98
75)	1,2-dichloroethane	10.669	62	142254	58.50	ug/L		99
78)	trichloroethene	11.344	95	111036	54.62	ug/L		98
79)	methylcyclohexane	11.553	83	180646	58.88	ug/L		98
80)	2-nitropropane	12.154	41	39009	52.33	ug/L		94
81)	2-chloroethyl vinyl ether	12.149	63	250460	237.33	ug/L		99
82)	methyl methacrylate	11.600	100	26475	49.26	ug/L	#	84
83)	1,2-dichloropropane	11.626	63	104224	54.52	ug/L		98
84)	propyl acetate	11.636	73	18020	47.02	ug/L		97
85)	dibromomethane	11.799	93	67546	54.19	ug/L		97
86)	bromodichloromethane	11.924	83	148807	55.42	ug/L		98
87)	cis-1,3-dichloropropene	12.389	75	179163	54.81	ug/L		95
89)	4-methyl-2-pentanone	12.478	58	35475	48.90	ug/L		93
90)	toluene	12.761	92	269147	53.88	ug/L		100
91)	3-methyl-1-butanol	12.489	55	78859	848.63	ug/L		100
92)	trans-1,3-dichloropropene	12.980	75	168326	56.39	ug/L		99
93)	ethyl methacrylate	12.938	69	125724	51.04	ug/L		99
94)	1,1,2-trichloroethane	13.215	83	79310	53.64	ug/L		99
95)	2-hexanone	13.377	58	33718	47.42	ug/L		95
97)	cyclohexanone	15.584	55	29689	139.59	ug/L		98
98)	tetrachloroethene	13.383	164	112847	53.40	ug/L		99
99)	1,3-dichloropropane	13.414	76	157818	53.61	ug/L		99
100)	butyl acetate	13.440	56	58024	46.59	ug/L		95
101)	dibromochloromethane	13.702	129	130449	55.47	ug/L		99
102)	1,2-dibromoethane	13.874	107	103683	53.36	ug/L		99
103)	3,3-dimethyl-1-Butanol	13.560	57	82167	417.10	ug/L		100
104)	n-butyl ether	14.214	57	458294	51.83	ug/L		99
105)	chlorobenzene	14.360	112	321452	53.92	ug/L		100
106)	1,1,1,2-tetrachloroethane	14.428	131	124262	55.02	ug/L		99
107)	ethylbenzene	14.407	91	527698	53.13	ug/L		100
108)	m,p-xylene	14.522	106	421279	108.21	ug/L		97
109)	o-xylene	14.988	106	209319	54.58	ug/L		98
110)	styrene	14.998	104	350567	53.29	ug/L		98
111)	bromoform	15.322	173	99196	53.99	ug/L		99
113)	isopropylbenzene	15.359	105	547385	53.82	ug/L		99
115)	bromobenzene	15.829	156	158495	54.45	ug/L		94
116)	1,1,2,2-tetrachloroethane	15.720	83	126586	52.06	ug/L		97
117)	trans-1,4-dichloro-2-b...	15.767	53	32606	46.54	ug/L		94
118)	1,2,3-trichloropropane	15.808	110	35651	50.88	ug/L		96
119)	n-propylbenzene	15.814	91	612283	53.26	ug/L		100
120)	2-chlorotoluene	15.991	126	139787	53.39	ug/L		97
121)	4-chlorotoluene	16.101	91	383312	52.29	ug/L		100
123)	1,3,5-trimethylbenzene	15.976	105	455937	52.58	ug/L		99
124)	tert-butylbenzene	16.368	119	417829	54.26	ug/L		98
125)	pentachloroethane	16.483	167	95636	54.81	ug/L		98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9008\
Data File : u195271.D
Acq On : 18 May 2015 9:09 pm
Operator : NicoleH1
Sample : cc8988-50
Misc : ms85328,vu9008,5.0,,,,1
ALS Vial : 27 Sample Multiplier: 1

Quant Time: May 19 15:00:17 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 09:25:27 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
126) 1,2,4-trimethylbenzene	16.420	105	445281	52.42	ug/L	100
128) sec-butylbenzene	16.608	105	593486	53.77	ug/L	100
129) 1,3-dichlorobenzene	16.838	146	290579	53.52	ug/L	99
130) p-isopropyltoluene	16.734	119	515250	53.12	ug/L	98
131) 1,4-dichlorobenzene	16.927	146	290787	52.99	ug/L	99
132) benzyl chloride	17.058	91	233830	45.60	ug/L	99
133) 1,2-dichlorobenzene	17.372	146	269842	53.96	ug/L	100
135) n-butylbenzene	17.194	92	239930	52.63	ug/L	99
137) 1,2-dibromo-3-chloropr...	18.234	157	28878	47.72	ug/L	97
138) 1,3,5-trichlorobenzene	18.417	180	234242	53.28	ug/L	99
139) 1,2,4-trichlorobenzene	19.154	180	200723	53.64	ug/L	100
140) hexachlorobutadiene	19.264	225	117289	52.34	ug/L	99
141) naphthalene	19.484	128	364718	50.91	ug/L	99
143) 1,2,3-trichlorobenzene	19.756	180	167547	51.10	ug/L	99
144) hexachloroethane	17.649	201	101922	52.54	ug/L	99

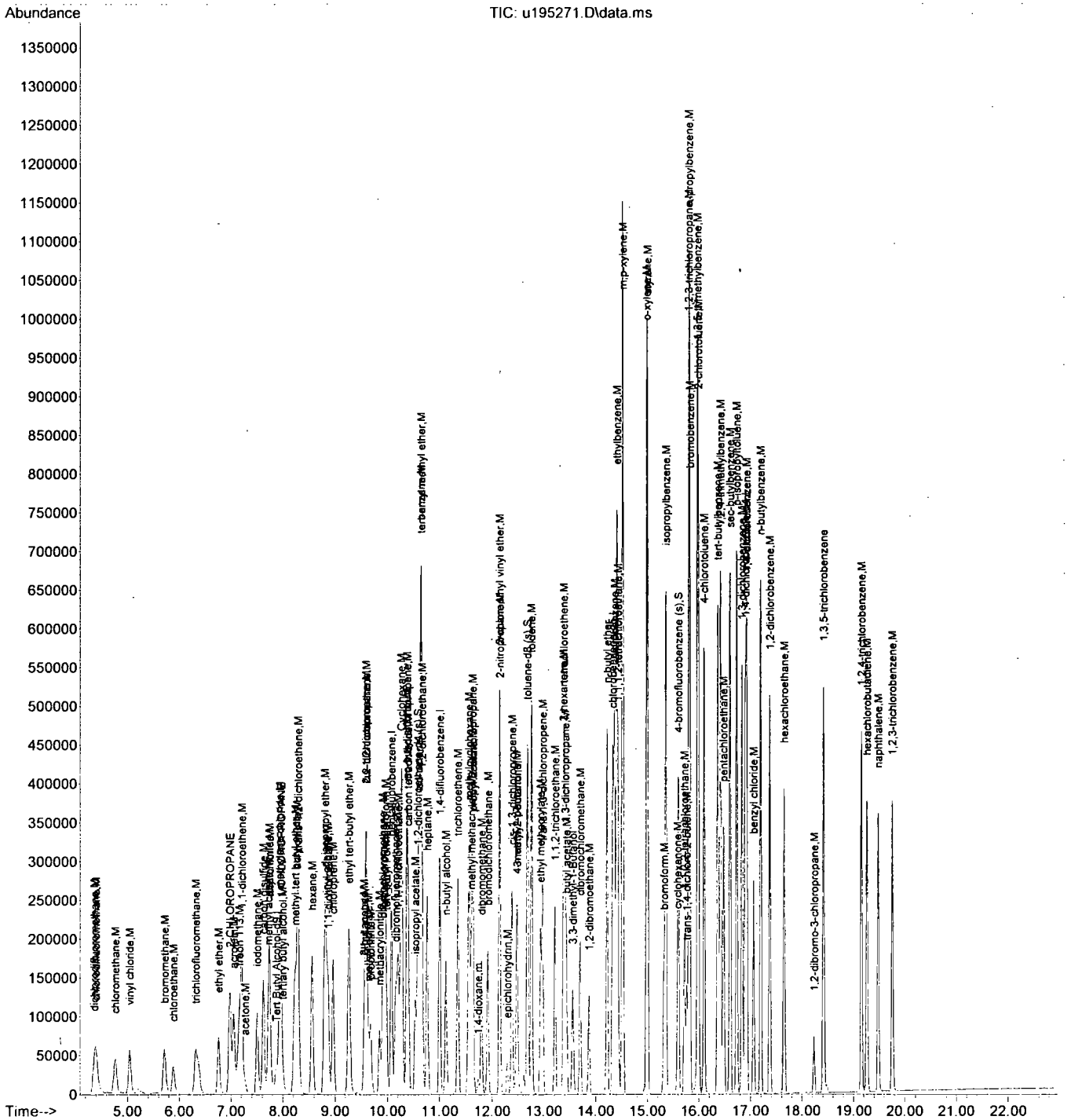
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.7.13

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9008\
Data File : u195271.D
Acq On : 18 May 2015 9:09 pm
Operator : NicoleH1
Sample : cc8988-50
Misc : ms85328,vu9008,5.0,,,,1
ALS Vial : 27 Sample Multiplier: 1

Quant Time: May 19 15:00:17 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 09:25:27 2015
Response via : Initial Calibration



7.7.13

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9009\
Data File : u195297.D
Acq On : 19 May 2015 9:34 am
Operator : NicoleH1
Sample : cc8988-20
Misc : ms85328,vu9009,5.0,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 19 16:35:05 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

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Tert Butyl Alcohol-d9	7.878	65	83596	500.00	ug/L		0.00
5) pentafluorobenzene	10.079	168	263831	50.00	ug/L		0.00
64) 1,4-difluorobenzene	10.999	114	306441	50.00	ug/L		0.00
96) chlorobenzene-d5	14.324	117	281766	50.00	ug/L		0.00
112) 1,4-dichlorobenzene-d4	16.901	152	161348	50.00	ug/L		0.00
System Monitoring Compounds							
56) dibromofluoromethane (s)	10.157	113	94133	52.48	ug/L		0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 104.96%				
57) 1,2-dichloroethane-d4 (s)	10.575	65	101342	53.39	ug/L		0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 106.78%				
88) toluene-d8 (s)	12.682	98	355530	50.73	ug/L		0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 101.46%				
114) 4-bromofluorobenzene (s)	15.605	95	137947	48.27	ug/L		0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 96.54%				
Target Compounds							Qvalue
2) tertiary butyl alcohol	7.988	59	17443	93.11	ug/L	#	44
4) 1,4-dioxane	11.731	88	7862	467.89	ug/L		99
11) chlorodifluoromethane	4.396	51	41074	21.94	ug/L		100
12) dichlorodifluoromethane	4.375	85	43290	20.95	ug/L		95
15) chloromethane	4.762	50	44057	19.37	ug/L		98
16) vinyl chloride	5.044	62	42437	20.17	ug/L		99
18) bromomethane	5.713	94	30681	19.78	ug/L		100
19) chloroethane	5.891	64	22072	20.64	ug/L		98
20) trichlorofluoromethane	6.325	101	57368	20.75	ug/L		98
23) ethyl ether	6.754	74	20157	20.34	ug/L		94
24) 2-CHLOROPROPANE	6.979	43	70916	21.65	ug/L		96
27) acrolein	7.052	56	58281	194.54	ug/L		100
28) 1,1-dichloroethene	7.203	96	37115	22.54	ug/L		95
29) acetone	7.266	58	2473	16.48	ug/L	#	61
30) allyl chloride	7.737	76	20854	22.22	ug/L		97
31) acetonitrile	7.737	40	27464	213.10	ug/L		93
32) iodomethane	7.507	142	77111	23.66	ug/L		98
33) carbon disulfide	7.627	76	129221	24.26	ug/L		98
34) 1-CHLOROPROPANE	7.956	63	3212	20.78	ug/L		91
35) methylene chloride	7.941	84	40700	19.55	ug/L		98
36) methyl acetate	7.711	43	22902	16.84	ug/L		99
37) methyl tert butyl ether	8.233	73	111088	21.47	ug/L		99
38) trans-1,2-dichloroethene	8.296	96	40510	21.92	ug/L		99
39) di-isopropyl ether	8.803	45	105622	18.70	ug/L		95
40) ethyl tert-butyl ether	9.268	59	107378	19.49	ug/L		99
41) 2-butanone	9.556	72	4104	19.73	ug/L	#	78
42) 1,1-dichloroethane	8.866	63	70994	22.82	ug/L		99
43) chloroprene	8.960	53	50539	19.69	ug/L		98
44) acrylonitrile	8.270	53	57885	103.27	ug/L		99
45) vinyl acetate	8.829	86	5583	16.95	ug/L		97
46) ethyl acetate	9.551	45	4079	16.65	ug/L		97
47) 2,2-dichloropropane	9.593	77	64709	23.82	ug/L		99
48) cis-1,2-dichloroethene	9.593	96	44385	21.79	ug/L		99
49) methyl acrylate	9.640	85	5217	18.36	ug/L		98
50) propionitrile	9.681	54	45835	203.86	ug/L		99
51) bromochloromethane	9.912	128	23026	22.28	ug/L		98
52) tetrahydrofuran	9.938	42	11698	18.44	ug/L		99
53) chloroform	9.953	83	70566	21.79	ug/L		97
54) tert-butyl Formate	9.979	59	29474	18.62	ug/L		97
55) iso-butyl alcohol	10.372	43	14274	161.68	ug/L		95

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9009\
Data File : u195297.D
Acq On : 19 May 2015 9:34 am
Operator : NicoleH1
Sample : cc8988-20
Misc : ms85328,vu9009,5.0,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 19 16:35:05 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

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
58)	freon 113	7.162	151	30744	22.71	ug/L		98
59)	methacrylonitrile	9.849	41	20384	18.69	ug/L		96
60)	1,1,1-trichloroethane	10.204	97	65322	23.63	ug/L		95
62)	tert-amyl methyl ether	10.643	87	24921	18.67	ug/L		94
63)	iso-octane	10.602	57	128122	22.62	ug/L		98
66)	epichlorohydrin	12.301	57	14364	81.83	ug/L		100
67)	n-butyl alcohol	11.119	56	45221	901.81	ug/L		98
68)	Cyclohexane	10.262	84	63186	23.67	ug/L		90
69)	carbon tetrachloride	10.398	117	61936	24.50	ug/L		98
70)	1,1-dichloropropene	10.372	75	55398	23.01	ug/L		99
71)	hexane	8.557	57	45851	22.72	ug/L		96
72)	benzene	10.643	78	155909	21.08	ug/L		99
73)	heptane	10.764	57	25301	20.15	ug/L		98
74)	isopropyl acetate	10.534	43	56782	17.02	ug/L		98
75)	1,2-dichloroethane	10.670	62	54073	23.45	ug/L		99
78)	trichloroethene	11.344	95	41998	21.79	ug/L		98
79)	methylcyclohexane	11.553	83	61891	21.27	ug/L		98
80)	2-nitropropane	12.149	41	14117	19.97	ug/L	#	85
81)	2-chloroethyl vinyl ether	12.149	63	81730	81.68	ug/L		99
82)	methyl methacrylate	11.600	100	9575	18.79	ug/L	#	88
83)	1,2-dichloropropane	11.626	63	39963	22.05	ug/L		100
84)	propyl acetate	11.637	73	6338	17.44	ug/L		97
85)	dibromomethane	11.794	93	25674	21.72	ug/L		93
86)	bromodichloromethane	11.919	83	56027	22.01	ug/L		93
87)	cis-1,3-dichloropropene	12.384	75	68289	22.03	ug/L		94
89)	4-methyl-2-pentanone	12.478	58	13630	19.82	ug/L	#	88
90)	toluene	12.761	92	103073	21.76	ug/L		99
91)	3-methyl-1-butanol	12.489	55	30694	348.36	ug/L		99
92)	trans-1,3-dichloropropene	12.980	75	63674	22.50	ug/L		99
93)	ethyl methacrylate	12.939	69	45641	19.54	ug/L		99
94)	1,1,2-trichloroethane	13.216	83	30147	21.50	ug/L		98
95)	2-hexanone	13.383	58	12662	18.78	ug/L		94
97)	cyclohexanone	15.584	55	19130	93.85	ug/L		99
98)	tetrachloroethene	13.383	164	42886	21.17	ug/L		99
99)	1,3-dichloropropane	13.414	76	59365	21.04	ug/L		97
100)	butyl acetate	13.440	56	20499	17.17	ug/L		93
101)	dibromochloromethane	13.702	129	48356	21.46	ug/L		99
102)	1,2-dibromoethane	13.869	107	38967	20.93	ug/L		97
103)	3,3-dimethyl-1-Butanol	13.566	57	33985	180.01	ug/L	#	99
104)	n-butyl ether	14.214	57	172665	20.37	ug/L		100
105)	chlorobenzene	14.361	112	122955	21.52	ug/L		100
106)	1,1,1,2-tetrachloroethane	14.423	131	47647	22.01	ug/L		99
107)	ethylbenzene	14.402	91	201981	21.22	ug/L		99
108)	m,p-xylene	14.517	106	160547	43.03	ug/L		99
109)	o-xylene	14.988	106	80123	21.80	ug/L		98
110)	styrene	14.998	104	131332	20.83	ug/L		98
111)	bromoform	15.317	173	36793	20.90	ug/L		99
113)	isopropylbenzene	15.359	105	208806	21.11	ug/L		98
115)	bromobenzene	15.824	156	60861	21.50	ug/L		98
116)	1,1,2,2-tetrachloroethane	15.720	83	48952	20.70	ug/L		99
117)	trans-1,4-dichloro-2-b...	15.767	53	13003	19.08	ug/L		93
118)	1,2,3-trichloropropane	15.809	110	13903	20.40	ug/L		99
119)	n-propylbenzene	15.814	91	234342	20.96	ug/L		99
120)	2-chlorotoluene	15.992	126	53930	21.18	ug/L		97
121)	4-chlorotoluene	16.101	91	148464	20.83	ug/L		100
123)	1,3,5-trimethylbenzene	15.976	105	175489	20.81	ug/L		99
124)	tert-butylbenzene	16.368	119	154577	20.64	ug/L		97
125)	pentachloroethane	16.483	167	36851	21.72	ug/L		98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9009\
Data File : u195297.D
Acq On : 19 May 2015 9:34 am
Operator : NicoleH1
Sample : cc8988-20
Misc : ms85328,vu9009,5.0,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 19 16:35:05 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

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
126) 1,2,4-trimethylbenzene	16.420	105	171974	20.81	ug/L	99
128) sec-butylbenzene	16.609	105	228387	21.28	ug/L	99
129) 1,3-dichlorobenzene	16.839	146	113012	21.40	ug/L	99
130) p-isopropyltoluene	16.734	119	198259	21.01	ug/L	98
131) 1,4-dichlorobenzene	16.927	146	112847	21.14	ug/L	99
132) benzyl chloride	17.058	91	93347	18.72	ug/L	99
133) 1,2-dichlorobenzene	17.372	146	105220	21.63	ug/L	99
135) n-butylbenzene	17.194	92	92406	20.84	ug/L	99
137) 1,2-dibromo-3-chloropr...	18.235	157	10604	18.02	ug/L	94
138) 1,3,5-trichlorobenzene	18.417	180	89178	20.85	ug/L	99
139) 1,2,4-trichlorobenzene	19.155	180	74886	20.58	ug/L	99
140) hexachlorobutadiene	19.264	225	45326	20.80	ug/L	100
141) naphthalene	19.484	128	137285	19.70	ug/L	100
143) 1,2,3-trichlorobenzene	19.761	180	63320	19.86	ug/L	98
144) hexachloroethane	17.649	201	38334	20.32	ug/L	97

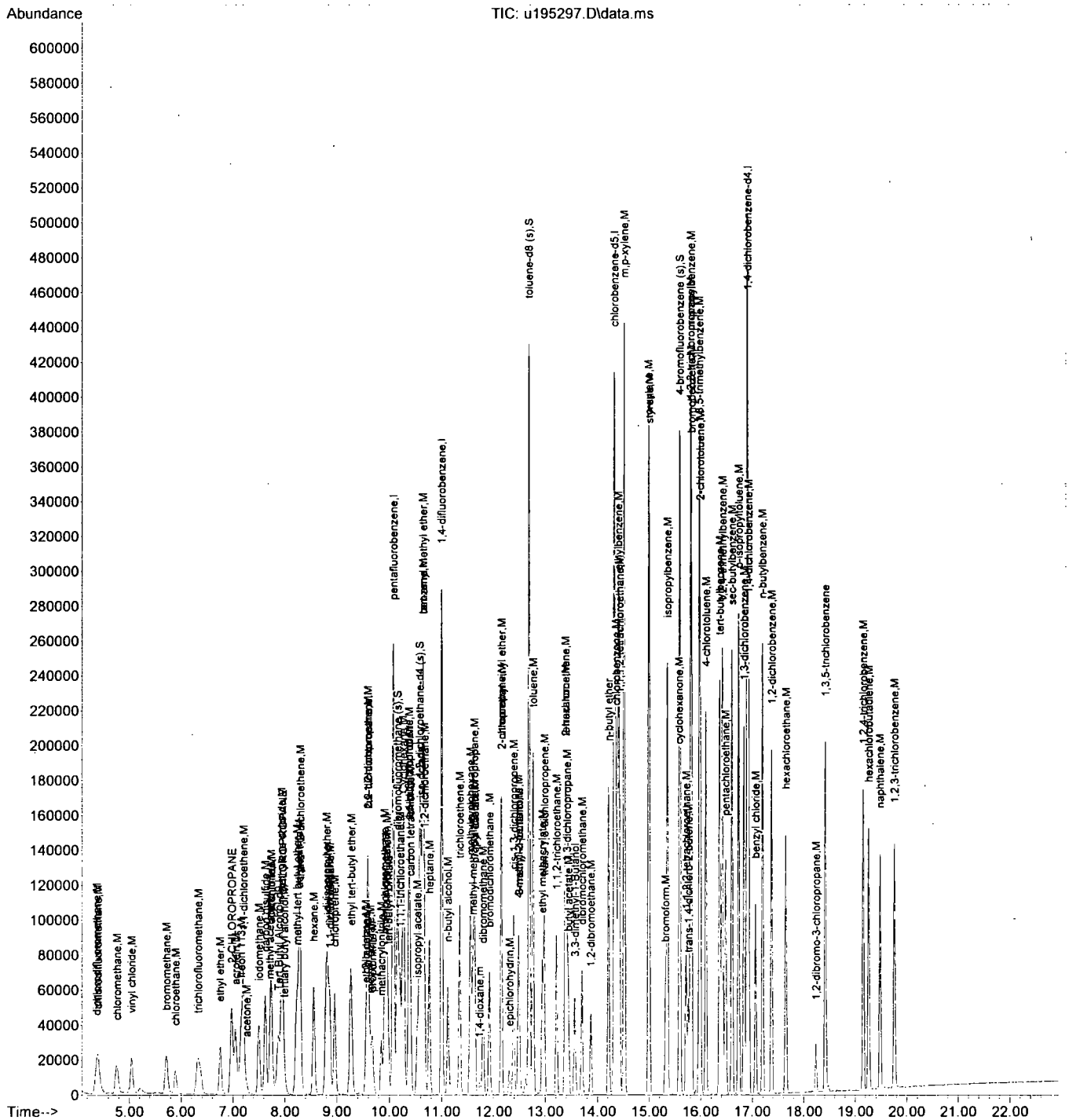
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.7.14

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\U\vu9009\
Data File : u195297.D
Acq On : 19 May 2015 9:34 am
Operator : NicoleH1
Sample : cc8988-20
Misc : ms85328,vu9009,5.0,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 19 16:35:05 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



MU8988.M Tue May 19 16:35:12 2015 T

Page: 4

ACCUTEST

VOLATILE ANALYSIS LOG

Batch ID: VU8988

Print Analyst Name: Nicole Horvath

Date: 5/01/2015

pH paper 212713 exp 5/01/16

Analyst Signature: Nicole Horvath

Columns: ZB624(60mx0.25mm x1.4um)

Method V8260C

Initial Cal. Method MU8988

Standard Data

Lot #	Description	Conc.
VOIS 2060 56	1 Ext A	100ppm
VOIS 2060 69	1 Ext B	100ppm
VOIS 2060 55	2 Ext C	100ppm
VOIS 2060 45	3 Acrolein	1000ppm
VOIS 2060 53	5 Ethanol	10,000ppm
VOIS 2060 65	7 Hexane	100ppm

Standard Data

Lot #	Description	Conc.
VOIS 2060	Std A	100ppm
VOIS 2060	Std B	100ppm
VOIS 2060	Std C	100ppm
VOIS 2060	Acrolein	1000ppm
VOIS 2060	Ethanol	10,000ppm
VOIS 2060 49	11	250/250/500

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 (m or g)	MOH amt. (ul)	Secondary dilution	L+	IS	SU	Status (Data)	Comments	pH* < 2
	4 194814	BFB					5		1x				OL		
	194815	IC8988-0.2					5		1x		✓		OL	1ul Std ABC, ACR, EtOH → 500mL	
	194816	IC8988-0.5					5		1x		✓		OL	2.5ul Std ABC, ACR, EtOH → 500mL	
	194817	IC8988-1					5		1x		✓		OL	2ul Std ABC, EtOH, 200ul ACR → 200mL	
	194818	IC8988-2					5		1x		✓		OL	2ul Std ABC, EtOH, 200ul ACR → 100mL	
	194819	IC8988-5					5		1x		✓		OL	5ul Std ABC, ACR, EtOH → 100mL	
	194820	IC8988-10					5		1x		✓		OL	5ul Std ABC, ACR, EtOH → 50mL	
	194821	IC8988-20					5		1x		✓		OL	10ul Std ABC, ACR, EtOH → 50mL	
	194822	IC8988-50					5		1x		✓		OL	25ul Std ABC, ACR, EtOH → 50mL	
	194823	IC8988-100					5		1x		✓		OL	50ul Std ABC EtOH, 1ul ACR → ~~100~~ 50mL	
	194824	IC8988-200					5		1x		✓		OL	100ul Std ABC, EtOH → 50mL	
	194825	IB					5		1x		✓				
	194826	IB					5		1x		✓				
	194827	ICV8988-50					5		1x		✓		OL		

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

219

7.8.1

7

ACCUTEST.

VOLATILE ANALYSIS LOG

Batch ID: VU9007

Print Analyst Name: Nicole Horvath

Date: 5/18/15 (Mon. Day)

Analyst Signature: Nicole H

Columns: ZB624 60m x 0.25mm x 1.4 um

Method V8260C

Initial Cal. Method MU8988

Standard Data

Lot #	Description	Conc.
VOIS 2060	91.4 Ext A	100ppm
VOIS 2060	64.15 Ext B	100ppm
VOIS 2060	55.4 Ext C	100ppm
VOIS 2060	45.8 Acrolein	1000ppm
VOIS 8960	65.10 Hexane	100ppm

Standard Data

Lot #	Description	Conc.
VOIS 2060	48.36 Std A	100ppm
VOIS 2060	76.20 Std B	100ppm
VOIS 2060	34.3 Std C	100ppm
VOIS 2060	48.36 Acrolein	1000ppm
VOIS 2060	11.5	250ppm

DI Paper 21213 SYO Still

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:** 5/19/15

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 195246	BFB					5		1x				dL	8:39am	
	195247	CC8988-20					5		1x		✓	✓	dL	10ul Std ABC,ACR →50mL	
	195248	IB					5		1x		✓	✓	dL		
	195249	MB									✓	✓	dL		
	195250	BS									✓	✓	dL	25ul Ext ABC,ACR, Hex → 50mL	
FD	195251	JB94618-5	85150 TCL20+	GCW	5		10/50		5X		✓	✓	dL		✓
R	195252	JB94653-6	85183	GCW	2		5		1x		✓	✓	dL		✓
R	195253	JB94653-3	THF ✓	GCW	2		5/50		10x		✓	✓	dL		✓
R	195254	JB94620-9	85144 TCL20+	GCW	4		5		1x		✓	✓	dL		✓
R	195255	JB94620-10	✓	GCW	2		5		1x		✓	✓	dL		✓
R	195256	JB94620-1	✓	GCW	10		5		1x		✓	✓	dL	Combine 2B131102	✓
R	195257	JB94344-5	84972 TCL20+	GCW	4		5		1x		✓	✓	dL	2:20	✓
R	195258	JB94344-4	✓	GCW	4		10/50		5x		✓	✓	dL		✓
	195259	JB94653-3MS	85183	GCW	2		5/50		10x		✓	✓	dL	25ul Std ABC,ACR → 50mL	✓
	195260	JB94653-3MSD		GCW	2		5/50		10x		✓	✓	dL	25ul Std ABC,ACR →50mL	✓
FD	195261	JB94657-7	85164 Benz, MS, MOSE, TBA KK	GCW	2		1/50		50x		✓	✓	dL		✓
	195262	JB94240-7 JB94618-7	85150 84949 TCL20+ TBA MTBE	GCW	7		5		500x 1x		✓	✓	dL		✓

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

7.8.2

ACCUTEST.

VOLATILE ANALYSIS LOG

Batch ID: VU9007

Print Analyst Name: Nicole Horvath

Date: 5/18/15

Analyst Signature: Nicole Hvt

Columns: ZB624(60mx0.25mmx1.4um)

Method V8260C

Initial Cal. Method MU8988

Standard Data		
Lot #	Description	Conc.

Standard Data		
Lot #	Description	Conc.
	See Pg 281	

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: 5/19/15

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 195263	1B JB94618-6	~~8570~~ TCL801	GW	1		5		1x		✓	✓	ok		
	195264	JB94618-8	✓	GW	7		5		1x		✓	✓	ok		✓
	195265	JB94618-9	✓	GW	6		5		1x		✓	✓	ok		✓
	195266	JB94618-10	✓	GW	6		5		1x		✓	✓	ok		✓
	195267	JB94692-1	85216 TCL1H	GW	12		5		1x		✓	✓	~~ok~~ FD	50x	✓
	195268	JB94785-17	85328 SL	GW	2		5		1x		✓	✓	ok		✓
	195269	JB94785-18	SL	GW	2		5		1x		✓	✓	ok	8:11pm	✓

Nicole Horvath 5/18

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

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Form: OR001-9
Rev. Date: 2/14/2007

7.8.2

7

ACCUTEST.

VOLATILE ANALYSIS LOG

Batch ID: VU9008

Print Analyst Name: Nicole Horvath

Date: 5/18/15

Analyst Signature: Nicole Horvath

Columns: ZB624/60mx0.25mmx1.4u

Method V8260C

Initial Cal. Method MU8988

Standard Data

Lot #	Description	Conc.
VOIS 2060 91	4 Ext A	100ppm
VOIS 2060 69	15 Ext B	100ppm
VOIS 2060 55	4 Ext C	100ppm
VOIS 2060 45	8 Acrolein	1000ppm
VOIS 2060 65	10 Hexane	100ppm

Standard Data

Lot #	Description	Conc.
VOIS 2060	63.55 Std A	100ppm
VOIS 2060	76.20 Std B	100ppm
VOIS 2060	84.3 Std C	100ppm
VOIS 2060	48.36 Acrolein	1000ppm
VOIS 2060-83	I/S	250/25ug ppm

DA Paper 212713 exp 5/20/16

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: 5/19/15

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 195270	BFB					5		1x				ok	8:40pm	
	195271	CC8988-50					5		1x		✓		ok	25ul Std ABC, ACR → 50mL	
	195272	IB					5		1x		✓		ok		
	195273	MB					5		1x		✓		ok		
	195274	BS					5		1x		✓		ok	25ul Ext ABC, ACR, Hex → 50mL	
	195275	JB94785-13MS	85328 SL	GW	4		5		1x		✓		ok	25ul Std ABC, ACR → 50mL	✓
	195276	JB94785-13MSD	✓	GW	8		5		1x		✓		ok	25ul Std ABC, ACR → 50mL	✓
	195277	IB					5		1x		✓		ok		
	195278	JB94785-13	85328 SL	GW	2		5		1x		✓		ok		✓
	195279	JB94785-19	✓	WTB	1		5		1x		✓		ok	Client bottle	✓
	195280	JB94785-1	✓	GW	2		5		1x		✓		ok		✓
	195281	JB94785-2	✓	GW	2		5		1x		✓		ok		✓
	195282	JB94785-3	✓	GW	2		5		1x		✓		ok		✓
	195283	JB94785-4	✓	GW	2		5		1x		✓		ok		✓
	195284	JB94785-5	✓	GW	1		5		1x		✓		ok		✓
	195285 195286	JB94785-6	✓	GW	1		5		1x		✓		ok	Data file not used	✓
	195287	JB94785-7	✓	GW	1		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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Form: OR001-9
Rev. Date: 2/14/2007

7.8.3 7

ACCUTEST.

VOLATILE ANALYSIS LOG

Batch ID: VU9008

Print Analyst Name: Nicole Horvath

Analyst Signature: Nicole Horvath

Columns: ZB624(60mx0.25mmx1.4um)

Method V8260C

Initial Cal. Method MU8788

Date: 5/18/15 (Mon Night)

Standard Data

Lot #	Description	Conc.

Standard Data

Lot #	Description	Conc.
	See Pg 285	

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:** 5/19/15

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
	195288	JB94785-8	8539B SL	W	2		5		1x				ok		✓
	195289	JB94785-9	✓	W	1		5		1x				ok		✓
	195290	JB94785-10	✓	W	2		5		1x				ok		✓
	195291	JB94785-11	✓	W	2		5		1x				ok		✓
	195292	JB94785-12	✓	W	2		5		1x				ok		✓
	195293	JB94785-14	✓	W	2		5		1x				ok		✓
	195294	JB94785-15	✓	W	2		5		1x				ok		✓
	195295	JB94785-16	✓	W			5		1x				NR	Not Run	

5/18

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

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Form: OR001-9
Rev. Date: 2/14/2007

7.8.3

ACCUTEST

VOLATILE ANALYSIS LOG

Batch ID: VU9009

Print Analyst Name: Nicole Horvath

Date: 5/19/15

Analyst Signature: Nicole Horvath

Columns: ZB624 (60m x 0.25mm x 1.4um)

Method V8260C

Initial Cal. Method MU8988

Standard Data

Lot #	Description	Conc.
VOIS 2060 91	2 Ext A	100ppm
VOIS 2060 69	16 Ext B	100ppm
VOIS 2060 85	3 Ext C	100ppm
VOIS 2060 45	11 Acrolein	1000ppm
VOIS 2060 65	10 Hexane	100ppm

Standard Data

Lot #	Description	Conc.
VOIS 2060 63	55 Std A	100ppm
VOIS 2060 76	20 Std B	100ppm
VOIS 2060 84	3 Std C	100ppm
VOIS 2060 48	36 Acrolein	1000ppm
VOIS 2060	-83 IS	250/2500ppm

Dhaper 2/2/13 exp 5/01/16

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: 5/20/15

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 195296	BFB											oil	9:02am	
	195297	CC8988-20											oil	10ul Std ABC 33,69 AR->50mL	
	195299	IB									✓		oil		
	195300	MB									✓		oil		
	195301	BS									✓		oil	25ul Ext ABC, ACR Hex->50mL	
FD	195302	JB94692-1	85216 TCL1H	GW			1/50		50x		✓		oil		✓
R	195303	JB94614-4	85142 TCL20+	GW	12		5		1x		✓		oil		✓
	195304	JB94614-5	✓	GW	12		5		1x		✓		oil		✓
R	195305	JB94614-6	✓	GW	11		5		1x		✓		oil		✓
	195306	JB94785-16	85328 SL	GW	2		5		1x		✓		oil		✓
	195307	JB94618-6	85150 TCL20+	GW	7		5		1x		✓		ok FD	10X	✓
	195308	JB94893-13	85317 PALGTMB MTBE TBA	GW	2		5		1x		✓		oil	~~Not loaded~~ 5/19	✓
R	195309	JB94522-3	85093 TBA TCL1H10	GW	3		5		1x		✓		oil	~~foamed out~~	✓
	~~195309A~~ 195310	~~IB~~ JB94522-1	✓	GW	2		5		1x				oil	foamed out	✓
	195310A 195311	IB JB94785-16MS	85328 SL	GW	1		5		1x		✓		oil	25ul Std ABC, ACR ->50mL	✓
	195312	JB94614-5DUP	85142 TCL20+	GW	11		5		1x		✓		oil		✓
	195313	JB94614-~~12~~ 11	✓	SFB	~~12~~ 11		5		1x		✓		oil		✓

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

7.8.4

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ACCUTEST.

VOLATILE ANALYSIS LOG

Batch ID: VU9009

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: 5/19/15

Standard Data

Lot #	Description	Conc.

Standard Data

Lot #	Description	Conc.
	See PG 289	

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: 5/20/15

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
R	195314	JB94614-13	85142 TCL20+	W	1x		5		1x		✓		dL		✓
R	195315	JB94618-7 ~~JB94614-13~~	85150 ✓	W	7		5		1x		✓		dL		✓
	195316	JB94614-12 ~~JB94618-7~~	85150 TCL20+	G W	1x		5		1x		✓		dL		✓
	195317	JB94893-9	85317 PALSTMB MTBE, TBA	G W	4		5		1x		✓		dL		✓
	195318	JB94893-9	✓	G W	4		5/50		10x		✓		dL		✓
	195319	JB94893-7	✓	G W	4		25/50		20x		✓		dL	8:44 pm	✓

NHP 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

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7.8.4

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New Jersey
ACCUTEST
LABORATORIES

05/29/15

Technical Report for

United Technologies Corporation

ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

60339110 PO # 59048ACM

Accutest Job Number: JB94786

Sampling Dates: 05/13/15 - 05/14/15

Report to:

AECOM, INC.
27755 Diehl Road Suite 100
Warrenville, IL 60555
peter.hollatz@aecom.com

ATTN: Peter Hollatz

Total number of pages in report: **233**

NELAP ACCREDITED TNI LABORATORY

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: Marie Meidhof 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

United Technologies Corporation

Job No: JB94786

ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Project No: 60339110 PO # 59048ACM

Sample Number	Collected Date	Time By	Received	Matrix Code	Matrix Type	Client Sample ID
JB94786-1	05/13/15	15:00 AH	05/15/15	AQ	Ground Water	HSSER-RAMW08-051315
JB94786-2	05/13/15	16:40 AH	05/15/15	AQ	Ground Water	HSSER-RAMW07-051315
JB94786-3	05/13/15	17:35 AH	05/15/15	AQ	Ground Water	HSSER-RAMW06-051315
JB94786-4	05/14/15	08:05 AH	05/15/15	AQ	Ground Water	HSSER-RAMW05-051415
JB94786-5	05/14/15	09:05 AH	05/15/15	AQ	Ground Water	HSSER-RAMW04-051415
JB94786-6	05/14/15	08:15 AH	05/15/15	AQ	Equipment Blank	HSSER-EBLK02-051415
JB94786-7	05/14/15	10:25 AH	05/15/15	AQ	Ground Water	HSSER-RAMW03-051415
JB94786-8	05/14/15	11:35 AH	05/15/15	AQ	Ground Water	HSSER-RAMW02-051415
JB94786-8D	05/14/15	11:35 AH	05/15/15	AQ	Water Dup/MSD	HSSER-MSD02-051415
JB94786-8S	05/14/15	11:35 AH	05/15/15	AQ	Water Matrix Spike	HSSER-MS02-051415
JB94786-9	05/14/15	12:55 AH	05/15/15	AQ	Ground Water	HSSER-RAMW01-051415
JB94786-10	05/14/15	12:00 AH	05/15/15	AQ	Equipment Blank	HSSER-EBLK02-051415
JB94786-11	05/14/15	00:00 AH	05/15/15	AQ	Ground Water	HSSER-DUP02-051415

Sample Summary
(continued)

United Technologies Corporation

Job No: JB94786

ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Project No: 60339110 PO # 59048ACM

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
JB94786-12	05/14/15	12:55	AH	05/15/15	AQ	Trip Blank Water	HSSER-TRIP02-051115

ACCUTEST LABORATORIES

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CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	United Technologies Corporation	**Job No**	JB94786
Site:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL	**Report Date**	5/29/2015 9:27:33 AM

On 05/15/2015, 9 Sample(s), 1 Trip Blank(s) and 2 Equipment Blank(s) were received at Accutest Laboratories at a maximum corrected temperature of 3 C. Samples were intact and chemically preserved, unless noted below. An Accutest Job Number of JB94786 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 0 **Batch ID:** V4V723

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JB94786-8MS, JB94786-8MSD were used as the QC samples indicated.

Matrix: AQ **Batch ID:** V4V725

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JB94959-1AMS, JB94959-1AMSD were used as the QC samples indicated.

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: JB94786
Account: United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Collected: 05/13/15 thru 05/14/15

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JB94786-1	**HSSER-RAMW08-051315**					
1,1-Dichloroethane		0.00090 J	0.0010	0.00017	mg/l	SW846 8260C
JB94786-2	**HSSER-RAMW07-051315**					
1,1-Dichloroethane		0.0584	0.0050	0.00086	mg/l	SW846 8260C
1,1-Dichloroethene		0.0516	0.0050	0.0026	mg/l	SW846 8260C
cis-1,2-Dichloroethene		0.0705	0.0050	0.0014	mg/l	SW846 8260C
Ethylbenzene		0.0041 J	0.0050	0.0013	mg/l	SW846 8260C
Tetrachloroethene		0.0032 J	0.0050	0.0020	mg/l	SW846 8260C
1,1,1-Trichloroethane		1.04	0.050	0.013	mg/l	SW846 8260C
Trichloroethene		0.0016 J	0.0050	0.0011	mg/l	SW846 8260C
JB94786-3	**HSSER-RAMW06-051315**					
1,1-Dichloroethane		0.0032	0.0010	0.00017	mg/l	SW846 8260C
1,1-Dichloroethene		0.0060	0.0010	0.00051	mg/l	SW846 8260C
cis-1,2-Dichloroethene		0.0032	0.0010	0.00027	mg/l	SW846 8260C
1,1,1-Trichloroethane		0.145	0.0010	0.00025	mg/l	SW846 8260C
Trichloroethene		0.0019	0.0010	0.00022	mg/l	SW846 8260C
JB94786-4	**HSSER-RAMW05-051415**					
1,1-Dichloroethane		0.00046 J	0.0010	0.00017	mg/l	SW846 8260C
1,1-Dichloroethene		0.00095 J	0.0010	0.00051	mg/l	SW846 8260C
cis-1,2-Dichloroethene		0.0012	0.0010	0.00027	mg/l	SW846 8260C
1,1,1-Trichloroethane		0.0222	0.0010	0.00025	mg/l	SW846 8260C
Trichloroethene		0.0014	0.0010	0.00022	mg/l	SW846 8260C
JB94786-5	**HSSER-RAMW04-051415**					
1,1-Dichloroethane		0.00027 J	0.0010	0.00017	mg/l	SW846 8260C
Tetrachloroethene		0.00040 J	0.0010	0.00040	mg/l	SW846 8260C
JB94786-6	**HSSER-EBLK02-051415**					
Toluene		0.00058 J	0.0010	0.00016	mg/l	SW846 8260C
JB94786-7	**HSSER-RAMW03-051415**					
1,1-Dichloroethane		0.00034 J	0.0010	0.00017	mg/l	SW846 8260C
cis-1,2-Dichloroethene		0.00085 J	0.0010	0.00027	mg/l	SW846 8260C
1,1,1-Trichloroethane		0.00044 J	0.0010	0.00025	mg/l	SW846 8260C
Trichloroethene		0.00043 J	0.0010	0.00022	mg/l	SW846 8260C

Summary of Hits

Job Number: JB94786
Account: United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Collected: 05/13/15 thru 05/14/15

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JB94786-8	**HSSER-RAMW02-051415**					
1,1-Dichloroethane		0.0072	0.0010	0.00017	mg/l	SW846 8260C
Tetrachloroethene		0.0020	0.0010	0.00040	mg/l	SW846 8260C
1,1,1-Trichloroethane		0.0020	0.0010	0.00025	mg/l	SW846 8260C
Trichloroethene		0.00028 J	0.0010	0.00022	mg/l	SW846 8260C
JB94786-9	**HSSER-RAMW01-051415**					
1,1-Dichloroethane		0.0030	0.0010	0.00017	mg/l	SW846 8260C
cis-1,2-Dichloroethene		0.0010	0.0010	0.00027	mg/l	SW846 8260C
Tetrachloroethene		0.0047	0.0010	0.00040	mg/l	SW846 8260C
1,1,1-Trichloroethane		0.0029	0.0010	0.00025	mg/l	SW846 8260C
Trichloroethene		0.0010	0.0010	0.00022	mg/l	SW846 8260C
JB94786-10	**HSSER-EBLK02-051415**					
No hits reported in this sample.						
JB94786-11	**HSSER-DUP02-051415**					
1,1-Dichloroethane		0.00035 J	0.0010	0.00017	mg/l	SW846 8260C
1,1,1-Trichloroethane		0.00043 J	0.0010	0.00025	mg/l	SW846 8260C
Trichloroethene		0.00036 J	0.0010	0.00022	mg/l	SW846 8260C
JB94786-12	**HSSER-TRIP02-051115**					
Methylene chloride		0.00084 J	0.0020	0.00073	mg/l	SW846 8260C

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Sample Results

Report of Analysis

Raw Data: 4V17808.D

Accutest Laboratories

Report of Analysis

Client Sample ID:	HSSER-RAMW08-051315		
Lab Sample ID:	JB94786-1	**Date Sampled:**	05/13/15
Matrix:	AQ - Ground Water	**Date Received:**	05/15/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4V17808.D	1	05/20/15	JM	n/a	n/a	V4V723
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	0.00090	0.0010	0.00017	mg/l	J
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00018	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00051	mg/l	
156-59-2	cis-1,2-Dichloroethene	ND	0.0010	0.00027	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00065	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00027	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.00073	mg/l	
127-18-4	Tetrachloroethene	ND	0.0010	0.00040	mg/l	
108-88-3	Toluene	ND	0.0010	0.00016	mg/l	
71-55-6	1,1,1-Trichloroethane	ND	0.0010	0.00025	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00021	mg/l	
79-01-6	Trichloroethene	ND	0.0010	0.00022	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00015	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		76-120%
17060-07-0	1,2-Dichloroethane-D4	93%		73-122%
2037-26-5	Toluene-D8	97%		84-119%
460-00-4	4-Bromofluorobenzene	96%		78-117%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	HSSER-RAMW07-051315		
Lab Sample ID:	JB94786-2	**Date Sampled:**	05/13/15
Matrix:	AQ - Ground Water	**Date Received:**	05/15/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4V17810.D	5	05/20/15	JM	n/a	n/a	V4V723
Run #2	4V17855.D	50	05/21/15	JM	n/a	n/a	V4V725

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

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	0.0584	0.0050	0.00086	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0050	0.00090	mg/l	
75-35-4	1,1-Dichloroethene	0.0516	0.0050	0.0026	mg/l	
156-59-2	cis-1,2-Dichloroethene	0.0705	0.0050	0.0014	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0050	0.0032	mg/l	
100-41-4	Ethylbenzene	0.0041	0.0050	0.0013	mg/l	J
75-09-2	Methylene chloride	ND	0.010	0.0036	mg/l	
127-18-4	Tetrachloroethene	0.0032	0.0050	0.0020	mg/l	J
108-88-3	Toluene	ND	0.0050	0.00081	mg/l	
71-55-6	1,1,1-Trichloroethane	1.04 [a]	0.050	0.013	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0050	0.0011	mg/l	
79-01-6	Trichloroethene	0.0016	0.0050	0.0011	mg/l	J
75-01-4	Vinyl chloride	ND	0.0050	0.00074	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%	102%	76-120%
17060-07-0	1,2-Dichloroethane-D4	95%	94%	73-122%
2037-26-5	Toluene-D8	100%	98%	84-119%
460-00-4	4-Bromofluorobenzene	98%	98%	78-117%

(a) Result is from Run# 2

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	HSSER-RAMW06-051315		
Lab Sample ID:	JB94786-3	**Date Sampled:**	05/13/15
Matrix:	AQ - Ground Water	**Date Received:**	05/15/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4V17822.D	1	05/20/15	JM	n/a	n/a	V4V723
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	0.0032	0.0010	0.00017	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00018	mg/l	
75-35-4	1,1-Dichloroethene	0.0060	0.0010	0.00051	mg/l	
156-59-2	cis-1,2-Dichloroethene	0.0032	0.0010	0.00027	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00065	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00027	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.00073	mg/l	
127-18-4	Tetrachloroethene	ND	0.0010	0.00040	mg/l	
108-88-3	Toluene	ND	0.0010	0.00016	mg/l	
71-55-6	1,1,1-Trichloroethane	0.145	0.0010	0.00025	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00021	mg/l	
79-01-6	Trichloroethene	0.0019	0.0010	0.00022	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00015	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		76-120%
17060-07-0	1,2-Dichloroethane-D4	96%		73-122%
2037-26-5	Toluene-D8	100%		84-119%
460-00-4	4-Bromofluorobenzene	101%		78-117%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	HSSER-RAMW05-051415		
Lab Sample ID:	JB94786-4	**Date Sampled:**	05/14/15
Matrix:	AQ - Ground Water	**Date Received:**	05/15/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4V17815.D	1	05/20/15	JM	n/a	n/a	V4V723
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	0.00046	0.0010	0.00017	mg/l	J
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00018	mg/l	
75-35-4	1,1-Dichloroethene	0.00095	0.0010	0.00051	mg/l	J
156-59-2	cis-1,2-Dichloroethene	0.0012	0.0010	0.00027	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00065	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00027	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.00073	mg/l	
127-18-4	Tetrachloroethene	ND	0.0010	0.00040	mg/l	
108-88-3	Toluene	ND	0.0010	0.00016	mg/l	
71-55-6	1,1,1-Trichloroethane	0.0222	0.0010	0.00025	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00021	mg/l	
79-01-6	Trichloroethene	0.0014	0.0010	0.00022	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00015	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		76-120%
17060-07-0	1,2-Dichloroethane-D4	94%		73-122%
2037-26-5	Toluene-D8	97%		84-119%
460-00-4	4-Bromofluorobenzene	97%		78-117%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	HSSER-RAMW04-051415		
Lab Sample ID:	JB94786-5	**Date Sampled:**	05/14/15
Matrix:	AQ - Ground Water	**Date Received:**	05/15/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4V17816.D	1	05/20/15	JM	n/a	n/a	V4V723
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	0.00027	0.0010	0.00017	mg/l	J
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00018	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00051	mg/l	
156-59-2	cis-1,2-Dichloroethene	ND	0.0010	0.00027	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00065	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00027	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.00073	mg/l	
127-18-4	Tetrachloroethene	0.00040	0.0010	0.00040	mg/l	J
108-88-3	Toluene	ND	0.0010	0.00016	mg/l	
71-55-6	1,1,1-Trichloroethane	ND	0.0010	0.00025	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00021	mg/l	
79-01-6	Trichloroethene	ND	0.0010	0.00022	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00015	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		76-120%
17060-07-0	1,2-Dichloroethane-D4	94%		73-122%
2037-26-5	Toluene-D8	100%		84-119%
460-00-4	4-Bromofluorobenzene	99%		78-117%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	HSSER-EBLK02-051415		
Lab Sample ID:	JB94786-6	**Date Sampled:**	05/14/15
Matrix:	AQ - Equipment Blank	**Date Received:**	05/15/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4V17824.D	1	05/20/15	JM	n/a	n/a	V4V723
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	ND	0.0010	0.00017	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00018	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00051	mg/l	
156-59-2	cis-1,2-Dichloroethene	ND	0.0010	0.00027	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00065	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00027	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.00073	mg/l	
127-18-4	Tetrachloroethene	ND	0.0010	0.00040	mg/l	
108-88-3	Toluene	0.00058	0.0010	0.00016	mg/l	J
71-55-6	1,1,1-Trichloroethane	ND	0.0010	0.00025	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00021	mg/l	
79-01-6	Trichloroethene	ND	0.0010	0.00022	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00015	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		76-120%
17060-07-0	1,2-Dichloroethane-D4	97%		73-122%
2037-26-5	Toluene-D8	101%		84-119%
460-00-4	4-Bromofluorobenzene	99%		78-117%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	HSSER-RAMW03-051415		
Lab Sample ID:	JB94786-7	**Date Sampled:**	05/14/15
Matrix:	AQ - Ground Water	**Date Received:**	05/15/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4V17817.D	1	05/20/15	JM	n/a	n/a	V4V723
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	0.00034	0.0010	0.00017	mg/l	J
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00018	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00051	mg/l	
156-59-2	cis-1,2-Dichloroethene	0.00085	0.0010	0.00027	mg/l	J
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00065	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00027	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.00073	mg/l	
127-18-4	Tetrachloroethene	ND	0.0010	0.00040	mg/l	
108-88-3	Toluene	ND	0.0010	0.00016	mg/l	
71-55-6	1,1,1-Trichloroethane	0.00044	0.0010	0.00025	mg/l	J
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00021	mg/l	
79-01-6	Trichloroethene	0.00043	0.0010	0.00022	mg/l	J
75-01-4	Vinyl chloride	ND	0.0010	0.00015	mg/l	

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

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	HSSER-RAMW02-051415		
Lab Sample ID:	JB94786-8	**Date Sampled:**	05/14/15
Matrix:	AQ - Ground Water	**Date Received:**	05/15/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4V17809.D	1	05/20/15	JM	n/a	n/a	V4V723
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	0.0072	0.0010	0.00017	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00018	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00051	mg/l	
156-59-2	cis-1,2-Dichloroethene	ND	0.0010	0.00027	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00065	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00027	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.00073	mg/l	
127-18-4	Tetrachloroethene	0.0020	0.0010	0.00040	mg/l	
108-88-3	Toluene	ND	0.0010	0.00016	mg/l	
71-55-6	1,1,1-Trichloroethane	0.0020	0.0010	0.00025	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00021	mg/l	
79-01-6	Trichloroethene	0.00028	0.0010	0.00022	mg/l	J
75-01-4	Vinyl chloride	ND	0.0010	0.00015	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		76-120%
17060-07-0	1,2-Dichloroethane-D4	93%		73-122%
2037-26-5	Toluene-D8	98%		84-119%
460-00-4	4-Bromofluorobenzene	98%		78-117%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	HSSER-RAMW01-051415		
Lab Sample ID:	JB94786-9	**Date Sampled:**	05/14/15
Matrix:	AQ - Ground Water	**Date Received:**	05/15/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4V17818.D	1	05/20/15	JM	n/a	n/a	V4V723
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	0.0030	0.0010	0.00017	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00018	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00051	mg/l	
156-59-2	cis-1,2-Dichloroethene	0.0010	0.0010	0.00027	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00065	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00027	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.00073	mg/l	
127-18-4	Tetrachloroethene	0.0047	0.0010	0.00040	mg/l	
108-88-3	Toluene	ND	0.0010	0.00016	mg/l	
71-55-6	1,1,1-Trichloroethane	0.0029	0.0010	0.00025	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00021	mg/l	
79-01-6	Trichloroethene	0.0010	0.0010	0.00022	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00015	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		76-120%
17060-07-0	1,2-Dichloroethane-D4	94%		73-122%
2037-26-5	Toluene-D8	98%		84-119%
460-00-4	4-Bromofluorobenzene	97%		78-117%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	HSSER-EBLK02-051415		
Lab Sample ID:	JB94786-10	**Date Sampled:**	05/14/15
Matrix:	AQ - Equipment Blank	**Date Received:**	05/15/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4V17819.D	1	05/20/15	JM	n/a	n/a	V4V723
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	ND	0.0010	0.00017	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00018	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00051	mg/l	
156-59-2	cis-1,2-Dichloroethene	ND	0.0010	0.00027	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00065	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00027	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.00073	mg/l	
127-18-4	Tetrachloroethene	ND	0.0010	0.00040	mg/l	
108-88-3	Toluene	ND	0.0010	0.00016	mg/l	
71-55-6	1,1,1-Trichloroethane	ND	0.0010	0.00025	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00021	mg/l	
79-01-6	Trichloroethene	ND	0.0010	0.00022	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00015	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		76-120%
17060-07-0	1,2-Dichloroethane-D4	96%		73-122%
2037-26-5	Toluene-D8	101%		84-119%
460-00-4	4-Bromofluorobenzene	98%		78-117%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	HSSER-DUP02-051415		
Lab Sample ID:	JB94786-11	**Date Sampled:**	05/14/15
Matrix:	AQ - Ground Water	**Date Received:**	05/15/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4V17821.D	1	05/20/15	JM	n/a	n/a	V4V723
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	0.00035	0.0010	0.00017	mg/l	J
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00018	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00051	mg/l	
156-59-2	cis-1,2-Dichloroethene	ND	0.0010	0.00027	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00065	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00027	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.00073	mg/l	
127-18-4	Tetrachloroethene	ND	0.0010	0.00040	mg/l	
108-88-3	Toluene	ND	0.0010	0.00016	mg/l	
71-55-6	1,1,1-Trichloroethane	0.00043	0.0010	0.00025	mg/l	J
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00021	mg/l	
79-01-6	Trichloroethene	0.00036	0.0010	0.00022	mg/l	J
75-01-4	Vinyl chloride	ND	0.0010	0.00015	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		76-120%
17060-07-0	1,2-Dichloroethane-D4	95%		73-122%
2037-26-5	Toluene-D8	101%		84-119%
460-00-4	4-Bromofluorobenzene	98%		78-117%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	HSSER-TRIP02-051115		
Lab Sample ID:	JB94786-12	**Date Sampled:**	05/14/15
Matrix:	AQ - Trip Blank Water	**Date Received:**	05/15/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4V17820.D	1	05/20/15	JM	n/a	n/a	V4V723
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	ND	0.0010	0.00017	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00018	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00051	mg/l	
156-59-2	cis-1,2-Dichloroethene	ND	0.0010	0.00027	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00065	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00027	mg/l	
75-09-2	Methylene chloride	0.00084	0.0020	0.00073	mg/l	J
127-18-4	Tetrachloroethene	ND	0.0010	0.00040	mg/l	
108-88-3	Toluene	ND	0.0010	0.00016	mg/l	
71-55-6	1,1,1-Trichloroethane	ND	0.0010	0.00025	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00021	mg/l	
79-01-6	Trichloroethene	ND	0.0010	0.00022	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00015	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		76-120%
17060-07-0	1,2-Dichloroethane-D4	97%		73-122%
2037-26-5	Toluene-D8	96%		84-119%
460-00-4	4-Bromofluorobenzene	97%		78-117%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
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

ACCUTEST LABORATORIES

GW
WTB
EB

CHAIN OF CUSTODY

PAGE 1 OF 2

2235 Route 130, Dayton, NJ 08810
TEL: 732-329-0200 FAX: 732-329-3499/3480
www.accutest.com

FED-EX Tracking # 622506353985
Accutest Quote #
Accutest Job # JB94786
Bottle Order Control #

Client / Reporting Information

Company Name: AECOM
Street Address: 27755 Diehl Rd Suite 100
City: Warrenville State: IL Zip: 60555
Project Contact: Peter Hollatz E-mail: Peter.Hollatz@aecom.com
Phone #: 630-839-5366 Fax #: 630-836-1711
Sampler(s) Name(s): Alex Hollatz Phone #: 630-849-4621

Project Information

Project Name: UTAS Plants 1/2 Facility
Street:
City: Rockford State: IL
Project #: 60339110
Client Purchase Order #: 590498 ACM
Project Manager: Peter Hollatz

Billing Information (If different from Report to)
Company Name:
Street Address:
City: State: Zip:
Attention:

Requested Analysis (see TEST CODE sheet)

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL - Sludge; SED - Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB - Field Blank; EB - Equipment Blank; RB - Rinse Blank; TB - Trip Blank

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled By	Matrix	# of bottles	Preserved Bottles: HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	★ VOC	LAB USE ONLY
1	HSSER-RAMW08-051315		5-13-15	1500	AH	GW	3	X								X	U1098
2	HSSER-RAMW07-051315		5-13-15	1640			3	X								X	
3	HSSER-RAMW06-051315		5-13-15	1735			3	X								X	
4	HSSER-RAMW05-051415		5-14-15	0805			3	X								X	
5	HSSER-RAMW04-051415		5-14-15	0905			3	X								X	
6	HSSER-EBLK02-051415		5-14-15	0815			3	X								X	
7	HSSER-RAMW03-051415		5-14-15	1025			3	X								X	
8	HSSER-RAMW02-051415		5-14-15	1135			3	X								X	
9	HSSER-MSD02-051415		5-14-15	1135			3	X								X	
10	HSSER-RAMW01-051415		5-14-15	1255			3	X								X	
	HSSER-EBLK01-051415		5-14-15	1305			3	X								X	

Turnaround Time (Business days)

- [X] Std. 10 Business Days
- [ ] 5 Day RUSH
- [ ] 3 Day RUSH
- [ ] 2 Day RUSH
- [ ] 1 Day RUSH
- [ ] other

Approved By (Accutest PM): / Date:
INITIAL ASESSMENT 18/15
LABEL VERIFICATION

Emergency & Rush T/A data available VIA Labtrk

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULL T1 (Level 3+4)
- [ ] NJ Reduced
- [ ] Commercial "C"
- [ ] NJ Data of Known Quality Protocol Reporting
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format
- [ ] Other

Commercial "A" = Results Only, Commercial "B" = Results + QC Summary
NJ Reduced = Results + QC Summary + Partial Raw data

Comments / Special Instructions

★ List of 13 VOC
Level IV Data

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

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	Alex Hollatz	5-14-15 1800	1 Fedex	2 Fedex	5/15/15 1015	2
3			3	4		4
5			5	Custody Seal # 142 [X] Intact [ ] Not Intact	Preserved where applicable [ ]	On Ice [X] Cooler Temp. 4.2/3.0

5.1.5

JB94786: Chain of Custody
Page 1 of 3

ACCUTEST LABORATORIES

CHAIN OF CUSTODY

2235 Route 130, Dayton, NJ 08810
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www.accutest.com

FED-EX Tracking # 625663535985
Bottle Order Control #
Accutest Quote #
Accutest Job # JB94786

Client / Reporting Information

Company Name: AECOM
Street Address: 27755 Diehl Rd Suite 100
City: Warrenville State: IL Zip: 60555
Project Contact: Peter Hollatz E-mail: Peter.Hollatz@aecom.com
Phone #: 630-839-5386 Fax #: 630-836-1711
Sampler(s) Name(s): Allen Hollatz Phone #: 630-849-4621

Project Information

Project Name: UTAS-Plants 1/2 Facility
Street:
City: Rockford State: IL
Project #: 60339110
Client Purchase Order #: 59048ALM
Project Manager: Peter Hollatz

Billing Information (If different from Report to)
Company Name:
Street Address:
City: State: Zip:
Attention:

Requested Analysis (see TEST CODE sheet)

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL - Sludge
SED - Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB - Field Blank
EB - Equipment Blank
RB - Rinse Blank
TB - Trip Blank

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	VOC *	LAB USE ONLY
11	HSSER-DUP02-051115		05-11-15	0000	AH	GW	3	X								X	
12	HSSER-~~AH~~ TRIP02-051115		05-11-15	—	AH	GW	2	X								X	

Turnaround Time (Business days)

- [x] Std. 10 Business Days
- [ ] 5 Day RUSH
- [ ] 3 Day RUSH
- [ ] 2 Day RUSH
- [ ] 1 Day RUSH
- [ ] other

Emergency & Rush T/A data available VIA Lablink

Approved By (Accutest PM) / Date:

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] NJ Reduced
- [ ] Commercial "C"
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format
- [ ] Other
- [ ] NJ Data of Known Quality Protocol Reporting

Commercial "A" = Results Only, Commercial "B" = Results + QC Summary
NJ Reduced = Results + QC Summary + Partial Raw data

Comments / Special Instructions

* List of 13 VOC
Level IV Data.

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

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 [signature]	5-14-15 1800	1 [signature]	2 [signature]	5/15/15 1015	2 [signature]
3		3	4		4
5		5	Custody Seal # 142 ☑ Intact ☐ Not intact	Preserved where applicable ☐	On Ice ☑ Cooler Temp. 4.2°C

5.1

5

JB94786: Chain of Custody
Page 2 of 3

ACCUTEST LABORATORIES

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: JB94786 **Client:** _____ **Project:** _____

Date / Time Received: 5/15/2015 10:15:00 AM **Delivery Method:** _____ **Airbill #'s:** _____

Cooler Temps (Initial/Adjusted): #1: (4.2/3); 0

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

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

Quality Control Preservation	Y	or	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	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

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

Sample Integrity - Instructions	Y	or	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

5.1 5

JB94786: Chain of Custody
Page 3 of 3

Internal Sample Tracking Chronicle

United Technologies Corporation

Job No: JB94786

ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Project No: 60339110 PO # 59048ACM

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JB94786-1 Collected: 13-MAY-15 15:00 By: AH Received: 15-MAY-15 By: AS HSSER-RAMW08-051315						
JB94786-1	SW846 8260C	20-MAY-15 12:24	JM			V8260SL
JB94786-2 Collected: 13-MAY-15 16:40 By: AH Received: 15-MAY-15 By: AS HSSER-RAMW07-051315						
JB94786-2	SW846 8260C	20-MAY-15 13:17	JM			V8260SL
JB94786-2	SW846 8260C	21-MAY-15 14:15	JM			V8260SL
JB94786-3 Collected: 13-MAY-15 17:35 By: AH Received: 15-MAY-15 By: AS HSSER-RAMW06-051315						
JB94786-3	SW846 8260C	20-MAY-15 18:38	JM			V8260SL
JB94786-4 Collected: 14-MAY-15 08:05 By: AH Received: 15-MAY-15 By: AS HSSER-RAMW05-051415						
JB94786-4	SW846 8260C	20-MAY-15 15:31	JM			V8260SL
JB94786-5 Collected: 14-MAY-15 09:05 By: AH Received: 15-MAY-15 By: AS HSSER-RAMW04-051415						
JB94786-5	SW846 8260C	20-MAY-15 15:58	JM			V8260SL
JB94786-6 Collected: 14-MAY-15 08:15 By: AH Received: 15-MAY-15 By: AS HSSER-EBLK02-051415						
JB94786-6	SW846 8260C	20-MAY-15 19:04	JM			V8260SL
JB94786-7 Collected: 14-MAY-15 10:25 By: AH Received: 15-MAY-15 By: AS HSSER-RAMW03-051415						
JB94786-7	SW846 8260C	20-MAY-15 16:25	JM			V8260SL
JB94786-8 Collected: 14-MAY-15 11:35 By: AH Received: 15-MAY-15 By: AS HSSER-RAMW02-051415						
JB94786-8	SW846 8260C	20-MAY-15 12:51	JM			V8260SL

Internal Sample Tracking Chronicle

United Technologies Corporation

Job No: JB94786

ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Project No: 60339110 PO # 59048ACM

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JB94786-9	Collected: 14-MAY-15 12:55 By: AH			Received: 15-MAY-15 By: AS		
HSSER-RAMW01-051415						
JB94786-9	SW846 8260C	20-MAY-15 16:52	JM			V8260SL
JB94786-10	Collected: 14-MAY-15 12:00 By: AH			Received: 15-MAY-15 By: AS		
HSSER-EBLK02-051415						
JB94786-10	SW846 8260C	20-MAY-15 17:18	JM			V8260SL
JB94786-11	Collected: 14-MAY-15 00:00 By: AH			Received: 15-MAY-15 By: AS		
HSSER-DUP02-051415						
JB94786-11	SW846 8260C	20-MAY-15 18:11	JM			V8260SL
JB94786-12	Collected: 14-MAY-15 12:55 By: AH			Received: 15-MAY-15 By: AS		
HSSER-TRIP02-051115						
JB94786-12	SW846 8260C	20-MAY-15 17:45	JM			V8260SL

Accutest Internal Chain of Custody

Job Number: JB94786
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Received: 05/15/15

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB94786-1.2	Secured Storage	Jemima Merilan	05/18/15 15:34	Retrieve from Storage
JB94786-1.2	Jemima Merilan	GCMS4V	05/18/15 15:35	Load on Instrument
JB94786-1.2	GCMS4V	Jemima Merilan	05/21/15 12:03	Unload from Instrument
JB94786-1.2	Jemima Merilan	Secured Storage	05/21/15 12:03	Return to Storage
JB94786-2.1	Secured Storage	Jemima Merilan	05/21/15 15:43	Retrieve from Storage
JB94786-2.1	Jemima Merilan	Secured Storage	05/21/15 17:14	Return to Storage
JB94786-2.2	Secured Storage	Jemima Merilan	05/18/15 15:33	Retrieve from Storage
JB94786-2.2	Jemima Merilan	Secured Storage	05/18/15 17:30	Return to Storage
JB94786-3.2	Secured Storage	Jemima Merilan	05/18/15 15:34	Retrieve from Storage
JB94786-3.2	Jemima Merilan	GCMS4V	05/18/15 15:35	Load on Instrument
JB94786-3.2	GCMS4V	Jemima Merilan	05/21/15 12:03	Unload from Instrument
JB94786-3.2	Jemima Merilan	Secured Storage	05/21/15 12:03	Return to Storage
JB94786-4.2	Secured Storage	Jemima Merilan	05/18/15 15:34	Retrieve from Storage
JB94786-4.2	Jemima Merilan	GCMS4V	05/18/15 15:35	Load on Instrument
JB94786-4.2	GCMS4V	Jemima Merilan	05/21/15 12:03	Unload from Instrument
JB94786-4.2	Jemima Merilan	Secured Storage	05/21/15 12:03	Return to Storage
JB94786-5.2	Secured Storage	Jemima Merilan	05/18/15 15:34	Retrieve from Storage
JB94786-5.2	Jemima Merilan	GCMS4V	05/18/15 15:35	Load on Instrument
JB94786-5.2	GCMS4V	Jemima Merilan	05/21/15 12:03	Unload from Instrument
JB94786-5.2	Jemima Merilan	Secured Storage	05/21/15 12:03	Return to Storage
JB94786-6.2	Secured Storage	Jemima Merilan	05/19/15 15:20	Retrieve from Storage
JB94786-6.2	Jemima Merilan	GCMS4V	05/19/15 15:20	Load on Instrument
JB94786-6.2	GCMS4V	Jemima Merilan	05/21/15 12:03	Unload from Instrument
JB94786-6.2	Jemima Merilan	Secured Storage	05/21/15 12:03	Return to Storage
JB94786-7.2	Secured Storage	Jemima Merilan	05/18/15 15:34	Retrieve from Storage
JB94786-7.2	Jemima Merilan	GCMS4V	05/18/15 15:35	Load on Instrument
JB94786-7.2	GCMS4V	Jemima Merilan	05/21/15 12:03	Unload from Instrument
JB94786-7.2	Jemima Merilan	Secured Storage	05/21/15 12:03	Return to Storage
JB94786-8.2	Secured Storage	Jemima Merilan	05/19/15 15:18	Retrieve from Storage
JB94786-8.2	Jemima Merilan	GCMS4V	05/19/15 15:18	Load on Instrument
JB94786-8.2	GCMS4V	Jemima Merilan	05/21/15 12:03	Unload from Instrument
JB94786-8.2	Jemima Merilan	Secured Storage	05/21/15 12:03	Return to Storage
JB94786-8.5	Secured Storage	Jemima Merilan	05/19/15 15:18	Retrieve from Storage
JB94786-8.5	Jemima Merilan	GCMS4V	05/19/15 15:18	Load on Instrument
JB94786-8.5	GCMS4V	Jemima Merilan	05/21/15 12:03	Unload from Instrument

5.3

Accutest Internal Chain of Custody

Job Number: JB94786
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Received: 05/15/15

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB94786-8.5	Jemima Merilan	Secured Storage	05/21/15 12:03	Return to Storage
JB94786-8.8	Secured Storage	Jemima Merilan	05/18/15 15:34	Retrieve from Storage
JB94786-8.8	Jemima Merilan	GCMS4V	05/18/15 15:35	Load on Instrument
JB94786-8.8	GCMS4V	Jemima Merilan	05/21/15 12:03	Unload from Instrument
JB94786-8.8	Jemima Merilan	Secured Storage	05/21/15 12:03	Return to Storage
JB94786-9.1	Secured Storage	Jemima Merilan	05/18/15 15:34	Retrieve from Storage
JB94786-9.1	Jemima Merilan	GCMS4V	05/18/15 15:35	Load on Instrument
JB94786-9.1	GCMS4V	Jemima Merilan	05/21/15 12:03	Unload from Instrument
JB94786-9.1	Jemima Merilan	Secured Storage	05/21/15 12:03	Return to Storage
JB94786-10.2	Secured Storage	Jemima Merilan	05/18/15 15:34	Retrieve from Storage
JB94786-10.2	Jemima Merilan	GCMS4V	05/18/15 15:35	Load on Instrument
JB94786-10.2	GCMS4V	Jemima Merilan	05/21/15 12:03	Unload from Instrument
JB94786-10.2	Jemima Merilan	Secured Storage	05/21/15 12:03	Return to Storage
JB94786-11.2	Secured Storage	Jemima Merilan	05/19/15 15:20	Retrieve from Storage
JB94786-11.2	Jemima Merilan	GCMS4V	05/19/15 15:20	Load on Instrument
JB94786-11.2	GCMS4V	Jemima Merilan	05/21/15 12:03	Unload from Instrument
JB94786-11.2	Jemima Merilan	Secured Storage	05/21/15 12:03	Return to Storage
JB94786-12.2	Secured Storage	Jemima Merilan	05/19/15 15:20	Retrieve from Storage
JB94786-12.2	Jemima Merilan	GCMS4V	05/19/15 15:20	Load on Instrument
JB94786-12.2	GCMS4V	Jemima Merilan	05/21/15 12:03	Unload from Instrument
JB94786-12.2	Jemima Merilan	Secured Storage	05/21/15 12:03	Return to Storage

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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: JB94786
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V4V723-MB	4V17804A.D	1	05/20/15	JM	n/a	n/a	V4V723

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

JB94786-1, JB94786-2, JB94786-3, JB94786-4, JB94786-5, JB94786-6, JB94786-7, JB94786-8, JB94786-9, JB94786-10, JB94786-11, JB94786-12

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	ND	1.0	0.17	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.18	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.51	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.27	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.65	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.27	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.73	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.40	ug/l	
108-88-3	Toluene	ND	1.0	0.16	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.21	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.22	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.15	ug/l	

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

Method Blank Summary

Job Number: JB94786
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V4V725-MB1	4V17850.D	1	05/21/15	JM	n/a	n/a	V4V725

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

JB94786-2

CAS No.	Compound	Result	RL	MDL	Units	Q
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	

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

Blank Spike Summary

Job Number: JB94786
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V4V723-BS	4V17805.D	1	05/20/15	JM	n/a	n/a	V4V723

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

JB94786-1, JB94786-2, JB94786-3, JB94786-4, JB94786-5, JB94786-6, JB94786-7, JB94786-8, JB94786-9, JB94786-10, JB94786-11, JB94786-12

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
75-34-3	1,1-Dichloroethane	50	52.9	106	80-125
107-06-2	1,2-Dichloroethane	50	48.2	96	78-131
75-35-4	1,1-Dichloroethene	50	46.1	92	73-127
156-59-2	cis-1,2-Dichloroethene	50	48.2	96	77-118
156-60-5	trans-1,2-Dichloroethene	50	49.2	98	75-118
100-41-4	Ethylbenzene	50	47.2	94	80-118
75-09-2	Methylene chloride	50	54.9	110	75-122
127-18-4	Tetrachloroethene	50	48.4	97	69-138
108-88-3	Toluene	50	49.7	99	80-122
71-55-6	1,1,1-Trichloroethane	50	46.7	93	80-131
79-00-5	1,1,2-Trichloroethane	50	50.8	102	78-122
79-01-6	Trichloroethene	50	49.7	99	83-122
75-01-4	Vinyl chloride	50	48.4	97	57-138

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	105%	76-120%
17060-07-0	1,2-Dichloroethane-D4	96%	73-122%
2037-26-5	Toluene-D8	100%	84-119%
460-00-4	4-Bromofluorobenzene	96%	78-117%

* = Outside of Control Limits.

6.2.1

Blank Spike Summary

Job Number: JB94786
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V4V725-BS	4V17851.D	1	05/21/15	JM	n/a	n/a	V4V725

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

JB94786-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-55-6	1,1,1-Trichloroethane	50	42.8	86	80-131

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	103%	76-120%
17060-07-0	1,2-Dichloroethane-D4	95%	73-122%
2037-26-5	Toluene-D8	98%	84-119%
460-00-4	4-Bromofluorobenzene	99%	78-117%

6.2.2

* = Outside of Control Limits.

Raw Data: 4V17812.D 4V17813.D

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB94786
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB94786-8MS	4V17812.D	1	05/20/15	JM	n/a	n/a	V4V723
JB94786-8MSD	4V17813.D	1	05/20/15	JM	n/a	n/a	V4V723
JB94786-8	4V17809.D	1	05/20/15	JM	n/a	n/a	V4V723

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

JB94786-1, JB94786-2, JB94786-3, JB94786-4, JB94786-5, JB94786-6, JB94786-7, JB94786-8, JB94786-9, JB94786-10, JB94786-11, JB94786-12

CAS No.	Compound	JB94786-8 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
75-34-3	1,1-Dichloroethane	7.2		50	58.2	102	50	59.3	104	2	60-129/13
107-06-2	1,2-Dichloroethane	ND		50	44.9	90	50	45.1	90	0	72-133/12
75-35-4	1,1-Dichloroethene	ND		50	51.4	103	50	49.8	100	3	40-137/17
156-59-2	cis-1,2-Dichloroethene	ND		50	47.0	94	50	47.4	95	1	57-128/13
156-60-5	trans-1,2-Dichloroethene	ND		50	51.2	102	50	50.9	102	1	53-128/15
100-41-4	Ethylbenzene	ND		50	46.9	94	50	46.8	94	0	38-139/12
75-09-2	Methylene chloride	ND		50	51.5	103	50	52.5	105	2	63-128/13
127-18-4	Tetrachloroethene	2.0		50	54.4	105	50	53.0	102	3	43-145/15
108-88-3	Toluene	ND		50	48.3	97	50	48.3	97	0	51-136/13
71-55-6	1,1,1-Trichloroethane	2.0		50	50.0	96	50	50.4	97	1	51-141/16
79-00-5	1,1,2-Trichloroethane	ND		50	46.8	94	50	47.1	94	1	71-127/12
79-01-6	Trichloroethene	0.28	J	50	50.4	100	50	50.2	100	0	55-136/14
75-01-4	Vinyl chloride	ND		50	43.0	86	50	44.3	89	3	34-147/17

CAS No.	Surrogate Recoveries	MS	MSD	JB94786-8	Limits
1868-53-7	Dibromofluoromethane	103%	103%	100%	76-120%
17060-07-0	1,2-Dichloroethane-D4	95%	94%	93%	73-122%
2037-26-5	Toluene-D8	98%	99%	98%	84-119%
460-00-4	4-Bromofluorobenzene	95%	98%	98%	78-117%

* = Outside of Control Limits.

Raw Data: 4V17858.D 4V17859.D

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB94786
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB94959-1AMS	4V17858.D	1	05/21/15	JM	n/a	n/a	V4V725
JB94959-1AMSD	4V17859.D	1	05/21/15	JM	n/a	n/a	V4V725
JB94959-1A	4V17854.D	1	05/21/15	JM	n/a	n/a	V4V725

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

JB94786-2

CAS No.	Compound	JB94959-1A ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-55-6	1,1,1-Trichloroethane	ND		50	47.5	95	50	47.0	94	1	51-141/16

CAS No.	Surrogate Recoveries	MS	MSD	JB94959-1A	Limits
1868-53-7	Dibromofluoromethane	102%	102%	101%	76-120%
17060-07-0	1,2-Dichloroethane-D4	93%	92%	94%	73-122%
2037-26-5	Toluene-D8	97%	98%	100%	84-119%
460-00-4	4-Bromofluorobenzene	95%	96%	99%	78-117%

6.3.2

* = Outside of Control Limits.

Instrument Performance Check (BFB)

Job Number: JB94786
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample:	V4V709-BFB	**Injection Date:**	05/07/15
Lab File ID:	4V17444.D	**Injection Time:**	18:58
Instrument ID:	GCMS4V		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	16576	17.0		Pass
75	30.0 - 60.0% of mass 95	45429	46.5		Pass
95	Base peak, 100% relative abundance	97619	100.0		Pass
96	5.0 - 9.0% of mass 95	6557	6.72		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	85048	87.1		Pass
175	5.0 - 9.0% of mass 174	6432	6.59	(7.56) [a]	Pass
176	95.0 - 101.0% of mass 174	82800	84.8	(97.4) [a]	Pass
177	5.0 - 9.0% of mass 176	5485	5.62	(6.62) [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
V4V709-IC709	4V17445.D	05/07/15	19:43	00:45	Initial cal 0.2
V4V709-IC709	4V17446.D	05/07/15	20:10	01:12	Initial cal 0.5
V4V709-IC709	4V17447.D	05/07/15	20:37	01:39	Initial cal 1
V4V709-IC709	4V17448.D	05/07/15	21:03	02:05	Initial cal 2
V4V709-IC709	4V17449.D	05/07/15	21:29	02:31	Initial cal 5
V4V709-IC709	4V17450.D	05/07/15	21:56	02:58	Initial cal 10
V4V709-IC709	4V17451.D	05/07/15	22:23	03:25	Initial cal 20
V4V709-ICC709	4V17452.D	05/07/15	22:49	03:51	Initial cal 50
V4V709-IC709	4V17453.D	05/07/15	23:16	04:18	Initial cal 100
V4V709-IC709	4V17454.D	05/07/15	23:42	04:44	Initial cal 200
V4V709-ICV709	4V17457.D	05/08/15	01:02	06:04	Initial cal verification 50

Instrument Performance Check (BFB)

Job Number: JB94786
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample:	V4V723-BFB	**Injection Date:**	05/20/15
Lab File ID:	4V17802A.D	**Injection Time:**	09:01
Instrument ID:	GCMS4V		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	14963	15.9		Pass
75	30.0 - 60.0% of mass 95	42245	44.8		Pass
95	Base peak, 100% relative abundance	94312	100.0		Pass
96	5.0 - 9.0% of mass 95	6506	6.90		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	79421	84.2		Pass
175	5.0 - 9.0% of mass 174	6215	6.59	(7.83) [a]	Pass
176	95.0 - 101.0% of mass 174	76445	81.1	(96.3) [a]	Pass
177	5.0 - 9.0% of mass 176	5294	5.61	(6.93) [b]	Pass

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

6.4.2

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
V4V723-CC709	4V17803.D	05/20/15	09:38	00:37	Continuing cal 20
V4V723-CC709	4V17804.D	05/20/15	10:14	01:13	Continuing cal 0.5
V4V723-MB	4V17804A.D	05/20/15	10:51	01:50	Method Blank
V4V723-BS	4V17805.D	05/20/15	11:31	02:30	Blank Spike
JB94786-1	4V17808.D	05/20/15	12:24	03:23	HSSER-RAMW08-051315
JB94786-8	4V17809.D	05/20/15	12:51	03:50	HSSER-RAMW02-051415
JB94786-2	4V17810.D	05/20/15	13:17	04:16	HSSER-RAMW07-051315
ZZZZZZ	4V17811.D	05/20/15	13:44	04:43	(unrelated sample)
JB94786-8MS	4V17812.D	05/20/15	14:12	05:11	Matrix Spike
JB94786-8MSD	4V17813.D	05/20/15	14:38	05:37	Matrix Spike Duplicate
JB94786-4	4V17815.D	05/20/15	15:31	06:30	HSSER-RAMW05-051415
JB94786-5	4V17816.D	05/20/15	15:58	06:57	HSSER-RAMW04-051415
JB94786-7	4V17817.D	05/20/15	16:25	07:24	HSSER-RAMW03-051415
JB94786-9	4V17818.D	05/20/15	16:52	07:51	HSSER-RAMW01-051415
JB94786-10	4V17819.D	05/20/15	17:18	08:17	HSSER-EBLK02-051415
JB94786-12	4V17820.D	05/20/15	17:45	08:44	HSSER-TRIP02-051115
JB94786-11	4V17821.D	05/20/15	18:11	09:10	HSSER-DUP02-051415
JB94786-3	4V17822.D	05/20/15	18:38	09:37	HSSER-RAMW06-051315
JB94786-6	4V17824.D	05/20/15	19:04	10:03	HSSER-EBLK02-051415

Instrument Performance Check (BFB)

Job Number: JB94786
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample:	V4V725-BFB	**Injection Date:**	05/21/15
Lab File ID:	4V17847.D	**Injection Time:**	10:17
Instrument ID:	GCMS4V		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	16665	15.3		Pass
75	30.0 - 60.0% of mass 95	48280	44.3		Pass
95	Base peak, 100% relative abundance	108928	100.0		Pass
96	5.0 - 9.0% of mass 95	7351	6.75		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	95339	87.5		Pass
175	5.0 - 9.0% of mass 174	7278	6.68	(7.63) [a]	Pass
176	95.0 - 101.0% of mass 174	93776	86.1	(98.4) [a]	Pass
177	5.0 - 9.0% of mass 176	5966	5.48	(6.36) [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
V4V725-CC709	4V17848.D	05/21/15	10:51	00:34	Continuing cal 20
V4V725-MB1	4V17850.D	05/21/15	11:52	01:35	Method Blank
V4V725-BS	4V17851.D	05/21/15	12:27	02:10	Blank Spike
ZZZZZZ	4V17853.D	05/21/15	13:22	03:05	(unrelated sample)
JB94959-1A	4V17854.D	05/21/15	13:49	03:32	(used for QC only; not part of job JB94786)
JB94786-2	4V17855.D	05/21/15	14:15	03:58	HSSER-RAMW07-051315
ZZZZZZ	4V17856.D	05/21/15	14:42	04:25	(unrelated sample)
ZZZZZZ	4V17857.D	05/21/15	15:08	04:51	(unrelated sample)
JB94959-1AMS	4V17858.D	05/21/15	15:35	05:18	Matrix Spike
JB94959-1AMSD	4V17859.D	05/21/15	16:01	05:44	Matrix Spike Duplicate
ZZZZZZ	4V17861.D	05/21/15	16:54	06:37	(unrelated sample)
ZZZZZZ	4V17862.D	05/21/15	17:20	07:03	(unrelated sample)
ZZZZZZ	4V17863.D	05/21/15	17:47	07:30	(unrelated sample)
ZZZZZZ	4V17864.D	05/21/15	18:13	07:56	(unrelated sample)
ZZZZZZ	4V17865.D	05/21/15	18:40	08:23	(unrelated sample)
ZZZZZZ	4V17866.D	05/21/15	19:06	08:49	(unrelated sample)
ZZZZZZ	4V17867.D	05/21/15	19:33	09:16	(unrelated sample)
ZZZZZZ	4V17868.D	05/21/15	19:59	09:42	(unrelated sample)
ZZZZZZ	4V17869.D	05/21/15	20:26	10:09	(unrelated sample)

Volatile Internal Standard Area Summary

Job Number: JB94786
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Check Std:	V4V723-CC709	**Injection Date:**	05/20/15
Lab File ID:	4V17803.D	**Injection Time:**	09:38
Instrument ID:	GCMS4V	**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	239998	7.38	294816	9.87	388826	10.83	327283	14.04	194193	16.39
Upper Limit [a]	479996	7.88	589632	10.37	777652	11.33	654566	14.54	388386	16.89
Lower Limit [b]	119999	6.88	147408	9.37	194413	10.33	163642	13.54	97097	15.89

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
V4V723-MB	245759	7.37	284851	9.86	379500	10.83	325218	14.04	194844	16.40
V4V723-BS	242253	7.38	290298	9.86	385129	10.83	326377	14.04	201212	16.40
JB94786-1	253775	7.38	282591	9.87	369460	10.83	303318	14.04	184968	16.39
JB94786-8	243327	7.38	282446	9.87	366943	10.83	304767	14.05	185681	16.40
JB94786-2	240488	7.38	278410	9.87	367665	10.83	317526	14.05	190895	16.40
ZZZZZZ	243906	7.39	290759	9.87	382908	10.83	322096	14.05	188990	16.39
JB94786-8MS	258111	7.39	292268	9.87	387026	10.83	317611	14.05	191498	16.40
JB94786-8MSD	264312	7.39	291499	9.87	384338	10.83	320186	14.05	188962	16.40
JB94786-4	246922	7.39	297719	9.87	394441	10.83	329804	14.05	201229	16.40
JB94786-5	244252	7.39	296825	9.87	392493	10.83	347535	14.05	207183	16.40
JB94786-7	244799	7.38	279864	9.87	375884	10.83	323661	14.05	189662	16.40
JB94786-9	242018	7.38	283952	9.87	374823	10.83	317342	14.05	185560	16.40
JB94786-10	237185	7.39	294619	9.87	393043	10.83	343265	14.05	200732	16.39
JB94786-12	237155	7.38	282342	9.87	378796	10.83	315784	14.05	195856	16.39
JB94786-11	245650	7.38	277925	9.87	369113	10.83	328635	14.05	194275	16.40
JB94786-3	250646	7.39	279462	9.87	371760	10.83	330229	14.05	194029	16.40
JB94786-6	243203	7.39	283736	9.87	380546	10.83	337969	14.05	201326	16.40

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.

6.5.1

Volatile Internal Standard Area Summary

Job Number: JB94786
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Check Std:	V4V725-CC709	**Injection Date:**	05/21/15
Lab File ID:	4V17848.D	**Injection Time:**	10:51
Instrument ID:	GCMS4V	**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	251325	7.38	311443	9.86	406779	10.83	357404	14.04	215483	16.39
Upper Limit [a]	502650	7.88	622886	10.36	813558	11.33	714808	14.54	430966	16.89
Lower Limit [b]	125663	6.88	155722	9.36	203390	10.33	178702	13.54	107742	15.89

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
V4V725-MB1	248938	7.38	288719	9.87	380190	10.83	330749	14.05	200164	16.40
V4V725-BS	258730	7.39	324348	9.86	424474	10.83	362795	14.04	212176	16.39
ZZZZZZ	245038	7.38	307467	9.87	401254	10.83	351372	14.05	208742	16.40
JB94959-1A	264049	7.38	296432	9.87	387456	10.83	335769	14.05	193267	16.39
JB94786-2	244224	7.38	303452	9.87	400202	10.83	337702	14.05	203642	16.40
ZZZZZZ	254368	7.39	308166	9.87	407201	10.83	348252	14.05	202542	16.40
ZZZZZZ	262962	7.39	311074	9.87	407638	10.83	350464	14.05	206447	16.40
JB94959-1AMS	273874	7.38	306563	9.87	402013	10.83	332324	14.05	207513	16.40
JB94959-1AMSD	264020	7.38	308260	9.87	408322	10.83	349851	14.05	211656	16.40
ZZZZZZ	253007	7.38	318700	9.87	414899	10.83	342364	14.05	202944	16.40
ZZZZZZ	248879	7.38	301027	9.87	395961	10.83	348131	14.05	204820	16.40
ZZZZZZ	246498	7.38	308020	9.87	398291	10.83	346654	14.05	203289	16.40
ZZZZZZ	250522	7.38	299893	9.87	392900	10.83	326315	14.05	198159	16.40
ZZZZZZ	245922	7.39	301778	9.87	394662	10.83	342606	14.05	205130	16.40
ZZZZZZ	248130	7.38	294676	9.87	385925	10.83	319588	14.05	191646	16.40
ZZZZZZ	240967	7.38	292675	9.87	386278	10.83	337921	14.05	195039	16.40
ZZZZZZ	249028	7.38	294333	9.87	387655	10.83	331871	14.05	197272	16.40
ZZZZZZ	248717	7.37	287744	9.87	376242	10.83	323514	14.05	189986	16.40

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: JB94786
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

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
JB94786-1	4V17808.D	101	93	97	96
JB94786-2	4V17855.D	102	94	98	98
JB94786-2	4V17810.D	104	95	100	98
JB94786-3	4V17822.D	105	96	100	101
JB94786-4	4V17815.D	103	94	97	97
JB94786-5	4V17816.D	104	94	100	99
JB94786-6	4V17824.D	104	97	101	99
JB94786-7	4V17817.D	103	96	100	100
JB94786-8	4V17809.D	100	93	98	98
JB94786-9	4V17818.D	102	94	98	97
JB94786-10	4V17819.D	103	96	101	98
JB94786-11	4V17821.D	103	95	101	98
JB94786-12	4V17820.D	104	97	96	97
JB94786-8MS	4V17812.D	103	95	98	95
JB94786-8MSD	4V17813.D	103	94	99	98
JB94959-1AMS	4V17858.D	102	93	97	95
JB94959-1AMSD	4V17859.D	102	92	98	96
V4V723-BS	4V17805.D	105	96	100	96
V4V723-MB	4V17804A.D	101	95	97	97
V4V725-BS	4V17851.D	103	95	98	99
V4V725-MB1	4V17850.D	102	95	101	99

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	76-120%
S2 = 1,2-Dichloroethane-D4	73-122%
S3 = Toluene-D8	84-119%
S4 = 4-Bromofluorobenzene	78-117%

6.6.1

Initial Calibration Summary

Job Number: JB94786 **Sample:** V4V709-ICC709
Account: UTC United Technologies Corporation **Lab FileID:** 4V17452.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Response Factor Report GCMS4V

Method : C:\MSDCHEM\1\METHODS\M4V709.M (RTE Integrator)
Title : sw846 8260b
Last Update : Tue May 12 09:59:47 2015
Response via : Initial Calibration

Calibration Files
0.2 =4V17445.D 0.5 =4V17446.D 5 =4V17449.D 50 =4V17452.D
100 =4V17453.D 1 =4V17447.D 200 =4V17454.D 20 =4V17451.D
2 =4V17448.D 10 =4V17450.D = =

Compound	0.2	0.5	5	50	100	1	200	20	2	10	Avg	%RSD
1) I Tert Butyl Alcohol-d9	ISTD											
2) 1,4-dioxane		0.071	0.076	0.074		0.074	0.072		0.069		0.073	3.53
3) tertiary butyl alcohol		1.139	1.065	0.992	0.848	0.982	1.072	0.908	1.011		1.002	9.29
4) I pentafluorobenzene	ISTD											
5) Freon 143a											0.000	-1.00
6) chlorodifluoromethane		0.313	0.364	0.354		0.348	0.344		0.307		0.338	6.81
7) dichlorodifluoromethane		0.267	0.322	0.286		0.286	0.321	0.191	0.259		0.276	16.14
8) freon 142b											0.000	-1.00
9) chloromethane		0.544	0.530	0.517	0.666	0.536	0.502	0.581	0.500		0.547	9.97
10) vinyl chloride	0.479	0.484	0.481	0.464	0.496	0.471	0.462	0.473	0.449		0.473	2.91
11) bromomethane		0.445	0.440	0.404		0.381	0.427	0.494	0.427		0.431	8.23
12) chloroethane		0.231	0.226	0.205	0.224	0.189	0.221	0.233	0.222		0.219	6.75
13) trichlorofluoromethane		0.405	0.451	0.422		0.433	0.440	0.323	0.386		0.409	10.63
14) ethyl ether		0.190	0.194	0.190		0.190	0.185	0.172	0.186		0.187	3.87
15) freon 141b											0.000	-1.00
16) 2-chloropropane		0.592	0.547	0.526	0.505	0.533	0.543	0.484	0.501		0.529	6.35
17) acrolein		0.081	0.082	0.081		0.083	0.079	0.064	0.073		0.078	8.99
18) 1,1-dichloroethene		0.596	0.550	0.528	0.471	0.546	0.531	0.486	0.494		0.525	7.75
19) acetone			0.039	0.040		0.041	0.036		0.034		0.038	7.92
20) allyl chloride		0.184	0.171	0.168		0.166	0.165	0.138	0.174		0.166	8.42
21) acetonitrile		0.037	0.040	0.039		0.039	0.040	0.036	0.036		0.038	4.79
22) iodomethane		0.895	0.899	0.879	0.777	0.879	0.874	0.811	0.821		0.854	5.26
23) iso-butyl alcohol												

Initial Calibration Summary

Job Number: JB94786 **Sample:** V4V709-ICC709
Account: UTC United Technologies Corporation **Lab FileID:** 4V17452.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

		0.018	0.019	0.018	0.015	0.018	0.018	0.015	0.017	0.017	8.91
24)	carbon disulfide										
		1.117	1.420	1.338	1.288	1.318	1.325	1.320	1.215	1.228	1.286	6.80
25)	methylene chloride										
		0.523	0.440	0.501	0.481	0.471	0.455	0.479	0.472	0.465	0.459	0.475	5.00
26)	1-chloropropane										
		0.202	0.169	0.162		0.171	0.165		0.164	0.172			8.72
27)	methyl acetate										
		0.060	0.068	0.066		0.069	0.064		0.056	0.064			7.94
28)	methyl tert butyl ether										
		1.431	1.373	1.493	1.447	1.421	1.468	1.390	1.434	1.406	1.420	1.428	2.49
29)	trans-1,2-dichloroethene										
		0.581	0.552	0.536	0.489	0.537	0.544	0.467	0.514	0.528			6.86
30)	di-isopropyl ether										
		0.952	1.122	1.152	1.223	1.181	0.982	1.177	1.181	0.973	1.105	1.105	9.02
31)	ethyl tert-butyl ether										
		1.199	1.250	1.349	1.312	1.013	1.310	1.282	1.088	1.183	1.221		9.17
32)	2-butanone										
		0.039	0.047	0.049		0.049	0.046		0.046	0.046			8.03
33)	1,1-dichloroethane										
		0.540	0.745	0.722	0.698	0.675	0.701	0.703	0.634	0.665	0.676		8.93
34)	chloroprene										
		0.393	0.434	0.411		0.435	0.410	0.321	0.387	0.399			9.70
35)	acrylonitrile										
		0.150	0.149	0.145	0.122	0.149	0.143	0.134	0.145	0.142			6.74
36)	vinyl acetate										
			0.059	0.056		0.059	0.054		0.047	0.055			8.91
37)	ethyl acetate										
		0.047	0.051	0.049		0.049	0.051		0.046	0.049			3.77
38)	2,2-dichloropropane										
		0.769	0.586	0.712	0.652	0.632	0.667	0.605	0.657	0.643	0.599	0.652	8.46
39)	cis-1,2-dichloroethene										
		0.505	0.443	0.435	0.624	0.441	0.441	0.509	0.416	0.477			14.33
40)	propionitrile										
		0.058	0.059	0.059	0.050	0.061	0.059	0.053	0.058	0.057			6.68
41)	methyl acrylate										
		0.402	0.418	0.415		0.418	0.405	0.363	0.399	0.403			4.79
42)	bromochloromethane										
		0.180	0.240	0.237	0.235	0.191	0.238	0.230	0.215	0.230	0.222		9.99
43)	tetrahydrofuran										
		0.153	0.143	0.140	0.128	0.142	0.141	0.110	0.141	0.137			9.34
44)	chloroform										
		0.854	0.691	0.789	0.774	0.754	0.763	0.756	0.754	0.718	0.710	0.756	6.04
45)	dibromofluoromethane (s)										
		0.478	0.484	0.492	0.492	0.492	0.491	0.503	0.487	0.489	0.489	0.490	1.33
46)	1,2-dichloroethane-d4 (s)										
		0.492	0.493	0.506	0.506	0.510	0.509	0.511	0.504	0.507	0.508	0.505	1.35
47)	freon 113										
		0.137	0.161	0.141		0.141	0.158		0.138	0.146			7.20
48)	methacrylonitrile										
		0.218	0.220	0.220	0.185	0.225	0.210	0.213	0.209	0.213			5.75
49)	1,1,1-trichloroethane										
		0.488	0.686	0.666	0.642	0.634	0.631	0.659	0.578	0.592	0.619		9.71
50)	tert-amyl methyl ether										
		1.453	1.274	1.291	1.260	1.206	1.285	1.239	1.157	1.163	1.259		7.02
51)	I 1,4-difluorobenzene	----------					ISTD						
52)	epichlorohydrin												
		0.025	0.028	0.028		0.029	0.026		0.024	0.026			7.47
53)	n-butyl alcohol												

6.7.1

Initial Calibration Summary

Job Number: JB94786 **Sample:** V4V709-ICC709
Account: UTC United Technologies Corporation **Lab FileID:** 4V17452.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

		0.011	0.012	0.011		0.011	0.011	0.009	0.010	0.011	8.46
54)	cyclohexane											
		0.242	0.238	0.217		0.220	0.233	0.190	0.199	0.220	8.97
55)	carbon tetrachloride											
		0.464	0.430	0.407	0.386	0.403	0.421	0.396	0.387	0.412	6.32
56)	1,1-dichloropropene											
	0.246	0.338	0.318	0.303	0.295	0.304	0.307	0.288	0.289	0.299	8.43
57)	hexane											
		0.089	0.099	0.086		0.090	0.097		0.084	0.091	6.25
58)	benzene											
	1.210	0.924	1.107	1.087	1.047	0.983	1.053	1.055	1.007	0.998	1.047	7.47
59)	isooctane											
		0.406	0.454	0.406		0.417	0.420		0.380	0.414	5.81
60)	heptane											
		0.049	0.057	0.049		0.052	0.054		0.050	0.052	5.84
61)	isopropyl acetate											
		0.617	0.616	0.581		0.588	0.602		0.559	0.594	3.79
62)	1,2-dichloroethane											
	0.351	0.445	0.444	0.427	0.392	0.420	0.436	0.400	0.424	0.415	7.32
63)	trichloroethene											
	0.222	0.278	0.275	0.267	0.244	0.271	0.268	0.240	0.253	0.257	7.34
64)	ethyl acrylate											
										0.000	-1.00	
65)	2-nitropropane											
	0.169	0.168	0.176	0.176	0.151	0.184	0.169	0.153	0.164	0.168	6.38	
66)	2-chloroethyl vinyl ether											
		0.021	0.024	0.025		0.027	0.022	0.017	0.020	0.022	15.28	
67)	methyl methacrylate											
		0.182	0.190	0.186	0.157	0.182	0.182	0.167	0.185	0.179	6.14	
68)	1,2-dichloropropane											
	0.210	0.278	0.276	0.266	0.257	0.263	0.264	0.251	0.254	0.258	7.75	
69)	methylcyclohexane											
		0.201	0.218	0.191		0.203	0.208		0.190	0.202	5.14	
70)	dibromomethane											
	0.153	0.215	0.218	0.210	0.200	0.209	0.212	0.204	0.215	0.204	9.76	
71)	bromodichloromethane											
		0.439	0.446	0.431	0.374	0.427	0.433	0.406	0.416	0.421	5.44	
72)	cis-1,3-dichloropropene											
	0.401	0.388	0.489	0.471	0.459	0.426	0.454	0.457	0.424	0.443	0.441	7.11
73)	toluene-d8 (s)											
	1.077	1.086	1.094	1.086	1.080	1.083	1.077	1.059	1.074	1.099	1.082	1.04
74)	4-methyl-2-pentanone											
		0.122	0.123	0.119		0.121	0.121	0.099	0.126	0.119	7.40	
75)	toluene											
	0.601	0.519	0.607	0.598	0.581	0.559	0.579	0.577	0.526	0.560	0.571	5.29
76)	3-methyl-1-butanol											
		0.010	0.011	0.010		0.010	0.011	0.007	0.010	0.010	11.02	
77)	trans-1,3-dichloropropene											
	0.379	0.394	0.461	0.458	0.447	0.396	0.431	0.453	0.429	0.445	0.429	6.86
78)	ethyl methacrylate											
		0.349	0.349	0.344	0.260	0.331	0.348	0.311	0.343	0.329	9.38	
79)	1,1,2-trichloroethane											
		0.234	0.231	0.225	0.199	0.220	0.228	0.222	0.227	0.223	4.89	
80)	2-hexanone											
		0.107	0.112	0.109		0.104	0.114	0.100	0.114	0.108	4.75	
81)	I chlorobenzene-d5	----------ISTD----------										
82)	tetrachloroethene											
		0.186	0.293	0.283	0.281	0.260	0.283	0.281	0.232	0.267	0.263	12.92
83)	1,3-dichloropropane											

6.7.1

Initial Calibration Summary

Job Number: JB94786 **Sample:** V4V709-ICC709
Account: UTC United Technologies Corporation **Lab FileID:** 4V17452.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

	0.435	0.388	0.490	0.482	0.480	0.439	0.460	0.476	0.454	0.467	0.457	6.64
84)	butyl acetate											
		0.207	0.211	0.202	0.157	0.192	0.210	0.176	0.194		0.194	9.68
85)	dibromochloromethane											
	0.346	0.362	0.452	0.446	0.446	0.385	0.439	0.430	0.382	0.424	0.411	9.45
86)	1,2-dibromoethane											
	0.301	0.310	0.375	0.374	0.374	0.353	0.364	0.371	0.350	0.368	0.354	7.64
87)	chlorobenzene											
	0.828	0.715	0.905	0.883	0.874	0.792	0.863	0.873	0.791	0.836	0.836	6.81
88)	1,1,1,2-tetrachloroethane											
		0.357	0.408	0.415	0.422	0.344	0.420	0.412	0.357	0.378	0.390	8.01
89)	ethylbenzene											
	1.536	1.152	1.523	1.454	1.446	1.374	1.407	1.450	1.316	1.363	1.402	7.94
90)	m,p-xylene											
	0.568	0.413	0.555	0.543	0.533	0.482	0.520	0.543	0.470	0.500	0.513	9.21
91)	o-xylene											
		0.606	0.589	0.592	0.539	0.582	0.583	0.515	0.543		0.569	5.60
92)	styrene											
		0.737	0.942	0.979	0.978	0.841	0.946	0.977	0.848	0.903	0.906	9.11
93)	bromoform											
		0.291	0.336	0.345	0.345	0.304	0.337	0.340	0.316	0.326	0.327	5.81
94)	I 1,4-dichlorobenzene-d	----------	ISTD	----------								
95)	isopropylbenzene											
	2.619	1.951	2.658	2.526	2.505	2.250	2.511	2.478	2.140	2.280	2.392	9.51
96)	4-bromofluorobenzene (s)											
	0.930	0.928	0.945	0.906	0.906	0.923	0.892	0.924	0.919	0.922	0.920	1.61
97)	bromobenzene											
	0.906	0.664	0.779	0.743	0.731	0.656	0.705	0.746	0.685	0.713	0.733	9.82
98)	cyclohexanone											
		0.093	0.066	0.069		0.067	0.088		0.076		0.077	15.26
99)	1,1,2,2-tetrachloroethane											
	0.846	0.883	0.998	0.938	0.908	0.945	0.893	0.948	0.895	0.924	0.918	4.61
100)	trans-1,4-dichloro-2-butene											
		0.247	0.240	0.237	0.194	0.230	0.235	0.221	0.227		0.229	7.09
101)	1,2,3-trichloropropane											
		0.242	0.222	0.215	0.218	0.208	0.223	0.217	0.228		0.222	4.59
102)	n-propylbenzene											
		2.543	3.180	2.891	2.791	2.775	2.738	2.879	2.626	2.699	2.791	6.57
103)	2-chlorotoluene											
	0.583	0.483	0.664	0.641	0.637	0.586	0.621	0.664	0.585	0.600	0.606	8.78
104)	4-chlorotoluene											
		1.815	2.154	1.971	1.961	1.854	1.868	2.035	1.845	1.867	1.930	5.73
105)	1,3,5-trimethylbenzene											
	2.515	1.885	2.454	2.337	2.336	2.158	2.324	2.319	2.012	2.099	2.244	8.89
106)	tert-butylbenzene											
		1.425	1.775	1.741	1.770	1.555	1.787	1.680	1.455	1.481	1.630	9.21
107)	pentachloroethane											
		0.544	0.548	0.563	0.454	0.568	0.532	0.448	0.472		0.516	9.66
108)	1,2,4-trimethylbenzene											
	2.536	2.086	2.542	2.396	2.384	2.147	2.344	2.412	2.135	2.239	2.322	7.03
109)	sec-butylbenzene											
		2.127	2.867	2.691	2.697	2.415	2.683	2.678	2.241	2.423	2.536	9.69
110)	1,3-dichlorobenzene											
	1.456	1.170	1.503	1.415	1.407	1.247	1.369	1.428	1.283	1.312	1.359	7.64
111)	p-isopropyltoluene											
		2.083	2.594	2.400	2.391	2.310	2.357	2.399	2.153	2.223	2.323	6.59
112)	1,4-dichlorobenzene											
	1.666	1.246	1.515	1.441	1.432	1.324	1.392	1.435	1.309	1.332	1.409	8.51
113)	indane											

6.7.1

Initial Calibration Summary

Job Number: JB94786 **Sample:** V4V709-ICC709
Account: UTC United Technologies Corporation **Lab FileID:** 4V17452.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

											0.000	-1.00
114)	1,2-dichlorobenzene											
	1.485	1.309	1.583	1.487	1.474	1.408	1.447	1.506	1.360	1.406	1.446	5.42
115)	n-butylbenzene											
	1.188	1.015	1.284	1.208	1.187	1.078	1.166	1.210	1.042	1.106	1.149	7.38
116)	1,2-dibromo-3-chloropropane											
		0.286	0.273	0.260	0.256	0.251	0.253	0.259	0.245	0.251	0.259	4.92
117)	1,3,5-trichlorobenzene											
	1.280	1.043	1.278	1.262	1.258	1.149	1.265	1.242	1.076	1.134	1.199	7.49
118)	1,2,4-trichlorobenzene											
	1.305	1.030	1.210	1.250	1.273	1.075	1.264	1.199	0.994	1.086	1.169	9.59
119)	hexachlorobutadiene											
	0.496	0.508	0.496	0.470	0.472	0.466	0.475	0.473	0.421	0.425	0.470	6.03
120)	naphthalene											
		3.891	3.522	3.570	3.594	3.531	3.507	3.472	3.198	3.256	3.504	5.70
121)	1,2,3-trichlorobenzene											
	1.330	1.079	1.245	1.277	1.302	1.077	1.265	1.256	1.028	1.127	1.199	9.11
122)	hexachloroethane											
			0.617	0.550	0.566		0.596	0.539	0.558	0.494	0.560	7.12
123)	Benzyl chloride											
		2.098	1.824	1.768	1.680	1.956	1.675	1.737	1.636	1.599	1.775	9.14

(#) = Out of Range ### Number of calibration levels exceeded format ###

M4V709.M Tue May 12 10:01:23 2015 RPT1

6.7.1 6

Initial Calibration Verification

Job Number: JB94786
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V4V709-ICV709
Lab FileID: 4V17457.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\4V17457.D
Acq On : 8 May 2015 1:02 am
Sample : icv709-50
Misc : MS84599,V4V709,5,,,,1
MS Integration Params: rteint.p

Vial: 25
Operator: jemimam
Inst : GCMS4V
Multiplr: 1.00

Method : C:\MSDCHEM\1\METHODS\M4V709.M (RTE Integrator)
Title : sw846 8260b
Last Update : Tue May 12 09:59:47 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	106	0.00	7.38
2		1,4-dioxane	0.073	0.070	4.1	99	0.00	11.59
3	M	tertiary butyl alcohol	1.002	1.021	-1.9	102	0.00	7.52
4	I	pentafluorobenzene	1.000	1.000	0.0	104	0.00	9.87
5		Freon 143a		----------NA----------				
6		chlorodifluoromethane	0.338	0.344	-1.8	98	0.01	3.63
7		dichlorodifluoromethane	0.276	0.284	-2.9	91	0.01	3.61
8		freon 142b		----------NA----------				
9		chloromethane	0.547	0.496	9.3	97	0.00	3.93
10		vinyl chloride	0.473	0.464	1.9	100	0.00	4.20
11		bromomethane	0.431	0.426	1.2	100	0.00	4.89
12		chloroethane	0.219	0.239	-9.1	110	0.01	5.07
13		trichlorofluoromethane	0.409	0.442	-8.1	102	0.00	5.60
14		ethyl ether	0.187	0.200	-7.0	107	0.00	6.06
15		freon 141b		----------NA----------				
16		2-chloropropane	0.529	0.417	21.2	79	0.00	6.28
17		acrolein	0.078	0.089	-14.1	112	0.00	6.38
18		1,1-dichloroethene	0.525	0.532	-1.3	100	0.00	6.52
19		acetone	0.038	0.040	-5.3	106	0.00	6.64
20		allyl chloride	0.166	0.184	-10.8	112	0.00	7.15
21		acetonitrile	0.038	0.039	-2.6	101	0.00	7.16
22		iodomethane	0.854	0.856	-0.2	99	0.00	6.84
23		iso-butyl alcohol	0.017	0.018	-5.9	98	0.00	10.23
24		carbon disulfide	1.286	1.273	1.0	99	0.00	6.95
25		methylene chloride	0.475	0.472	0.6	102	0.00	7.38
26		1-chloropropane	0.172	0.168	2.3	103	0.00	7.40
27		methyl acetate	0.064	0.066	-3.1	101	0.00	7.15
28		methyl tert butyl ether	1.428	1.400	2.0	100	0.00	7.73
29		trans-1,2-dichloroethene	0.528	0.527	0.2	99	0.00	7.79
30		di-isopropyl ether	1.105	1.189	-7.6	101	0.00	8.42
31		ethyl tert-butyl ether	1.221	1.293	-5.9	99	0.00	8.94
32		2-butanone	0.046	0.048	-4.3	105	0.00	9.28
33	M	1,1-dichloroethane	0.676	0.696	-3.0	100	0.00	8.45
34		chloroprene	0.399	0.393	1.5	94	0.00	8.56
35		acrylonitrile	0.142	0.160	-12.7	111	0.00	7.80
36		vinyl acetate	0.055	0.058	-5.5	102	0.00	8.46
37		ethyl acetate	0.049	0.051	-4.1	104	0.00	9.29
38		2,2-dichloropropane	0.652	0.629	3.5	100	0.00	9.27
39		cis-1,2-dichloroethene	0.477	0.430	9.9	101	0.00	9.28
40		propionitrile	0.057	0.060	-5.3	105	0.00	9.41
41		methyl acrylate	0.403	0.414	-2.7	103	0.00	9.37

Initial Calibration Verification

Job Number: JB94786
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V4V709-ICV709
Lab FileID: 4V17457.D

42		bromochloromethane	0.222	0.230	-3.6	100	0.00	9.63
43		tetrahydrofuran	0.137	0.139	-1.5	101	0.00	9.66
44		chloroform	0.756	0.751	0.7	101	0.00	9.70
45	S	dibromofluoromethane (s)	0.490	0.492	-0.4	104	0.00	9.92
46	S	1,2-dichloroethane-d4 (s)	0.505	0.510	-1.0	104	0.00	10.37
47		freon 113	0.146	0.175	-19.9	113	-0.01	6.49
48		methacrylonitrile	0.213	0.222	-4.2	105	0.00	9.59
49		1,1,1-trichloroethane	0.619	0.645	-4.2	100	0.00	9.94
50		tert-amyl methyl ether	1.259	1.259	0.0	101	0.00	10.45
51	I	1,4-difluorobenzene	1.000	1.000	0.0	105	0.00	10.83
52		epichlorohydrin	0.026	0.027	-3.8	100	0.00	12.15
53		n-butyl alcohol	0.011	0.011	0.0	102	0.00	11.02
54	M	cyclohexane	0.220	0.250	-13.6	110	0.00	9.99
55		carbon tetrachloride	0.412	0.415	-0.7	101	0.00	10.14
56		1,1-dichloropropene	0.299	0.312	-4.3	103	0.00	10.13
57		hexane	0.091	0.099	-8.8	105	0.00	8.11
58	M	benzene	1.047	1.067	-1.9	103	0.00	10.41
59	m	isooctane	0.414	0.466	-12.6	108	0.00	10.39
60		heptane	0.052	0.062	-19.2	116	0.00	10.59
61		isopropyl acetate	0.594	0.685	-15.3	116	0.00	10.38
62		1,2-dichloroethane	0.415	0.433	-4.3	102	0.00	10.46
63		trichloroethene	0.257	0.272	-5.8	103	0.00	11.17
64		ethyl acrylate		----------	NA	----------		
65		2-nitropropane	0.168	0.183	-8.9	109	0.00	12.02
66		2-chloroethyl vinyl ether	0.022	0.026	-18.2	113	0.00	12.02
67		methyl methacrylate	0.179	0.190	-6.1	105	0.00	11.48
68		1,2-dichloropropane	0.258	0.272	-5.4	103	0.00	11.46
69		methylcyclohexane	0.202	0.228	-12.9	110	0.00	11.36
70		dibromomethane	0.204	0.213	-4.4	102	0.00	11.63
71		bromodichloromethane	0.421	0.428	-1.7	100	0.00	11.76
72		cis-1,3-dichloropropene	0.441	0.453	-2.7	101	0.00	12.23
73	S	toluene-d8 (s)	1.082	1.071	1.0	103	0.00	12.49
74		4-methyl-2-pentanone	0.119	0.122	-2.5	104	0.00	12.33
75		toluene	0.571	0.573	-0.4	100	0.00	12.57
76		3-methyl-1-butanol	0.010	0.010	0.0	100	0.00	12.38
77		trans-1,3-dichloropropene	0.429	0.427	0.5	98	0.00	12.80
78		ethyl methacrylate	0.329	0.332	-0.9	100	0.00	12.79
79		1,1,2-trichloroethane	0.223	0.222	0.4	100	0.00	13.02
80		2-hexanone	0.108	0.112	-3.7	105	0.00	13.20
81	I	chlorobenzene-d5	1.000	1.000	0.0	99	0.00	14.05
82		tetrachloroethene	0.263	0.287	-9.1	101	0.00	13.15
83		1,3-dichloropropane	0.457	0.481	-5.3	99	0.00	13.20
84		butyl acetate	0.194	0.214	-10.3	101	0.00	13.26
85		dibromochloromethane	0.411	0.436	-6.1	97	0.00	13.47
86		1,2-dibromoethane	0.354	0.374	-5.6	99	0.00	13.62
87		chlorobenzene	0.836	0.882	-5.5	99	0.00	14.08
88		1,1,1,2-tetrachloroethane	0.390	0.419	-7.4	100	0.00	14.15
89		ethylbenzene	1.402	1.432	-2.1	98	0.00	14.13
90		m,p-xylene	0.513	0.538	-4.9	98	0.00	14.24
91		o-xylene	0.569	0.595	-4.6	100	0.00	14.67
92		styrene	0.906	0.983	-8.5	100	0.00	14.69
93		bromoform	0.327	0.344	-5.2	99	0.00	14.98
94	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	105	0.00	16.40
95		isopropylbenzene	2.392	2.375	0.7	99	0.00	15.02
96	S	4-bromofluorobenzene (s)	0.920	0.880	4.3	102	0.00	15.24
97		bromobenzene	0.733	0.711	3.0	101	0.00	15.44
98		cyclohexanone	0.077	0.067	13.0	107	0.00	15.23

Initial Calibration Verification

Job Number: JB94786
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V4V709-ICV709
Lab FileID: 4V17457.D

99	1,1,2,2-tetrachloroethane	0.918	0.851	7.3	96	0.00	15.37
100	trans-1,4-dichloro-2-bute	0.229	0.239	-4.4	105	0.00	15.41
101	1,2,3-trichloropropane	0.222	0.206	7.2	98	0.00	15.44
102	n-propylbenzene	2.791	2.851	-2.1	104	0.00	15.44
103	2-chlorotoluene	0.606	0.607	-0.2	100	0.00	15.59
104	4-chlorotoluene	1.930	1.909	1.1	102	0.00	15.69
105	1,3,5-trimethylbenzene	2.244	2.165	3.5	98	0.00	15.59
106	tert-butylbenzene	1.630	1.683	-3.3	102	0.00	15.93
107	pentachloroethane	0.516	0.534	-3.5	103	0.00	16.03
108	1,2,4-trimethylbenzene	2.322	2.387	-2.8	105	0.00	15.98
109	sec-butylbenzene	2.536	2.577	-1.6	101	0.00	16.15
110	1,3-dichlorobenzene	1.359	1.368	-0.7	102	0.00	16.34
111	p-isopropyltoluene	2.323	2.314	0.4	102	0.00	16.26
112	1,4-dichlorobenzene	1.409	1.416	-0.5	103	0.00	16.43
113	indane		----------NA----------				
114	1,2-dichlorobenzene	1.446	1.455	-0.6	103	0.00	16.81
115	n-butylbenzene	1.149	1.200	-4.4	105	0.00	16.67
116	1,2-dibromo-3-chloropropa	0.259	0.256	1.2	104	0.00	17.55
117	1,3,5-trichlorobenzene	1.199	1.263	-5.3	105	0.00	17.70
118	1,2,4-trichlorobenzene	1.169	1.239	-6.0	104	0.00	18.28
119	hexachlorobutadiene	0.470	0.454	3.4	102	0.00	18.36
120	naphthalene	3.504	3.506	-0.1	103	0.00	18.53
121	1,2,3-trichlorobenzene	1.199	1.254	-4.6	103	0.00	18.74
122	hexachloroethane	0.560	0.534	4.6	102	0.00	17.04
123	Benzyl chloride	1.775	1.743	1.8	104	0.00	16.55

(#) = Out of Range SPCC's out = 0 CCC's out = 0

4V17452.D M4V709.M Tue May 12 10:01:01 2015 RPT1

6.7.2

Continuing Calibration Summary

Job Number: JB94786 **Sample:** V4V723-CC709
Account: UTC United Technologies Corporation **Lab FileID:** 4V17803.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\4V17803.D Vial: 2
Acq On : 20 May 2015 9:38 am Operator: jemimam
Sample : cc709-20 Inst : GCMS4V
Misc : MS85394,V4V723,5,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M4V709.M (RTE Integrator)
Title : sw846 8260b
Last Update : Tue May 12 09:59:47 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	113	0.00	7.38
2		1,4-dioxane	0.073	0.072	1.4	111	0.00	11.58
3	M	tertiary butyl alcohol	1.002	0.984	1.8	103	0.00	7.51
4	I	pentafluorobenzene	1.000	1.000	0.0	109	0.00	9.87
5		Freon 143a		----------	NA	----------		
6		chlorodifluoromethane	0.338	0.312	7.7	99	0.01	3.63
7		dichlorodifluoromethane	0.276	0.233	15.6	79	0.02	3.62
8		freon 142b		----------	NA	----------		
9		chloromethane	0.547	0.431	21.2#	94	0.00	3.93
10		vinyl chloride	0.473	0.381	19.5	90	0.01	4.21
11		bromomethane	0.431	0.385	10.7	99	0.00	4.89
12		chloroethane	0.219	0.203	7.3	101	0.01	5.07
13		trichlorofluoromethane	0.409	0.359	12.2	89	0.00	5.60
14		ethyl ether	0.187	0.207	-10.7	122	0.00	6.06
15		freon 141b		----------	NA	----------		
16		2-chloropropane	0.529	0.500	5.5	101	0.00	6.28
17		acrolein	0.078	0.079	-1.3	109	0.00	6.38
18		1,1-dichloroethene	0.525	0.493	6.1	102	0.00	6.52
19		acetone	0.038	0.043	-13.2	130	0.00	6.65
20		allyl chloride	0.166	0.173	-4.2	115	0.00	7.15
21		acetonitrile	0.038	0.039	-2.6	108	0.00	7.16
22		iodomethane	0.854	0.900	-5.4	112	0.00	6.84
23		iso-butyl alcohol	0.017	0.017	0.0	102	0.00	10.22
24		carbon disulfide	1.286	1.306	-1.6	108	0.00	6.95
25		methylene chloride	0.475	0.510	-7.4	118	0.00	7.38
26		1-chloropropane	0.172	0.149	13.4	99	0.00	7.39
27		methyl acetate	0.064	0.073	-14.1	126	0.00	7.14
28		methyl tert butyl ether	1.428	1.464	-2.5	112	0.00	7.73
29		trans-1,2-dichloroethene	0.528	0.546	-3.4	110	0.00	7.78
30		di-isopropyl ether	1.105	1.213	-9.8	112	0.00	8.42
31		ethyl tert-butyl ether	1.221	1.348	-10.4	115	0.00	8.94
32		2-butanone	0.046	0.048	-4.3	113	0.00	9.27
33	M	1,1-dichloroethane	0.676	0.717	-6.1	111	0.00	8.45
34		chloroprene	0.399	0.388	2.8	103	-0.01	8.55
35		acrylonitrile	0.142	0.157	-10.6	120	0.00	7.80
36		vinyl acetate	0.055	0.057	-3.6	116	0.00	8.46
37		ethyl acetate	0.049	0.051	-4.1	108	0.00	9.30
38		2,2-dichloropropane	0.652	0.543	16.7	90	0.00	9.27
39		cis-1,2-dichloroethene	0.477	0.459	3.8	114	0.00	9.28
40		propionitrile	0.057	0.061	-7.0	113	0.00	9.41
41		methyl acrylate	0.403	0.419	-4.0	113	0.00	9.37

Continuing Calibration Summary

Job Number: JB94786 **Sample:** V4V723-CC709
Account: UTC United Technologies Corporation **Lab FileID:** 4V17803.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

42		bromochloromethane	0.222	0.246	-10.8	117	0.00	9.63
43		tetrahydrofuran	0.137	0.141	-2.9	109	0.00	9.66
44		chloroform	0.756	0.747	1.2	108	0.00	9.70
45	S	dibromofluoromethane (s)	0.490	0.504	-2.9	113	0.00	9.91
46	S	1,2-dichloroethane-d4 (s)	0.505	0.475	5.9	103	0.00	10.36
47		freon 113	0.146	0.147	-0.7	102	0.00	6.50
48		methacrylonitrile	0.213	0.213	0.0	111	0.00	9.59
49		1,1,1-trichloroethane	0.619	0.583	5.8	97	-0.01	9.93
50		tert-amyl methyl ether	1.259	1.326	-5.3	117	0.00	10.45
51	I	1,4-difluorobenzene	1.000	1.000	0.0	113	0.00	10.83
52		epichlorohydrin	0.026	0.025	3.8	107	0.00	12.15
53		n-butyl alcohol	0.011	0.010	9.1	105	0.00	11.02
54	M	cyclohexane	0.220	0.211	4.1	102	-0.01	9.98
55		carbon tetrachloride	0.412	0.353	14.3	95	0.00	10.14
56		1,1-dichloropropene	0.299	0.279	6.7	103	-0.01	10.12
57		hexane	0.091	0.088	3.3	103	0.00	8.10
58	M	benzene	1.047	1.061	-1.3	114	0.00	10.41
59	m	isooctane	0.414	0.366	11.6	98	0.00	10.39
60		heptane	0.052	0.043	17.3	90	0.00	10.58
61		isopropyl acetate	0.594	0.558	6.1	105	0.00	10.38
62		1,2-dichloroethane	0.415	0.397	4.3	103	0.00	10.46
63		trichloroethene	0.257	0.259	-0.8	109	0.00	11.16
64		ethyl acrylate		----------NA----------				
65		2-nitropropane	0.168	0.179	-6.5	120	0.00	12.01
66		2-chloroethyl vinyl ether	0.022	0.031	-40.9#	163	0.00	12.01
67		methyl methacrylate	0.179	0.180	-0.6	111	0.00	11.47
68		1,2-dichloropropane	0.258	0.267	-3.5	114	0.00	11.46
69		methylcyclohexane	0.202	0.192	5.0	104	0.00	11.36
70		dibromomethane	0.204	0.212	-3.9	113	0.00	11.62
71		bromodichloromethane	0.421	0.407	3.3	106	0.00	11.76
72		cis-1,3-dichloropropene	0.441	0.437	0.9	108	0.00	12.22
73	S	toluene-d8 (s)	1.082	1.062	1.8	113	0.00	12.49
74		4-methyl-2-pentanone	0.119	0.119	0.0	111	0.00	12.33
75		toluene	0.571	0.566	0.9	111	0.00	12.57
76		3-methyl-1-butanol	0.010	0.010	0.0	107	0.00	12.37
77		trans-1,3-dichloropropene	0.429	0.413	3.7	103	0.00	12.80
78		ethyl methacrylate	0.329	0.326	0.9	106	0.00	12.78
79		1,1,2-trichloroethane	0.223	0.224	-0.4	111	0.00	13.02
80		2-hexanone	0.108	0.107	0.9	106	0.00	13.20
81	I	chlorobenzene-d5	1.000	1.000	0.0	113	0.00	14.04
82		tetrachloroethene	0.263	0.261	0.8	105	0.00	13.15
83		1,3-dichloropropane	0.457	0.453	0.9	108	0.00	13.20
84		butyl acetate	0.194	0.205	-5.7	111	0.00	13.26
85		dibromochloromethane	0.411	0.410	0.2	108	0.00	13.46
86		1,2-dibromoethane	0.354	0.359	-1.4	109	0.00	13.61
87		chlorobenzene	0.836	0.836	0.0	109	0.00	14.07
88		1,1,1,2-tetrachloroethane	0.390	0.390	0.0	107	0.00	14.15
89		ethylbenzene	1.402	1.333	4.9	104	0.00	14.12
90		m,p-xylene	0.513	0.501	2.3	105	0.00	14.23
91		o-xylene	0.569	0.562	1.2	109	0.00	14.67
92		styrene	0.906	0.923	-1.9	107	0.00	14.69
93		bromoform	0.327	0.324	0.9	108	0.00	14.97
94	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	113	0.00	16.39
95		isopropylbenzene	2.392	2.297	4.0	105	0.00	15.02
96	S	4-bromofluorobenzene (s)	0.920	0.913	0.8	112	0.00	15.24
97		bromobenzene	0.733	0.729	0.5	110	0.00	15.43
98		cyclohexanone	0.077	0.053	31.2#	67	0.00	15.22

6.7.3

Continuing Calibration Summary

Job Number: JB94786 **Sample:** V4V723-CC709
Account: UTC United Technologies Corporation **Lab FileID:** 4V17803.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

99	1,1,2,2-tetrachloroethane	0.918	0.932	-1.5	111	0.00	15.37
100	trans-1,4-dichloro-2-bute	0.229	0.205	10.5	98	0.00	15.41
101	1,2,3-trichloropropane	0.222	0.214	3.6	108	0.00	15.43
102	n-propylbenzene	2.791	2.645	5.2	104	0.00	15.43
103	2-chlorotoluene	0.606	0.621	-2.5	106	0.00	15.59
104	4-chlorotoluene	1.930	1.890	2.1	105	0.00	15.69
105	1,3,5-trimethylbenzene	2.244	2.120	5.5	103	0.00	15.59
106	tert-butylbenzene	1.630	1.537	5.7	103	0.00	15.93
107	pentachloroethane	0.516	0.518	-0.4	110	0.00	16.03
108	1,2,4-trimethylbenzene	2.322	2.214	4.7	104	0.00	15.98
109	sec-butylbenzene	2.536	2.406	5.1	101	0.00	16.14
110	1,3-dichlorobenzene	1.359	1.388	-2.1	110	0.00	16.34
111	p-isopropyltoluene	2.323	2.153	7.3	101	0.00	16.26
112	1,4-dichlorobenzene	1.409	1.414	-0.4	111	0.00	16.42
113	indane		----------NA----------				
114	1,2-dichlorobenzene	1.446	1.461	-1.0	109	0.00	16.80
115	n-butylbenzene	1.149	1.084	5.7	101	0.00	16.67
116	1,2-dibromo-3-chloropropa	0.259	0.254	1.9	111	0.00	17.55
117	1,3,5-trichlorobenzene	1.199	1.179	1.7	107	0.00	17.69
118	1,2,4-trichlorobenzene	1.169	1.180	-0.9	111	0.00	18.28
119	hexachlorobutadiene	0.470	0.398	15.3	95	0.00	18.36
120	naphthalene	3.504	3.492	0.3	114	0.00	18.52
121	1,2,3-trichlorobenzene	1.199	1.207	-0.7	108	0.00	18.74
122	hexachloroethane	0.560	0.483	13.8	101	0.00	17.03
123	Benzyl chloride	1.775	1.537	13.4	100	0.00	16.55

(#) = Out of Range SPCC's out = 0 CCC's out = 0

4V17451.D M4V709.M Thu May 21 12:04:24 2015 RPT1

6.7.3 6

Continuing Calibration Summary

Job Number: JB94786
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V4V723-CC709
Lab FileID: 4V17804.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\4V17804.D Vial: 3
Acq On : 20 May 2015 10:14 am Operator: jemimam
Sample : cc709-0.5 Inst : GCMS4V
Misc : MS85394,V4V723,5,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M4V709.M (RTE Integrator)
Title : sw846 8260b
Last Update : Tue May 12 09:59:47 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	121	0.00	7.39
2		1,4-dioxane		----------NA----------				
3	M	tertiary butyl alcohol		----------NA----------				
4	I	pentafluorobenzene	1.000	1.000	0.0	108	-0.01	9.86
5		Freon 143a		----------NA----------				
6		chlorodifluoromethane		----------NA----------				
7		dichlorodifluoromethane		----------NA----------				
8		freon 142b		----------NA----------				
9		chloromethane	0.547	0.672	-22.9#	0#	-0.03	3.90
10		vinyl chloride		----------NA----------				
11		bromomethane		----------NA----------				
12		chloroethane		----------NA----------				
13		trichlorofluoromethane		----------NA----------				
14		ethyl ether		----------NA----------				
15		freon 141b		----------NA----------				
16		2-chloropropane		----------NA----------				
17		acrolein		----------NA----------				
18		1,1-dichloroethene		----------NA----------				
19		acetone		----------NA----------				
20		allyl chloride		----------NA----------				
21		acetonitrile		----------NA----------				
22		iodomethane		----------NA----------				
23		iso-butyl alcohol		----------NA----------				
24		carbon disulfide		----------NA----------				
25		methylene chloride		----------NA----------				
26		1-chloropropane		----------NA----------				
27		methyl acetate		----------NA----------				
28		methyl tert butyl ether		----------NA----------				
29		trans-1,2-dichloroethene		----------NA----------				
30		di-isopropyl ether		----------NA----------				
31		ethyl tert-butyl ether		----------NA----------				
32		2-butanone		----------NA----------				
33	M	1,1-dichloroethane		----------NA----------				
34		chloroprene		----------NA----------				
35		acrylonitrile		----------NA----------				
36		vinyl acetate		----------NA----------				
37		ethyl acetate		----------NA----------				
38		2,2-dichloropropane		----------NA----------				
39		cis-1,2-dichloroethene		----------NA----------				
40		propionitrile		----------NA----------				
41		methyl acrylate		----------NA----------				

6.7.4

Continuing Calibration Summary

Job Number: JB94786 **Sample:** V4V723-CC709
Account: UTC United Technologies Corporation **Lab FileID:** 4V17804.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

42		bromochloromethane		----------NA----------					
43		tetrahydrofuran		----------NA----------					
44		chloroform		----------NA----------					
45	S	dibromofluoromethane (s)	0.490	0.505	-3.1	112	0.00	9.91	
46	S	1,2-dichloroethane-d4 (s)	0.505	0.476	5.7	104	0.00	10.36	
47		freon 113		----------NA----------					
48		methacrylonitrile		----------NA----------					
49		1,1,1-trichloroethane		----------NA----------					
50		tert-amyl methyl ether		----------NA----------					
51	I	1,4-difluorobenzene	1.000	1.000	0.0	117	0.00	10.83	
52		epichlorohydrin		----------NA----------					
53		n-butyl alcohol		----------NA----------					
54	M	cyclohexane		----------NA----------					
55		carbon tetrachloride		----------NA----------					
56		1,1-dichloropropene		----------NA----------					
57		hexane		----------NA----------					
58	M	benzene		----------NA----------					
59	m	isooctane		----------NA----------					
60		heptane		----------NA----------					
61		isopropyl acetate		----------NA----------					
62		1,2-dichloroethane		----------NA----------					
63		trichloroethene		----------NA----------					
64		ethyl acrylate		----------NA----------					
65		2-nitropropane		----------NA----------					
66		2-chloroethyl vinyl ether		----------NA----------					
67		methyl methacrylate		----------NA----------					
68		1,2-dichloropropane		----------NA----------					
69		methylcyclohexane		----------NA----------					
70		dibromomethane		----------NA----------					
71		bromodichloromethane		----------NA----------					
72		cis-1,3-dichloropropene		----------NA----------					
73	S	toluene-d8 (s)	1.082	1.084	-0.2	117	0.00	12.49	
74		4-methyl-2-pentanone		----------NA----------					
75		toluene		----------NA----------					
76		3-methyl-1-butanol		----------NA----------					
77		trans-1,3-dichloropropene		----------NA----------					
78		ethyl methacrylate		----------NA----------					
79		1,1,2-trichloroethane		----------NA----------					
80		2-hexanone		----------NA----------					
81	I	chlorobenzene-d5	1.000	1.000	0.0	122	0.00	14.04	
82		tetrachloroethene		----------NA----------					
83		1,3-dichloropropane		----------NA----------					
84		butyl acetate		----------NA----------					
85		dibromochloromethane		----------NA----------					
86		1,2-dibromoethane		----------NA----------					
87		chlorobenzene		----------NA----------					
88		1,1,1,2-tetrachloroethane		----------NA----------					
89		ethylbenzene		----------NA----------					
90		m,p-xylene		----------NA----------					
91		o-xylene		----------NA----------					
92		styrene		----------NA----------					
93		bromoform		----------NA----------					
94	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	119	0.00	16.39	
95		isopropylbenzene		----------NA----------					
96	S	4-bromofluorobenzene (s)	0.920	0.899	2.3	115	0.00	15.24	
97		bromobenzene		----------NA----------					
98		cyclohexanone		----------NA----------					

6.7.4

Continuing Calibration Summary

Job Number: JB94786
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V4V723-CC709
Lab FileID: 4V17804.D

99	1,1,2,2-tetrachloroethane	----------NA----------
100	trans-1,4-dichloro-2-bute	----------NA----------
101	1,2,3-trichloropropane	----------NA----------
102	n-propylbenzene	----------NA----------
103	2-chlorotoluene	----------NA----------
104	4-chlorotoluene	----------NA----------
105	1,3,5-trimethylbenzene	----------NA----------
106	tert-butylbenzene	----------NA----------
107	pentachloroethane	----------NA----------
108	1,2,4-trimethylbenzene	----------NA----------
109	sec-butylbenzene	----------NA----------
110	1,3-dichlorobenzene	----------NA----------
111	p-isopropyltoluene	----------NA----------
112	1,4-dichlorobenzene	----------NA----------
113	indane	----------NA----------
114	1,2-dichlorobenzene	----------NA----------
115	n-butylbenzene	----------NA----------
116	1,2-dibromo-3-chloropropa	----------NA----------
117	1,3,5-trichlorobenzene	----------NA----------
118	1,2,4-trichlorobenzene	----------NA----------
119	hexachlorobutadiene	----------NA----------
120	naphthalene	----------NA----------
121	1,2,3-trichlorobenzene	----------NA----------
122	hexachloroethane	----------NA----------
123	Benzyl chloride	----------NA----------

(#) = Out of Range SPCC's out = 0 CCC's out = 0
4V17446.D M4V709.M Thu May 21 12:09:10 2015 RPT1

6.7.4

Continuing Calibration Summary

Job Number: JB94786 **Sample:** V4V725-CC709
Account: UTC United Technologies Corporation **Lab FileID:** 4V17848.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\4V17848.D Vial: 2
Acq On : 21 May 2015 10:51 am Operator: jemimam
Sample : cc709-20 Inst : GCMS4V
Misc : MS85394,V4V725,5,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M4V709.M (RTE Integrator)
Title : sw846 8260b
Last Update : Tue May 12 09:59:47 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	118	0.00	7.38
2		1,4-dioxane	0.073	0.074	-1.4	121	0.00	11.58
3	M	tertiary butyl alcohol	1.002	0.989	1.3	109	0.00	7.51
4	I	pentafluorobenzene	1.000	1.000	0.0	115	-0.01	9.86
5		Freon 143a		----------NA----------				
6		chlorodifluoromethane	0.338	0.299	11.5	100	0.01	3.63
7		dichlorodifluoromethane	0.276	0.263	4.7	95	0.02	3.62
8		freon 142b		----------NA----------				
9		chloromethane	0.547	0.489	10.6	112	-0.01	3.92
10		vinyl chloride	0.473	0.410	13.3	102	0.00	4.20
11		bromomethane	0.431	0.406	5.8	110	0.00	4.89
12		chloroethane	0.219	0.211	3.7	110	0.02	5.08
13		trichlorofluoromethane	0.409	0.351	14.2	92	0.00	5.61
14		ethyl ether	0.187	0.208	-11.2	130	0.00	6.06
15		freon 141b		----------NA----------				
16		2-chloropropane	0.529	0.474	10.4	101	0.00	6.27
17		acrolein	0.078	0.103	-32.1#	150	0.00	6.38
18		1,1-dichloroethene	0.525	0.472	10.1	103	0.00	6.52
19		acetone	0.038	0.045	-18.4	145	0.00	6.64
20		allyl chloride	0.166	0.174	-4.8	121	0.00	7.15
21		acetonitrile	0.038	0.039	-2.6	113	0.00	7.16
22		iodomethane	0.854	0.886	-3.7	117	0.00	6.84
23		iso-butyl alcohol	0.017	0.017	0.0	109	0.00	10.22
24		carbon disulfide	1.286	1.244	3.3	109	0.00	6.95
25		methylene chloride	0.475	0.508	-6.9	124	0.00	7.38
26		1-chloropropane	0.172	0.144	16.3	101	0.00	7.39
27		methyl acetate	0.064	0.072	-12.5	130	0.00	7.15
28		methyl tert butyl ether	1.428	1.434	-0.4	115	0.00	7.73
29		trans-1,2-dichloroethene	0.528	0.513	2.8	109	0.00	7.78
30		di-isopropyl ether	1.105	1.219	-10.3	119	0.00	8.41
31		ethyl tert-butyl ether	1.221	1.335	-9.3	120	0.00	8.94
32		2-butanone	0.046	0.051	-10.9	126	0.00	9.27
33	M	1,1-dichloroethane	0.676	0.679	-0.4	111	0.00	8.45
34		chloroprene	0.399	0.362	9.3	102	0.00	8.56
35		acrylonitrile	0.142	0.154	-8.5	125	0.00	7.80
36		vinyl acetate	0.055	0.058	-5.5	124	-0.01	8.45
37		ethyl acetate	0.049	0.053	-8.2	119	0.00	9.29
38		2,2-dichloropropane	0.652	0.589	9.7	103	0.00	9.27
39		cis-1,2-dichloroethene	0.477	0.450	5.7	118	0.00	9.28
40		propionitrile	0.057	0.059	-3.5	117	0.00	9.41
41		methyl acrylate	0.403	0.417	-3.5	119	0.00	9.37

6.7.5 6

Continuing Calibration Summary

Job Number: JB94786 **Sample:** V4V725-CC709
Account: UTC United Technologies Corporation **Lab FileID:** 4V17848.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

42		bromochloromethane	0.222	0.240	-8.1	121	0.00	9.63
43		tetrahydrofuran	0.137	0.139	-1.5	114	0.00	9.66
44		chloroform	0.756	0.732	3.2	112	0.00	9.70
45	S	dibromofluoromethane (s)	0.490	0.499	-1.8	118	0.00	9.91
46	S	1,2-dichloroethane-d4 (s)	0.505	0.475	5.9	109	0.00	10.36
47		freon 113	0.146	0.141	3.4	103	0.00	6.49
48		methacrylonitrile	0.213	0.209	1.9	115	0.00	9.59
49		1,1,1-trichloroethane	0.619	0.551	11.0	96	0.00	9.94
50		tert-amyl methyl ether	1.259	1.308	-3.9	122	0.00	10.45
51	I	1,4-difluorobenzene	1.000	1.000	0.0	118	0.00	10.83
52		epichlorohydrin	0.026	0.026	0.0	118	0.00	12.15
53		n-butyl alcohol	0.011	0.011	0.0	114	0.00	11.02
54	M	cyclohexane	0.220	0.200	9.1	102	-0.01	9.98
55		carbon tetrachloride	0.412	0.335	18.7	94	0.00	10.14
56		1,1-dichloropropene	0.299	0.259	13.4	100	0.00	10.12
57		hexane	0.091	0.097	-6.6	119	0.00	8.10
58	M	benzene	1.047	1.029	1.7	115	0.00	10.41
59	m	isooctane	0.414	0.390	5.8	110	-0.02	10.38
60		heptane	0.052	0.053	-1.9	116	0.00	10.58
61		isopropyl acetate	0.594	0.588	1.0	115	0.00	10.38
62		1,2-dichloroethane	0.415	0.390	6.0	105	0.00	10.46
63		trichloroethene	0.257	0.249	3.1	110	0.00	11.17
64		ethyl acrylate		----------	NA	----------		
65		2-nitropropane	0.168	0.176	-4.8	123	0.00	12.01
66		2-chloroethyl vinyl ether	0.022	0.030	-36.4#	162	0.00	12.02
67		methyl methacrylate	0.179	0.188	-5.0	122	0.00	11.47
68		1,2-dichloropropane	0.258	0.266	-3.1	119	0.00	11.45
69		methylcyclohexane	0.202	0.182	9.9	103	0.00	11.36
70		dibromomethane	0.204	0.213	-4.4	119	0.00	11.62
71		bromodichloromethane	0.421	0.403	4.3	110	0.00	11.76
72		cis-1,3-dichloropropene	0.441	0.456	-3.4	118	0.00	12.22
73	S	toluene-d8 (s)	1.082	1.093	-1.0	122	0.00	12.49
74		4-methyl-2-pentanone	0.119	0.124	-4.2	121	0.00	12.33
75		toluene	0.571	0.571	0.0	117	0.00	12.57
76		3-methyl-1-butanol	0.010	0.010	0.0	112	0.00	12.37
77		trans-1,3-dichloropropene	0.429	0.437	-1.9	114	0.00	12.80
78		ethyl methacrylate	0.329	0.337	-2.4	114	0.00	12.79
79		1,1,2-trichloroethane	0.223	0.231	-3.6	120	0.00	13.02
80		2-hexanone	0.108	0.113	-4.6	117	0.00	13.20
81	I	chlorobenzene-d5	1.000	1.000	0.0	124	0.00	14.04
82		tetrachloroethene	0.263	0.244	7.2	107	0.00	13.15
83		1,3-dichloropropane	0.457	0.451	1.3	117	0.00	13.20
84		butyl acetate	0.194	0.201	-3.6	118	0.00	13.26
85		dibromochloromethane	0.411	0.401	2.4	115	0.00	13.46
86		1,2-dibromoethane	0.354	0.357	-0.8	119	0.00	13.61
87		chlorobenzene	0.836	0.832	0.5	118	0.00	14.07
88		1,1,1,2-tetrachloroethane	0.390	0.362	7.2	108	0.00	14.15
89		ethylbenzene	1.402	1.299	7.3	111	0.00	14.12
90		m,p-xylene	0.513	0.504	1.8	115	0.00	14.24
91		o-xylene	0.569	0.546	4.0	116	0.00	14.67
92		styrene	0.906	0.898	0.9	114	0.00	14.69
93		bromoform	0.327	0.316	3.4	115	0.00	14.98
94	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	125	0.00	16.39
95		isopropylbenzene	2.392	2.130	11.0	108	0.00	15.02
96	S	4-bromofluorobenzene (s)	0.920	0.899	2.3	122	0.00	15.24
97		bromobenzene	0.733	0.696	5.0	117	0.00	15.43
98		cyclohexanone	0.077	0.117	-51.9#	165	0.00	15.23

Continuing Calibration Summary

Job Number: JB94786 **Sample:** V4V725-CC709
Account: UTC United Technologies Corporation **Lab FileID:** 4V17848.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

99	1,1,2,2-tetrachloroethane	0.918	0.924	-0.7	122	0.00	15.37
100	trans-1,4-dichloro-2-bute	0.229	0.213	7.0	114	0.00	15.41
101	1,2,3-trichloropropane	0.222	0.211	5.0	118	0.00	15.44
102	n-propylbenzene	2.791	2.522	9.6	110	0.00	15.44
103	2-chlorotoluene	0.606	0.596	1.7	112	0.00	15.59
104	4-chlorotoluene	1.930	1.815	6.0	112	0.00	15.69
105	1,3,5-trimethylbenzene	2.244	2.058	8.3	111	0.00	15.59
106	tert-butylbenzene	1.630	1.407	13.7	105	0.00	15.93
107	pentachloroethane	0.516	0.486	5.8	114	0.00	16.03
108	1,2,4-trimethylbenzene	2.322	2.158	7.1	112	0.00	15.98
109	sec-butylbenzene	2.536	2.261	10.8	106	0.00	16.14
110	1,3-dichlorobenzene	1.359	1.347	0.9	118	0.00	16.34
111	p-isopropyltoluene	2.323	2.049	11.8	107	0.00	16.26
112	1,4-dichlorobenzene	1.409	1.385	1.7	121	0.00	16.42
113	indane		----------NA----------				
114	1,2-dichlorobenzene	1.446	1.460	-1.0	121	0.00	16.80
115	n-butylbenzene	1.149	1.060	7.7	110	0.00	16.67
116	1,2-dibromo-3-chloropropa	0.259	0.246	5.0	119	0.00	17.55
117	1,3,5-trichlorobenzene	1.199	1.179	1.7	119	0.00	17.69
118	1,2,4-trichlorobenzene	1.169	1.169	0.0	122	0.00	18.28
119	hexachlorobutadiene	0.470	0.383	18.5	102	0.00	18.36
120	naphthalene	3.504	3.370	3.8	122	0.00	18.52
121	1,2,3-trichlorobenzene	1.199	1.183	1.3	118	0.00	18.74
122	hexachloroethane	0.560	0.445	20.5#	103	0.00	17.03
123	Benzyl chloride	1.775	1.839	-3.6	133	0.00	16.55

(#) = Out of Range SPCC's out = 0 CCC's out = 0
4V17451.D M4V709.M Fri May 22 10:48:36 2015 RPT1

6.7.5 6

New Jersey
ACCUTEST
LABORATORIES

GC/MS Volatiles

Raw Data

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17808.D
Acq On : 20 May 2015 12:24 pm
Operator : jemimam
Sample : jb94786-1
Misc : MS85329,V4V723,5,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 21 14:37:55 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 15:20:43 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.376	65	253775	500.00	ug/L	0.00
4) pentafluorobenzene	9.867	168	282591	50.00	ug/L	0.00
51) 1,4-difluorobenzene	10.832	114	369460	50.00	ug/L	0.00
81) chlorobenzene-d5	14.040	117	303318	50.00	ug/L	0.00
94) 1,4-dichlorobenzene-d4	16.394	152	184968	50.00	ug/L	0.00
System Monitoring Compounds						
45) dibromofluoromethane (s)	9.919	113	139124	50.27	ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 100.54%			
46) 1,2-dichloroethane-d4 (s)	10.365	65	133014	46.63	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 93.26%			
73) toluene-d8 (s)	12.494	98	385880	48.29	ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 96.58%			
96) 4-bromofluorobenzene (s)	15.241	95	163803	48.15	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 96.30%			
Target Compounds						Qvalue
33) 1,1-dichloroethane	8.451	63	3442	0.90	ug/L	82

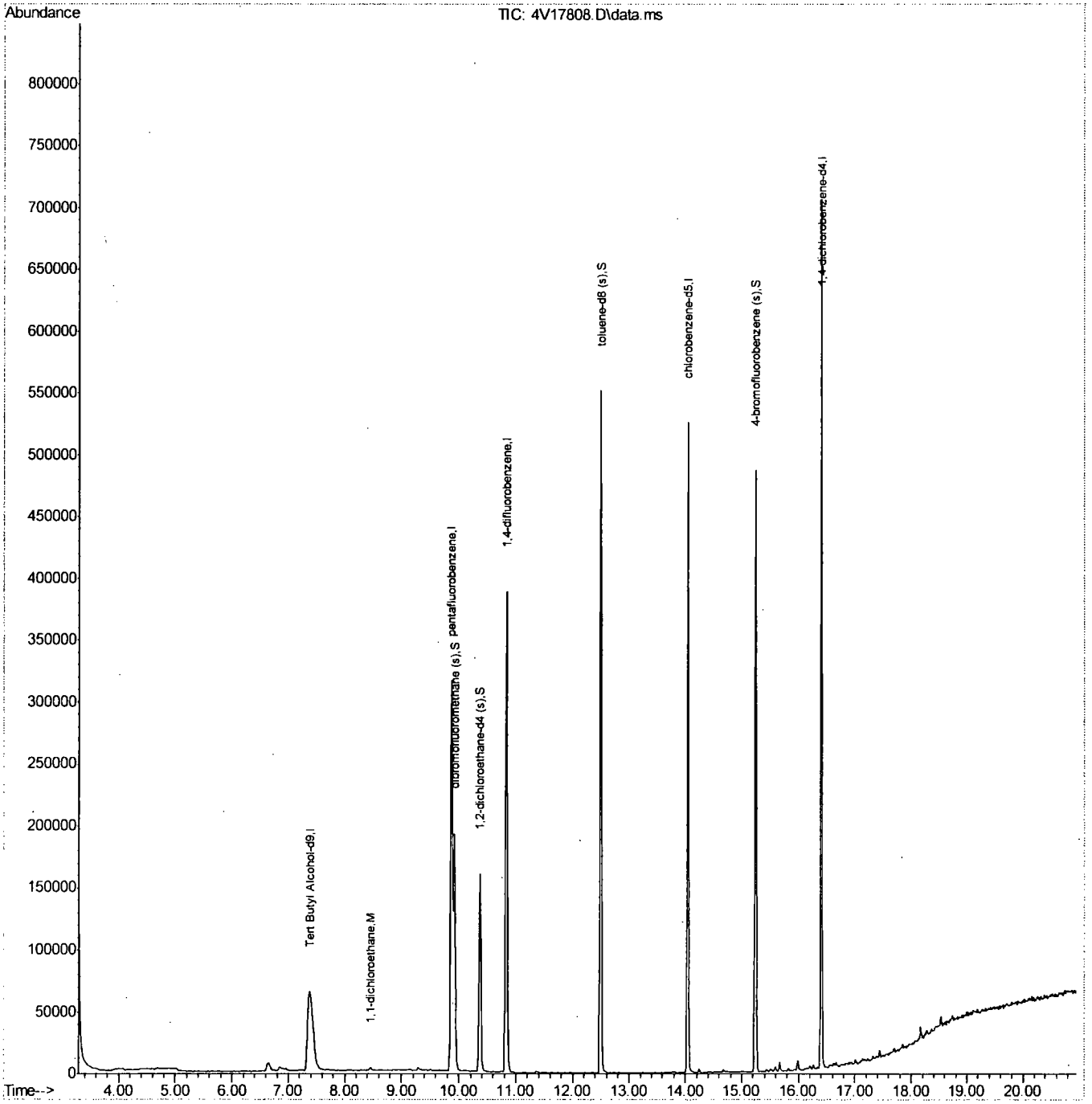
(#) = qualifier out of range (m) = manual integration (+) = signals summed

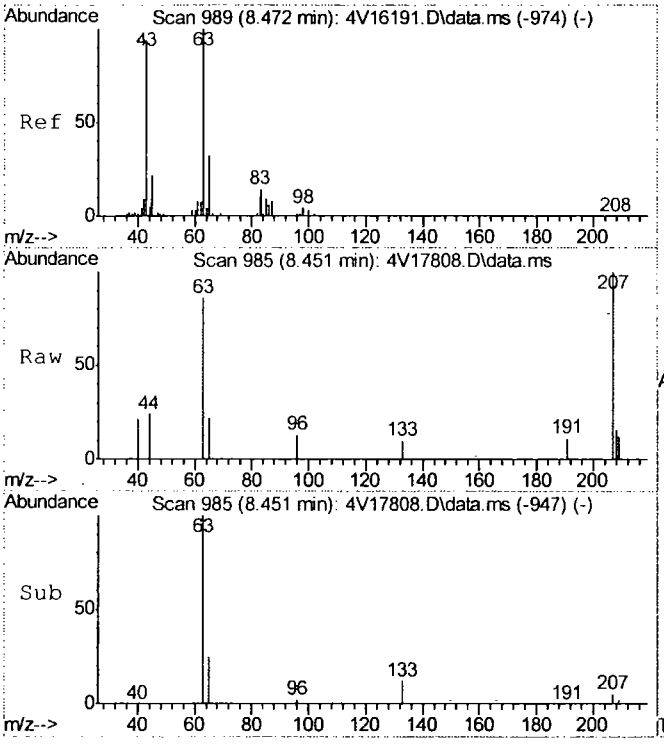
7.1.1

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17808.D
Acq On : 20 May 2015 12:24 pm
Operator : jemimam
Sample : jb94786-1
Misc : MS85329,V4V723,5,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 21 14:37:55 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 15:20:43 2015
Response via : Initial Calibration

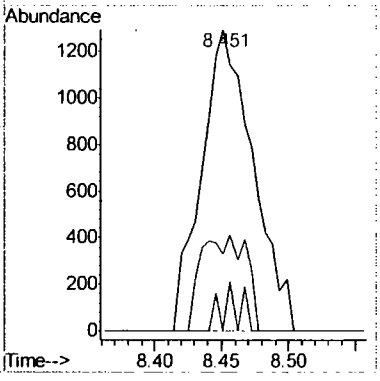




#33
1,1-dichloroethane
Concen: 0.90 ug/L
RT: 8.451 min Scan# 985
Delta R.T. 0.000 min
Lab File: 4V17808.D
Acq: 20 May 2015 12:24 pm

Tgt Ion: 63 Resp: 3442

Ion	Ratio	Lower	Upper
63	100		
65	25.4	1.7	61.7
83	0.0	0.0	43.8



7.1.1

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17810.D
Acq On : 20 May 2015 1:17 pm
Operator : jemimam
Sample : jb94786-2
Misc : MS85329,V4V723,5,,,,5
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 21 14:45:28 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 15:20:43 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.376	65	240488	500.00	ug/L	0.00
4) pentafluorobenzene	9.867	168	278410	50.00	ug/L	0.00
51) 1,4-difluorobenzene	10.831	114	367665	50.00	ug/L	0.00
81) chlorobenzene-d5	14.045	117	317526	50.00	ug/L	0.00
94) 1,4-dichlorobenzene-d4	16.400	152	190895	50.00	ug/L	0.00
System Monitoring Compounds						
45) dibromofluoromethane (s)	9.919	113	141175	51.78	ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 103.56%			
46) 1,2-dichloroethane-d4 (s)	10.365	65	133791	47.61	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 95.22%			
73) toluene-d8 (s)	12.493	98	396131	49.81	ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 99.62%			
96) 4-bromofluorobenzene (s)	15.241	95	171892	48.96	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 97.92%			
Target Compounds						Qvalue
18) 1,1-dichloroethene	6.527	61	30156	10.31	ug/L	98
33) 1,1-dichloroethane	8.456	63	43973	11.68	ug/L	99
39) cis-1,2-dichloroethene	9.279	96	37408	14.09	ug/L #	80
49) 1,1,1-trichloroethane	9.935	97	800653	232.12	ug/L	99
63) trichloroethene	11.172	95	587	0.31	ug/L	87
82) tetrachloroethene	13.154	166	1079	0.65	ug/L	87
89) ethylbenzene	14.129	91	7372	0.83	ug/L	92

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

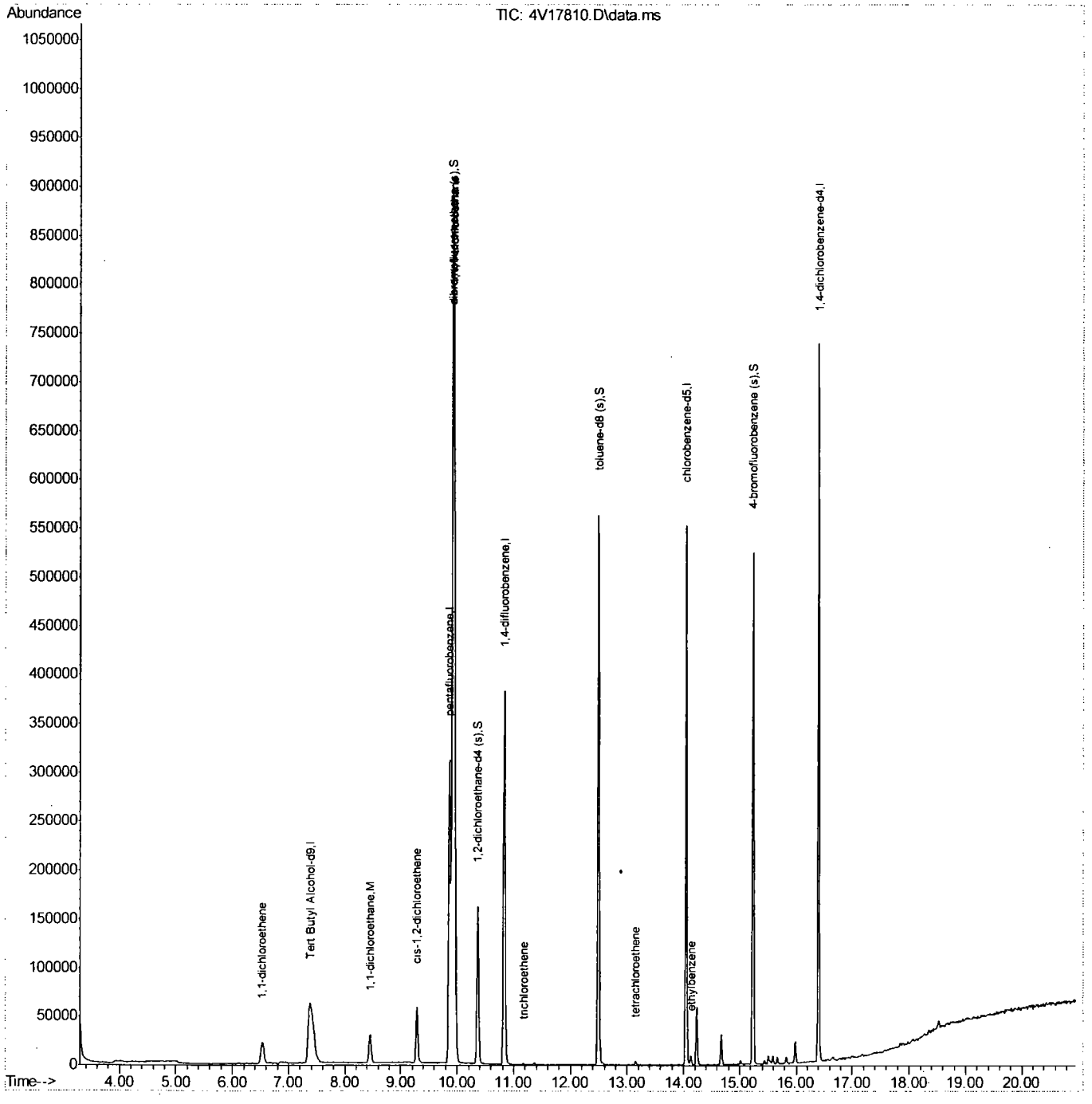
7.1.2

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17810.D
Acq On : 20 May 2015 1:17 pm
Operator : jemimam
Sample : jb94786-2
Misc : MS85329,V4V723,5,,,,5
ALS Vial : 8 Sample Multiplier: 1

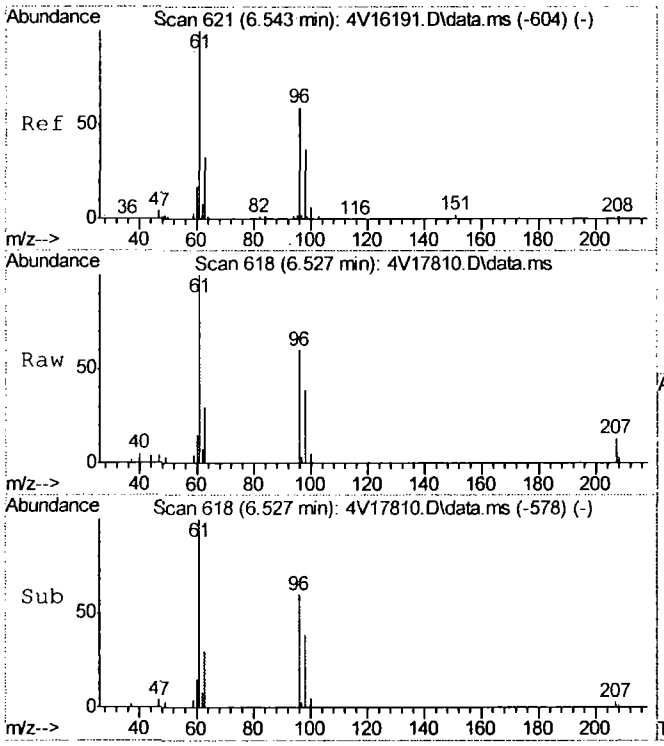
Quant Time: May 21 14:45:28 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 15:20:43 2015
Response via : Initial Calibration



M4V709.M Thu May 21 14:49:46 2015 RPT1 Page: 2

7.1.2

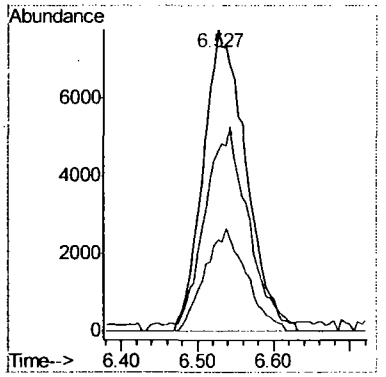
7

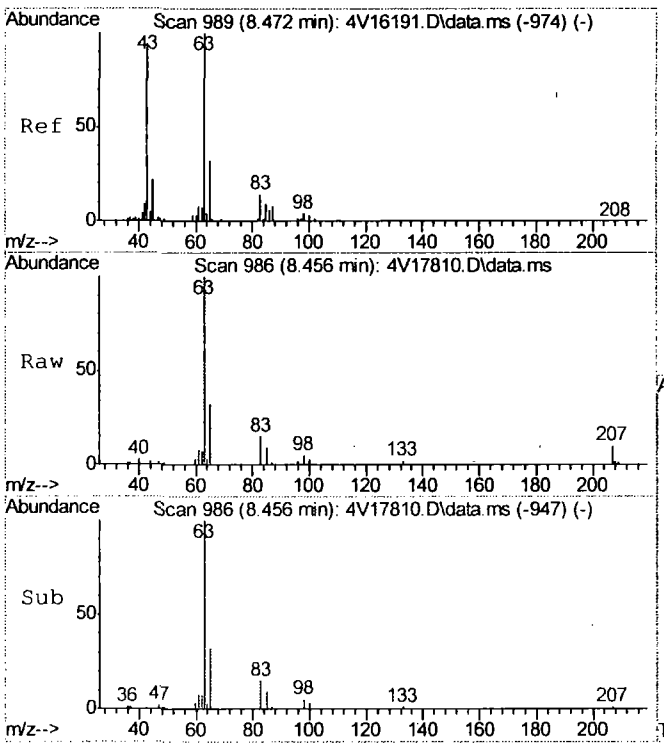


#18
1,1-dichloroethene
Concen: 10.31 ug/L
RT: 6.527 min Scan# 618
Delta R.T. 0.010 min
Lab File: 4V17810.D
Acq: 20 May 2015 1:17 pm

Tgt Ion: 61 Resp: 30156

Ion	Ratio	Lower	Upper
61	100		
96	57.3	29.1	89.1
63	30.2	0.7	60.7

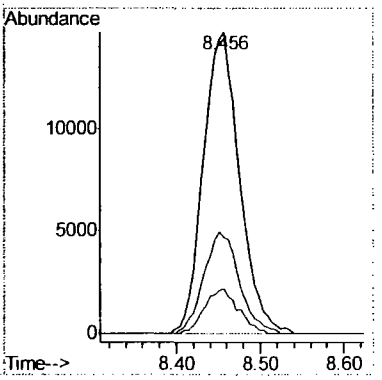


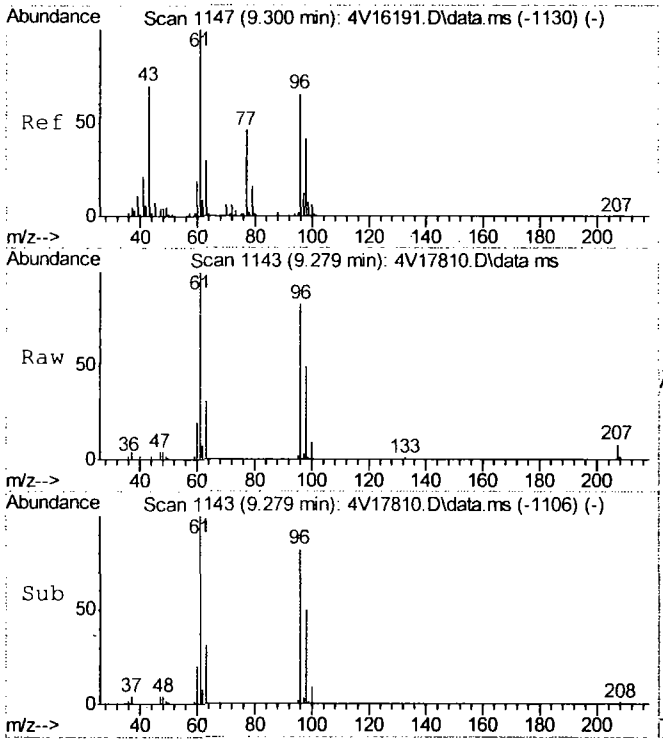


#33
1,1-dichloroethane
Concen: 11.68 ug/L
RT: 8.456 min Scan# 986
Delta R.T. 0.005 min
Lab File: 4V17810.D
Acq: 20 May 2015 1:17 pm

Tgt Ion: 63 Resp: 43973

Ion	Ratio	Lower	Upper
63	100		
65	31.8	1.7	61.7
83	14.9	0.0	43.8

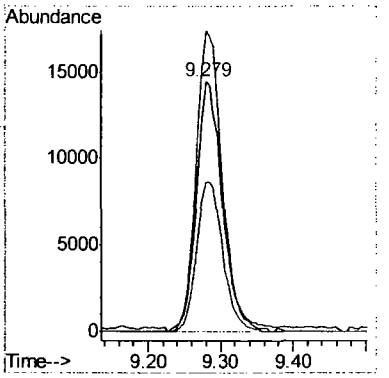


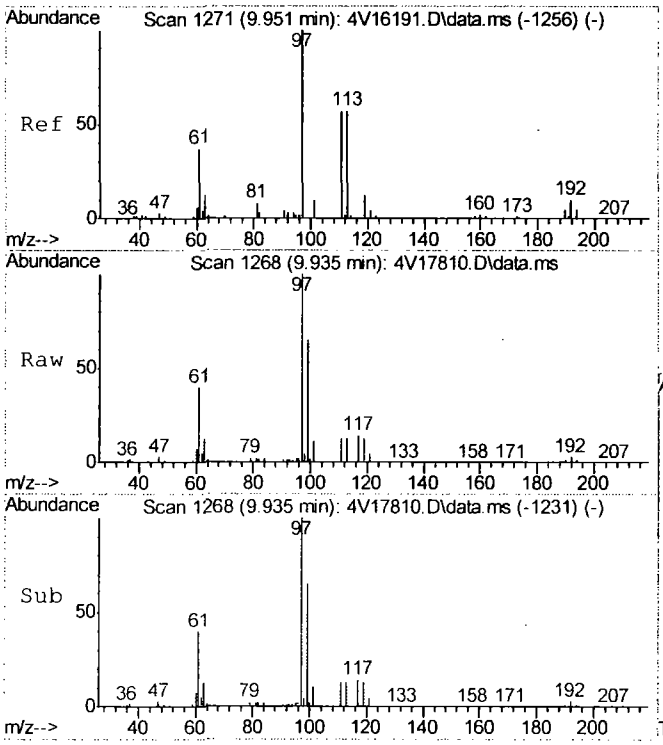


#39
cis-1,2-dichloroethene
Concen: 14.09 ug/L
RT: 9.279 min Scan# 1143
Delta R.T. -0.005 min
Lab File: 4V17810.D
Acq: 20 May 2015 1:17 pm

Tgt Ion: 96 Resp: 37408

Ion	Ratio	Lower	Upper
96	100		
61	120.3	123.4	183.4#
98	59.6	34.6	94.6

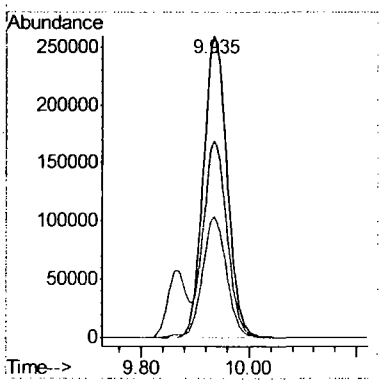


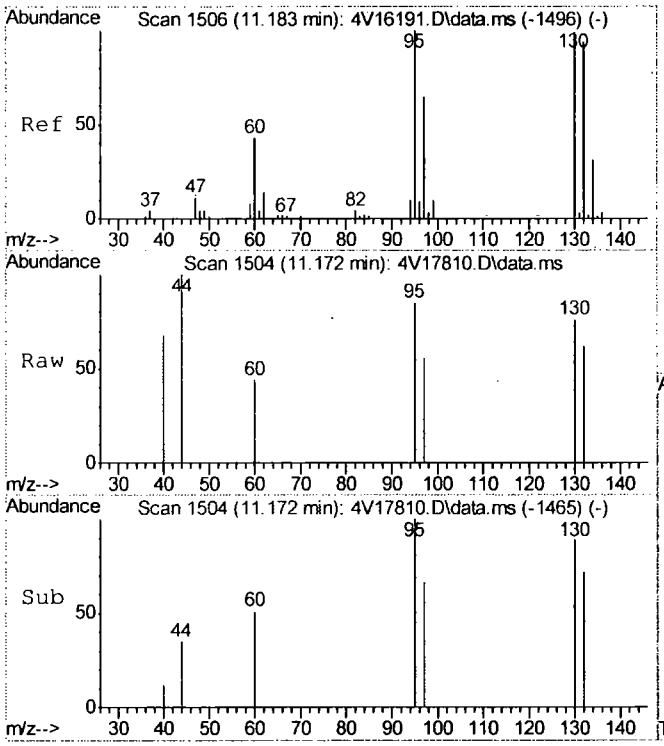


#49
1,1,1-trichloroethane
Concen: 232.12 ug/L
RT: 9.935 min Scan# 1268
Delta R.T. -0.005 min
Lab File: 4V17810.D
Acq: 20 May 2015 1:17 pm

Tgt Ion: 97 Resp: 800653

Ion	Ratio	Lower	Upper
97	100		
99	65.3	34.8	94.8
61	40.2	9.5	69.5

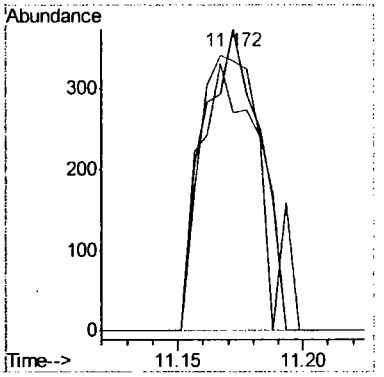


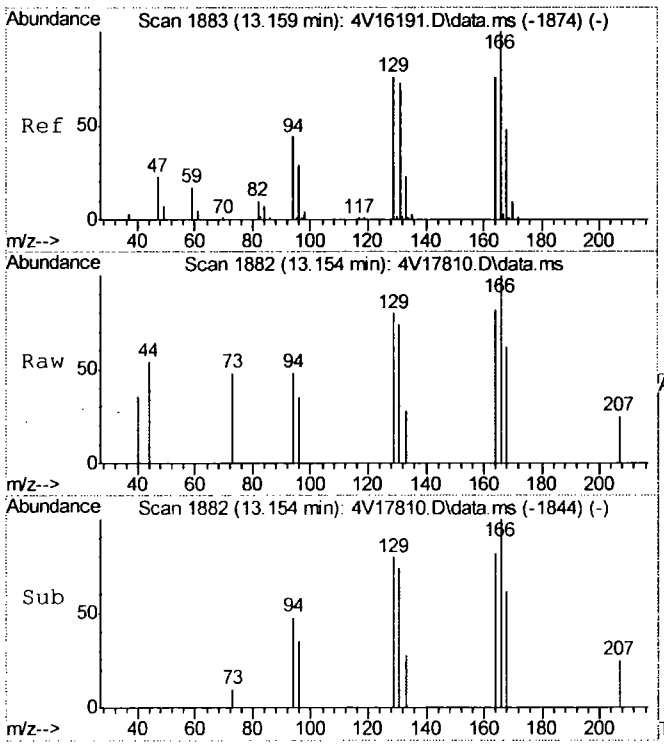


#63
trichloroethene
Concen: 0.31 ug/L
RT: 11.172 min Scan# 1504
Delta R.T. 0.005 min
Lab File: 4V17810.D
Acq: 20 May 2015 1:17 pm

Tgt Ion: 95 Resp: 587

Ion	Ratio	Lower	Upper
95	100		
130	89.3	66.0	126.0
132	72.5	60.3	120.3

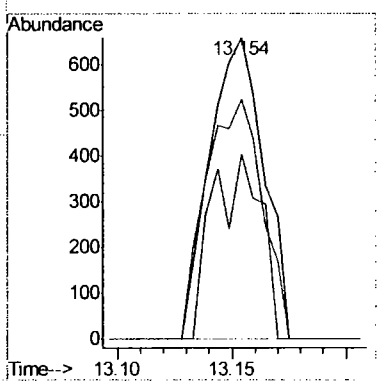


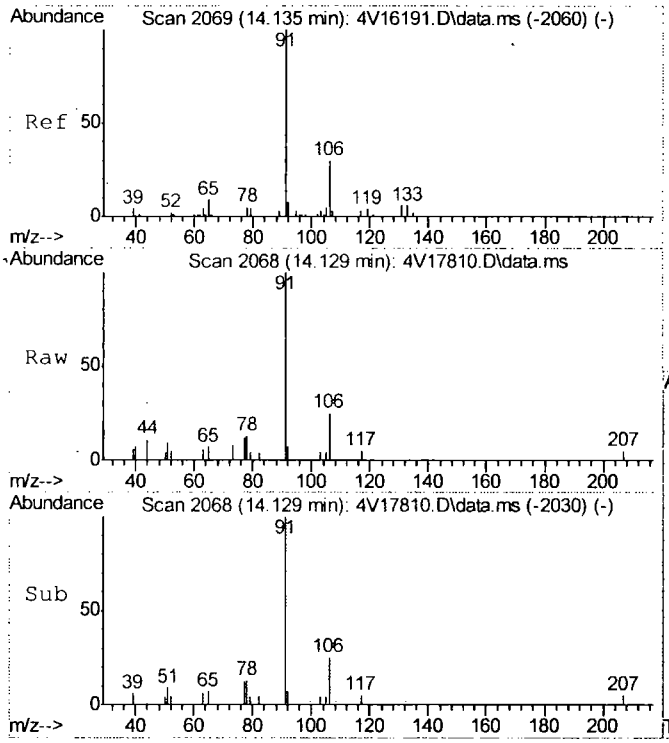


#82
tetrachloroethene
Concen: 0.65 ug/L
RT: 13.154 min Scan# 1882
Delta R.T. -0.000 min
Lab File: 4V17810.D
Acq: 20 May 2015 1:17 pm

Tgt Ion:166 Resp: 1079

Ion	Ratio	Lower	Upper
166	100		
168	61.5	16.3	76.3
129	79.7	43.9	103.9

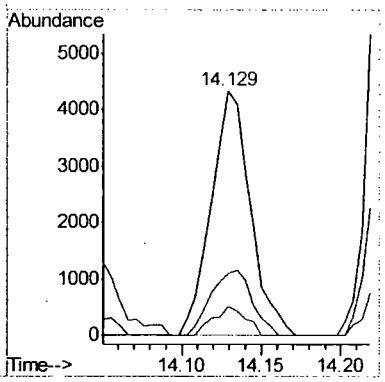




#89
ethylbenzene
Concen: 0.83 ug/L
RT: 14.129 min Scan# 2068
Delta R.T. -0.000 min
Lab File: 4V17810.D
Acq: 20 May 2015 1:17 pm

Tgt Ion: 91 Resp: 7372

Ion	Ratio	Lower	Upper
91	100		
106	25.4	0.0	59.7
77	11.6	0.0	38.7



7.1.2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17855.D
Acq On : 21 May 2015 2:15 pm
Operator : jemimam
Sample : jb94786-2
Misc : MS85329,V4V725,5,,,,50
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 22 10:55:02 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 15:20:43 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.382	65	244224	500.00	ug/L	0.00
4) pentafluorobenzene	9.867	168	303452	50.00	ug/L	0.00
51) 1,4-difluorobenzene	10.831	114	400202	50.00	ug/L	0.00
81) chlorobenzene-d5	14.045	117	337702	50.00	ug/L	0.00
94) 1,4-dichlorobenzene-d4	16.400	152	203642	50.00	ug/L	0.00
System Monitoring Compounds						
45) dibromofluoromethane (s)	9.919	113	151355	50.93	ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 101.86%			
46) 1,2-dichloroethane-d4 (s)	10.365	65	143452	46.83	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 93.66%			
73) toluene-d8 (s)	12.494	98	424786	49.07	ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 98.14%			
96) 4-bromofluorobenzene (s)	15.241	95	183372	48.96	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 97.92%			
Target Compounds						Qvalue
18) 1,1-dichloroethene	6.543	61	3320	1.04	ug/L	94
33) 1,1-dichloroethane	8.456	63	4714	1.15	ug/L	88
39) cis-1,2-dichloroethene	9.285	96	4052	1.40	ug/L #	78
49) 1,1,1-trichloroethane	9.935	97	78098	20.77	ug/L	97

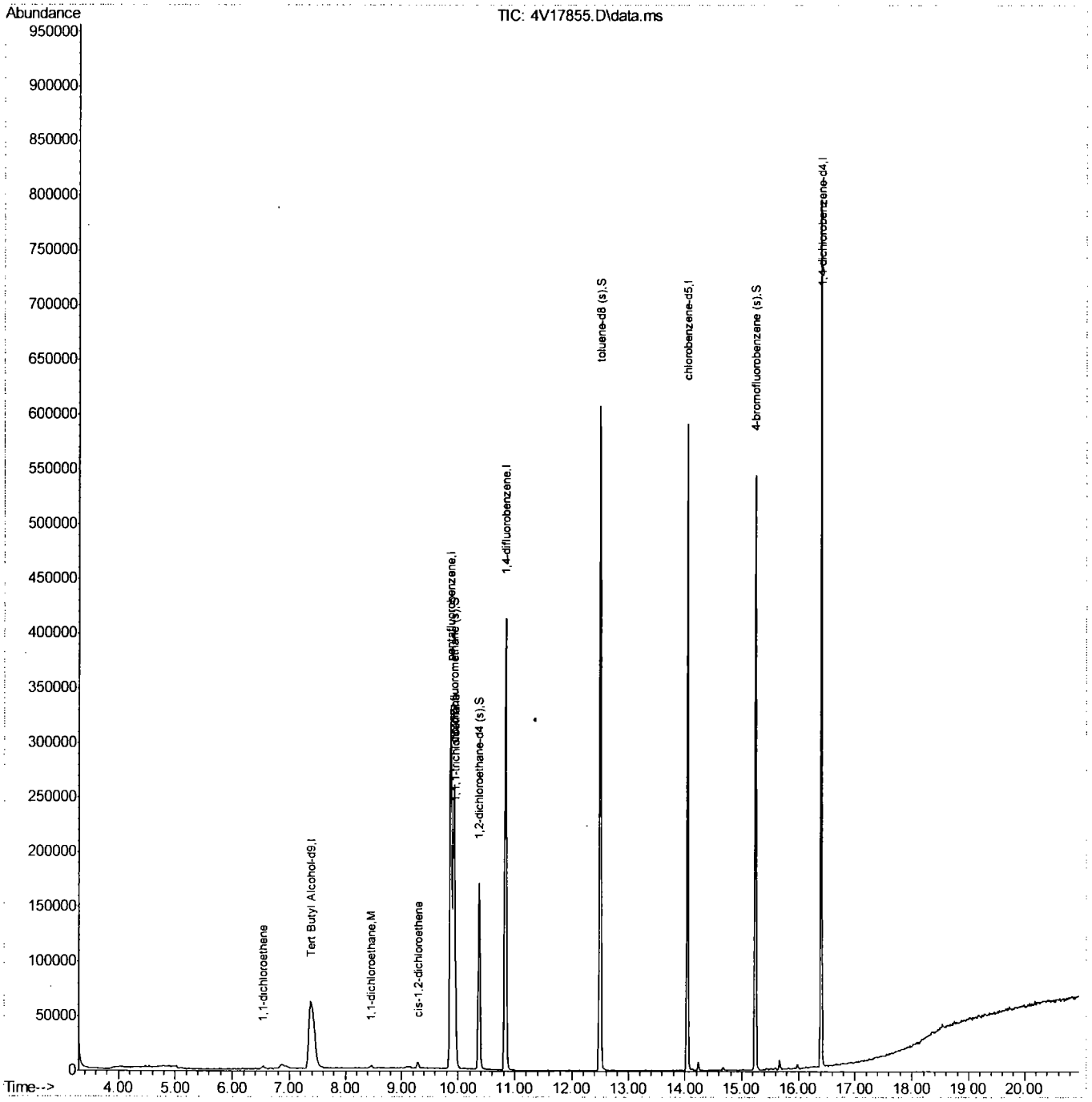
(#) = qualifier out of range (m) = manual integration (+) = signals summed

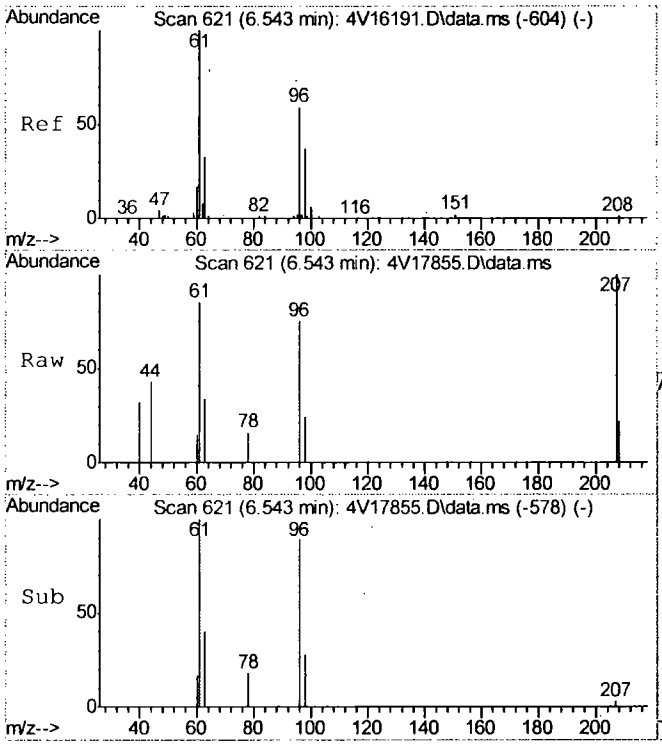
7.1.3

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17855.D
Acq On : 21 May 2015 2:15 pm
Operator : jemimam
Sample : jb94786-2
Misc : MS85329,V4V725,5,,,,50
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 22 10:55:02 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 15:20:43 2015
Response via : Initial Calibration

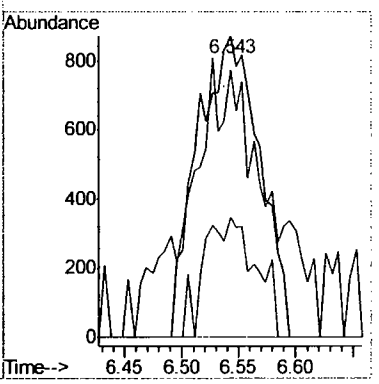


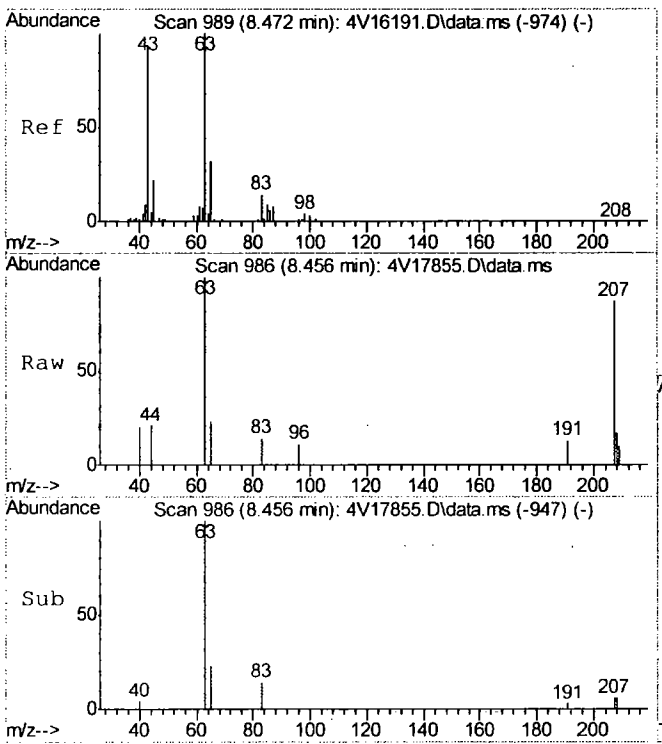


#18
1,1-dichloroethene
Concen: 1.04 ug/L
RT: 6.543 min Scan# 621
Delta R.T. 0.026 min
Lab File: 4V17855.D
Acq: 21 May 2015 2:15 pm

Tgt Ion: 61 Resp: 3320

Ion	Ratio	Lower	Upper
61	100		
96	59.9	29.1	89.1
63	39.8	0.7	60.7

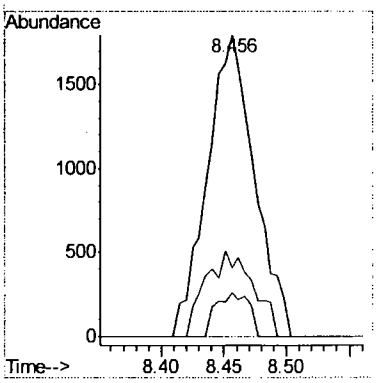


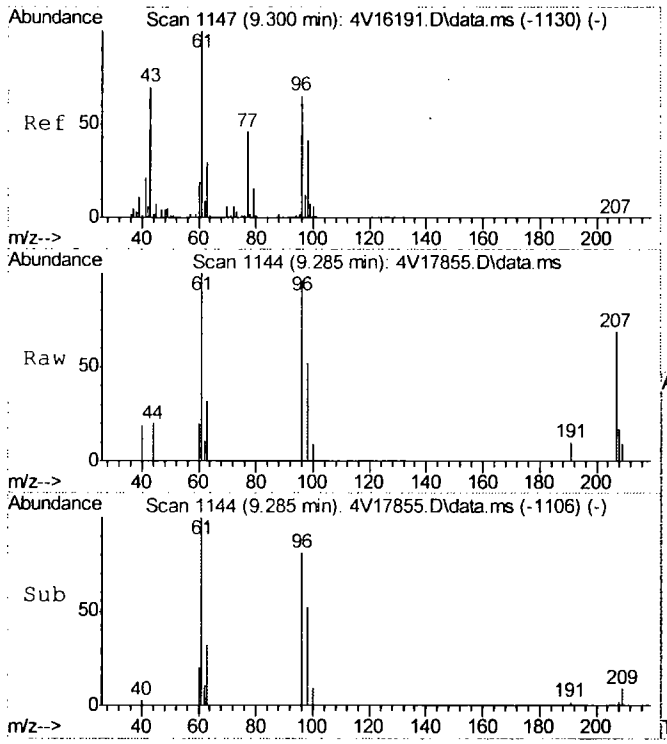


#33
1,1-dichloroethane
Concen: 1.15 ug/L
RT: 8.456 min Scan# 986
Delta R.T. 0.005 min
Lab File: 4V17855.D
Acq: 21 May 2015 2:15 pm

Tgt Ion: 63 Resp: 4714

Ion	Ratio	Lower	Upper
63	100		
65	22.7	1.7	61.7
83	14.5	0.0	43.8

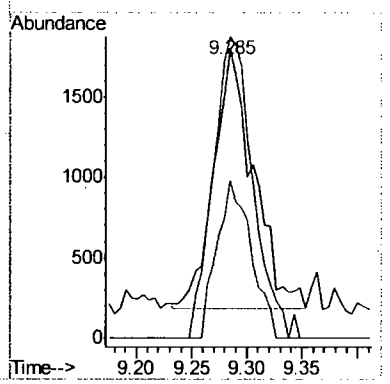


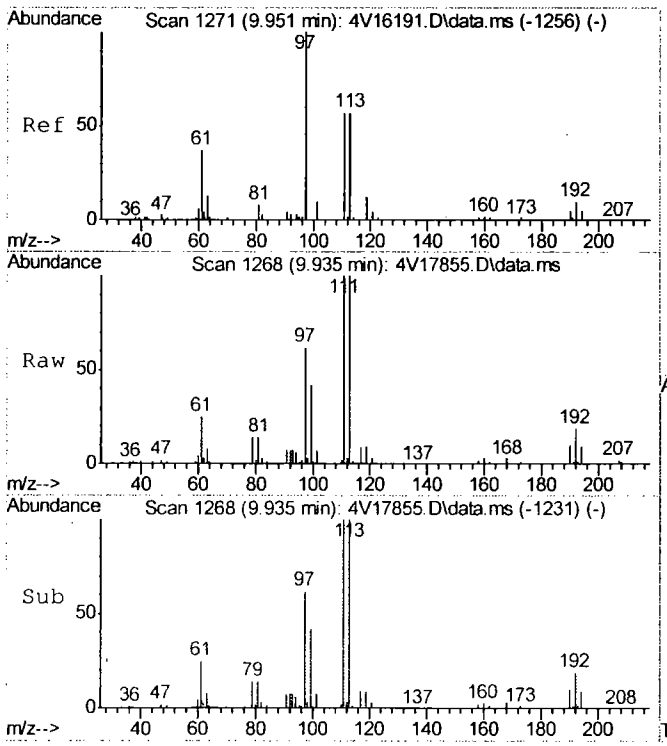


#39
cis-1,2-dichloroethene
Concen: 1.40 ug/L
RT: 9.285 min Scan# 1144
Delta R.T. -0.000 min
Lab File: 4V17855.D
Acq: 21 May 2015 2:15 pm

Tgt Ion: 96 Resp: 4052

Ion	Ratio	Lower	Upper
96	100		
61	116.3	123.4	183.4#
98	60.8	34.6	94.6

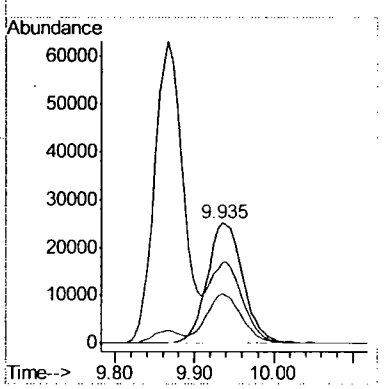




#49
1,1,1-trichloroethane
Concen: 20.77 ug/L
RT: 9.935 min Scan# 1268
Delta R.T. -0.005 min
Lab File: 4V17855.D
Acq: 21 May 2015 2:15 pm

Tgt Ion: 97 Resp: 78098

Ion	Ratio	Lower	Upper
97	100		
99	67.4	34.8	94.8
61	41.0	9.5	69.5



Manual Integrations APPROVED (compounds with "m" flag)
Kanya Veerawat
05/27/15 04:37

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17822.D
Acq On : 20 May 2015 6:38 pm
Operator : jemimam
Sample : jb94786-3
Misc : MS85329,V4V723,5,,,,1
ALS Vial : 21 Sample Multiplier: 1

Quant Time: May 21 16:50:35 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 15:20:43 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.387	65	250646	500.00	ug/L	0.00
4) pentafluorobenzene	9.867	168	279462	50.00	ug/L	0.00
51) 1,4-difluorobenzene	10.832	114	371760	50.00	ug/L	0.00
81) chlorobenzene-d5	14.045	117	330229	50.00	ug/L	0.00
94) 1,4-dichlorobenzene-d4	16.400	152	194029	50.00	ug/L	0.00
System Monitoring Compounds						
45) dibromofluoromethane (s)	9.919	113	143237	52.34	ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 104.68%			
46) 1,2-dichloroethane-d4 (s)	10.365	65	135154	47.91	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 95.82%			
73) toluene-d8 (s)	12.494	98	403248	50.15	ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 100.30%			
96) 4-bromofluorobenzene (s)	15.241	95	179786	50.38	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 100.76%			
Target Compounds						Qvalue
18) 1,1-dichloroethene	6.537	61	17541	5.98	ug/L	97
33) 1,1-dichloroethane	8.451	63	12159	3.22	ug/L	98
39) cis-1,2-dichloroethene	9.285	96	8608m	3.23	ug/L	
49) 1,1,1-trichloroethane	9.935	97	501652	144.89	ug/L	100
63) trichloroethene	11.172	95	3556	1.86	ug/L	96
82) tetrachloroethene	13.159	166	402	0.23	ug/L #	72

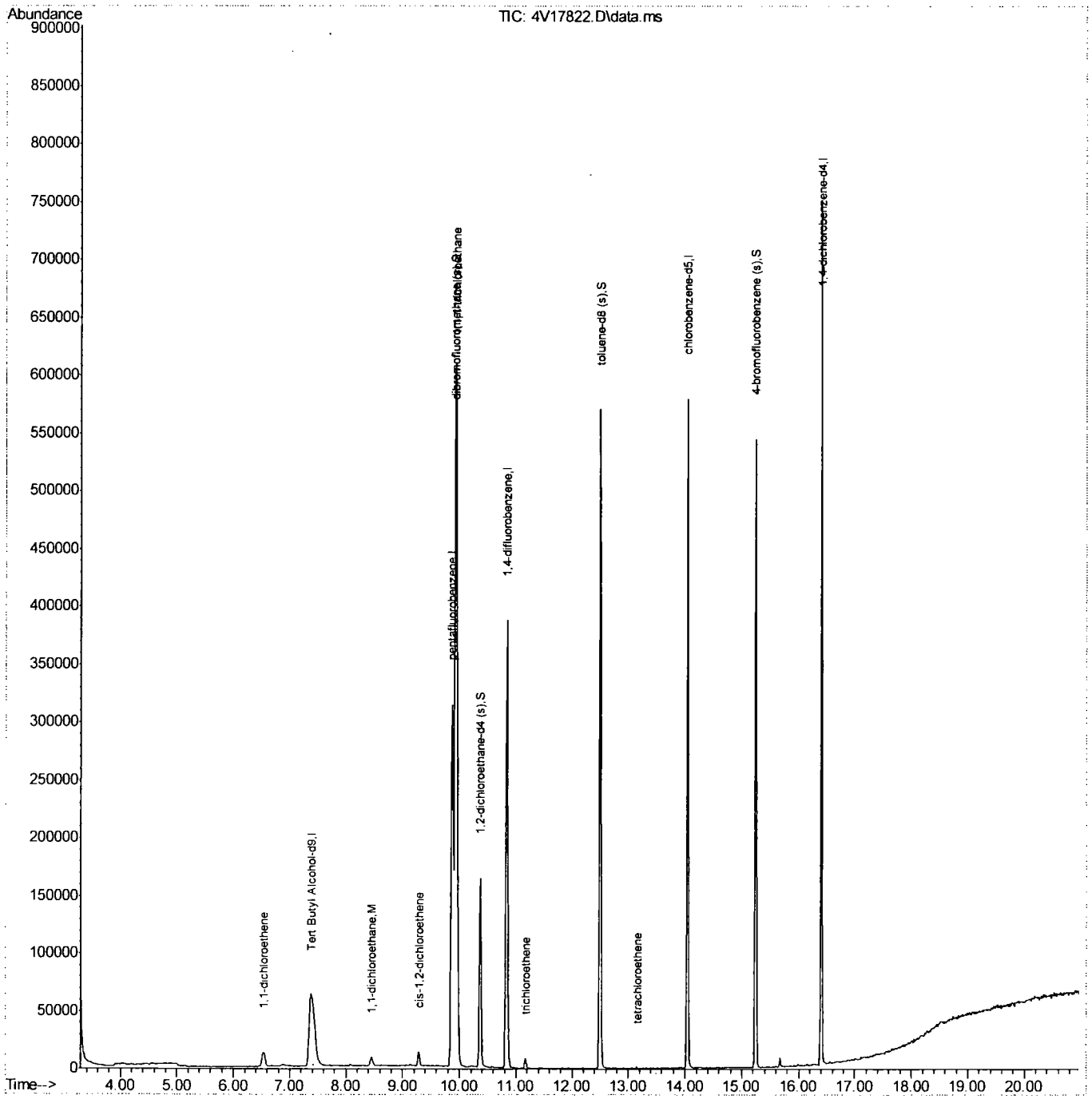
(#) = qualifier out of range (m) = manual integration (+) = signals summed

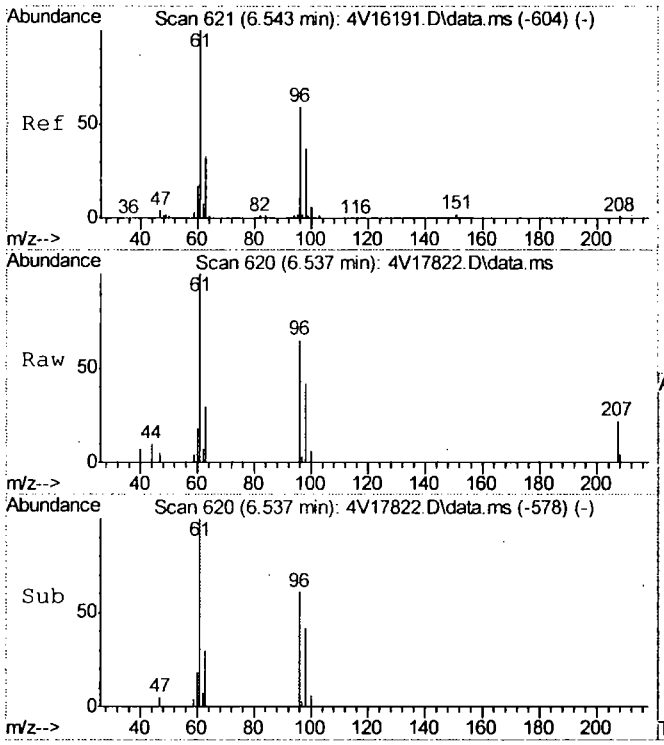
7.1.4 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17822.D
Acq On : 20 May 2015 6:38 pm
Operator : jemimam
Sample : jb94786-3
Misc : MS85329,V4V723,5,,,,1
ALS Vial : 21 Sample Multiplier: 1

Quant Time: May 21 16:50:35 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 15:20:43 2015
Response via : Initial Calibration

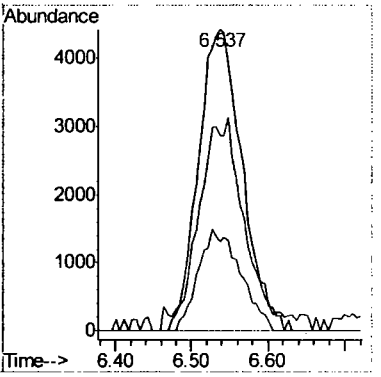


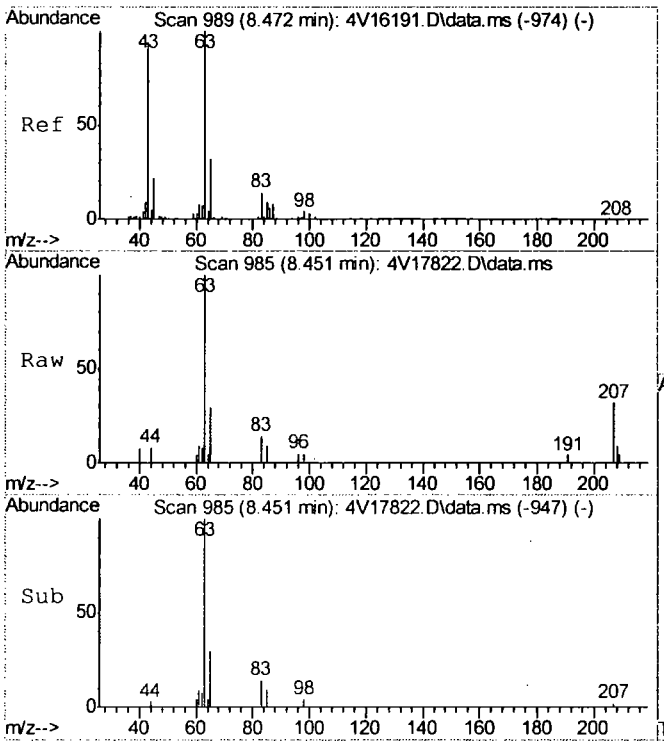


#18
1,1-dichloroethene
Concen: 5.98 ug/L
RT: 6.537 min Scan# 620
Delta R.T. 0.021 min
Lab File: 4V17822.D
Acq: 20 May 2015 6:38 pm

Tgt Ion: 61 Resp: 17541

Ion	Ratio	Lower	Upper
61	100		
96	61.2	29.1	89.1
63	29.5	0.7	60.7

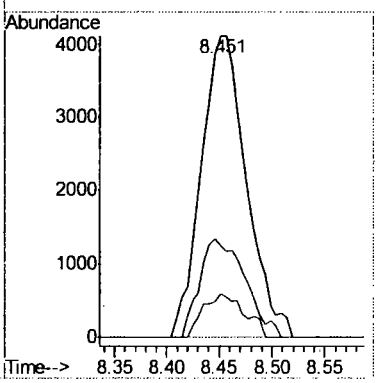


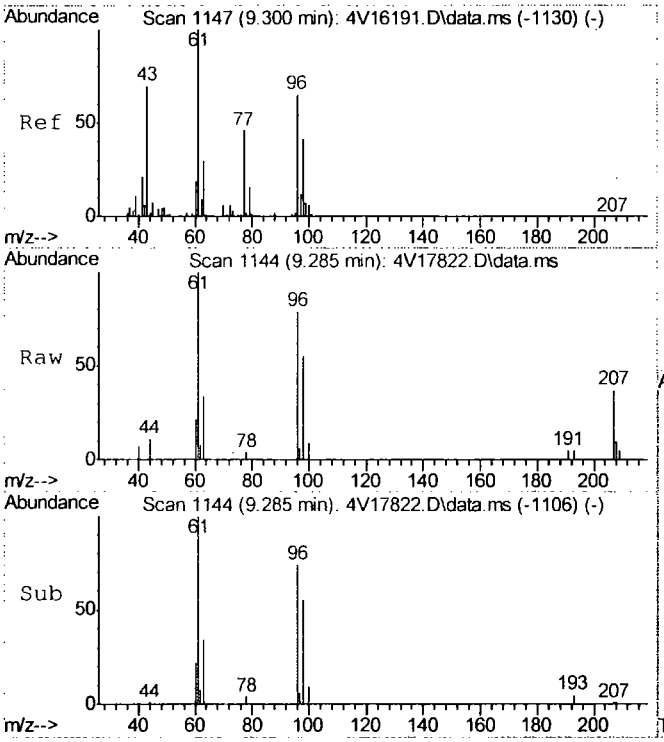


#33
1,1-dichloroethane
Concen: 3.22 ug/L
RT: 8.451 min Scan# 985
Delta R.T. -0.000 min
Lab File: 4V17822.D
Acq: 20 May 2015 6:38 pm

Tgt Ion: 63 Resp: 12159

Ion	Ratio	Lower	Upper
63	100		
65	30.3	1.7	61.7
83	14.3	0.0	43.8

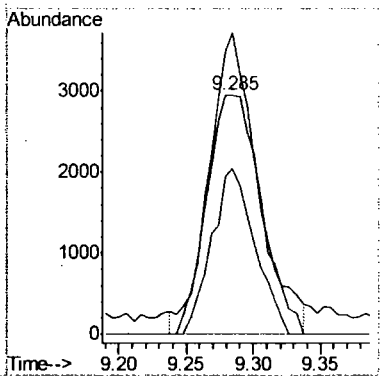


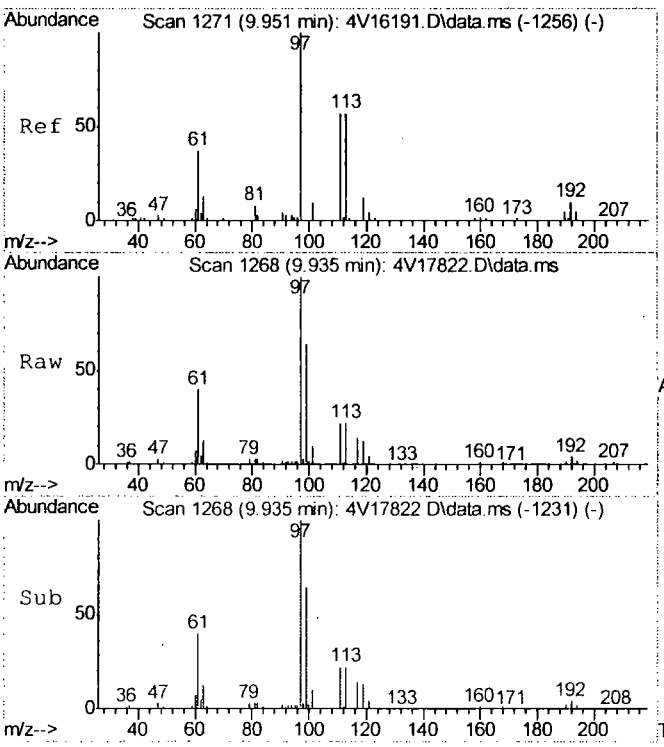


#39
cis-1,2-dichloroethene
Concen: 3.23 ug/L m
RT: 9.285 min Scan# 1144
Delta R.T. -0.000 min
Lab File: 4V17822.D
Acq: 20 May 2015 6:38 pm

Tgt Ion: 96 Resp: 8608

Ion	Ratio	Lower	Upper
96	100		
61	126.3	123.4	183.4
98	69.6	34.6	94.6

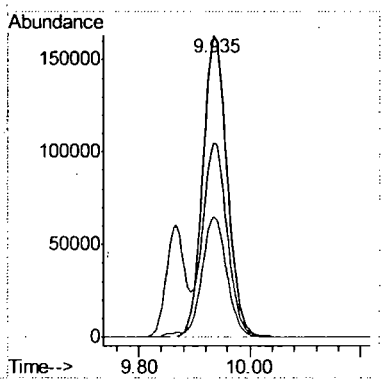


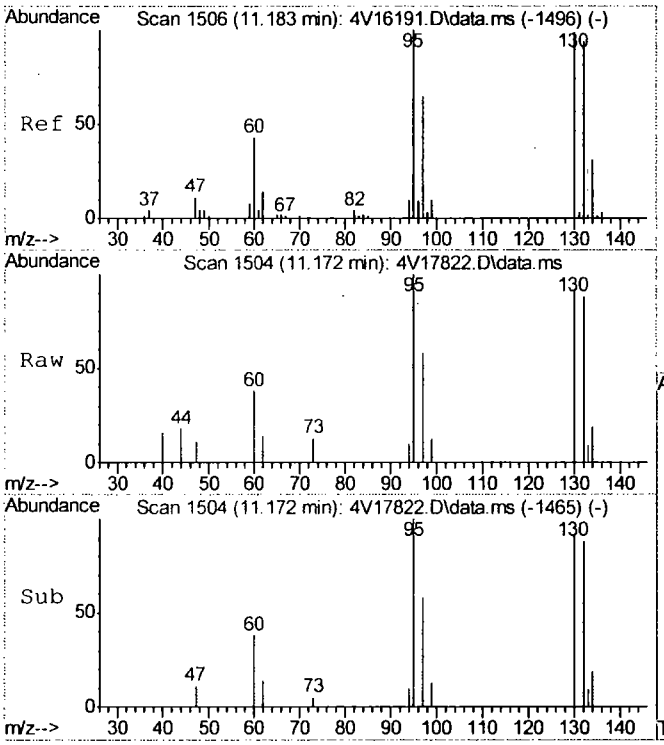


#49
1,1,1-trichloroethane
Concen: 144.89 ug/L
RT: 9.935 min Scan# 1268
Delta R.T. -0.005 min
Lab File: 4V17822.D
Acq: 20 May 2015 6:38 pm

Tgt Ion: 97 Resp: 501652

Ion	Ratio	Lower	Upper
97	100		
99	64.4	34.8	94.8
61	39.6	9.5	69.5

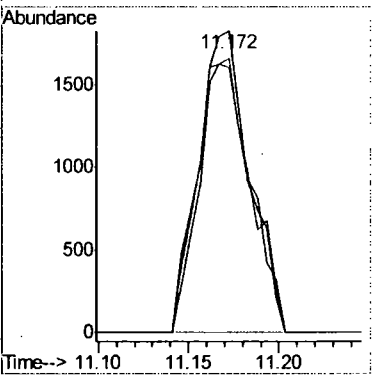


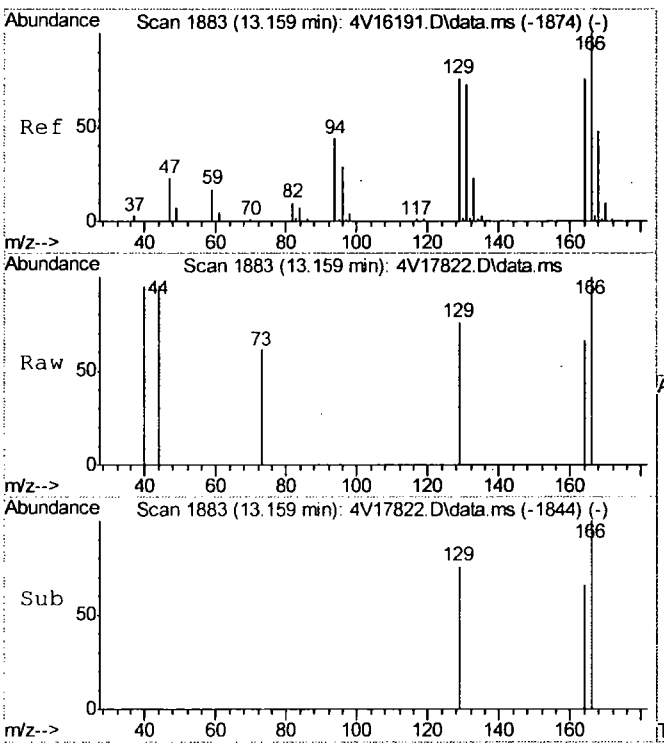


#63
trichloroethene
Concen: 1.86 ug/L
RT: 11.172 min Scan# 1504
Delta R.T. 0.005 min
Lab File: 4V17822.D
Acq: 20 May 2015 6:38 pm

Tgt Ion: 95 Resp: 3556

Ion	Ratio	Lower	Upper
95	100		
130	90.9	66.0	126.0
132	88.0	60.3	120.3

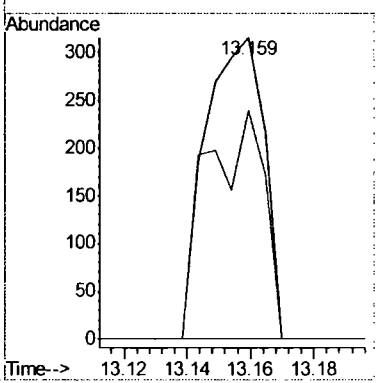




#82
tetrachloroethene
Concen: 0.23 ug/L
RT: 13.159 min Scan# 1883
Delta R.T. 0.005 min
Lab File: 4V17822.D
Acq: 20 May 2015 6:38 pm

Tgt Ion:166 Resp: 402

Ion	Ratio	Lower	Upper
166	100		
168	0.0	16.3	76.3#
129	75.9	43.9	103.9



Manual Integration Approval Summary

Sample Number:	JB94786-3	**Method:**	SW846 8260C
Lab FileID:	4V17822.D	**Analyst approved:**	05/21/15 16:55 Payal Rana
Injection Time:	05/20/15 18:38	**Supervisor approved:**	05/27/15 04:37 Kanya Veerawat

Parameter	CAS	Sig#	R.T. (min.)	Reason
cis-1,2-Dichloroethene	156-59-2		9.28	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Kanya Veerawat
05/27/15 04:33

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17815.D
Acq On : 20 May 2015 3:31 pm
Operator : jemimam
Sample : jb94786-4
Misc : MS85329,V4V723,5,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 21 16:42:11 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 15:20:43 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.387	65	246922	500.00	ug/L	0.00
4) pentafluorobenzene	9.867	168	297719	50.00	ug/L	0.00
51) 1,4-difluorobenzene	10.831	114	394441	50.00	ug/L	0.00
81) chlorobenzene-d5	14.045	117	329804	50.00	ug/L	0.00
94) 1,4-dichlorobenzene-d4	16.400	152	201229	50.00	ug/L	0.00
System Monitoring Compounds						
45) dibromofluoromethane (s)	9.919	113	150332	51.56	ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 103.12%			
46) 1,2-dichloroethane-d4 (s)	10.370	65	140721	46.82	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 93.64%			
73) toluene-d8 (s)	12.493	98	415669	48.72	ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 97.44%			
96) 4-bromofluorobenzene (s)	15.241	95	179337	48.46	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 96.92%			
Target Compounds						Qvalue
18) 1,1-dichloroethene	6.537	61	2979	0.95	ug/L	77
33) 1,1-dichloroethane	8.451	63	1840	0.46	ug/L	89
39) cis-1,2-dichloroethene	9.290	96	3453m	1.22	ug/L	
49) 1,1,1-trichloroethane	9.940	97	81714	22.15	ug/L	97
63) trichloroethene	11.172	95	2827	1.39	ug/L	88
82) tetrachloroethene	13.159	166	383	0.22	ug/L #	60

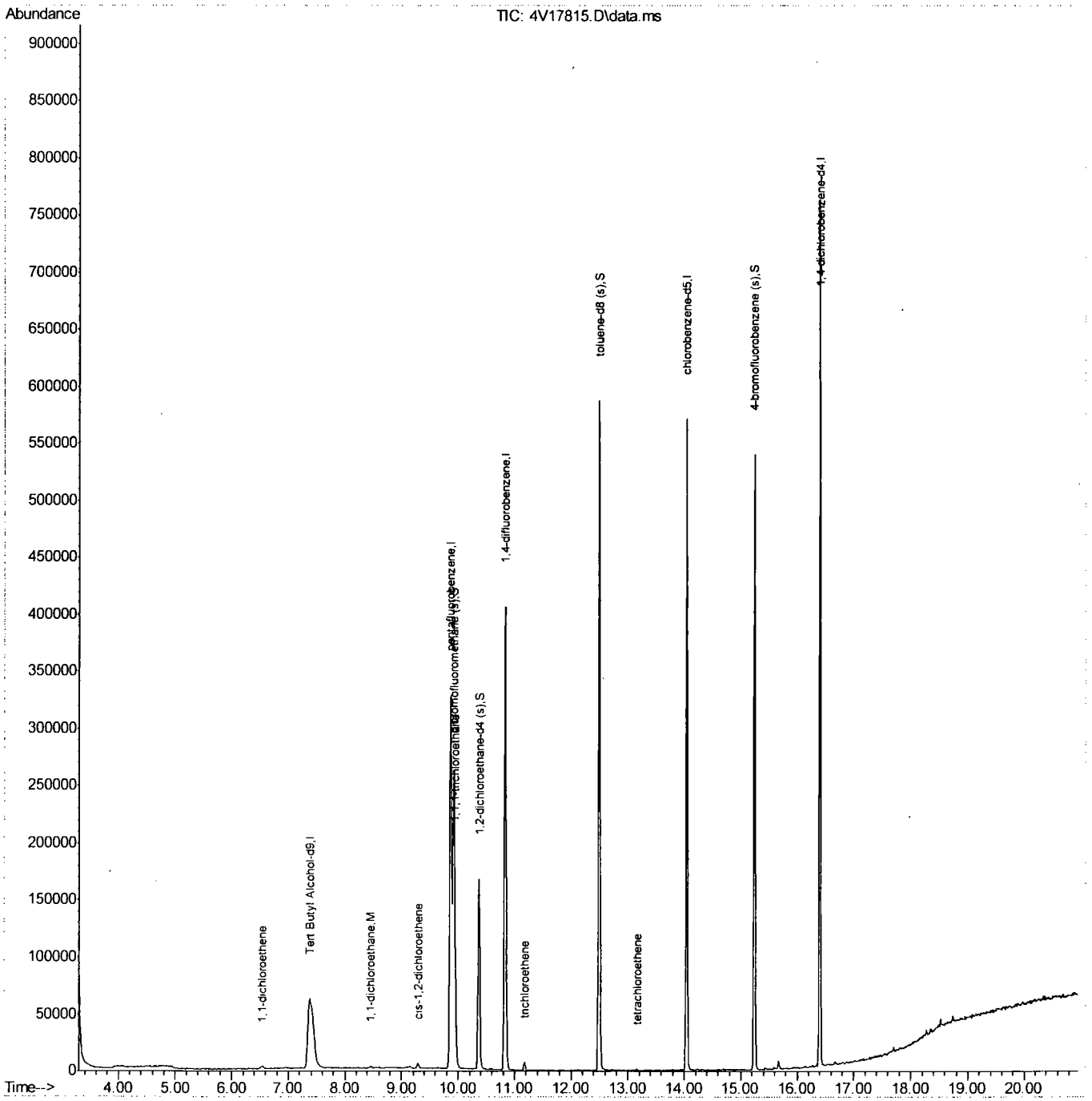
(#) = qualifier out of range (m) = manual integration (+) = signals summed

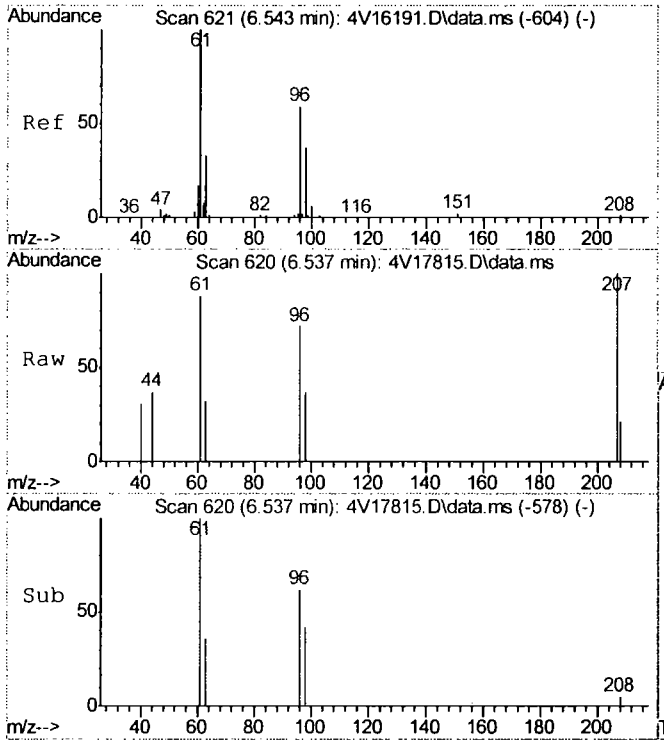
7.1.5 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17815.D
Acq On : 20 May 2015 3:31 pm
Operator : jemimam
Sample : jb94786-4
Misc : MS85329,V4V723,5,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 21 16:42:11 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 15:20:43 2015
Response via : Initial Calibration

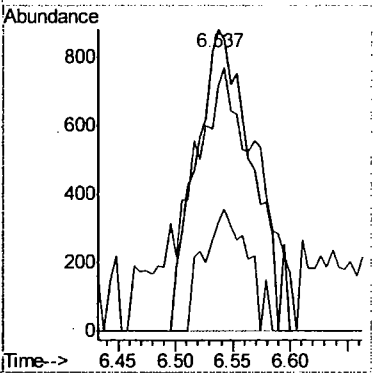


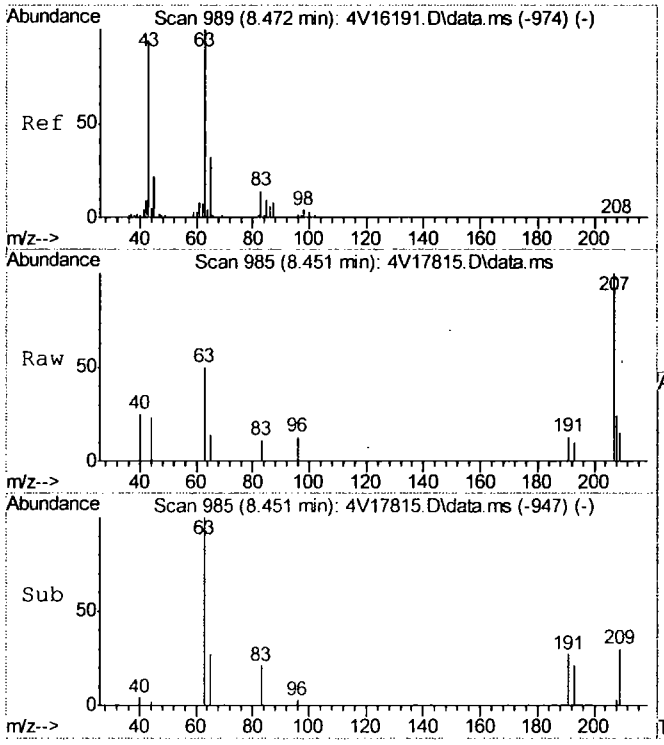


#18
1,1-dichloroethene
Concen: 0.95 ug/L
RT: 6.537 min Scan# 620
Delta R.T. 0.021 min
Lab File: 4V17815.D
Acq: 20 May 2015 3:31 pm

Tgt Ion: 61 Resp: 2979

Ion	Ratio	Lower	Upper
61	100		
96	81.6	29.1	89.1
63	36.1	0.7	60.7

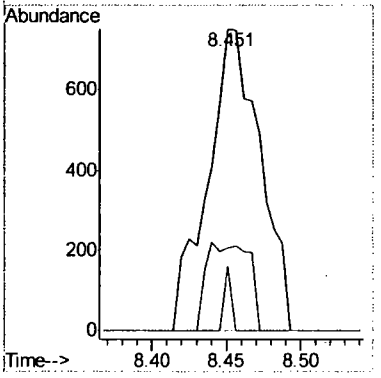


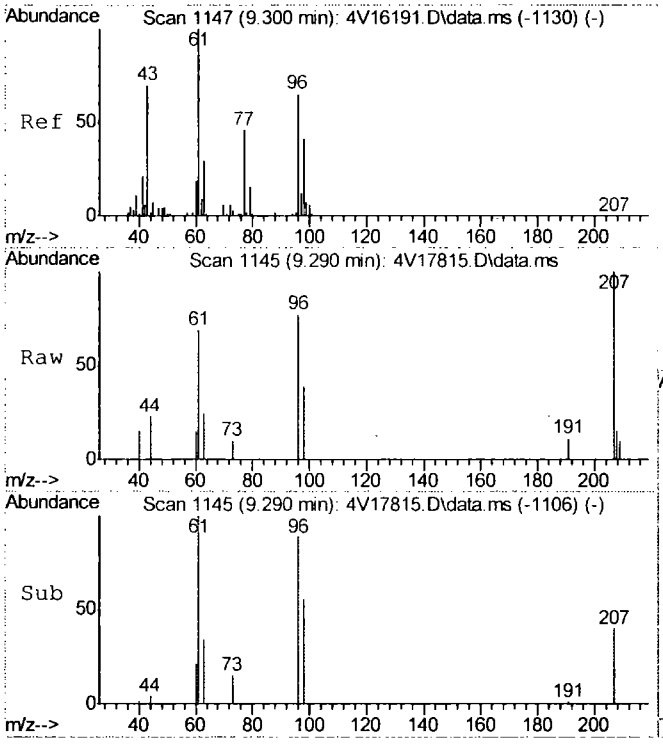


#33
1,1-dichloroethane
Concen: 0.46 ug/L
RT: 8.451 min Scan# 985
Delta R.T. -0.000 min
Lab File: 4V17815.D
Acq: 20 May 2015 3:31 pm

Tgt Ion: 63 Resp: 1840

Ion	Ratio	Lower	Upper
63	100		
65	27.1	1.7	61.7
83	21.3	0.0	43.8

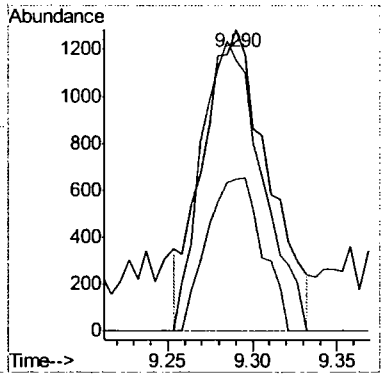


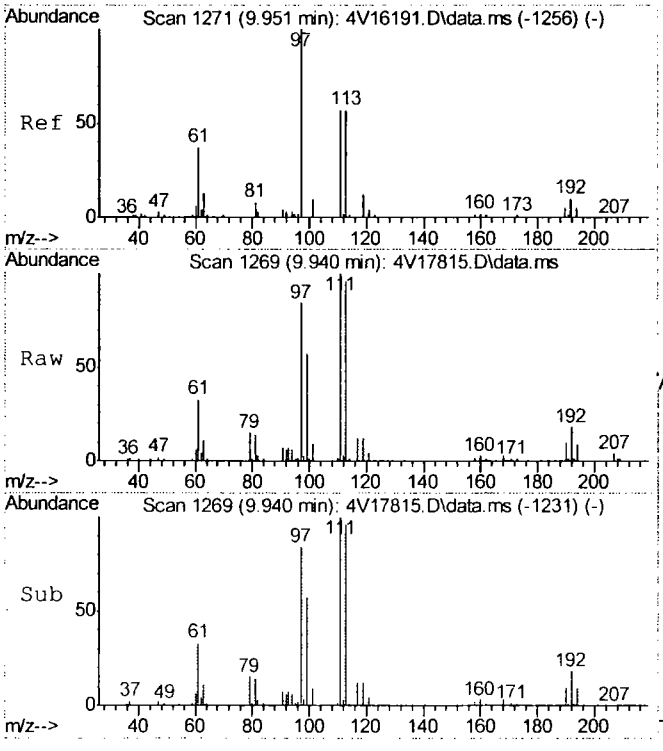


#39
cis-1,2-dichloroethene
Concen: 1.22 ug/L m
RT: 9.290 min Scan# 1145
Delta R.T. 0.005 min
Lab File: 4V17815.D
Acq: 20 May 2015 3:31 pm

Tgt Ion: 96 Resp: 3453

Ion	Ratio	Lower	Upper
96	100		
61	89.7	123.4	183.4#
98	50.4	34.6	94.6

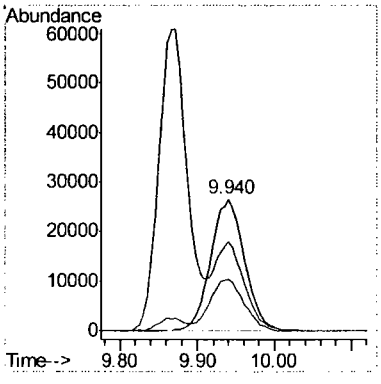


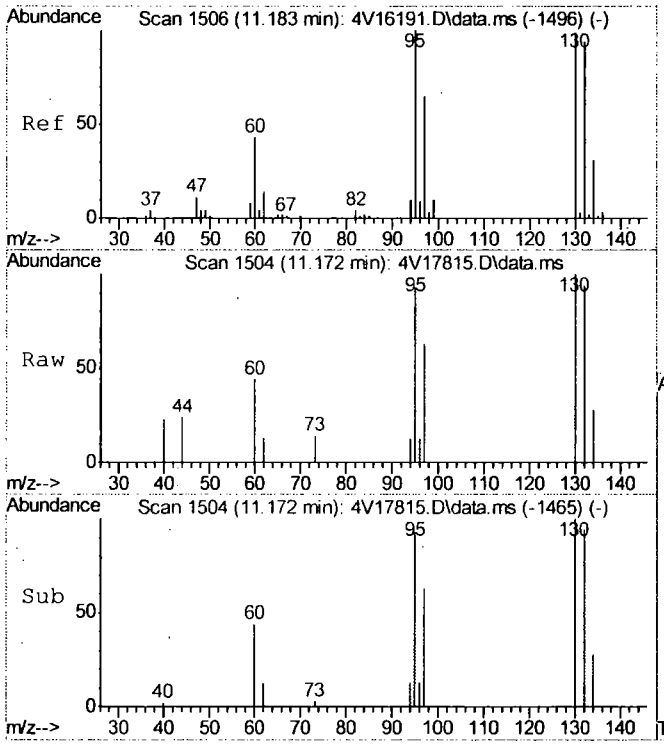


#49
1,1,1-trichloroethane
Concen: 22.15 ug/L
RT: 9.940 min Scan# 1269
Delta R.T. -0.000 min
Lab File: 4V17815.D
Acq: 20 May 2015 3:31 pm

Tgt Ion: 97 Resp: 81714

Ion	Ratio	Lower	Upper
97	100		
99	67.9	34.8	94.8
61	39.2	9.5	69.5

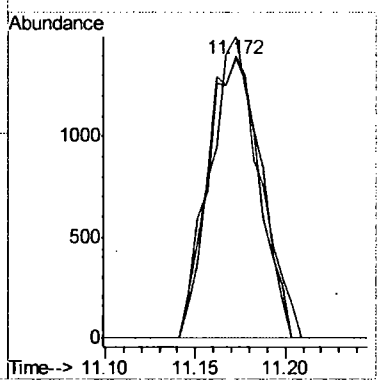


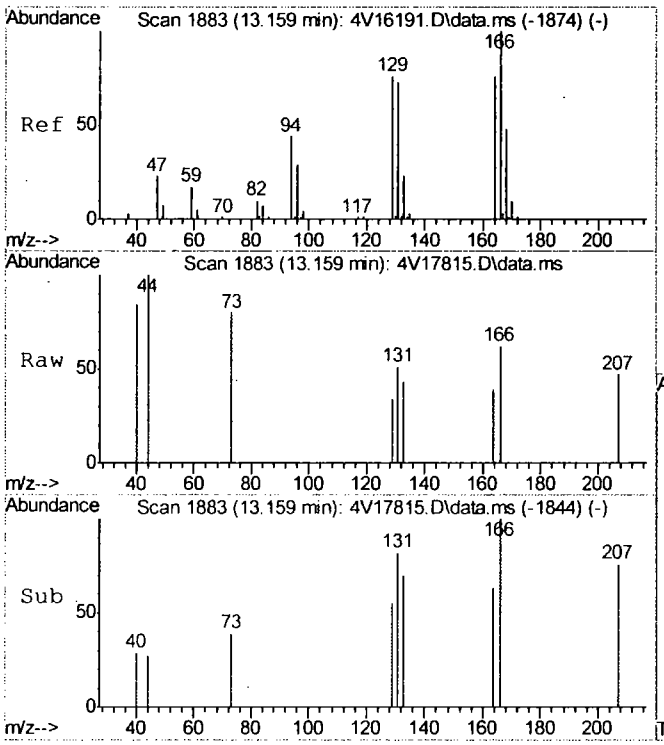


#63
trichloroethene
Concen: 1.39 ug/L
RT: 11.172 min Scan# 1504
Delta R.T. 0.005 min
Lab File: 4V17815.D
Acq: 20 May 2015 3:31 pm

Tgt Ion: 95 Resp: 2827

Ion	Ratio	Lower	Upper
95	100		
130	107.9	66.0	126.0
132	100.9	60.3	120.3

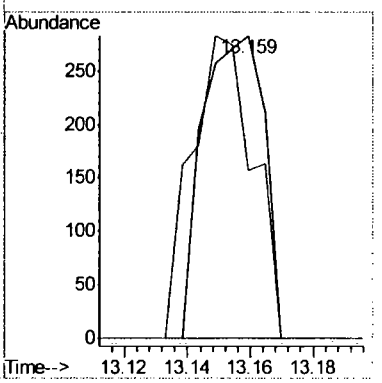




#82
tetrachloroethene
Concen: 0.22 ug/L
RT: 13.159 min Scan# 1883
Delta R.T. 0.005 min
Lab File: 4V17815.D
Acq: 20 May 2015 3:31 pm

Tgt Ion:166 Resp: 383

Ion	Ratio	Lower	Upper
166	100		
168	0.0	16.3	76.3#
129	55.5	43.9	103.9



Manual Integration Approval Summary

Sample Number:	JB94786-4	**Method:**	SW846 8260C
Lab FileID:	4V17815.D	**Analyst approved:**	05/21/15 16:55 Payal Rana
Injection Time:	05/20/15 15:31	**Supervisor approved:**	05/27/15 04:33 Kanya Veerawat

Parameter	CAS	Sig#	R.T. (min.)	Reason
cis-1,2-Dichloroethene	156-59-2		9.29	Poor instrument integration

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17816.D
Acq On : 20 May 2015 3:58 pm
Operator : jemimam
Sample : jb94786-5
Misc : MS85329,V4V723,5,,,,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: May 21 16:44:11 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 15:20:43 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.387	65	244252	500.00	ug/L	0.00
4) pentafluorobenzene	9.867	168	296825	50.00	ug/L	0.00
51) 1,4-difluorobenzene	10.831	114	392493	50.00	ug/L	0.00
81) chlorobenzene-d5	14.045	117	347535	50.00	ug/L	0.00
94) 1,4-dichlorobenzene-d4	16.400	152	207183	50.00	ug/L	0.00
System Monitoring Compounds						
45) dibromofluoromethane (s)	9.919	113	151384	52.08	ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 104.16%			
46) 1,2-dichloroethane-d4 (s)	10.365	65	140610	46.93	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 93.86%			
73) toluene-d8 (s)	12.493	98	422812	49.80	ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 99.60%			
96) 4-bromofluorobenzene (s)	15.241	95	187680	49.26	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 98.52%			
Target Compounds						Qvalue
33) 1,1-dichloroethane	8.462	63	1097	0.27	ug/L #	50
82) tetrachloroethene	13.154	166	734	0.40	ug/L	89

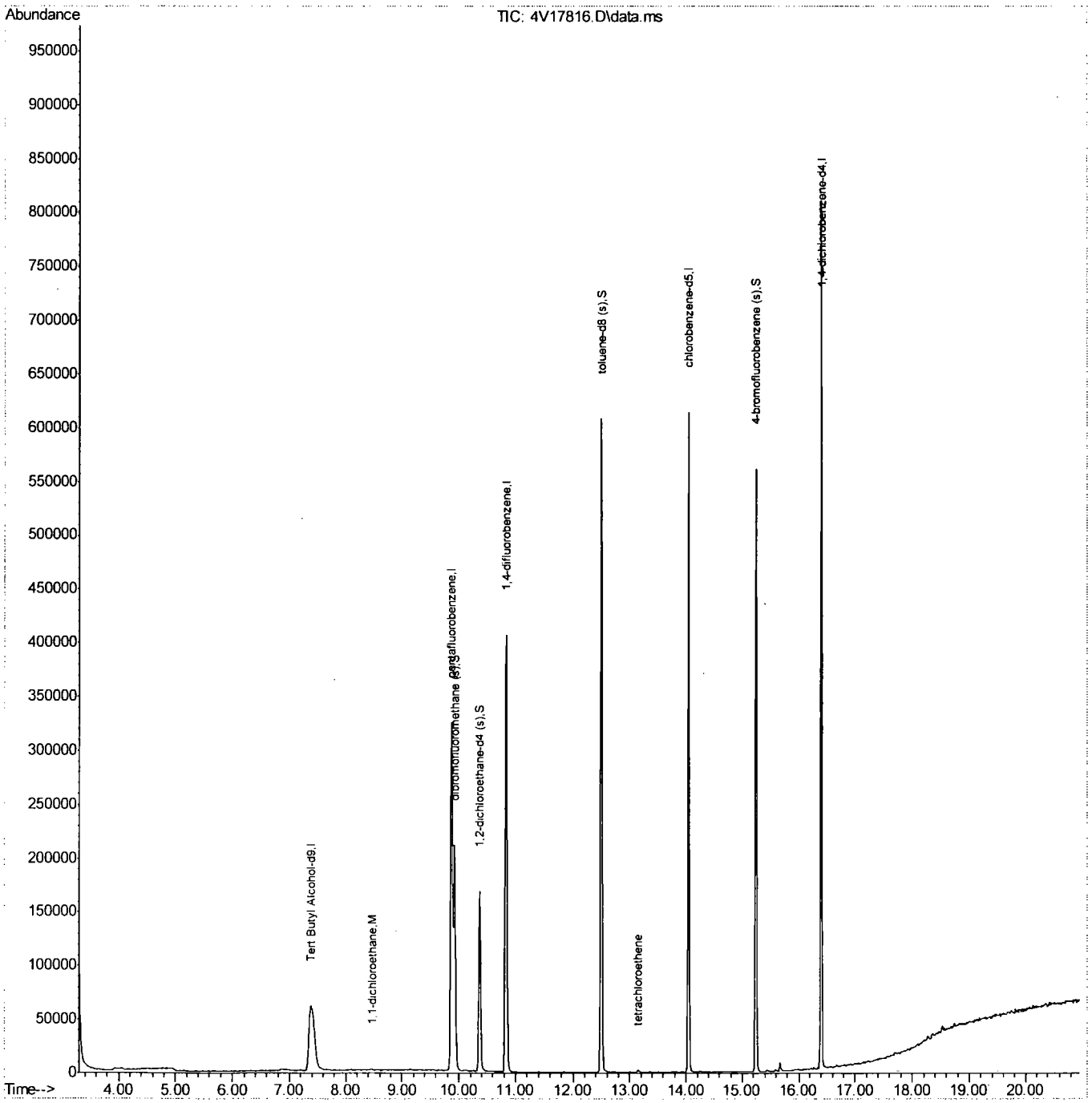
(#) = qualifier out of range (m) = manual integration (+) = signals summed

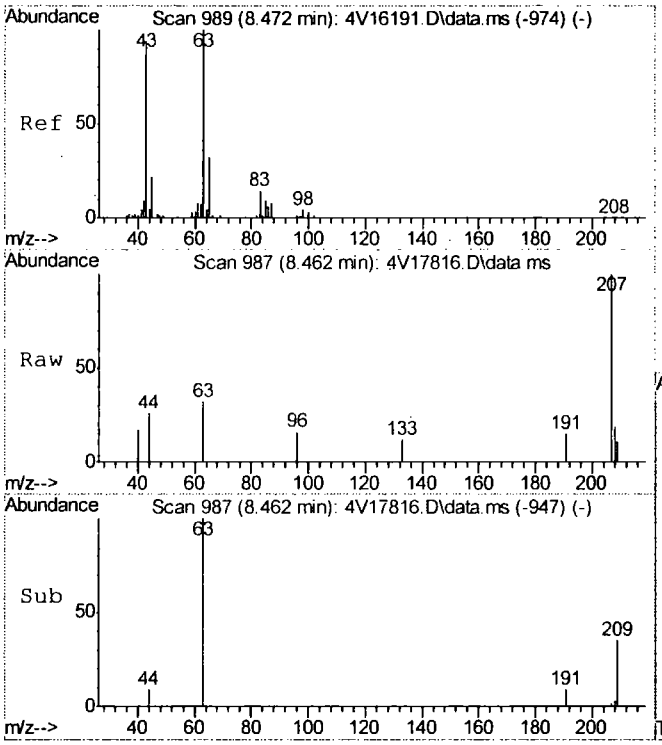
7.1.6

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17816.D
Acq On : 20 May 2015 3:58 pm
Operator : jemimam
Sample : jb94786-5
Misc : MS85329,V4V723,5,,,,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: May 21 16:44:11 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 15:20:43 2015
Response via : Initial Calibration

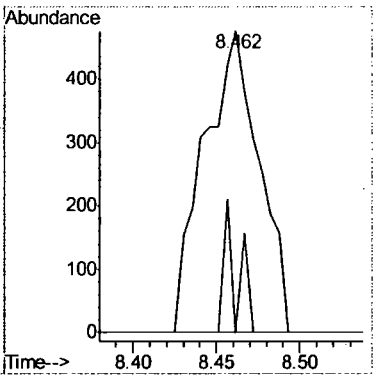


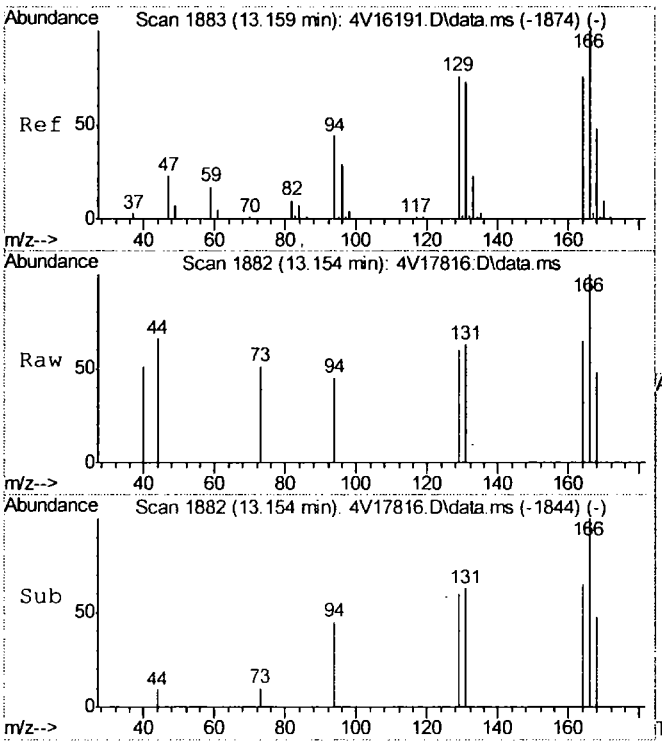


#33
1,1-dichloroethane
Concen: 0.27 ug/L
RT: 8.462 min Scan# 987
Delta R.T. 0.010 min
Lab File: 4V17816.D
Acq: 20 May 2015 3:58 pm

Tgt Ion: 63 Resp: 1097

Ion	Ratio	Lower	Upper
63	100		
65	0.0	1.7	61.7#
83	0.0	0.0	43.8

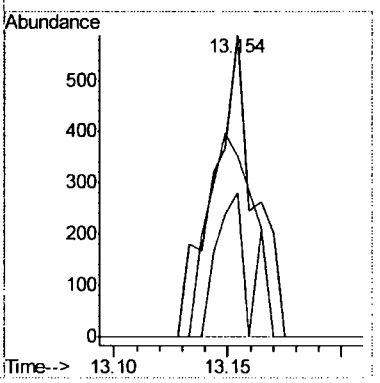




#82
tetrachloroethene
Concen: 0.40 ug/L
RT: 13.154 min Scan# 1882
Delta R.T. -0.000 min
Lab File: 4V17816.D
Acq: 20 May 2015 3:58 pm

Tgt Ion:166 Resp: 734

Ion	Ratio	Lower	Upper
166	100		
168	47.8	16.3	76.3
129	59.7	43.9	103.9



7.1.6

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17824.D
Acq On : 20 May 2015 7:04 pm
Operator : jemimam
Sample : jb94786-6
Misc : MS85329,V4V723,5,,,,1
ALS Vial : 22 Sample Multiplier: 1

Quant Time: May 21 16:51:23 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 15:20:43 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.392	65	243203	500.00	ug/L	0.01
4) pentafluorobenzene	9.867	168	283736	50.00	ug/L	0.00
51) 1,4-difluorobenzene	10.832	114	380546	50.00	ug/L	0.00
81) chlorobenzene-d5	14.045	117	337969	50.00	ug/L	0.00
94) 1,4-dichlorobenzene-d4	16.400	152	201326	50.00	ug/L	0.00
System Monitoring Compounds						
45) dibromofluoromethane (s)	9.919	113	144940	52.16	ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 104.32%			
46) 1,2-dichloroethane-d4 (s)	10.365	65	138746	48.44	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 96.88%			
73) toluene-d8 (s)	12.494	98	417176	50.68	ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 101.36%			
96) 4-bromofluorobenzene (s)	15.241	95	183575	49.58	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 99.16%			
Target Compounds						Qvalue
75) toluene	12.562	92	2539	0.58	ug/L	96

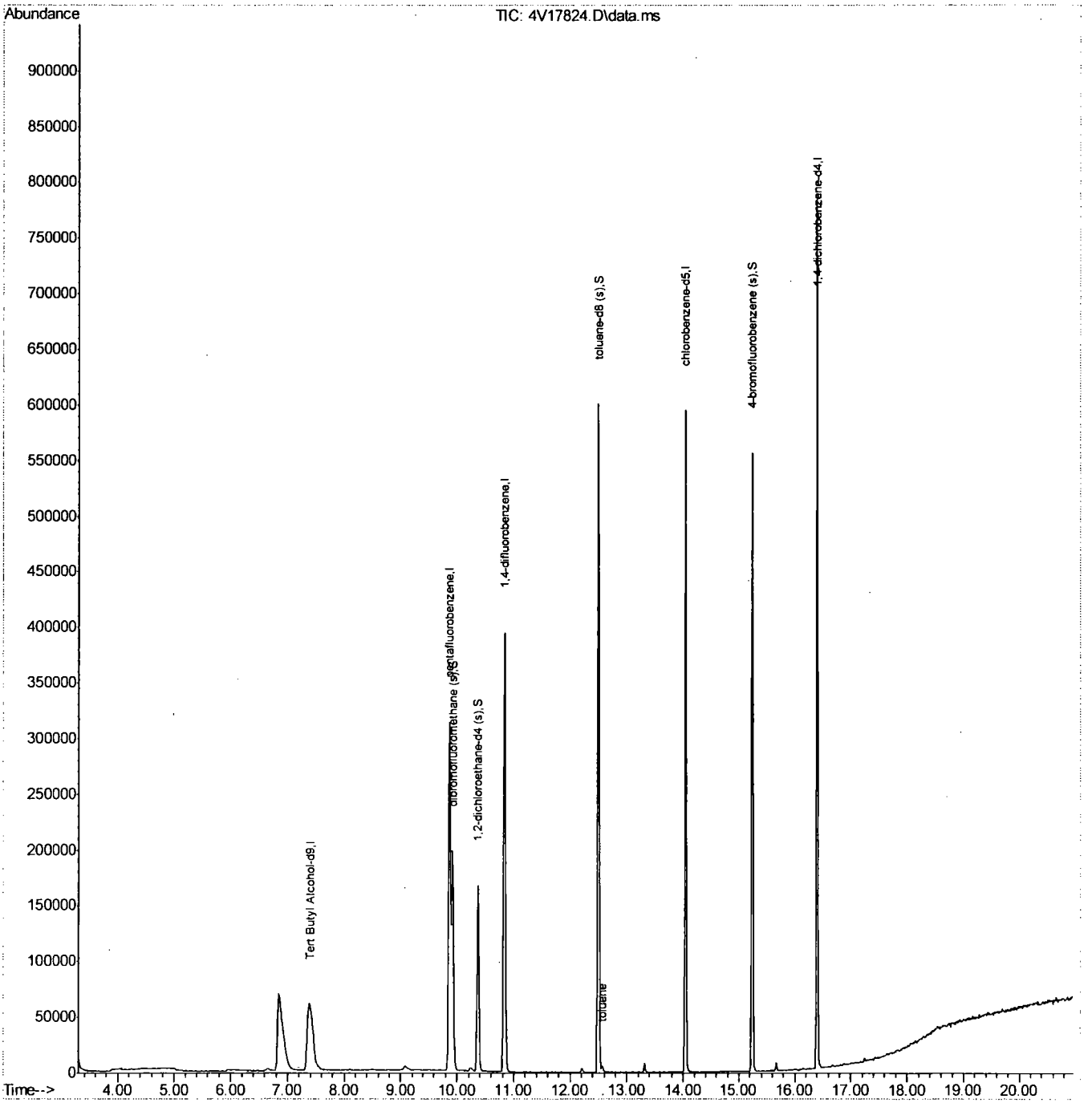
(#) = qualifier out of range (m) = manual integration (+) = signals summed

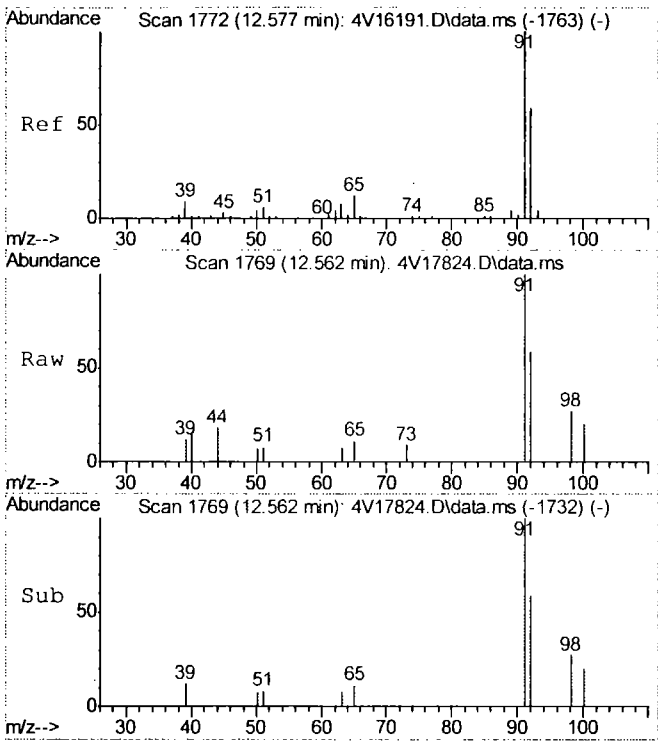
7.1.7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17824.D
Acq On : 20 May 2015 7:04 pm
Operator : jemimam
Sample : jb94786-6
Misc : MS85329,V4V723,5,,,,1
ALS Vial : 22 Sample Multiplier: 1

Quant Time: May 21 16:51:23 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 15:20:43 2015
Response via : Initial Calibration

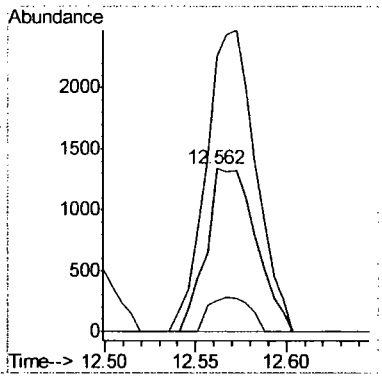




#75
toluene
Concen: 0.58 ug/L
RT: 12.562 min Scan# 1769
Delta R.T. -0.005 min
Lab File: 4V17824.D
Acq: 20 May 2015 7:04 pm

Tgt Ion: 92 Resp: 2539

Ion	Ratio	Lower	Upper
92	100		
91	168.5	144.9	204.9
65	18.9	0.0	49.9



7.1.7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17817.D
Acq On : 20 May 2015 4:25 pm
Operator : jemimam
Sample : jb94786-7
Misc : MS85329,V4V723,5,,,,1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: May 21 16:45:09 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 15:20:43 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.382	65	244799	500.00	ug/L	0.00
4) pentafluorobenzene	9.867	168	279864	50.00	ug/L	0.00
51) 1,4-difluorobenzene	10.832	114	375884	50.00	ug/L	0.00
81) chlorobenzene-d5	14.046	117	323661	50.00	ug/L	0.00
94) 1,4-dichlorobenzene-d4	16.400	152	189662	50.00	ug/L	0.00
System Monitoring Compounds						
45) dibromofluoromethane (s)	9.919	113	141113	51.49	ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 102.98%			
46) 1,2-dichloroethane-d4 (s)	10.365	65	135416	47.93	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 95.86%			
73) toluene-d8 (s)	12.494	98	406048	49.94	ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 99.88%			
96) 4-bromofluorobenzene (s)	15.241	95	173792	49.83	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 99.66%			
Target Compounds						Qvalue
33) 1,1-dichloroethane	8.462	63	1299	0.34	ug/L	88
39) cis-1,2-dichloroethene	9.290	96	2274	0.85	ug/L #	46
49) 1,1,1-trichloroethane	9.935	97	1524	0.44	ug/L	78
63) trichloroethene	11.167	95	828	0.43	ug/L	86
82) tetrachloroethene	13.154	166	635	0.37	ug/L	82

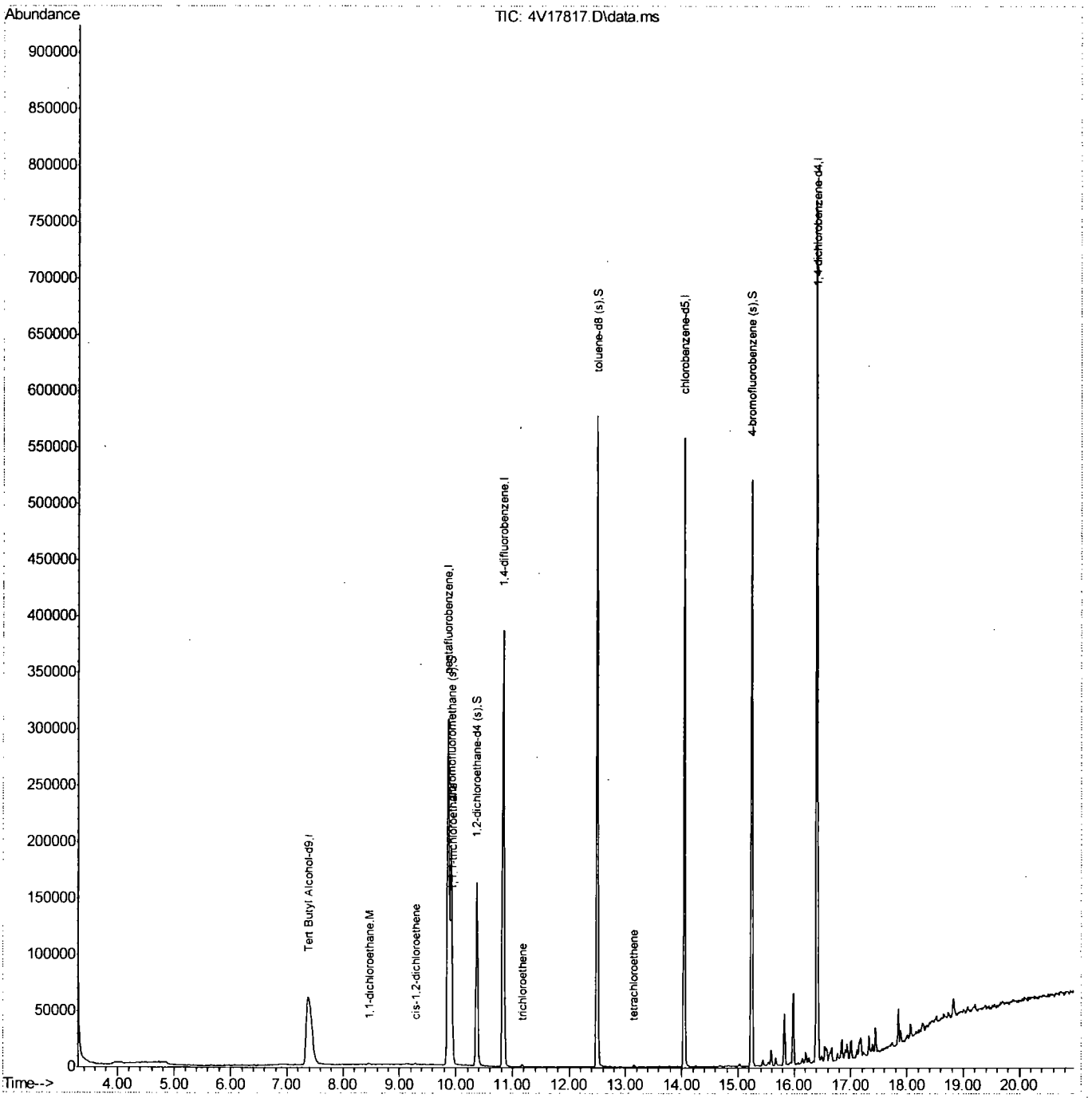
(#) = qualifier out of range (m) = manual integration (+) = signals summed

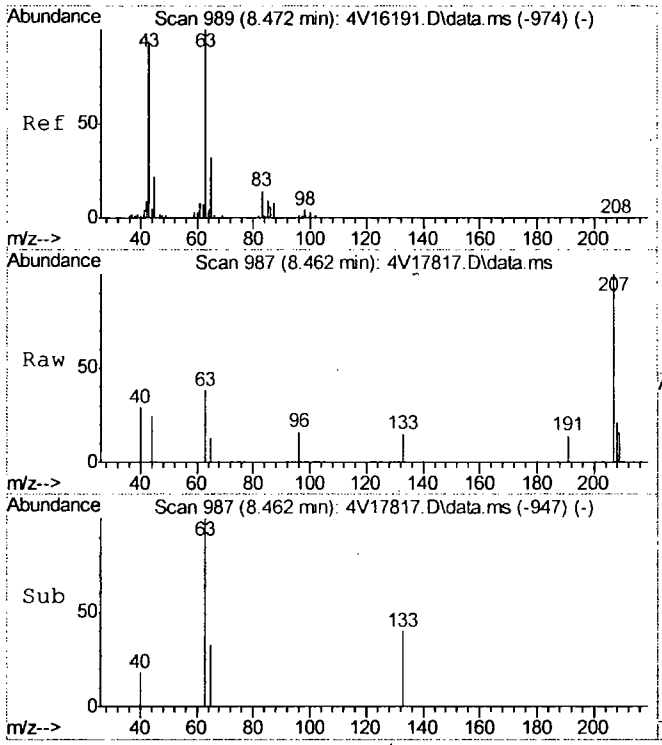
7.1.8 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17817.D
Acq On : 20 May 2015 4:25 pm
Operator : jemimam
Sample : jb94786-7
Misc : MS85329,V4V723,5,,,,1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: May 21 16:45:09 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 15:20:43 2015
Response via : Initial Calibration

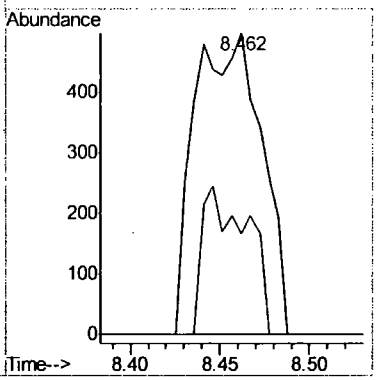


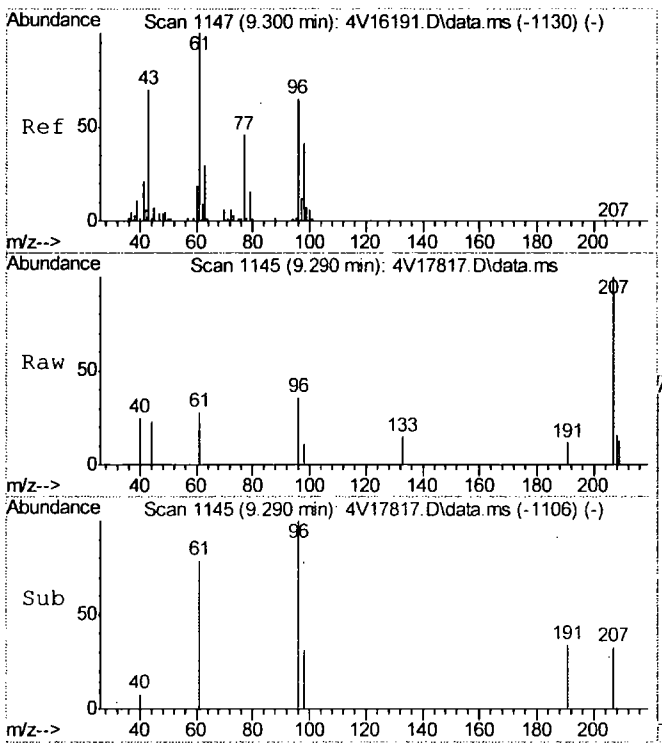


#33
1,1-dichloroethane
Concen: 0.34 ug/L
RT: 8.462 min Scan# 987
Delta R.T. 0.011 min
Lab File: 4V17817.D
Acq: 20 May 2015 4:25 pm

Tgt Ion: 63 Resp: 1299

Ion	Ratio	Lower	Upper
63	100		
65	33.3	1.7	61.7
83	0.0	0.0	43.8

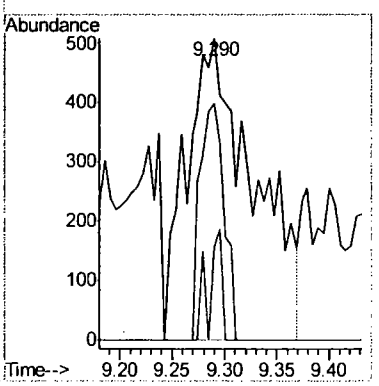


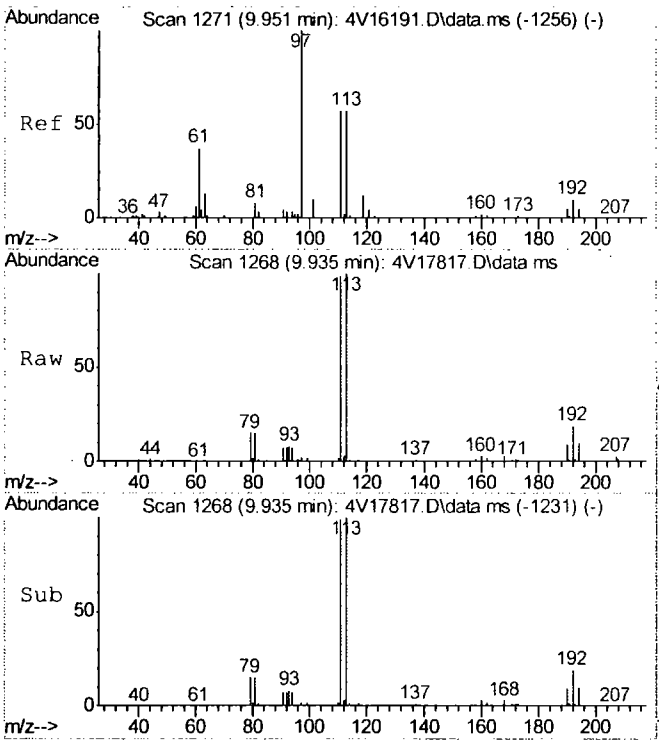


#39
cis-1,2-dichloroethene
Concen: 0.85 ug/L
RT: 9.290 min Scan# 1145
Delta R.T. 0.005 min
Lab File: 4V17817.D
Acq: 20 May 2015 4:25 pm

Tgt Ion: 96 Resp: 2274

Ion	Ratio	Lower	Upper
96	100		
61	78.5	123.4	183.4#
98	30.8	34.6	94.6#

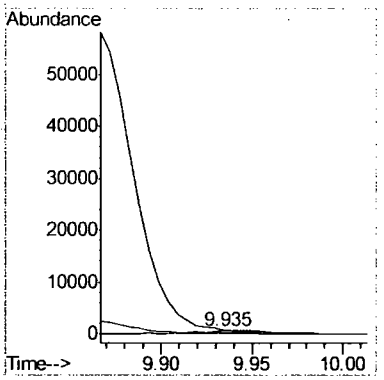


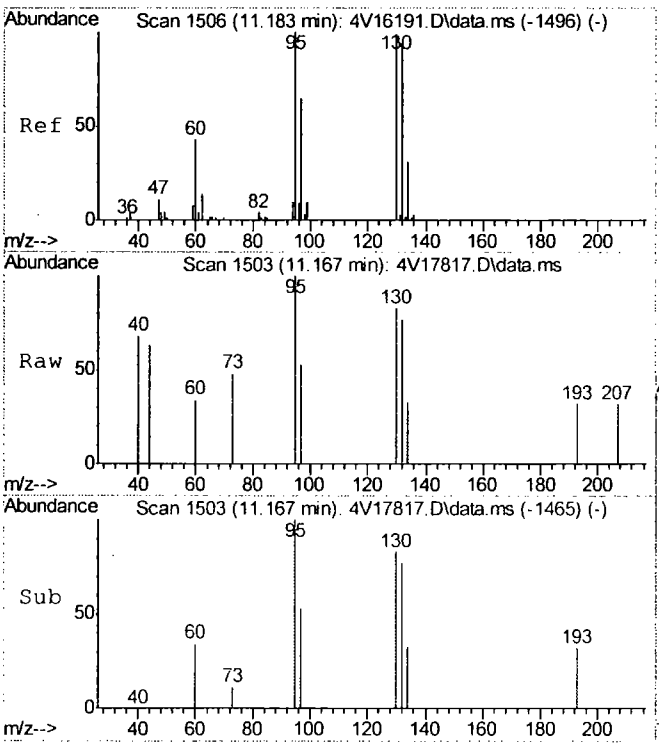


#49
1,1,1-trichloroethane
Concen: 0.44 ug/L
RT: 9.935 min Scan# 1268
Delta R.T. -0.005 min
Lab File: 4V17817.D
Acq: 20 May 2015 4:25 pm

Tgt Ion: 97 Resp: 1524

Ion	Ratio	Lower	Upper
97	100		
99	83.9	34.8	94.8
61	27.9	9.5	69.5

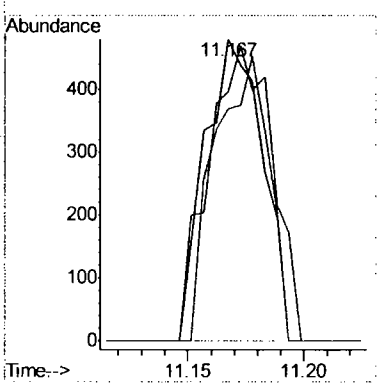


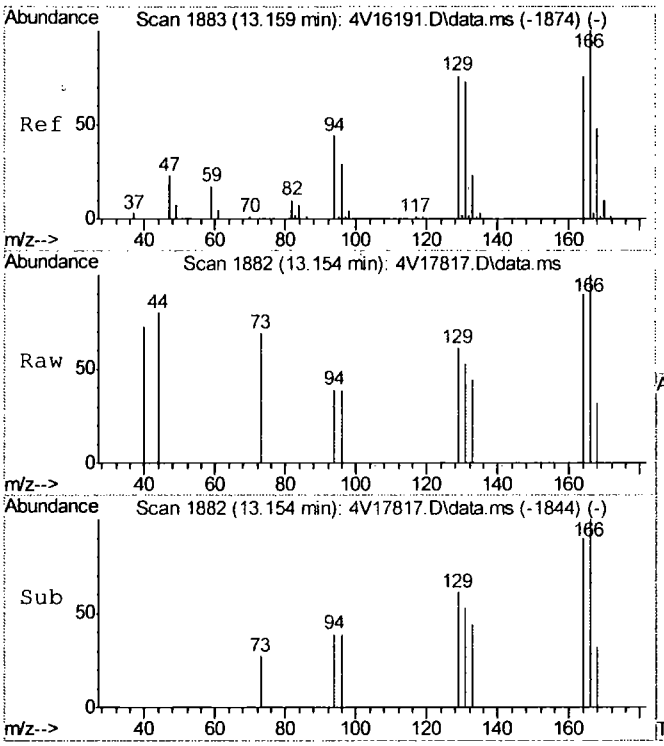


#63
trichloroethene
Concen: 0.43 ug/L
RT: 11.167 min Scan# 1503
Delta R.T. 0.000 min
Lab File: 4V17817.D
Acq: 20 May 2015 4:25 pm

Tgt Ion: 95 Resp: 828

Ion	Ratio	Lower	Upper
95	100		
130	82.5	66.0	126.0
132	76.9	60.3	120.3

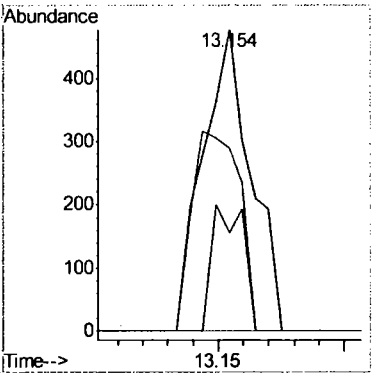




#82
tetrachloroethene
Concen: 0.37 ug/L
RT: 13.154 min Scan# 1882
Delta R.T. 0.000 min
Lab File: 4V17817.D
Acq: 20 May 2015 4:25 pm

Tgt Ion:166 Resp: 635

Ion	Ratio	Lower	Upper
166	100		
168	32.5	16.3	76.3
129	60.8	43.9	103.9



7.1.8

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17809.D
Acq On : 20 May 2015 12:51 pm
Operator : jemimam
Sample : jb94786-8
Misc : MS85329,V4V723,5,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 21 14:42:56 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 15:20:43 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.382	65	243327	500.00	ug/L	0.00
4) pentafluorobenzene	9.867	168	282446	50.00	ug/L	0.00
51) 1,4-difluorobenzene	10.832	114	366943	50.00	ug/L	0.00
81) chlorobenzene-d5	14.046	117	304767	50.00	ug/L	0.00
94) 1,4-dichlorobenzene-d4	16.400	152	185681	50.00	ug/L	0.00
System Monitoring Compounds						
45) dibromofluoromethane (s)	9.919	113	138548	50.09	ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 100.18%			
46) 1,2-dichloroethane-d4 (s)	10.365	65	132986	46.64	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 93.28%			
73) toluene-d8 (s)	12.494	98	388857	48.99	ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 97.98%			
96) 4-bromofluorobenzene (s)	15.241	95	166700	48.82	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 97.64%			
Target Compounds						Qvalue
12) chloroethane	5.069	64	2038	1.65	ug/L	94
33) 1,1-dichloroethane	8.451	63	27396	7.18	ug/L	98
49) 1,1,1-trichloroethane	9.940	97	6858	1.96	ug/L	82
63) trichloroethene	11.178	95	521	0.28	ug/L	90
82) tetrachloroethene	13.149	166	3258	2.03	ug/L	95
106) tert-butylbenzene	15.933	119	1636	0.27	ug/L	95
110) 1,3-dichlorobenzene	16.342	146	1822	0.36	ug/L	96
118) 1,2,4-trichlorobenzene	18.277	180	3035	0.70	ug/L	98
121) 1,2,3-trichlorobenzene	18.738	180	1391	0.31	ug/L	92

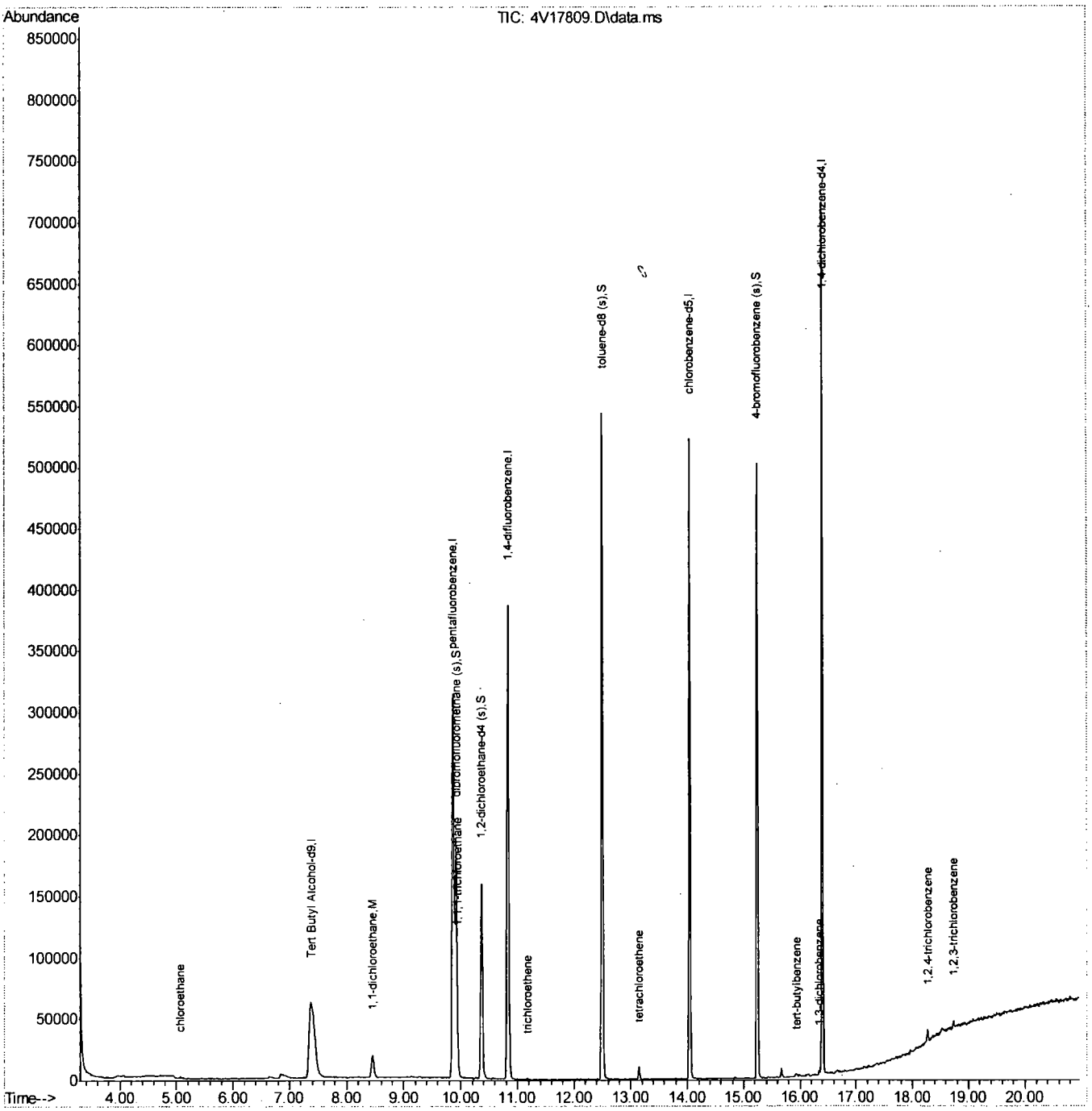
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.9

Quantitation Report (QT Reviewed)

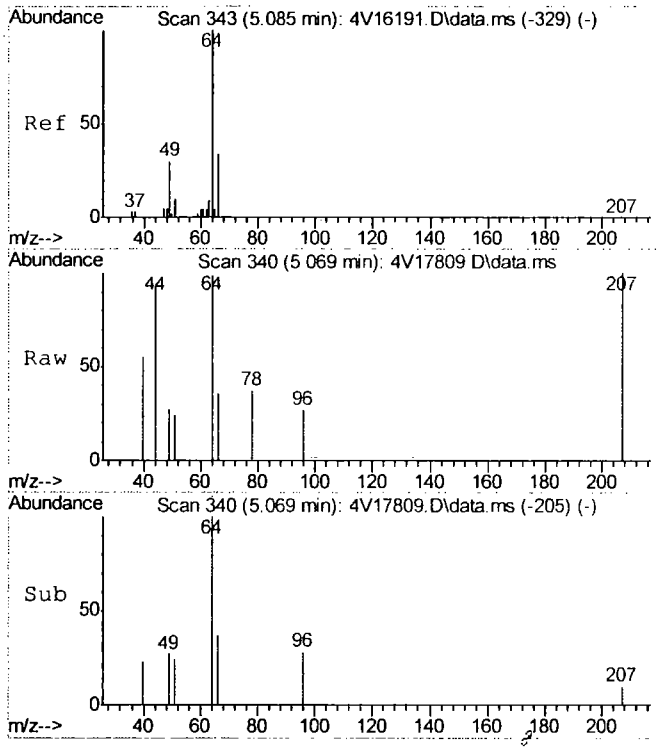
Data Path : C:\msdchem\1\DATA\
Data File : 4V17809.D
Acq On : 20 May 2015 12:51 pm
Operator : jemimam
Sample : jb94786-8
Misc : MS85329,V4V723,5,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 21 14:42:56 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 15:20:43 2015
Response via : Initial Calibration



7.1.9

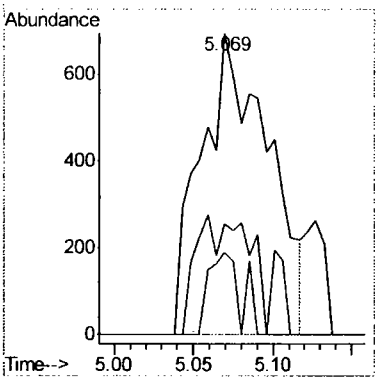
7

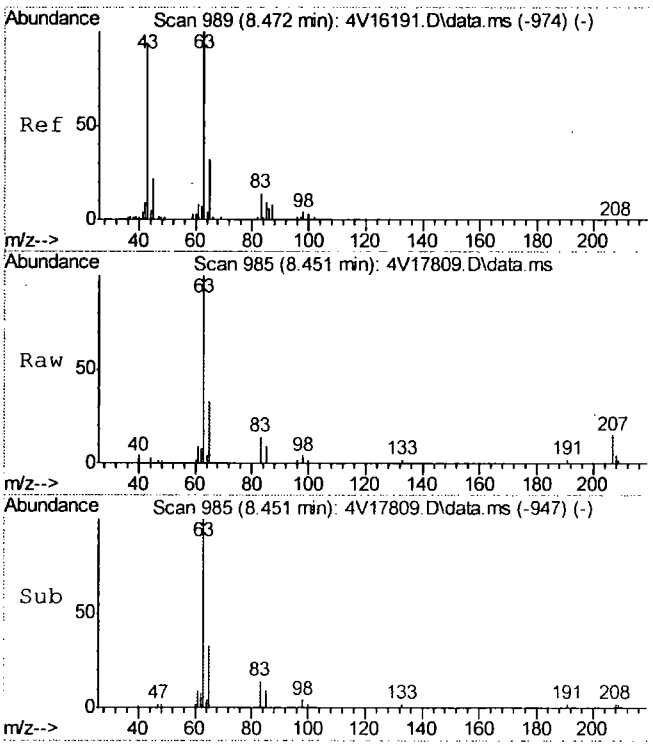


#12
chloroethane
Concen: 1.65 ug/L
RT: 5.069 min Scan# 340
Delta R.T. 0.005 min
Lab File: 4V17809.D
Acq: 20 May 2015 12:51 pm

Tgt Ion: 64 Resp: 2038

Ion	Ratio	Lower	Upper
64	100		
66	36.9	1.4	61.4
49	27.2	0.0	58.6

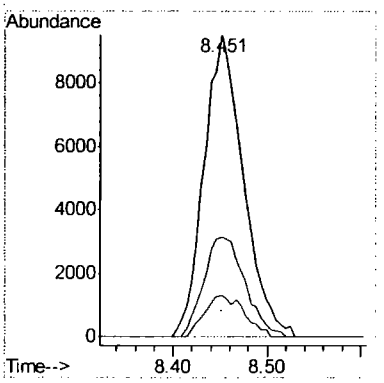


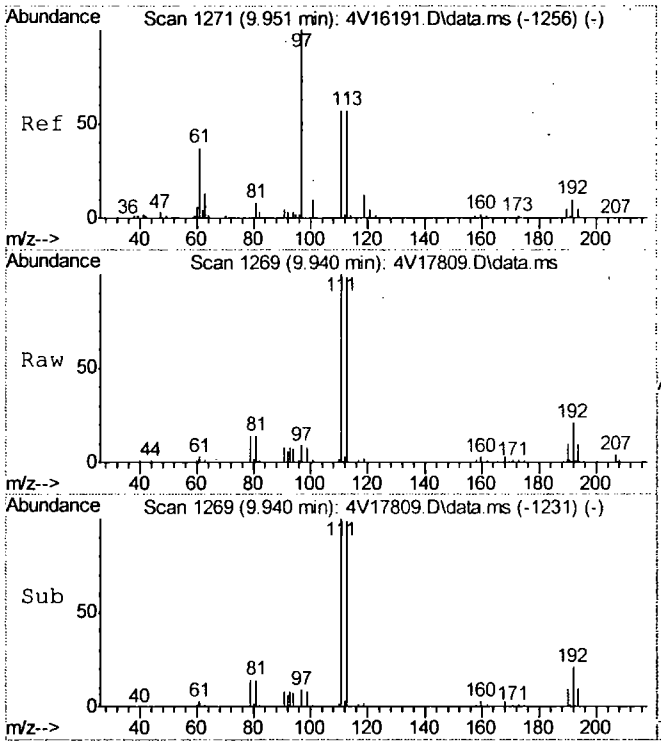


#33
1,1-dichloroethane
Concen: 7.18 ug/L
RT: 8.451 min Scan# 985
Delta R.T. -0.000 min
Lab File: 4V17809.D
Acq: 20 May 2015 12:51 pm

Tgt Ion: 63 Resp: 27396

Ion	Ratio	Lower	Upper
63	100		
65	33.0	1.7	61.7
83	13.6	0.0	43.8

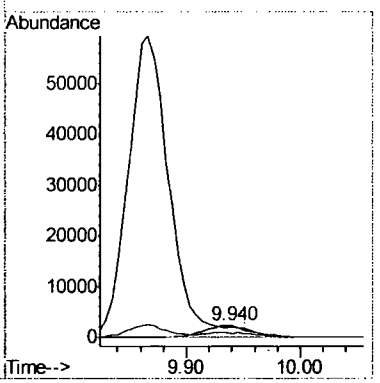


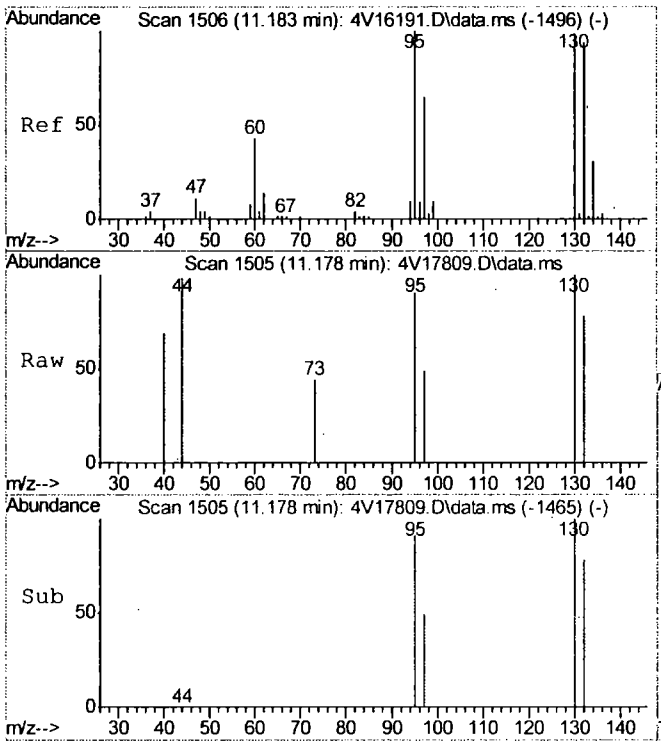


#49
1,1,1-trichloroethane
Concen: 1.96 ug/L
RT: 9.940 min Scan# 1269
Delta R.T. -0.000 min
Lab File: 4V17809.D
Acq: 20 May 2015 12:51 pm

Tgt Ion: 97 Resp: 6858

Ion	Ratio	Lower	Upper
97	100		
99	83.7	34.8	94.8
61	34.4	9.5	69.5

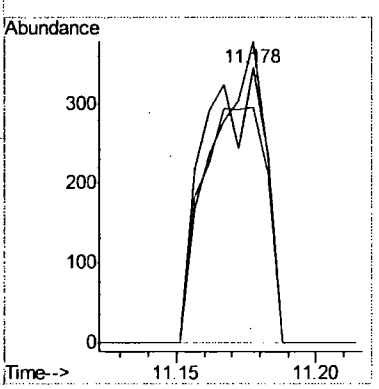


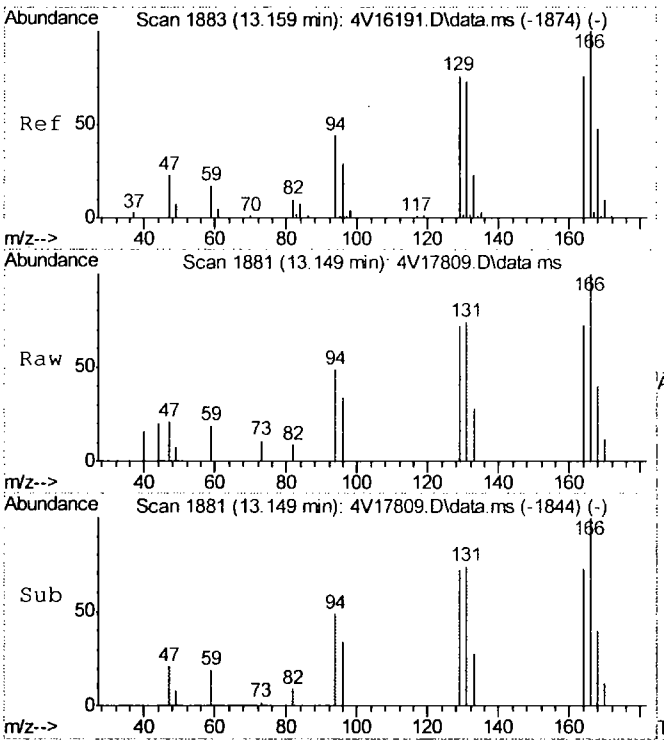


#63
trichloroethene
Concen: 0.28 ug/L
RT: 11.178 min Scan# 1505
Delta R.T. 0.010 min
Lab File: 4V17809.D
Acq: 20 May 2015 12:51 pm

Tgt Ion: 95 Resp: 521

Ion	Ratio	Lower	Upper
95	100		
130	109.6	66.0	126.0
132	85.5	60.3	120.3

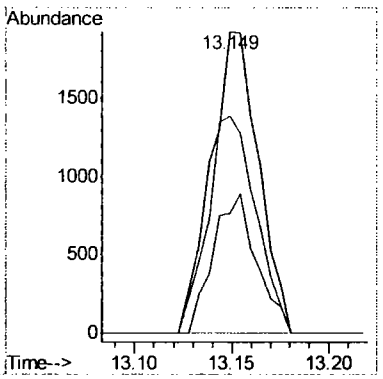


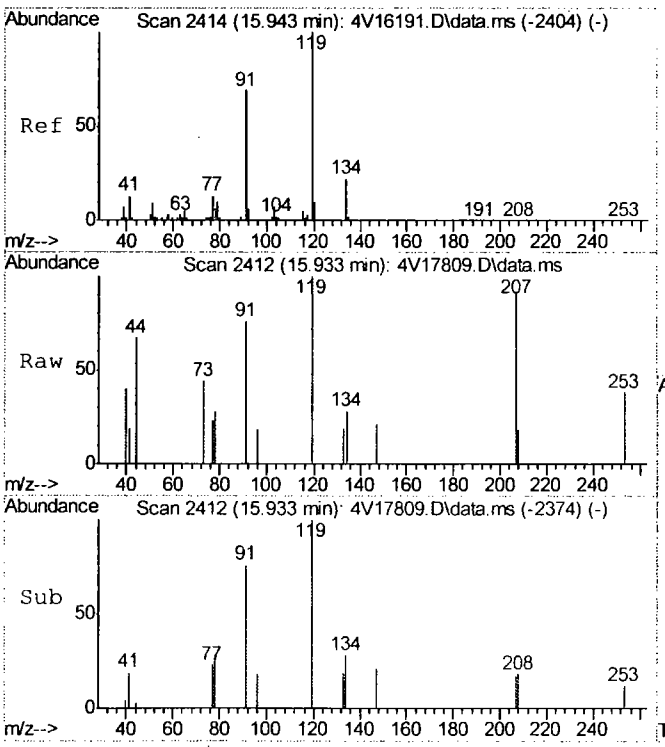


#82
tetrachloroethene
Concen: 2.03 ug/L
RT: 13.149 min Scan# 1881
Delta R.T. -0.005 min
Lab File: 4V17809.D
Acq: 20 May 2015 12:51 pm

Tgt Ion:166 Resp: 3258

Ion	Ratio	Lower	Upper
166	100		
168	39.9	16.3	76.3
129	71.8	43.9	103.9

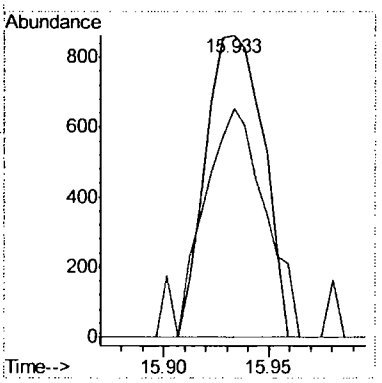


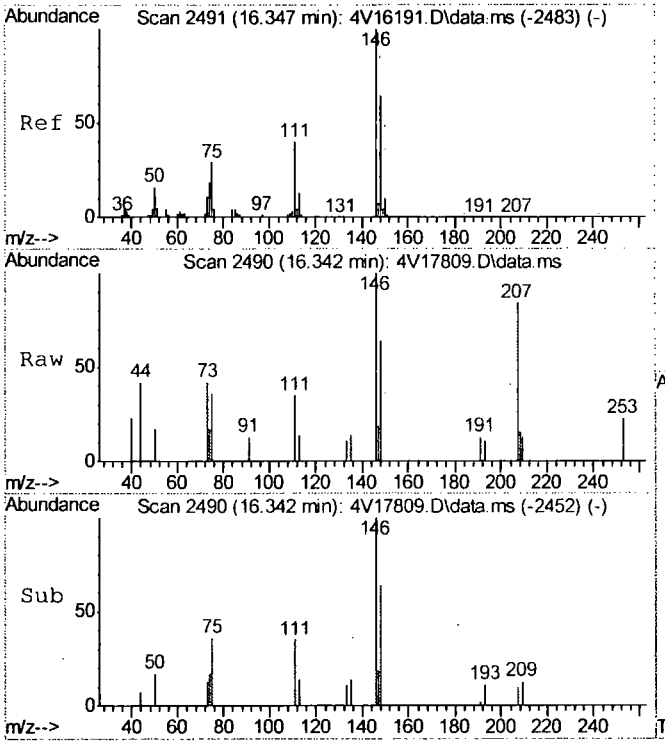


#106
tert-butylbenzene
Concen: 0.27 ug/L
RT: 15.933 min Scan# 2412
Delta R.T. -0.000 min
Lab File: 4V17809.D
Acq: 20 May 2015 12:51 pm

Tgt Ion:119 Resp: 1636

Ion	Ratio	Lower	Upper
119	100		
91	75.8	41.5	101.5
117	0.0	0.0	33.6

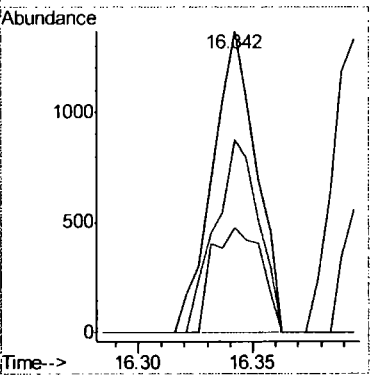


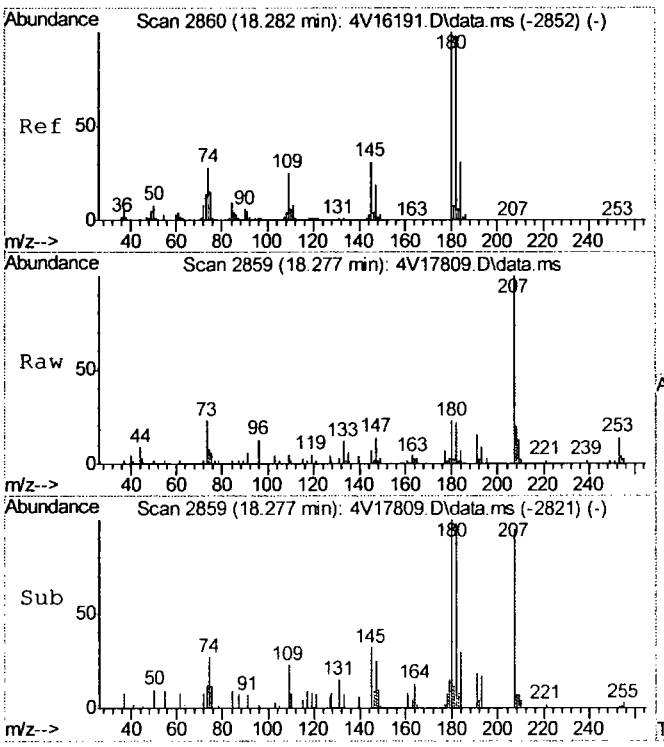


#110
1,3-dichlorobenzene
Concen: 0.36 ug/L
RT: 16.342 min Scan# 2490
Delta R.T. -0.000 min
Lab File: 4V17809.D
Acq: 20 May 2015 12:51 pm

Tgt Ion:146 Resp: 1822

Ion	Ratio	Lower	Upper
146	100		
111	34.7	9.5	69.5
148	63.9	33.2	93.2

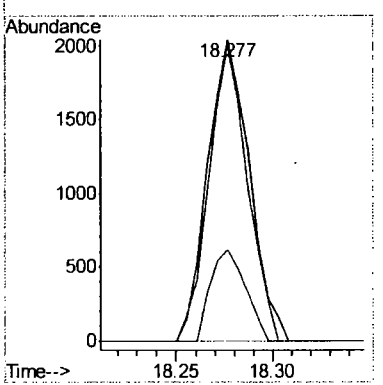


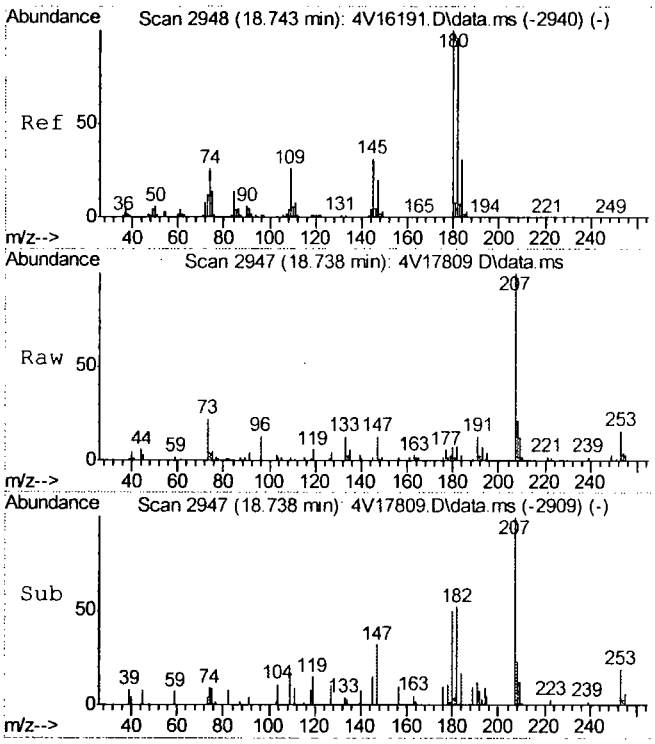


#118
1,2,4-trichlorobenzene
Concen: 0.70 ug/L
RT: 18.277 min Scan# 2859
Delta R.T. -0.000 min
Lab File: 4V17809.D
Acq: 20 May 2015 12:51 pm

Tgt Ion:180 Resp: 3035

Ion	Ratio	Lower	Upper
180	100		
182	98.1	65.5	125.5
184	30.2	0.0	59.6

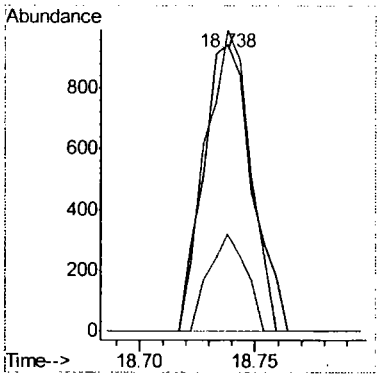




#121
1,2,3-trichlorobenzene
Concen: 0.31 ug/L
RT: 18.738 min Scan# 2947
Delta R.T. -0.000 min
Lab File: 4V17809.D
Acq: 20 May 2015 12:51 pm

Tgt Ion:180 Resp: 1391

Ion	Ratio	Lower	Upper
180	100		
182	105.2	66.4	126.4
184	33.9	0.4	60.4



7.1.9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17818.D
Acq On : 20 May 2015 4:52 pm
Operator : jemimam
Sample : jb94786-9
Misc : MS85329,V4V723,5,,,,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: May 21 16:46:05 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 15:20:43 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.382	65	242018	500.00	ug/L	0.00
4) pentafluorobenzene	9.867	168	283952	50.00	ug/L	0.00
51) 1,4-difluorobenzene	10.832	114	374823	50.00	ug/L	0.00
81) chlorobenzene-d5	14.046	117	317342	50.00	ug/L	0.00
94) 1,4-dichlorobenzene-d4	16.400	152	185560	50.00	ug/L	0.00
System Monitoring Compounds						
45) dibromofluoromethane (s)	9.919	113	141136	50.75	ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 101.50%			
46) 1,2-dichloroethane-d4 (s)	10.365	65	135255	47.19	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 94.38%			
73) toluene-d8 (s)	12.494	98	399157	49.23	ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 98.46%			
96) 4-bromofluorobenzene (s)	15.241	95	165188	48.41	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 96.82%			
Target Compounds						Qvalue
33) 1,1-dichloroethane	8.457	63	11411	2.97	ug/L	98
39) cis-1,2-dichloroethene	9.285	96	2761	1.02	ug/L #	51
49) 1,1,1-trichloroethane	9.940	97	10065	2.86	ug/L	86
63) trichloroethene	11.172	95	1927	1.00	ug/L	91
82) tetrachloroethene	13.154	166	7818	4.68	ug/L	98

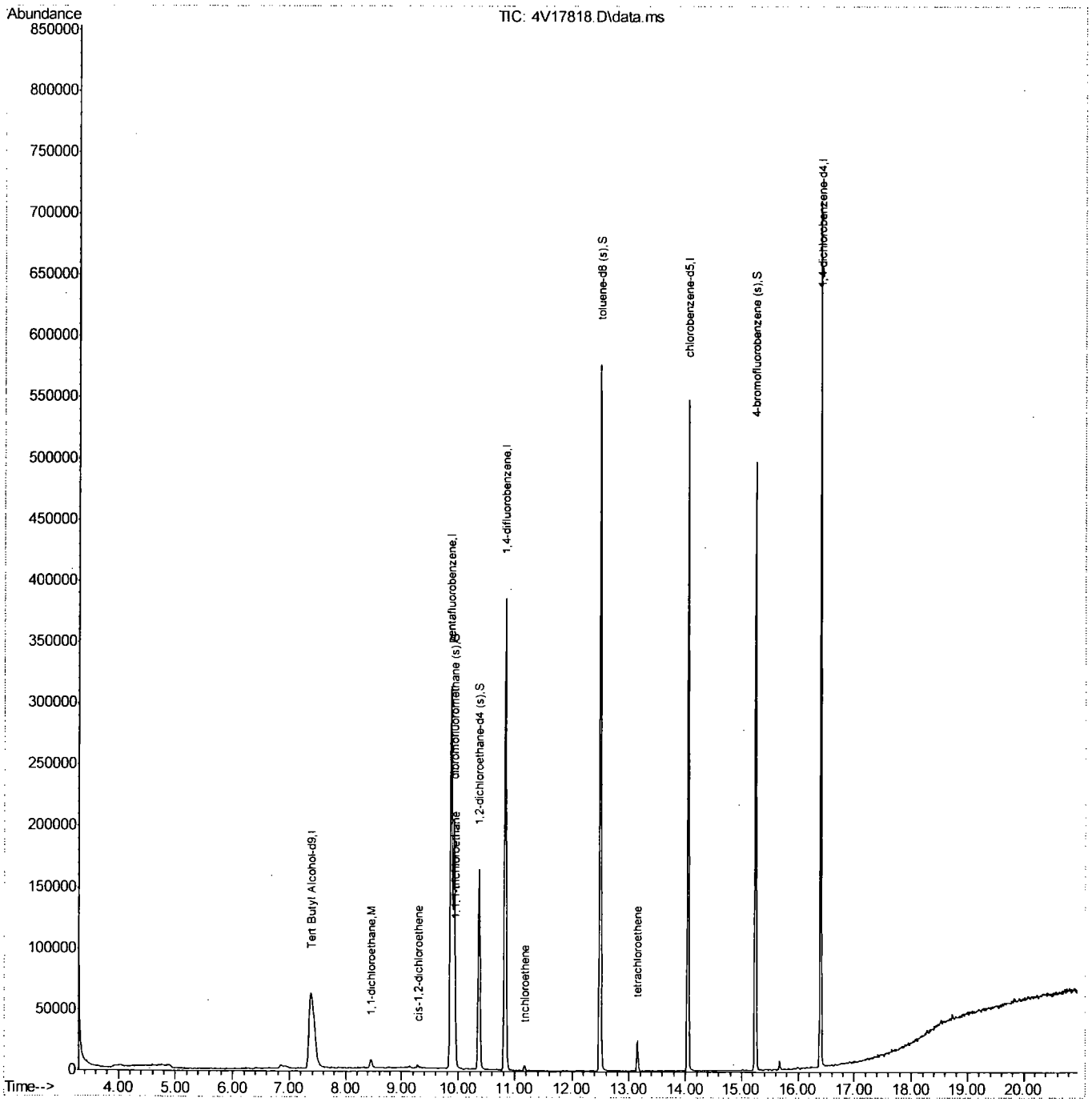
(#) = qualifier out of range (m) = manual integration (+) = signals summed

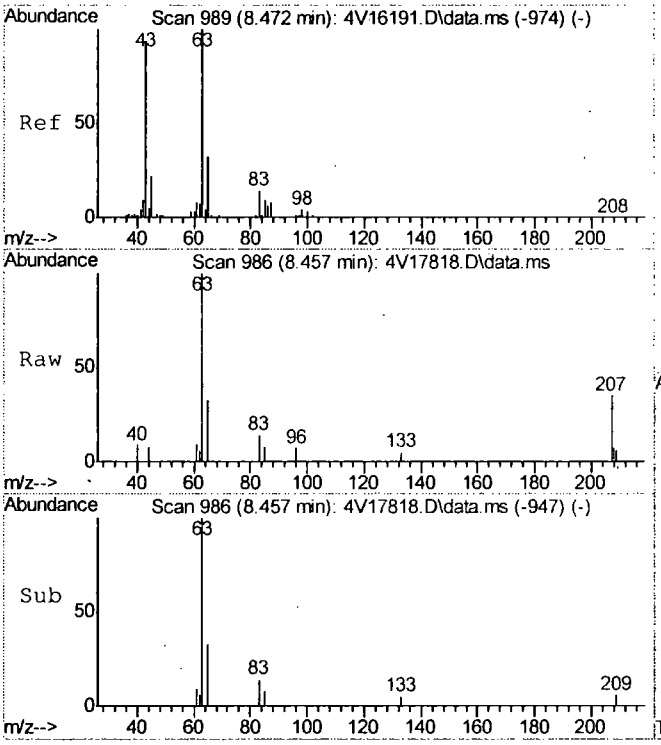
7.1.10 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17818.D
Acq On : 20 May 2015 4:52 pm
Operator : jemimam
Sample : jb94786-9
Misc : MS85329,V4V723,5,,,,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: May 21 16:46:05 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 15:20:43 2015
Response via : Initial Calibration

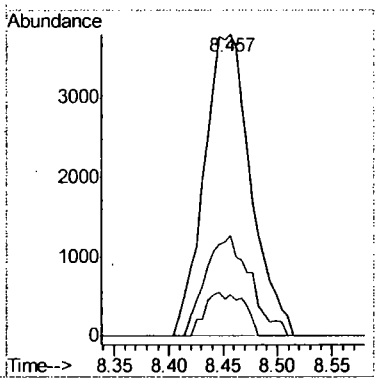


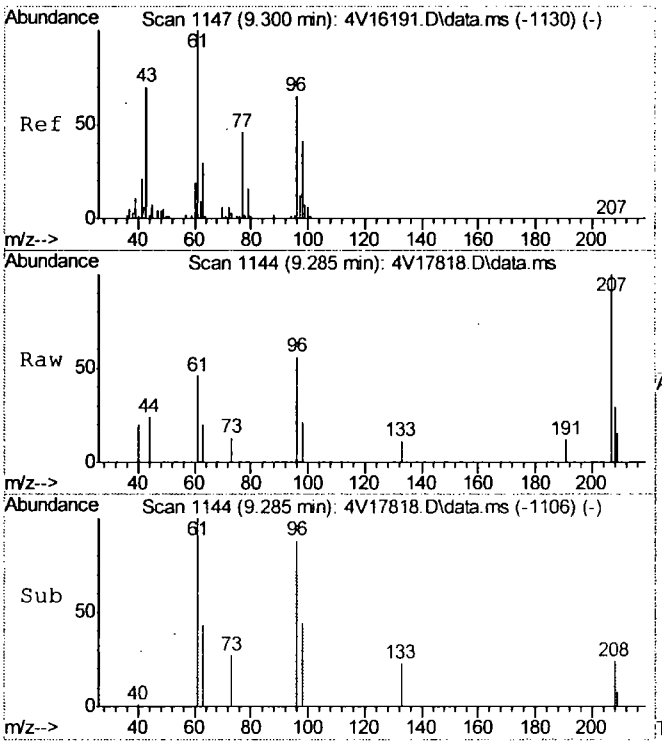


#33
1,1-dichloroethane
Concen: 2.97 ug/L
RT: 8.457 min Scan# 986
Delta R.T. 0.005 min
Lab File: 4V17818.D
Acq: 20 May 2015 4:52 pm

Tgt Ion: 63 Resp: 11411

Ion	Ratio	Lower	Upper
63	100		
65	33.3	1.7	61.7
83	13.7	0.0	43.8

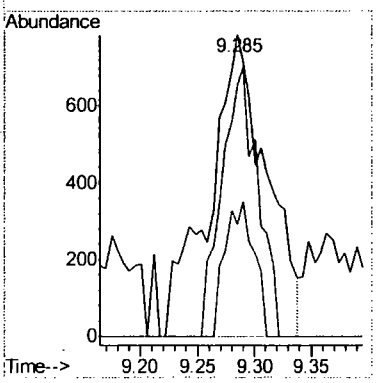


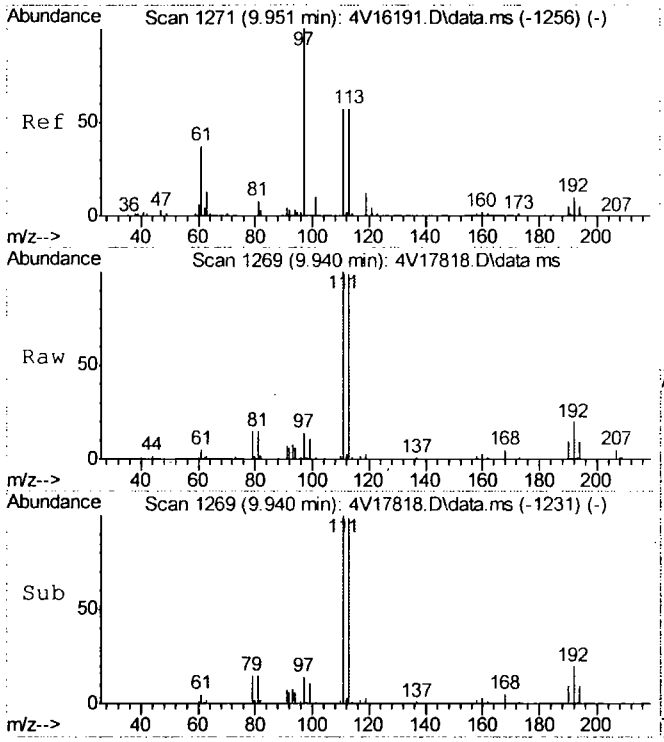


#39
cis-1,2-dichloroethene
Concen: 1.02 ug/L
RT: 9.285 min Scan# 1144
Delta R.T. 0.000 min
Lab File: 4V17818.D
Acq: 20 May 2015 4:52 pm

Tgt Ion: 96 Resp: 2761

Ion	Ratio	Lower	Upper
96	100		
61	83.5	123.4	183.4#
98	37.0	34.6	94.6

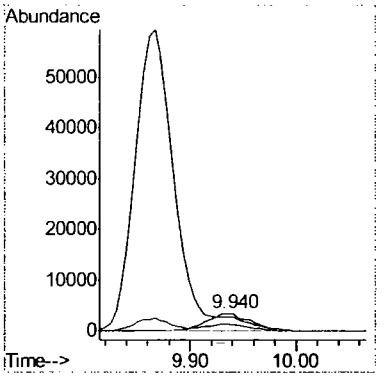


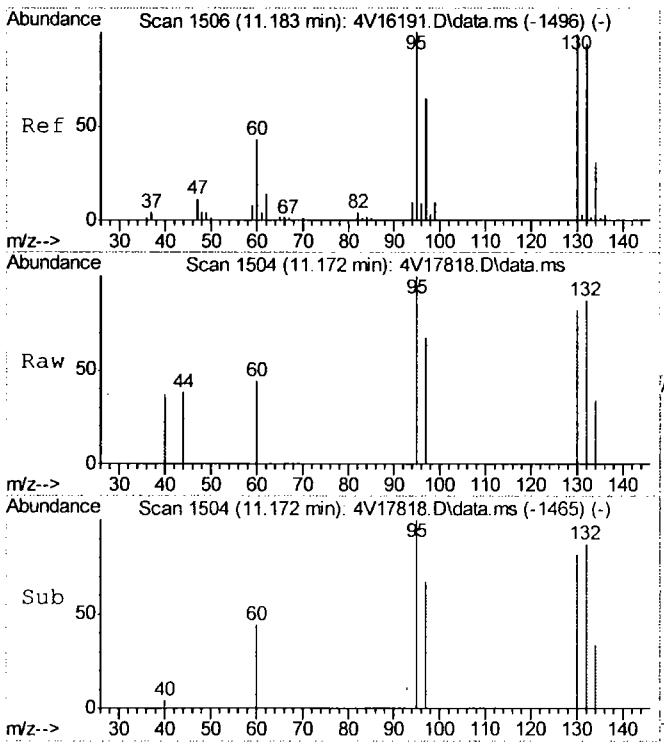


#49
1,1,1-trichloroethane
Concen: 2.86 ug/L
RT: 9.940 min Scan# 1269
Delta R.T. 0.000 min
Lab File: 4V17818.D
Acq: 20 May 2015 4:52 pm

Tgt Ion: 97 Resp: 10065

Ion	Ratio	Lower	Upper
97	100		
99	77.8	34.8	94.8
61	34.1	9.5	69.5

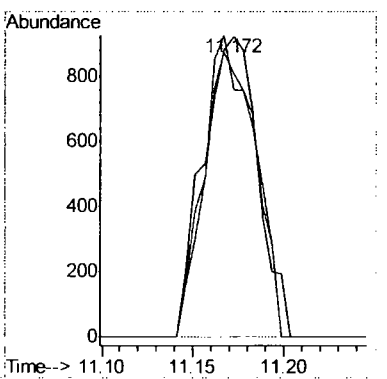


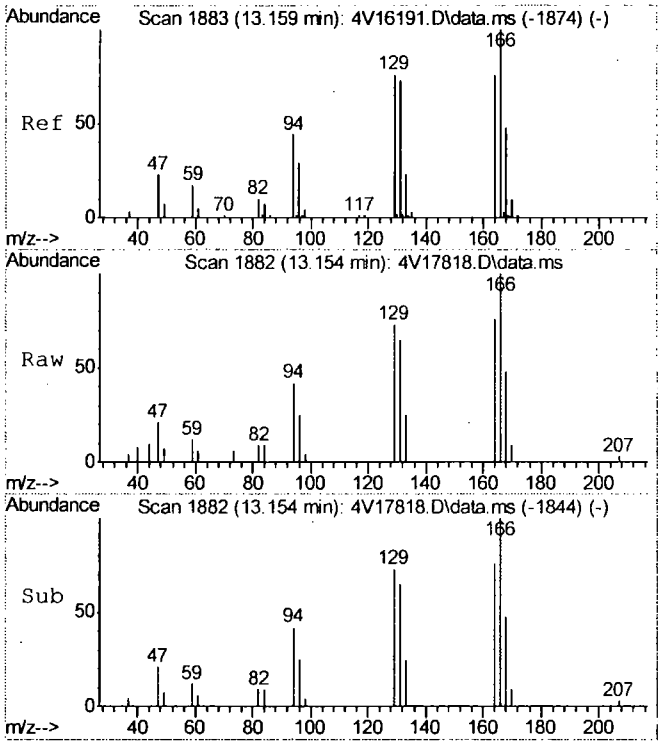


#63
trichloroethene
Concen: 1.00 ug/L
RT: 11.172 min Scan# 1504
Delta R.T. 0.005 min
Lab File: 4V17818.D
Acq: 20 May 2015 4:52 pm

Tgt Ion: 95 Resp: 1927

Ion	Ratio	Lower	Upper
95	100		
130	81.9	66.0	126.0
132	87.2	60.3	120.3

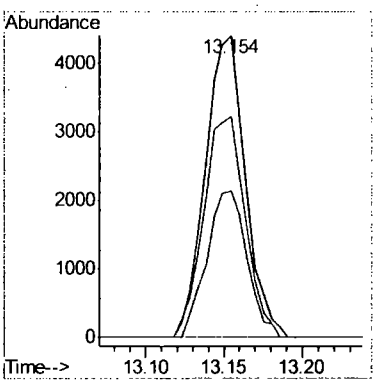




#82
tetrachloroethene
Concen: 4.68 ug/L
RT: 13.154 min Scan# 1882
Delta R.T. 0.000 min
Lab File: 4V17818.D
Acq: 20 May 2015 4:52 pm

Tgt Ion:166 Resp: 7818

Ion	Ratio	Lower	Upper
166	100		
168	48.5	16.3	76.3
129	73.2	43.9	103.9



7.1.10

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17819.D
Acq On : 20 May 2015 5:18 pm
Operator : jemimam
Sample : jb94786-10
Misc : MS85329,V4V723,5,,,,1
ALS Vial : 18 Sample Multiplier: 1

Quant Time: May 21 16:46:56 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 15:20:43 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.387	65	237185	500.00	ug/L	0.00
4) pentafluorobenzene	9.867	168	294619	50.00	ug/L	0.00
51) 1,4-difluorobenzene	10.832	114	393043	50.00	ug/L	0.00
81) chlorobenzene-d5	14.046	117	343265	50.00	ug/L	0.00
94) 1,4-dichlorobenzene-d4	16.394	152	200732	50.00	ug/L	0.00
System Monitoring Compounds						
45) dibromofluoromethane (s)	9.919	113	149215	51.71	ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 103.42%			
46) 1,2-dichloroethane-d4 (s)	10.365	65	142199	47.81	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 95.62%			
73) toluene-d8 (s)	12.494	98	428302	50.38	ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 100.76%			
96) 4-bromofluorobenzene (s)	15.241	95	180412	48.87	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 97.74%			
Target Compounds						Qvalue

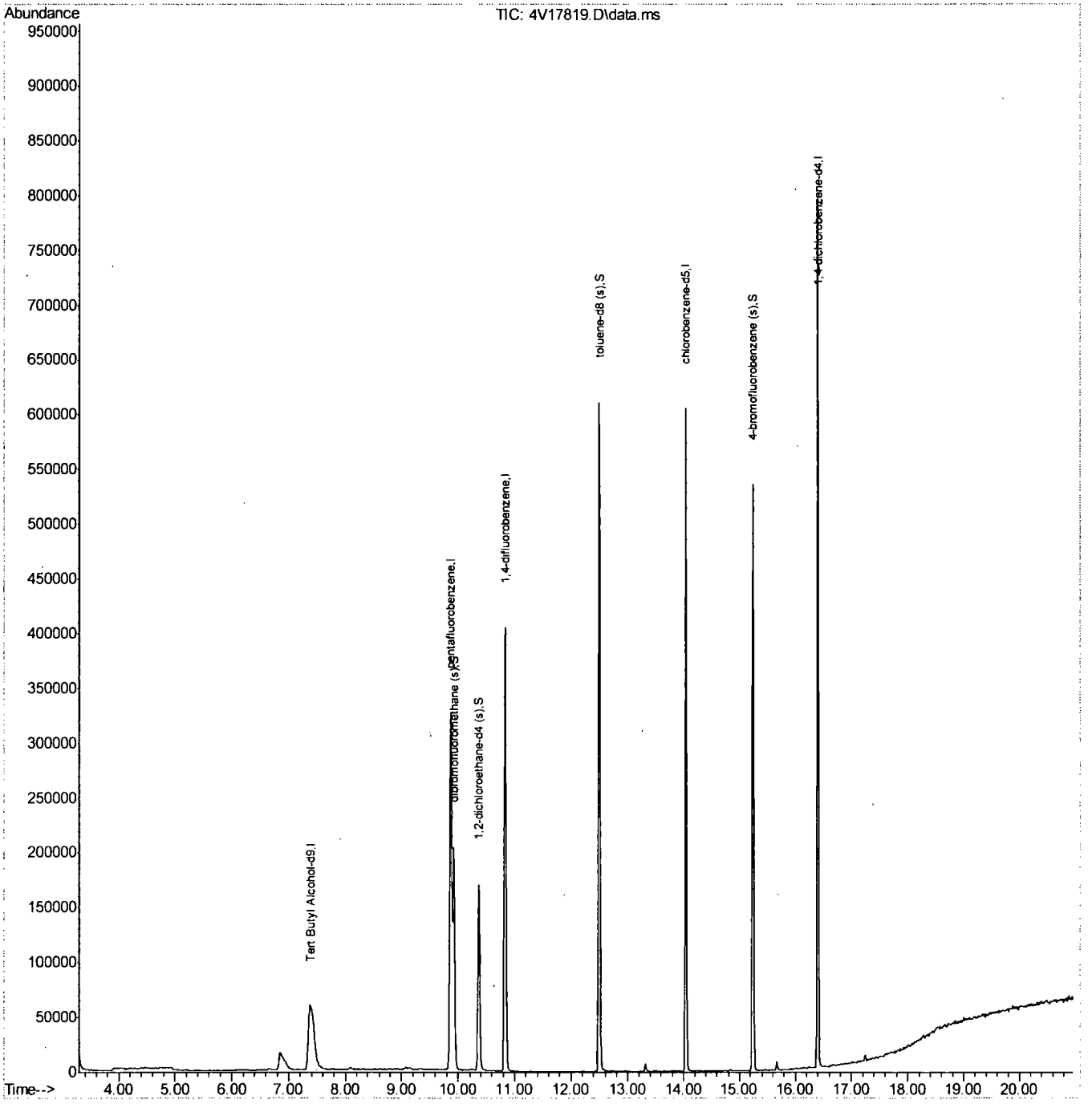
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.11

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17819.D
Acq On : 20 May 2015 5:18 pm
Operator : jemimam
Sample : jb94786-10
Misc : MS85329,V4V723,5,,,,1
ALS Vial : 18 Sample Multiplier: 1

Quant Time: May 21 16:46:56 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 15:20:43 2015
Response via : Initial Calibration



7.1.11

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17821.D
Acq On : 20 May 2015 6:11 pm
Operator : jemimam
Sample : jb94786-11
Misc : MS85329,V4V723,5,,,,1
ALS Vial : 20 Sample Multiplier: 1

Quant Time: May 28 15:31:05 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 15:20:43 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.382	65	245650	500.00	ug/L	0.00
4) pentafluorobenzene	9.867	168	277925	50.00	ug/L	0.00
51) 1,4-difluorobenzene	10.832	114	369113	50.00	ug/L	0.00
81) chlorobenzene-d5	14.046	117	328635	50.00	ug/L	0.00
94) 1,4-dichlorobenzene-d4	16.400	152	194275	50.00	ug/L	0.00
System Monitoring Compounds						
45) dibromofluoromethane (s)	9.919	113	139860	51.38	ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 102.76%			
46) 1,2-dichloroethane-d4 (s)	10.365	65	133053	47.43	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 94.86%			
73) toluene-d8 (s)	12.494	98	402667	50.43	ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 100.86%			
96) 4-bromofluorobenzene (s)	15.241	95	175113	49.01	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 98.02%			
Target Compounds						Qvalue
33) 1,1-dichloroethane	8.446	63	1318	0.35	ug/L	86
49) 1,1,1-trichloroethane	9.940	97	1470	0.43	ug/L	86
63) trichloroethene	11.162	95	687	0.36	ug/L	73
82) tetrachloroethene	13.154	166	470	0.27	ug/L #	72

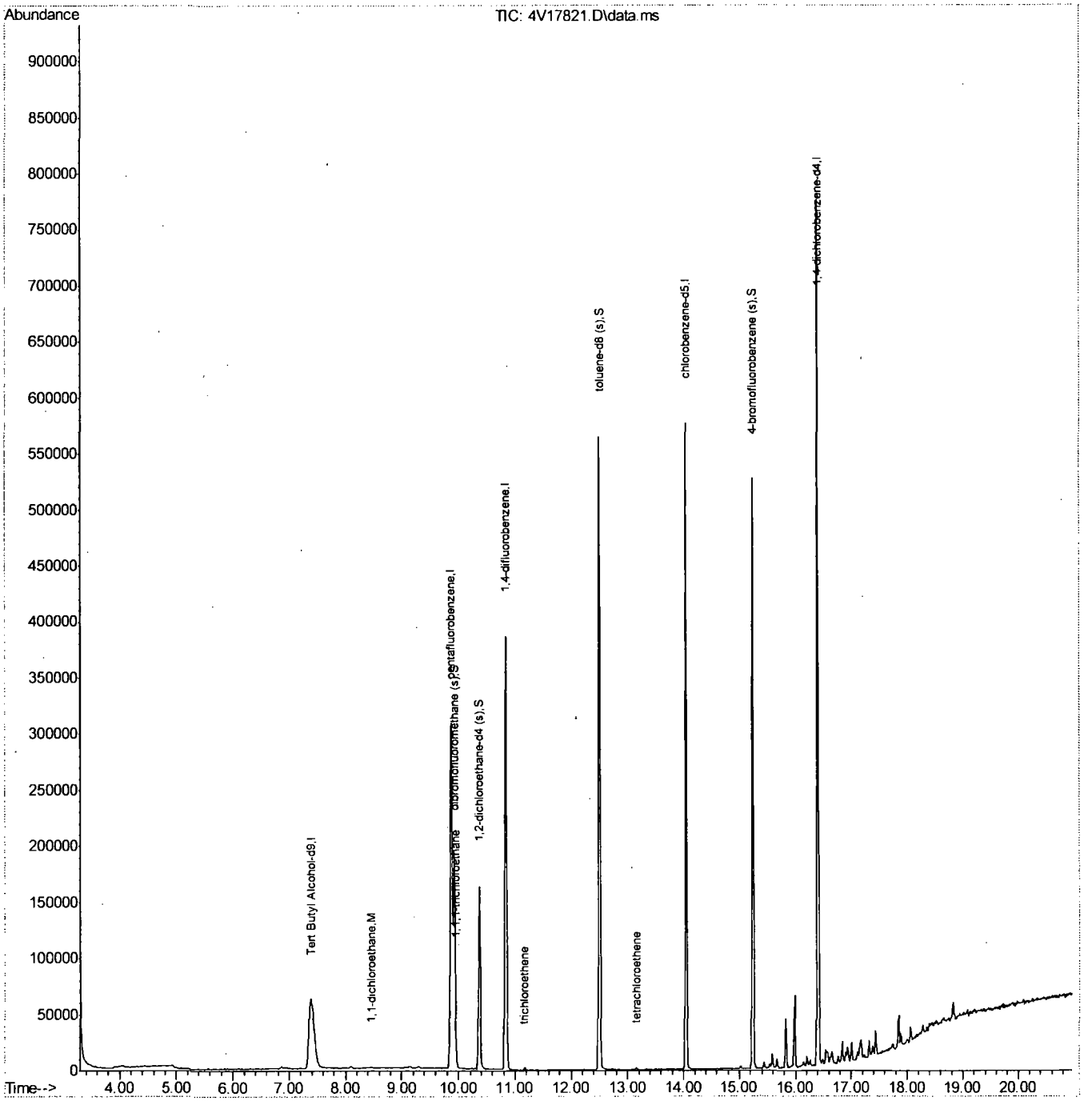
(#) = qualifier out of range (m) = manual integration (+) = signals summed

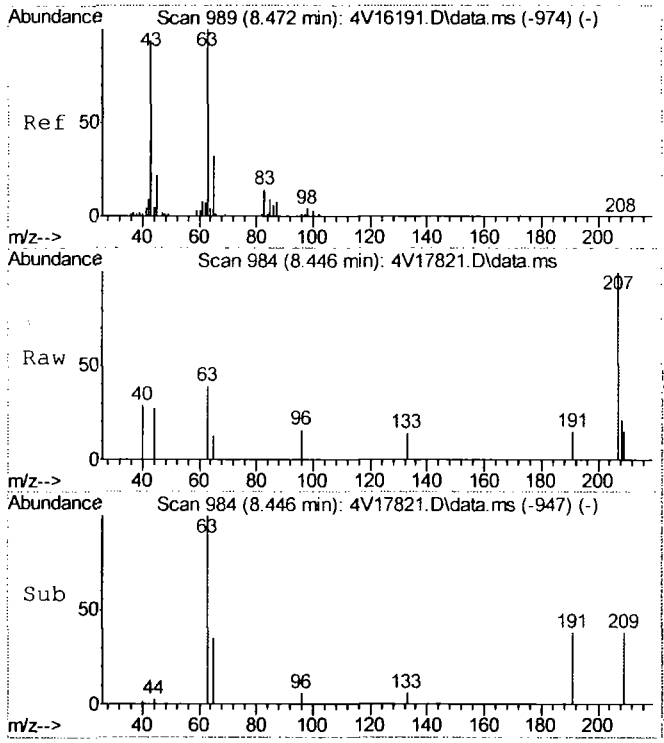
7.1.12 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17821.D
Acq On : 20 May 2015 6:11 pm
Operator : jemimam
Sample : jb94786-11
Misc : MS85329,V4V723,5,,,,1
ALS Vial : 20 Sample Multiplier: 1

Quant Time: May 28 15:31:05 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 15:20:43 2015
Response via : Initial Calibration

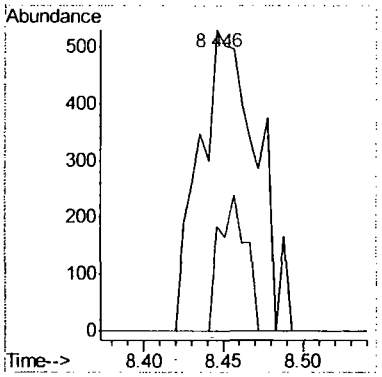


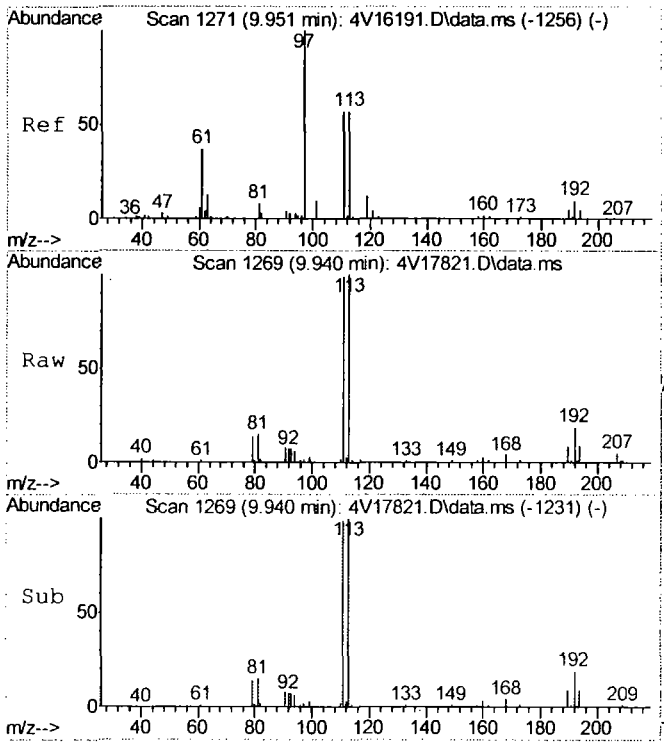


#33
1,1-dichloroethane
Concen: 0.35 ug/L
RT: 8.446 min Scan# 984
Delta R.T. -0.005 min
Lab File: 4V17821.D
Acq: 20 May 2015 6:11 pm

Tgt Ion: 63 Resp: 1318

Ion	Ratio	Lower	Upper
63	100		
65	34.7	1.7	61.7
83	0.0	0.0	43.8

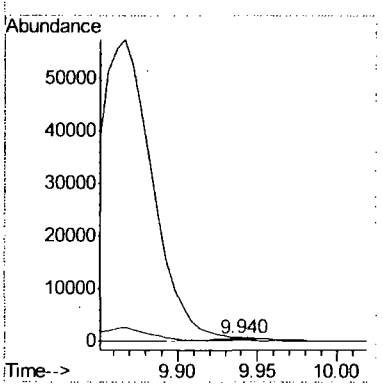


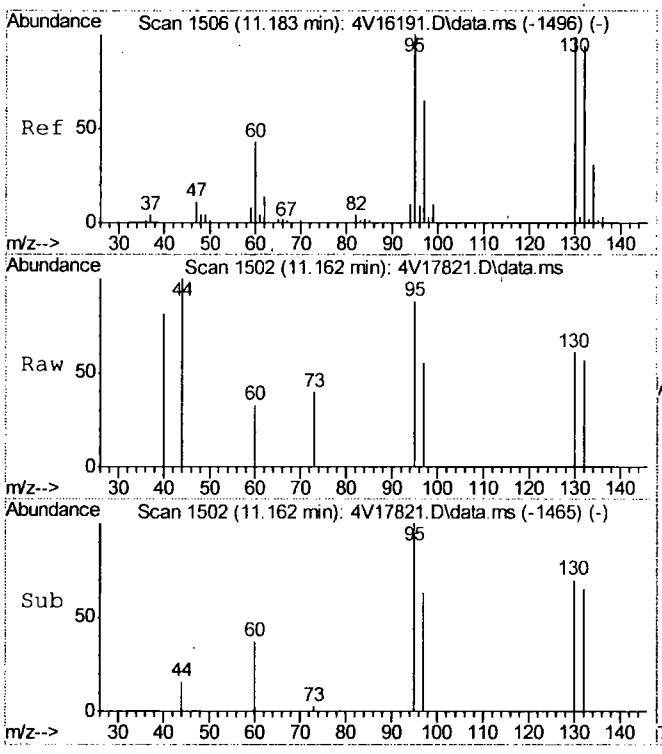


#49
1,1,1-trichloroethane
Concen: 0.43 ug/L
RT: 9.940 min Scan# 1269
Delta R.T. -0.000 min
Lab File: 4V17821.D
Acq: 20 May 2015 6:11 pm

Tgt Ion: 97 Resp: 1470

Ion	Ratio	Lower	Upper
97	100		
99	74.5	34.8	94.8
61	50.5	9.5	69.5

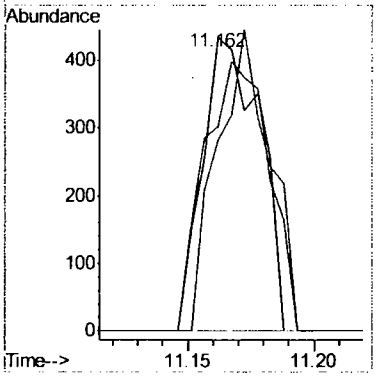


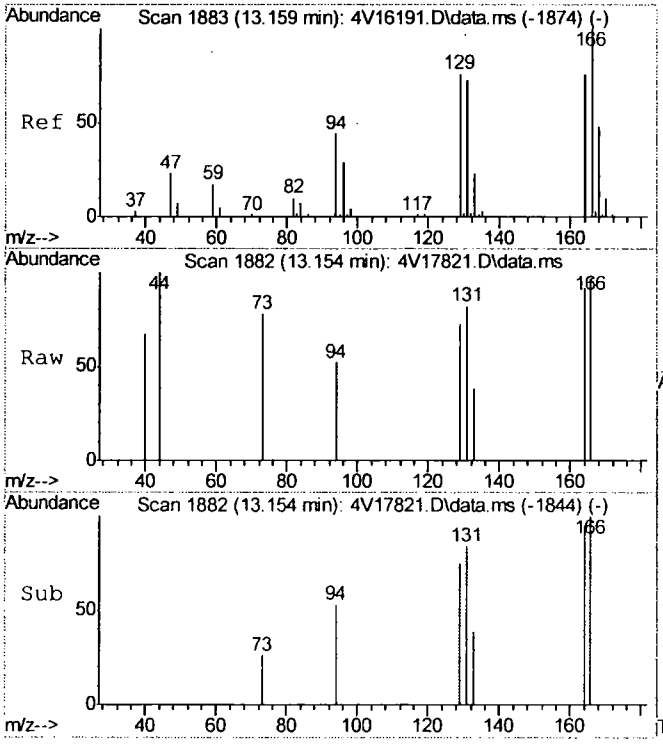


#63
trichloroethene
Concen: 0.36 ug/L
RT: 11.162 min Scan# 1502
Delta R.T. -0.005 min
Lab File: 4V17821.D
Acq: 20 May 2015 6:11 pm

Tgt Ion: 95 Resp: 687

Ion	Ratio	Lower	Upper
95	100		
130	69.7	66.0	126.0
132	64.9	60.3	120.3

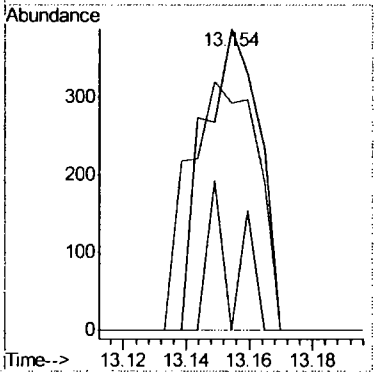




#82
tetrachloroethene
Concen: 0.27 ug/L
RT: 13.154 min Scan# 1882
Delta R.T. -0.000 min
Lab File: 4V17821.D
Acq: 20 May 2015 6:11 pm

Tgt Ion:166 Resp: 470

Ion	Ratio	Lower	Upper
166	100		
168	0.0	16.3	76.3#
129	75.3	43.9	103.9



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17820.D
Acq On : 20 May 2015 5:45 pm
Operator : jemimam
Sample : jb94786-12
Misc : MS85329,V4V723,5,,,,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: May 21 16:47:49 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 15:20:43 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.382	65	237155	500.00	ug/L	0.00
4) pentafluorobenzene	9.867	168	282342	50.00	ug/L	0.00
51) 1,4-difluorobenzene	10.832	114	378796	50.00	ug/L	0.00
81) chlorobenzene-d5	14.046	117	315784	50.00	ug/L	0.00
94) 1,4-dichlorobenzene-d4	16.394	152	195856	50.00	ug/L	0.00
System Monitoring Compounds						
45) dibromofluoromethane (s)	9.919	113	143369	51.85	ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 103.70%			
46) 1,2-dichloroethane-d4 (s)	10.365	65	138112	48.46	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 96.92%			
73) toluene-d8 (s)	12.494	98	393582	48.04	ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 96.08%			
96) 4-bromofluorobenzene (s)	15.241	95	175029	48.59	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 97.18%			
Target Compounds						Qvalue
25) methylene chloride	7.376	84	2243	0.84	ug/L	90

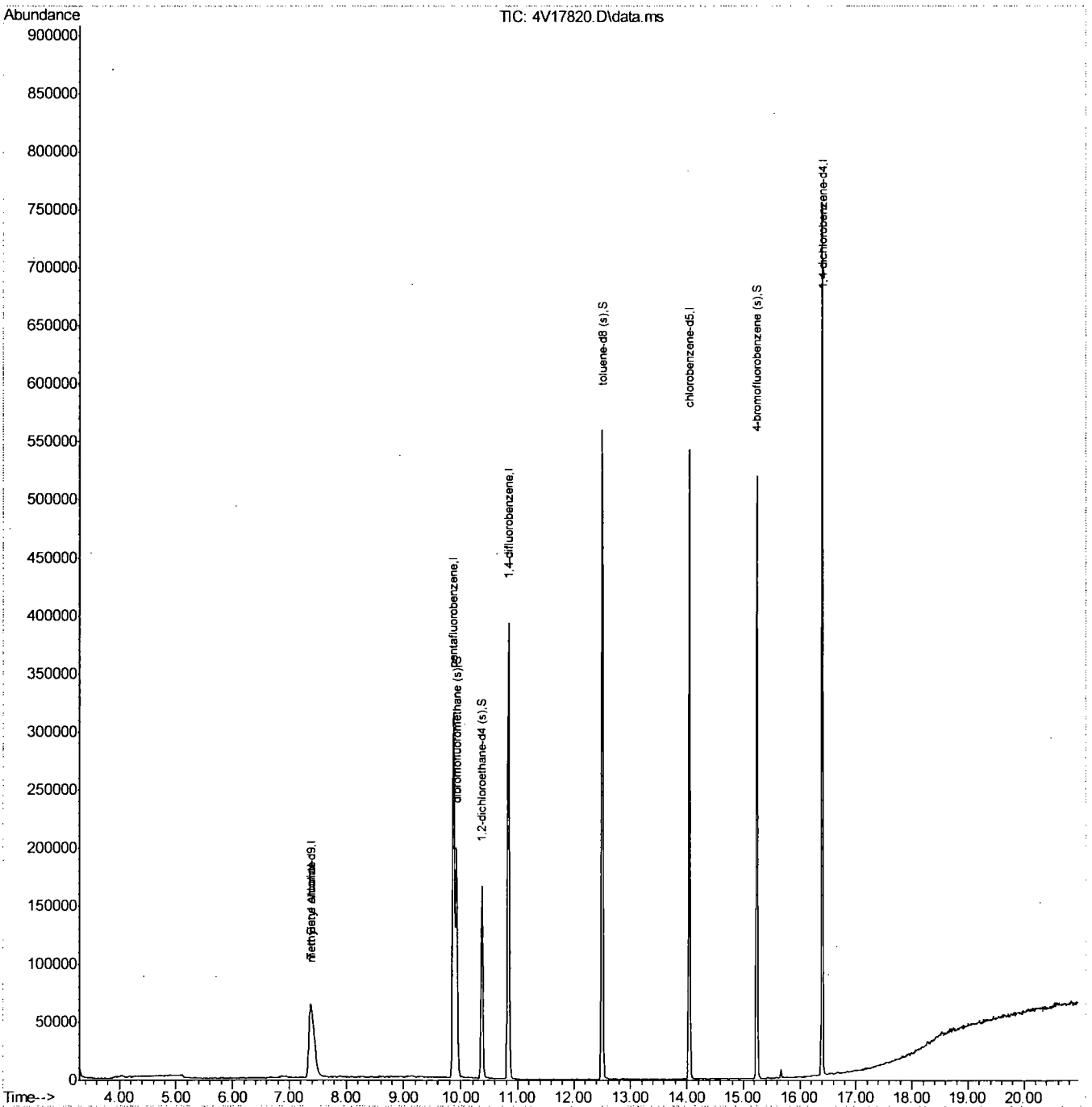
(#) = qualifier out of range (m) = manual integration (+) = signals summed

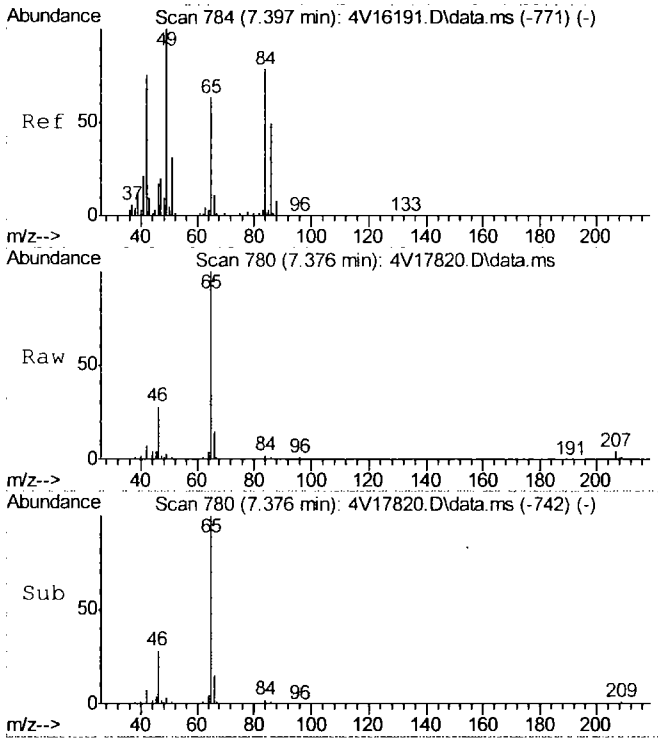
7.1.13 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17820.D
Acq On : 20 May 2015 5:45 pm
Operator : jemimam
Sample : jb94786-12
Misc : MS85329,V4V723,5,,,,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: May 21 16:47:49 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 15:20:43 2015
Response via : Initial Calibration

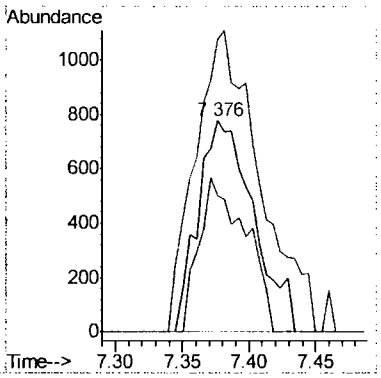




#25
methylene chloride
Concen: 0.84 ug/L
RT: 7.376 min Scan# 780
Delta R.T. 0.000 min
Lab File: 4V17820.D
Acq: 20 May 2015 5:45 pm

Tgt Ion: 84 Resp: 2243

Ion	Ratio	Lower	Upper
84	100		
86	64.2	45.5	84.5
49	138.5	85.5	158.9



7.1.13

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17804A.D
Acq On : 20 May 2015 10:51 am
Operator : jemimam
Sample : mb
Misc : MS85394,V4V723,5,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 21 12:37:37 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Tue May 12 09:59:47 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.371	65	245759	500.00	ug/L	-0.01
4) pentafluorobenzene	9.861	168	284851	50.00	ug/L	-0.01
51) 1,4-difluorobenzene	10.826	114	379500	50.00	ug/L	0.00
81) chlorobenzene-d5	14.040	117	325218	50.00	ug/L	0.00
94) 1,4-dichlorobenzene-d4	16.400	152	194844	50.00	ug/L	0.00
System Monitoring Compounds						
45) dibromofluoromethane (s)	9.914	113	140344	50.31	ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 100.62%			
46) 1,2-dichloroethane-d4 (s)	10.360	65	135922	47.27	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 94.54%			
73) toluene-d8 (s)	12.493	98	398652	48.56	ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 97.12%			
96) 4-bromofluorobenzene (s)	15.241	95	174405	48.67	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 97.34%			
Target Compounds						Qvalue

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

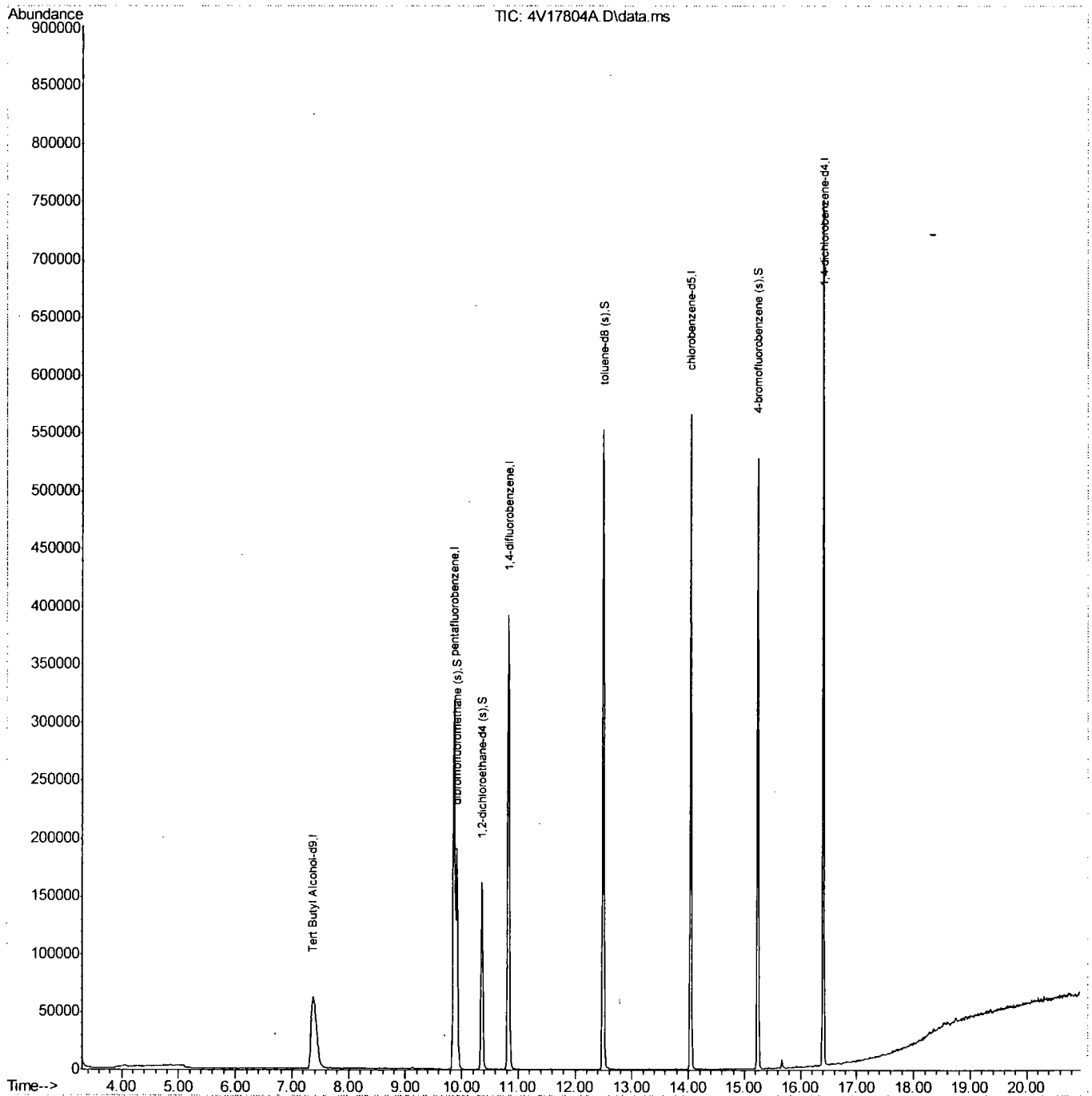
7.2.1

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17804A.D
Acq On : 20 May 2015 10:51 am
Operator : jemimam
Sample : mb
Misc : MS85394,V4V723,5,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 21 12:37:37 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Tue May 12 09:59:47 2015
Response via : Initial Calibration



ACCUTEST LABORATORIES JB94786

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17850.D
Acq On : 21 May 2015 11:52 am
Operator : jemimam
Sample : mb1
Misc : MS85394,V4V725,5,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 22 10:49:24 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 15:20:43 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.376	65	248938	500.00	ug/L	0.00
4) pentafluorobenzene	9.867	168	288719	50.00	ug/L	0.00
51) 1,4-difluorobenzene	10.831	114	380190	50.00	ug/L	0.00
81) chlorobenzene-d5	14.045	117	330749	50.00	ug/L	0.00
94) 1,4-dichlorobenzene-d4	16.400	152	200164	50.00	ug/L	0.00
System Monitoring Compounds						
45) dibromofluoromethane (s)	9.919	113	143991	50.92	ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 101.84%			
46) 1,2-dichloroethane-d4 (s)	10.365	65	138599	47.56	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 95.12%			
73) toluene-d8 (s)	12.493	98	415542	50.53	ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 101.06%			
96) 4-bromofluorobenzene (s)	15.241	95	181353	49.27	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 98.54%			
Target Compounds						Qvalue

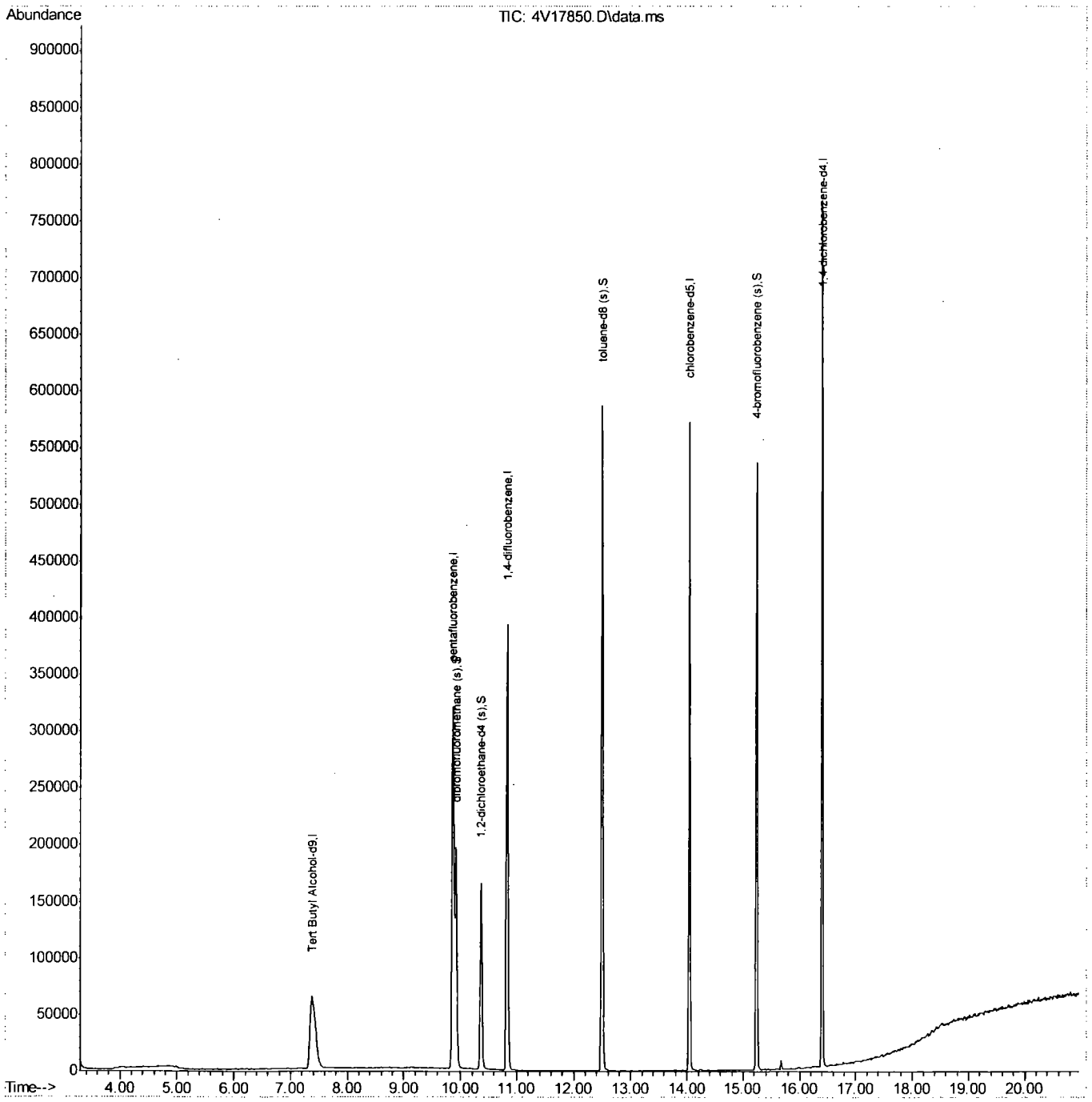
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.2.2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17850.D
Acq On : 21 May 2015 11:52 am
Operator : jemimam
Sample : mb1
Misc : MS85394,V4V725,5,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 22 10:49:24 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 15:20:43 2015
Response via : Initial Calibration



ACCUTEST LABORATORIES JB94786

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17805.D
Acq On : 20 May 2015 11:31 am
Operator : jemimam
Sample : bs
Misc : MS85394,V4V723,5,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 21 12:38:16 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 15:20:43 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.376	65	242253	500.00	ug/L	0.00
4) pentafluorobenzene	9.862	168	290298	50.00	ug/L	-0.01
51) 1,4-difluorobenzene	10.826	114	385129	50.00	ug/L	0.00
81) chlorobenzene-d5	14.040	117	326377	50.00	ug/L	0.00
94) 1,4-dichlorobenzene-d4	16.400	152	201212	50.00	ug/L	0.00
System Monitoring Compounds						
45) dibromofluoromethane (s)	9.914	113	149443	52.56	ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 105.12%			
46) 1,2-dichloroethane-d4 (s)	10.360	65	140169	47.83	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 95.66%			
73) toluene-d8 (s)	12.494	98	415058	49.82	ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 99.64%			
96) 4-bromofluorobenzene (s)	15.236	95	177242	47.90	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 95.80%			
Target Compounds						Qvalue
2) 1,4-dioxane	11.581	88	43216	1227.76	ug/L	87
3) tertiary butyl alcohol	7.523	59	118291	243.59	ug/L	82
6) chlorodifluoromethane	3.633	51	68810	35.02	ug/L	97
7) dichlorodifluoromethane	3.607	85	72796	45.42	ug/L	98
9) chloromethane	3.947	50	153455	48.31	ug/L	99
10) vinyl chloride	4.210	62	133053	48.42	ug/L	97
11) bromomethane	4.896	94	119877	47.91	ug/L	97
12) chloroethane	5.075	64	75493	59.37	ug/L	99
13) trichlorofluoromethane	5.609	101	111752	47.09	ug/L	95
14) ethyl ether	6.050	74	64221	59.20	ug/L	93
16) 2-chloropropane	6.275	43	147383	48.00	ug/L	98
17) acrolein	6.375	56	317629	704.60	ug/L	99
18) 1,1-dichloroethene	6.516	61	140652	46.13	ug/L	94
19) acetone	6.637	58	12941	58.86	ug/L	93
20) allyl chloride	7.146	76	56185	58.13	ug/L	95
21) acetonitrile	7.161	40	115811	524.72	ug/L	96
22) iodomethane	6.842	142	259653	52.34	ug/L	99
23) iso-butyl alcohol	10.223	41	50467	504.49	ug/L	97
24) carbon disulfide	6.952	76	364019	48.77	ug/L	98
25) methylene chloride	7.371	84	151414	54.94	ug/L	97
26) 1-chloropropane	7.387	41	42898	42.91	ug/L	92
27) methyl acetate	7.146	74	20143	54.50	ug/L	90
28) methyl tert butyl ether	7.733	73	828097	99.85	ug/L	97
29) trans-1,2-dichloroethene	7.780	61	150739	49.22	ug/L	100
30) di-isopropyl ether	8.420	45	347054	54.11	ug/L	94
31) ethyl tert-butyl ether	8.944	59	381040	53.76	ug/L	98
32) 2-butanone	9.274	72	15649	58.75	ug/L	56
33) 1,1-dichloroethane	8.451	63	207459	52.87	ug/L	99
34) chloroprene	8.551	53	95205	41.12	ug/L	96
35) acrylonitrile	7.791	53	250133	303.15	ug/L	98
36) vinyl acetate	8.451	86	18027	56.31	ug/L	86
37) ethyl acetate	9.285	45	15070	53.05	ug/L	92

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17805.D
Acq On : 20 May 2015 11:31 am
Operator : jemimam
Sample : bs
Misc : MS85394,V4V723,5,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 21 12:38:16 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 15:20:43 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
38) 2,2-dichloropropane	9.269	77	154617	40.83	ug/L		98
39) cis-1,2-dichloroethene	9.280	96	133401	48.20	ug/L		93
40) propionitrile	9.405	54	193077	581.10	ug/L		97
41) methyl acrylate	9.369	55	130595	55.84	ug/L	#	99
42) bromochloromethane	9.626	128	71987	55.89	ug/L		96
43) tetrahydrofuran	9.657	42	42332	53.06	ug/L		98
44) chloroform	9.694	83	222511	50.67	ug/L		99
47) freon 113	6.506	151	36625	43.21	ug/L		90
48) methacrylonitrile	9.584	41	63931	51.81	ug/L		91
49) 1,1,1-trichloroethane	9.935	97	167897	46.68	ug/L		97
50) tert-amyl methyl ether	10.454	73	378422	51.79	ug/L		96
52) epichlorohydrin	12.147	57	52268	256.23	ug/L		96
53) n-butyl alcohol	11.015	56	218139	2645.20	ug/L		95
54) cyclohexane	9.982	84	76758	45.29	ug/L		92
55) carbon tetrachloride	10.139	117	135777	42.81	ug/L		96
56) 1,1-dichloropropene	10.124	75	107139	46.58	ug/L		98
57) hexane	8.100	57	27672	39.56	ug/L		97
58) benzene	10.407	78	409379	50.76	ug/L		100
59) isooctane	10.386	57	119617	37.54	ug/L		97
60) heptane	10.580	57	13279	33.27	ug/L		96
61) isopropyl acetate	10.370	43	239215	52.30	ug/L		97
62) 1,2-dichloroethane	10.454	62	154231	48.19	ug/L		98
63) trichloroethene	11.162	95	98537	49.69	ug/L		98
65) 2-nitropropane	12.011	43	77931	60.33	ug/L		84
66) 2-chloroethyl vinyl ether	12.011	63	70592	412.64	ug/L		98
67) methyl methacrylate	11.471	69	75466	54.74	ug/L		93
68) 1,2-dichloropropane	11.450	63	105604	53.23	ug/L		93
69) methylcyclohexane	11.361	83	61385	39.47	ug/L		94
70) dibromomethane	11.618	93	83300	53.02	ug/L		97
71) bromodichloromethane	11.759	83	160160	49.33	ug/L		98
72) cis-1,3-dichloropropene	12.221	75	173839	51.16	ug/L		97
74) 4-methyl-2-pentanone	12.326	58	49982	54.60	ug/L		90
75) toluene	12.567	92	218415	49.69	ug/L		96
76) 3-methyl-1-butanol	12.373	70	77600	1022.73	ug/L		94
77) trans-1,3-dichloropropene	12.798	75	161569	48.88	ug/L		95
78) ethyl methacrylate	12.782	69	129841	51.19	ug/L		96
79) 1,1,2-trichloroethane	13.018	83	87348	50.80	ug/L		95
80) 2-hexanone	13.191	58	43685	52.28	ug/L		92
82) tetrachloroethene	13.144	166	83157	48.44	ug/L		98
83) 1,3-dichloropropane	13.196	76	150113	50.32	ug/L		99
84) butyl acetate	13.259	56	67839	53.66	ug/L		95
85) dibromochloromethane	13.463	129	137414	51.21	ug/L		99
86) 1,2-dibromoethane	13.610	107	120545	52.15	ug/L		98
87) chlorobenzene	14.072	112	277738	50.89	ug/L		99
88) 1,1,1,2-tetrachloroethane	14.145	131	127489	50.03	ug/L		98
89) ethylbenzene	14.124	91	432152	47.22	ug/L		99
90) m,p-xylene	14.234	106	335683	100.32	ug/L		98
91) o-xylene	14.669	106	184871	49.80	ug/L		95
92) styrene	14.690	104	311599	52.71	ug/L		95
93) bromoform	14.973	173	110053	51.60	ug/L		99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17805.D
Acq On : 20 May 2015 11:31 am
Operator : jemimam
Sample : bs
Misc : MS85394,V4V723,5,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 21 12:38:16 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 15:20:43 2015
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
95)	isopropylbenzene	15.021	105	445869	46.32 ug/L		98
97)	bromobenzene	15.430	156	144960	49.16 ug/L		93
98)	cyclohexanone	15.220	55	92347	299.08 ug/L		97
99)	1,1,2,2-tetrachloroethane	15.367	83	177475	48.05 ug/L		99
100)	trans-1,4-dichloro-2-b...	15.409	53	41683	45.26 ug/L	#	80
101)	1,2,3-trichloropropane	15.440	110	41609	46.65 ug/L		99
102)	n-propylbenzene	15.435	91	536665	47.78 ug/L		99
103)	2-chlorotoluene	15.587	126	121964	49.97 ug/L		94
104)	4-chlorotoluene	15.687	91	368989	47.51 ug/L		100
105)	1,3,5-trimethylbenzene	15.587	105	414329	45.88 ug/L		97
106)	tert-butylbenzene	15.933	119	310177	47.29 ug/L		96
107)	pentachloroethane	16.027	167	105309	50.69 ug/L		96
108)	1,2,4-trimethylbenzene	15.980	105	461465	49.38 ug/L		95
109)	sec-butylbenzene	16.143	105	467476	45.81 ug/L		99
110)	1,3-dichlorobenzene	16.337	146	271755	49.70 ug/L		99
111)	p-isopropyltoluene	16.263	119	428346	45.81 ug/L		99
112)	1,4-dichlorobenzene	16.421	146	281651	49.66 ug/L		98
114)	1,2-dichlorobenzene	16.803	146	291032	50.00 ug/L		98
115)	n-butylbenzene	16.667	92	215211	46.56 ug/L		99
116)	1,2-dibromo-3-chloropr...	17.553	157	52083	49.92 ug/L		92
117)	1,3,5-trichlorobenzene	17.695	180	239425	49.63 ug/L		98
118)	1,2,4-trichlorobenzene	18.277	180	239657	50.96 ug/L		100
119)	hexachlorobutadiene	18.360	225	77890	41.17 ug/L		99
120)	naphthalene	18.523	128	696989	49.42 ug/L		100
121)	1,2,3-trichlorobenzene	18.738	180	242914	50.36 ug/L		100
122)	hexachloroethane	17.034	119	98249	43.61 ug/L		99
123)	Benzyl chloride	16.541	91	295171	41.33 ug/L		99

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

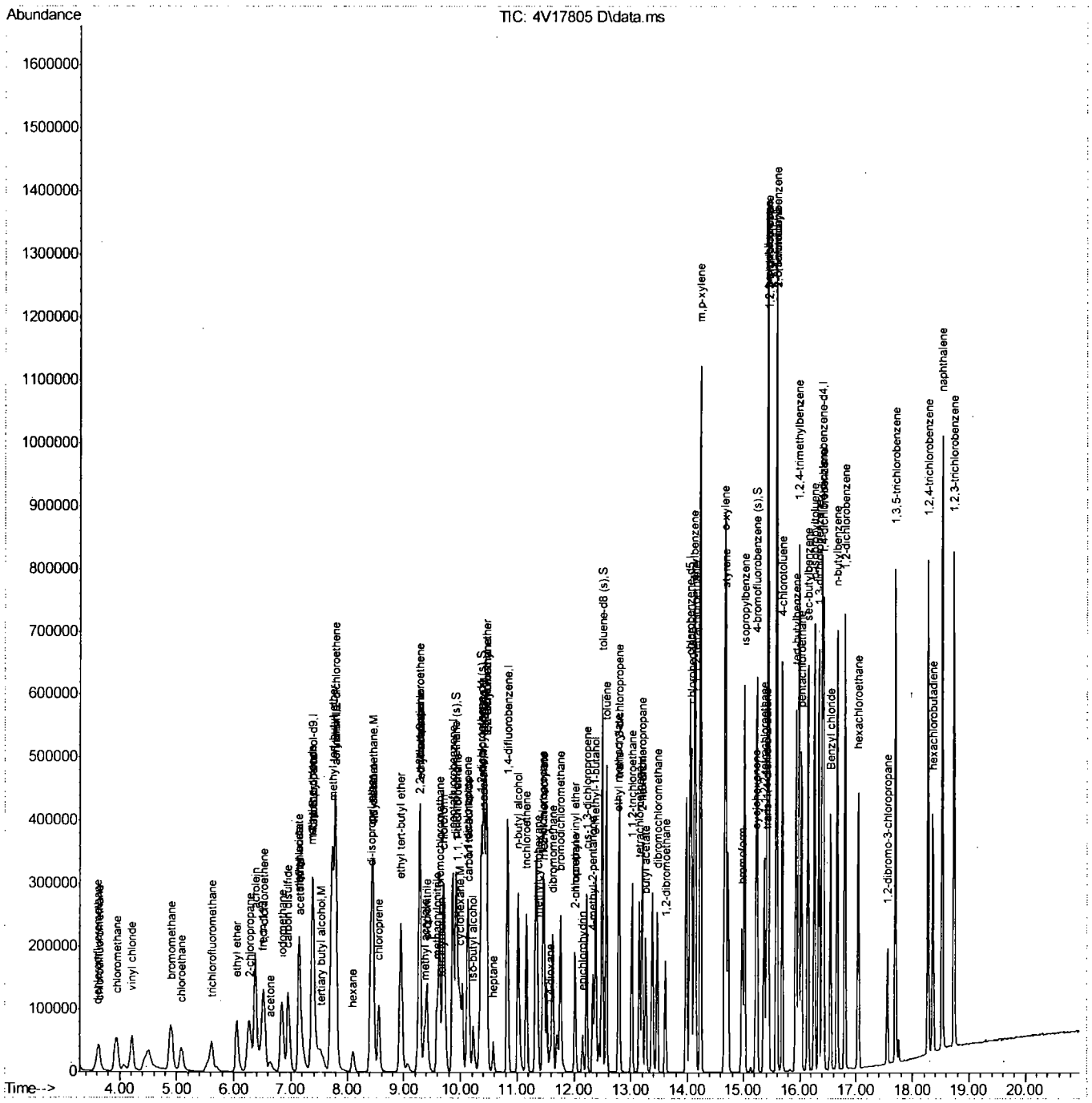
7.3.1 7

ACCUTEST LABORATORIES JB94786

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17805.D
Acq On : 20 May 2015 11:31 am
Operator : jemimam
Sample : bs
Misc : MS85394,V4V723,5,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 21 12:38:16 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 15:20:43 2015
Response via : Initial Calibration



ACCUTEST LABORATORIES JB94786

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17851.D
Acq On : 21 May 2015 12:27 pm
Operator : jemimam
Sample : bs
Misc : MS85394,V4V725,5,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 22 10:49:54 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 15:20:43 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Tert Butyl Alcohol-d9	7.392	65	258730	500.00	ug/L		0.01
4) pentafluorobenzene	9.861	168	324348	50.00	ug/L		-0.01
51) 1,4-difluorobenzene	10.826	114	424474	50.00	ug/L		0.00
81) chlorobenzene-d5	14.040	117	362795	50.00	ug/L		0.00
94) 1,4-dichlorobenzene-d4	16.394	152	212176	50.00	ug/L		0.00
System Monitoring Compounds							
45) dibromofluoromethane (s)	9.914	113	163747	51.55	ug/L		0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 103.10%				
46) 1,2-dichloroethane-d4 (s)	10.360	65	154767	47.27	ug/L		0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 94.54%				
73) toluene-d8 (s)	12.493	98	448504	48.85	ug/L		0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 97.70%				
96) 4-bromofluorobenzene (s)	15.241	95	192983	49.46	ug/L		0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 98.92%				
Target Compounds							Qvalue
2) 1,4-dioxane	11.581	88	46590	1239.32	ug/L		88
3) tertiary butyl alcohol	7.523	59	125919	242.79	ug/L		71
6) chlorodifluoromethane	3.627	51	74773	34.06	ug/L		97
7) dichlorodifluoromethane	3.607	85	71839	40.12	ug/L		97
9) chloromethane	3.937	50	157170	44.29	ug/L		98
10) vinyl chloride	4.209	62	134316	43.74	ug/L		97
11) bromomethane	4.896	94	122342	43.76	ug/L		97
12) chloroethane	5.075	64	80352	56.56	ug/L		99
13) trichlorofluoromethane	5.604	101	109963	41.47	ug/L		98
14) ethyl ether	6.055	74	67239	55.48	ug/L		97
16) 2-chloropropane	6.275	43	151971	44.30	ug/L		98
17) acrolein	6.380	56	354409	703.66	ug/L		99
18) 1,1-dichloroethene	6.522	61	144437	42.40	ug/L		96
19) acetone	6.637	58	15833	64.45	ug/L		94
20) allyl chloride	7.140	76	58877	54.52	ug/L		88
21) acetonitrile	7.156	40	122288	495.90	ug/L	#	84
22) iodomethane	6.836	142	269341	48.59	ug/L		100
23) iso-butyl alcohol	10.223	41	53405	477.82	ug/L		96
24) carbon disulfide	6.952	76	374818	44.95	ug/L		97
25) methylene chloride	7.382	84	159053	51.65	ug/L		97
26) 1-chloropropane	7.392	41	45448	40.69	ug/L		93
27) methyl acetate	7.146	74	22156	53.65	ug/L		89
28) methyl tert butyl ether	7.728	73	879170	94.88	ug/L		96
29) trans-1,2-dichloroethene	7.785	61	161086	47.07	ug/L		98
30) di-isopropyl ether	8.420	45	373272	52.09	ug/L		96
31) ethyl tert-butyl ether	8.939	59	406181	51.29	ug/L		98
32) 2-butanone	9.274	72	16516	55.50	ug/L	#	61
33) 1,1-dichloroethane	8.451	63	220882	50.38	ug/L		99
34) chloroprene	8.551	53	99640	38.51	ug/L		95
35) acrylonitrile	7.790	53	267348	290.00	ug/L		97
36) vinyl acetate	8.456	86	18906	52.86	ug/L		95
37) ethyl acetate	9.290	45	15997	50.40	ug/L		58

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17851.D
Acq On : 21 May 2015 12:27 pm
Operator : jemimam
Sample : bs
Misc : MS85394,V4V725,5,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 22 10:49:54 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 15:20:43 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
38) 2,2-dichloropropane	9.269	77	180429	42.64	ug/L	98
39) cis-1,2-dichloroethene	9.280	96	140159	45.33	ug/L	97
40) propionitrile	9.405	54	200660	540.52	ug/L	99
41) methyl acrylate	9.369	55	135935	52.02	ug/L	99
42) bromochloromethane	9.626	128	76171	52.93	ug/L	97
43) tetrahydrofuran	9.657	42	45000	50.48	ug/L	96
44) chloroform	9.699	83	234417	47.78	ug/L	99
47) freon 113	6.506	151	39324	41.53	ug/L	95
48) methacrylonitrile	9.589	41	69155	50.16	ug/L	95
49) 1,1,1-trichloroethane	9.935	97	172058	42.82	ug/L	99
50) tert-amyl methyl ether	10.449	73	405440	49.66	ug/L	97
52) epichlorohydrin	12.147	57	58054	258.21	ug/L	95
53) n-butyl alcohol	11.015	56	231009	2541.61	ug/L	96
54) cyclohexane	9.987	84	75322	40.32	ug/L	97
55) carbon tetrachloride	10.139	117	135996	38.91	ug/L	98
56) 1,1-dichloropropene	10.124	75	111074	43.81	ug/L	96
57) hexane	8.100	57	36014	46.71	ug/L	93
58) benzene	10.407	78	426404	47.97	ug/L	100
59) isooctane	10.391	57	138454	39.43	ug/L	97
60) heptane	10.580	57	18336	41.68	ug/L	96
61) isopropyl acetate	10.370	43	260679	51.71	ug/L	99
62) 1,2-dichloroethane	10.459	62	162883	46.18	ug/L	99
63) trichloroethene	11.162	95	103804	47.49	ug/L	99
65) 2-nitropropane	12.011	43	81486	57.23	ug/L	84
66) 2-chloroethyl vinyl ether	12.011	63	71745	380.51	ug/L	99
67) methyl methacrylate	11.471	69	79072	52.04	ug/L	93
68) 1,2-dichloropropane	11.455	63	110400	50.48	ug/L	92
69) methylcyclohexane	11.361	83	66134	38.59	ug/L	91
70) dibromomethane	11.623	93	87841	50.73	ug/L	97
71) bromodichloromethane	11.759	83	166530	46.54	ug/L	100
72) cis-1,3-dichloropropene	12.221	75	186219	49.72	ug/L	95
74) 4-methyl-2-pentanone	12.331	58	51424	50.97	ug/L	95
75) toluene	12.567	92	228832	47.23	ug/L	99
76) 3-methyl-1-butanol	12.373	70	82924	991.59	ug/L	94
77) trans-1,3-dichloropropene	12.798	75	173864	47.72	ug/L	96
78) ethyl methacrylate	12.782	69	137330	49.12	ug/L	96
79) 1,1,2-trichloroethane	13.018	83	91267	48.16	ug/L	98
80) 2-hexanone	13.191	58	46201	50.17	ug/L	92
82) tetrachloroethene	13.149	166	86423	45.29	ug/L	98
83) 1,3-dichloropropane	13.196	76	160697	48.46	ug/L	99
84) butyl acetate	13.264	56	73074	52.00	ug/L	92
85) dibromochloromethane	13.463	129	142860	47.89	ug/L	99
86) 1,2-dibromoethane	13.610	107	127129	49.48	ug/L	98
87) chlorobenzene	14.072	112	295532	48.72	ug/L	99
88) 1,1,1,2-tetrachloroethane	14.145	131	133938	47.28	ug/L	98
89) ethylbenzene	14.124	91	452895	44.51	ug/L	98
90) m,p-xylene	14.234	106	349229	93.89	ug/L	98
91) o-xylene	14.669	106	193239	46.83	ug/L	98
92) styrene	14.690	104	326310	49.65	ug/L	96
93) bromoform	14.973	173	113927	48.06	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17851.D
Acq On : 21 May 2015 12:27 pm
Operator : jemimam
Sample : bs
Misc : MS85394,V4V725,5,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 22 10:49:54 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 15:20:43 2015
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
95)	isopropylbenzene	15.021	105	451491	44.48 ug/L	97
97)	bromobenzene	15.430	156	150103	48.27 ug/L	95
98)	cyclohexanone	15.220	55	260871	801.21 ug/L	96
99)	1,1,2,2-tetrachloroethane	15.367	83	184723	47.43 ug/L	99
100)	trans-1,4-dichloro-2-b...	15.409	53	45291	46.64 ug/L	90
101)	1,2,3-trichloropropane	15.440	110	43391	46.13 ug/L	98
102)	n-propylbenzene	15.435	91	558714	47.17 ug/L	98
103)	2-chlorotoluene	15.587	126	127487	49.54 ug/L	94
104)	4-chlorotoluene	15.687	91	383374	46.81 ug/L	99
105)	1,3,5-trimethylbenzene	15.587	105	430552	45.22 ug/L	96
106)	tert-butylbenzene	15.933	119	314564	45.48 ug/L	98
107)	pentachloroethane	16.027	167	109280	49.88 ug/L	98
108)	1,2,4-trimethylbenzene	15.980	105	481367	48.85 ug/L	95
109)	sec-butylbenzene	16.143	105	482063	44.80 ug/L	99
110)	1,3-dichlorobenzene	16.342	146	280163	48.59 ug/L	98
111)	p-isopropyltoluene	16.263	119	439402	44.57 ug/L	99
112)	1,4-dichlorobenzene	16.421	146	287804	48.13 ug/L	99
114)	1,2-dichlorobenzene	16.803	146	300767	49.00 ug/L	98
115)	n-butylbenzene	16.667	92	227695	46.72 ug/L	98
116)	1,2-dibromo-3-chloropr...	17.553	157	52034	47.30 ug/L	92
117)	1,3,5-trichlorobenzene	17.695	180	250604	49.26 ug/L	99
118)	1,2,4-trichlorobenzene	18.277	180	253364	51.09 ug/L	99
119)	hexachlorobutadiene	18.360	225	78773	39.48 ug/L	97
120)	naphthalene	18.523	128	722451	48.58 ug/L	100
121)	1,2,3-trichlorobenzene	18.738	180	251451	49.44 ug/L	99
122)	hexachloroethane	17.034	119	101974	42.92 ug/L	98
123)	Benzyl chloride	16.546	91	402453	53.44 ug/L	99

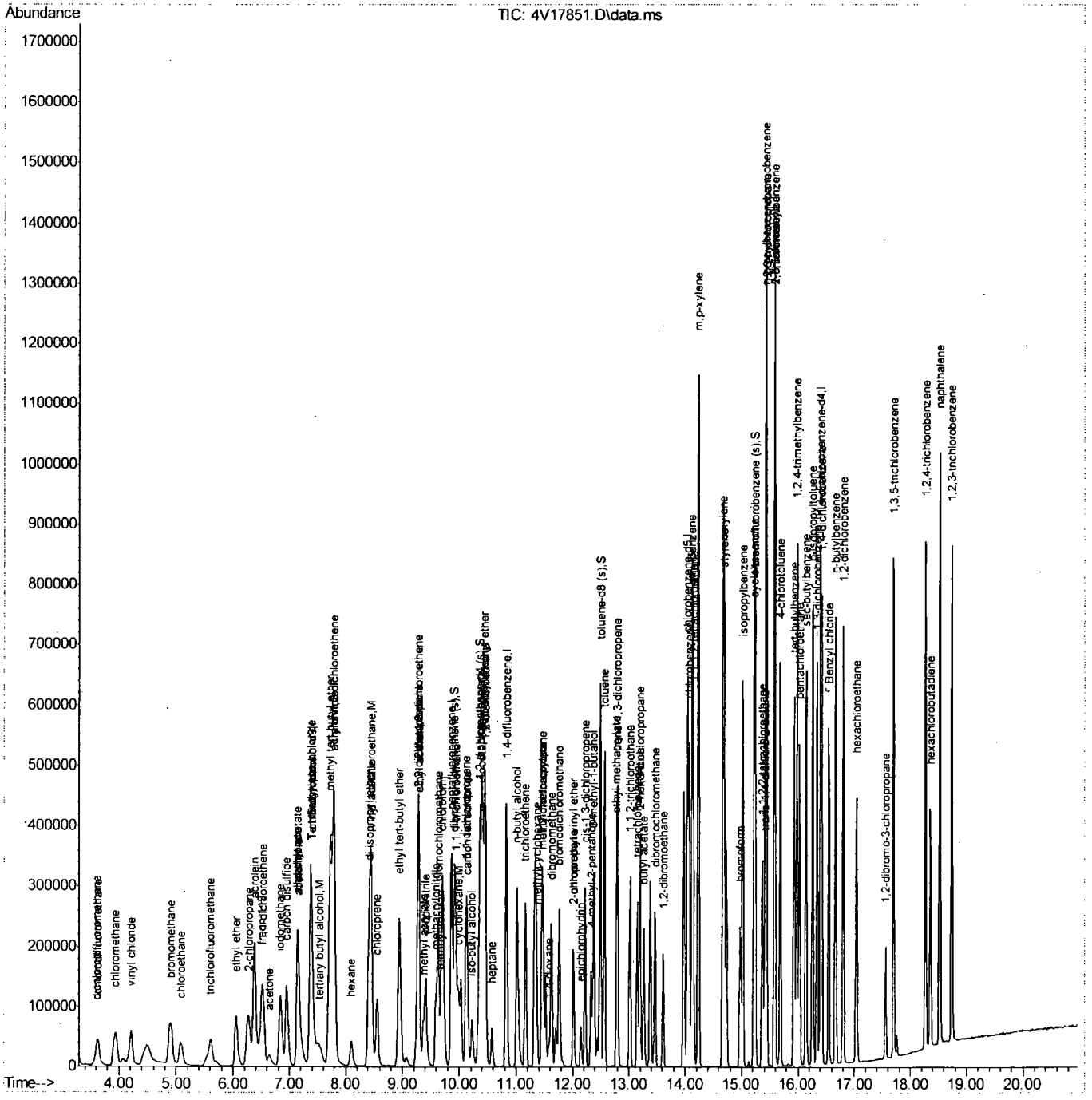
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.3.2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17851.D
Acq On : 21 May 2015 12:27 pm
Operator : jemimam
Sample : bs
Misc : MS85394,V4V725,5,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 22 10:49:54 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 15:20:43 2015
Response via : Initial Calibration



7.3.2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17812.D
Acq On : 20 May 2015 2:12 pm
Operator : jemimam
Sample : jb94786-8ms
Misc : MS85329,V4V723,5,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 21 14:48:13 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 15:20:43 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.387	65	258111	500.00	ug/L	0.00
4) pentafluorobenzene	9.867	168	292268	50.00	ug/L	0.00
51) 1,4-difluorobenzene	10.832	114	387026	50.00	ug/L	0.00
81) chlorobenzene-d5	14.045	117	317611	50.00	ug/L	0.00
94) 1,4-dichlorobenzene-d4	16.400	152	191498	50.00	ug/L	0.00
System Monitoring Compounds						
45) dibromofluoromethane (s)	9.919	113	147095	51.39	ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 102.78%			
46) 1,2-dichloroethane-d4 (s)	10.365	65	140351	47.57	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 95.14%			
73) toluene-d8 (s)	12.494	98	408300	48.77	ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 97.54%			
96) 4-bromofluorobenzene (s)	15.241	95	167797	47.65	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 95.30%			
Target Compounds						Qvalue
2) 1,4-dioxane	11.586	88	43113	1149.58	ug/L	93
3) tertiary butyl alcohol	7.518	59	115364	222.97	ug/L	87
6) chlorodifluoromethane	3.622	51	107044	54.11	ug/L	98
7) dichlorodifluoromethane	3.601	85	95052	58.91	ug/L	96
9) chloromethane	3.932	50	123018	38.47	ug/L	99
10) vinyl chloride	4.204	62	119056	43.03	ug/L	99
11) bromomethane	4.886	94	93581	37.15	ug/L	95
12) chloroethane	5.075	64	57944	45.27	ug/L	97
13) trichlorofluoromethane	5.604	101	127871	53.52	ug/L	99
14) ethyl ether	6.055	74	57763	52.89	ug/L	94
16) 2-chloropropane	6.270	43	154406	49.95	ug/L	97
17) acrolein	6.375	56	229515	505.71	ug/L	95
18) 1,1-dichloroethene	6.522	61	157774	51.40	ug/L	95
19) acetone	6.642	58	12113	54.72	ug/L	87
20) allyl chloride	7.140	76	50572	51.97	ug/L	89
21) acetonitrile	7.161	40	110491	497.24	ug/L	95
22) iodomethane	6.836	142	261209	52.30	ug/L	99
23) iso-butyl alcohol	10.229	41	49130	487.82	ug/L	98
24) carbon disulfide	6.946	76	406496	54.09	ug/L	98
25) methylene chloride	7.376	84	143023	51.54	ug/L	97
26) 1-chloropropane	7.392	41	44934	44.65	ug/L	94
27) methyl acetate	7.146	74	20684	55.59	ug/L	92
28) methyl tert butyl ether	7.733	73	388584	46.54	ug/L	98
29) trans-1,2-dichloroethene	7.785	61	157754	51.16	ug/L	97
30) di-isopropyl ether	8.420	45	335702	51.99	ug/L	98
31) ethyl tert-butyl ether	8.944	59	370396	51.90	ug/L	99
32) 2-butanone	9.274	72	13696	51.07	ug/L	80
33) 1,1-dichloroethane	8.451	63	229933	58.20	ug/L	100
34) chloroprene	8.556	53	120941	51.88	ug/L	93
35) acrylonitrile	7.791	53	216678	260.83	ug/L	97
36) vinyl acetate	8.456	86	16452	51.04	ug/L	92
37) ethyl acetate	9.290	45	14479	50.63	ug/L	73

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17812.D
Acq On : 20 May 2015 2:12 pm
Operator : jemimam
Sample : jb94786-8ms
Misc : MS85329,V4V723,5,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 21 14:48:13 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 15:20:43 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
38) 2,2-dichloropropane	9.269	77	181406	47.58	ug/L		97
39) cis-1,2-dichloroethene	9.285	96	131009	47.02	ug/L		93
40) propionitrile	9.411	54	171837	513.68	ug/L		95
41) methyl acrylate	9.369	55	119255	50.65	ug/L	#	99
42) bromochloromethane	9.626	128	69626	53.69	ug/L		94
43) tetrahydrofuran	9.657	42	38895	48.42	ug/L		98
44) chloroform	9.699	83	212263	48.01	ug/L		99
47) freon 113	6.485	151	57728	67.66	ug/L		95
48) methacrylonitrile	9.589	41	60755	48.91	ug/L		96
49) 1,1,1-trichloroethane	9.935	97	180935	49.97	ug/L		98
50) tert-amyl methyl ether	10.449	73	362291	49.24	ug/L		96
52) epichlorohydrin	12.148	57	45929	224.05	ug/L		97
53) n-butyl alcohol	11.020	56	207634	2505.47	ug/L		96
54) cyclohexane	9.987	84	104446	61.32	ug/L		95
55) carbon tetrachloride	10.139	117	146724	46.04	ug/L		99
56) 1,1-dichloropropene	10.124	75	112775	48.79	ug/L		98
57) hexane	8.105	57	58071	82.61	ug/L		96
58) benzene	10.412	78	395118	48.75	ug/L		99
59) isooctane	10.391	57	226855	70.85	ug/L	#	90
60) heptane	10.580	57	30986	77.24	ug/L		97
61) isopropyl acetate	10.375	43	219383	47.73	ug/L		100
62) 1,2-dichloroethane	10.459	62	144480	44.92	ug/L		97
63) trichloroethene	11.167	95	100506	50.43	ug/L		98
65) 2-nitropropane	12.011	43	32494	25.03	ug/L	#	56
66) 2-chloroethyl vinyl ether	12.016	63	2537	14.76	ug/L		96
67) methyl methacrylate	11.471	69	67505	48.73	ug/L		93
68) 1,2-dichloropropane	11.455	63	99030	49.67	ug/L		92
69) methylcyclohexane	11.361	83	101974	65.26	ug/L		96
70) dibromomethane	11.623	93	76619	48.53	ug/L		96
71) bromodichloromethane	11.765	83	150703	46.19	ug/L		99
72) cis-1,3-dichloropropene	12.221	75	165801	48.55	ug/L		96
74) 4-methyl-2-pentanone	12.331	58	44960	48.87	ug/L		95
75) toluene	12.567	92	213448	48.32	ug/L		98
76) 3-methyl-1-butanol	12.373	70	75555	990.89	ug/L		96
77) trans-1,3-dichloropropene	12.798	75	153716	46.27	ug/L		97
78) ethyl methacrylate	12.787	69	119724	46.97	ug/L		97
79) 1,1,2-trichloroethane	13.018	83	80884	46.81	ug/L		99
80) 2-hexanone	13.191	58	39581	47.14	ug/L		90
82) tetrachloroethene	13.149	166	90812	54.36	ug/L		98
83) 1,3-dichloropropane	13.196	76	138430	47.69	ug/L		98
84) butyl acetate	13.264	56	62098	50.47	ug/L		98
85) dibromochloromethane	13.464	129	126044	48.27	ug/L		99
86) 1,2-dibromoethane	13.610	107	109446	48.66	ug/L		97
87) chlorobenzene	14.077	112	260539	49.06	ug/L		98
88) 1,1,1,2-tetrachloroethane	14.145	131	121534	49.01	ug/L		96
89) ethylbenzene	14.124	91	417910	46.92	ug/L		99
90) m,p-xylene	14.239	106	318657	97.86	ug/L		96
91) o-xylene	14.669	106	172671	47.80	ug/L		97
92) styrene	14.690	104	281638	48.95	ug/L		97
93) bromoform	14.979	173	96659	46.57	ug/L		99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17812.D
Acq On : 20 May 2015 2:12 pm
Operator : jemimam
Sample : jb94786-8ms
Misc : MS85329,V4V723,5,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 21 14:48:13 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 15:20:43 2015
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
95)	isopropylbenzene	15.021	105	433006	47.27 ug/L	97
97)	bromobenzene	15.435	156	128887	45.93 ug/L	93
98)	cyclohexanone	15.225	55	49896	169.79 ug/L	92
99)	1,1,2,2-tetrachloroethane	15.367	83	163963	46.64 ug/L	99
100)	trans-1,4-dichloro-2-b...	15.409	53	39599	45.18 ug/L	90
101)	1,2,3-trichloropropane	15.440	110	36542	43.05 ug/L	98
102)	n-propylbenzene	15.435	91	488534	45.70 ug/L	100
103)	2-chlorotoluene	15.587	126	114507	49.30 ug/L	95
104)	4-chlorotoluene	15.687	91	335637	45.41 ug/L	100
105)	1,3,5-trimethylbenzene	15.587	105	396767	46.17 ug/L	98
106)	tert-butylbenzene	15.933	119	303611	48.64 ug/L	100
107)	pentachloroethane	16.027	167	98013	49.57 ug/L	98
108)	1,2,4-trimethylbenzene	15.980	105	403012	45.31 ug/L	95
109)	sec-butylbenzene	16.143	105	464770	47.86 ug/L	99
110)	1,3-dichlorobenzene	16.337	146	251180	48.26 ug/L	100
111)	p-isopropyltoluene	16.263	119	402347	45.22 ug/L	99
112)	1,4-dichlorobenzene	16.421	146	254658	47.18 ug/L	98
114)	1,2-dichlorobenzene	16.803	146	260378	47.00 ug/L	99
115)	n-butylbenzene	16.667	92	206903	47.04 ug/L	99
116)	1,2-dibromo-3-chloropr...	17.553	157	45658	45.98 ug/L	92
117)	1,3,5-trichlorobenzene	17.695	180	223844	48.75 ug/L	99
118)	1,2,4-trichlorobenzene	18.277	180	225117	50.30 ug/L	99
119)	hexachlorobutadiene	18.360	225	78824	43.77 ug/L	100
120)	naphthalene	18.523	128	644922	48.05 ug/L	99
121)	1,2,3-trichlorobenzene	18.738	180	223078	48.60 ug/L	99
122)	hexachloroethane	17.039	119	95274	44.43 ug/L	97
123)	Benzyl chloride	16.546	91	354988	52.23 ug/L	99

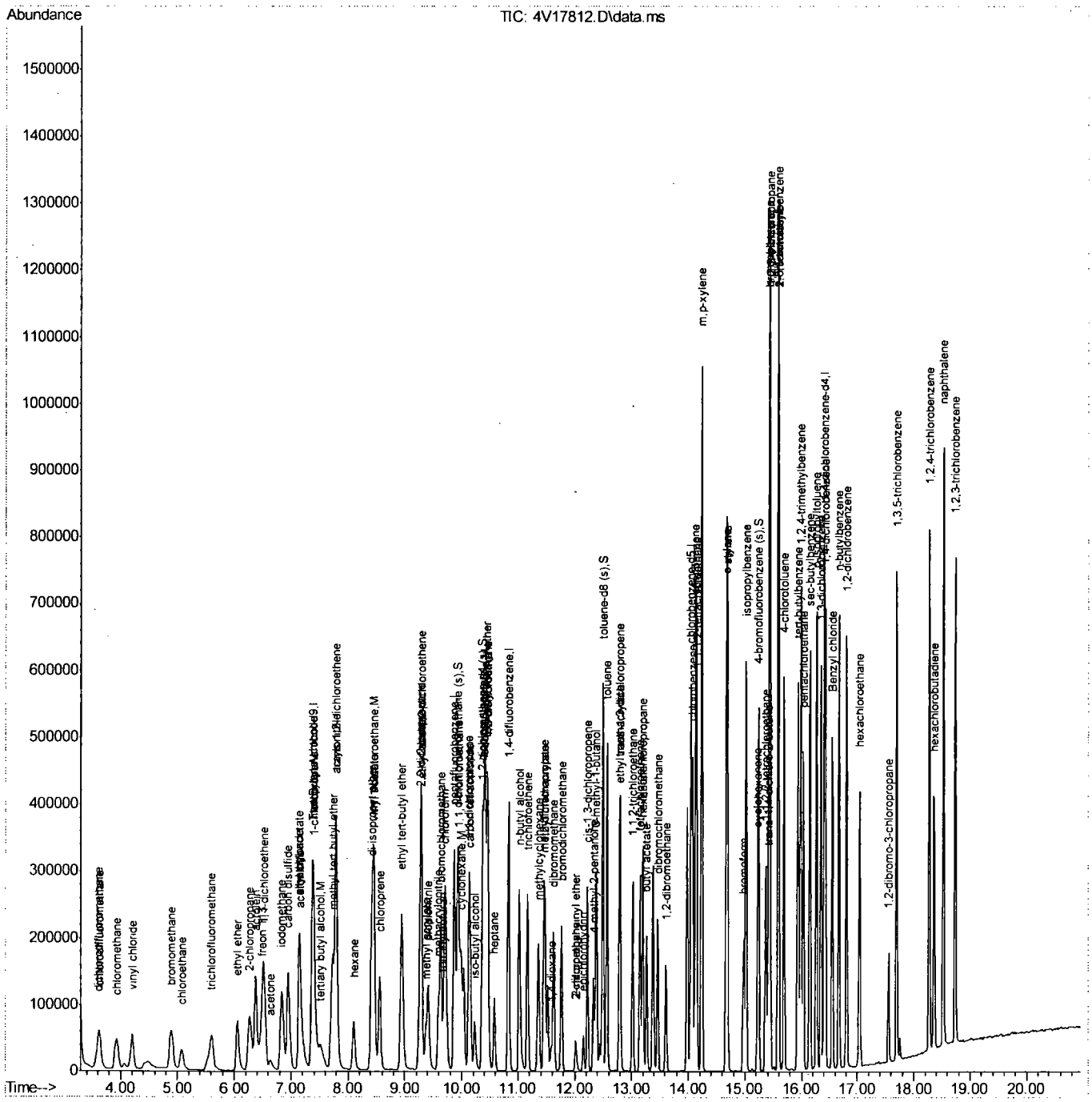
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.4.1

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17812.D
Acq On : 20 May 2015 2:12 pm
Operator : jemimam
Sample : jb94786-8ms
Misc : MS85329,V4V723,5,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 21 14:48:13 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 15:20:43 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17813.D
Acq On : 20 May 2015 2:38 pm
Operator : jemimam
Sample : jb94786-8msd
Misc : MS85329,V4V723,5,,,,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: May 21 14:48:43 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 15:20:43 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.387	65	264312	500.00	ug/L	0.00
4) pentafluorobenzene	9.867	168	291499	50.00	ug/L	0.00
51) 1,4-difluorobenzene	10.832	114	384338	50.00	ug/L	0.00
81) chlorobenzene-d5	14.046	117	320186	50.00	ug/L	0.00
94) 1,4-dichlorobenzene-d4	16.400	152	188962	50.00	ug/L	0.00
System Monitoring Compounds						
45) dibromofluoromethane (s)	9.919	113	147262	51.58	ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 103.16%			
46) 1,2-dichloroethane-d4 (s)	10.365	65	137654	46.78	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 93.56%			
73) toluene-d8 (s)	12.494	98	410344	49.36	ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 98.72%			
96) 4-bromofluorobenzene (s)	15.241	95	170824	49.16	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 98.32%			
Target Compounds						Qvalue
2) 1,4-dioxane	11.587	88	50271	1309.00	ug/L	93
3) tertiary butyl alcohol	7.518	59	131872	248.90	ug/L	95
6) chlorodifluoromethane	3.622	51	108152	54.82	ug/L	98
7) dichlorodifluoromethane	3.612	85	97386	60.52	ug/L	96
9) chloromethane	3.932	50	127385	39.94	ug/L	98
10) vinyl chloride	4.210	62	122288	44.31	ug/L	95
11) bromomethane	4.886	94	97728	38.90	ug/L	97
12) chloroethane	5.064	64	63056	49.39	ug/L	97
13) trichlorofluoromethane	5.604	101	132251	55.50	ug/L	99
14) ethyl ether	6.060	74	58207	53.44	ug/L	93
16) 2-chloropropane	6.270	43	153297	49.72	ug/L	96
17) acrolein	6.375	56	233996	516.94	ug/L	97
18) 1,1-dichloroethene	6.522	61	152476	49.80	ug/L	93
19) acetone	6.637	58	12969	58.74	ug/L	98
20) allyl chloride	7.146	76	50759	52.30	ug/L	92
21) acetonitrile	7.156	40	121715	549.20	ug/L	93
22) iodomethane	6.836	142	261557	52.51	ug/L	99
23) iso-butyl alcohol	10.229	41	56074	558.23	ug/L	96
24) carbon disulfide	6.952	76	406690	54.26	ug/L	97
25) methylene chloride	7.382	84	145320	52.51	ug/L	95
26) 1-chloropropane	7.392	41	44339	44.17	ug/L	86
27) methyl acetate	7.151	74	21610	58.23	ug/L	91
28) methyl tert butyl ether	7.738	73	395793	47.53	ug/L	96
29) trans-1,2-dichloroethene	7.785	61	156475	50.88	ug/L	99
30) di-isopropyl ether	8.425	45	341928	53.09	ug/L	96
31) ethyl tert-butyl ether	8.944	59	379053	53.26	ug/L	98
32) 2-butanone	9.274	72	14721	55.04	ug/L	87
33) 1,1-dichloroethane	8.456	63	233658	59.30	ug/L	98
34) chloroprene	8.556	53	122638	52.74	ug/L	95
35) acrylonitrile	7.796	53	224136	270.52	ug/L	96
36) vinyl acetate	8.462	86	16763	52.15	ug/L	93
37) ethyl acetate	9.290	45	15154	53.13	ug/L	75

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17813.D
Acq On : 20 May 2015 2:38 pm
Operator : jemimam
Sample : jb94786-8msd
Misc : MS85329,V4V723,5,,,,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: May 21 14:48:43 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 15:20:43 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
38) 2,2-dichloropropane	9.274	77	182398	47.96	ug/L		98
39) cis-1,2-dichloroethene	9.285	96	131628	47.37	ug/L		95
40) propionitrile	9.411	54	185710	556.62	ug/L		99
41) methyl acrylate	9.369	55	124972	53.21	ug/L	#	97
42) bromochloromethane	9.631	128	68791	53.19	ug/L		94
43) tetrahydrofuran	9.657	42	38798	48.43	ug/L		92
44) chloroform	9.699	83	210968	47.85	ug/L		99
47) freon 113	6.496	151	58011	68.17	ug/L		99
48) methacrylonitrile	9.594	41	61010	49.24	ug/L		96
49) 1,1,1-trichloroethane	9.940	97	181984	50.39	ug/L		99
50) tert-amyl methyl ether	10.454	73	373064	50.84	ug/L		96
52) epichlorohydrin	12.148	57	48268	237.10	ug/L		94
53) n-butyl alcohol	11.020	56	240576	2923.28	ug/L		94
54) cyclohexane	9.987	84	101068	59.75	ug/L		96
55) carbon tetrachloride	10.145	117	144920	45.79	ug/L		96
56) 1,1-dichloropropene	10.129	75	112094	48.83	ug/L		96
57) hexane	8.105	57	57178	81.91	ug/L		98
58) benzene	10.412	78	394859	49.06	ug/L		99
59) isooctane	10.391	57	227453	71.53	ug/L	#	90
60) heptane	10.580	57	30828	77.39	ug/L		98
61) isopropyl acetate	10.375	43	223272	48.91	ug/L		97
62) 1,2-dichloroethane	10.459	62	144013	45.09	ug/L		97
63) trichloroethene	11.167	95	99443	50.25	ug/L		99
65) 2-nitropropane	12.011	43	31548	24.47	ug/L	#	52
66) 2-chloroethyl vinyl ether	12.153	63	1924	11.27	ug/L		68
67) methyl methacrylate	11.476	69	68163	49.55	ug/L		88
68) 1,2-dichloropropane	11.455	63	98941	49.97	ug/L		93
69) methylcyclohexane	11.361	83	99714	64.26	ug/L		94
70) dibromomethane	11.623	93	76995	49.11	ug/L		99
71) bromodichloromethane	11.765	83	151019	46.61	ug/L		99
72) cis-1,3-dichloropropene	12.221	75	165939	48.93	ug/L		96
74) 4-methyl-2-pentanone	12.331	58	46402	50.79	ug/L		96
75) toluene	12.567	92	211907	48.31	ug/L		99
76) 3-methyl-1-butanol	12.378	70	88881	1173.81	ug/L		91
77) trans-1,3-dichloropropene	12.803	75	153432	46.51	ug/L		92
78) ethyl methacrylate	12.787	69	120951	47.78	ug/L		95
79) 1,1,2-trichloroethane	13.018	83	80878	47.14	ug/L		97
80) 2-hexanone	13.196	58	42007	50.38	ug/L		93
82) tetrachloroethene	13.149	166	89174	52.95	ug/L		97
83) 1,3-dichloropropane	13.196	76	140320	47.95	ug/L		98
84) butyl acetate	13.264	56	65341	52.68	ug/L		95
85) dibromochloromethane	13.464	129	127774	48.54	ug/L		99
86) 1,2-dibromoethane	13.610	107	111622	49.22	ug/L		97
87) chlorobenzene	14.077	112	264845	49.47	ug/L		98
88) 1,1,1,2-tetrachloroethane	14.145	131	120581	48.23	ug/L		99
89) ethylbenzene	14.129	91	420337	46.81	ug/L		98
90) m,p-xylene	14.240	106	322194	98.15	ug/L		96
91) o-xylene	14.675	106	177326	48.69	ug/L		92
92) styrene	14.690	104	287653	49.60	ug/L		98
93) bromoform	14.979	173	99738	47.67	ug/L		99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17813.D
Acq On : 20 May 2015 2:38 pm
Operator : jemimam
Sample : jb94786-8msd
Misc : MS85329,V4V723,5,,,,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: May 21 14:48:43 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 15:20:43 2015
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
95)	isopropylbenzene	15.021	105	437468	48.40 ug/L	97
97)	bromobenzene	15.435	156	133236	48.11 ug/L	93
98)	cyclohexanone	15.225	55	57048	196.73 ug/L	92
99)	1,1,2,2-tetrachloroethane	15.367	83	168195	48.49 ug/L	98
100)	trans-1,4-dichloro-2-b...	15.409	53	40836	47.21 ug/L	90
101)	1,2,3-trichloropropane	15.440	110	38943	46.49 ug/L	99
102)	n-propylbenzene	15.435	91	500679	47.46 ug/L	99
103)	2-chlorotoluene	15.587	126	116599	50.87 ug/L	94
104)	4-chlorotoluene	15.687	91	343141	47.05 ug/L	99
105)	1,3,5-trimethylbenzene	15.587	105	398334	46.97 ug/L	96
106)	tert-butylbenzene	15.933	119	302146	49.05 ug/L	98
107)	pentachloroethane	16.027	167	99027	50.76 ug/L	97
108)	1,2,4-trimethylbenzene	15.980	105	408559	46.55 ug/L	94
109)	sec-butylbenzene	16.143	105	476202	49.69 ug/L	98
110)	1,3-dichlorobenzene	16.342	146	257200	50.08 ug/L	98
111)	p-isopropyltoluene	16.263	119	406461	46.29 ug/L	98
112)	1,4-dichlorobenzene	16.421	146	257272	48.31 ug/L	98
114)	1,2-dichlorobenzene	16.803	146	267403	48.92 ug/L	98
115)	n-butylbenzene	16.667	92	210391	48.47 ug/L	99
116)	1,2-dibromo-3-chloropr...	17.553	157	47092	48.07 ug/L	92
117)	1,3,5-trichlorobenzene	17.695	180	228358	50.40 ug/L	98
118)	1,2,4-trichlorobenzene	18.277	180	230898	52.28 ug/L	99
119)	hexachlorobutadiene	18.361	225	82132	46.22 ug/L	97
120)	naphthalene	18.523	128	673321	50.84 ug/L	99
121)	1,2,3-trichlorobenzene	18.738	180	232967	51.43 ug/L	99
122)	hexachloroethane	17.039	119	94369	44.60 ug/L	97
123)	Benzyl chloride	16.546	91	360211	53.71 ug/L	98

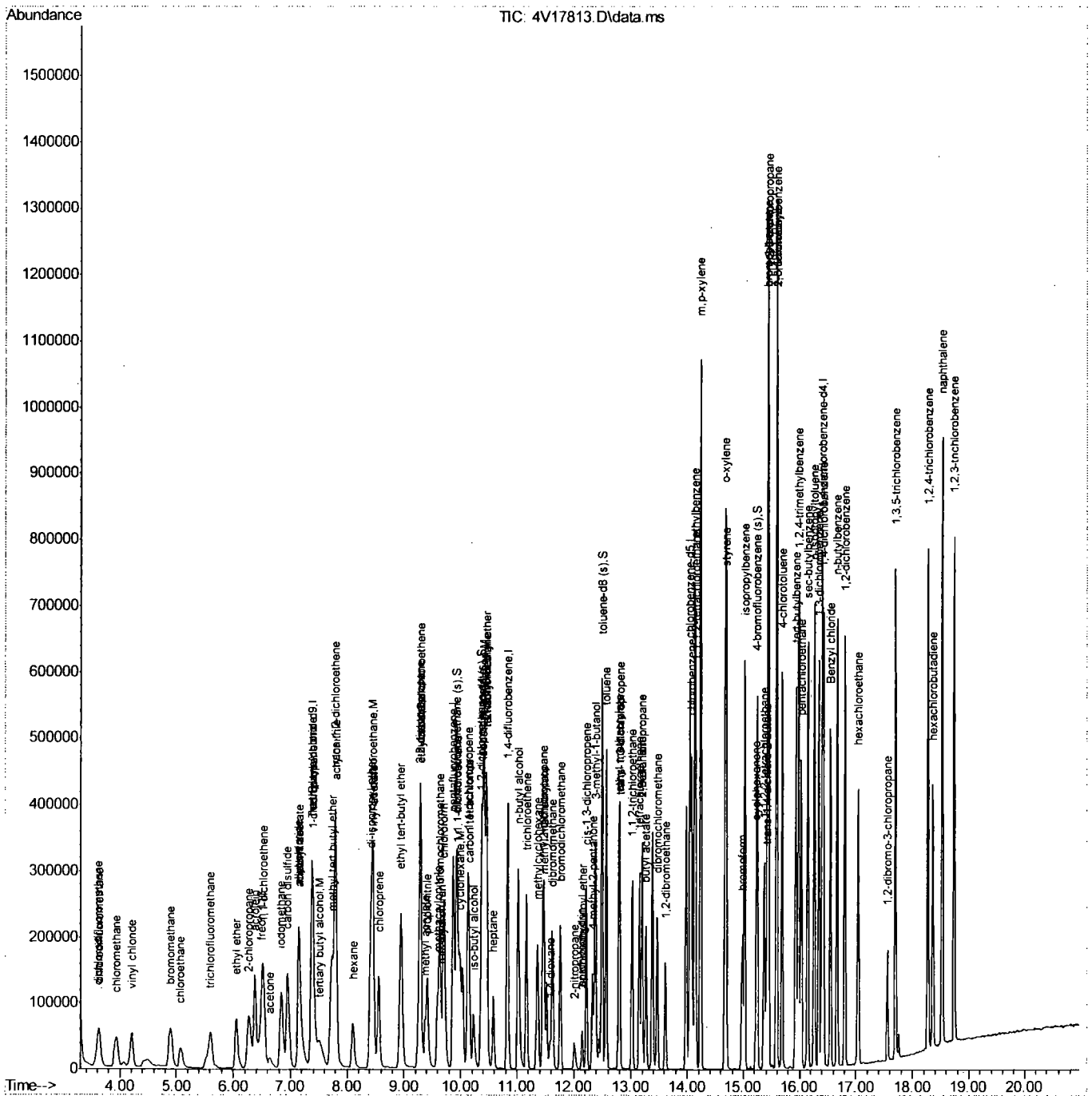
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.4.2 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17813.D
Acq On : 20 May 2015 2:38 pm
Operator : jemimam
Sample : jb94786-8msd
Misc : MS85329,V4V723,5,,,,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: May 21 14:48:43 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 15:20:43 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17858.D
Acq On : 21 May 2015 3:35 pm
Operator : jemimam
Sample : jb94959-1Ams
Misc : MS85393,V4V725,5,,,,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: May 22 11:02:30 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 15:20:43 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.382	65	273874	500.00	ug/L	0.00
4) pentafluorobenzene	9.867	168	306563	50.00	ug/L	0.00
51) 1,4-difluorobenzene	10.831	114	402013	50.00	ug/L	0.00
81) chlorobenzene-d5	14.045	117	332324	50.00	ug/L	0.00
94) 1,4-dichlorobenzene-d4	16.400	152	207513	50.00	ug/L	0.00
System Monitoring Compounds						
45) dibromofluoromethane (s)	9.919	113	152401	50.76	ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 101.52%			
46) 1,2-dichloroethane-d4 (s)	10.365	65	143580	46.40	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 92.80%			
73) toluene-d8 (s)	12.493	98	421738	48.50	ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 97.00%			
96) 4-bromofluorobenzene (s)	15.241	95	181314	47.51	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 95.02%			
Target Compounds						Qvalue
2) 1,4-dioxane	11.581	88	53426	1342.58	ug/L	96
3) tertiary butyl alcohol	7.518	59	139741	254.54	ug/L	99
6) chlorodifluoromethane	3.622	51	104161	50.20	ug/L	97
7) dichlorodifluoromethane	3.601	85	116215	68.67	ug/L	94
9) chloromethane	3.932	50	164018	48.90	ug/L	99
10) vinyl chloride	4.204	62	153212	52.79	ug/L	98
11) bromomethane	4.886	94	120573	45.63	ug/L	96
12) chloroethane	5.069	64	73962	55.08	ug/L	98
13) trichlorofluoromethane	5.604	101	152725	60.94	ug/L	97
14) ethyl ether	6.055	74	59914	52.30	ug/L	96
16) 2-chloropropane	6.270	43	148838	45.90	ug/L	97
17) acrolein	6.375	56	243371	511.23	ug/L	97
18) 1,1-dichloroethene	6.522	61	151189	46.96	ug/L	97
19) acetone	6.637	58	14478	62.35	ug/L	99
20) allyl chloride	7.140	76	49882	48.87	ug/L	97
21) acetonitrile	7.161	40	128607	551.78	ug/L	86
22) iodomethane	6.836	142	257537	49.16	ug/L	99
23) iso-butyl alcohol	10.229	41	59370	562.00	ug/L	96
24) carbon disulfide	6.946	76	378663	48.04	ug/L	98
25) methylene chloride	7.376	84	146933	50.48	ug/L	97
26) 1-chloropropane	7.392	41	43767	41.46	ug/L	90
27) methyl acetate	7.151	74	23538	60.31	ug/L	90
28) methyl tert butyl ether	7.733	73	433576	49.51	ug/L	97
29) trans-1,2-dichloroethene	7.785	61	156948	48.53	ug/L	98
30) di-isopropyl ether	8.420	45	354657	52.36	ug/L	98
31) ethyl tert-butyl ether	8.944	59	399450	53.36	ug/L	99
32) 2-butanone	9.274	72	16786	59.68	ug/L	88
33) 1,1-dichloroethane	8.451	63	204632	49.38	ug/L	99
34) chloroprene	8.556	53	116746	47.74	ug/L	96
35) acrylonitrile	7.796	53	243374	279.31	ug/L	97
36) vinyl acetate	8.456	86	18082	53.49	ug/L	91
37) ethyl acetate	9.290	45	16293	54.31	ug/L	60

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17858.D
Acq On : 21 May 2015 3:35 pm
Operator : jemimam
Sample : jb94959-1Ams
Misc : MS85393,V4V725,5,,,,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: May 22 11:02:30 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 15:20:43 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
38) 2,2-dichloropropane	9.274	77	190838	47.72	ug/L		99
39) cis-1,2-dichloroethene	9.285	96	133691	45.75	ug/L		96
40) propionitrile	9.411	54	205143	584.65	ug/L		97
41) methyl acrylate	9.369	55	136959	55.45	ug/L	#	98
42) bromochloromethane	9.626	128	73455	54.00	ug/L		97
43) tetrahydrofuran	9.657	42	44062	52.30	ug/L		99
44) chloroform	9.699	83	221582	47.78	ug/L		99
47) freon 113	6.490	151	52771	58.96	ug/L		99
48) methacrylonitrile	9.589	41	68378	52.48	ug/L		91
49) 1,1,1-trichloroethane	9.935	97	180571	47.54	ug/L		100
50) tert-amyl methyl ether	10.454	73	394964	51.18	ug/L		95
52) epichlorohydrin	12.147	57	54596	256.40	ug/L		97
53) n-butyl alcohol	11.020	56	254153	2952.48	ug/L		94
54) cyclohexane	9.993	84	97454	55.08	ug/L		93
55) carbon tetrachloride	10.145	117	148946	44.99	ug/L		99
56) 1,1-dichloropropene	10.124	75	112762	46.96	ug/L		96
57) hexane	8.100	57	49479	67.76	ug/L		97
58) benzene	10.412	78	410929	48.81	ug/L		99
59) isooctane	10.391	57	205732	61.86	ug/L		91
60) heptane	10.585	57	27499	65.99	ug/L		96
61) isopropyl acetate	10.375	43	236024	49.43	ug/L		96
62) 1,2-dichloroethane	10.459	62	152650	45.69	ug/L		99
63) trichloroethene	11.167	95	104601	50.53	ug/L		98
65) 2-nitropropane	12.011	43	36368	26.97	ug/L	#	55
66) 2-chloroethyl vinyl ether	12.142	63	2356	13.19	ug/L		69
67) methyl methacrylate	11.476	69	77229	53.67	ug/L		90
68) 1,2-dichloropropane	11.455	63	105917	51.14	ug/L		94
69) methylcyclohexane	11.361	83	90823	55.95	ug/L		98
70) dibromomethane	11.623	93	84346	51.44	ug/L		99
71) bromodichloromethane	11.765	83	164328	48.49	ug/L		98
72) cis-1,3-dichloropropene	12.221	75	180555	50.90	ug/L		95
74) 4-methyl-2-pentanone	12.331	58	53311	55.79	ug/L		91
75) toluene	12.567	92	226902	49.45	ug/L		98
76) 3-methyl-1-butanol	12.373	70	94350	1191.26	ug/L		94
77) trans-1,3-dichloropropene	12.803	75	170401	49.38	ug/L		92
78) ethyl methacrylate	12.787	69	138574	52.34	ug/L		95
79) 1,1,2-trichloroethane	13.018	83	92203	51.38	ug/L		99
80) 2-hexanone	13.196	58	49620	56.89	ug/L		90
82) tetrachloroethene	13.149	166	90522	51.79	ug/L		97
83) 1,3-dichloropropane	13.196	76	153851	50.65	ug/L		99
84) butyl acetate	13.264	56	71448	55.50	ug/L		92
85) dibromochloromethane	13.463	129	140301	51.35	ug/L		100
86) 1,2-dibromoethane	13.610	107	125007	53.11	ug/L		98
87) chlorobenzene	14.077	112	284807	51.26	ug/L		99
88) 1,1,1,2-tetrachloroethane	14.145	131	133142	51.31	ug/L		98
89) ethylbenzene	14.129	91	455582	48.88	ug/L		97
90) m,p-xylene	14.239	106	350978	103.02	ug/L		94
91) o-xylene	14.675	106	193826	51.28	ug/L		96
92) styrene	14.690	104	317560	52.75	ug/L		96
93) bromoform	14.979	173	113737	52.38	ug/L		99

7.4.3

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17858.D
Acq On : 21 May 2015 3:35 pm
Operator : jemimam
Sample : jb94959-1Ams
Misc : MS85393,V4V725,5,,,,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: May 22 11:02:30 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 15:20:43 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
95) isopropylbenzene	15.021	105	478304	48.18 ug/L	97
97) bromobenzene	15.435	156	146207	48.08 ug/L	94
98) cyclohexanone	15.225	55	65977	207.19 ug/L	93
99) 1,1,2,2-tetrachloroethane	15.367	83	193575	50.82 ug/L	98
100) trans-1,4-dichloro-2-b...	15.409	53	47943	50.48 ug/L	89
101) 1,2,3-trichloropropane	15.440	110	44403	48.27 ug/L	100
102) n-propylbenzene	15.435	91	546968	47.22 ug/L	99
103) 2-chlorotoluene	15.587	126	126555	50.28 ug/L	96
104) 4-chlorotoluene	15.687	91	380497	47.51 ug/L	99
105) 1,3,5-trimethylbenzene	15.587	105	440882	47.34 ug/L	97
106) tert-butylbenzene	15.933	119	335104	49.54 ug/L	96
107) pentachloroethane	16.027	167	109126	50.93 ug/L	96
108) 1,2,4-trimethylbenzene	15.980	105	455027	47.21 ug/L	96
109) sec-butylbenzene	16.143	105	521901	49.59 ug/L	99
110) 1,3-dichlorobenzene	16.342	146	289388	51.31 ug/L	99
111) p-isopropyltoluene	16.263	119	457645	47.46 ug/L	99
112) 1,4-dichlorobenzene	16.421	146	298907	51.11 ug/L	98
114) 1,2-dichlorobenzene	16.809	146	301789	50.27 ug/L	98
115) n-butylbenzene	16.667	92	235831	49.48 ug/L	99
116) 1,2-dibromo-3-chloropr...	17.553	157	58073	53.97 ug/L	92
117) 1,3,5-trichlorobenzene	17.695	180	264709	53.20 ug/L	98
118) 1,2,4-trichlorobenzene	18.277	180	263569	54.35 ug/L	99
119) hexachlorobutadiene	18.360	225	89109	45.67 ug/L	96
120) naphthalene	18.523	128	790939	54.38 ug/L	99
121) 1,2,3-trichlorobenzene	18.738	180	268450	53.97 ug/L	99
122) hexachloroethane	17.039	119	107714	46.35 ug/L	97
123) Benzyl chloride	16.546	91	408504	55.46 ug/L	98

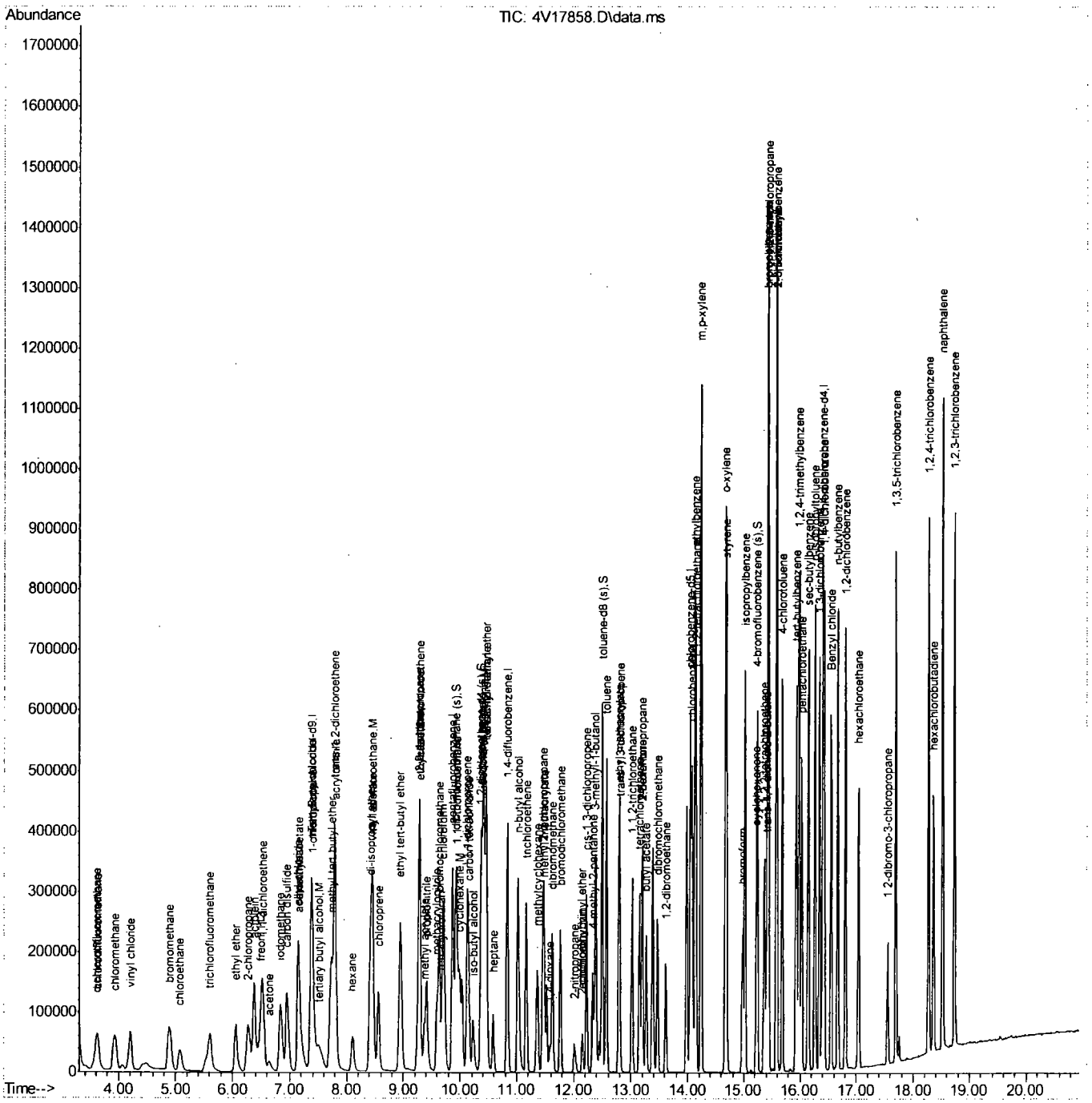
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.4.3

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17858.D
Acq On : 21 May 2015 3:35 pm
Operator : jemimam
Sample : jb94959-1Ams
Misc : MS85393,V4V725,5,,,,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: May 22 11:02:30 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 15:20:43 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17859.D
Acq On : 21 May 2015 4:01 pm
Operator : jemimam
Sample : jb94959-1Amsd
Misc : MS85393,V4V725,5,,,,1
ALS Vial : 13 Sample Multiplier: 1

Quant Time: May 22 11:03:01 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 15:20:43 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Tert Butyl Alcohol-d9	7.382	65	264020	500.00	ug/L		0.00
4) pentafluorobenzene	9.867	168	308260	50.00	ug/L		0.00
51) 1,4-difluorobenzene	10.832	114	408322	50.00	ug/L		0.00
81) chlorobenzene-d5	14.046	117	349851	50.00	ug/L		0.00
94) 1,4-dichlorobenzene-d4	16.400	152	211656	50.00	ug/L		0.00
System Monitoring Compounds							
45) dibromofluoromethane (s)	9.919	113	154148	51.06	ug/L		0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 102.12%				
46) 1,2-dichloroethane-d4 (s)	10.365	65	143086	45.98	ug/L		0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 91.96%				
73) toluene-d8 (s)	12.494	98	433271	49.06	ug/L		0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 98.12%				
96) 4-bromofluorobenzene (s)	15.241	95	186427	47.89	ug/L		0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 95.78%				
Target Compounds							Qvalue
2) 1,4-dioxane	11.587	88	56444	1471.36	ug/L		94
3) tertiary butyl alcohol	7.518	59	141837	268.00	ug/L		99
6) chlorodifluoromethane	3.622	51	89662	42.97	ug/L		96
7) dichlorodifluoromethane	3.601	85	94930	55.78	ug/L		96
9) chloromethane	3.932	50	159377	47.25	ug/L		98
10) vinyl chloride	4.210	62	145013	49.69	ug/L		98
11) bromomethane	4.891	94	116177	43.73	ug/L		97
12) chloroethane	5.070	64	70511	52.23	ug/L		96
13) trichlorofluoromethane	5.604	101	131033	52.00	ug/L		100
14) ethyl ether	6.055	74	61597	53.47	ug/L		98
16) 2-chloropropane	6.270	43	148731	45.62	ug/L		96
17) acrolein	6.375	56	246632	515.23	ug/L		98
18) 1,1-dichloroethene	6.527	61	152971	47.25	ug/L		95
19) acetone	6.637	58	15710	67.29	ug/L		91
20) allyl chloride	7.146	76	51268	49.96	ug/L		92
21) acetonitrile	7.167	40	131236	559.96	ug/L	#	78
22) iodomethane	6.842	142	267718	50.82	ug/L		99
23) iso-butyl alcohol	10.229	41	59636	561.41	ug/L		97
24) carbon disulfide	6.952	76	388829	49.06	ug/L		96
25) methylene chloride	7.376	84	152906	52.24	ug/L		95
26) 1-chloropropane	7.392	41	44330	41.76	ug/L		91
27) methyl acetate	7.151	74	22335	56.91	ug/L		100
28) methyl tert butyl ether	7.733	73	435801	49.49	ug/L		97
29) trans-1,2-dichloroethene	7.785	61	159841	49.15	ug/L		97
30) di-isopropyl ether	8.420	45	325629	47.81	ug/L		98
31) ethyl tert-butyl ether	8.944	59	373758	49.66	ug/L		100
32) 2-butanone	9.274	72	17048	60.27	ug/L		97
33) 1,1-dichloroethane	8.451	63	213179	51.16	ug/L		98
34) chloroprene	8.556	53	105612	42.95	ug/L		93
35) acrylonitrile	7.796	53	252280	287.94	ug/L		96
36) vinyl acetate	8.462	86	16993	49.99	ug/L		80
37) ethyl acetate	9.290	45	15137	50.18	ug/L		68

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17859.D
Acq On : 21 May 2015 4:01 pm
Operator : jemimam
Sample : jb94959-1Amsd
Misc : MS85393,V4V725,5,,,,1
ALS Vial : 13 Sample Multiplier: 1

Quant Time: May 22 11:03:01 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 15:20:43 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
38) 2,2-dichloropropane	9.269	77	188326	46.83	ug/L		99
39) cis-1,2-dichloroethene	9.280	96	138237	47.04	ug/L		94
40) propionitrile	9.411	54	213385	604.79	ug/L		97
41) methyl acrylate	9.369	55	139876	56.32	ug/L	#	99
42) bromochloromethane	9.626	128	75647	55.31	ug/L		96
43) tetrahydrofuran	9.662	42	43932	51.86	ug/L		99
44) chloroform	9.699	83	228060	48.91	ug/L		98
47) freon 113	6.496	151	42263	46.96	ug/L		99
48) methacrylonitrile	9.589	41	67956	51.87	ug/L		91
49) 1,1,1-trichloroethane	9.935	97	179588	47.02	ug/L		98
50) tert-amyl methyl ether	10.454	73	364299	46.95	ug/L		95
52) epichlorohydrin	12.148	57	53169	245.84	ug/L		95
53) n-butyl alcohol	11.020	56	258102	2952.03	ug/L		94
54) cyclohexane	9.988	84	89081	49.57	ug/L		95
55) carbon tetrachloride	10.145	117	145836	43.37	ug/L		98
56) 1,1-dichloropropene	10.124	75	113000	46.34	ug/L		97
57) hexane	8.105	57	38885	52.43	ug/L		99
58) benzene	10.412	78	420694	49.20	ug/L		100
59) isooctane	10.391	57	167744	49.66	ug/L		94
60) heptane	10.580	57	22327	52.75	ug/L		96
61) isopropyl acetate	10.376	43	215810	44.50	ug/L		97
62) 1,2-dichloroethane	10.459	62	157138	46.31	ug/L		99
63) trichloroethene	11.167	95	106322	50.57	ug/L		94
65) 2-nitropropane	12.011	43	37625	27.47	ug/L		63
66) 2-chloroethyl vinyl ether	12.148	63	2118	11.68	ug/L		65
67) methyl methacrylate	11.477	69	78197	53.50	ug/L		85
68) 1,2-dichloropropane	11.456	63	108234	51.45	ug/L		93
69) methylcyclohexane	11.361	83	73886	44.82	ug/L		98
70) dibromomethane	11.623	93	87171	52.34	ug/L		95
71) bromodichloromethane	11.765	83	170008	49.39	ug/L		99
72) cis-1,3-dichloropropene	12.221	75	186934	51.88	ug/L		95
74) 4-methyl-2-pentanone	12.331	58	54150	55.79	ug/L		94
75) toluene	12.567	92	235873	50.61	ug/L		97
76) 3-methyl-1-butanol	12.378	70	96059	1194.10	ug/L		91
77) trans-1,3-dichloropropene	12.798	75	179812	51.31	ug/L		99
78) ethyl methacrylate	12.787	69	144966	53.91	ug/L		95
79) 1,1,2-trichloroethane	13.018	83	94744	51.98	ug/L		95
80) 2-hexanone	13.196	58	51977	58.67	ug/L		88
82) tetrachloroethene	13.149	166	93210	50.66	ug/L		97
83) 1,3-dichloropropane	13.196	76	165551	51.77	ug/L		100
84) butyl acetate	13.264	56	66847	49.33	ug/L		96
85) dibromochloromethane	13.464	129	148681	51.69	ug/L		99
86) 1,2-dibromoethane	13.610	107	132512	53.48	ug/L		99
87) chlorobenzene	14.077	112	305214	52.18	ug/L		98
88) 1,1,1,2-tetrachloroethane	14.145	131	136212	49.87	ug/L		99
89) ethylbenzene	14.124	91	475513	48.47	ug/L		98
90) m,p-xylene	14.240	106	365918	102.02	ug/L		94
91) o-xylene	14.670	106	203736	51.20	ug/L		97
92) styrene	14.691	104	339771	53.61	ug/L		97
93) bromoform	14.979	173	121110	52.98	ug/L		98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17859.D
Acq On : 21 May 2015 4:01 pm
Operator : jemimam
Sample : jb94959-1Amsd
Misc : MS85393,V4V725,5,,,,1
ALS Vial : 13 Sample Multiplier: 1

Quant Time: May 22 11:03:01 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 15:20:43 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
95) isopropylbenzene	15.021	105	493333	48.72 ug/L	98
97) bromobenzene	15.435	156	154559	49.83 ug/L	93
98) cyclohexanone	15.225	55	69465	213.87 ug/L	91
99) 1,1,2,2-tetrachloroethane	15.367	83	204516	52.64 ug/L	99
100) trans-1,4-dichloro-2-b...	15.409	53	48916	50.49 ug/L	86
101) 1,2,3-trichloropropane	15.440	110	46043	49.07 ug/L	99
102) n-propylbenzene	15.435	91	563671	47.70 ug/L	99
103) 2-chlorotoluene	15.587	126	134216	52.28 ug/L	94
104) 4-chlorotoluene	15.687	91	404085	49.46 ug/L	100
105) 1,3,5-trimethylbenzene	15.587	105	459701	48.40 ug/L	96
106) tert-butylbenzene	15.933	119	337001	48.84 ug/L	97
107) pentachloroethane	16.027	167	112004	51.25 ug/L	97
108) 1,2,4-trimethylbenzene	15.980	105	479455	48.77 ug/L	94
109) sec-butylbenzene	16.143	105	522657	48.69 ug/L	98
110) 1,3-dichlorobenzene	16.342	146	300887	52.31 ug/L	99
111) p-isopropyltoluene	16.263	119	469799	47.77 ug/L	99
112) 1,4-dichlorobenzene	16.421	146	312629	52.41 ug/L	98
114) 1,2-dichlorobenzene	16.803	146	318579	52.03 ug/L	99
115) n-butylbenzene	16.667	92	238908	49.14 ug/L	99
116) 1,2-dibromo-3-chloropr...	17.553	157	58617	53.41 ug/L	91
117) 1,3,5-trichlorobenzene	17.695	180	270920	53.39 ug/L	99
118) 1,2,4-trichlorobenzene	18.277	180	274498	55.49 ug/L	98
119) hexachlorobutadiene	18.361	225	91849	46.15 ug/L	98
120) naphthalene	18.523	128	798558	53.83 ug/L	100
121) 1,2,3-trichlorobenzene	18.738	180	277548	54.70 ug/L	99
122) hexachloroethane	17.039	119	106315	44.86 ug/L	96
123) Benzyl chloride	16.547	91	377857	50.30 ug/L	99

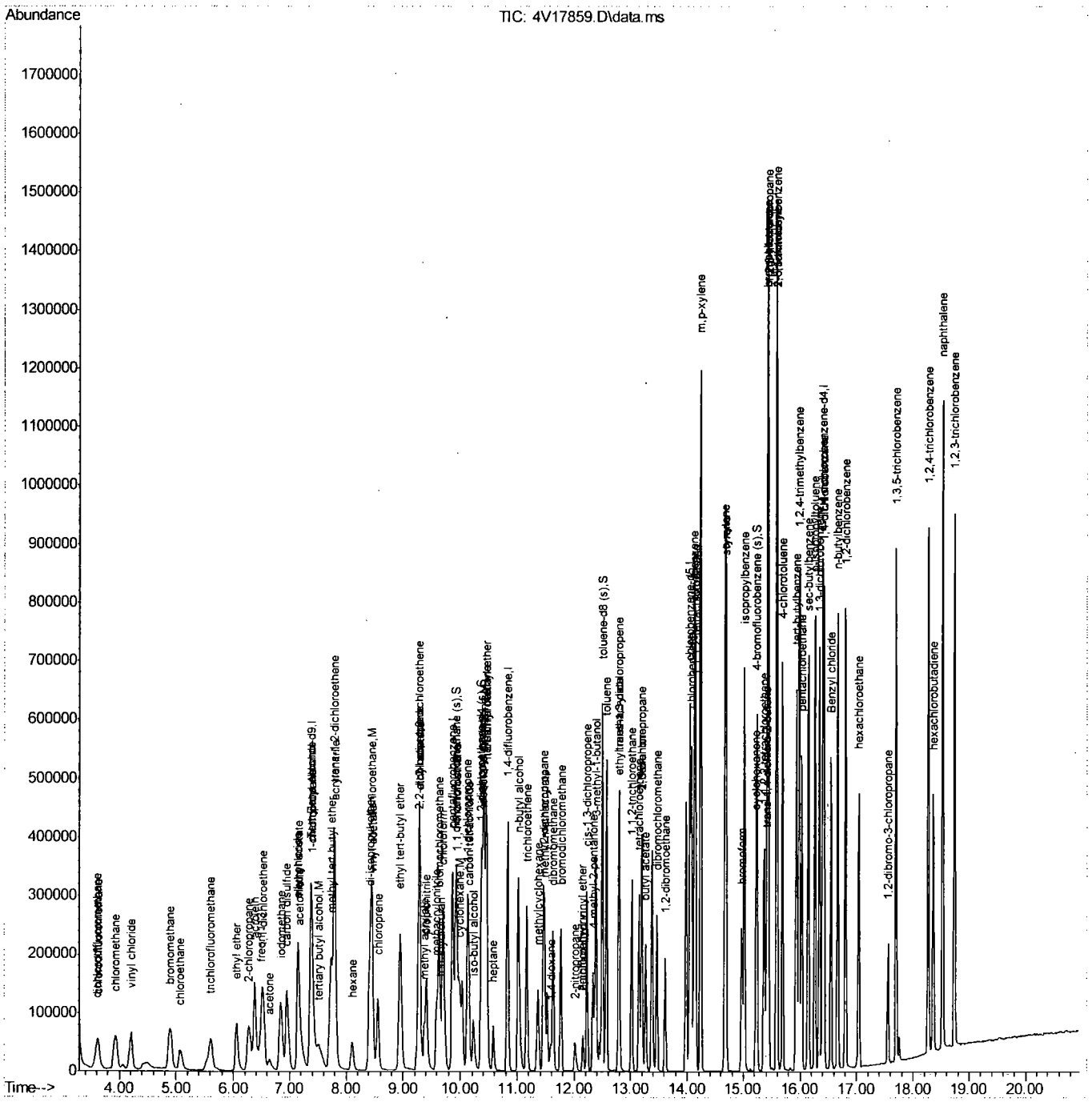
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.4.4

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17859.D
Acq On : 21 May 2015 4:01 pm
Operator : jemimam
Sample : jb94959-1Amsd
Misc : MS85393,V4V725,5,,,,1
ALS Vial : 13 Sample Multiplier: 1

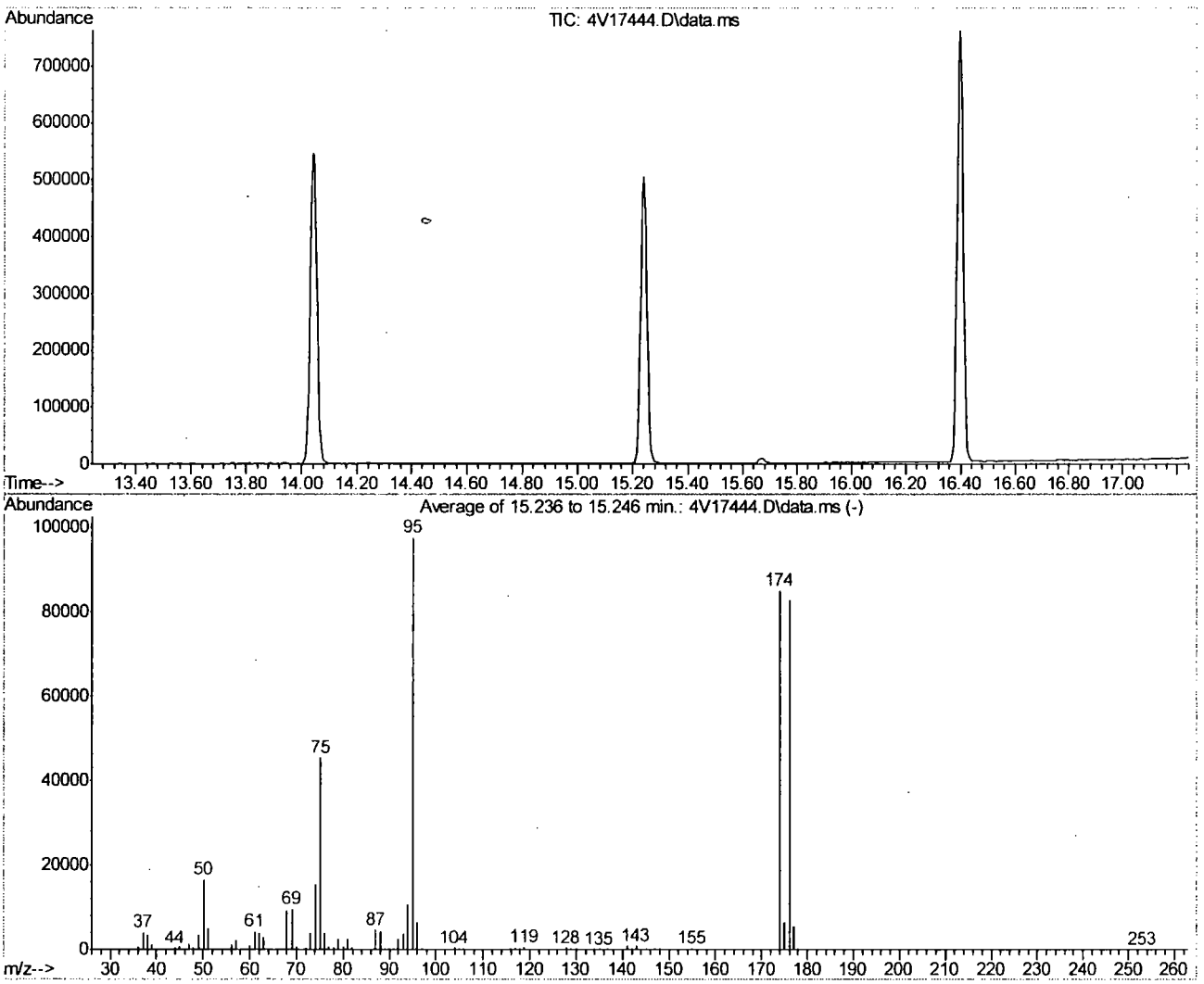
Quant Time: May 22 11:03:01 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 15:20:43 2015
Response via : Initial Calibration



SW-846 Method 8260

Data File : C:\msdchem\1\DATA\4V17444.D Vial: 13
Acq On : 7 May 2015 6:58 pm Operator: jemimam
Sample : bfb Inst : GCMS4V
Misc : MS84599,V4V709,5,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\msdchem\1\METHODS\M4V709.M (RTE Integrator)
Title : sw846 8260b



AutoFind: Scans 2279, 2280, 2281; Background Corrected with Scan 2270

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.0	16576	PASS
75	95	30	60	46.5	45429	PASS
95	95	100	100	100.0	97619	PASS
96	95	5	9	6.7	6557	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	87.1	85048	PASS
175	174	5	9	7.6	6432	PASS
176	174	95	101	97.4	82800	PASS
177	176	5	9	6.6	5485	PASS

4V17444.D M4V709.M Fri May 08 15:31:58 2015 RPT1

Average of 15.236 to 15.246 min.: 4V17444.D\data.ms
bfb
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.00	860	51.10	4955	68.00	9315	79.95	784
37.10	4110	51.95	216	69.05	9515	80.95	2592
38.10	3468	55.05	267	70.05	704	81.95	540
39.05	1301	56.00	1371	72.00	501	85.90	54
40.00	68	57.00	2336	73.05	3906	87.00	4637
44.00	412	60.00	899	74.10	15430	88.00	4207
45.00	793	61.10	4289	75.10	45429	90.95	377
47.05	1153	62.05	4080	76.05	3953	92.00	2614
48.00	561	63.05	2892	76.95	650	93.05	3803
49.00	3614	64.00	235	77.95	489	94.05	10713
50.10	16576	67.05	275	78.95	2585	95.05	97619

Average of 15.236 to 15.246 min.: 4V17444.D\data.ms
bfb
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
96.10	6557	128.95	185	147.95	263	253.00	87
97.05	245	129.95	335	149.90	54		
103.95	434	131.00	59	154.95	265		
104.95	147	134.80	56	156.90	121		
105.90	346	135.00	167	158.90	54		
114.80	51	136.95	152	161.00	111		
115.90	320	140.95	935	174.00	85048		
116.95	539	142.00	50	175.00	6432		
117.90	369	142.95	988	176.00	82800		
118.90	547	145.90	109	177.00	5485		
127.95	387	146.90	192	177.95	182		

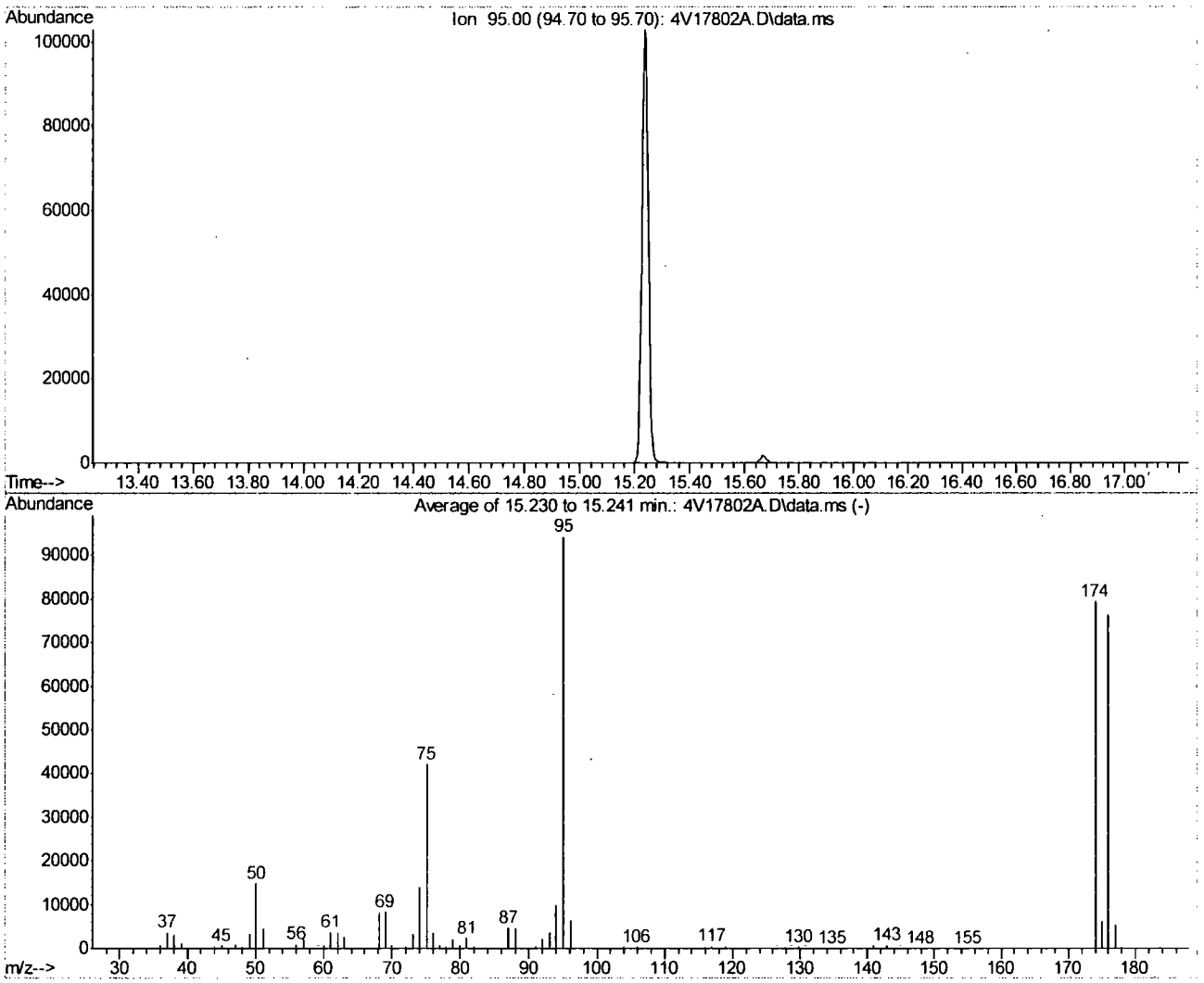
7.5.1

ACCUTEST LABORATORIES
JB94786

SW-846 Method 8260

Data File : C:\msdchem\1\DATA\4V17802A.D Vial: 1
Acq On : 20 May 2015 9:01 am Operator: jemimam
Sample : bfb Inst : GCMS4V
Misc : MS85394,V4V723,5,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M4V709.M (RTE Integrator)
Title : sw846 8260b



AutoFind: Scans 2278, 2279, 2280; Background Corrected with Scan 2270

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	15.9	14963	PASS
75	95	30	60	44.8	42245	PASS
95	95	100	100	100.0	94312	PASS
96	95	5	9	6.9	6506	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	84.2	79421	PASS
175	174	5	9	7.8	6215	PASS
176	174	95	101	96.3	76445	PASS
177	176	5	9	6.9	5294	PASS

4V17802A.D M4V709.M Thu May 21 12:02:59 2015 RPT1

Average of 15.230 to 15.241 min.: 4V17802A.D\data.ms
bfb
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.05	669	51.10	4694	68.05	8313	79.95	692
37.10	3679	52.00	253	69.05	8401	80.95	2379
38.10	3134	55.05	298	70.05	659	81.95	516
39.10	1229	56.00	1077	72.05	431	86.00	64
40.00	62	57.00	2214	73.05	3497	87.00	4742
44.00	446	60.05	685	74.05	13948	88.00	4495
45.00	704	61.00	3724	75.10	42245	90.95	401
47.05	1018	62.05	3593	76.05	3669	92.00	2208
48.00	497	63.05	2666	77.00	660	93.00	3519
49.10	3310	64.05	250	78.00	489	94.05	9882
50.10	14963	67.00	218	78.90	2187	95.10	94312

Average of 15.230 to 15.241 min.: 4V17802A.D\data.ms
bfb
Modified:subtracted

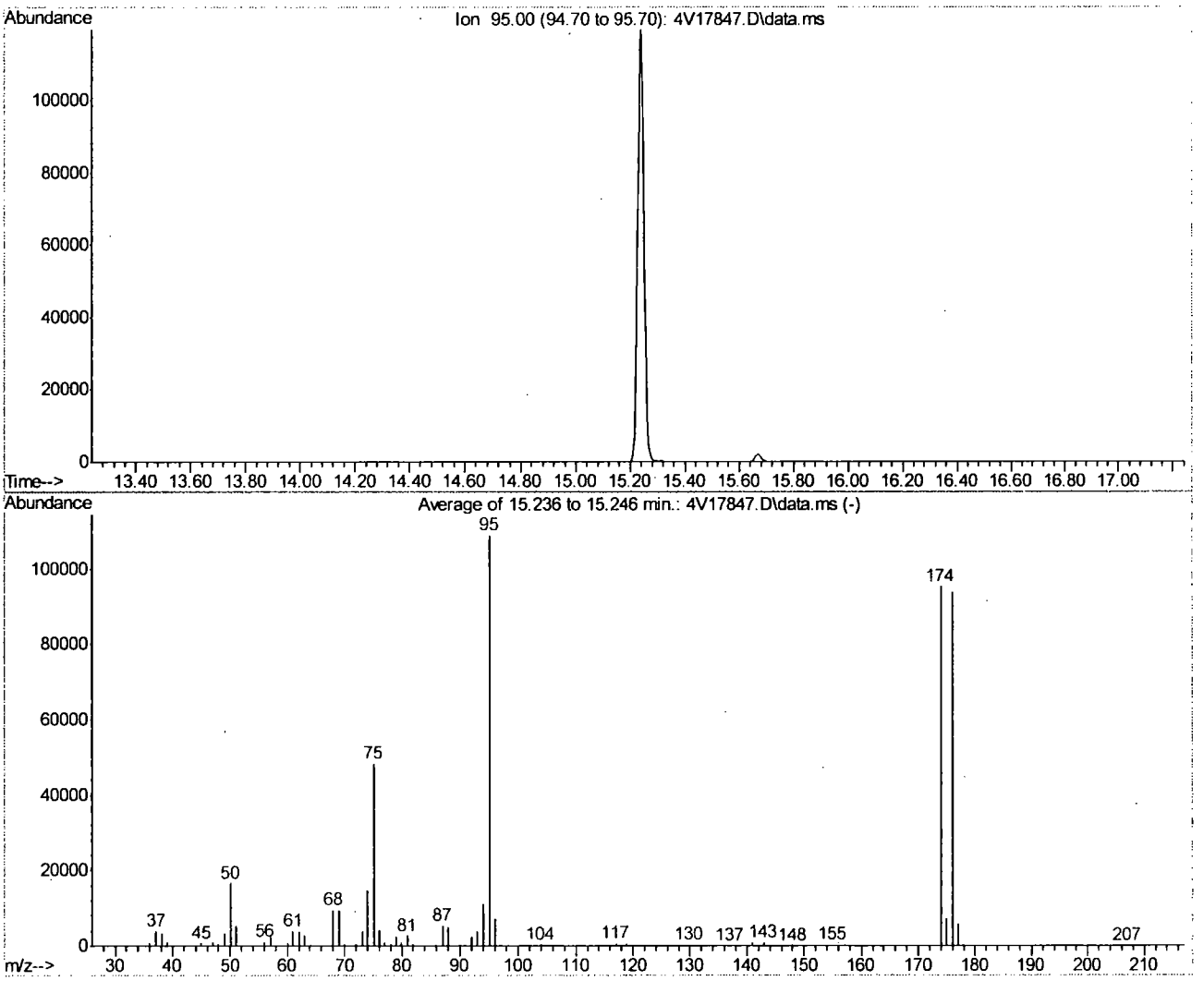
m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
96.10	6506	130.90	58	156.95	187		
97.05	131	134.95	134	172.00	129		
103.95	375	136.90	113	174.00	79421		
105.95	387	139.90	50	175.00	6215		
115.00	54	140.95	835	176.00	76445		
115.95	292	141.80	52	177.00	5294		
116.95	573	142.95	844	177.95	163		
117.95	354	145.90	62				
118.90	412	146.95	104				
127.85	286	147.95	215				
129.90	378	154.95	231				

ACCUTEST LABORATORIES JB94786

SW-846 Method 8260

Data File : C:\msdchem\1\DATA\4V17847.D Vial: 1
Acq On : 21 May 2015 10:17 am Operator: jemimam
Sample : bfb Inst : GCMS4V
Misc : MS85394,V4V725,5,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M4V709.M (RTE Integrator)
Title : sw846 8260b



AutoFind: Scans 2279, 2280, 2281; Background Corrected with Scan 2270

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	15.3	16665	PASS
75	95	30	60	44.3	48280	PASS
95	95	100	100	100.0	108928	PASS
96	95	5	9	6.7	7351	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	87.5	95339	PASS
175	174	5	9	7.6	7278	PASS
176	174	95	101	98.4	93776	PASS
177	176	5	9	6.4	5966	PASS

4V17847.D M4V709.M Fri May 22 10:47:40 2015 RPT1

Average of 15.236 to 15.246 min.: 4V17847.D\data.ms
bfb
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.05	765	51.10	5229	67.10	296	78.95	2578
37.10	3946	52.10	177	68.00	9611	79.95	885
38.10	3277	55.05	235	69.00	9366	80.95	2700
39.10	1238	56.05	1143	70.00	678	81.95	622
40.00	130	57.05	2308	72.05	438	85.80	51
44.00	427	58.10	51	73.05	4019	86.00	76
45.05	809	60.05	849	74.10	14836	87.00	5352
47.00	1167	61.05	4054	75.10	48280	88.00	4940
48.00	547	62.05	4006	76.10	4073	90.95	385
49.05	3428	63.05	2877	77.00	723	92.00	2461
50.10	16665	64.05	327	78.00	557	93.00	3991

Average of 15.236 to 15.246 min.: 4V17847.D\data.ms
bfb
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
94.05	11272	118.95	524	146.95	124	176.00	93776
95.10	108928	127.95	352	147.80	100	177.00	5966
96.05	7351	128.95	196	147.95	214	177.95	173
97.05	215	129.90	354	148.90	53	207.05	28
103.90	452	130.90	53	153.00	52		
104.95	139	134.90	84	154.95	310		
105.90	412	135.10	62	157.05	200		
114.80	54	136.95	166	159.00	61		
115.90	383	140.95	875	172.10	51		
116.95	641	142.95	932	174.00	95339		
117.90	338	146.00	55	175.00	7278		

7.5.3

ACCUTEST LABORATORIES
JB94786

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17445.D
Acq On : 7 May 2015 7:43 pm
Operator : jemimam
Sample : ic709-0.2
Misc : MS84599,V4V709,5,,,,1
ALS Vial : 13 Sample Multiplier: 1

Quant Time: May 08 15:23:20 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 09:00:58 2015
Response via : Initial Calibration

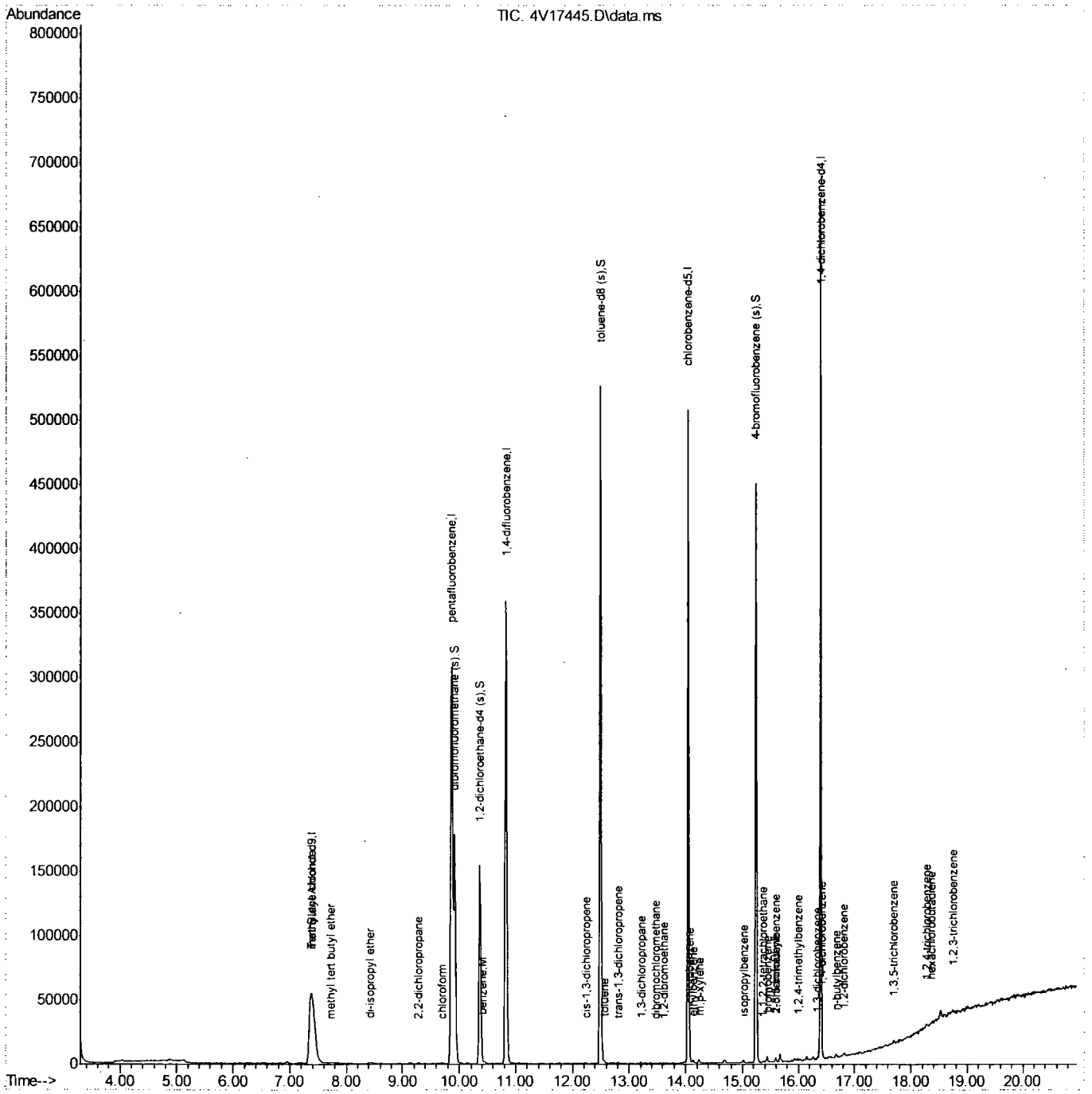
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Tert Butyl Alcohol-d9	7.376	65	206863	500.00	ug/L		0.00
4) pentafluorobenzene	9.862	168	270813	50.00	ug/L		-0.01
51) 1,4-difluorobenzene	10.826	114	336827	50.00	ug/L		0.00
81) chlorobenzene-d5	14.045	117	281933	50.00	ug/L		0.00
94) 1,4-dichlorobenzene-d4	16.400	152	158620	50.00	ug/L		0.00
System Monitoring Compounds							
45) dibromofluoromethane (s)	9.914	113	129407	48.59	ug/L		0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 97.18%				
46) 1,2-dichloroethane-d4 (s)	10.365	65	133246	48.59	ug/L		0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 97.18%				
73) toluene-d8 (s)	12.494	98	362870	49.58	ug/L		0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 99.16%				
96) 4-bromofluorobenzene (s)	15.241	95	147528	51.31	ug/L		0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 102.62%				
Target Compounds							Qvalue
25) methylene chloride	7.376	84	567	0.22	ug/L	#	68
28) methyl tert butyl ether	7.728	73	1550	0.20	ug/L		56
30) di-isopropyl ether	8.414	45	1031	0.16	ug/L		71
38) 2,2-dichloropropane	9.274	77	833	0.24	ug/L	#	47
44) chloroform	9.704	83	925	0.22	ug/L		79
58) benzene	10.417	78	1630	0.22	ug/L		89
72) cis-1,3-dichloropropene	12.237	75	540	0.17	ug/L	#	52
75) toluene	12.567	92	810	0.20	ug/L		88
77) trans-1,3-dichloropropene	12.808	75	510	0.17	ug/L	#	70
83) 1,3-dichloropropane	13.207	76	490	0.18	ug/L	#	50
85) dibromochloromethane	13.463	129	390	0.16	ug/L	#	20
86) 1,2-dibromoethane	13.616	107	340	0.16	ug/L		80
87) chlorobenzene	14.077	112	934	0.19	ug/L		85
89) ethylbenzene	14.135	91	1732	0.21	ug/L		91
90) m,p-xylene	14.245	106	1281	0.42	ug/L		64
95) isopropylbenzene	15.021	105	1662	0.21	ug/L		92
97) bromobenzene	15.440	156	575	0.24	ug/L		92
99) 1,1,2,2-tetrachloroethane	15.372	83	537	0.18	ug/L		96
103) 2-chlorotoluene	15.592	126	370	0.18	ug/L	#	53
105) 1,3,5-trimethylbenzene	15.592	105	1596	0.22	ug/L		85
108) 1,2,4-trimethylbenzene	15.991	105	1609	0.21	ug/L		90
110) 1,3-dichlorobenzene	16.342	146	924	0.21	ug/L		88
112) 1,4-dichlorobenzene	16.426	146	1057	0.23	ug/L		83
114) 1,2-dichlorobenzene	16.814	146	942	0.20	ug/L		98
115) n-butylbenzene	16.672	92	754	0.20	ug/L		90
117) 1,3,5-trichlorobenzene	17.700	180	812	0.20	ug/L	#	91
118) 1,2,4-trichlorobenzene	18.277	180	828	0.21	ug/L		73
119) hexachlorobutadiene	18.360	225	315	0.21	ug/L		45
121) 1,2,3-trichlorobenzene	18.748	180	844	0.21	ug/L	#	79

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17445.D
Acq On : 7 May 2015 7:43 pm
Operator : jemimam
Sample : ic709-0.2
Misc : MS84599,V4V709,5,,,,1
ALS Vial : 13 Sample Multiplier: 1

Quant Time: May 08 15:23:20 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 09:00:58 2015
Response via : Initial Calibration



ACCUTEST LABORATORIES JB94786

7.6.1

Manual Integrations APPROVED (compounds with "m" flag)
Jessica Reitan-Chu
05/12/15 17:14

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17446.D
Acq On : 7 May 2015 8:10 pm
Operator : jemimam
Sample : ic709-0.5
Misc : MS84599,V4V709,5,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 08 15:16:54 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 09:00:58 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.382	65	202799	500.00	ug/L	0.00
4) pentafluorobenzene	9.872	168	271157	50.00	ug/L	0.00
51) 1,4-difluorobenzene	10.837	114	333124	50.00	ug/L	0.00
81) chlorobenzene-d5	14.045	117	283787	50.00	ug/L	0.00
94) 1,4-dichlorobenzene-d4	16.400	152	169001	50.00	ug/L	0.00
System Monitoring Compounds						
45) dibromofluoromethane (s)	9.924	113	131217	49.21	ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 98.42%			
46) 1,2-dichloroethane-d4 (s)	10.370	65	133575	48.64	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 97.28%			
73) toluene-d8 (s)	12.499	98	361658	49.96	ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 99.92%			
96) 4-bromofluorobenzene (s)	15.241	95	156907	51.22	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 102.44%			
Target Compounds						Qvalue
10) vinyl chloride	4.194	62	1299	0.50	ug/L #	49
24) carbon disulfide	6.957	76	3030	0.42	ug/L	81
25) methylene chloride	7.382	84	1194	0.46	ug/L #	67
28) methyl tert butyl ether	7.738	73	3722m	0.47	ug/L	
30) di-isopropyl ether	8.425	45	3042	0.46	ug/L	84
31) ethyl tert-butyl ether	8.949	59	3252	0.44	ug/L	79
33) 1,1-dichloroethane	8.462	63	1464	0.37	ug/L	86
38) 2,2-dichloropropane	9.279	77	1590m	0.45	ug/L	
42) bromochloromethane	9.636	128	487	0.38	ug/L #	57
44) chloroform	9.704	83	1875	0.45	ug/L	95
49) 1,1,1-trichloroethane	9.935	97	1322	0.37	ug/L #	43
50) tert-amyl methyl ether	10.464	73	3939	0.56	ug/L	96
56) 1,1-dichloropropene	10.129	75	819	0.39	ug/L #	54
58) benzene	10.412	78	3078	0.43	ug/L	88
62) 1,2-dichloroethane	10.464	62	1168	0.39	ug/L	87
63) trichloroethene	11.172	95	739	0.40	ug/L	74
65) 2-nitropropane	12.027	43	562	0.48	ug/L #	50
68) 1,2-dichloropropane	11.455	63	700	0.38	ug/L	96
70) dibromomethane	11.628	93	510	0.35	ug/L	91
72) cis-1,3-dichloropropene	12.226	75	1294	0.41	ug/L	92
75) toluene	12.572	92	1729	0.43	ug/L	95
77) trans-1,3-dichloropropene	12.813	75	1313	0.43	ug/L	88
82) tetrachloroethene	13.149	166	529	0.33	ug/L	95
83) 1,3-dichloropropane	13.207	76	1102	0.40	ug/L	82
85) dibromochloromethane	13.463	129	1027	0.41	ug/L	67
86) 1,2-dibromoethane	13.626	107	879	0.41	ug/L	97
87) chlorobenzene	14.082	112	2029	0.41	ug/L	92
88) 1,1,1,2-tetrachloroethane	14.150	131	1014	0.43	ug/L	82
89) ethylbenzene	14.129	91	3270	0.40	ug/L	98
90) m,p-xylene	14.245	106	2342	0.76	ug/L	95
92) styrene	14.701	104	2092	0.38	ug/L	92
93) bromoform	14.984	173	827	0.42	ug/L	92

7.6.2 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17446.D
Acq On : 7 May 2015 8:10 pm
Operator : jemimam
Sample : ic709-0.5
Misc : MS84599,V4V709,5,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 08 15:16:54 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 09:00:58 2015
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
95)	isopropylbenzene	15.021	105	3297	0.39	ug/L		96
97)	bromobenzene	15.435	156	1123	0.45	ug/L		84
99)	1,1,2,2-tetrachloroethane	15.372	83	1493	0.47	ug/L		90
102)	n-propylbenzene	15.445	91	4298	0.44	ug/L		96
103)	2-chlorotoluene	15.597	126	817	0.38	ug/L	#	66
104)	4-chlorotoluene	15.697	91	3068	0.46	ug/L		95
105)	1,3,5-trimethylbenzene	15.592	105	3185	0.40	ug/L		88
106)	tert-butylbenzene	15.938	119	2409	0.41	ug/L		85
108)	1,2,4-trimethylbenzene	15.985	105	3525	0.44	ug/L		94
109)	sec-butylbenzene	16.148	105	3594	0.40	ug/L		88
110)	1,3-dichlorobenzene	16.342	146	1977	0.41	ug/L		93
111)	p-isopropyltoluene	16.268	119	3520	0.43	ug/L		82
112)	1,4-dichlorobenzene	16.426	146	2106	0.43	ug/L		82
114)	1,2-dichlorobenzene	16.814	146	2213	0.44	ug/L		98
115)	n-butylbenzene	16.672	92	1716	0.42	ug/L		93
116)	1,2-dibromo-3-chloropr...	17.553	157	483	0.55	ug/L		81
117)	1,3,5-trichlorobenzene	17.700	180	1762	0.41	ug/L		91
118)	1,2,4-trichlorobenzene	18.282	180	1741	0.41	ug/L		90
119)	hexachlorobutadiene	18.360	225	858	0.54	ug/L		92
120)	naphthalene	18.533	128	6575	0.54	ug/L		91
121)	1,2,3-trichlorobenzene	18.743	180	1824	0.42	ug/L	#	74
123)	Benzyl chloride	16.546	91	3546	0.59	ug/L	#	89

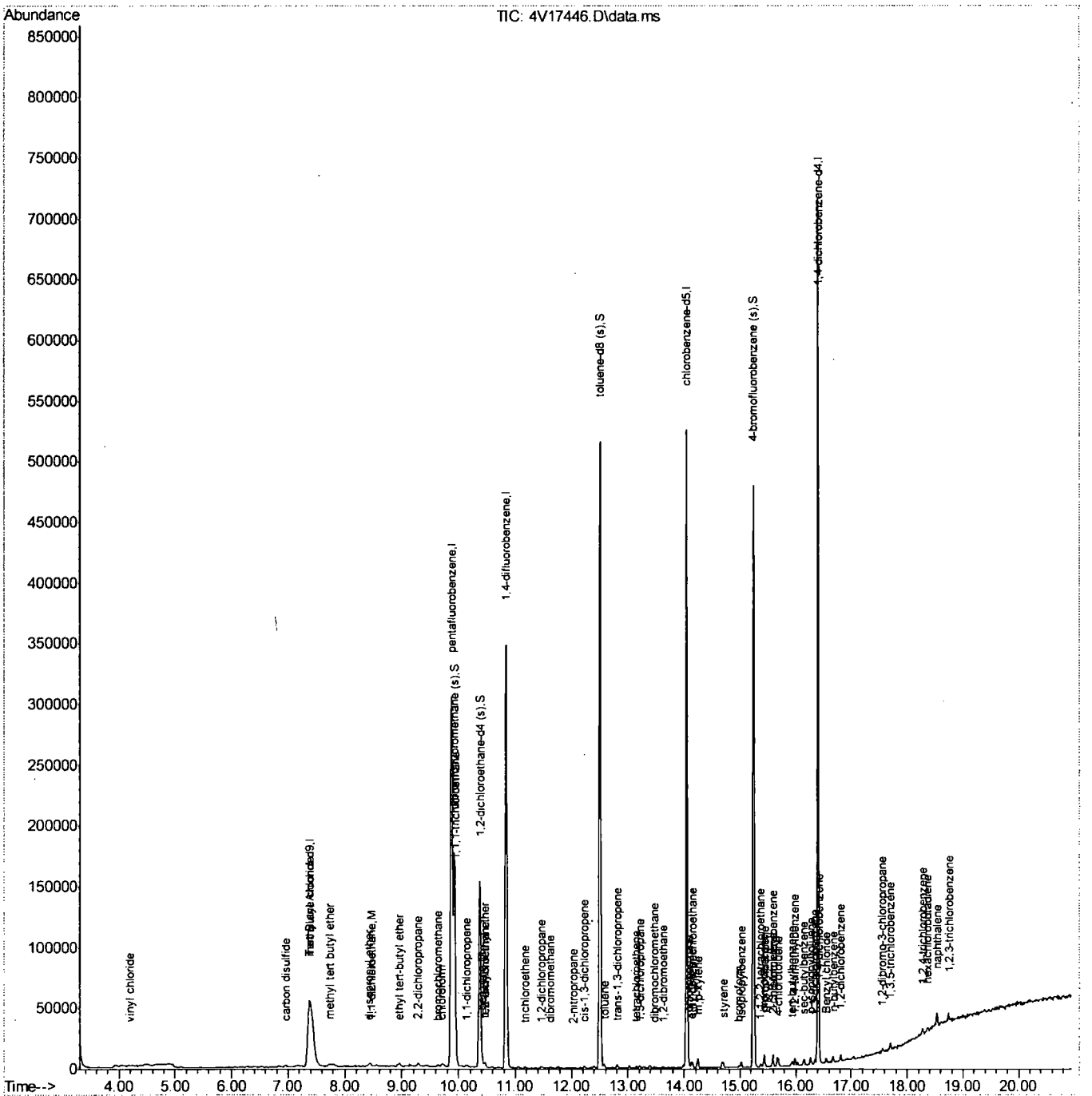
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.6.2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17446.D
Acq On : 7 May 2015 8:10 pm
Operator : jemimam
Sample : ic709-0.5
Misc : MS84599,V4V709,5,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 08 15:16:54 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 09:00:58 2015
Response via : Initial Calibration



Manual Integration Approval Summary

Sample Number: V4V709-IC709
Lab FileID: 4V17446.D
Injection Time: 05/07/15 20:10

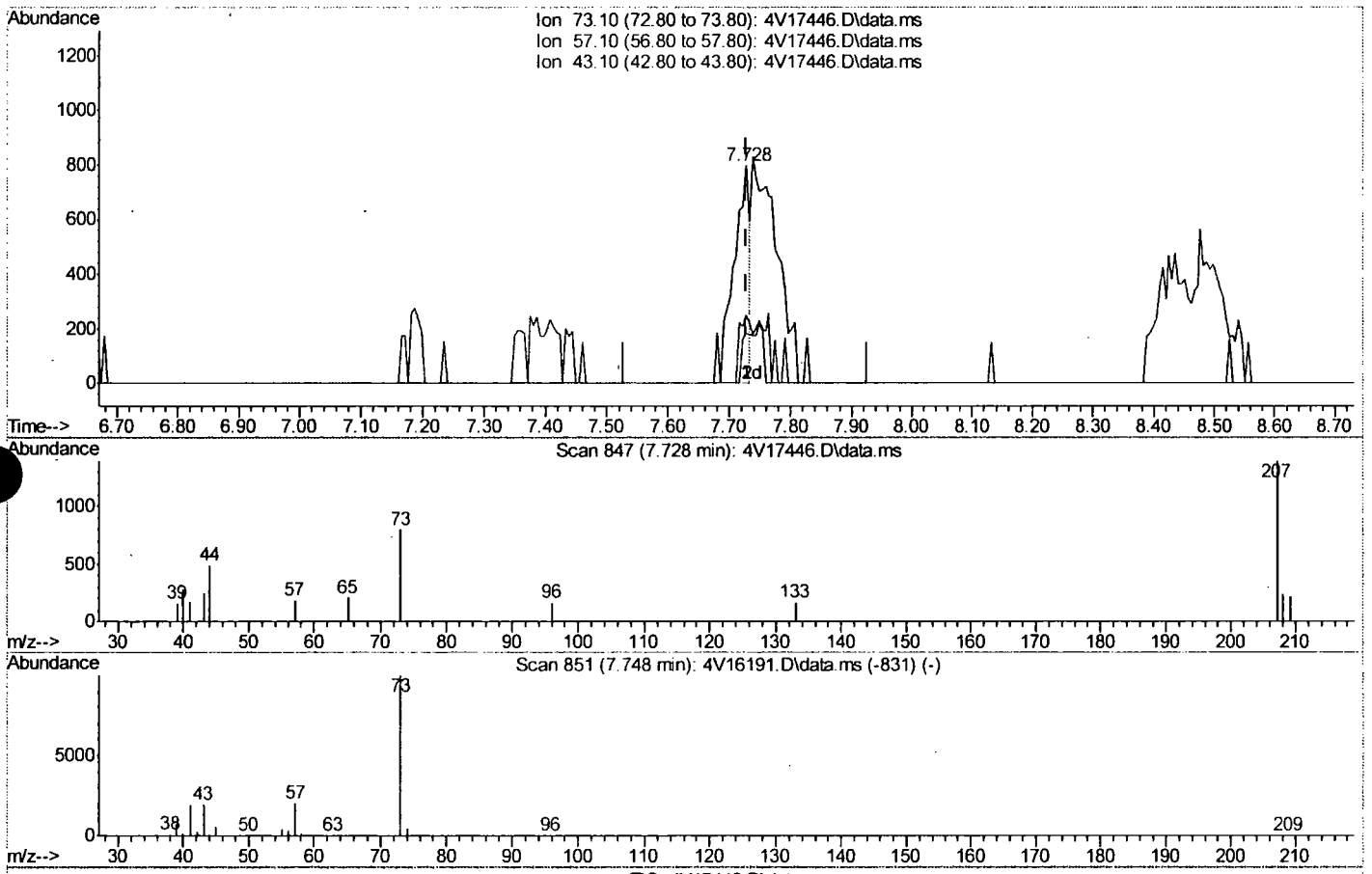
Method: SW846 8260C
Analyst approved: 05/08/15 15:34 Juntae Park
Supervisor approved: 05/12/15 17:14 Jessica Reitan-Chu

Parameter	CAS	Sig#	R.T. (min.)	Reason
Methyl Tert Butyl Ether	1634-04-4		7.74	Poorly defined baseline
2,2-Dichloropropane	594-20-7		9.28	Poorly defined baseline

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17446.D
Acq On : 7 May 2015 8:10 pm
Operator : jemimam
Sample : ic709-0.5
Misc : MS84599,V4V709,5,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 08 09:01:48 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 09:00:58 2015
Response via : Initial Calibration



TIC: 4V17446.D\data.ms

(28) methyl tert butyl ether

7.728min (-0.000) 0.18ug/L

response 1438

Ion	Exp%	Act%
73.10	100	100
57.10	19.70	22.81
43.10	20.50	31.70
0.00	0.00	0.00

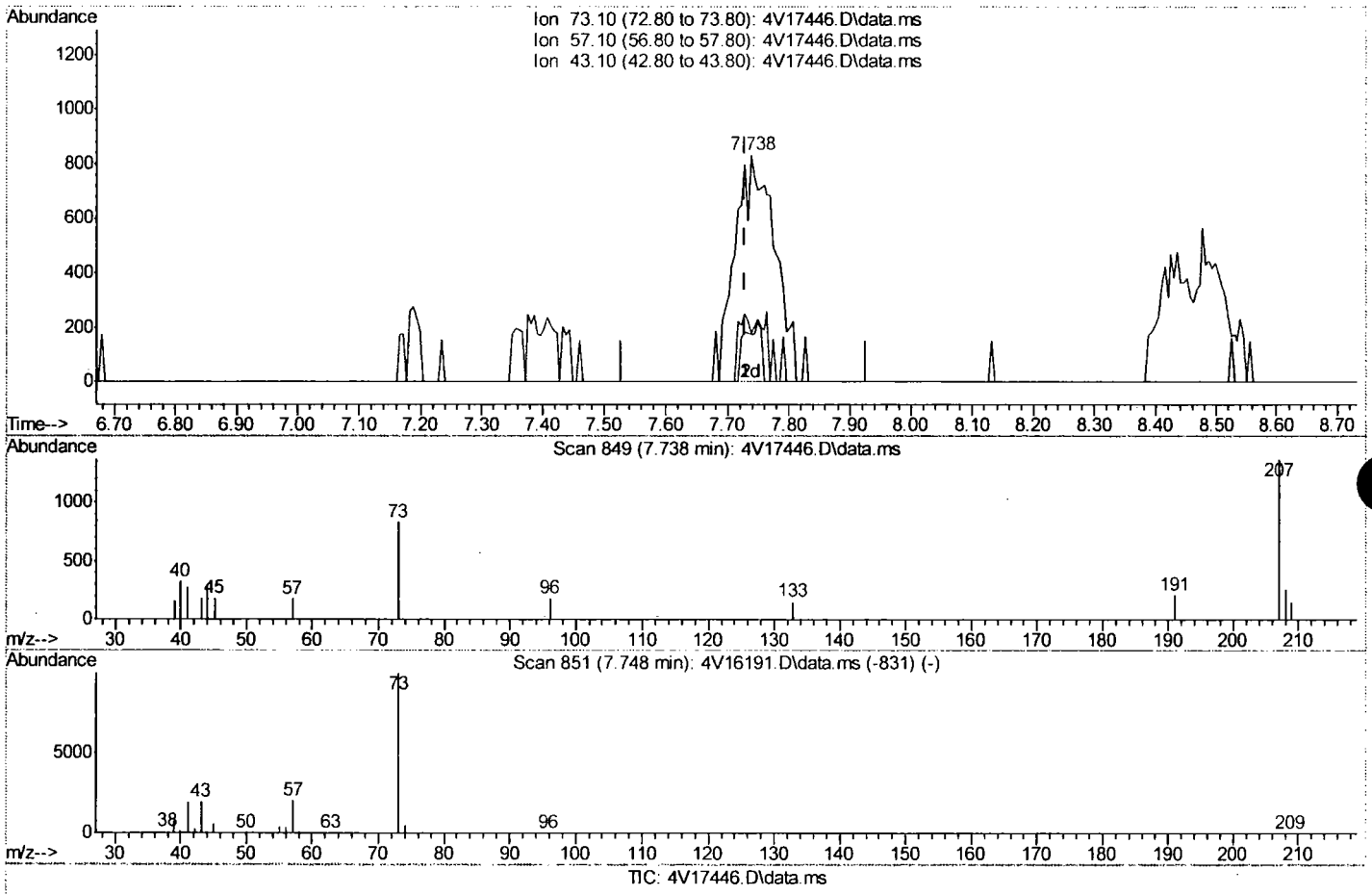
4V17446.D edits: methyl tert butyl ether

ACCUTEST LABORATORIES JB94786

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17446.D
Acq On : 7 May 2015 8:10 pm
Operator : jemimam
Sample : ic709-0.5
Misc : MS84599,V4V709,5,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 08 09:01:48 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 09:00:58 2015
Response via : Initial Calibration



TIC: 4V17446.D\data.ms

(28) methyl tert butyl ether

7.738min (+0.010) 0.47ug/L m

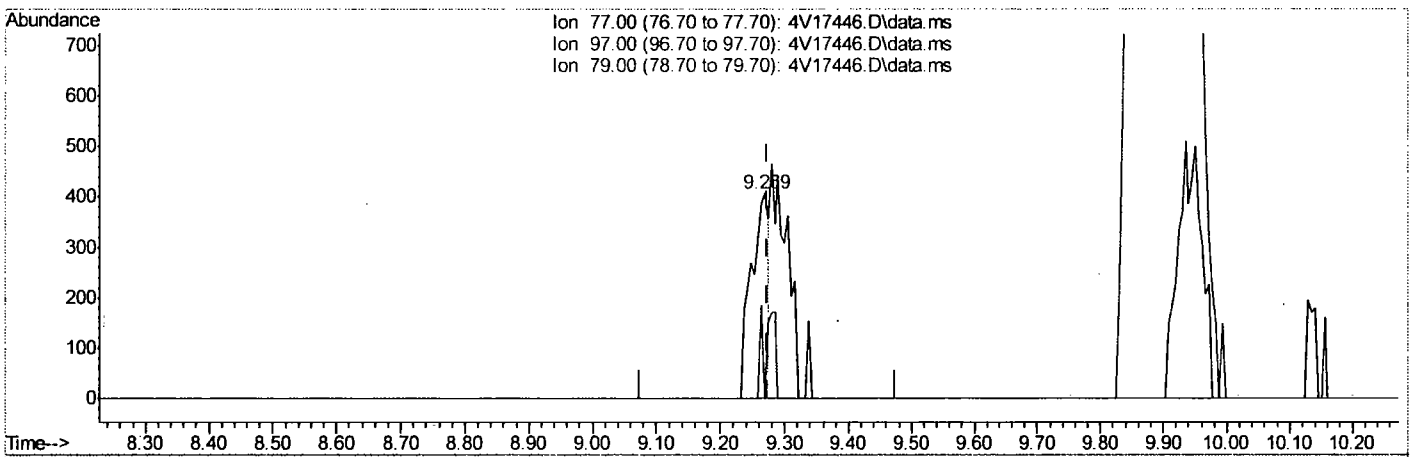
response 3722

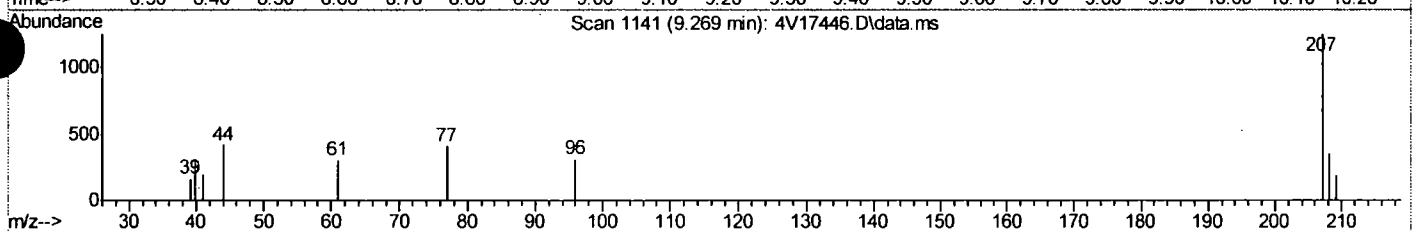
Ion	Exp%	Act%
73.10	100	100
57.10	19.70	21.25
43.10	20.50	21.49
0.00	0.00	0.00

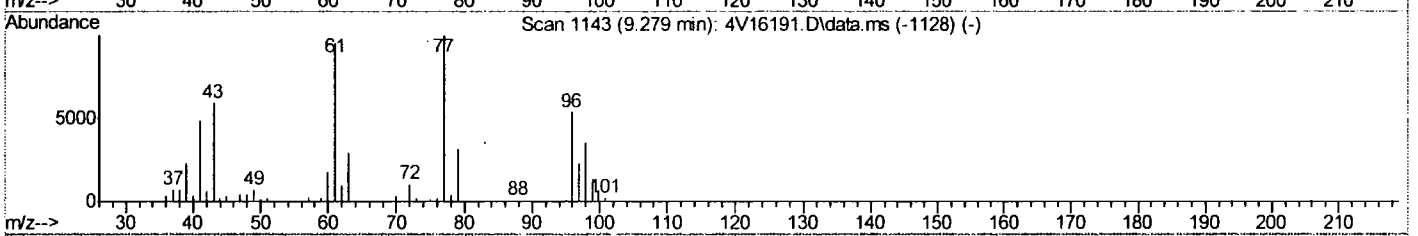
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17446.D
Acq On : 7 May 2015 8:10 pm
Operator : jemimam
Sample : ic709-0.5
Misc : MS84599,V4V709,5,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 08 09:01:48 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 09:00:58 2015
Response via : Initial Calibration







TIC: 4V17446.D\data.ms

(38) 2,2-dichloropropane

9.269min (-0.005) 0.21ug/L

response 746

Ion	Exp%	Act%
77.00	100	100
97.00	24.10	0.00
79.00	31.70	0.00#
0.00	0.00	0.00

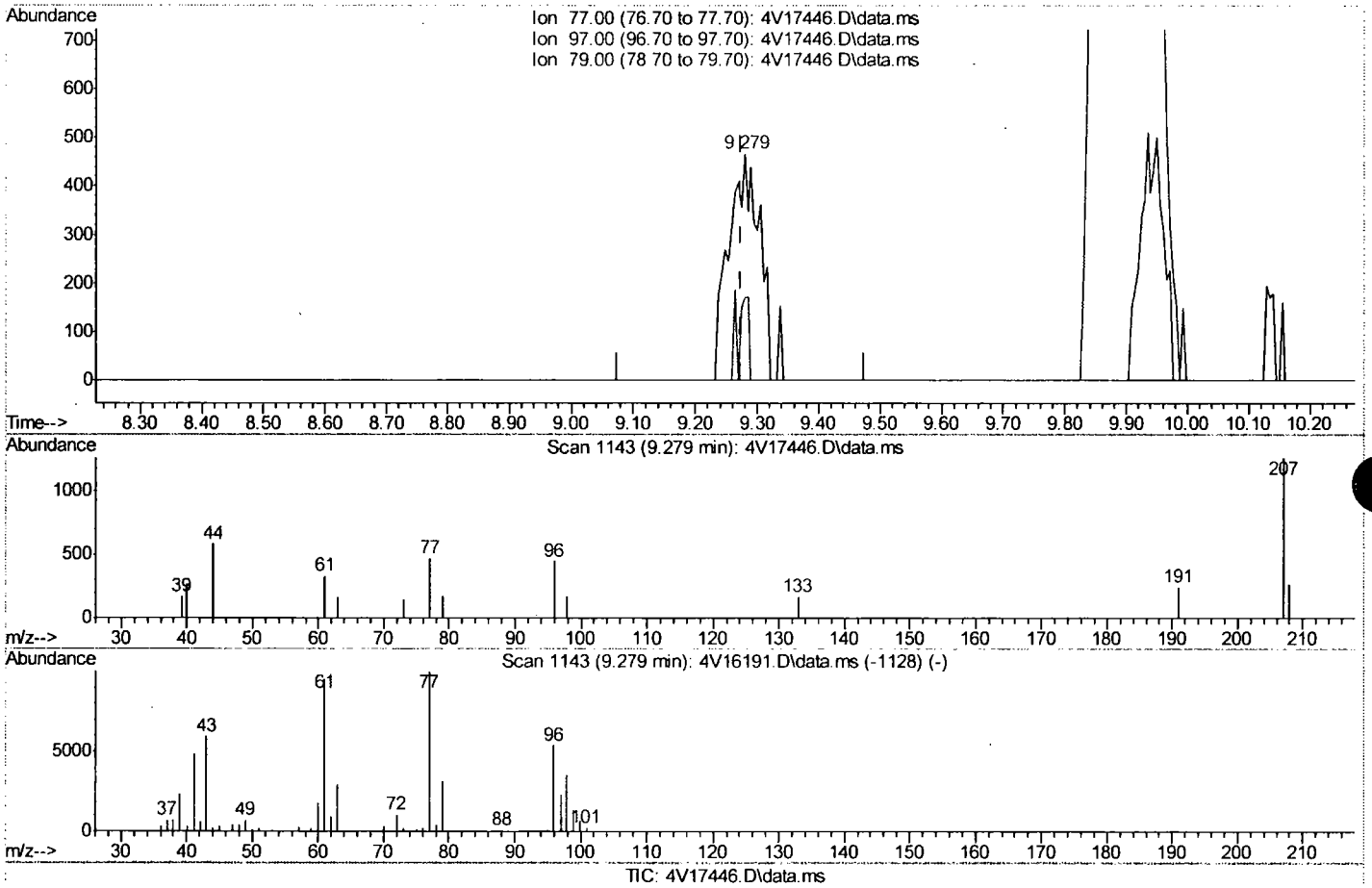
7.6.2.4 7

ACCUTEST LABORATORIES JB94786

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17446.D
Acq On : 7 May 2015 8:10 pm
Operator : jemimam
Sample : ic709-0.5
Misc : MS84599,V4V709,5,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 08 09:01:48 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 09:00:58 2015
Response via : Initial Calibration



TIC: 4V17446.D\data.ms

(38) 2,2-dichloropropane

9.279min (+0.005) 0.45ug/L m

response 1590

Ion	Exp%	Act%
77.00	100	100
97.00	24.10	0.00
79.00	31.70	36.40
0.00	0.00	0.00

ACCUTEST. LABORATORIES JB94786

Manual Integrations APPROVED (compounds with "m" flag)
Jessica Reitan-Chu
05/12/15 17:14

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17447.D
Acq On : 7 May 2015 8:37 pm
Operator : jemimam
Sample : ic709-1
Misc : MS84599,V4V709,5,,,,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: May 08 15:04:18 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 09:00:58 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Tert Butyl Alcohol-d9	7.392	65	206790	500.00	ug/L		0.01
4) pentafluorobenzene	9.872	168	262557	50.00	ug/L		0.00
51) 1,4-difluorobenzene	10.831	114	327758	50.00	ug/L		0.00
81) chlorobenzene-d5	14.045	117	270127	50.00	ug/L		0.00
94) 1,4-dichlorobenzene-d4	16.400	152	162975	50.00	ug/L		0.00
System Monitoring Compounds							
45) dibromofluoromethane (s)	9.924	113	128870	49.91	ug/L		0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 99.82%				
46) 1,2-dichloroethane-d4 (s)	10.370	65	133609	50.25	ug/L		0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 100.50%				
73) toluene-d8 (s)	12.499	98	355117	49.86	ug/L		0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 99.72%				
96) 4-bromofluorobenzene (s)	15.241	95	150458	50.93	ug/L		0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 101.86%				
Target Compounds							Qvalue
3) tertiary butyl alcohol	7.544	59	1754m	3.97	ug/L		
9) chloromethane	3.895	50	3497	1.26	ug/L		76
10) vinyl chloride	4.194	62	2603	1.03	ug/L		88
12) chloroethane	5.075	64	1178	0.99	ug/L	#	45
16) 2-chloropropane	6.265	43	2650	0.92	ug/L	#	80
18) 1,1-dichloroethene	6.532	61	2474m	0.86	ug/L		
22) iodomethane	6.841	142	4082	0.86	ug/L		88
23) iso-butyl alcohol	10.244	41	792	8.12	ug/L		82
24) carbon disulfide	6.962	76	6921	0.98	ug/L		90
25) methylene chloride	7.392	84	2390	0.95	ug/L		92
28) methyl tert butyl ether	7.743	73	7708	1.01	ug/L		99
29) trans-1,2-dichloroethene	7.790	61	2566	0.89	ug/L	#	80
30) di-isopropyl ether	8.420	45	5157	0.80	ug/L		91
31) ethyl tert-butyl ether	8.949	59	5318	0.75	ug/L		97
33) 1,1-dichloroethane	8.456	63	3543	0.94	ug/L		91
35) acrylonitrile	7.811	53	3201	4.09	ug/L		98
38) 2,2-dichloropropane	9.274	77	3505	1.02	ug/L		89
39) cis-1,2-dichloroethene	9.290	96	3275	1.41	ug/L	#	78
40) propionitrile	9.437	54	2612	8.37	ug/L		86
42) bromochloromethane	9.636	128	1004	0.81	ug/L		91
43) tetrahydrofuran	9.673	42	674	0.90	ug/L	#	29
44) chloroform	9.709	83	4005	0.99	ug/L		86
48) methacrylonitrile	9.605	41	974	0.84	ug/L		78
49) 1,1,1-trichloroethane	9.940	97	3329	0.95	ug/L	#	64
50) tert-amyl methyl ether	10.464	73	6331	0.93	ug/L		95
55) carbon tetrachloride	10.145	117	2529	0.90	ug/L		91
56) 1,1-dichloropropene	10.129	75	1935	0.93	ug/L		90
58) benzene	10.412	78	6446	0.90	ug/L		98
62) 1,2-dichloroethane	10.459	62	2569	0.88	ug/L		90
63) trichloroethene	11.167	95	1601	0.89	ug/L		84
65) 2-nitropropane	12.016	43	988	0.86	ug/L		90
67) methyl methacrylate	11.487	69	1032	0.83	ug/L	#	76

7.6.3

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17447.D
Acq On : 7 May 2015 8:37 pm
Operator : jemimam
Sample : ic709-1
Misc : MS84599,V4V709,5,,,,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: May 08 15:04:18 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 09:00:58 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
68) 1,2-dichloropropane	11.455	63	1685	0.93 ug/L		90
70) dibromomethane	11.628	93	1309	0.92 ug/L		99
71) bromodichloromethane	11.770	83	2453	0.84 ug/L		93
72) cis-1,3-dichloropropene	12.226	75	2792	0.91 ug/L		88
75) toluene	12.567	92	3662	0.93 ug/L		92
77) trans-1,3-dichloropropene	12.808	75	2597	0.87 ug/L		81
78) ethyl methacrylate	12.798	69	1705	0.74 ug/L		91
79) 1,1,2-trichloroethane	13.018	83	1302	0.86 ug/L		94
82) tetrachloroethene	13.154	166	1403	0.92 ug/L		95
83) 1,3-dichloropropane	13.201	76	2370	0.91 ug/L		89
84) butyl acetate	13.275	56	850	0.75 ug/L	#	57
85) dibromochloromethane	13.474	129	2079	0.86 ug/L		94
86) 1,2-dibromoethane	13.621	107	1906	0.94 ug/L		85
87) chlorobenzene	14.077	112	4277	0.90 ug/L		95
88) 1,1,1,2-tetrachloroethane	14.145	131	1859	0.83 ug/L	#	78
89) ethylbenzene	14.129	91	7425	0.95 ug/L		98
90) m,p-xylene	14.245	106	5212	1.78 ug/L		88
91) o-xylene	14.675	106	2914	0.92 ug/L		96
92) styrene	14.701	104	4543	0.86 ug/L		92
93) bromoform	14.979	173	1644	0.88 ug/L		96
95) isopropylbenzene	15.026	105	7334	0.89 ug/L		95
97) bromobenzene	15.435	156	2137	0.88 ug/L		94
99) 1,1,2,2-tetrachloroethane	15.372	83	3079	1.01 ug/L		93
100) trans-1,4-dichloro-2-b...	15.409	53	632	0.81 ug/L	#	73
101) 1,2,3-trichloropropane	15.445	110	709	0.98 ug/L		94
102) n-propylbenzene	15.440	91	9045	0.96 ug/L		94
103) 2-chlorotoluene	15.592	126	1911	0.92 ug/L		97
104) 4-chlorotoluene	15.697	91	6042	0.94 ug/L		91
105) 1,3,5-trimethylbenzene	15.592	105	7035	0.92 ug/L		98
106) tert-butylbenzene	15.938	119	5070	0.89 ug/L		93
107) pentachloroethane	16.038	167	1481	0.83 ug/L		94
108) 1,2,4-trimethylbenzene	15.985	105	6999	0.90 ug/L		97
109) sec-butylbenzene	16.143	105	7872	0.90 ug/L		97
110) 1,3-dichlorobenzene	16.347	146	4063	0.88 ug/L		92
111) p-isopropyltoluene	16.263	119	7529	0.96 ug/L		96
112) 1,4-dichlorobenzene	16.426	146	4314	0.92 ug/L		90
114) 1,2-dichlorobenzene	16.808	146	4590	0.95 ug/L		93
115) n-butylbenzene	16.667	92	3515	0.89 ug/L		96
116) 1,2-dibromo-3-chloropr...	17.563	157	818	0.96 ug/L		81
117) 1,3,5-trichlorobenzene	17.700	180	3746	0.91 ug/L		93
118) 1,2,4-trichlorobenzene	18.282	180	3505	0.86 ug/L		97
119) hexachlorobutadiene	18.360	225	1519	0.99 ug/L		90
120) naphthalene	18.528	128	11508	0.99 ug/L		99
121) 1,2,3-trichlorobenzene	18.743	180	3509	0.84 ug/L		92
123) Benzyl chloride	16.552	91	6375	1.11 ug/L		92

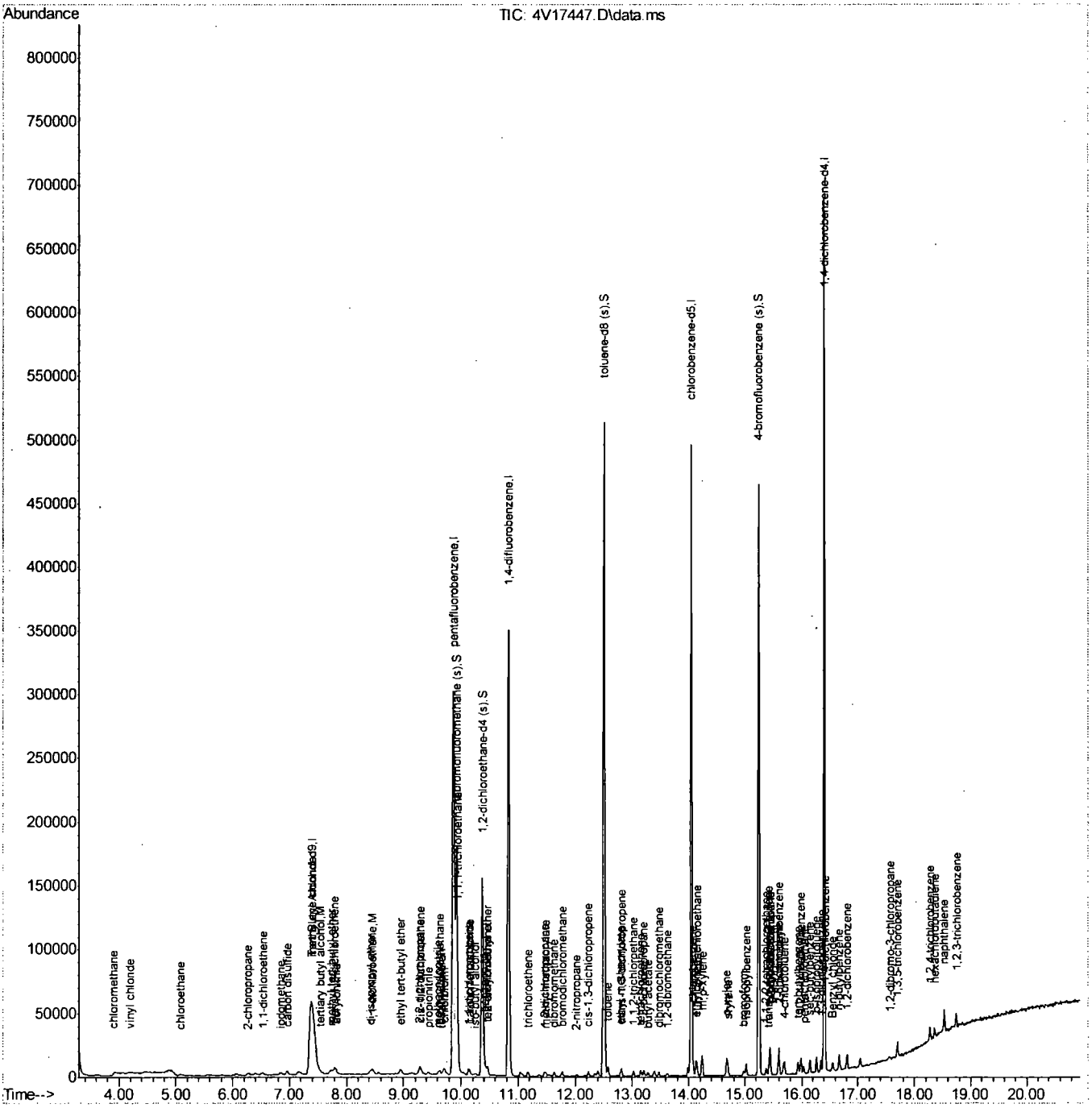
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.6.3

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17447.D
Acq On : 7 May 2015 8:37 pm
Operator : jemimam
Sample : ic709-1
Misc : MS84599,V4V709,5,,,,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: May 08 15:04:18 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 09:00:58 2015
Response via : Initial Calibration



Manual Integration Approval Summary

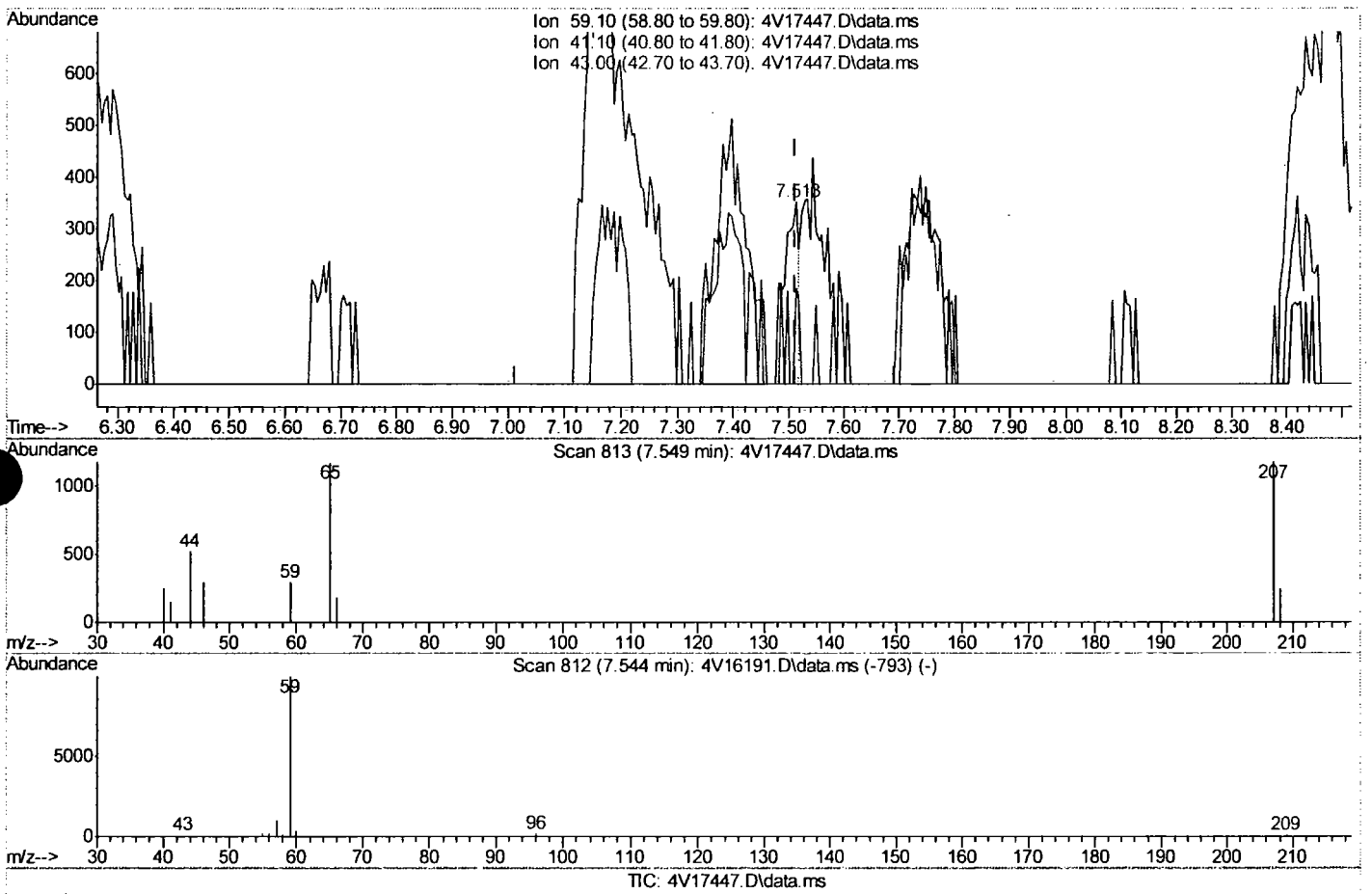
Sample Number: V4V709-IC709
Lab FileID: 4V17447.D
Injection Time: 05/07/15 20:37
Method: SW846 8260C
Analyst approved: 05/08/15 15:34 Juntae Park
Supervisor approved: 05/12/15 17:14 Jessica Reitan-Chu

Parameter	CAS	Sig#	R.T. (min.)	Reason
1,1-Dichloroethene	75-35-4		6.53	Poorly defined baseline
Tert Butyl Alcohol	75-65-0		7.54	Poorly defined baseline

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17447.D
Acq On : 7 May 2015 8:37 pm
Operator : jemimam
Sample : ic709-1
Misc : MS84599,V4V709,5,,,,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: May 08 09:01:50 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 09:00:58 2015
Response via : Initial Calibration



TIC: 4V17447.D\data.ms

(3) tertiary butyl alcohol (M)

7.513min (-0.000) 1.48ug/L

response 652

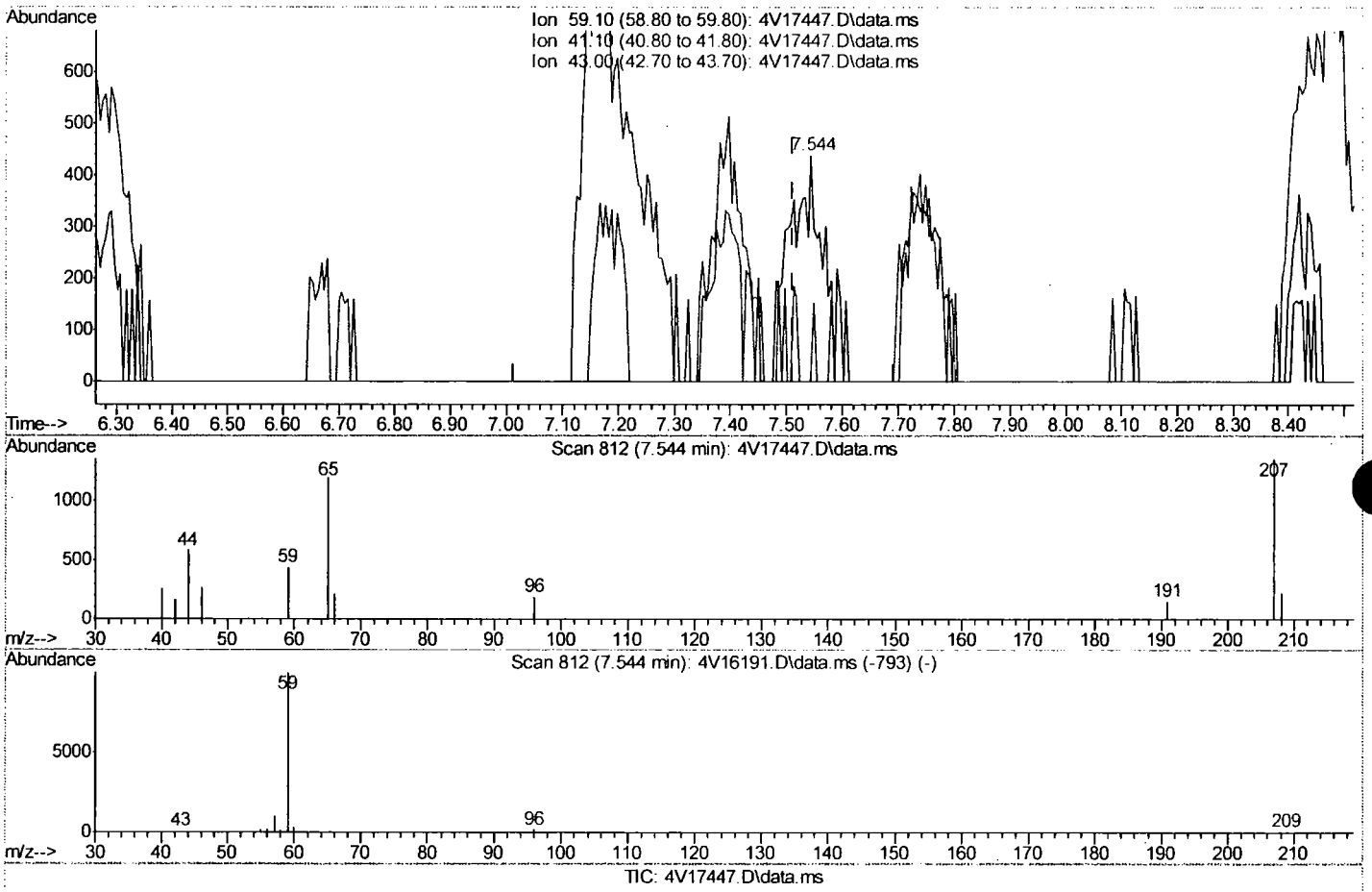
Ion	Exp%	Act%
59.10	100	100
41.10	0.00	52.41#
43.00	3.30	0.00
0.00	0.00	0.00

ACCUTEST LABORATORIES JB94786

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17447.D
Acq On : 7 May 2015 8:37 pm
Operator : jemimam
Sample : ic709-1
Misc : MS84599,V4V709,5,,,,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: May 08 09:01:50 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 09:00:58 2015
Response via : Initial Calibration



TIC: 4V17447.D\data.ms

(3) tertiary butyl alcohol (M)

7.544min (+0.031) 3.97ug/L m

response 1754

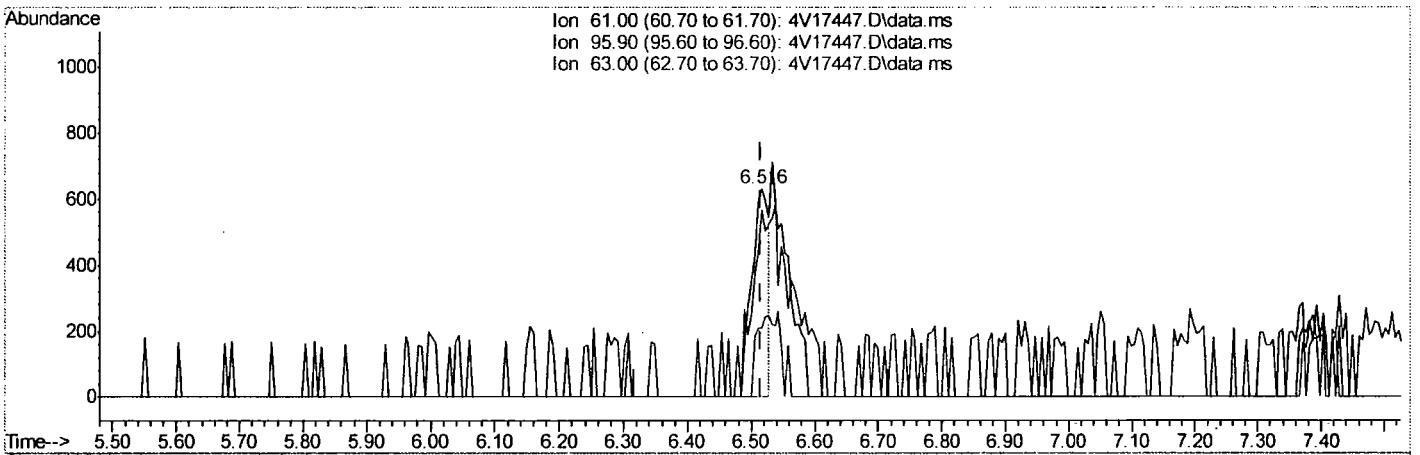
Ion	Exp%	Act%
59.10	100	100
41.10	0.00	0.00
43.00	3.30	0.00
0.00	0.00	0.00

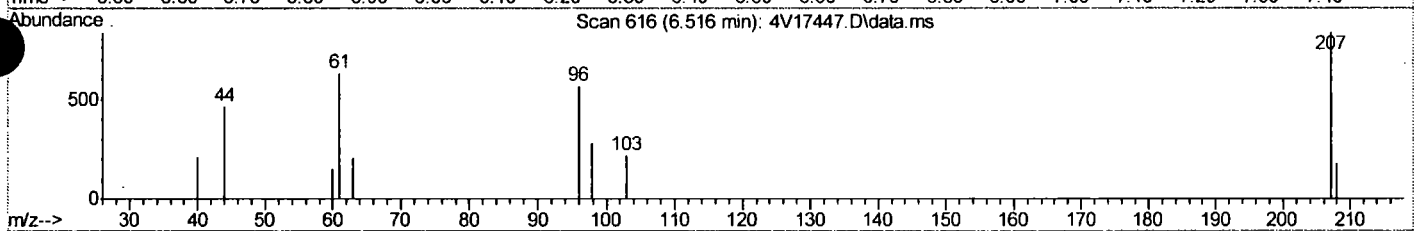
7.6.3.3 7

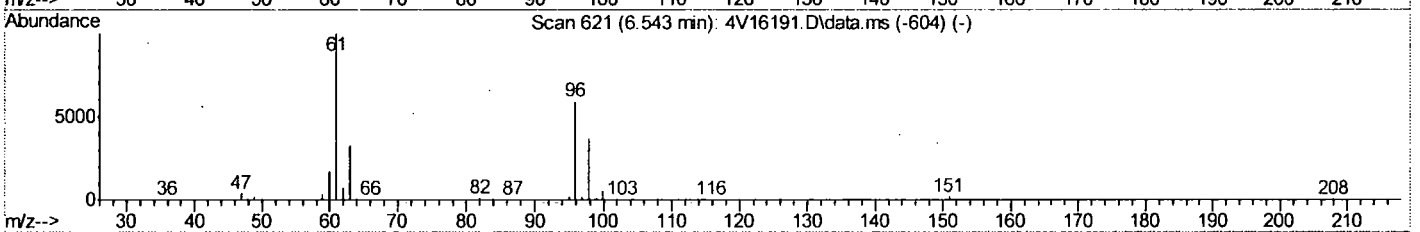
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17447.D
Acq On : 7 May 2015 8:37 pm
Operator : jemimam
Sample : ic709-1
Misc : MS84599,V4V709,5,,,,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: May 08 09:01:50 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 09:00:58 2015
Response via : Initial Calibration







TIC: 4V17447.D\data.ms

(18) 1,1-dichloroethene

6.516min (-0.000) 0.39ug/L

response 1129

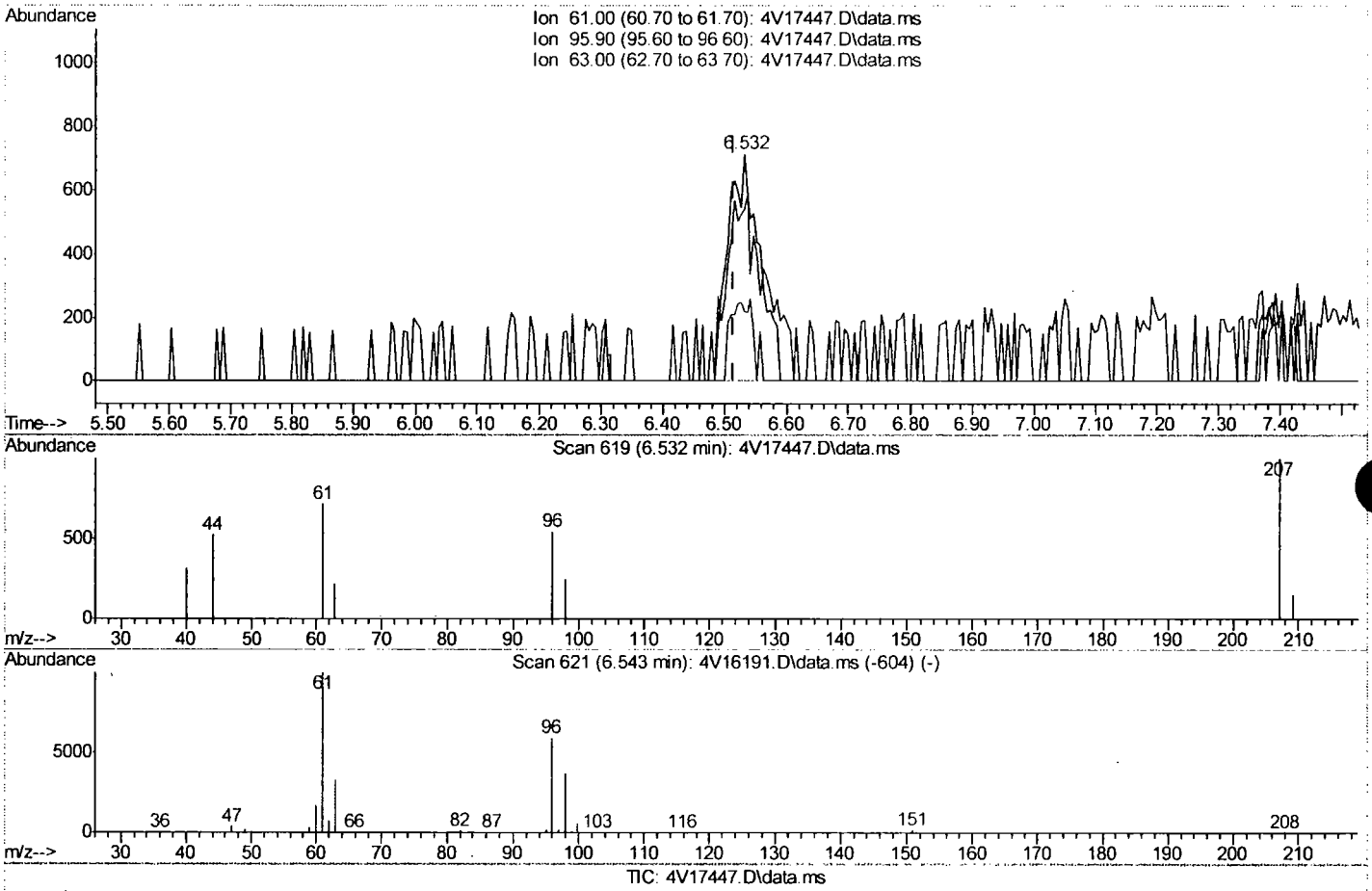
Ion	Exp%	Act%
61.00	100	100
95.90	59.10	65.13
63.00	30.70	32.96
0.00	0.00	0.00

7.6.3.4 7

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17447.D
Acq On : 7 May 2015 8:37 pm
Operator : jemimam
Sample : ic709-1
Misc : MS84599,V4V709,5,,,,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: May 08 09:01:50 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 09:00:58 2015
Response via : Initial Calibration



TIC: 4V17447.D\data.ms

(18) 1,1-dichloroethene

6.532min (+0.016) 0.86ug/L m

response 2474

Ion	Exp%	Act%
61.00	100	100
95.90	59.10	75.49
63.00	30.70	30.67
0.00	0.00	0.00

ACCUTEST LABORATORIES JB94786

4V17447.D edits: 1,1-dichloroethene

Manual Integrations APPROVED (compounds with "m" flag)
Jessica Reitan-Chu
05/12/15 17:14

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17448.D
Acq On : 7 May 2015 9:03 pm
Operator : jemimam
Sample : ic709-2
Misc : MS84599,V4V709,5,,,,1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: May 12 08:52:46 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 09:00:58 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Tert Butyl Alcohol-d9	7.392	65	200310	500.00	ug/L		0.01
4) pentafluorobenzene	9.872	168	264079	50.00	ug/L		0.00
51) 1,4-difluorobenzene	10.832	114	327347	50.00	ug/L		0.00
81) chlorobenzene-d5	14.046	117	278148	50.00	ug/L		0.00
94) 1,4-dichlorobenzene-d4	16.400	152	168148	50.00	ug/L		0.00
System Monitoring Compounds							
45) dibromofluoromethane (s)	9.924	113	129090	49.71	ug/L		0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 99.42%				
46) 1,2-dichloroethane-d4 (s)	10.370	65	134020	50.11	ug/L		0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 100.22%				
73) toluene-d8 (s)	12.499	98	351418	49.41	ug/L		0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 98.82%				
96) 4-bromofluorobenzene (s)	15.241	95	154482	50.68	ug/L		0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 101.36%				
Target Compounds							Qvalue
3) tertiary butyl alcohol	7.518	59	3639	8.50	ug/L		90
7) dichlorodifluoromethane	3.596	85	2019m	1.19	ug/L		
9) chloromethane	3.905	50	6139	2.19	ug/L		94
10) vinyl chloride	4.204	62	5000	1.97	ug/L		87
11) bromomethane	4.881	94	5217	2.25	ug/L		87
12) chloroethane	5.090	64	2465	2.06	ug/L		97
13) trichlorofluoromethane	5.615	101	3416	1.43	ug/L		81
14) ethyl ether	6.055	74	1815	1.77	ug/L	#	68
16) 2-chloropropane	6.275	43	5113	1.77	ug/L	#	87
17) acrolein	6.396	56	6761	15.52	ug/L		91
18) 1,1-dichloroethene	6.532	61	5130	1.77	ug/L		96
20) allyl chloride	7.151	76	1458	1.59	ug/L	#	41
21) acetonitrile	7.182	40	3783	17.66	ug/L	#	52
22) iodomethane	6.842	142	8568	1.80	ug/L		98
23) iso-butyl alcohol	10.244	41	1553	15.84	ug/L		85
24) carbon disulfide	6.957	76	12833	1.82	ug/L		90
25) methylene chloride	7.387	84	4913	1.93	ug/L		94
28) methyl tert butyl ether	7.749	73	14857	1.94	ug/L		94
29) trans-1,2-dichloroethene	7.785	61	4935	1.69	ug/L		89
30) di-isopropyl ether	8.420	45	10275	1.59	ug/L		96
31) ethyl tert-butyl ether	8.949	59	11497	1.61	ug/L		95
33) 1,1-dichloroethane	8.456	63	6695	1.76	ug/L		99
34) chloroprene	8.556	53	3396	1.48	ug/L		92
35) acrylonitrile	7.812	53	7089	9.01	ug/L		86
38) 2,2-dichloropropane	9.280	77	6788	1.97	ug/L		96
39) cis-1,2-dichloroethene	9.295	96	5380	2.30	ug/L	#	81
40) propionitrile	9.426	54	5608	17.87	ug/L		87
41) methyl acrylate	9.395	55	3835	1.74	ug/L	#	85
42) bromochloromethane	9.636	128	2273	1.81	ug/L		90
43) tetrahydrofuran	9.668	42	1166	1.55	ug/L		95
44) chloroform	9.704	83	7582	1.85	ug/L		98
48) methacrylonitrile	9.605	41	2246	1.94	ug/L		96

7.6.4 7

ACCUTEST LABORATORIES JB94786

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17448.D
Acq On : 7 May 2015 9:03 pm
Operator : jemimam
Sample : ic709-2
Misc : MS84599,V4V709,5,,,,1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: May 12 08:52:46 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 09:00:58 2015
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49)	1,1,1-trichloroethane	9.945	97	6103	1.74	ug/L		87
50)	tert-amyl methyl ether	10.459	73	12217	1.79	ug/L		94
53)	n-butyl alcohol	11.041	56	5804	77.01	ug/L		92
54)	cyclohexane	9.987	84	2489	1.60	ug/L	#	72
55)	carbon tetrachloride	10.155	117	5191	1.84	ug/L		94
56)	1,1-dichloropropene	10.134	75	3765	1.81	ug/L		96
58)	benzene	10.417	78	13179	1.85	ug/L		98
62)	1,2-dichloroethane	10.470	62	5232	1.80	ug/L		98
63)	trichloroethene	11.172	95	3146	1.75	ug/L		93
65)	2-nitropropane	12.022	43	2005	1.74	ug/L		86
66)	2-chloroethyl vinyl ether	12.032	63	1123m	7.08	ug/L		
67)	methyl methacrylate	11.487	69	2185	1.76	ug/L		80
68)	1,2-dichloropropane	11.461	63	3285	1.82	ug/L		76
70)	dibromomethane	11.634	93	2673	1.87	ug/L		95
71)	bromodichloromethane	11.770	83	5315	1.82	ug/L		95
72)	cis-1,3-dichloropropene	12.231	75	5551	1.80	ug/L		93
74)	4-methyl-2-pentanone	12.342	58	1302	1.62	ug/L	#	72
75)	toluene	12.572	92	6883	1.76	ug/L		99
76)	3-methyl-1-butanol	12.389	70	1960	28.21	ug/L		84
77)	trans-1,3-dichloropropene	12.808	75	5618	1.87	ug/L		92
78)	ethyl methacrylate	12.792	69	4066	1.78	ug/L		99
79)	1,1,2-trichloroethane	13.018	83	2913	1.92	ug/L		93
80)	2-hexanone	13.212	58	1310	1.79	ug/L		86
82)	tetrachloroethene	13.154	166	2581	1.64	ug/L		93
83)	1,3-dichloropropane	13.207	76	5048	1.88	ug/L		92
84)	butyl acetate	13.270	56	1957	1.67	ug/L		84
85)	dibromochloromethane	13.474	129	4254	1.72	ug/L		97
86)	1,2-dibromoethane	13.616	107	3898	1.87	ug/L		91
87)	chlorobenzene	14.077	112	8806	1.79	ug/L		100
88)	1,1,1,2-tetrachloroethane	14.145	131	3967	1.72	ug/L		97
89)	ethylbenzene	14.129	91	14641	1.81	ug/L		99
90)	m,p-xylene	14.240	106	10451	3.46	ug/L		96
91)	o-xylene	14.675	106	5733	1.75	ug/L		90
92)	styrene	14.696	104	9436	1.73	ug/L		94
93)	bromoform	14.984	173	3517	1.83	ug/L		94
95)	isopropylbenzene	15.026	105	14395	1.69	ug/L		96
97)	bromobenzene	15.435	156	4609	1.85	ug/L		93
99)	1,1,2,2-tetrachloroethane	15.372	83	6022	1.91	ug/L		96
100)	trans-1,4-dichloro-2-b...	15.409	53	1489	1.85	ug/L		92
101)	1,2,3-trichloropropane	15.440	110	1458	1.95	ug/L		82
102)	n-propylbenzene	15.440	91	17660	1.82	ug/L		99
103)	2-chlorotoluene	15.587	126	3935	1.83	ug/L		90
104)	4-chlorotoluene	15.692	91	12406	1.87	ug/L		97
105)	1,3,5-trimethylbenzene	15.592	105	13532	1.72	ug/L		95
106)	tert-butylbenzene	15.933	119	9785	1.67	ug/L		93
107)	pentachloroethane	16.033	167	3011	1.63	ug/L		95
108)	1,2,4-trimethylbenzene	15.985	105	14363	1.78	ug/L		93
109)	sec-butylbenzene	16.148	105	15073	1.67	ug/L		97
110)	1,3-dichlorobenzene	16.347	146	8627	1.81	ug/L		94
111)	p-isopropyltoluene	16.263	119	14482	1.79	ug/L		92

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17448.D
Acq On : 7 May 2015 9:03 pm
Operator : jemimam
Sample : ic709-2
Misc : MS84599,V4V709,5,,,,1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: May 12 08:52:46 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 09:00:58 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
112) 1,4-dichlorobenzene	16.426	146	8807	1.82 ug/L	98
114) 1,2-dichlorobenzene	16.809	146	9147	1.83 ug/L	94
115) n-butylbenzene	16.672	92	7010	1.73 ug/L	95
116) 1,2-dibromo-3-chloropr...	17.558	157	1647	1.88 ug/L	87
117) 1,3,5-trichlorobenzene	17.700	180	7240	1.71 ug/L	94
118) 1,2,4-trichlorobenzene	18.277	180	6685	1.59 ug/L	97
119) hexachlorobutadiene	18.361	225	2834	1.79 ug/L	97
120) naphthalene	18.528	128	21509	1.79 ug/L	97
121) 1,2,3-trichlorobenzene	18.738	180	6916	1.61 ug/L	96
122) hexachloroethane	17.039	119	3750	2.03 ug/L	94
123) Benzyl chloride	16.552	91	11004	1.85 ug/L	97

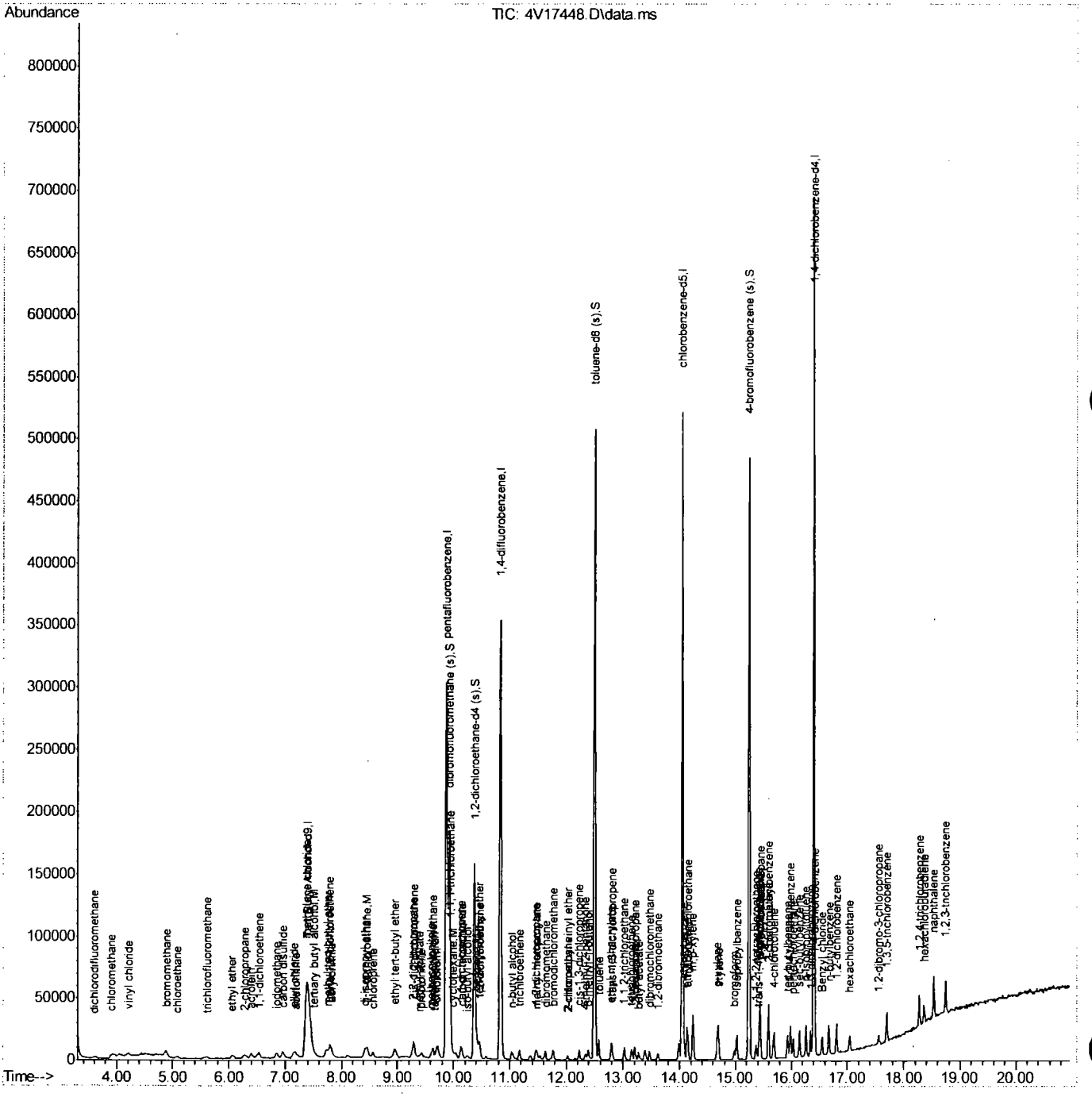
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.6.4

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17448.D
Acq On : 7 May 2015 9:03 pm
Operator : jemimam
Sample : ic709-2
Misc : MS84599,V4V709,5,,,,1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: May 12 08:52:46 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 09:00:58 2015
Response via : Initial Calibration



M4V709.M Tue May 12 09:09:02 2015 RPT1 Page: 4

Manual Integration Approval Summary

Sample Number: V4V709-IC709
Lab FileID: 4V17448.D
Injection Time: 05/07/15 21:03

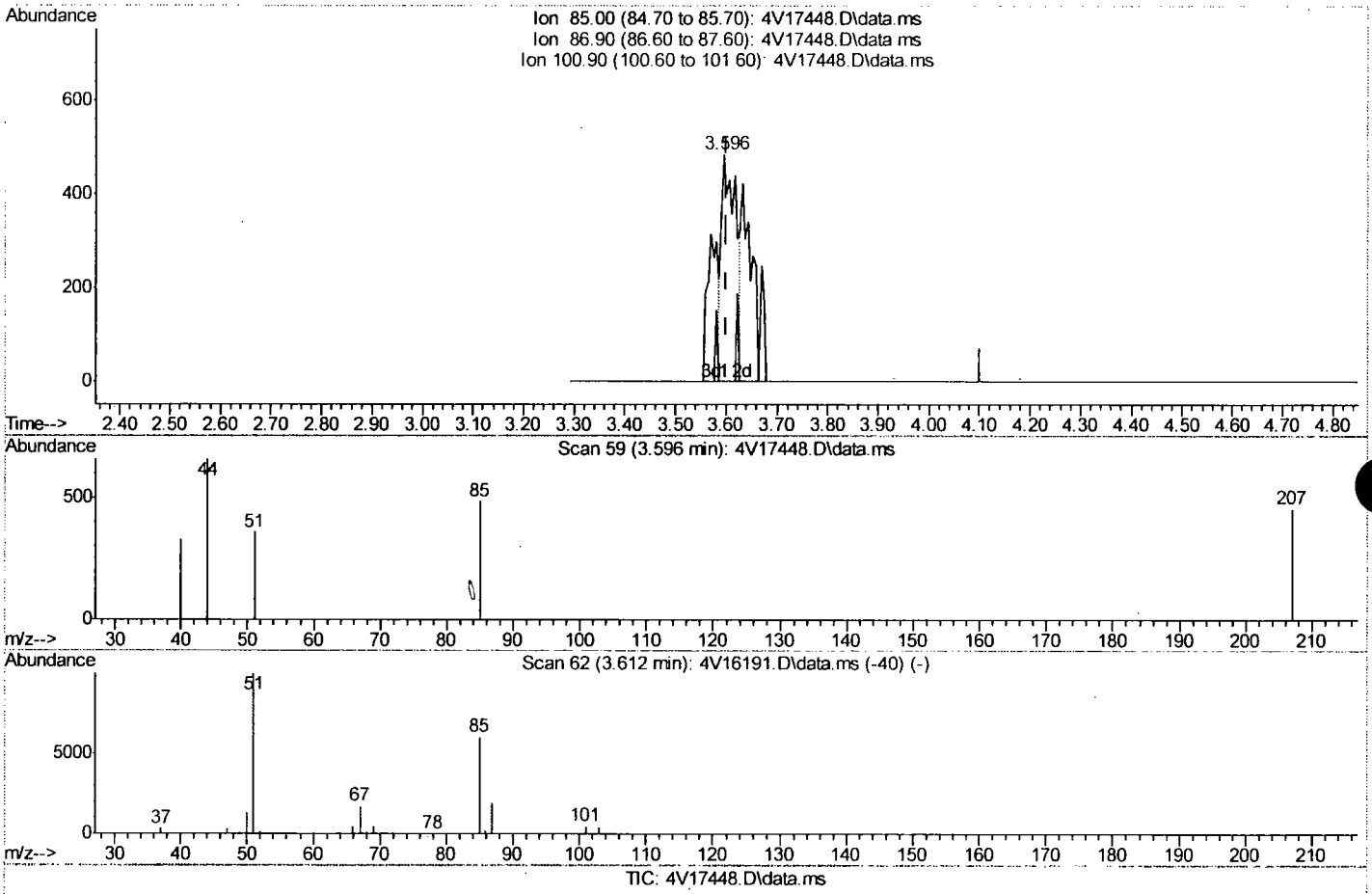
Method: SW846 8260C
Analyst approved: 05/12/15 09:08 Juntae Park
Supervisor approved: 05/12/15 17:14 Jessica Reitan-Chu

Parameter	CAS	Sig#	R.T. (min.)	Reason
Dichlorodifluoromethane	75-71-8		3.60	Poorly defined baseline
2-Chloroethyl vinyl ether	110-75-8		12.03	Poorly defined baseline

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17448.D
Acq On : 7 May 2015 9:03 pm
Operator : jemimam
Sample : ic709-2
Misc : MS84599,V4V709,5,,,,1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: May 08 09:01:52 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 09:00:58 2015
Response via : Initial Calibration



TIC: 4V17448.D\data.ms

(7) dichlorodifluoromethane

3.596min (-0.005) 0.58ug/L

response 981

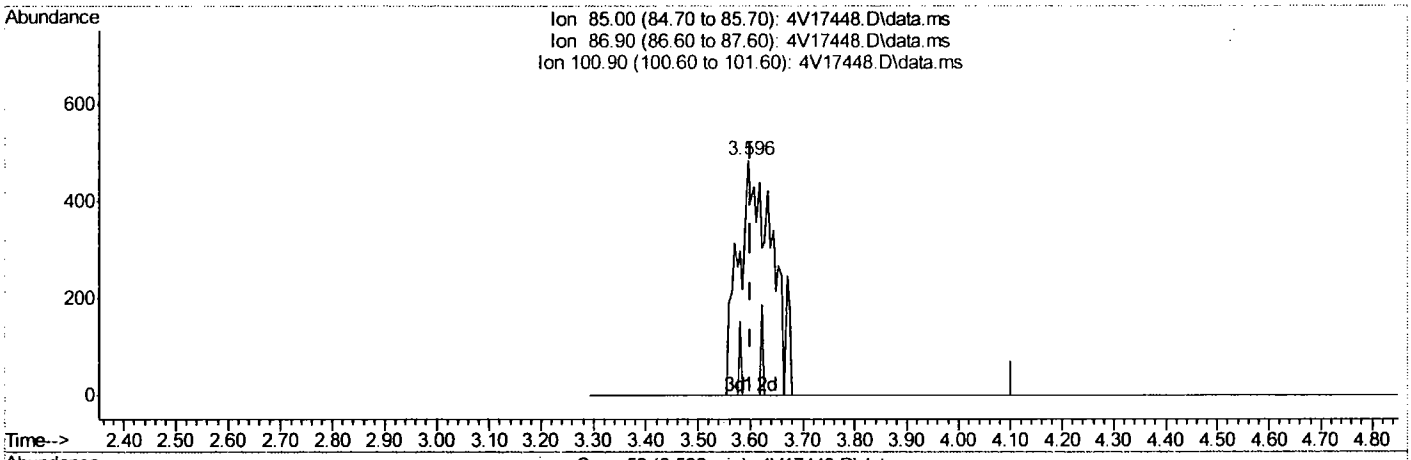
Ion	Exp%	Act%
85.00	100	100
86.90	34.60	0.00#
100.90	9.80	0.00
0.00	0.00	0.00

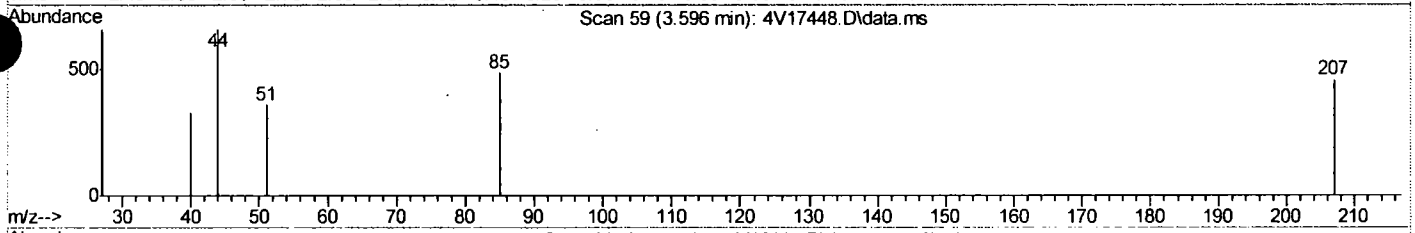
Quantitation Report (Qedit)

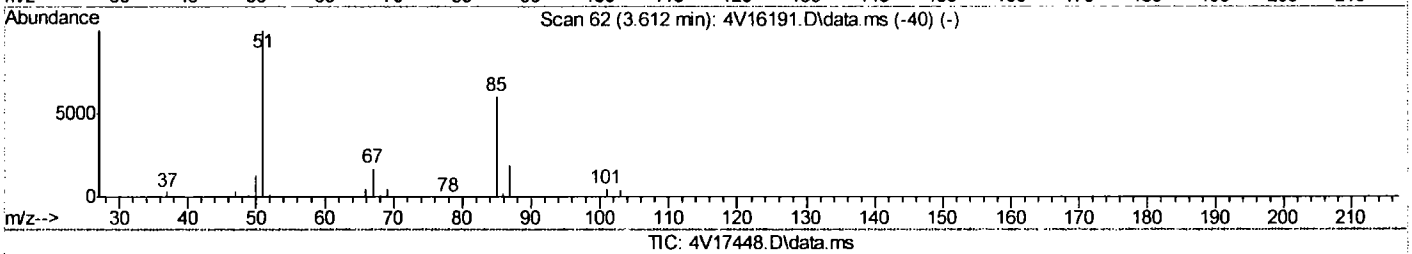
Data Path : C:\msdchem\1\DATA\
Data File : 4V17448.D
Acq On : 7 May 2015 9:03 pm
Operator : jemimam
Sample : ic709-2
Misc : MS84599,V4V709,5,,,,1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: May 08 09:01:52 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 09:00:58 2015
Response via : Initial Calibration

7.6.4.3







TIC: 4V17448.D\data.ms

(7) dichlorodifluoromethane

3.596min (-0.005) 1.19ug/L m

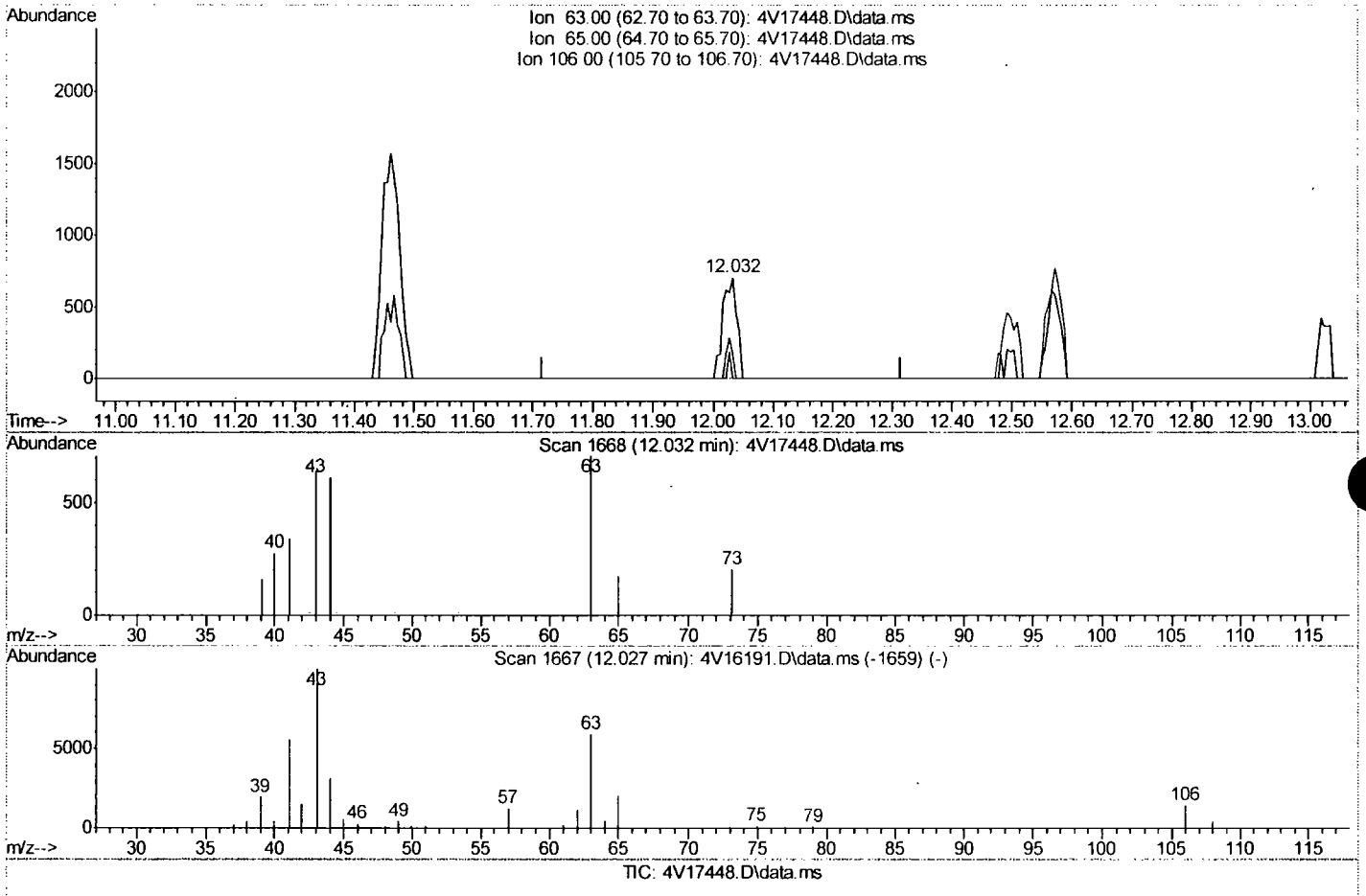
response 2019

Ion	Exp%	Act%
85.00	100	100
86.90	34.60	0.00#
100.90	9.80	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17448.D
Acq On : 7 May 2015 9:03 pm
Operator : jemimam
Sample : ic709-2
Misc : MS84599,V4V709,5,,,,1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: May 08 15:01:54 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 09:00:58 2015
Response via : Initial Calibration



TIC: 4V17448.D\data.ms

(66) 2-chloroethyl vinyl ether

12.032min (+0.016) 7.08ug/L m

response 1123

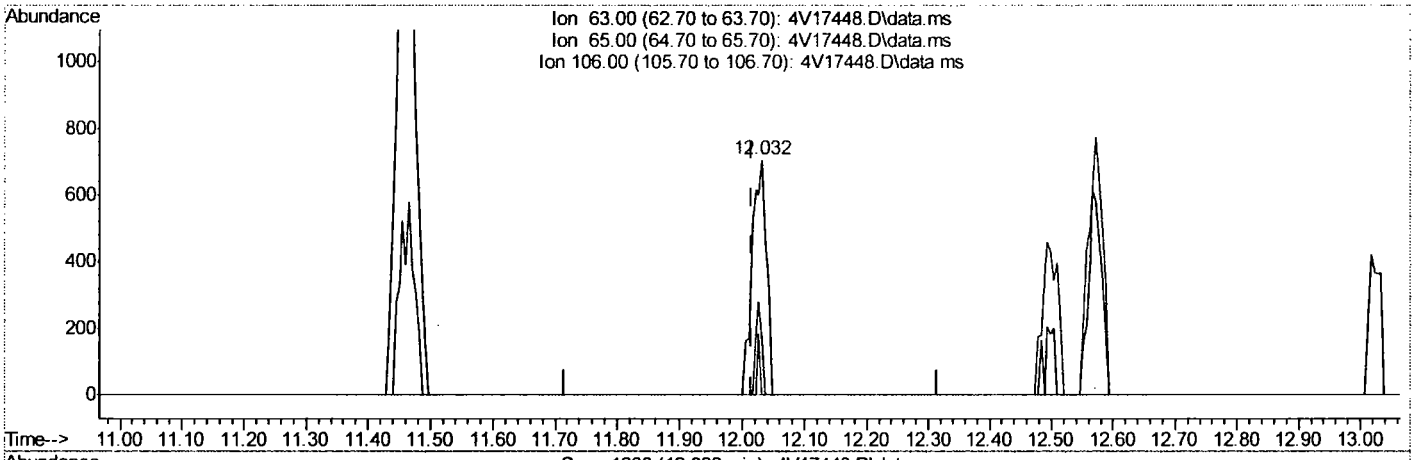
Ion	Exp%	Act%
63.00	100	100
65.00	32.60	24.44
106.00	24.50	0.00
0.00	0.00	0.00

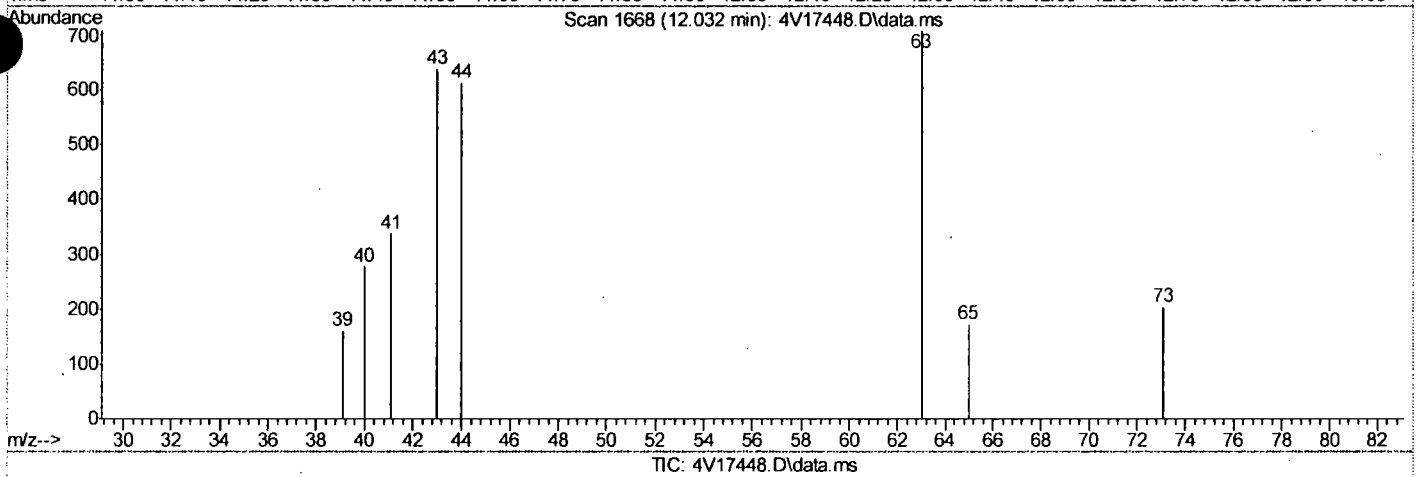
7.6.4.4

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\
Data File : 4V17448.D
Acq On : 7 May 2015 9:03 pm
Operator : jemimam
Sample : ic709-2
Misc : MS84599,V4V709,5,,,,1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: May 12 16:37:18 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Tue May 12 09:59:47 2015
Response via : Initial Calibration





TIC: 4V17448.D\data.ms

(66) 2-chloroethyl vinyl ether

12.032min (+0.016) 7.72ug/L

response 1123

Ion	Exp%	Act%
63.00	100	100
65.00	32.60	24.44
106.00	24.50	0.00
0.00	0.00	0.00

ACCUTEST LABORATORIES JB94786

Manual Integrations APPROVED (compounds with "m" flag)
Jessica Reitan-Chu
05/12/15 17:14

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17449.D
Acq On : 7 May 2015 9:29 pm
Operator : jemimam
Sample : ic709-5
Misc : MS84599,V4V709,5,,,,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: May 08 15:16:01 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 09:00:58 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Tert Butyl Alcohol-d9	7.387	65	201125	500.00	ug/L		0.00
4) pentafluorobenzene	9.872	168	264720	50.00	ug/L		0.00
51) 1,4-difluorobenzene	10.837	114	330515	50.00	ug/L		0.00
81) chlorobenzene-d5	14.046	117	279451	50.00	ug/L		0.00
94) 1,4-dichlorobenzene-d4	16.400	152	159914	50.00	ug/L		0.00
System Monitoring Compounds							
45) dibromofluoromethane (s)	9.919	113	130126	49.99	ug/L		0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 99.98%				
46) 1,2-dichloroethane-d4 (s)	10.365	65	134071	50.01	ug/L		0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 100.02%				
73) toluene-d8 (s)	12.499	98	361592	50.35	ug/L		0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 100.70%				
96) 4-bromofluorobenzene (s)	15.241	95	151124	52.13	ug/L		0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 104.26%				
Target Compounds							Qvalue
2) 1,4-dioxane	11.592	88	3578	117.69	ug/L		93
3) tertiary butyl alcohol	7.528	59	11452	26.65	ug/L		69
6) chlorodifluoromethane	3.633	51	8279	4.29	ug/L		97
7) dichlorodifluoromethane	3.607	85	7065	4.14	ug/L		88
9) chloromethane	3.921	50	14397m	5.13	ug/L		
10) vinyl chloride	4.199	62	12820	5.03	ug/L		97
11) bromomethane	4.886	94	11788	5.06	ug/L		93
12) chloroethane	5.069	64	6124	5.12	ug/L		94
13) trichlorofluoromethane	5.615	101	10726	4.49	ug/L		93
14) ethyl ether	6.071	74	5020	4.88	ug/L		81
16) 2-chloropropane	6.281	43	15664	5.41	ug/L		97
17) acrolein	6.391	56	21368	48.93	ug/L		98
18) 1,1-dichloroethene	6.522	61	15786	5.42	ug/L		96
20) allyl chloride	7.146	76	4858	5.27	ug/L	#	64
21) acetonitrile	7.172	40	9864	45.92	ug/L	#	81
22) iodomethane	6.842	142	23699	4.98	ug/L		98
23) iso-butyl alcohol	10.234	41	4863	49.47	ug/L		98
24) carbon disulfide	6.957	76	37581	5.30	ug/L		99
25) methylene chloride	7.387	84	13275	5.21	ug/L		98
26) 1-chloropropane	7.397	41	5350	5.99	ug/L	#	56
27) methyl acetate	7.177	74	1588	4.42	ug/L	#	56
28) methyl tert butyl ether	7.733	73	39527	5.15	ug/L		97
29) trans-1,2-dichloroethene	7.796	61	15370	5.26	ug/L		96
30) di-isopropyl ether	8.425	45	30491	4.71	ug/L		99
31) ethyl tert-butyl ether	8.944	59	33100	4.63	ug/L		99
32) 2-butanone	9.295	72	1027	4.11	ug/L	#	74
33) 1,1-dichloroethane	8.451	63	19727	5.16	ug/L		98
34) chloroprene	8.561	53	10413	4.53	ug/L		96
35) acrylonitrile	7.806	53	19798	25.09	ug/L		99
37) ethyl acetate	9.306	45	1255	4.68	ug/L	#	15
38) 2,2-dichloropropane	9.280	77	18861	5.47	ug/L		95
39) cis-1,2-dichloroethene	9.285	96	13371	5.70	ug/L		97

7.6.5 7

ACCUTEST LABORATORIES JB94786

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17449.D
Acq On : 7 May 2015 9:29 pm
Operator : jemimam
Sample : ic709-5
Misc : MS84599,V4V709,5,,,,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: May 08 15:16:01 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 09:00:58 2015
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
40)	propionitrile	9.421	54	15404	48.96	ug/L		98
41)	methyl acrylate	9.384	55	10630	4.80	ug/L	#	95
42)	bromochloromethane	9.636	128	6363	5.06	ug/L		96
43)	tetrahydrofuran	9.673	42	4061	5.38	ug/L		95
44)	chloroform	9.704	83	20882	5.09	ug/L		99
47)	freon 113	6.506	151	3622m	4.26	ug/L		
48)	methacrylonitrile	9.610	41	5780	4.97	ug/L		93
49)	1,1,1-trichloroethane	9.945	97	18160	5.15	ug/L		99
50)	tert-amyl methyl ether	10.459	73	33738	4.92	ug/L		99
52)	epichlorohydrin	12.153	57	4091	22.21	ug/L		96
53)	n-butyl alcohol	11.031	56	18083	237.65	ug/L		98
54)	cyclohexane	9.998	84	8014	5.09	ug/L		93
55)	carbon tetrachloride	10.139	117	15326	5.39	ug/L		95
56)	1,1-dichloropropene	10.129	75	11175	5.32	ug/L		93
57)	hexane	8.100	57	2944	4.51	ug/L		88
58)	benzene	10.417	78	36577	5.09	ug/L		97
59)	isooctane	10.391	57	13405	4.47	ug/L		96
60)	heptane	10.585	57	1621	4.34	ug/L	#	78
61)	isopropyl acetate	10.386	43	20399	5.01	ug/L		91
62)	1,2-dichloroethane	10.465	62	14709	5.01	ug/L		95
63)	trichloroethene	11.167	95	9173	5.04	ug/L		96
65)	2-nitropropane	12.016	43	5550	4.77	ug/L		95
67)	methyl methacrylate	11.482	69	6029	4.80	ug/L		79
68)	1,2-dichloropropane	11.461	63	9183	5.04	ug/L		94
69)	methylcyclohexane	11.361	83	6650	4.62	ug/L		96
70)	dibromomethane	11.629	93	7108	4.93	ug/L		99
71)	bromodichloromethane	11.770	83	14509	4.92	ug/L		99
72)	cis-1,3-dichloropropene	12.226	75	16172	5.20	ug/L		99
74)	4-methyl-2-pentanone	12.336	58	4037	4.96	ug/L		89
75)	toluene	12.572	92	20074	5.08	ug/L		96
76)	3-methyl-1-butanol	12.384	70	6666	95.03	ug/L		96
77)	trans-1,3-dichloropropene	12.803	75	15221	5.03	ug/L		97
78)	ethyl methacrylate	12.792	69	11537	5.00	ug/L		98
79)	1,1,2-trichloroethane	13.023	83	7725	5.05	ug/L		97
80)	2-hexanone	13.207	58	3534	4.79	ug/L		91
82)	tetrachloroethene	13.154	166	8190	5.18	ug/L		90
83)	1,3-dichloropropane	13.201	76	13706	5.09	ug/L		98
84)	butyl acetate	13.270	56	5794	4.91	ug/L		94
85)	dibromochloromethane	13.469	129	12631	5.07	ug/L		98
86)	1,2-dibromoethane	13.616	107	10482	5.01	ug/L		97
87)	chlorobenzene	14.077	112	25288	5.13	ug/L		98
88)	1,1,1,2-tetrachloroethane	14.150	131	11395	4.92	ug/L		96
89)	ethylbenzene	14.129	91	42571	5.24	ug/L		100
90)	m,p-xylene	14.245	106	31006	10.21	ug/L		100
91)	o-xylene	14.675	106	16939	5.15	ug/L		100
92)	styrene	14.696	104	26318	4.81	ug/L		98
93)	bromoform	14.979	173	9385	4.87	ug/L		96
95)	isopropylbenzene	15.021	105	42505	5.26	ug/L		99
97)	bromobenzene	15.435	156	12462	5.25	ug/L		97
98)	cyclohexanone	15.230	55	14940	71.07	ug/L	#	72

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17449.D
Acq On : 7 May 2015 9:29 pm
Operator : jemimam
Sample : ic709-5
Misc : MS84599,V4V709,5,,,,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: May 08 15:16:01 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 09:00:58 2015
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
99)	1,1,2,2-tetrachloroethane	15.372	83	15965	5.32	ug/L	96
100)	trans-1,4-dichloro-2-b...	15.414	53	3952	5.15	ug/L	92
101)	1,2,3-trichloropropane	15.440	110	3870	5.44	ug/L	99
102)	n-propylbenzene	15.440	91	50852	5.50	ug/L	100
103)	2-chlorotoluene	15.592	126	10622	5.18	ug/L	94
104)	4-chlorotoluene	15.692	91	34443	5.47	ug/L	99
105)	1,3,5-trimethylbenzene	15.592	105	39235	5.25	ug/L	99
106)	tert-butylbenzene	15.938	119	28392	5.10	ug/L	97
107)	pentachloroethane	16.033	167	8696	4.96	ug/L	97
108)	1,2,4-trimethylbenzene	15.985	105	40655	5.31	ug/L	93
109)	sec-butylbenzene	16.148	105	45840	5.33	ug/L	98
110)	1,3-dichlorobenzene	16.342	146	24031	5.31	ug/L	99
111)	p-isopropyltoluene	16.263	119	41477	5.40	ug/L	100
112)	1,4-dichlorobenzene	16.426	146	24226	5.25	ug/L	100
114)	1,2-dichlorobenzene	16.809	146	25314	5.32	ug/L	99
115)	n-butylbenzene	16.672	92	20527	5.31	ug/L	97
116)	1,2-dibromo-3-chloropr...	17.553	157	4369	5.25	ug/L	96
117)	1,3,5-trichlorobenzene	17.700	180	20438	5.06	ug/L	98
118)	1,2,4-trichlorobenzene	18.277	180	19342	4.84	ug/L	97
119)	hexachlorobutadiene	18.361	225	7925	5.27	ug/L	90
120)	naphthalene	18.528	128	56314	4.93	ug/L	99
121)	1,2,3-trichlorobenzene	18.738	180	19912	4.88	ug/L	99
122)	hexachloroethane	17.039	119	9874	5.61	ug/L	95
123)	Benzyl chloride	16.546	91	29164	5.16	ug/L	99

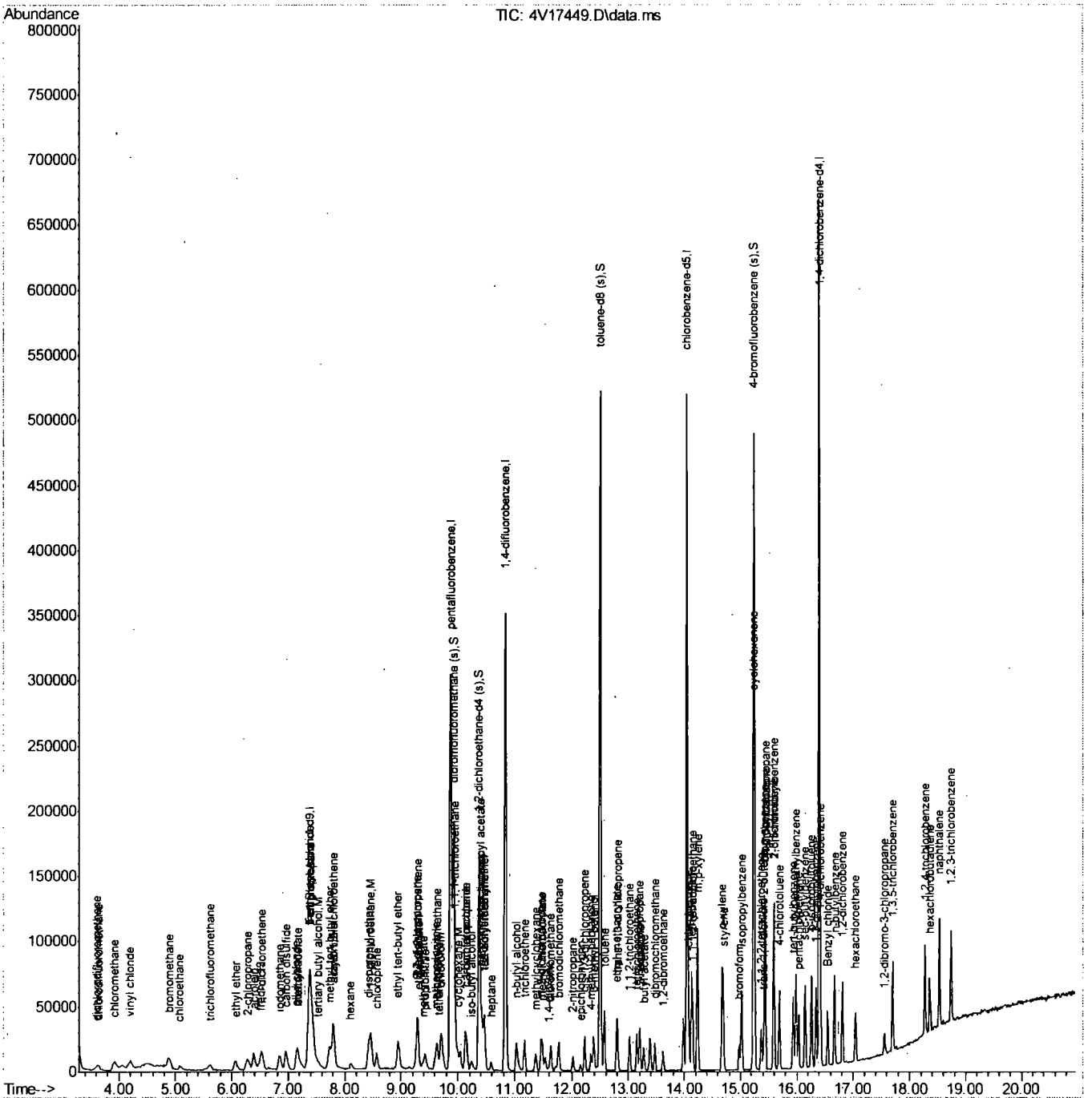
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.6.5

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17449.D
Acq On : 7 May 2015 9:29 pm
Operator : jemimam
Sample : ic709-5
Misc : MS84599,V4V709,5,,,,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: May 08 15:16:01 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 09:00:58 2015
Response via : Initial Calibration



ACCUTEST LABORATORIES JB94786

Manual Integration Approval Summary

Sample Number: V4V709-IC709
Lab FileID: 4V17449.D
Injection Time: 05/07/15 21:29

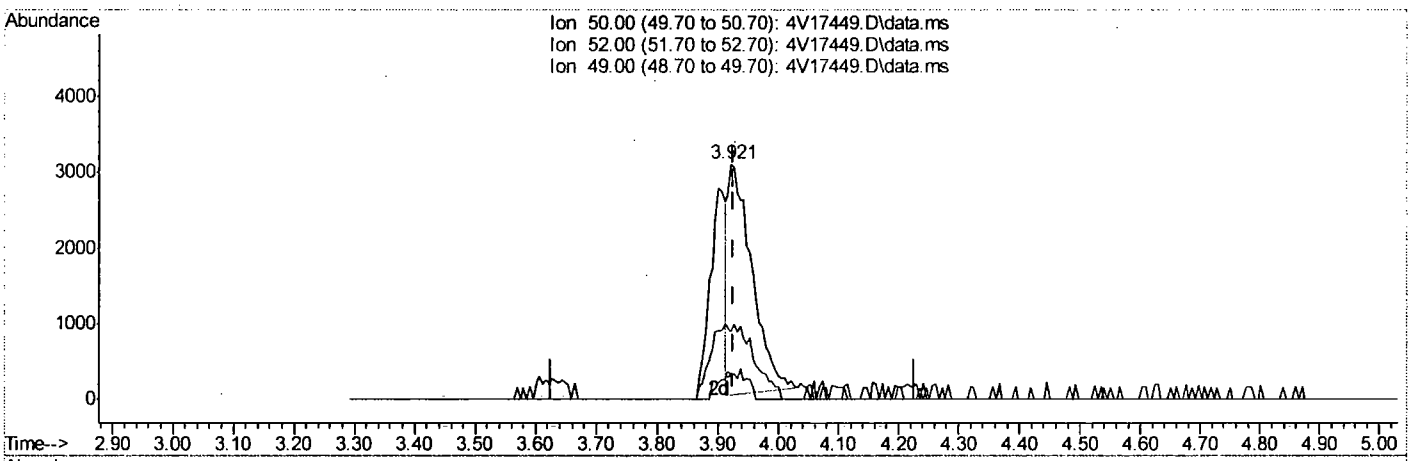
Method: SW846 8260C
Analyst approved: 05/08/15 15:34 Juntae Park
Supervisor approved: 05/12/15 17:14 Jessica Reitan-Chu

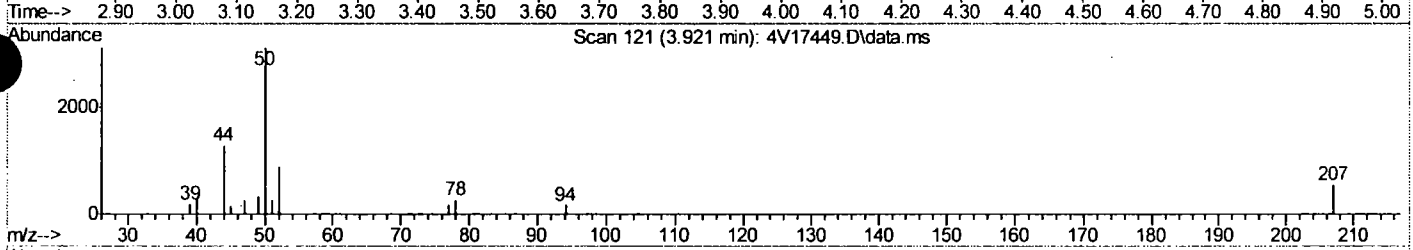
Parameter	CAS	Sig#	R.T. (min.)	Reason
Chloromethane	74-87-3		3.92	Poorly defined baseline
Freon 113	76-13-1		6.51	Poorly defined baseline

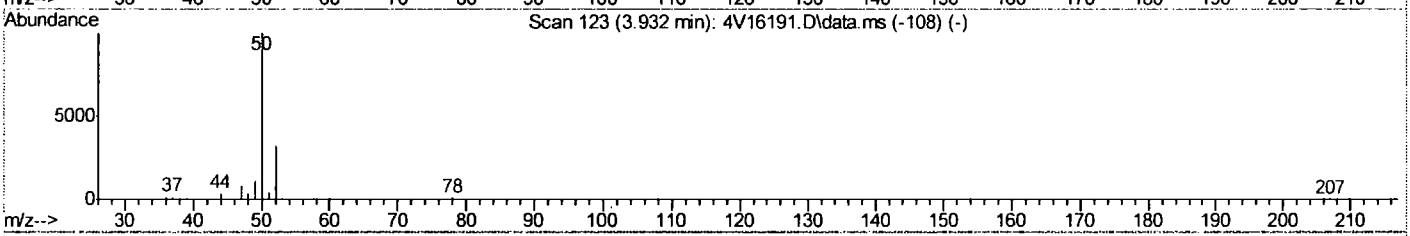
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17449.D
Acq On : 7 May 2015 9:29 pm
Operator : jemimam
Sample : ic709-5
Misc : MS84599,V4V709,5,,,,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: May 08 09:01:54 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 09:00:58 2015
Response via : Initial Calibration







TIC: 4V17449.D\data.ms

(9) chloromethane

3.921min (-0.005) 3.07ug/L

response 8617

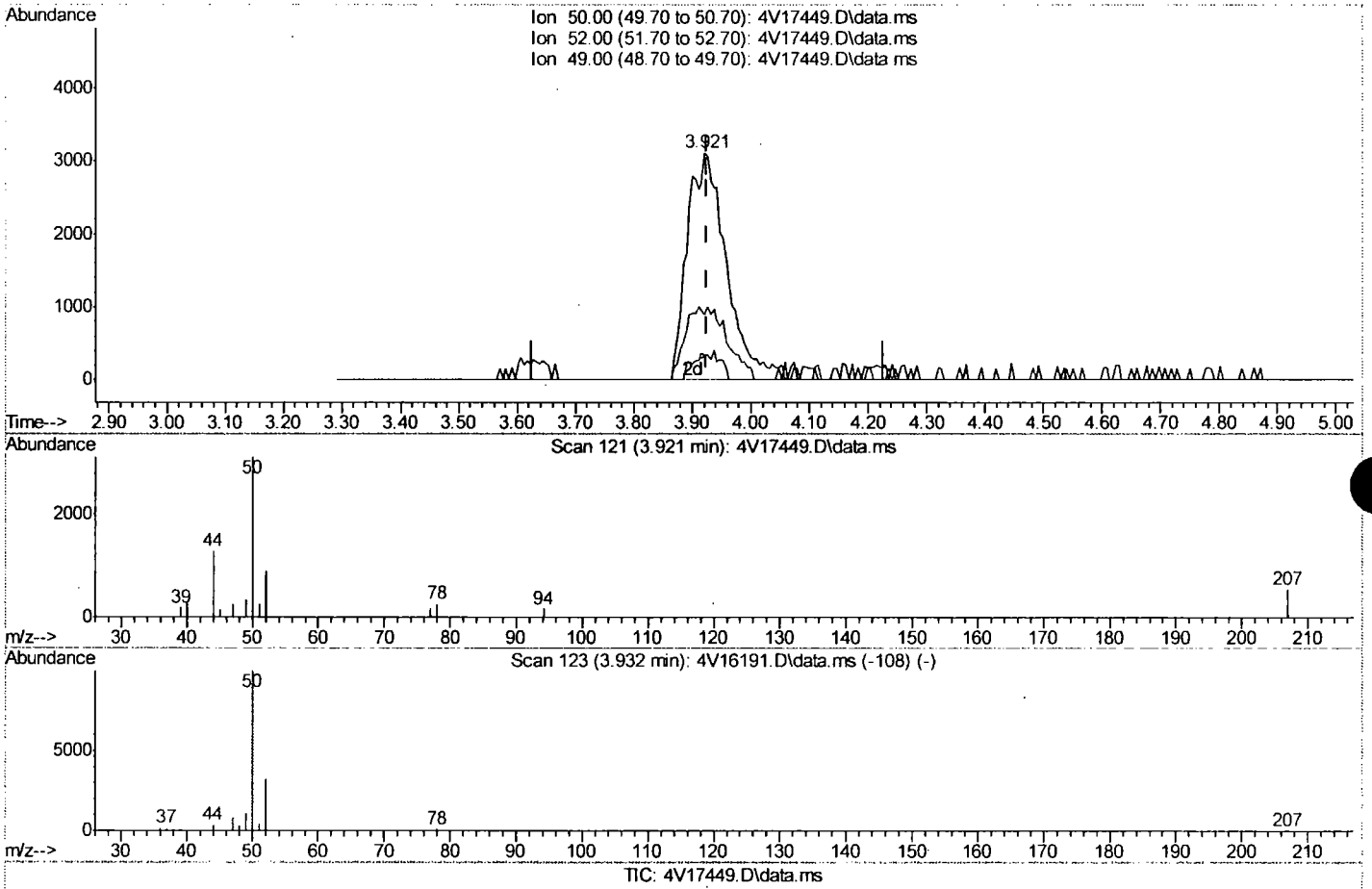
Ion	Exp%	Act%
50.00	100	100
52.00	32.70	30.25
49.00	11.00	11.41
0.00	0.00	0.00

7.6.5.2

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17449.D
Acq On : 7 May 2015 9:29 pm
Operator : jemimam
Sample : ic709-5
Misc : MS84599,V4V709,5,,,,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: May 08 09:01:54 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 09:00:58 2015
Response via : Initial Calibration



TIC: 4V17449.D\data.ms

(9) chloromethane

3.921min (-0.005) 5.13ug/L m

response 14397

Ion	Exp%	Act%
50.00	100	100
52.00	32.70	28.79
49.00	11.00	10.86
0.00	0.00	0.00

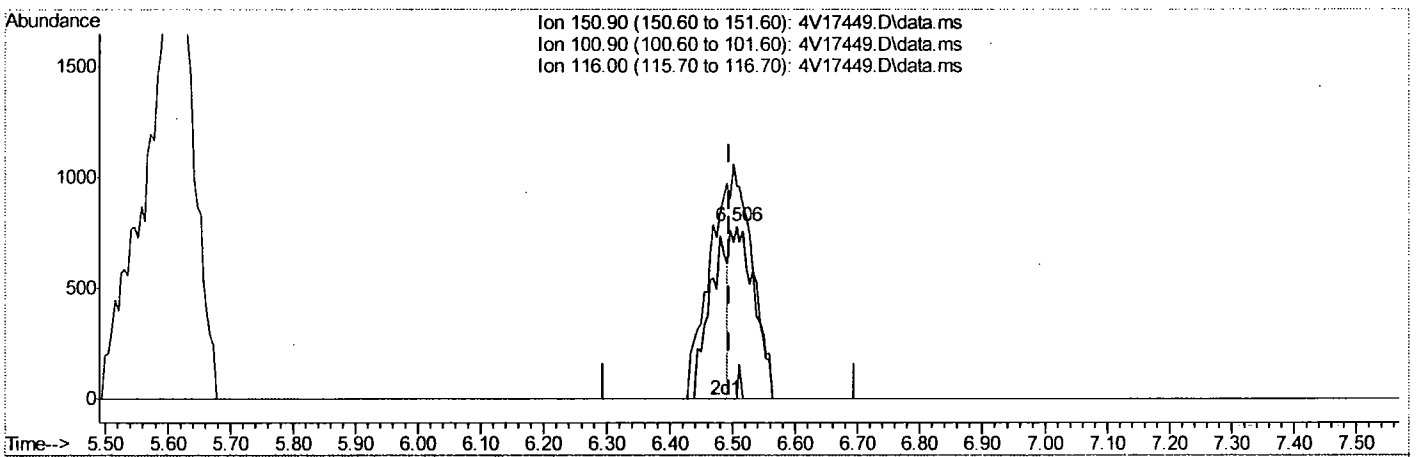
ACCUTEST LABORATORIES JB94786

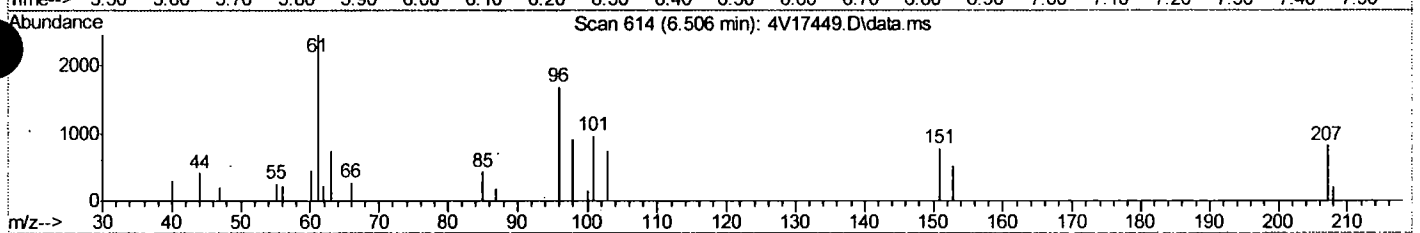
4V17449.D edits: chloromethane

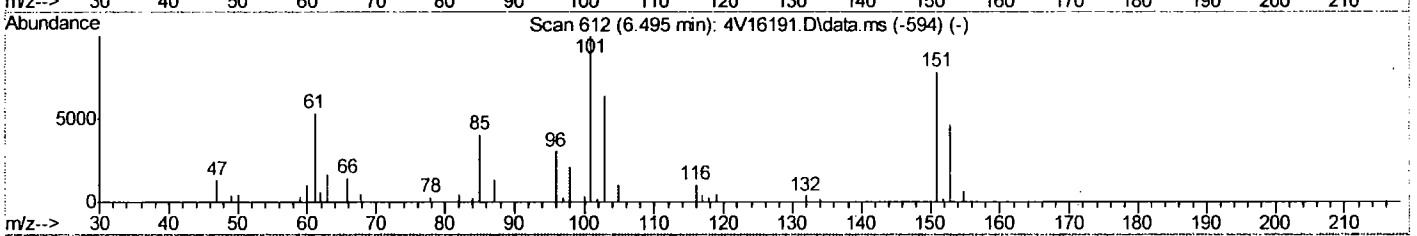
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17449.D
Acq On : 7 May 2015 9:29 pm
Operator : jemimam
Sample : ic709-5
Misc : MS84599,V4V709,5,,,,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: May 08 09:01:54 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 09:00:58 2015
Response via : Initial Calibration







TIC: 4V17449.D\data.ms

(47) freon 113

6.506min (+0.010) 2.51ug/L

response 2129

Ion	Exp%	Act%
150.90	100	100
100.90	130.50	122.92
116.00	14.80	0.00
0.00	0.00	0.00

7.6.5.4

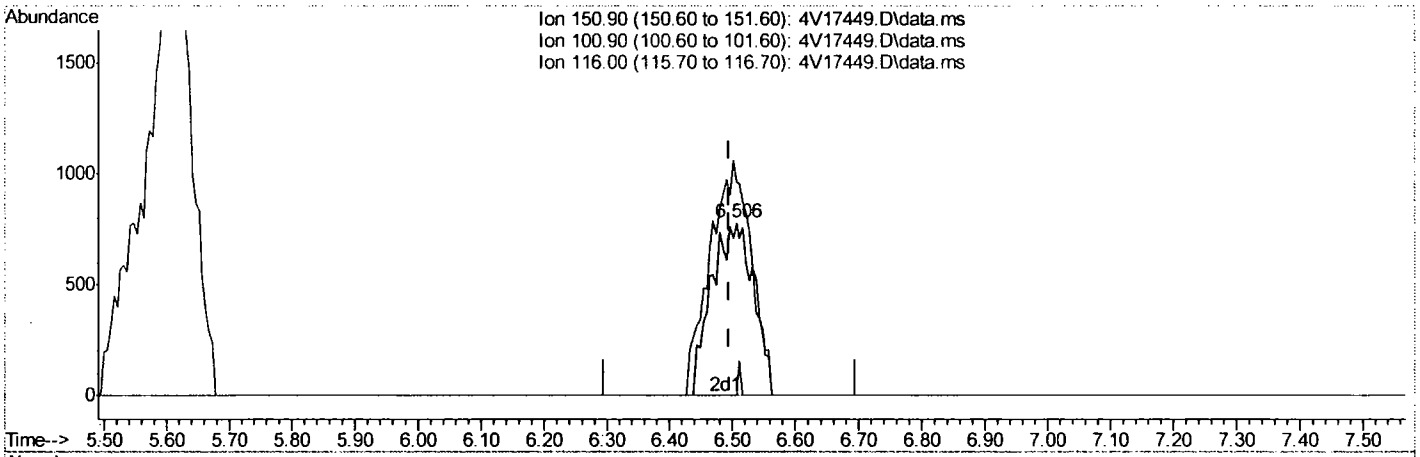
ACCUTEST LABORATORIES JB94786

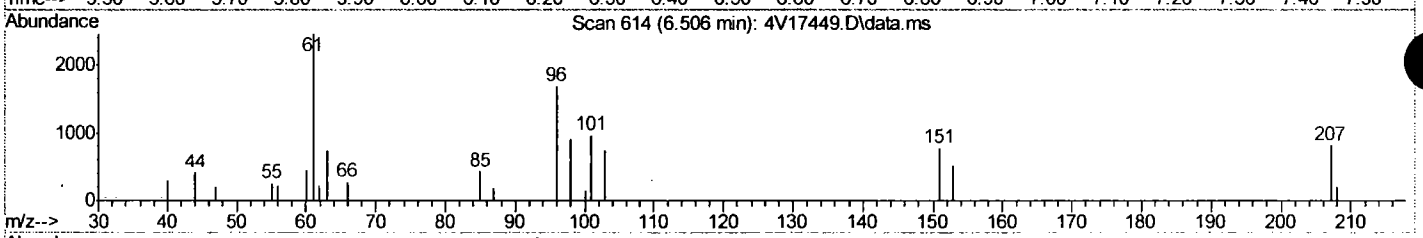
Quantitation Report (Qedit)

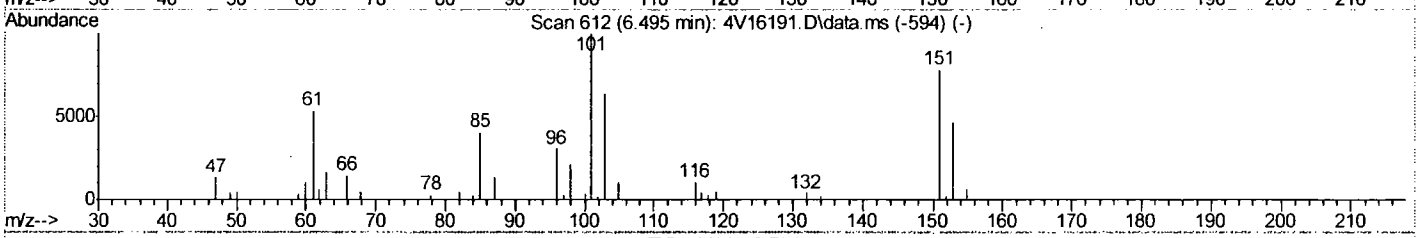
Data Path : C:\msdchem\1\DATA\
Data File : 4V17449.D
Acq On : 7 May 2015 9:29 pm
Operator : jemimam
Sample : ic709-5
Misc : MS84599,V4V709,5,,,,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: May 08 09:01:54 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 09:00:58 2015
Response via : Initial Calibration

7.6.5.5 7







TIC: 4V17449.D\data.ms

(47) freon 113

6.506min (+0.010) 4.26ug/L m

response 3622

Ion	Exp%	Act%
150.90	100	100
100.90	130.50	122.92
116.00	14.80	0.00
0.00	0.00	0.00

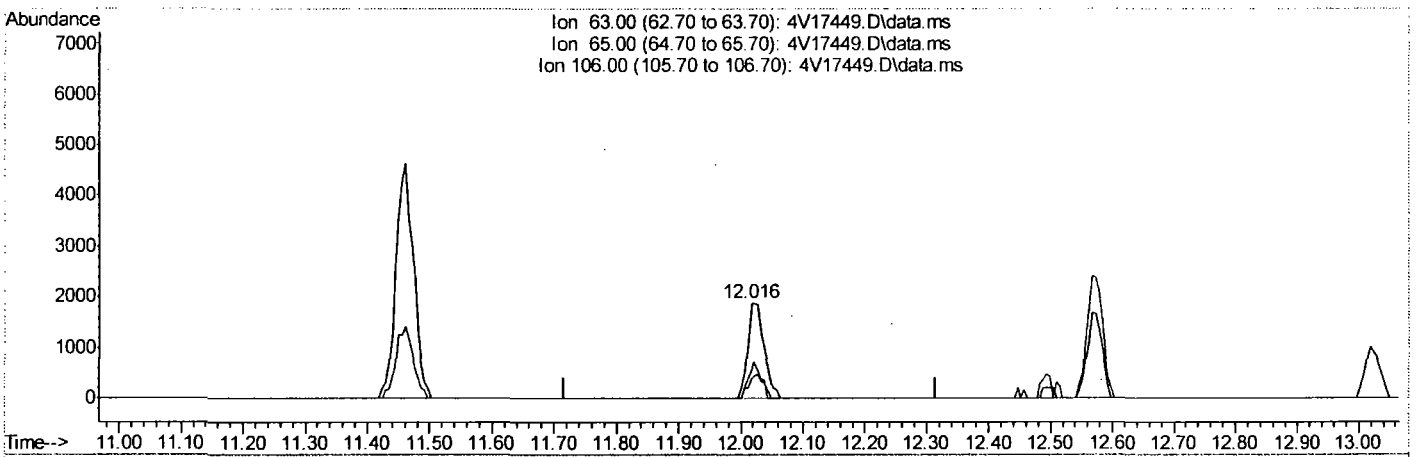
4V17449:D edits: freon 113

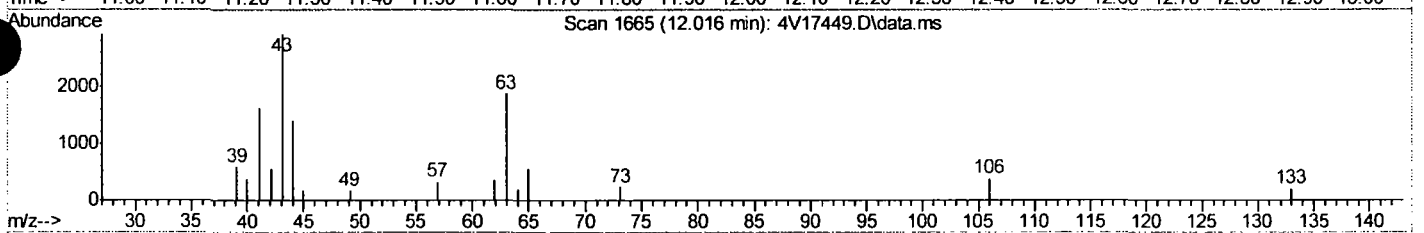
ACCUTEST LABORATORIES
JB94786

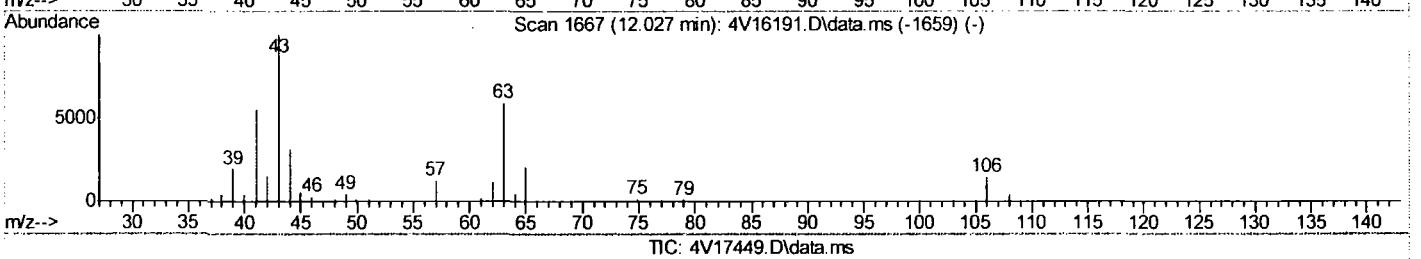
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17449.D
Acq On : 7 May 2015 9:29 pm
Operator : jemimam
Sample : ic709-5
Misc : MS84599,V4V709,5,,,,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: May 08 15:16:01 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 09:00:58 2015
Response via : Initial Calibration







TIC: 4V17449.D\data.ms

(66) 2-chloroethyl vinyl ether

12.016min (0.000) 21.67ug/L m

response 3470

Ion	Exp%	Act%
63.00	100	100
65.00	32.60	29.37
106.00	24.50	20.45
0.00	0.00	0.00

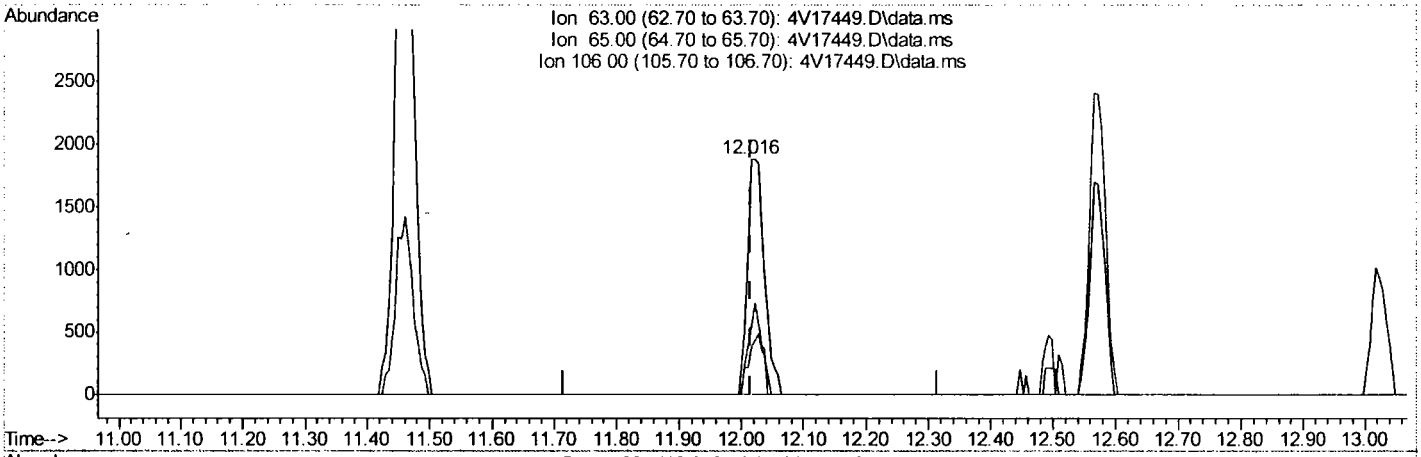
7.6.5.6 7

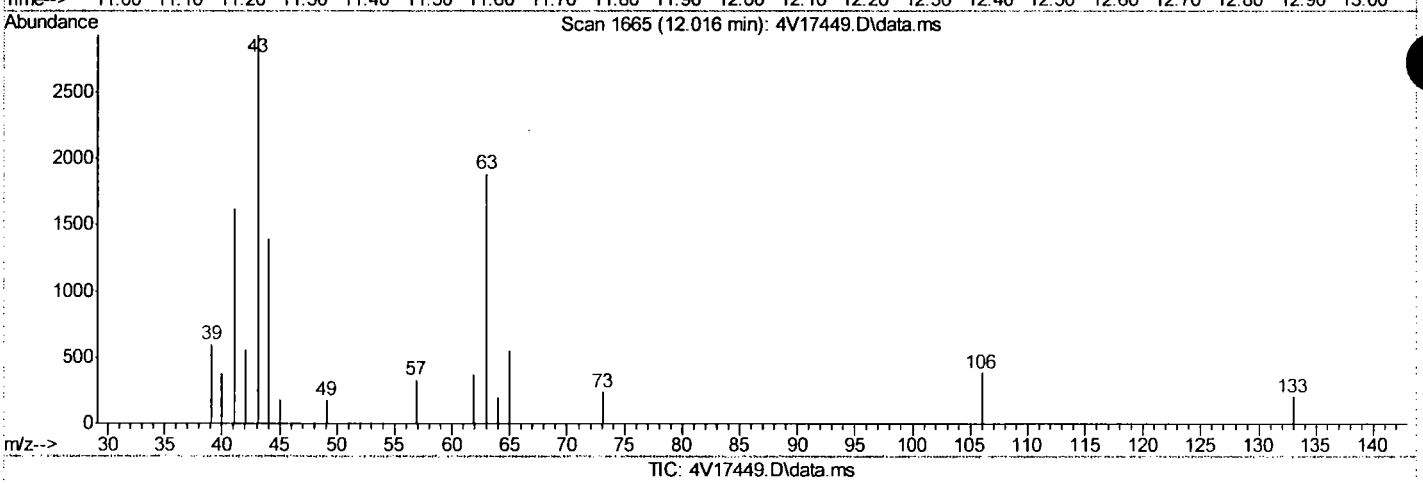
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\
Data File : 4V17449.D
Acq On : 7 May 2015 9:29 pm
Operator : jemimam
Sample : ic709-5
Misc : MS84599,V4V709,5,,,,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: May 12 16:38:08 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Tue May 12 09:59:47 2015
Response via : Initial Calibration

7.6.5.7





TIC: 4V17449.D\data.ms

(66) 2-chloroethyl vinyl ether

12.016min (+0.000) 23.64ug/L

response 3470

Ion	Exp%	Act%
63.00	100	100
65.00	32.60	29.37
106.00	24.50	20.45
0.00	0.00	0.00

ACCUTEST LABORATORIES JB94786

4V17449.D edits: 2-chloroethyl vinyl ether

Manual Integrations APPROVED (compounds with "m" flag)
Jessica Reitan-Chu
05/12/15 17:14

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17450.D
Acq On : 7 May 2015 9:56 pm
Operator : jemimam
Sample : ic709-10
Misc : MS84599,V4V709,5,,,,1
ALS Vial : 18 Sample Multiplier: 1

Quant Time: May 08 15:04:39 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 09:00:58 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Tert Butyl Alcohol-d9	7.387	65	207341	500.00	ug/L		0.00
4) pentafluorobenzene	9.872	168	267545	50.00	ug/L		0.00
51) 1,4-difluorobenzene	10.837	114	335392	50.00	ug/L		0.00
81) chlorobenzene-d5	14.045	117	287887	50.00	ug/L		0.00
94) 1,4-dichlorobenzene-d4	16.400	152	173298	50.00	ug/L		0.00
System Monitoring Compounds							
45) dibromofluoromethane (s)	9.924	113	130866	49.74	ug/L		0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 99.48%				
46) 1,2-dichloroethane-d4 (s)	10.370	65	136000	50.20	ug/L		0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 100.40%				
73) toluene-d8 (s)	12.499	98	368555	50.57	ug/L		0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 101.14%				
96) 4-bromofluorobenzene (s)	15.241	95	159703	50.84	ug/L		0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 101.68%				
Target Compounds							Qvalue
2) 1,4-dioxane	11.586	88	7103	226.63	ug/L		97
3) tertiary butyl alcohol	7.518	59	20961	47.32	ug/L		89
6) chlorodifluoromethane	3.628	51	16447	8.44	ug/L		93
7) dichlorodifluoromethane	3.622	85	13867	8.05	ug/L		99
9) chloromethane	3.911	50	26780	9.44	ug/L		99
10) vinyl chloride	4.199	62	24037	9.33	ug/L		98
11) bromomethane	4.886	94	22832	9.70	ug/L		93
12) chloroethane	5.080	64	11881	9.82	ug/L		95
13) trichlorofluoromethane	5.609	101	20680	8.56	ug/L		92
14) ethyl ether	6.055	74	9971	9.58	ug/L		81
16) 2-chloropropane	6.286	43	26795	9.15	ug/L		93
17) acrolein	6.385	56	38825	87.97	ug/L		96
18) 1,1-dichloroethene	6.527	61	26426	8.98	ug/L		92
19) acetone	6.642	58	1798m	8.58	ug/L		
20) allyl chloride	7.151	76	9313	10.00	ug/L	#	69
21) acetonitrile	7.172	40	19110	88.03	ug/L	#	83
22) iodomethane	6.847	142	43936	9.14	ug/L		95
23) iso-butyl alcohol	10.234	41	9008	90.67	ug/L		84
24) carbon disulfide	6.957	76	65722	9.18	ug/L		97
25) methylene chloride	7.387	84	24573	9.55	ug/L		97
26) 1-chloropropane	7.397	41	8802	9.75	ug/L		91
27) methyl acetate	7.161	74	2974	8.18	ug/L	#	81
28) methyl tert butyl ether	7.738	73	76005	9.80	ug/L		98
29) trans-1,2-dichloroethene	7.790	61	27528	9.32	ug/L		92
30) di-isopropyl ether	8.430	45	59109	9.03	ug/L		99
31) ethyl tert-butyl ether	8.954	59	63276	8.76	ug/L		98
32) 2-butanone	9.290	72	2436	9.65	ug/L		54
33) 1,1-dichloroethane	8.456	63	35576	9.21	ug/L		99
34) chloroprene	8.556	53	20687	8.90	ug/L		97
35) acrylonitrile	7.806	53	38862	48.74	ug/L		95
36) vinyl acetate	8.467	86	2529	7.97	ug/L		67
37) ethyl acetate	9.290	45	2483	9.17	ug/L		77

7.6.9
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17450.D
Acq On : 7 May 2015 9:56 pm
Operator : jemimam
Sample : ic709-10
Misc : MS84599,V4V709,5,,,,1
ALS Vial : 18 Sample Multiplier: 1

Quant Time: May 08 15:04:39 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 09:00:58 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
38) 2,2-dichloropropane	9.274	77	32057	9.19 ug/L		96
39) cis-1,2-dichloroethene	9.285	96	22249	9.39 ug/L		96
40) propionitrile	9.416	54	31158	97.98 ug/L		91
41) methyl acrylate	9.384	55	21348	9.54 ug/L	#	95
42) bromochloromethane	9.641	128	12297	9.68 ug/L		83
43) tetrahydrofuran	9.668	42	7557	9.91 ug/L		91
44) chloroform	9.704	83	37994	9.17 ug/L		96
47) freon 113	6.501	151	7396	8.61 ug/L		99
48) methacrylonitrile	9.599	41	11194	9.52 ug/L		94
49) 1,1,1-trichloroethane	9.940	97	31661	8.89 ug/L		97
50) tert-amyl methyl ether	10.464	73	62228	8.98 ug/L		96
52) epichlorohydrin	12.158	57	7954	42.55 ug/L		99
53) n-butyl alcohol	11.025	56	34234	443.36 ug/L		96
54) cyclohexane	9.987	84	13366	8.36 ug/L		90
55) carbon tetrachloride	10.150	117	25973	9.00 ug/L		97
56) 1,1-dichloropropene	10.129	75	19378	9.09 ug/L		98
57) hexane	8.105	57	5660	8.55 ug/L		97
58) benzene	10.417	78	66940	9.18 ug/L		99
59) isooctane	10.391	57	25522	8.38 ug/L		97
60) heptane	10.585	57	3371	8.89 ug/L		94
61) isopropyl acetate	10.381	43	37486	9.07 ug/L		98
62) 1,2-dichloroethane	10.464	62	28464	9.55 ug/L		97
63) trichloroethene	11.172	95	16938	9.17 ug/L		98
65) 2-nitropropane	12.016	43	11028	9.34 ug/L		91
66) 2-chloroethyl vinyl ether	12.022	63	6570	40.43 ug/L		98
67) methyl methacrylate	11.482	69	12377	9.72 ug/L		83
68) 1,2-dichloropropane	11.461	63	17005	9.20 ug/L		96
69) methylcyclohexane	11.361	83	12758	8.74 ug/L		95
70) dibromomethane	11.628	93	14407	9.84 ug/L		97
71) bromodichloromethane	11.770	83	27874	9.32 ug/L		99
72) cis-1,3-dichloropropene	12.226	75	29716	9.41 ug/L		97
74) 4-methyl-2-pentanone	12.336	58	8442	10.23 ug/L		95
75) toluene	12.572	92	37564	9.36 ug/L		100
76) 3-methyl-1-butanol	12.383	70	13004	182.69 ug/L		97
77) trans-1,3-dichloropropene	12.803	75	29836	9.72 ug/L		95
78) ethyl methacrylate	12.792	69	22978	9.81 ug/L		98
79) 1,1,2-trichloroethane	13.023	83	15196	9.79 ug/L		98
80) 2-hexanone	13.201	58	7623	10.19 ug/L		97
82) tetrachloroethene	13.154	166	15361	9.44 ug/L		93
83) 1,3-dichloropropane	13.201	76	26860	9.69 ug/L		97
84) butyl acetate	13.275	56	11145	9.18 ug/L		88
85) dibromochloromethane	13.469	129	24392	9.50 ug/L		97
86) 1,2-dibromoethane	13.616	107	21167	9.82 ug/L		97
87) chlorobenzene	14.077	112	48117	9.47 ug/L		97
88) 1,1,1,2-tetrachloroethane	14.150	131	21775	9.12 ug/L		99
89) ethylbenzene	14.129	91	78476	9.37 ug/L		99
90) m,p-xylene	14.239	106	57580	18.41 ug/L		97
91) o-xylene	14.675	106	31256	9.22 ug/L		93
92) styrene	14.696	104	52020	9.23 ug/L		97
93) bromoform	14.979	173	18793	9.47 ug/L		98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17450.D
Acq On : 7 May 2015 9:56 pm
Operator : jemimam
Sample : ic709-10
Misc : MS84599,V4V709,5,,,,1
ALS Vial : 18 Sample Multiplier: 1

Quant Time: May 08 15:04:39 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 09:00:58 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
95) isopropylbenzene	15.021	105	79038	9.03 ug/L	99
97) bromobenzene	15.435	156	24702	9.60 ug/L	94
98) cyclohexanone	15.225	55	26485	116.26 ug/L	90
99) 1,1,2,2-tetrachloroethane	15.372	83	32032	9.86 ug/L	99
100) trans-1,4-dichloro-2-b...	15.414	53	7855	9.45 ug/L	94
101) 1,2,3-trichloropropane	15.445	110	7902	10.25 ug/L	100
102) n-propylbenzene	15.440	91	93561	9.34 ug/L	100
103) 2-chlorotoluene	15.592	126	20800	9.37 ug/L	99
104) 4-chlorotoluene	15.692	91	64697	9.47 ug/L	98
105) 1,3,5-trimethylbenzene	15.592	105	72734	8.98 ug/L	98
106) tert-butylbenzene	15.933	119	51322	8.51 ug/L	99
107) pentachloroethane	16.033	167	16365	8.61 ug/L	99
108) 1,2,4-trimethylbenzene	15.985	105	77602	9.34 ug/L	96
109) sec-butylbenzene	16.148	105	83992	9.00 ug/L	99
110) 1,3-dichlorobenzene	16.342	146	45458	9.27 ug/L	98
111) p-isopropyltoluene	16.268	119	77059	9.26 ug/L	98
112) 1,4-dichlorobenzene	16.426	146	46150	9.24 ug/L	97
114) 1,2-dichlorobenzene	16.809	146	48725	9.46 ug/L	98
115) n-butylbenzene	16.667	92	38332	9.15 ug/L	98
116) 1,2-dibromo-3-chloropr...	17.558	157	8688	9.64 ug/L	95
117) 1,3,5-trichlorobenzene	17.700	180	39320	8.99 ug/L	97
118) 1,2,4-trichlorobenzene	18.277	180	37631	8.69 ug/L	100
119) hexachlorobutadiene	18.360	225	14726	9.04 ug/L	96
120) naphthalene	18.528	128	112840	9.12 ug/L	100
121) 1,2,3-trichlorobenzene	18.738	180	39053	8.83 ug/L	98
122) hexachloroethane	17.039	119	17111	8.98 ug/L	99
123) Benzyl chloride	16.546	91	55412	9.04 ug/L	99

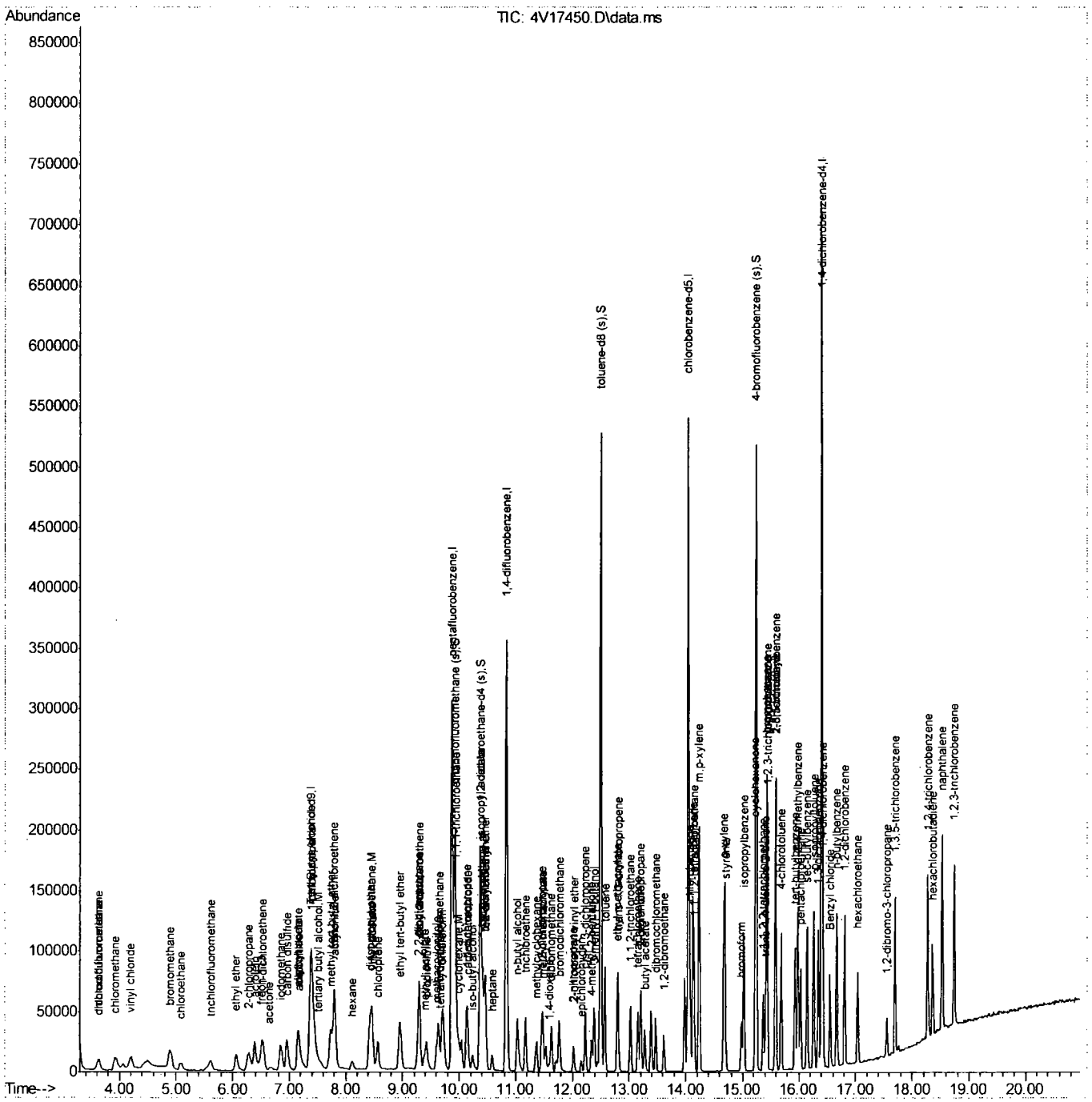
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.6.6 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17450.D
Acq On : 7 May 2015 9:56 pm
Operator : jemimam
Sample : ic709-10
Misc : MS84599,V4V709,5,,,,1
ALS Vial : 18 Sample Multiplier: 1

Quant Time: May 08 15:04:39 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 09:00:58 2015
Response via : Initial Calibration



ACCUTEST LABORATORIES JB94786

Manual Integration Approval Summary

Sample Number:	V4V709-IC709	**Method:**	SW846 8260C
Lab FileID:	4V17450.D	**Analyst approved:**	05/08/15 15:34 Juntae Park
Injection Time:	05/07/15 21:56	**Supervisor approved:**	05/12/15 17:14 Jessica Reitan-Chu

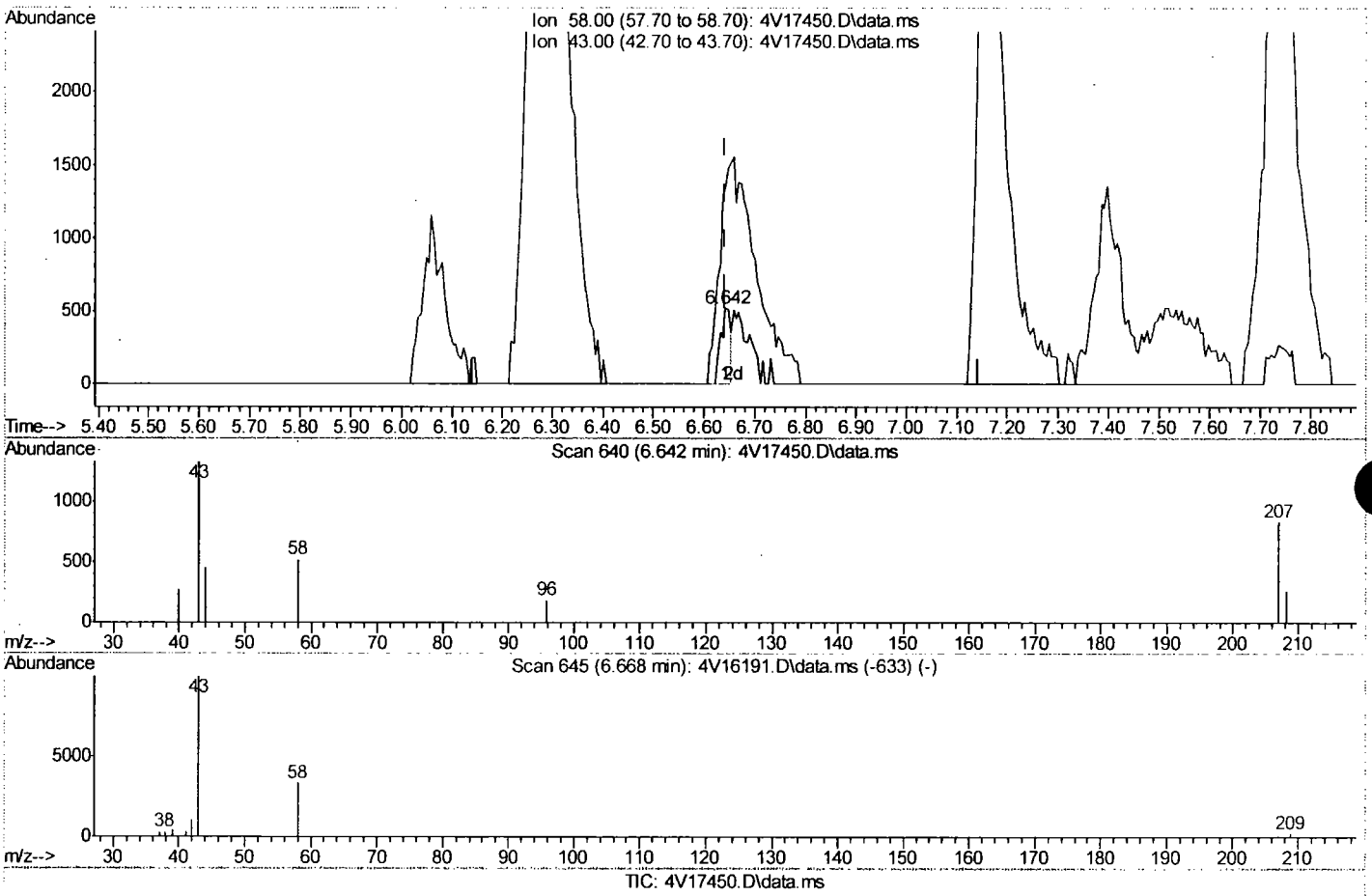
Parameter	CAS	Sig#	R.T. (min.)	Reason
Acetone	67-64-1		6.64	Poorly defined baseline

7.6.6.1

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17450.D
Acq On : 7 May 2015 9:56 pm
Operator : jemimam
Sample : ic709-10
Misc : MS84599,V4V709,5,,,,1
ALS Vial : 18 Sample Multiplier: 1

Quant Time: May 08 09:01:56 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 09:00:58 2015
Response via : Initial Calibration



TIC: 4V17450.D\data.ms

(19) acetone

6.642min (-0.000) 3.34ug/L

response 701

Ion	Exp%	Act%
58.00	100	100
43.00	306.10	206.90#
0.00	0.00	0.00
0.00	0.00	0.00

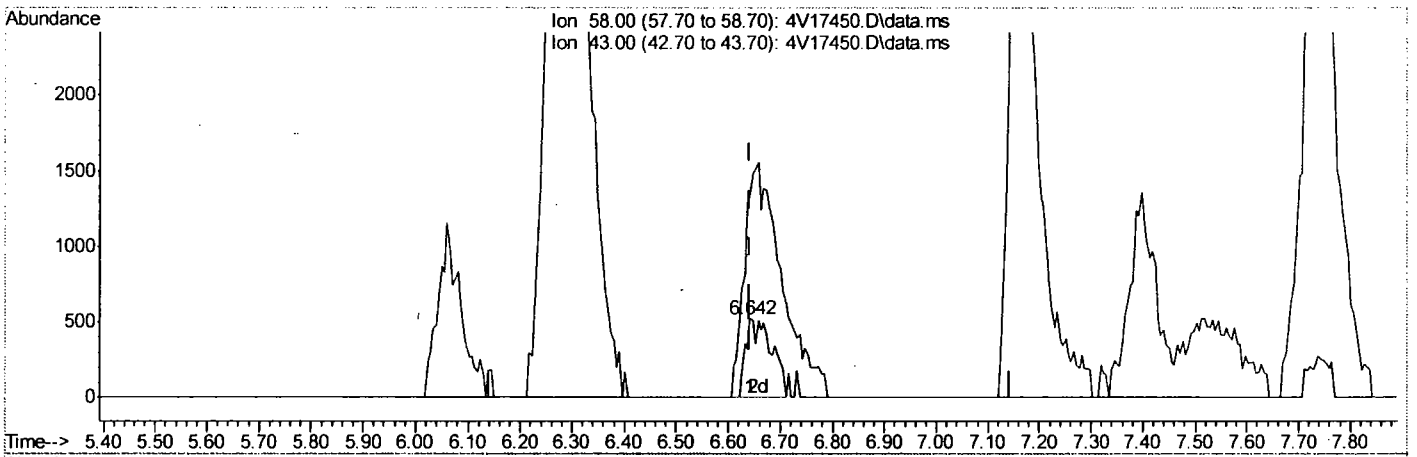
ACCUTEST. LABORATORIES JB94786

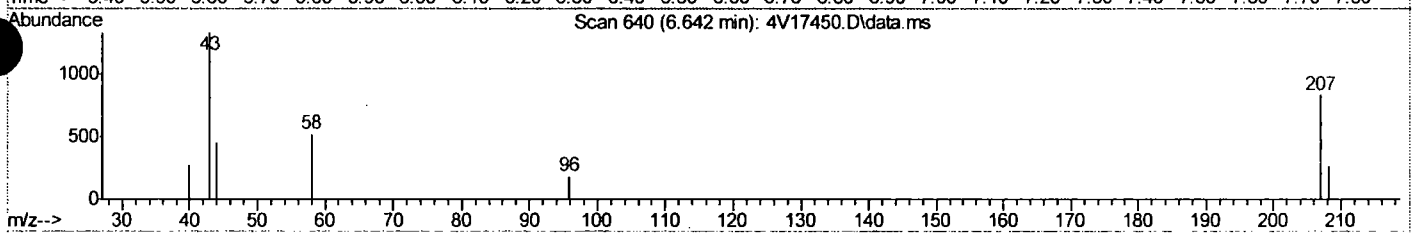
4V17450.D edits: acetone

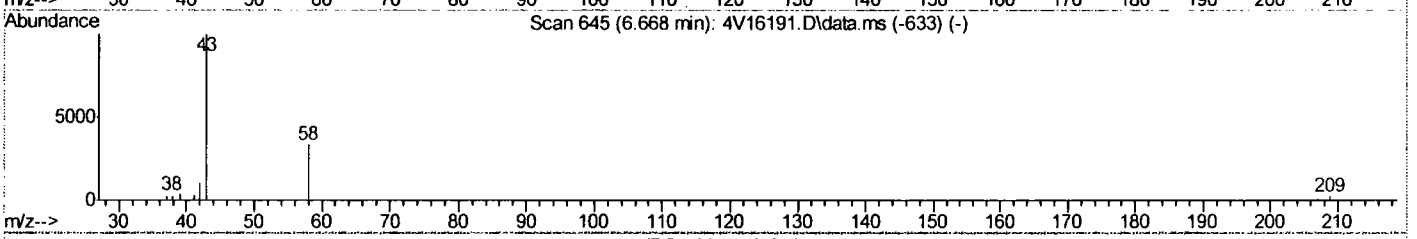
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17450.D
Acq On : 7 May 2015 9:56 pm
Operator : jemimam
Sample : ic709-10
Misc : MS84599,V4V709,5,,,,1
ALS Vial : 18 Sample Multiplier: 1

Quant Time: May 08 09:01:56 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 09:00:58 2015
Response via : Initial Calibration







TIC: 4V17450.D\data.ms

(19) acetone

6.642min (-0.000) 8.58ug/L m

response 1798

Ion	Exp%	Act%
58.00	100	100
43.00	306.10	254.79#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17451.D
Acq On : 7 May 2015 10:23 pm
Operator : jemimam
Sample : ic709-20
Misc : MS84599,V4V709,5,,,,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: May 08 15:04:47 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 09:00:58 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Tert Butyl Alcohol-d9	7.387	65	213300	500.00	ug/L		0.00
4) pentafluorobenzene	9.872	168	269925	50.00	ug/L		0.00
51) 1,4-difluorobenzene	10.837	114	344312	50.00	ug/L		0.00
81) chlorobenzene-d5	14.045	117	288890	50.00	ug/L		0.00
94) 1,4-dichlorobenzene-d4	16.400	152	172031	50.00	ug/L		0.00
System Monitoring Compounds							
45) dibromofluoromethane (s)	9.919	113	131543	49.56	ug/L		0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 99.12%				
46) 1,2-dichloroethane-d4 (s)	10.365	65	136076	49.78	ug/L		0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 99.56%				
73) toluene-d8 (s)	12.499	98	364497	48.72	ug/L		0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 97.44%				
96) 4-bromofluorobenzene (s)	15.241	95	158920	50.96	ug/L		0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 101.92%				
Target Compounds							Qvalue
2) 1,4-dioxane	11.592	88	15442	478.94	ug/L		94
3) tertiary butyl alcohol	7.523	59	45752	100.39	ug/L		86
6) chlorodifluoromethane	3.622	51	37147	18.89	ug/L		95
7) dichlorodifluoromethane	3.607	85	34643	19.93	ug/L		99
9) chloromethane	3.911	50	54182	18.94	ug/L		98
10) vinyl chloride	4.204	62	49936	19.21	ug/L		99
11) bromomethane	4.886	94	46052	19.40	ug/L		99
12) chloroethane	5.075	64	23829	19.53	ug/L		99
13) trichlorofluoromethane	5.609	101	47454	19.48	ug/L		96
14) ethyl ether	6.055	74	20027	19.08	ug/L		97
16) 2-chloropropane	6.281	43	58661	19.86	ug/L		92
17) acrolein	6.380	56	85548	192.13	ug/L		98
18) 1,1-dichloroethene	6.522	61	57305	19.30	ug/L		95
19) acetone	6.642	58	3885	18.37	ug/L		91
20) allyl chloride	7.151	76	17858	19.00	ug/L		91
21) acetonitrile	7.167	40	42884	195.81	ug/L		91
22) iodomethane	6.836	142	94386	19.45	ug/L		95
23) iso-butyl alcohol	10.229	41	19584	195.38	ug/L		90
24) carbon disulfide	6.952	76	142551	19.73	ug/L		99
25) methylene chloride	7.387	84	51001	19.64	ug/L		96
26) 1-chloropropane	7.397	41	17795	19.54	ug/L		91
27) methyl acetate	7.156	74	6876	18.75	ug/L		94
28) methyl tert butyl ether	7.733	73	154876	19.80	ug/L		99
29) trans-1,2-dichloroethene	7.785	61	58733	19.71	ug/L		98
30) di-isopropyl ether	8.420	45	127561	19.31	ug/L		99
31) ethyl tert-butyl ether	8.949	59	138443	19.00	ug/L		97
32) 2-butanone	9.285	72	5015	19.70	ug/L	#	44
33) 1,1-dichloroethane	8.456	63	75925	19.49	ug/L		100
34) chloroprene	8.556	53	44277	18.88	ug/L		98
35) acrylonitrile	7.801	53	76978	95.69	ug/L		99
36) vinyl acetate	8.462	86	5810	18.15	ug/L	#	91
37) ethyl acetate	9.290	45	5533	20.24	ug/L		85

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17451.D
Acq On : 7 May 2015 10:23 pm
Operator : jemimam
Sample : ic709-20
Misc : MS84599,V4V709,5,,,,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: May 08 15:04:47 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 09:00:58 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
38) 2,2-dichloropropane	9.274	77	70961	20.17 ug/L	98
39) cis-1,2-dichloroethene	9.285	96	47623	19.92 ug/L	97
40) propionitrile	9.416	54	63366	197.50 ug/L	98
41) methyl acrylate	9.379	55	43686	19.35 ug/L #	97
42) bromochloromethane	9.631	128	24790	19.35 ug/L	98
43) tetrahydrofuran	9.662	42	15236	19.80 ug/L	98
44) chloroform	9.704	83	81369	19.47 ug/L	99
47) freon 113	6.490	151	17077	19.71 ug/L	91
48) methacrylonitrile	9.589	41	22661	19.10 ug/L	97
49) 1,1,1-trichloroethane	9.940	97	71203	19.82 ug/L	97
50) tert-amyl methyl ether	10.454	73	133806	19.13 ug/L	97
52) epichlorohydrin	12.153	57	17973	93.65 ug/L	97
53) n-butyl alcohol	11.025	56	76123	960.31 ug/L	99
54) cyclohexane	9.987	84	32048	19.53 ug/L	97
55) carbon tetrachloride	10.145	117	57984	19.58 ug/L	97
56) 1,1-dichloropropene	10.129	75	42246	19.30 ug/L	97
57) hexane	8.110	57	13310	19.58 ug/L	96
58) benzene	10.412	78	145309	19.42 ug/L	98
59) isooctane	10.386	57	57801	18.50 ug/L	95
60) heptane	10.585	57	7479	19.22 ug/L	95
61) isopropyl acetate	10.375	43	82974	19.57 ug/L	97
62) 1,2-dichloroethane	10.464	62	60111	19.64 ug/L	98
63) trichloroethene	11.167	95	36857	19.44 ug/L	99
65) 2-nitropropane	12.016	43	23245	19.18 ug/L	97
66) 2-chloroethyl vinyl ether	12.022	63	14952	89.62 ug/L	97
67) methyl methacrylate	11.482	69	25097	19.19 ug/L	87
68) 1,2-dichloropropane	11.455	63	36364	19.16 ug/L	97
69) methylcyclohexane	11.361	83	28662	19.13 ug/L	97
70) dibromomethane	11.628	93	29205	19.44 ug/L	98
71) bromodichloromethane	11.765	83	59671	19.44 ug/L	99
72) cis-1,3-dichloropropene	12.226	75	62911	19.41 ug/L	97
74) 4-methyl-2-pentanone	12.336	58	16731	19.75 ug/L	96
75) toluene	12.572	92	79484	19.29 ug/L	99
76) 3-methyl-1-butanol	12.378	70	28969	396.44 ug/L	97
77) trans-1,3-dichloropropene	12.803	75	62414	19.80 ug/L	99
78) ethyl methacrylate	12.792	69	47901	19.91 ug/L	98
79) 1,1,2-trichloroethane	13.023	83	31430	19.73 ug/L	95
80) 2-hexanone	13.201	58	15728	20.47 ug/L	97
82) tetrachloroethene	13.154	166	32524	19.91 ug/L	99
83) 1,3-dichloropropane	13.201	76	55029	19.78 ug/L	97
84) butyl acetate	13.264	56	24256	19.90 ug/L	96
85) dibromochloromethane	13.469	129	49660	19.28 ug/L	99
86) 1,2-dibromoethane	13.616	107	42918	19.84 ug/L	100
87) chlorobenzene	14.077	112	100896	19.79 ug/L	99
88) 1,1,1,2-tetrachloroethane	14.145	131	47664	19.90 ug/L	99
89) ethylbenzene	14.129	91	167599	19.95 ug/L	99
90) m,p-xylene	14.239	106	125484	39.98 ug/L	99
91) o-xylene	14.675	106	67343	19.79 ug/L	98
92) styrene	14.690	104	112899	19.96 ug/L	99
93) bromoform	14.979	173	39240	19.70 ug/L	98

7.6.1 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17451.D
Acq On : 7 May 2015 10:23 pm
Operator : jemimam
Sample : ic709-20
Misc : MS84599,V4V709,5,,,,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: May 08 15:04:47 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 09:00:58 2015
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
95)	isopropylbenzene	15.021	105	170506	19.62	ug/L	99
97)	bromobenzene	15.435	156	51307	20.08	ug/L	95
98)	cyclohexanone	15.225	55	60843	269.04	ug/L	97
99)	1,1,2,2-tetrachloroethane	15.372	83	65242	20.22	ug/L	98
100)	trans-1,4-dichloro-2-b...	15.409	53	16179	19.60	ug/L	98
101)	1,2,3-trichloropropane	15.445	110	15355	20.06	ug/L	98
102)	n-propylbenzene	15.440	91	198077	19.91	ug/L	100
103)	2-chlorotoluene	15.592	126	45667	20.72	ug/L	96
104)	4-chlorotoluene	15.692	91	140044	20.66	ug/L	98
105)	1,3,5-trimethylbenzene	15.592	105	159550	19.84	ug/L	97
106)	tert-butylbenzene	15.933	119	115571	19.30	ug/L	97
107)	pentachloroethane	16.033	167	36624	19.41	ug/L	99
108)	1,2,4-trimethylbenzene	15.985	105	165949	20.13	ug/L	96
109)	sec-butylbenzene	16.148	105	184257	19.90	ug/L	99
110)	1,3-dichlorobenzene	16.342	146	98279	20.19	ug/L	99
111)	p-isopropyltoluene	16.263	119	165089	19.99	ug/L	99
112)	1,4-dichlorobenzene	16.426	146	98720	19.90	ug/L	98
114)	1,2-dichlorobenzene	16.809	146	103649	20.26	ug/L	98
115)	n-butylbenzene	16.667	92	83277	20.03	ug/L	96
116)	1,2-dibromo-3-chloropr...	17.558	157	17791	19.88	ug/L	92
117)	1,3,5-trichlorobenzene	17.700	180	85481	19.69	ug/L	99
118)	1,2,4-trichlorobenzene	18.277	180	82506	19.19	ug/L	100
119)	hexachlorobutadiene	18.360	225	32523	20.11	ug/L	98
120)	naphthalene	18.528	128	238920	19.45	ug/L	99
121)	1,2,3-trichlorobenzene	18.738	180	86424	19.67	ug/L	98
122)	hexachloroethane	17.039	119	37093	19.61	ug/L	99
123)	Benzyl chloride	16.546	91	119536	19.65	ug/L	99

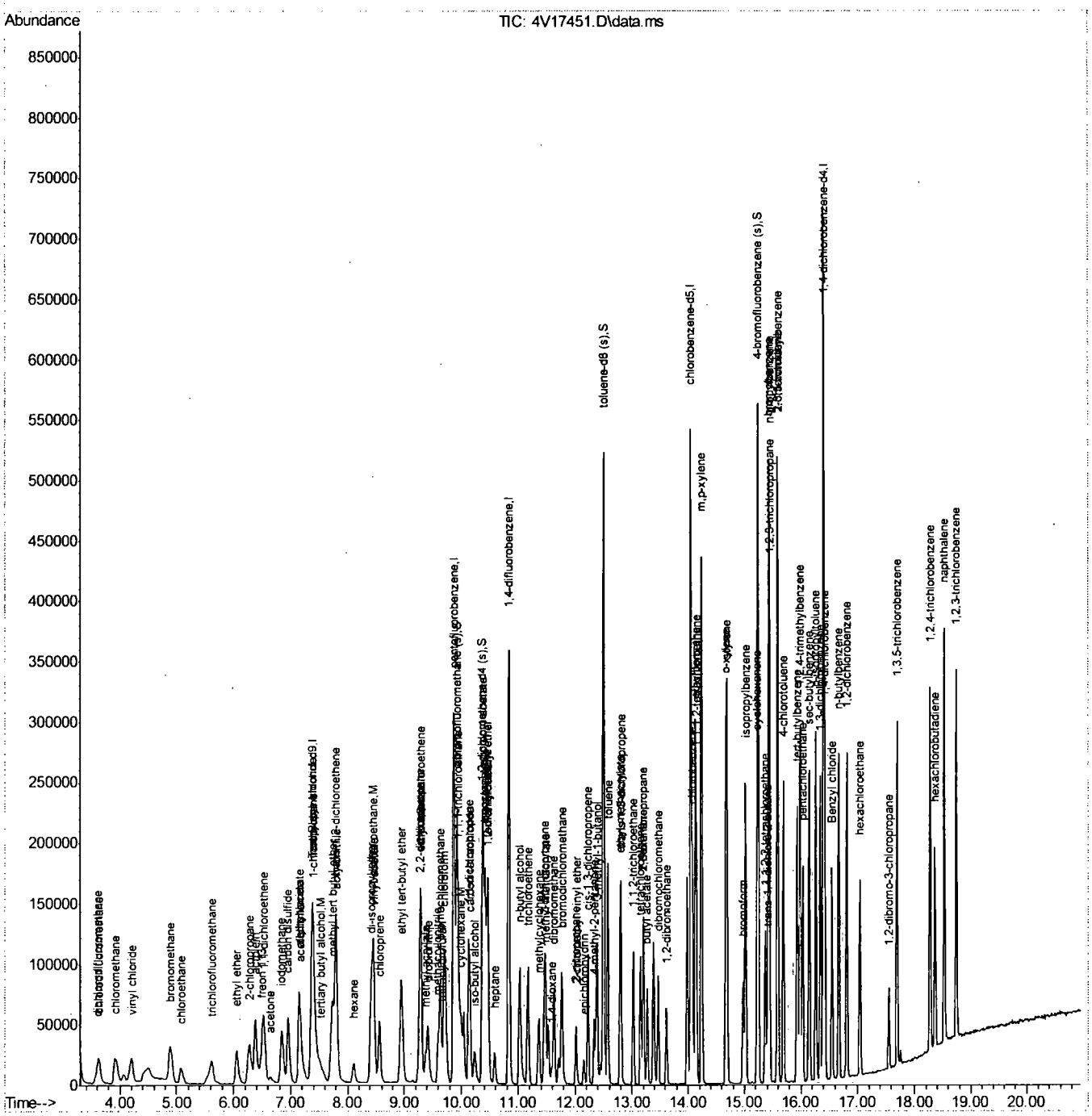
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.6.7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17451.D
Acq On : 7 May 2015 10:23 pm
Operator : jemimam
Sample : ic709-20
Misc : MS84599,V4V709,5,,,,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: May 08 15:04:47 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 09:00:58 2015
Response via : Initial Calibration



7.6.7

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17452.D
Acq On : 7 May 2015 10:49 pm
Operator : jemimam
Sample : icc709-50
Misc : MS84599,V4V709,5,,,,1
ALS Vial : 20 Sample Multiplier: 1

Quant Time: May 08 15:08:49 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 09:00:58 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.382	65	205926	500.00	ug/L	0.00
4) pentafluorobenzene	9.872	168	260389	50.00	ug/L	0.00
51) 1,4-difluorobenzene	10.832	114	328727	50.00	ug/L	0.00
81) chlorobenzene-d5	14.046	117	278784	50.00	ug/L	0.00
94) 1,4-dichlorobenzene-d4	16.400	152	167275	50.00	ug/L	0.00
System Monitoring Compounds						
45) dibromofluoromethane (s)	9.919	113	128033	50.00	ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 100.00%			
46) 1,2-dichloroethane-d4 (s)	10.365	65	131845	50.00	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 100.00%			
73) toluene-d8 (s)	12.499	98	357135	50.00	ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 100.00%			
96) 4-bromofluorobenzene (s)	15.241	95	151616	50.00	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 100.00%			
Target Compounds						Qvalue
2) 1,4-dioxane	11.587	88	39000	1252.91	ug/L	100
3) tertiary butyl alcohol	7.513	59	109662	249.24	ug/L	88
6) chlorodifluoromethane	3.617	51	94861	50.00	ug/L	100
7) dichlorodifluoromethane	3.601	85	83858	50.00	ug/L	100
9) chloromethane	3.926	50	137983	50.00	ug/L	100
10) vinyl chloride	4.199	62	125369	50.00	ug/L	100
11) bromomethane	4.886	94	114525	50.00	ug/L	100
12) chloroethane	5.064	64	58864	50.00	ug/L	100
13) trichlorofluoromethane	5.604	101	117519	50.00	ug/L	100
14) ethyl ether	6.055	74	50628	50.00	ug/L	100
16) 2-chloropropane	6.270	43	142480	50.00	ug/L	100
17) acrolein	6.380	56	214770	500.00	ug/L	100
18) 1,1-dichloroethene	6.517	61	143192	50.00	ug/L	100
19) acetone	6.642	58	10199	50.00	ug/L	100
20) allyl chloride	7.146	76	44503	49.09	ug/L	99
21) acetonitrile	7.161	40	105149	497.69	ug/L	100
22) iodomethane	6.842	142	234048	50.00	ug/L	100
23) iso-butyl alcohol	10.229	41	48346	500.00	ug/L	100
24) carbon disulfide	6.946	76	348465	50.00	ug/L	100
25) methylene chloride	7.376	84	125249	50.00	ug/L	100
26) 1-chloropropane	7.392	41	43929	50.00	ug/L	100
27) methyl acetate	7.146	74	17684	50.00	ug/L	100
28) methyl tert butyl ether	7.728	73	376908	49.95	ug/L	100
29) trans-1,2-dichloroethene	7.785	61	143711	50.00	ug/L	100
30) di-isopropyl ether	8.420	45	318575	49.99	ug/L	100
31) ethyl tert-butyl ether	8.949	59	351388	50.00	ug/L	100
32) 2-butanone	9.274	72	12278	50.00	ug/L	100
33) 1,1-dichloroethane	8.451	63	187888	50.00	ug/L	100
34) chloroprene	8.561	53	113096	50.00	ug/L	100
35) acrylonitrile	7.796	53	194006	250.00	ug/L	100
36) vinyl acetate	8.462	86	15440	50.00	ug/L	100
37) ethyl acetate	9.290	45	13183	50.00	ug/L	100

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17452.D
Acq On : 7 May 2015 10:49 pm
Operator : jemimam
Sample : icc709-50
Misc : MS84599,V4V709,5,,,,1
ALS Vial : 20 Sample Multiplier: 1

Quant Time: May 08 15:08:49 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 09:00:58 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
38) 2,2-dichloropropane	9.274	77	169715	50.00 ug/L	100
39) cis-1,2-dichloroethene	9.285	96	115311	50.00 ug/L	100
40) propionitrile	9.411	54	154749	500.00 ug/L	100
41) methyl acrylate	9.374	55	108892	50.00 ug/L	100
42) bromochloromethane	9.631	128	61789	50.00 ug/L	100
43) tetrahydrofuran	9.657	42	37112	50.00 ug/L	100
44) chloroform	9.704	83	201577	50.00 ug/L	100
47) freon 113	6.496	151	41797	50.00 ug/L	100
48) methacrylonitrile	9.594	41	57221	50.00 ug/L	100
49) 1,1,1-trichloroethane	9.940	97	173322	50.00 ug/L	100
50) tert-amyl methyl ether	10.454	73	336081	49.82 ug/L	100
52) epichlorohydrin	12.153	57	45809	250.00 ug/L	100
53) n-butyl alcohol	11.020	56	189202	2500.00 ug/L	100
54) cyclohexane	9.993	84	78345	50.00 ug/L	100
55) carbon tetrachloride	10.145	117	141372	50.00 ug/L	100
56) 1,1-dichloropropene	10.129	75	104511	50.00 ug/L	100
57) hexane	8.105	57	32447	50.00 ug/L	100
58) benzene	10.412	78	357276	50.00 ug/L	100
59) isooctane	10.391	57	149177	50.00 ug/L	100
60) heptane	10.585	57	18576	50.00 ug/L	100
61) isopropyl acetate	10.381	43	202434	50.00 ug/L	100
62) 1,2-dichloroethane	10.465	62	146084	50.00 ug/L	100
63) trichloroethene	11.167	95	90505	50.00 ug/L	100
65) 2-nitropropane	12.016	43	57865	50.00 ug/L	100
66) 2-chloroethyl vinyl ether	12.016	63	39822	250.00 ug/L	100
67) methyl methacrylate	11.476	69	62426	50.00 ug/L	100
68) 1,2-dichloropropane	11.455	63	90589	50.00 ug/L	100
69) methylcyclohexane	11.361	83	71540	50.00 ug/L	100
70) dibromomethane	11.629	93	71734	50.00 ug/L	100
71) bromodichloromethane	11.765	83	146559	50.00 ug/L	100
72) cis-1,3-dichloropropene	12.226	75	154694	50.00 ug/L	100
74) 4-methyl-2-pentanone	12.331	58	40439	50.00 ug/L	100
75) toluene	12.567	92	196668	50.00 ug/L	100
76) 3-methyl-1-butanol	12.378	70	69765	1000.00 ug/L	100
77) trans-1,3-dichloropropene	12.803	75	150497	50.00 ug/L	100
78) ethyl methacrylate	12.787	69	114823	50.00 ug/L	100
79) 1,1,2-trichloroethane	13.018	83	76048	50.00 ug/L	100
80) 2-hexanone	13.196	58	36674	50.00 ug/L	100
82) tetrachloroethene	13.154	166	78825	50.00 ug/L	100
83) 1,3-dichloropropane	13.201	76	134248	50.00 ug/L	100
84) butyl acetate	13.264	56	58810	50.00 ug/L	100
85) dibromochloromethane	13.469	129	124301	50.00 ug/L	100
86) 1,2-dibromoethane	13.616	107	104357	50.00 ug/L	100
87) chlorobenzene	14.077	112	246047	50.00 ug/L	100
88) 1,1,1,2-tetrachloroethane	14.145	131	115574	50.00 ug/L	100
89) ethylbenzene	14.129	91	405384	50.00 ug/L	100
90) m,p-xylene	14.240	106	302878	100.00 ug/L	100
91) o-xylene	14.675	106	164196	50.00 ug/L	100
92) styrene	14.690	104	272864	50.00 ug/L	100
93) bromoform	14.979	173	96123	50.00 ug/L	100

7.6.8

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17452.D
Acq On : 7 May 2015 10:49 pm
Operator : jemimam
Sample : icc709-50
Misc : MS84599,V4V709,5,,,,1
ALS Vial : 20 Sample Multiplier: 1

Quant Time: May 08 15:08:49 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 09:00:58 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
95) isopropylbenzene	15.021	105	422493	50.00	ug/L	100
97) bromobenzene	15.435	156	124229	50.00	ug/L	100
98) cyclohexanone	15.225	55	109950	500.00	ug/L	100
99) 1,1,2,2-tetrachloroethane	15.372	83	156833	50.00	ug/L	100
100) trans-1,4-dichloro-2-b...	15.409	53	40130	50.00	ug/L	100
101) 1,2,3-trichloropropane	15.440	110	37208	50.00	ug/L	100
102) n-propylbenzene	15.440	91	483578	50.00	ug/L	100
103) 2-chlorotoluene	15.592	126	107158	50.00	ug/L	100
104) 4-chlorotoluene	15.692	91	329624	50.00	ug/L	100
105) 1,3,5-trimethylbenzene	15.587	105	390983	50.00	ug/L	100
106) tert-butylbenzene	15.933	119	291159	50.00	ug/L	100
107) pentachloroethane	16.033	167	91742	50.00	ug/L	100
108) 1,2,4-trimethylbenzene	15.980	105	400784	50.00	ug/L	100
109) sec-butylbenzene	16.148	105	450220	50.00	ug/L	100
110) 1,3-dichlorobenzene	16.342	146	236680	50.00	ug/L	100
111) p-isopropyltoluene	16.263	119	401482	50.00	ug/L	100
112) 1,4-dichlorobenzene	16.426	146	241125	50.00	ug/L	100
114) 1,2-dichlorobenzene	16.809	146	248689	50.00	ug/L	100
115) n-butylbenzene	16.667	92	202122	50.00	ug/L	100
116) 1,2-dibromo-3-chloropr...	17.553	157	43505	50.00	ug/L	100
117) 1,3,5-trichlorobenzene	17.700	180	211096	50.00	ug/L	100
118) 1,2,4-trichlorobenzene	18.277	180	209046	50.00	ug/L	100
119) hexachlorobutadiene	18.361	225	78610	50.00	ug/L	100
120) naphthalene	18.528	128	597213	50.00	ug/L	100
121) 1,2,3-trichlorobenzene	18.738	180	213559	50.00	ug/L	100
122) hexachloroethane	17.039	119	91975	50.00	ug/L	100
123) Benzyl chloride	16.546	91	295695	50.00	ug/L	100

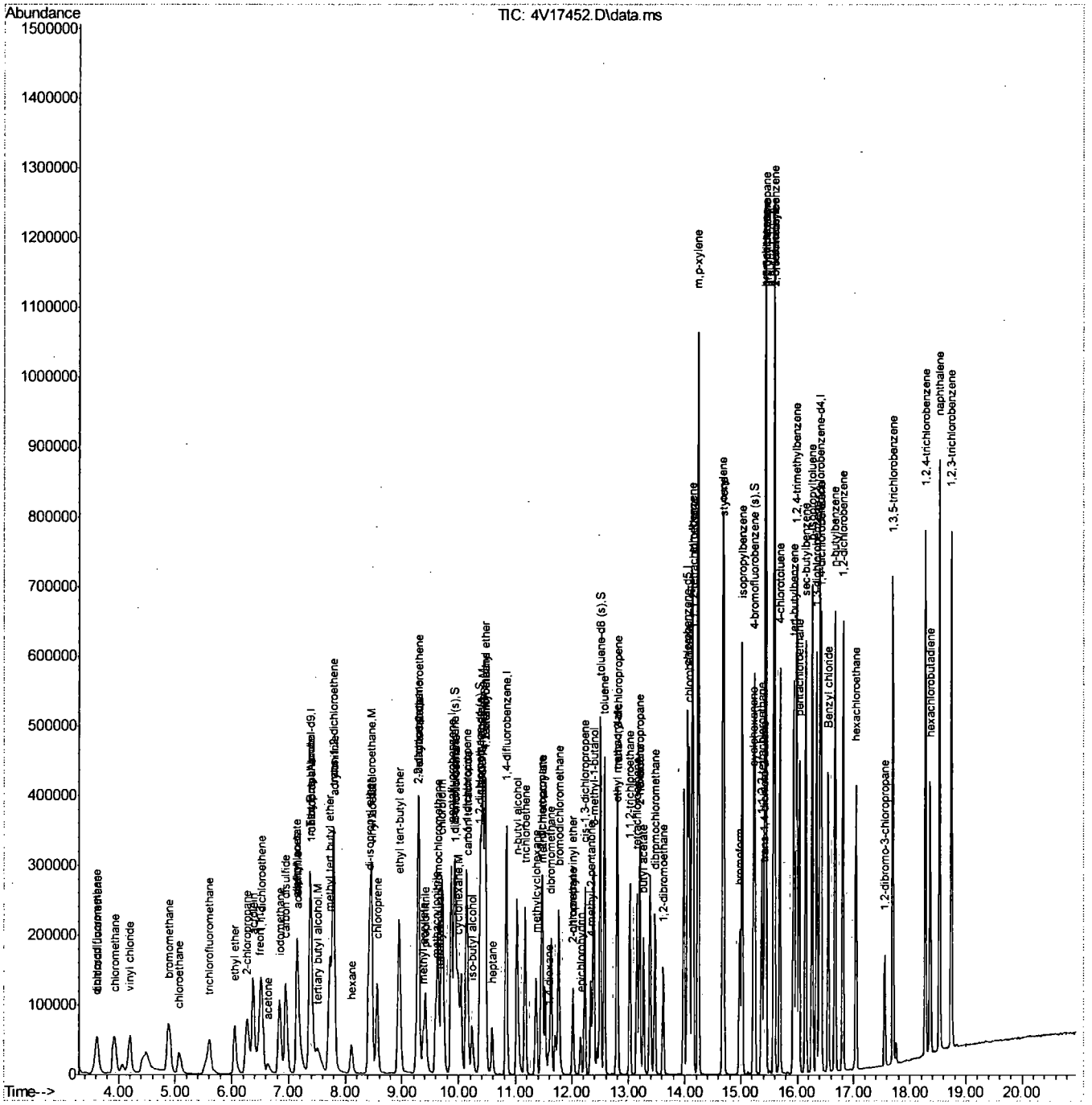
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.6.8

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17452.D
Acq On : 7 May 2015 10:49 pm
Operator : jemimam
Sample : icc709-50
Misc : MS84599,V4V709,5,,,,1
ALS Vial : 20 Sample Multiplier: 1

Quant Time: May 08 15:08:49 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 09:00:58 2015
Response via : Initial Calibration



7.6.8

Manual Integrations APPROVED (compounds with "m" flag)
Jessica Reitan-Chu
05/12/15 17:14

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17453.D
Acq On : 7 May 2015 11:16 pm
Operator : jemimam
Sample : ic709-100
Misc : MS84599,V4V709,5,,,,1
ALS Vial : 21 Sample Multiplier: 1

Quant Time: May 08 15:08:56 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 09:00:58 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.382	65	212234	500.00	ug/L	0.00
4) pentafluorobenzene	9.867	168	260554	50.00	ug/L	0.00
51) 1,4-difluorobenzene	10.832	114	336465	50.00	ug/L	0.00
81) chlorobenzene-d5	14.045	117	276898	50.00	ug/L	0.00
94) 1,4-dichlorobenzene-d4	16.400	152	166900	50.00	ug/L	0.00
System Monitoring Compounds						
45) dibromofluoromethane (s)	9.924	113	128226	50.04	ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 100.08%			
46) 1,2-dichloroethane-d4 (s)	10.365	65	132961	50.39	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 100.78%			
73) toluene-d8 (s)	12.499	98	363395	49.71	ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 99.42%			
96) 4-bromofluorobenzene (s)	15.241	95	151172	49.97	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 99.94%			
Target Compounds						Qvalue
2) 1,4-dioxane	11.586	88	78374	2443.01	ug/L	98
3) tertiary butyl alcohol	7.523	59	210613	464.46	ug/L	89
6) chlorodifluoromethane	3.612	51	184307	97.08	ug/L	98
7) dichlorodifluoromethane	3.601	85	149046	88.81	ug/L	96
9) chloromethane	3.926	50	269552	97.61	ug/L	100
10) vinyl chloride	4.194	62	241559	96.28	ug/L	99
11) bromomethane	4.886	94	210335	91.77	ug/L	98
12) chloroethane	5.064	64	106687	90.56	ug/L	100
13) trichlorofluoromethane	5.599	101	219943	93.52	ug/L	98
14) ethyl ether	6.055	74	98902m	97.61	ug/L	
16) 2-chloropropane	6.270	43	274086	96.12	ug/L	96
17) acrolein	6.375	56	422531	983.06	ug/L	94
18) 1,1-dichloroethene	6.522	61	275067	95.99	ug/L	98
19) acetone	6.632	58	20684	101.34	ug/L	91
20) allyl chloride	7.140	76	87374	96.33	ug/L	91
21) acetonitrile	7.161	40	201522	953.25	ug/L	91
22) iodomethane	6.836	142	457998	97.78	ug/L	97
23) iso-butyl alcohol	10.234	41	93684	968.28	ug/L	98
24) carbon disulfide	6.946	76	671217	96.25	ug/L	99
25) methylene chloride	7.376	84	245222	97.83	ug/L	100
26) 1-chloropropane	7.387	41	84394	96.00	ug/L	98
27) methyl acetate	7.151	74	34490	97.46	ug/L	88
28) methyl tert butyl ether	7.733	73	740656	98.09	ug/L	100
29) trans-1,2-dichloroethene	7.785	61	279404	97.15	ug/L	100
30) di-isopropyl ether	8.420	45	615334	96.49	ug/L	99
31) ethyl tert-butyl ether	8.949	59	683871	97.25	ug/L	99
32) 2-butanone	9.280	72	25277	102.87	ug/L	53
33) 1,1-dichloroethane	8.456	63	363932	96.79	ug/L	99
34) chloroprene	8.556	53	214298	94.68	ug/L	99
35) acrylonitrile	7.796	53	378520	487.46	ug/L	97
36) vinyl acetate	8.462	86	29438	95.27	ug/L	98
37) ethyl acetate	9.290	45	25378	96.19	ug/L	95

7.6.9 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17453.D
Acq On : 7 May 2015 11:16 pm
Operator : jemimam
Sample : ic709-100
Misc : MS84599,V4V709,5,,,,1
ALS Vial : 21 Sample Multiplier: 1

Quant Time: May 08 15:08:56 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 09:00:58 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
38) 2,2-dichloropropane	9.274	77	329368	96.97	ug/L		98
39) cis-1,2-dichloroethene	9.285	96	226509	98.15	ug/L		99
40) propionitrile	9.411	54	308479	996.08	ug/L		96
41) methyl acrylate	9.369	55	216284	99.25	ug/L	#	98
42) bromochloromethane	9.631	128	122624	99.17	ug/L		97
43) tetrahydrofuran	9.657	42	72917	98.18	ug/L		99
44) chloroform	9.704	83	393112	97.45	ug/L		100
47) freon 113	6.490	151	73309	87.64	ug/L		95
48) methacrylonitrile	9.594	41	114473	99.96	ug/L		99
49) 1,1,1-trichloroethane	9.935	97	334733	96.50	ug/L		99
50) tert-amyl methyl ether	10.454	73	656577	97.26	ug/L		98
52) epichlorohydrin	12.153	57	92941	495.56	ug/L		99
53) n-butyl alcohol	11.020	56	374396	4833.27	ug/L		99
54) cyclohexane	9.987	84	146104	91.10	ug/L		98
55) carbon tetrachloride	10.145	117	274083	94.71	ug/L		96
56) 1,1-dichloropropene	10.129	75	203862	95.29	ug/L		98
57) hexane	8.105	57	58195	87.61	ug/L		99
58) benzene	10.412	78	704635	96.34	ug/L		99
59) isooctane	10.391	57	272939	89.38	ug/L		99
60) heptane	10.585	57	33022	86.84	ug/L		97
61) isopropyl acetate	10.375	43	390895	94.33	ug/L		99
62) 1,2-dichloroethane	10.464	62	287477	96.13	ug/L		99
63) trichloroethene	11.167	95	179661	96.97	ug/L		99
65) 2-nitropropane	12.016	43	118175	99.76	ug/L		95
66) 2-chloroethyl vinyl ether	12.016	63	82521	506.15	ug/L		97
67) methyl methacrylate	11.476	69	125298	98.05	ug/L		99
68) 1,2-dichloropropane	11.455	63	178883	96.46	ug/L		100
69) methylcyclohexane	11.366	83	128666	87.86	ug/L		97
70) dibromomethane	11.628	93	141305	96.23	ug/L		97
71) bromodichloromethane	11.765	83	290209	96.73	ug/L		99
72) cis-1,3-dichloropropene	12.226	75	308657	97.47	ug/L		100
74) 4-methyl-2-pentanone	12.331	58	80310	97.01	ug/L		97
75) toluene	12.572	92	390798	97.07	ug/L		99
76) 3-methyl-1-butanol	12.378	70	138408	1938.29	ug/L		96
77) trans-1,3-dichloropropene	12.803	75	300493	97.54	ug/L		99
78) ethyl methacrylate	12.787	69	231651	98.55	ug/L		98
79) 1,1,2-trichloroethane	13.018	83	151403	97.26	ug/L		98
80) 2-hexanone	13.196	58	73113	97.39	ug/L		98
82) tetrachloroethene	13.154	166	155788	99.49	ug/L		98
83) 1,3-dichloropropane	13.201	76	265619	99.60	ug/L		98
84) butyl acetate	13.264	56	112003	95.87	ug/L		96
85) dibromochloromethane	13.469	129	246910	100.00	ug/L		99
86) 1,2-dibromoethane	13.616	107	207106	99.91	ug/L		98
87) chlorobenzene	14.077	112	484267	99.08	ug/L		99
88) 1,1,1,2-tetrachloroethane	14.145	131	233933	101.89	ug/L		100
89) ethylbenzene	14.129	91	800657	99.43	ug/L		100
90) m,p-xylene	14.239	106	590009	196.13	ug/L		99
91) o-xylene	14.675	106	327777	100.49	ug/L		99
92) styrene	14.690	104	541589	99.92	ug/L		99
93) bromoform	14.979	173	191105	100.08	ug/L		98

7.6.9 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17453.D
Acq On : 7 May 2015 11:16 pm
Operator : jemimam
Sample : ic709-100
Misc : MS84599,V4V709,5,,,,1
ALS Vial : 21 Sample Multiplier: 1

Quant Time: May 08 15:08:56 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 09:00:58 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
95) isopropylbenzene	15.021	105	836098	99.17 ug/L	99
97) bromobenzene	15.435	156	244046	98.44 ug/L	97
98) cyclohexanone	15.225	55	231574	1055.45 ug/L	99
99) 1,1,2,2-tetrachloroethane	15.372	83	303027	96.83 ug/L	99
100) trans-1,4-dichloro-2-b...	15.409	53	78998	98.65 ug/L	98
101) 1,2,3-trichloropropane	15.440	110	71891	96.82 ug/L	100
102) n-propylbenzene	15.440	91	931725	96.55 ug/L	99
103) 2-chlorotoluene	15.592	126	212573	99.41 ug/L	98
104) 4-chlorotoluene	15.692	91	654747	99.54 ug/L	99
105) 1,3,5-trimethylbenzene	15.592	105	779772	99.94 ug/L	98
106) tert-butylbenzene	15.938	119	590850	101.69 ug/L	98
107) pentachloroethane	16.033	167	188046	102.72 ug/L	98
108) 1,2,4-trimethylbenzene	15.985	105	795855	99.51 ug/L	96
109) sec-butylbenzene	16.148	105	900305	100.21 ug/L	99
110) 1,3-dichlorobenzene	16.342	146	469538	99.42 ug/L	99
111) p-isopropyltoluene	16.263	119	798274	99.64 ug/L	99
112) 1,4-dichlorobenzene	16.426	146	478090	99.36 ug/L	99
114) 1,2-dichlorobenzene	16.809	146	491874	99.12 ug/L	98
115) n-butylbenzene	16.667	92	396167	98.22 ug/L	100
116) 1,2-dibromo-3-chloropr...	17.558	157	85548	98.54 ug/L	92
117) 1,3,5-trichlorobenzene	17.700	180	420080	99.72 ug/L	99
118) 1,2,4-trichlorobenzene	18.277	180	424988	101.88 ug/L	99
119) hexachlorobutadiene	18.360	225	157505	100.41 ug/L	99
120) naphthalene	18.528	128	1199829	100.68 ug/L	100
121) 1,2,3-trichlorobenzene	18.738	180	434497	101.96 ug/L	100
122) hexachloroethane	17.039	119	188968	102.96 ug/L	100
123) Benzyl chloride	16.546	91	560734	95.03 ug/L	99

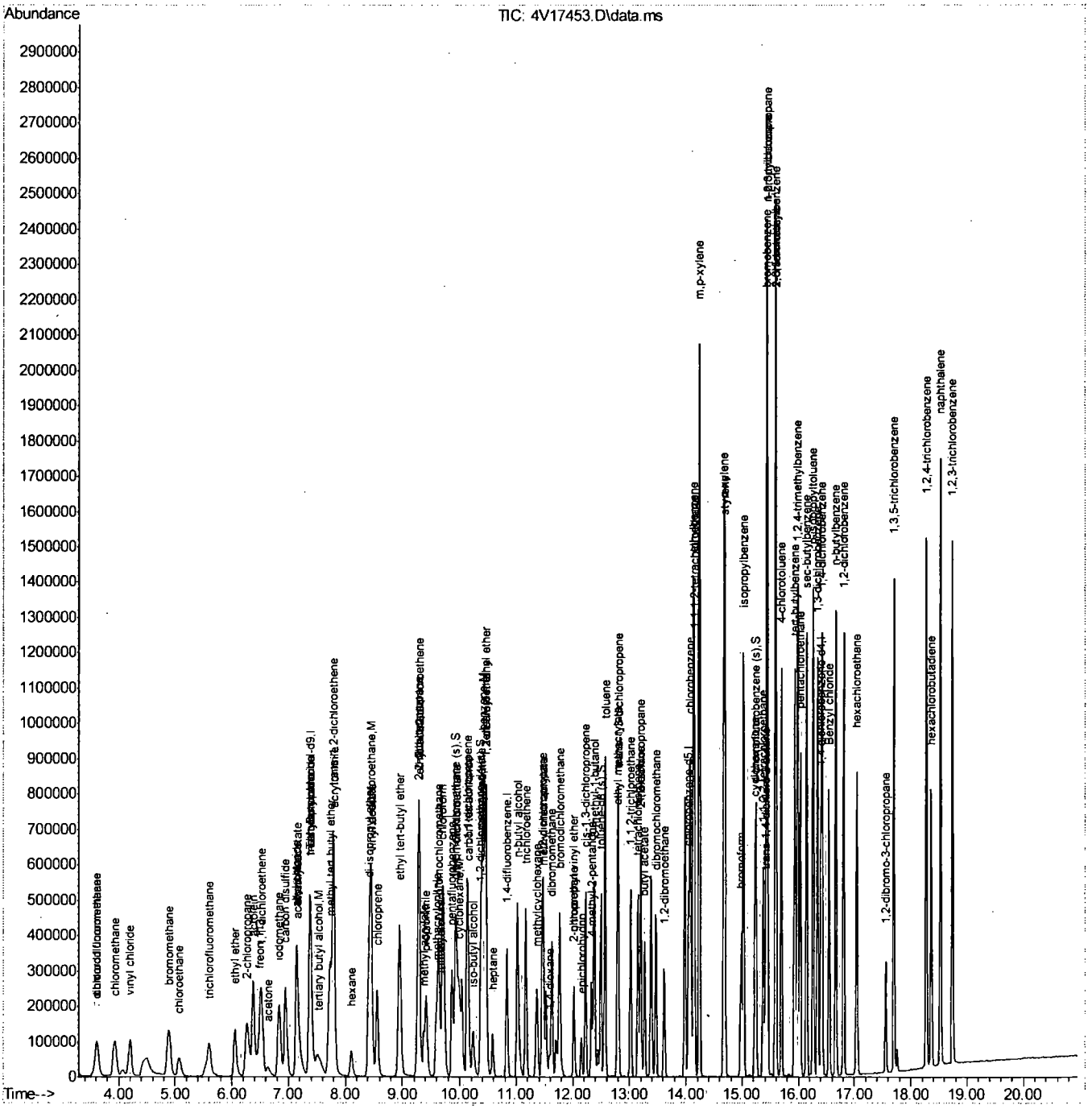
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.6.9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17453.D
Acq On : 7 May 2015 11:16 pm
Operator : jemimam
Sample : ic709-100
Misc : MS84599,V4V709,5,,,,1
ALS Vial : 21 Sample Multiplier: 1

Quant Time: May 08 15:08:56 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 09:00:58 2015
Response via : Initial Calibration



7.6.9

ACCUTEST LABORATORIES JB94786

Manual Integration Approval Summary

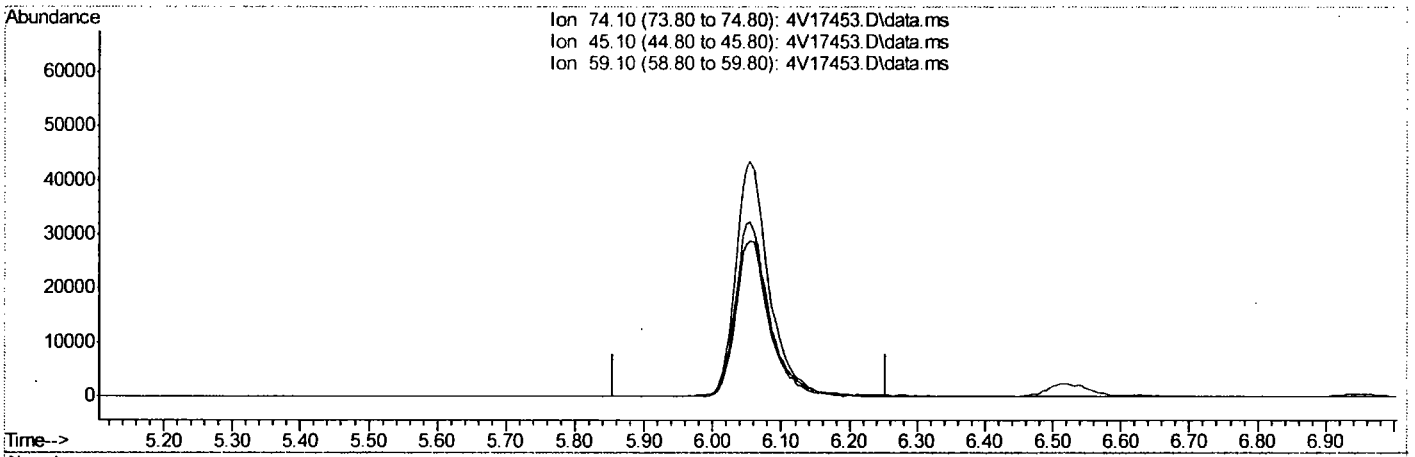
Sample Number:	V4V709-IC709	**Method:**	SW846 8260C
Lab FileID:	4V17453.D	**Analyst approved:**	05/08/15 15:34 Juntae Park
Injection Time:	05/07/15 23:16	**Supervisor approved:**	05/12/15 17:14 Jessica Reitan-Chu

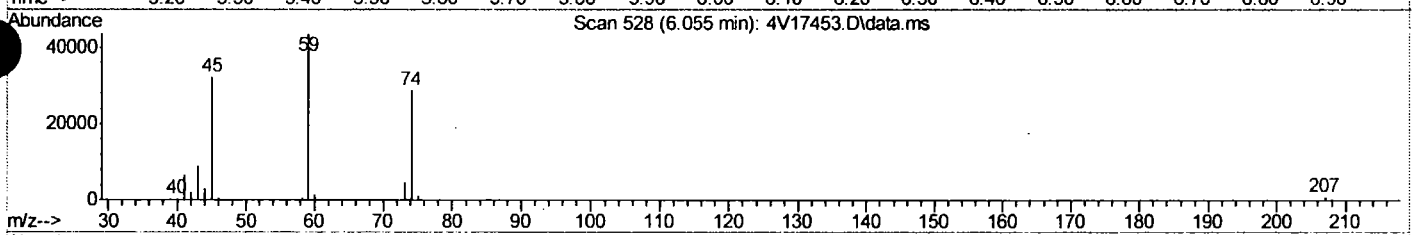
Parameter	CAS	Sig#	R.T. (min.)	Reason
Ethyl Ether	60-29-7		6.06	Poorly defined baseline

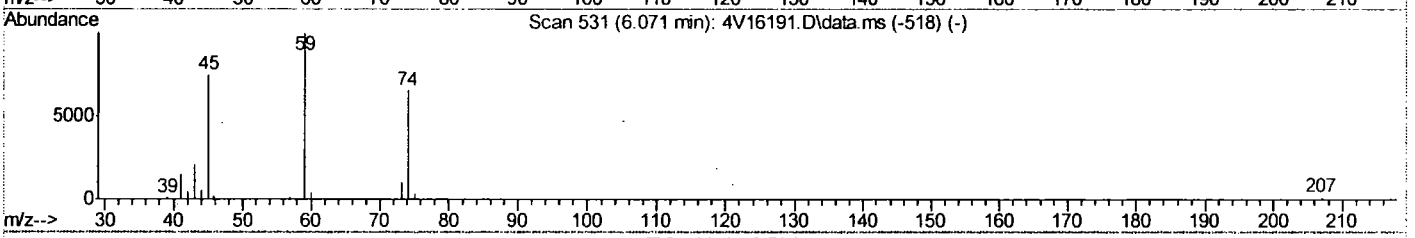
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17453.D
Acq On : 7 May 2015 11:16 pm
Operator : jemimam
Sample : ic709-100
Misc : MS84599,V4V709,5,,,,1
ALS Vial : 21 Sample Multiplier: 1

Quant Time: May 08 09:02:02 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 09:00:58 2015
Response via : Initial Calibration







TIC: 4V17453.D\data.ms

(14) ethyl ether

6.055min (-6.055) 0.00ug/L

response 0

Ion	Exp%	Act%
74.10	100	0.00
45.10	110.60	0.00#
59.10	149.60	0.00#
0.00	0.00	0.00

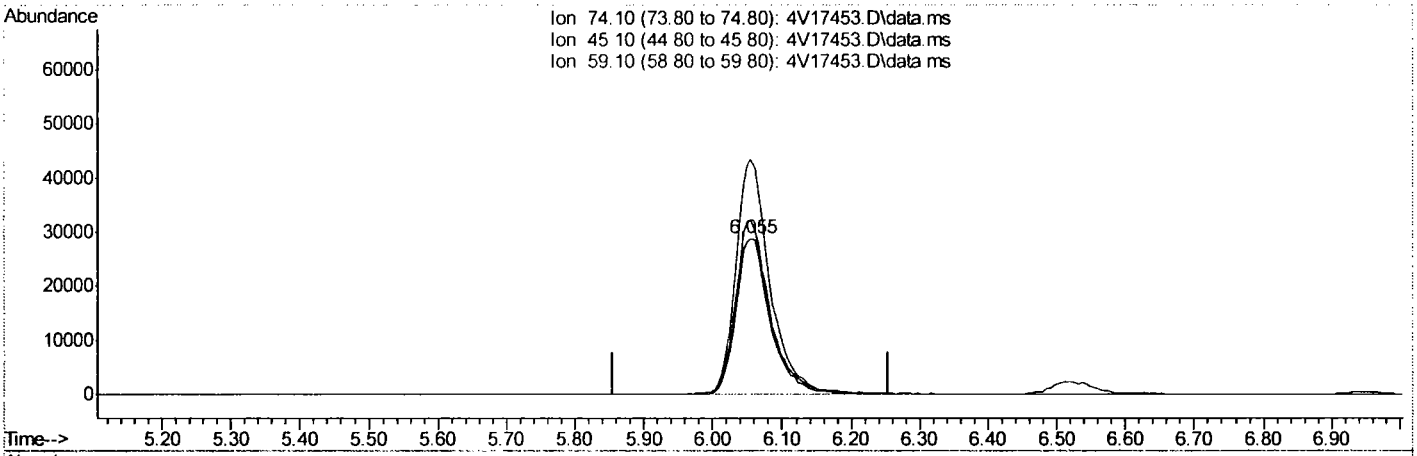
ACCUTEST LABORATORIES JB94786

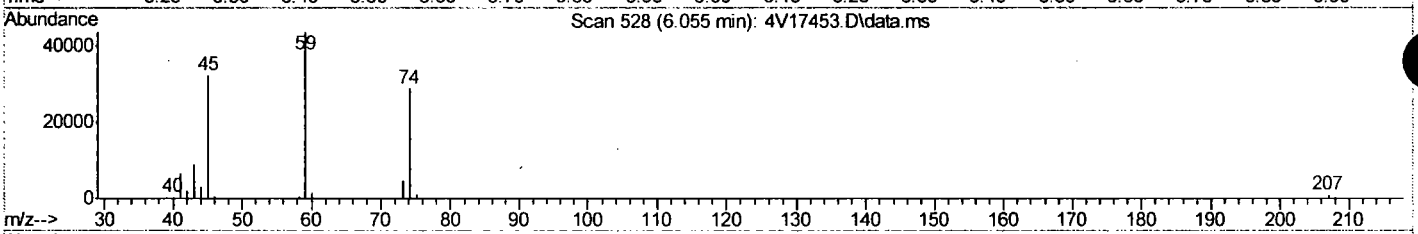
4V17453.D edits: ethyl ether

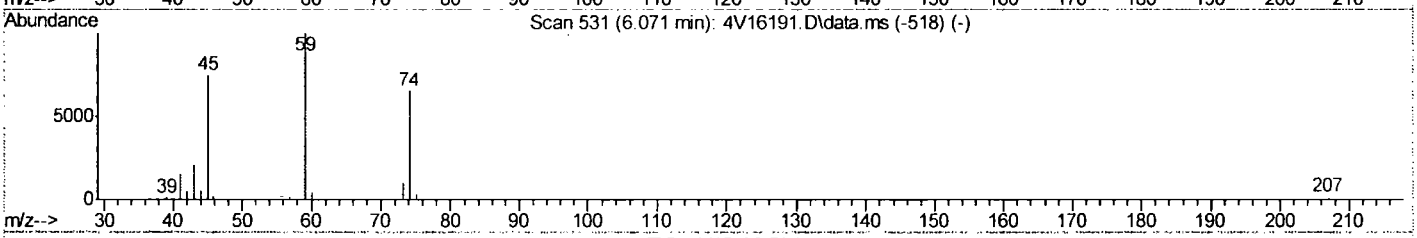
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17453.D
Acq On : 7 May 2015 11:16 pm
Operator : jemimam
Sample : ic709-100
Misc : MS84599,V4V709,5,,,,1
ALS Vial : 21 Sample Multiplier: 1

Quant Time: May 08 09:02:02 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 09:00:58 2015
Response via : Initial Calibration







TIC: 4V17453.D\data.ms

(14) ethyl ether

6.055min (-0.000) 97.61ug/L m

response 98902

Ion	Exp%	Act%
74.10	100	100
45.10	110.60	112.26
59.10	149.60	151.05
0.00	0.00	0.00

7.6.9.3

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17454.D
Acq On : 7 May 2015 11:42 pm
Operator : jemimam
Sample : ic709-200
Misc : MS84599,V4V709,5,,,,1
ALS Vial : 22 Sample Multiplier: 1

Quant Time: May 08 15:09:27 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 09:00:58 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Tert Butyl Alcohol-d9	7.397	65	234680	500.00	ug/L		0.02
4) pentafluorobenzene	9.872	168	292296	50.00	ug/L		0.00
51) 1,4-difluorobenzene	10.837	114	378494	50.00	ug/L		0.00
81) chlorobenzene-d5	14.045	117	313819	50.00	ug/L		0.00
94) 1,4-dichlorobenzene-d4	16.400	152	187640	50.00	ug/L		0.00
System Monitoring Compounds							
45) dibromofluoromethane (s)	9.924	113	147157	51.20	ug/L		0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 102.40%				
46) 1,2-dichloroethane-d4 (s)	10.370	65	149265	50.43	ug/L		0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 100.86%				
73) toluene-d8 (s)	12.499	98	407675	49.57	ug/L		0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 99.14%				
96) 4-bromofluorobenzene (s)	15.241	95	167442	49.23	ug/L		0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 98.46%				
Target Compounds							Qvalue
2) 1,4-dioxane	11.586	88	174165	4909.67	ug/L		95
3) tertiary butyl alcohol	7.534	59	460918	919.23	ug/L		90
6) chlorodifluoromethane	3.627	51	407307	191.25	ug/L		99
7) dichlorodifluoromethane	3.612	85	334449	177.65	ug/L		99
9) chloromethane	3.953	50	627117	202.44	ug/L		99
10) vinyl chloride	4.220	62	550536	195.60	ug/L		98
11) bromomethane	4.902	94	445243	173.17	ug/L		99
12) chloroethane	5.069	64	221428	167.55	ug/L		99
13) trichlorofluoromethane	5.604	101	506513	191.98	ug/L		98
14) ethyl ether	6.060	74	222617	195.86	ug/L		96
16) 2-chloropropane	6.280	43	623161	194.81	ug/L		96
17) acrolein	6.385	56	975325	2022.77	ug/L		96
18) 1,1-dichloroethene	6.532	61	637796	198.40	ug/L		97
19) acetone	6.642	58	47827	208.87	ug/L	#	84
20) allyl chloride	7.146	76	193688	190.34	ug/L		89
21) acetonitrile	7.172	40	450609	1900.02	ug/L		89
22) iodomethane	6.847	142	1027680	195.58	ug/L		98
23) iso-butyl alcohol	10.234	41	212386	1956.75	ug/L		95
24) carbon disulfide	6.957	76	1549462	198.06	ug/L		99
25) methylene chloride	7.381	84	559530	198.98	ug/L		98
26) 1-chloropropane	7.397	41	199892	202.68	ug/L		98
27) methyl acetate	7.156	74	80212	202.04	ug/L	#	79
28) methyl tert butyl ether	7.738	73	1624837	191.83	ug/L		99
29) trans-1,2-dichloroethene	7.790	61	628084	194.67	ug/L		100
30) di-isopropyl ether	8.425	45	1375882	192.33	ug/L		96
31) ethyl tert-butyl ether	8.954	59	1531774	194.17	ug/L		100
32) 2-butanone	9.279	72	57094	207.13	ug/L		57
33) 1,1-dichloroethane	8.456	63	819699	194.32	ug/L		98
34) chloroprene	8.561	53	508197	200.15	ug/L		99
35) acrylonitrile	7.801	53	871454	1000.39	ug/L		99
36) vinyl acetate	8.462	86	68785	198.43	ug/L		73
37) ethyl acetate	9.295	45	57490	194.24	ug/L		84

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17454.D
Acq On : 7 May 2015 11:42 pm
Operator : jemimam
Sample : ic709-200
Misc : MS84599,V4V709,5,,,,1
ALS Vial : 22 Sample Multiplier: 1

Quant Time: May 08 15:09:27 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 09:00:58 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
38) 2,2-dichloropropane	9.279	77	707381	185.65	ug/L	99
39) cis-1,2-dichloroethene	9.285	96	515296	199.05	ug/L	99
40) propionitrile	9.416	54	716225	2061.54	ug/L	95
41) methyl acrylate	9.374	55	489189	200.10	ug/L	99
42) bromochloromethane	9.636	128	278680	200.89	ug/L	96
43) tetrahydrofuran	9.662	42	166452	199.78	ug/L	100
44) chloroform	9.704	83	884243	195.39	ug/L	99
47) freon 113	6.501	151	165365	176.23	ug/L	98
48) methacrylonitrile	9.594	41	263257	204.92	ug/L	99
49) 1,1,1-trichloroethane	9.945	97	737416	189.51	ug/L	99
50) tert-amyl methyl ether	10.459	73	1502583	198.41	ug/L	98
52) epichlorohydrin	12.153	57	218297	1034.70	ug/L	97
53) n-butyl alcohol	11.025	56	850579	9761.25	ug/L	98
54) cyclohexane	9.993	84	333726	184.98	ug/L	97
55) carbon tetrachloride	10.150	117	609398	187.19	ug/L	98
56) 1,1-dichloropropene	10.129	75	460859	191.49	ug/L	98
57) hexane	8.110	57	135653	181.55	ug/L	98
58) benzene	10.417	78	1594224	193.77	ug/L	100
59) isooctane	10.391	57	630949	183.67	ug/L	98
60) heptane	10.585	57	78374	183.22	ug/L	97
61) isopropyl acetate	10.381	43	889955	190.91	ug/L	99
62) 1,2-dichloroethane	10.464	62	635788	189.00	ug/L	99
63) trichloroethene	11.172	95	410170	196.81	ug/L	98
65) 2-nitropropane	12.016	43	278715	209.17	ug/L	93
66) 2-chloroethyl vinyl ether	12.016	63	206382	1125.29	ug/L	99
67) methyl methacrylate	11.476	69	275972	191.98	ug/L	98
68) 1,2-dichloropropane	11.461	63	398857	191.20	ug/L	99
69) methylcyclohexane	11.366	83	307302	186.54	ug/L	97
70) dibromomethane	11.628	93	315772	191.16	ug/L	98
71) bromodichloromethane	11.765	83	646318	191.51	ug/L	99
72) cis-1,3-dichloropropene	12.226	75	687846	193.09	ug/L	99
74) 4-methyl-2-pentanone	12.331	58	182697	196.19	ug/L	98
75) toluene	12.572	92	876247	193.48	ug/L	98
76) 3-methyl-1-butanol	12.378	70	311291	3875.30	ug/L	97
77) trans-1,3-dichloropropene	12.803	75	652358	188.24	ug/L	99
78) ethyl methacrylate	12.787	69	500873	189.43	ug/L	98
79) 1,1,2-trichloroethane	13.023	83	332740	190.00	ug/L	96
80) 2-hexanone	13.196	58	157986	187.07	ug/L	100
82) tetrachloroethene	13.154	166	355708	200.44	ug/L	98
83) 1,3-dichloropropane	13.201	76	577914	191.21	ug/L	98
84) butyl acetate	13.264	56	241340	182.28	ug/L	100
85) dibromochloromethane	13.469	129	551111	196.94	ug/L	99
86) 1,2-dibromoethane	13.615	107	457271	194.63	ug/L	98
87) chlorobenzene	14.077	112	1083285	195.56	ug/L	99
88) 1,1,1,2-tetrachloroethane	14.150	131	527333	202.67	ug/L	99
89) ethylbenzene	14.129	91	1765915	193.49	ug/L	99
90) m,p-xylene	14.239	106	1304880	382.73	ug/L	99
91) o-xylene	14.675	106	730658	197.66	ug/L	99
92) styrene	14.690	104	1187756	193.35	ug/L	99
93) bromoform	14.979	173	422989	195.46	ug/L	100

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17454.D
Acq On : 7 May 2015 11:42 pm
Operator : jemimam
Sample : ic709-200
Misc : MS84599,V4V709,5,,,,1
ALS Vial : 22 Sample Multiplier: 1

Quant Time: May 08 15:09:27 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 09:00:58 2015
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
95)	isopropylbenzene	15.021	105	1884964	198.87	ug/L	99
97)	bromobenzene	15.435	156	528886	189.76	ug/L	96
98)	cyclohexanone	15.225	55	502920	2038.82	ug/L	98
99)	1,1,2,2-tetrachloroethane	15.372	83	669949	190.41	ug/L	98
100)	trans-1,4-dichloro-2-b...	15.409	53	172733	191.86	ug/L	99
101)	1,2,3-trichloropropane	15.440	110	156105	187.01	ug/L	99
102)	n-propylbenzene	15.440	91	2054756	189.40	ug/L	99
103)	2-chlorotoluene	15.592	126	466405	194.01	ug/L	99
104)	4-chlorotoluene	15.692	91	1401980	189.58	ug/L	99
105)	1,3,5-trimethylbenzene	15.592	105	1744535	198.88	ug/L	98
106)	tert-butylbenzene	15.933	119	1341100	205.31	ug/L	100
107)	pentachloroethane	16.032	167	426237	207.09	ug/L	97
108)	1,2,4-trimethylbenzene	15.985	105	1759423	195.68	ug/L	96
109)	sec-butylbenzene	16.148	105	2013886	199.38	ug/L	100
110)	1,3-dichlorobenzene	16.342	146	1027743	193.55	ug/L	99
111)	p-isopropyltoluene	16.263	119	1768878	196.38	ug/L	99
112)	1,4-dichlorobenzene	16.426	146	1045021	193.18	ug/L	99
114)	1,2-dichlorobenzene	16.808	146	1086182	194.68	ug/L	98
115)	n-butylbenzene	16.667	92	874957	192.95	ug/L	100
116)	1,2-dibromo-3-chloropr...	17.558	157	189741	194.40	ug/L	93
117)	1,3,5-trichlorobenzene	17.700	180	949200	200.43	ug/L	99
118)	1,2,4-trichlorobenzene	18.277	180	948831	202.31	ug/L	99
119)	hexachlorobutadiene	18.360	225	356722	202.27	ug/L	100
120)	naphthalene	18.528	128	2632486	196.48	ug/L	100
121)	1,2,3-trichlorobenzene	18.738	180	949501	198.18	ug/L	99
122)	hexachloroethane	17.039	119	446990	216.62	ug/L	98
123)	Benzyl chloride	16.546	91	1256837	189.46	ug/L	100

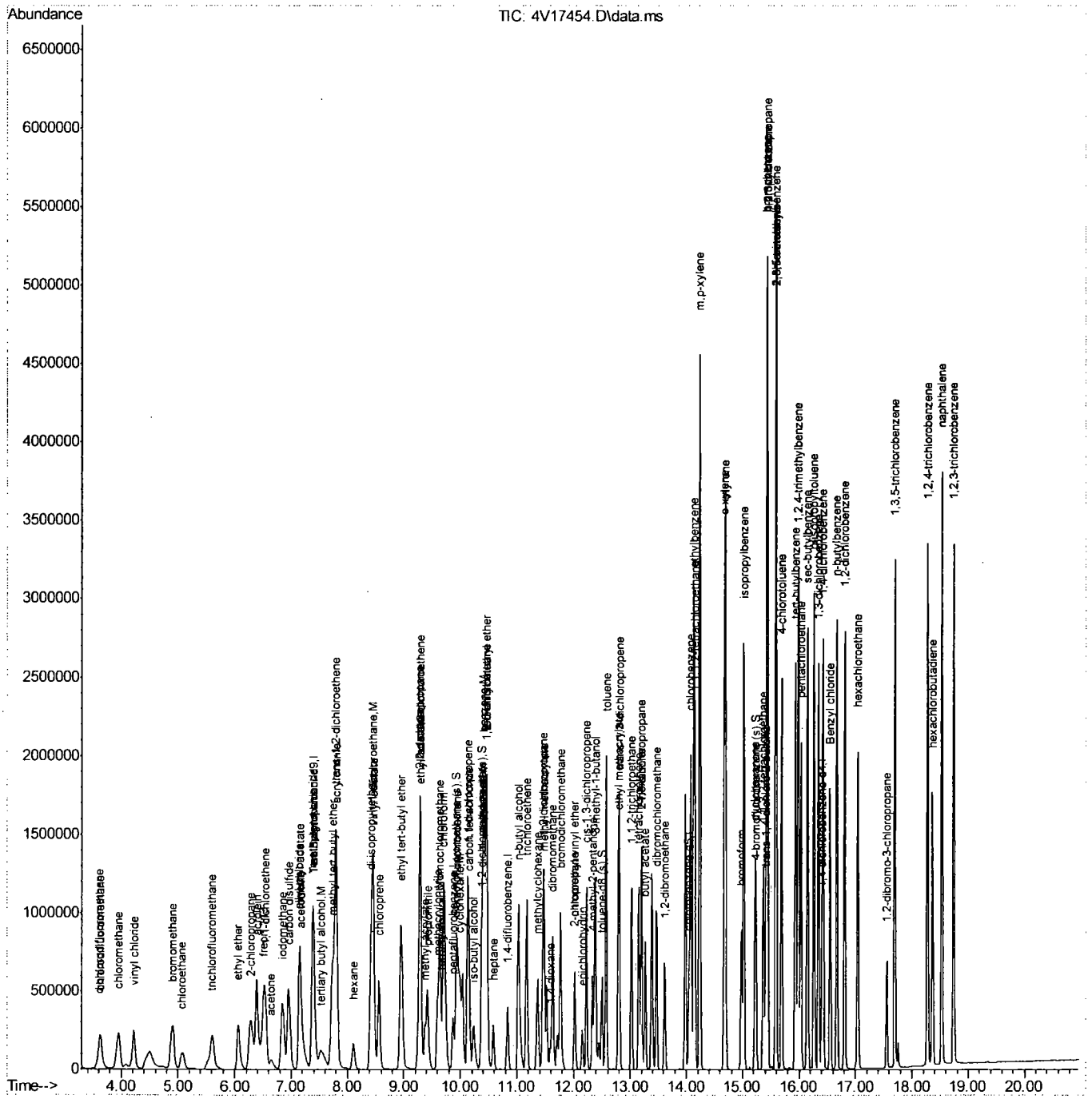
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.6.10 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17454.D
Acq On : 7 May 2015 11:42 pm
Operator : jemimam
Sample : ic709-200
Misc : MS84599,V4V709,5,,,,1
ALS Vial : 22 Sample Multiplier: 1

Quant Time: May 08 15:09:27 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 09:00:58 2015
Response via : Initial Calibration



7.6.10

ACCUTEST LABORATORIES
JB94786

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17457.D
Acq On : 8 May 2015 1:02 am
Operator : jemimam
Sample : icv709-50
Misc : MS84599,V4V709,5,,,,1
ALS Vial : 25 Sample Multiplier: 1

Quant Time: May 12 10:00:43 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Tue May 12 09:59:47 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Tert Butyl Alcohol-d9	7.382	65	218825	500.00	ug/L		0.00
4) pentafluorobenzene	9.872	168	269859	50.00	ug/L		0.00
51) 1,4-difluorobenzene	10.832	114	344337	50.00	ug/L		0.00
81) chlorobenzene-d5	14.046	117	277178	50.00	ug/L		0.00
94) 1,4-dichlorobenzene-d4	16.400	152	176182	50.00	ug/L		0.00
System Monitoring Compounds							
45) dibromofluoromethane (s)	9.919	113	132669	50.20	ug/L		0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 100.40%				
46) 1,2-dichloroethane-d4 (s)	10.365	65	137502	50.48	ug/L		0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 100.96%				
73) toluene-d8 (s)	12.494	98	368765	49.51	ug/L		0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 99.02%				
96) 4-bromofluorobenzene (s)	15.241	95	155055	47.86	ug/L		0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 95.72%				
Target Compounds							Qvalue
2) 1,4-dioxane	11.587	88	38524	1211.64	ug/L		86
3) tertiary butyl alcohol	7.518	59	111749	254.76	ug/L		78
6) chlorodifluoromethane	3.628	51	92827	50.82	ug/L		99
7) dichlorodifluoromethane	3.612	85	76621	51.43	ug/L		98
9) chloromethane	3.927	50	133922	45.35	ug/L		97
10) vinyl chloride	4.199	62	125331	49.06	ug/L		99
11) bromomethane	4.886	94	114895	49.40	ug/L		99
12) chloroethane	5.075	64	64479	54.55	ug/L		99
13) trichlorofluoromethane	5.604	101	119320	54.09	ug/L		99
14) ethyl ether	6.055	74	54056	53.60	ug/L		98
16) 2-chloropropane	6.275	43	112622	39.46	ug/L		91
17) acrolein	6.375	56	240261	573.34	ug/L		98
18) 1,1-dichloroethene	6.517	61	143463	50.62	ug/L		99
19) acetone	6.642	58	10827	52.97	ug/L		86
20) allyl chloride	7.146	76	49736	55.36	ug/L		98
21) acetonitrile	7.156	40	106173	517.49	ug/L	#	82
22) iodomethane	6.836	142	231115	50.11	ug/L		97
23) iso-butyl alcohol	10.234	41	47405	509.78	ug/L		98
24) carbon disulfide	6.947	76	343450	49.50	ug/L		100
25) methylene chloride	7.377	84	127325	49.69	ug/L		99
26) 1-chloropropane	7.397	41	45251	48.70	ug/L		95
27) methyl acetate	7.146	74	17800	51.81	ug/L		92
28) methyl tert butyl ether	7.733	73	755590	98.01	ug/L		98
29) trans-1,2-dichloroethene	7.785	61	142237	49.96	ug/L		100
30) di-isopropyl ether	8.420	45	320927	53.82	ug/L		99
31) ethyl tert-butyl ether	8.944	59	348983	52.96	ug/L		99
32) 2-butanone	9.280	72	12866	51.96	ug/L		54
33) 1,1-dichloroethane	8.451	63	187833	51.49	ug/L		97
34) chloroprene	8.561	53	106187	49.33	ug/L		99
35) acrylonitrile	7.796	53	215265	280.65	ug/L		99
36) vinyl acetate	8.462	86	15752	52.93	ug/L		86
37) ethyl acetate	9.290	45	13649	51.69	ug/L		92

7.6.11

7

ACCUTEST LABORATORIES JB94786

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17457.D
Acq On : 8 May 2015 1:02 am
Operator : jemimam
Sample : icv709-50
Misc : MS84599,V4V709,5,,,,1
ALS Vial : 25 Sample Multiplier: 1

Quant Time: May 12 10:00:43 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Tue May 12 09:59:47 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
38) 2,2-dichloropropane	9.274	77	169769	48.22	ug/L	98
39) cis-1,2-dichloroethene	9.285	96	116004	45.09	ug/L	97
40) propionitrile	9.411	54	162642	526.57	ug/L	98
41) methyl acrylate	9.374	55	111812	51.43	ug/L	100
42) bromochloromethane	9.631	128	61955	51.74	ug/L	97
43) tetrahydrofuran	9.662	42	37599	50.70	ug/L	96
44) chloroform	9.704	83	202610	49.64	ug/L	98
47) freon 113	6.485	151	47195	59.90	ug/L	94
48) methacrylonitrile	9.589	41	59972	52.29	ug/L	99
49) 1,1,1-trichloroethane	9.940	97	174069	52.06	ug/L	99
50) tert-amyl methyl ether	10.454	73	339648	50.00	ug/L	98
52) epichlorohydrin	12.153	57	45954	251.96	ug/L	97
53) n-butyl alcohol	11.020	56	193798	2628.43	ug/L	99
54) cyclohexane	9.988	84	85958	56.72	ug/L	97
55) carbon tetrachloride	10.145	117	143066	50.45	ug/L	98
56) 1,1-dichloropropene	10.129	75	107468	52.26	ug/L	98
57) hexane	8.105	57	34101	54.53	ug/L	97
58) benzene	10.412	78	367537	50.97	ug/L	99
59) isooctane	10.391	57	160399	56.31	ug/L	99
60) heptane	10.585	57	21487	60.20	ug/L	99
61) isopropyl acetate	10.381	43	235818	57.66	ug/L	99
62) 1,2-dichloroethane	10.465	62	149167	52.13	ug/L	100
63) trichloroethene	11.167	95	93634	52.81	ug/L	99
65) 2-nitropropane	12.017	43	62895	54.46	ug/L	96
66) 2-chloroethyl vinyl ether	12.017	63	44902	293.56	ug/L	98
67) methyl methacrylate	11.477	69	65594	53.22	ug/L	96
68) 1,2-dichloropropane	11.461	63	93719	52.83	ug/L	99
69) methylcyclohexane	11.361	83	78473	56.44	ug/L	88
70) dibromomethane	11.629	93	73462	52.30	ug/L	99
71) bromodichloromethane	11.765	83	147283	50.74	ug/L	99
72) cis-1,3-dichloropropene	12.226	75	156049	51.36	ug/L	99
74) 4-methyl-2-pentanone	12.331	58	42138	51.48	ug/L	95
75) toluene	12.567	92	197248	50.19	ug/L	99
76) 3-methyl-1-butanol	12.378	70	69487	1024.29	ug/L	96
77) trans-1,3-dichloropropene	12.803	75	147197	49.80	ug/L	98
78) ethyl methacrylate	12.787	69	114489	50.48	ug/L	99
79) 1,1,2-trichloroethane	13.018	83	76317	49.65	ug/L	98
80) 2-hexanone	13.196	58	38537	51.58	ug/L	97
82) tetrachloroethene	13.154	166	79550	54.57	ug/L	99
83) 1,3-dichloropropane	13.202	76	133449	52.68	ug/L	99
84) butyl acetate	13.264	56	59332	55.26	ug/L	99
85) dibromochloromethane	13.469	129	120854	53.03	ug/L	99
86) 1,2-dibromoethane	13.616	107	103537	52.74	ug/L	99
87) chlorobenzene	14.077	112	244345	52.72	ug/L	99
88) 1,1,1,2-tetrachloroethane	14.145	131	116137	53.66	ug/L	99
89) ethylbenzene	14.130	91	397003	51.07	ug/L	100
90) m,p-xylene	14.240	106	297997	104.87	ug/L	98
91) o-xylene	14.675	106	164884	52.30	ug/L	100
92) styrene	14.691	104	272603	54.29	ug/L	98
93) bromoform	14.979	173	95415	52.68	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17457.D
Acq On : 8 May 2015 1:02 am
Operator : jemimam
Sample : icv709-50
Misc : MS84599,V4V709,5,,,,1
ALS Vial : 25 Sample Multiplier: 1

Quant Time: May 12 10:00:43 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Tue May 12 09:59:47 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
95) isopropylbenzene	15.021	105	418381	49.64	ug/L	99
97) bromobenzene	15.435	156	125230	48.50	ug/L	96
98) cyclohexanone	15.225	55	117636	435.10	ug/L	99
99) 1,1,2,2-tetrachloroethane	15.372	83	149950	46.36	ug/L	99
100) trans-1,4-dichloro-2-b...	15.414	53	42154	52.27	ug/L	94
101) 1,2,3-trichloropropane	15.440	110	36324	46.51	ug/L	97
102) n-propylbenzene	15.440	91	502331	51.07	ug/L	100
103) 2-chlorotoluene	15.592	126	106868	50.01	ug/L	97
104) 4-chlorotoluene	15.692	91	336296	49.45	ug/L	99
105) 1,3,5-trimethylbenzene	15.592	105	381357	48.23	ug/L	97
106) tert-butylbenzene	15.933	119	296474	51.62	ug/L	98
107) pentachloroethane	16.033	167	94075	51.72	ug/L	97
108) 1,2,4-trimethylbenzene	15.980	105	420557	51.40	ug/L	98
109) sec-butylbenzene	16.148	105	453945	50.80	ug/L	99
110) 1,3-dichlorobenzene	16.342	146	241091	50.35	ug/L	99
111) p-isopropyltoluene	16.263	119	407726	49.80	ug/L	99
112) 1,4-dichlorobenzene	16.426	146	249508	50.25	ug/L	98
114) 1,2-dichlorobenzene	16.809	146	256420	50.31	ug/L	98
115) n-butylbenzene	16.667	92	211381	52.23	ug/L	97
116) 1,2-dibromo-3-chloropr...	17.553	157	45031	49.30	ug/L	98
117) 1,3,5-trichlorobenzene	17.700	180	222508	52.68	ug/L	100
118) 1,2,4-trichlorobenzene	18.277	180	218352	53.03	ug/L	99
119) hexachlorobutadiene	18.361	225	79902	48.23	ug/L	97
120) naphthalene	18.528	128	617706	50.02	ug/L	99
121) 1,2,3-trichlorobenzene	18.738	180	220871	52.30	ug/L	99
122) hexachloroethane	17.039	119	94003	47.65	ug/L	100
123) Benzyl chloride	16.547	91	307172	49.12	ug/L	100

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

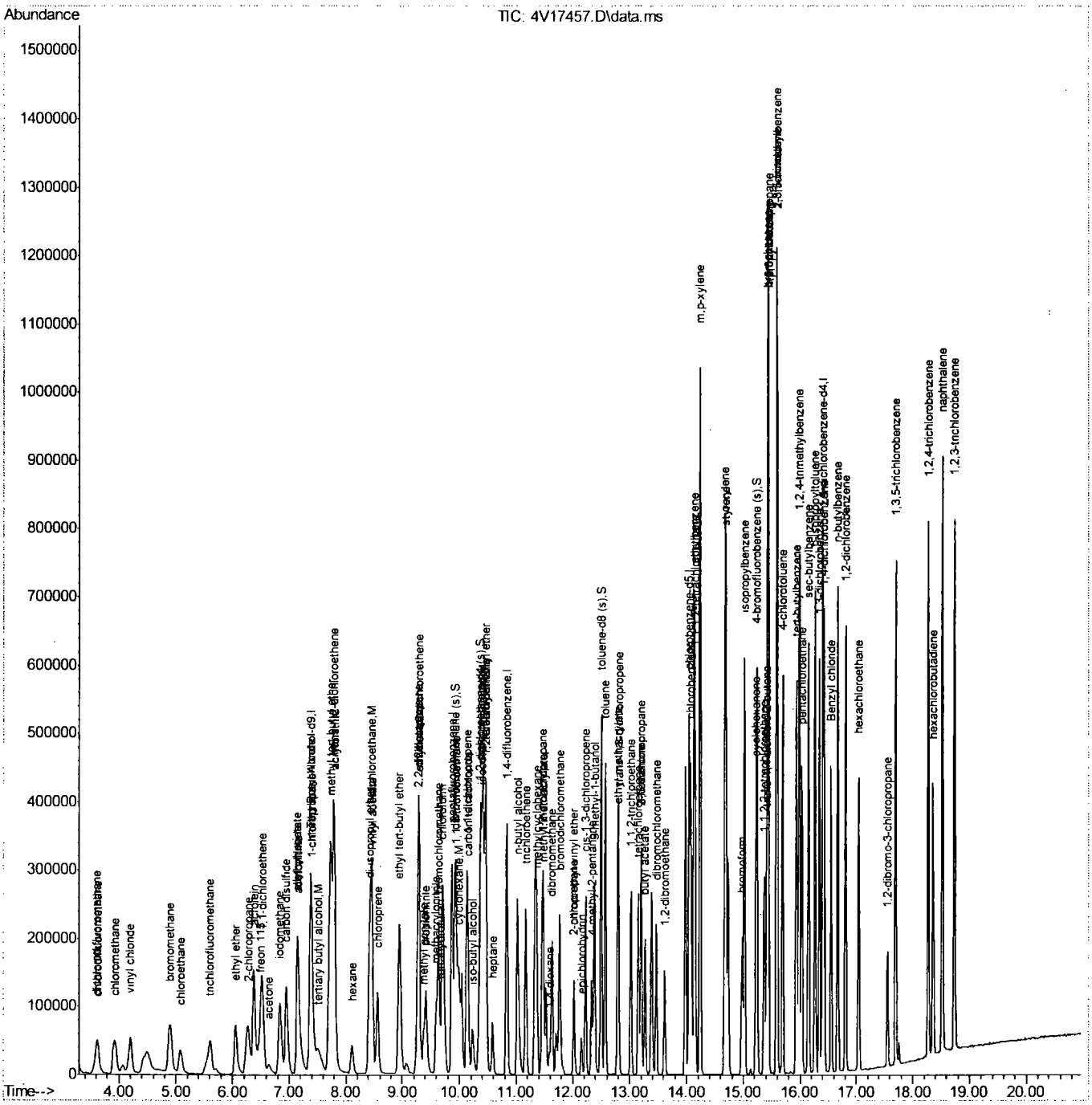
7.6.11

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17457.D
Acq On : 8 May 2015 1:02 am
Operator : jemimam
Sample : icv709-50
Misc : MS84599,V4V709,5,,,,1
ALS Vial : 25 Sample Multiplier: 1

Quant Time: May 12 10:00:43 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Tue May 12 09:59:47 2015
Response via : Initial Calibration



ACCUTEST LABORATORIES JB94786

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17803.D
Acq On : 20 May 2015 9:38 am
Operator : jemimam
Sample : cc709-20
Misc : MS85394,V4V723,5,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 21 12:03:39 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Tue May 12 09:59:47 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Tert Butyl Alcohol-d9	7.382	65	239998	500.00	ug/L		0.00
4) pentafluorobenzene	9.867	168	294816	50.00	ug/L		0.00
51) 1,4-difluorobenzene	10.826	114	388826	50.00	ug/L		0.00
81) chlorobenzene-d5	14.040	117	327283	50.00	ug/L		0.00
94) 1,4-dichlorobenzene-d4	16.394	152	194193	50.00	ug/L		0.00
System Monitoring Compounds							
45) dibromofluoromethane (s)	9.914	113	148589	51.46	ug/L		0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 102.92%				
46) 1,2-dichloroethane-d4 (s)	10.360	65	140030	47.05	ug/L		0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 94.10%				
73) toluene-d8 (s)	12.494	98	413098	49.12	ug/L		0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 98.24%				
96) 4-bromofluorobenzene (s)	15.236	95	177253	49.63	ug/L		0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 99.26%				
Target Compounds							Qvalue
2) 1,4-dioxane	11.581	88	17162	492.15	ug/L		85
3) tertiary butyl alcohol	7.513	59	47216	98.14	ug/L		87
6) chlorodifluoromethane	3.628	51	36828	18.46	ug/L		99
7) dichlorodifluoromethane	3.622	85	27483	16.89	ug/L		95
9) chloromethane	3.927	50	50788	15.74	ug/L		97
10) vinyl chloride	4.210	62	44951	16.11	ug/L		98
11) bromomethane	4.891	94	45454	17.89	ug/L		96
12) chloroethane	5.075	64	23979	18.57	ug/L		95
13) trichlorofluoromethane	5.604	101	42350	17.57	ug/L		99
14) ethyl ether	6.055	74	24412	22.16	ug/L		96
16) 2-chloropropane	6.275	43	59000	18.92	ug/L		96
17) acrolein	6.380	56	93553	204.35	ug/L		96
18) 1,1-dichloroethene	6.522	61	58167	18.79	ug/L		94
19) acetone	6.648	58	5069	22.70	ug/L	#	77
20) allyl chloride	7.146	76	20454	20.84	ug/L		97
21) acetonitrile	7.161	40	46219	206.20	ug/L		94
22) iodomethane	6.836	142	106141	21.07	ug/L		97
23) iso-butyl alcohol	10.223	41	20032	197.18	ug/L		97
24) carbon disulfide	6.952	76	154050	20.32	ug/L		98
25) methylene chloride	7.376	84	60183	21.50	ug/L		99
26) 1-chloropropane	7.387	41	17585	17.32	ug/L	#	84
27) methyl acetate	7.141	74	8650	23.04	ug/L		97
28) methyl tert butyl ether	7.733	73	172697	20.50	ug/L		98
29) trans-1,2-dichloroethene	7.780	61	64391	20.70	ug/L		98
30) di-isopropyl ether	8.420	45	143040	21.96	ug/L		99
31) ethyl tert-butyl ether	8.944	59	158922	22.08	ug/L		99
32) 2-butanone	9.274	72	5650	20.89	ug/L		81
33) 1,1-dichloroethane	8.446	63	84507	21.21	ug/L		99
34) chloroprene	8.551	53	45791	19.47	ug/L		96
35) acrylonitrile	7.796	53	92684	110.61	ug/L		96
36) vinyl acetate	8.457	86	6732	20.71	ug/L		95
37) ethyl acetate	9.295	45	5992	20.77	ug/L	#	15

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17803.D
Acq On : 20 May 2015 9:38 am
Operator : jemimam
Sample : cc709-20
Misc : MS85394,V4V723,5,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 21 12:03:39 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Tue May 12 09:59:47 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
38) 2,2-dichloropropane	9.274	77	64004	16.64	ug/L	97
39) cis-1,2-dichloroethene	9.280	96	54111	19.25	ug/L	93
40) propionitrile	9.406	54	71709	212.51	ug/L	96
41) methyl acrylate	9.369	55	49428	20.81	ug/L	94
42) bromochloromethane	9.626	128	28978	22.15	ug/L	97
43) tetrahydrofuran	9.657	42	16665	20.57	ug/L	97
44) chloroform	9.699	83	88071	19.75	ug/L	98
47) freon 113	6.496	151	17355	20.16	ug/L	94
48) methacrylonitrile	9.589	41	25159	20.08	ug/L	98
49) 1,1,1-trichloroethane	9.930	97	68800	18.84	ug/L	97
50) tert-amyl methyl ether	10.449	73	156389	21.07	ug/L	96
52) epichlorohydrin	12.148	57	19244	93.44	ug/L	97
53) n-butyl alcohol	11.020	56	80240	963.76	ug/L	95
54) cyclohexane	9.982	84	32784	19.16	ug/L	93
55) carbon tetrachloride	10.140	117	54956	17.16	ug/L	99
56) 1,1-dichloropropene	10.119	75	43359	18.67	ug/L	100
57) hexane	8.100	57	13738	19.45	ug/L	97
58) benzene	10.412	78	164968	20.26	ug/L	98
59) isooctane	10.386	57	56878	17.68	ug/L	98
60) heptane	10.580	57	6737	16.72	ug/L	98
61) isopropyl acetate	10.375	43	86754	18.79	ug/L	95
62) 1,2-dichloroethane	10.459	62	61755	19.11	ug/L	99
63) trichloroethene	11.162	95	40263	20.11	ug/L	96
65) 2-nitropropane	12.011	43	27891	21.39	ug/L	87
66) 2-chloroethyl vinyl ether	12.011	63	24361	141.05	ug/L	97
67) methyl methacrylate	11.471	69	27938	20.07	ug/L	92
68) 1,2-dichloropropane	11.456	63	41512	20.72	ug/L	95
69) methylcyclohexane	11.356	83	29916	19.06	ug/L	94
70) dibromomethane	11.623	93	32909	20.75	ug/L	94
71) bromodichloromethane	11.760	83	63326	19.32	ug/L	99
72) cis-1,3-dichloropropene	12.221	75	67892	19.79	ug/L	95
74) 4-methyl-2-pentanone	12.326	58	18532	20.05	ug/L	94
75) toluene	12.567	92	88040	19.84	ug/L	96
76) 3-methyl-1-butanol	12.373	70	30993	404.59	ug/L	94
77) trans-1,3-dichloropropene	12.798	75	64238	19.25	ug/L	97
78) ethyl methacrylate	12.782	69	50686	19.79	ug/L	93
79) 1,1,2-trichloroethane	13.018	83	34792	20.04	ug/L	98
80) 2-hexanone	13.196	58	16680	19.77	ug/L	96
82) tetrachloroethene	13.149	166	34225	19.88	ug/L	97
83) 1,3-dichloropropane	13.196	76	59310	19.83	ug/L	98
84) butyl acetate	13.264	56	26890	21.21	ug/L	92
85) dibromochloromethane	13.464	129	53645	19.94	ug/L	99
86) 1,2-dibromoethane	13.610	107	46971	20.26	ug/L	99
87) chlorobenzene	14.072	112	109480	20.01	ug/L	98
88) 1,1,1,2-tetrachloroethane	14.145	131	51049	19.98	ug/L	99
89) ethylbenzene	14.124	91	174554	19.02	ug/L	98
90) m,p-xylene	14.234	106	131229	39.11	ug/L	95
91) o-xylene	14.669	106	73599	19.77	ug/L	94
92) styrene	14.690	104	120863	20.39	ug/L	95
93) bromoform	14.974	173	42437	19.84	ug/L	98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17803.D
Acq On : 20 May 2015 9:38 am
Operator : jemimam
Sample : cc709-20
Misc : MS85394,V4V723,5,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 21 12:03:39 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Tue May 12 09:59:47 2015
Response via : Initial Calibration

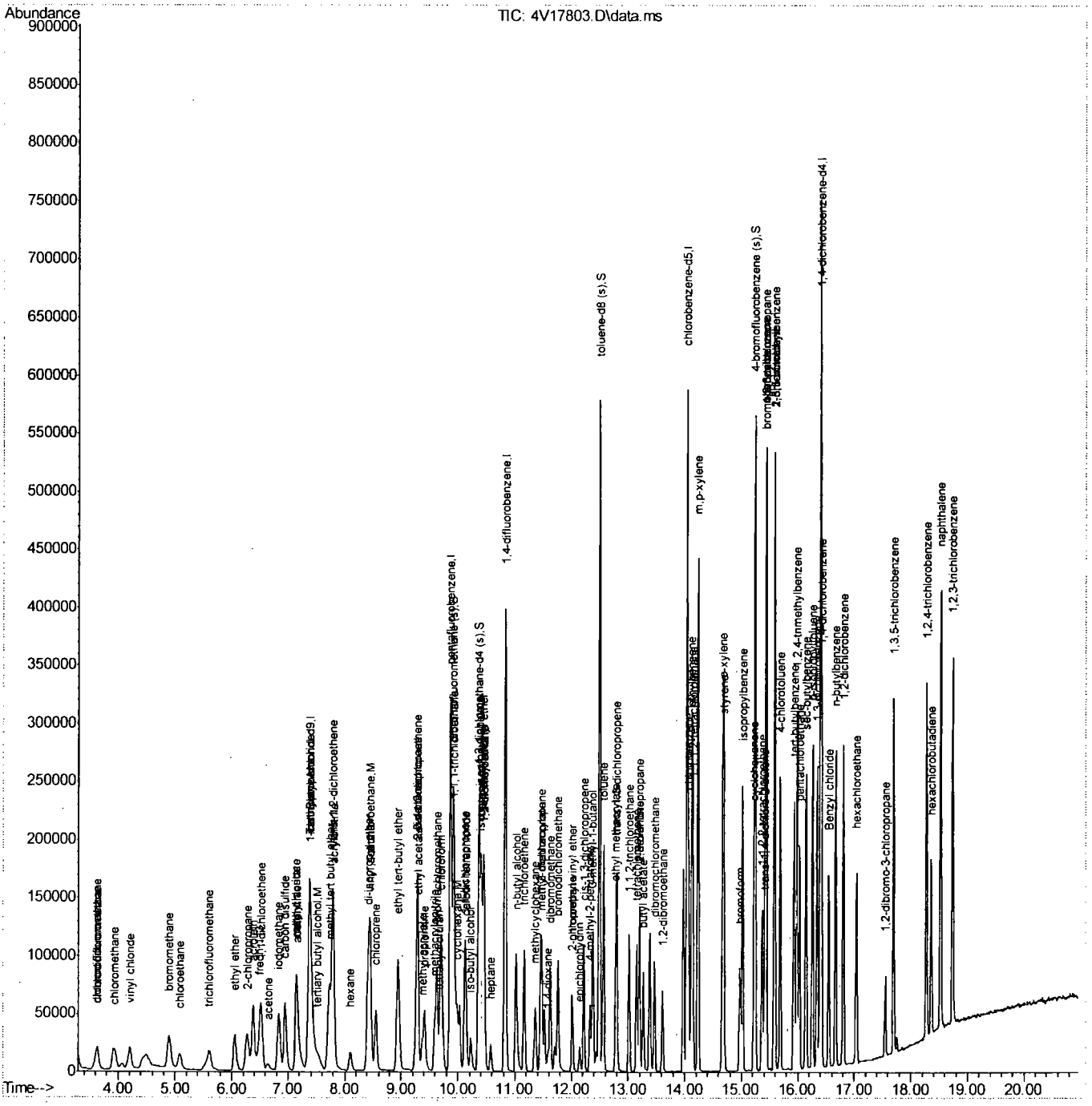
	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
95)	isopropylbenzene	15.021	105	178399	19.20	ug/L	98
97)	bromobenzene	15.430	156	56605	19.89	ug/L	97
98)	cyclohexanone	15.220	55	40923	137.32	ug/L	93
99)	1,1,2,2-tetrachloroethane	15.367	83	72367	20.30	ug/L	98
100)	trans-1,4-dichloro-2-b...	15.409	53	15906	17.89	ug/L	85
101)	1,2,3-trichloropropane	15.435	110	16648	19.34	ug/L	94
102)	n-propylbenzene	15.435	91	205484	18.95	ug/L	98
103)	2-chlorotoluene	15.587	126	48225	20.47	ug/L	93
104)	4-chlorotoluene	15.687	91	146787	19.58	ug/L	98
105)	1,3,5-trimethylbenzene	15.587	105	164652	18.89	ug/L	96
106)	tert-butylbenzene	15.933	119	119379	18.86	ug/L	95
107)	pentachloroethane	16.027	167	40244	20.07	ug/L	98
108)	1,2,4-trimethylbenzene	15.980	105	172008	19.07	ug/L	95
109)	sec-butylbenzene	16.143	105	186902	18.98	ug/L	98
110)	1,3-dichlorobenzene	16.337	146	107839	20.43	ug/L	98
111)	p-isopropyltoluene	16.263	119	167251	18.53	ug/L	99
112)	1,4-dichlorobenzene	16.421	146	109829	20.07	ug/L	99
114)	1,2-dichlorobenzene	16.803	146	113460	20.20	ug/L	97
115)	n-butylbenzene	16.667	92	84210	18.88	ug/L	99
116)	1,2-dibromo-3-chloropr...	17.553	157	19711	19.58	ug/L	94
117)	1,3,5-trichlorobenzene	17.695	180	91581	19.67	ug/L	99
118)	1,2,4-trichlorobenzene	18.277	180	91625	20.19	ug/L	99
119)	hexachlorobutadiene	18.361	225	30877	16.91	ug/L	93
120)	naphthalene	18.523	128	271225	19.93	ug/L	99
121)	1,2,3-trichlorobenzene	18.738	180	93722	20.13	ug/L	99
122)	hexachloroethane	17.034	119	37549	17.27	ug/L	97
123)	Benzyl chloride	16.547	91	119356	17.32	ug/L	97

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17803.D
Acq On : 20 May 2015 9:38 am
Operator : jemimam
Sample : cc709-20
Misc : MS85394,V4V723,5,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 21 12:03:39 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Tue May 12 09:59:47 2015
Response via : Initial Calibration



M4V709.M Thu May 21 12:09:48 2015 RPT1 Page: 4

7.6.12
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17804.D
Acq On : 20 May 2015 10:14 am
Operator : jemimam
Sample : cc709-0.5
Misc : MS85394,V4V723,5,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 21 12:08:17 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Tue May 12 09:59:47 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.387	65	245601	500.00	ug/L	0.00
4) pentafluorobenzene	9.862	168	291712	50.00	ug/L	-0.01
51) 1,4-difluorobenzene	10.826	114	391397	50.00	ug/L	0.00
81) chlorobenzene-d5	14.040	117	344896	50.00	ug/L	0.00
94) 1,4-dichlorobenzene-d4	16.394	152	201584	50.00	ug/L	0.00
System Monitoring Compounds						
45) dibromofluoromethane (s)	9.914	113	147223	51.53	ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 103.06%			
46) 1,2-dichloroethane-d4 (s)	10.360	65	138942	47.18	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 94.36%			
73) toluene-d8 (s)	12.494	98	424330	50.12	ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 100.24%			
96) 4-bromofluorobenzene (s)	15.241	95	181124	48.86	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 97.72%			
Target Compounds						Qvalue
9) chloromethane	3.900	50	1961	0.61	ug/L	74

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

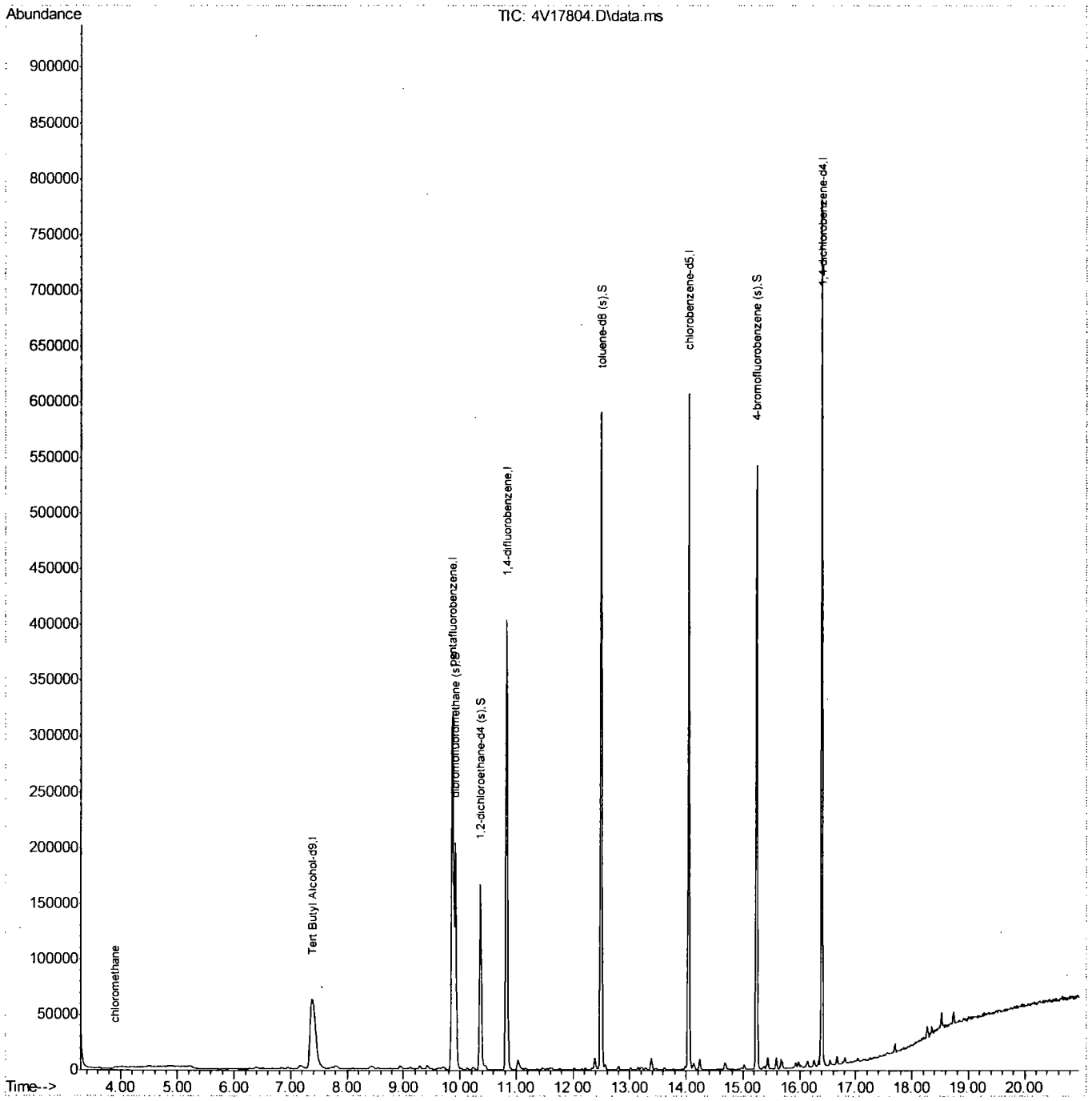
7.6.13

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17804.D
Acq On : 20 May 2015 10:14 am
Operator : jemimam
Sample : cc709-0.5
Misc : MS85394,V4V723,5,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 21 12:08:17 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Tue May 12 09:59:47 2015
Response via : Initial Calibration



ACCUTEST LABORATORIES JB94786

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17848.D
Acq On : 21 May 2015 10:51 am
Operator : jemimam
Sample : cc709-20
Misc : MS85394,V4V725,5,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 22 10:48:14 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 15:20:43 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Tert Butyl Alcohol-d9	7.377	65	251325	500.00	ug/L		0.00
4) pentafluorobenzene	9.862	168	311443	50.00	ug/L		-0.01
51) 1,4-difluorobenzene	10.826	114	406779	50.00	ug/L		0.00
81) chlorobenzene-d5	14.040	117	357404	50.00	ug/L		0.00
94) 1,4-dichlorobenzene-d4	16.395	152	215483	50.00	ug/L		0.00
System Monitoring Compounds							
45) dibromofluoromethane (s)	9.914	113	155530	50.99	ug/L		0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 101.98%				
46) 1,2-dichloroethane-d4 (s)	10.360	65	147909	47.05	ug/L		0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 94.10%				
73) toluene-d8 (s)	12.494	98	444498	50.52	ug/L		0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 101.04%				
96) 4-bromofluorobenzene (s)	15.241	95	193818	48.91	ug/L		0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 97.82%				
Target Compounds							Qvalue
2) 1,4-dioxane	11.581	88	18624	510.01	ug/L		86
3) tertiary butyl alcohol	7.513	59	49716	98.68	ug/L		98
6) chlorodifluoromethane	3.628	51	37279	17.68	ug/L		98
7) dichlorodifluoromethane	3.617	85	32769	19.06	ug/L		91
9) chloromethane	3.916	50	60907	17.87	ug/L		96
10) vinyl chloride	4.199	62	51028	17.31	ug/L		99
11) bromomethane	4.886	94	50581	18.84	ug/L		98
12) chloroethane	5.080	64	26229	19.23	ug/L		92
13) trichlorofluoromethane	5.610	101	43775	17.19	ug/L		99
14) ethyl ether	6.055	74	25953	22.30	ug/L		91
16) 2-chloropropane	6.270	43	59063	17.93	ug/L	#	96
17) acrolein	6.375	56	128338	265.37	ug/L		96
18) 1,1-dichloroethene	6.517	61	58746	17.96	ug/L		96
19) acetone	6.637	58	5652	23.96	ug/L	#	84
20) allyl chloride	7.146	76	21654	20.88	ug/L		94
21) acetonitrile	7.162	40	48673	205.56	ug/L		84
22) iodomethane	6.836	142	110412	20.75	ug/L		99
23) iso-butyl alcohol	10.223	41	21286	198.34	ug/L		89
24) carbon disulfide	6.947	76	154920	19.35	ug/L		96
25) methylene chloride	7.377	84	63224	21.38	ug/L		97
26) 1-chloropropane	7.387	41	17894	16.69	ug/L		93
27) methyl acetate	7.146	74	8948	22.57	ug/L		94
28) methyl tert butyl ether	7.728	73	178645	20.08	ug/L		96
29) trans-1,2-dichloroethene	7.780	61	63883	19.44	ug/L		97
30) di-isopropyl ether	8.415	45	151919	22.08	ug/L		97
31) ethyl tert-butyl ether	8.944	59	166354	21.88	ug/L		98
32) 2-butanone	9.274	72	6328	22.14	ug/L		80
33) 1,1-dichloroethane	8.446	63	84606	20.10	ug/L		98
34) chloroprene	8.556	53	45138	18.17	ug/L		93
35) acrylonitrile	7.796	53	95963	108.41	ug/L		98
36) vinyl acetate	8.451	86	7226	21.04	ug/L		95
37) ethyl acetate	9.290	45	6584	21.60	ug/L		50

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17848.D
Acq On : 21 May 2015 10:51 am
Operator : jemimam
Sample : cc709-20
Misc : MS85394,V4V725,5,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 22 10:48:14 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 15:20:43 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
38) 2,2-dichloropropane	9.269	77	73344	18.05	ug/L	98
39) cis-1,2-dichloroethene	9.280	96	56073	18.89	ug/L	95
40) propionitrile	9.406	54	74011	207.62	ug/L	99
41) methyl acrylate	9.369	55	51902	20.68	ug/L	99
42) bromochloromethane	9.626	128	29949	21.67	ug/L	94
43) tetrahydrofuran	9.657	42	17319	20.23	ug/L	99
44) chloroform	9.699	83	91169	19.35	ug/L	99
47) freon 113	6.490	151	17532	19.28	ug/L	94
48) methacrylonitrile	9.589	41	25997	19.64	ug/L	92
49) 1,1,1-trichloroethane	9.940	97	68615	17.78	ug/L	98
50) tert-amyl methyl ether	10.449	73	162968	20.79	ug/L	98
52) epichlorohydrin	12.148	57	21286	98.79	ug/L	97
53) n-butyl alcohol	11.015	56	87156	1000.62	ug/L	95
54) cyclohexane	9.982	84	32601	18.21	ug/L	92
55) carbon tetrachloride	10.140	117	54585	16.29	ug/L	99
56) 1,1-dichloropropene	10.124	75	42127	17.34	ug/L	98
57) hexane	8.100	57	15859	21.47	ug/L	99
58) benzene	10.407	78	167358	19.65	ug/L	100
59) isooctane	10.376	57	63532	18.88	ug/L	95
60) heptane	10.580	57	8682	20.59	ug/L	96
61) isopropyl acetate	10.376	43	95703	19.81	ug/L	97
62) 1,2-dichloroethane	10.459	62	63398	18.76	ug/L	98
63) trichloroethene	11.167	95	40460	19.32	ug/L	98
65) 2-nitropropane	12.011	43	28569	20.94	ug/L	90
66) 2-chloroethyl vinyl ether	12.017	63	24175	133.79	ug/L	99
67) methyl methacrylate	11.471	69	30518	20.96	ug/L	88
68) 1,2-dichloropropane	11.450	63	43340	20.68	ug/L	94
69) methylcyclohexane	11.361	83	29570	18.00	ug/L	96
70) dibromomethane	11.623	93	34618	20.86	ug/L	97
71) bromodichloromethane	11.760	83	65591	19.13	ug/L	98
72) cis-1,3-dichloropropene	12.221	75	74213	20.68	ug/L	95
74) 4-methyl-2-pentanone	12.331	58	20212	20.90	ug/L	92
75) toluene	12.567	92	92887	20.01	ug/L	96
76) 3-methyl-1-butanol	12.373	70	32474	405.21	ug/L	94
77) trans-1,3-dichloropropene	12.798	75	71122	20.37	ug/L	96
78) ethyl methacrylate	12.787	69	54810	20.46	ug/L	95
79) 1,1,2-trichloroethane	13.018	83	37657	20.74	ug/L	99
80) 2-hexanone	13.196	58	18459	20.92	ug/L	88
82) tetrachloroethene	13.149	166	34875	18.55	ug/L	96
83) 1,3-dichloropropane	13.196	76	64476	19.74	ug/L	99
84) butyl acetate	13.264	56	28710	20.74	ug/L	94
85) dibromochloromethane	13.464	129	57313	19.50	ug/L	97
86) 1,2-dibromoethane	13.610	107	50977	20.14	ug/L	100
87) chlorobenzene	14.072	112	119000	19.91	ug/L	100
88) 1,1,1,2-tetrachloroethane	14.145	131	51706	18.53	ug/L	96
89) ethylbenzene	14.124	91	185639	18.52	ug/L	99
90) m,p-xylene	14.240	106	144039	39.31	ug/L	94
91) o-xylene	14.670	106	78029	19.20	ug/L	99
92) styrene	14.691	104	128414	19.84	ug/L	96
93) bromoform	14.979	173	45174	19.34	ug/L	98

7.6.14

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17848.D
Acq On : 21 May 2015 10:51 am
Operator : jemimam
Sample : cc709-20
Misc : MS85394,V4V725,5,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 22 10:48:14 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 15:20:43 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
95) isopropylbenzene	15.021	105	183570	17.81	ug/L	98
97) bromobenzene	15.430	156	59958	18.99	ug/L	97
98) cyclohexanone	15.225	55	100657	304.40	ug/L	92
99) 1,1,2,2-tetrachloroethane	15.367	83	79604	20.12	ug/L	98
100) trans-1,4-dichloro-2-b...	15.409	53	18390	18.65	ug/L	85
101) 1,2,3-trichloropropane	15.440	110	18153	19.00	ug/L	99
102) n-propylbenzene	15.435	91	217361	18.07	ug/L	99
103) 2-chlorotoluene	15.587	126	51363	19.65	ug/L	97
104) 4-chlorotoluene	15.687	91	156459	18.81	ug/L	98
105) 1,3,5-trimethylbenzene	15.587	105	177408	18.35	ug/L	98
106) tert-butylbenzene	15.933	119	121267	17.26	ug/L	99
107) pentachloroethane	16.028	167	41876	18.82	ug/L	98
108) 1,2,4-trimethylbenzene	15.980	105	185995	18.59	ug/L	95
109) sec-butylbenzene	16.143	105	194911	17.84	ug/L	99
110) 1,3-dichlorobenzene	16.337	146	116137	19.83	ug/L	99
111) p-isopropyltoluene	16.263	119	176599	17.64	ug/L	99
112) 1,4-dichlorobenzene	16.421	146	119383	19.66	ug/L	99
114) 1,2-dichlorobenzene	16.803	146	125843	20.19	ug/L	96
115) n-butylbenzene	16.667	92	91358	18.46	ug/L	99
116) 1,2-dibromo-3-chloropr...	17.553	157	21188	18.96	ug/L	93
117) 1,3,5-trichlorobenzene	17.695	180	101661	19.68	ug/L	98
118) 1,2,4-trichlorobenzene	18.277	180	100736	20.00	ug/L	99
119) hexachlorobutadiene	18.361	225	33039	16.31	ug/L	96
120) naphthalene	18.523	128	290460	19.23	ug/L	100
121) 1,2,3-trichlorobenzene	18.738	180	102000	19.75	ug/L	99
122) hexachloroethane	17.034	119	38374	15.90	ug/L	97
123) Benzyl chloride	16.547	91	158517	20.73	ug/L	99

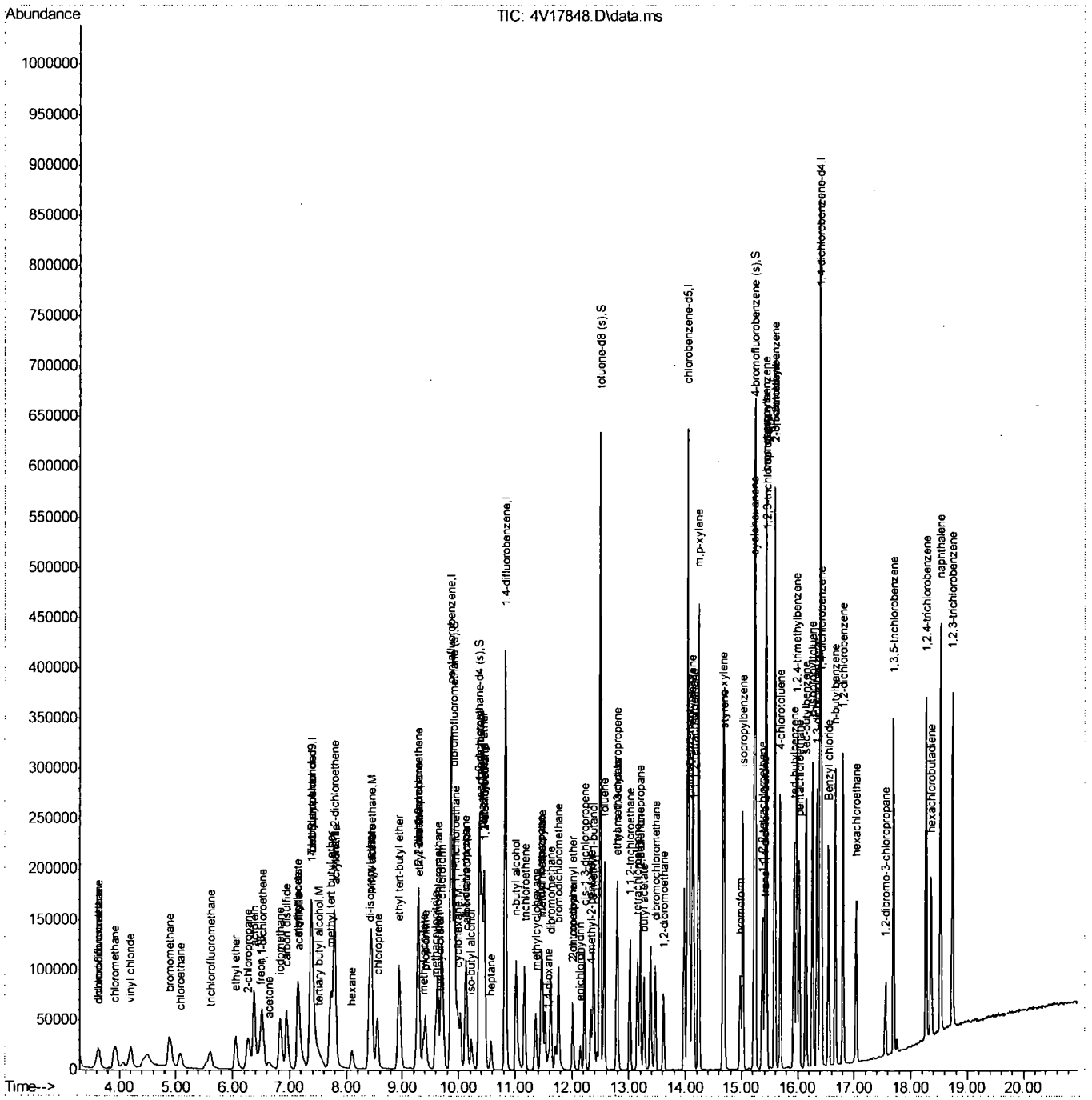
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.6.14

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 4V17848.D
Acq On : 21 May 2015 10:51 am
Operator : jemimam
Sample : cc709-20
Misc : MS85394,V4V725,5,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 22 10:48:14 2015
Quant Method : C:\MSDCHEM\1\METHODS\M4V709.M
Quant Title : sw846 8260b
QLast Update : Fri May 08 15:20:43 2015
Response via : Initial Calibration



ACCUTEST LABORATORIES JB94786

7.6.14

ACCUTEST.

VOLATILE ANALYSIS LOG

Batch ID: V4V709

Print Analyst Name: Jemima Menton

Date: 5/7/15

Analyst Signature: JMenton

Columns: ZB624 60mx0.25mmx1.4um

Method VC8260C

Initial Cal. Method ~~M4V66~~ M4V709 JM 5/8 (4)

Standard Data

Lot #	Description	Conc.
V0152060	56.14 Ext A	100 ppm
V0152060	69.5 Ext B	100 ppm
V0152060	70.3 Ext C	100 ppm
V0152060	65.6 hexane	100 ppm
V0152060	45.5 Ext Acro	1000 ppm

Standard Data

Lot #	Description	Conc.
V0152060	63.31 STD A	100 ppm
V0152060	32.66 STD B	100 ppm
V0152060	73.11 STD C	100 ppm
V0152060	48.31 Acrolein	1000 ppm
V0152060	66 Int/Surr	250/2500 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: 5/8/2015

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
	4V17444	BFB	8260C WATER	AQ		1	5ml						ok		
	17445	1C709-0.2	✓	AQ		2	5						ok	1ul/500mL FV STD A,B,C,Acrolein	
	17446	1C709-0.5	✓	AQ		3	5						ok	2.5ul/500mL FV STD A,B,C,Acrolein	
	17447	1C709-1.0	✓	AQ		4	5						ok	5ul/500mL FV STD A,B,C,Acrolein	
	17448	1C709-2.0	✓	AQ		5	5						ok	10 2ul/500mL FV STD A,B,C,Acrolein	
	17449	1C709-5.0	✓	AQ		6	5						ok	5ul/100mL FV STD A,B,C,Acrolein	
	17450	1C709-10	✓	AQ		7	5						ok	10ul/100mL FV STD A,B,C,Acrolein	
	17451	1C709-20	✓	AQ		8	5						ok	20ul/100mL FV STD A,B,C,Acrolein	
	17452	1C709-50	✓	AQ		9	5						ok	50ul/100mL FV STD A,B,C,Acrolein	
	17453	1C709-100	✓	AQ		10	5						ok	100ul/100mL FV STD A,B,C,Acro	
	17454	1C709-200	✓	AQ		11	5						ok	200ul/~~20~~ 100mL FV STD A,B,C,Acro	
	17455	1B	✓	AQ		12	5						c/o		
	17456	1B	✓	AQ		13	5						c/o		
	17457	1CV709-50	✓	AQ		14	5						ok	25ul/50mL FV Ext A,B,C,Acro,hexane	
														JM 5/8	

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

Form: OR001-9
Rev. Date: 2/14/2007

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ACCUTEST.

VOLATILE ANALYSIS LOG

Batch ID: V4V723

Print Analyst Name: Jemima Merilen

Date: 5/20/15 (Wed)

Analyst Signature: Merilen

Columns: ZB624 (60m x 0.25mm x 1.4um)

Method V8260C

Initial Cal. Method M4V709

Standard Data

Lot #	Description	Conc.
VOIS 2060	91.1 Ext A	100 ppm
VOIS 2060	69.12 Ext B	100 ppm
VOIS 2060	108.5 Ext C	100 ppm
VOIS 2060	45.11 Ext Acro	1000 ppm
VOIS 2060	98.11 Hex	100 ppm

Standard Data

Lot #	Description	Conc.
VOIS 2060	63.58 STD A	100 ppm
VOIS 2060	76.33 STD B	100 ppm
VOIS 2060	88.10 STD C	100 ppm
VOIS 2060	48.30 Acro	1000 ppm
VOIS 2060	66 IIS	250/2000 ppm

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with the criteria of Accutest SOP EQA044.

218814 pH paper

Supervisor Signature: DPatel Date: 5/26/15

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
	4V17802A	BFB											OK	9:01am	
	17803	CC709-20									✓	✓	OK	10W150 9+ A,B,C,Acro	
	17804 ~~17804A~~ 720	CC709-0.5 IB									✓	✓	OK	~~Not loaded~~ #9	
	17805 4A NH	MBI									✓	✓	OK		
	17806 5 NH 5/20	BS									✓	✓	OK	25W150 Ext A,B,C,Acro,Hex	
	17806 17807A NH 5/20	IB									✓	✓	%	Not used	
	17808	JB94786-1	85329 SL	GW	2		5		1x		✓	✓	OK		✓
	17809	JB94786-8	✓	GW	8		5		1x		✓	✓	OK		✓
	17810	JB94786-2	✓	GW	2		10/50		5x		✓	✓	OK/FD	RR 50X	✓
R	17811 NH 5/20	JB94914-1 ~~JB94782-6~~	85347 MOVO 4 TCL20	GW	4		5		1x		✓	✓	OK		✓
	17812	JB94786-8MS	85329 SL	GW	2		5		1x		✓	✓	OK	21.3ul/43mL FV A,B,C,Acrolein	✓
	17813	JB94786-8MSD	✓	GW	5		5		1x		✓	✓	OK		✓
	17814	IB									✓	✓			
	17815	JB94786-4	85329 SL	GW	2		5		1x		✓	✓	OK		✓
	17816	JB94786-5	✓	GW	2		5		1x		✓	✓	OK		✓
	17817	JB94786-7	✓	GW	2		5		1x		✓	✓	OK		✓
	17818	JB94786-9	✓	GW	1		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

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ACCUTEST

VOLATILE ANALYSIS LOG

Batch ID: V4V723

Print Analyst Name: Jemima Mirilas

Date: 5/20/15

Analyst Signature: [signature]

Columns: ZB624 (60mx0.25mmx1.4um)

Method V8260C

Initial Cal. Method M4V709

Standard Data		
Lot #	Description	Conc.

Standard Data		
Lot #	Description	Conc.
	Ref pg. 163	

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: 5/26/15

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
	17819	JB94786-10	85329 SL	GB	2		5		1x		✓	✓	OK		✓
	17820	JB94786-12	✓	TBW	2		5		1x		✓	✓	OK		✓
	17821	JB94786-11	✓	GW	2		5		1x		✓	✓	OK		✓
	17822	JB94786-3	✓	GW	2		5		1x		✓	✓	OK		✓
	17823	JB94~~786~~847-8	85305 TCL20 UNPR	GW	1		5		1x					Not Run	
	17824	JB94786-6	✓	GB	2		5		1x		✓	✓	OK	7:04pm	✓

[initials] 5/21

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

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7.7.2

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ACCUTEST.

VOLATILE ANALYSIS LOG

Batch ID: V4V725

Print Analyst Name: Jemima Merilan

Date: 5/21/15

Analyst Signature: [signature]

Columns: ZB624 60mx0.25mmx1.4um

Method VC8260

Initial Cal. Method M4V709

Standard Data

Lot #	Description	Conc.
V0152060	91.5 Ext A	100 ppm
V0152060	109.17 Ext B	100 ppm
V0152060	100.7 Ext C	100 ppm
V0152060	98.10 hexane	100 ppm
V0152060	102.7 Ext Aero	1000 ppm

Standard Data

Lot #	Description	Conc.
V0152060	63.63 STD A	100 ppm
V0152060	76.25 STD B	100 ppm
V0152060	95.9 STD C	100 ppm
V0152060	48.45 Acrolein	1000 ppm
V0152060	66 I/S	250/2000 ppm

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with the criteria of Accutest SOP EQA044.

216814 pH paper

Supervisor Signature: [signature] Date: 5/26/15

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
	4V17847	BFB											OK	10:17am	
	17848	CC709-20									✓	✓	OK		
	17849	IB									✓	✓			
	17850	MBI									✓	✓	OK		
	17851	BS									✓	✓	OK		
	17852	IB									✓	✓			
	17853	JB94959-2A	85393 SL	GW	3		5		1x		✓	✓	OK		✓
	17854	JB94959-1A	✓	GW	8		5		1x		✓	✓	OK		✓
R DL	17855	JB94786-2 ~~JB94914-6~~	85329 SL	GW	31	1 sbl	1/50	1 sbl	50x ~~25x~~		✓	✓	OK	+4V17810	✓
R	17856	JB94914-6 ~~JB94786-2~~	85394 MAVO	GW	3		2/50	1 sbl	25x ~~50x~~		✓	✓	OK	+4V17834	✓
R	17857	JB94782-6	85327 TCL20	GW	4		5		1x		✓	✓	OK		✓
	17858	JB94959-1Ams	85393 SL	GW	7		5		1x		✓	✓	OK		✓
	17859	JB94959-1Amsd	✓	GW	10		5		1x		✓	✓	OK		✓
	17860	IB									✓	✓			
	17861	JB94959-3A	85393 SL	GW	3		5		1x		✓	✓	OK		✓
	17862	JB94959-4A	✓	GW	3		5		1x		✓	✓	OK		✓
	17863	JB94959-8A	✓	EB	4		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

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ACCUTEST.

VOLATILE ANALYSIS LOG

Batch ID: V4V725

Print Analyst Name: Jemima Meulen

Date: 5/21/15

Analyst Signature: JMeulen

Columns: ZB624 60mx0.25mmx1.4um

Method VC8260

Initial Cal. Method MVU709

Standard Data		
Lot #	Description	Conc.

Standard Data		
Lot #	Description	Conc.
	see pg 171	

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: Plater Date: 5/26/15

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
	4V17864	JB94959-10A	85393 SL	EB	4		5		1x		✓	✓	OK		✓
	17865	JB94959-9A	✓	EB	4		5		1x		✓	✓	OK		✓
	17866	JB94959-12	✓	TB	1		5		1x		✓	✓	OK		✓
R	17867	JB94914-16	85394 MDVO	GW	5		5		1x		✓	✓	OK		✓
R	17868	JB94914-15	✓	GW	5		5		1x		✓	✓	OK		✓
	17869	JB94959-7A	85393 SL	GW	3		5		1x		✓	✓	OK	8:26pm	✓
														jm 5/22	

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

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Appendix B

Second Quarter 2015 Effluent Air Laboratory Analytical Reports

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6/2/2015
Mr. Peter Hollatz
AECOM Environment
27755 Diehl Road
Suite 100
Warrenville IL 60555

Project Name: UTC SER 9/10
Project #:
Workorder #: 1505301

Dear Mr. Peter Hollatz

The following report includes the data for the above referenced project for sample(s) received on 5/19/2015 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-14A are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

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

Regards,

Ausha Scott

Project Manager

eurofins | Air Toxics

WORK ORDER #: 1505301

Work Order Summary

CLIENT:	Mr. Peter Hollatz AECOM Environment 27755 Diehl Road Suite 100 Warrenville, IL 60555	**BILL TO:**	Accounts Payable-Warrenville AECOM Environment 27755 Diehl Road Suite 100 Warrenville, IL 60555
PHONE:	630-836-1700	**P.O. #**	60339110
FAX:	630-836-1711	**PROJECT #**	UTC SER 9/10
DATE RECEIVED:	05/19/2015	**CONTACT:**	Ausha Scott
DATE COMPLETED:	06/02/2015		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	P1SVE-EFFC1-051515	Modified TO-14A	2.6 "Hg	15.1 psi
02A	P2SVE-EFFC4-051515	Modified TO-14A	6.1 "Hg	15 psi
03A	P2SVE-EFFC5-051515	Modified TO-14A	2.8 "Hg	15 psi
04A	P1SVE-EFFC2-051515	Modified TO-14A	3.7 "Hg	15 psi
05A	P1SVE-EFFC3-051515	Modified TO-14A	4.5 "Hg	14.9 psi
06A	Lab Blank	Modified TO-14A	NA	NA
07A	CCV	Modified TO-14A	NA	NA
08A	LCS	Modified TO-14A	NA	NA
08AA	LCSD	Modified TO-14A	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 06/02/15

Technical Director

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
TX NELAP - T104704343-14-7, UT NELAP CA009332014-5, VA NELAP - 460197, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2014, Expiration date: 10/17/2015.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, Inc.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-14A
AECOM Environment
Workorder# 1505301

Five 1 Liter Summa Canister samples were received on May 19, 2015. The laboratory performed analysis via modified EPA Method TO-14A using GC/MS in the full scan mode.

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

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications. Please note that TO-14A was validated for specially treated canisters, and the use of Tedlar bags for sample collection is outside the scope of the method.

Requirement	*TO-14A*	*ATL Modifications*
Initial Calibration criteria	RSD</=30%	Follow TO-15 requirements of RSD</=30% with two compounds allowed out to </=40%RSD.
BFB absolute abundance criteria	Within 10% of that from previous day	CCV internal standard area counts are compared to ICAL, corrective action when recovery is less than 60%.
Blank acceptance criteria	<0.20 ppbv	<Reporting Limit
Sample Drying System	Nafion Dryer	Multibed hydrophobic sorbent
BFB ion abundance criteria	Ion abundance listed in Table 4 of TO-14A	Follow ion abundance criteria listed in Method TO-15

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

There were no analytical discrepancies.

Definition of Data Qualifying Flags

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

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

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

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

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

N - The identification is based on presumptive evidence.
C - Estimated calculation due to estimated sampling rate.

File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

Client Sample ID: P1SVE-EFFC1-051515

Lab ID#: 1505301-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethane	2.3	15	9.3	60
cis-1,2-Dichloroethene	2.3	2.7	9.1	11
1,1,1-Trichloroethane	2.3	63	12	340
Trichloroethene	2.3	7.1	12	38
Tetrachloroethene	2.3	67	16	460

Client Sample ID: P2SVE-EFFC4-051515

Lab ID#: 1505301-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	2.6	2.8	10	11
1,1-Dichloroethane	2.6	4.3	10	17
cis-1,2-Dichloroethene	2.6	5.2	10	21
1,1,1-Trichloroethane	2.6	180	14	960
Trichloroethene	2.6	9.8	14	52
Tetrachloroethene	2.6	45	18	300

Client Sample ID: P2SVE-EFFC5-051515

Lab ID#: 1505301-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	1.1	2.5	4.4	10
1,1-Dichloroethane	1.1	7.3	4.5	29
cis-1,2-Dichloroethene	1.1	5.9	4.4	23
1,1,1-Trichloroethane	1.1	360	6.1	2000
Trichloroethene	1.1	8.2	6.0	44
Toluene	1.1	1.4	4.2	5.3
Tetrachloroethene	1.1	31	7.6	210

Client Sample ID: P1SVE-EFFC2-051515

Lab ID#: 1505301-04A

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

Client Sample ID: P1SVE-EFFC2-051515

Lab ID#: 1505301-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloroethane	4.6	7.0	12	18
1,1-Dichloroethene	1.2	3.0	4.6	12
1,1-Dichloroethane	1.2	76	4.6	310
cis-1,2-Dichloroethene	1.2	3.5	4.6	14
1,1,1-Trichloroethane	1.2	240	6.3	1300
Trichloroethene	1.2	5.4	6.2	29
Tetrachloroethene	1.2	8.2	7.8	55

Client Sample ID: P1SVE-EFFC3-051515

Lab ID#: 1505301-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	1.2	3.1	4.7	12
1,1-Dichloroethane	1.2	5.6	4.8	22
cis-1,2-Dichloroethene	1.2	10	4.7	41
1,1,1-Trichloroethane	1.2	300	6.5	1600
Trichloroethene	1.2	10	6.4	54
Tetrachloroethene	1.2	8.1	8.0	55

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Client Sample ID: P1SVE-EFFC1-051515

Lab ID#: 1505301-01A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	**j053015**	**Date of Collection: 5/15/15 8:00:00 AM**	
Dil. Factor:	**4.60**	**Date of Analysis: 5/30/15 05:56 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	2.3	Not Detected	5.9	Not Detected
Chloroethane	9.2	Not Detected	24	Not Detected
1,1-Dichloroethene	2.3	Not Detected	9.1	Not Detected
Acetone	23	Not Detected	55	Not Detected
Methylene Chloride	23	Not Detected	80	Not Detected
trans-1,2-Dichloroethene	2.3	Not Detected	9.1	Not Detected
1,1-Dichloroethane	2.3	15	9.3	60
2-Butanone (Methyl Ethyl Ketone)	9.2	Not Detected	27	Not Detected
cis-1,2-Dichloroethene	2.3	2.7	9.1	11
Chloroform	2.3	Not Detected	11	Not Detected
1,1,1-Trichloroethane	2.3	63	12	340
Carbon Tetrachloride	2.3	Not Detected	14	Not Detected
Benzene	2.3	Not Detected	7.3	Not Detected
1,2-Dichloroethane	2.3	Not Detected	9.3	Not Detected
Trichloroethene	2.3	7.1	12	38
Toluene	2.3	Not Detected	8.7	Not Detected
1,1,2-Trichloroethane	2.3	Not Detected	12	Not Detected
Tetrachloroethene	2.3	67	16	460
Ethyl Benzene	2.3	Not Detected	10	Not Detected
m,p-Xylene	2.3	Not Detected	10	Not Detected
o-Xylene	2.3	Not Detected	10	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	105	70-130

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Client Sample ID: P2SVE-EFFC4-051515

Lab ID#: 1505301-02A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	**j053016**	**Date of Collection: 5/15/15 8:05:00 AM**	
Dil. Factor:	**5.23**	**Date of Analysis: 5/30/15 06:28 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	2.6	Not Detected	6.7	Not Detected
Chloroethane	10	Not Detected	28	Not Detected
1,1-Dichloroethene	2.6	2.8	10	11
Acetone	26	Not Detected	62	Not Detected
Methylene Chloride	26	Not Detected	91	Not Detected
trans-1,2-Dichloroethene	2.6	Not Detected	10	Not Detected
1,1-Dichloroethane	2.6	4.3	10	17
2-Butanone (Methyl Ethyl Ketone)	10	Not Detected	31	Not Detected
cis-1,2-Dichloroethene	2.6	5.2	10	21
Chloroform	2.6	Not Detected	13	Not Detected
1,1,1-Trichloroethane	2.6	180	14	960
Carbon Tetrachloride	2.6	Not Detected	16	Not Detected
Benzene	2.6	Not Detected	8.4	Not Detected
1,2-Dichloroethane	2.6	Not Detected	10	Not Detected
Trichloroethene	2.6	9.8	14	52
Toluene	2.6	Not Detected	9.8	Not Detected
1,1,2-Trichloroethane	2.6	Not Detected	14	Not Detected
Tetrachloroethene	2.6	45	18	300
Ethyl Benzene	2.6	Not Detected	11	Not Detected
m,p-Xylene	2.6	Not Detected	11	Not Detected
o-Xylene	2.6	Not Detected	11	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: P2SVE-EFFC5-051515

Lab ID#: 1505301-03A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	**j053011**	**Date of Collection:**	**5/15/15 8:10:00 AM**
Dil. Factor:	**2.23**	**Date of Analysis:**	**5/30/15 02:42 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.1	Not Detected	2.8	Not Detected
Chloroethane	4.5	Not Detected	12	Not Detected
1,1-Dichloroethene	1.1	2.5	4.4	10
Acetone	11	Not Detected	26	Not Detected
Methylene Chloride	11	Not Detected	39	Not Detected
trans-1,2-Dichloroethene	1.1	Not Detected	4.4	Not Detected
1,1-Dichloroethane	1.1	7.3	4.5	29
2-Butanone (Methyl Ethyl Ketone)	4.5	Not Detected	13	Not Detected
cis-1,2-Dichloroethene	1.1	5.9	4.4	23
Chloroform	1.1	Not Detected	5.4	Not Detected
1,1,1-Trichloroethane	1.1	360	6.1	2000
Carbon Tetrachloride	1.1	Not Detected	7.0	Not Detected
Benzene	1.1	Not Detected	3.6	Not Detected
1,2-Dichloroethane	1.1	Not Detected	4.5	Not Detected
Trichloroethene	1.1	8.2	6.0	44
Toluene	1.1	1.4	4.2	5.3
1,1,2-Trichloroethane	1.1	Not Detected	6.1	Not Detected
Tetrachloroethene	1.1	31	7.6	210
Ethyl Benzene	1.1	Not Detected	4.8	Not Detected
m,p-Xylene	1.1	Not Detected	4.8	Not Detected
o-Xylene	1.1	Not Detected	4.8	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	112	70-130

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Client Sample ID: P1SVE-EFFC2-051515

Lab ID#: 1505301-04A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	**j053012**	**Date of Collection:**	**5/15/15 8:25:00 AM**
Dil. Factor:	**2.30**	**Date of Analysis:**	**5/30/15 03:20 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	2.9	Not Detected
Chloroethane	4.6	7.0	12	18
1,1-Dichloroethene	1.2	3.0	4.6	12
Acetone	12	Not Detected	27	Not Detected
Methylene Chloride	12	Not Detected	40	Not Detected
trans-1,2-Dichloroethene	1.2	Not Detected	4.6	Not Detected
1,1-Dichloroethane	1.2	76	4.6	310
2-Butanone (Methyl Ethyl Ketone)	4.6	Not Detected	14	Not Detected
cis-1,2-Dichloroethene	1.2	3.5	4.6	14
Chloroform	1.2	Not Detected	5.6	Not Detected
1,1,1-Trichloroethane	1.2	240	6.3	1300
Carbon Tetrachloride	1.2	Not Detected	7.2	Not Detected
Benzene	1.2	Not Detected	3.7	Not Detected
1,2-Dichloroethane	1.2	Not Detected	4.6	Not Detected
Trichloroethene	1.2	5.4	6.2	29
Toluene	1.2	Not Detected	4.3	Not Detected
1,1,2-Trichloroethane	1.2	Not Detected	6.3	Not Detected
Tetrachloroethene	1.2	8.2	7.8	55
Ethyl Benzene	1.2	Not Detected	5.0	Not Detected
m,p-Xylene	1.2	Not Detected	5.0	Not Detected
o-Xylene	1.2	Not Detected	5.0	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	107	70-130

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Client Sample ID: P1SVE-EFFC3-051515

Lab ID#: 1505301-05A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	**j053013**	**Date of Collection: 5/15/15 8:35:00 AM**	
Dil. Factor:	**2.37**	**Date of Analysis: 5/30/15 04:05 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.0	Not Detected
Chloroethane	4.7	Not Detected	12	Not Detected
1,1-Dichloroethene	1.2	3.1	4.7	12
Acetone	12	Not Detected	28	Not Detected
Methylene Chloride	12	Not Detected	41	Not Detected
trans-1,2-Dichloroethene	1.2	Not Detected	4.7	Not Detected
1,1-Dichloroethane	1.2	5.6	4.8	22
2-Butanone (Methyl Ethyl Ketone)	4.7	Not Detected	14	Not Detected
cis-1,2-Dichloroethene	1.2	10	4.7	41
Chloroform	1.2	Not Detected	5.8	Not Detected
1,1,1-Trichloroethane	1.2	300	6.5	1600
Carbon Tetrachloride	1.2	Not Detected	7.4	Not Detected
Benzene	1.2	Not Detected	3.8	Not Detected
1,2-Dichloroethane	1.2	Not Detected	4.8	Not Detected
Trichloroethene	1.2	10	6.4	54
Toluene	1.2	Not Detected	4.5	Not Detected
1,1,2-Trichloroethane	1.2	Not Detected	6.5	Not Detected
Tetrachloroethene	1.2	8.1	8.0	55
Ethyl Benzene	1.2	Not Detected	5.1	Not Detected
m,p-Xylene	1.2	Not Detected	5.1	Not Detected
o-Xylene	1.2	Not Detected	5.1	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	108	70-130

Client Sample ID: Lab Blank

Lab ID#: 1505301-06A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	**j053005**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/30/15 11:08 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
Chloroethane	2.0	Not Detected	5.3	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Acetone	5.0	Not Detected	12	Not Detected
Methylene Chloride	5.0	Not Detected	17	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	2.0	Not Detected	5.9	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Chloroform	0.50	Not Detected	2.4	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
1,1,2-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	108	70-130

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Client Sample ID: CCV

Lab ID#: 1505301-07A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	**j053002**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/30/15 09:18 AM**	

Compound	%Recovery
Vinyl Chloride	90
Chloroethane	93
1,1-Dichloroethene	93
Acetone	90
Methylene Chloride	94
trans-1,2-Dichloroethene	94
1,1-Dichloroethane	96
2-Butanone (Methyl Ethyl Ketone)	105
cis-1,2-Dichloroethene	100
Chloroform	99
1,1,1-Trichloroethane	101
Carbon Tetrachloride	100
Benzene	101
1,2-Dichloroethane	101
Trichloroethene	115
Toluene	102
1,1,2-Trichloroethane	97
Tetrachloroethene	100
Ethyl Benzene	109
m,p-Xylene	113
o-Xylene	113

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	120	70-130

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Client Sample ID: LCS

Lab ID#: 1505301-08A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	**j053003**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/30/15 09:55 AM**	

Compound	%Recovery	Method Limits
Vinyl Chloride	96	70-130
Chloroethane	102	70-130
1,1-Dichloroethene	98	70-130
Acetone	96	70-130
Methylene Chloride	99	70-130
trans-1,2-Dichloroethene	87	70-130
1,1-Dichloroethane	100	70-130
2-Butanone (Methyl Ethyl Ketone)	108	70-130
cis-1,2-Dichloroethene	114	70-130
Chloroform	104	70-130
1,1,1-Trichloroethane	106	70-130
Carbon Tetrachloride	105	70-130
Benzene	105	70-130
1,2-Dichloroethane	106	70-130
Trichloroethene	103	70-130
Toluene	110	70-130
1,1,2-Trichloroethane	99	70-130
Tetrachloroethene	103	70-130
Ethyl Benzene	110	70-130
m,p-Xylene	118	70-130
o-Xylene	115	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	106	70-130
4-Bromofluorobenzene	116	70-130

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Client Sample ID: LCSD

Lab ID#: 1505301-08AA

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	**j053004**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/30/15 10:20 AM**	

Compound	%Recovery	Method Limits
Vinyl Chloride	100	70-130
Chloroethane	105	70-130
1,1-Dichloroethene	99	70-130
Acetone	97	70-130
Methylene Chloride	102	70-130
trans-1,2-Dichloroethene	89	70-130
1,1-Dichloroethane	101	70-130
2-Butanone (Methyl Ethyl Ketone)	108	70-130
cis-1,2-Dichloroethene	115	70-130
Chloroform	107	70-130
1,1,1-Trichloroethane	108	70-130
Carbon Tetrachloride	104	70-130
Benzene	105	70-130
1,2-Dichloroethane	106	70-130
Trichloroethene	102	70-130
Toluene	110	70-130
1,1,2-Trichloroethane	99	70-130
Tetrachloroethene	104	70-130
Ethyl Benzene	113	70-130
m,p-Xylene	115	70-130
o-Xylene	120	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	106	70-130
4-Bromofluorobenzene	115	70-130

C

Appendix C

Second Quarter 2015 Phase1/Phase 2 AS/SVE System Operations Data Sheets

DAILY DOCUMENTATION SHEET

Control Panel Touch Screen

DATE	6-24-15	6-25-15	6-26-15	6-27-15	6-28-15	6-29-15	6-30-15	7/1/15	7-2-15	7-3-15
TIME	1:31 P.M.	8:22AM	8:23Am	9:13A.M.	10:00 AM	0845	8:54Am	855	8:19Am	8:25AM
OBSERVER'S INITIALS	DE	RK	RK	DE	DL	A.H.	RK	ND	RK	KA
ALARMS										
Shut Down Alarm Code	NA	NA	NA	NA	NA	N/A	NA	N/A	NA	NA
Non-critical Alarm Code	NA	NA	NA	NA	NA	N/A	NA	N/A	NA	NA
HOURS METERS										
B-701 SVE (hrs)	36177	36196	36220	36245	36269	36292	36316	36340	36364	36388
C-2201 SPRG (hrs)	30808	30827	30852	30877	30902	30925	30949	30973	30997	31021
F-2501 H-XCH (hrs)	30808	30827	30852	30877	30902	30925	30949	30973	3097	31021
ANALOGS										
MV-701 SVE POS (%)	26	26	26	26	26	26	26	26	26	26
PT-701 SVE (-wc)	81.6	81.6	81.6	81.6	-81.6	-81.6	81.6	81.6	81.6	68.0
PT-2501 SPRG (psi)	12.9	12.9	13.1	13.0	12.9	11.7	12.9	13.0	12.9	12.6
SET POINTS										
PTLA-2501 SPRG (psi)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
PTHA-2501 SPRG (psi)	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0
SET POINTS 2										
SVON-101 SVE (min)	60	60	60	60	60	60	60	60	60	40
SVON-102 SVE (min)	60	60	60	60	60	60	60	60	60	60
SVON-103 SVE (min)	180	180	180	180	180	180	180	180	180	180
SET POINTS 3										
SVON-2801 SPRG (min)	60	60	60	60	66	60	60	60	60	60
SVON-2802 SPRG (min)	60	60	60	60	60	60	60	60	60	60
SVON-2803 SPRG (min)	180	180	180	180	180	180	180	180	180	180
SPRG DELAY (min)	0	0	0	0	0	0	0	0	0	0
SET POINTS 4										
MV-701 SVE POS (%)	30	30	30	30	30	30	30	30	30	30

DAILY DOCUMENTATION SHEET

Control Panel Touch Screen

DATE	6-14-15	6-15-15	6-16-15	6-17-15	6-18-15	6-19-15	6-20-15	6-21-15	6-22-15	6-23-15
TIME	6:10Am	2:40PM	8:07Am	10:07Am	8:54Am	10:48Am	8:17AM	10:55	8:15Am	7:59Am
OBSERVER'S INITIALS	RK	KA	RK	RK	RK	RK	DE	KA	RK	RK
ALARMS										
Shut Down Alarm Code	NA	NA	POWER	NA	NA	NA	NA	NA	NA	NA
Non-critical Alarm Code	NA	NA	OUT, RESTARTED	NA	NA	NA	NA	NA	NA	NA
HOURS METERS			SYSTEM 8:07Am							
B-701 SVE (hrs)	35931	35964	35980	36006	36029	36054	36076	36102	36124	36148
C-2201 SPRG (hrs)	30560	30593	30609	30636	30659	30685	30706	30733	30755	30779
F-2501 H-XCH (hrs)	30560	30593	30609	30636	30659	30685	30706	30733	30755	30779
ANALOGS										
MV-701 SVE POS (%)	29	29	26	26	26	26	26	26	26	26
PT-701 SVE (-wc)	81.6	81.6	81.6	68.0	81.0	81.0	81.6	81.6	81.6	81.6
PT-2501 SPRG (psi)	12.1	12.8	12.3	12.8	12.9	11.6	13.6	12.9	11.6	12.8
SET POINTS										
PTLA-2501 SPRG (psi)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
PTHA-2501 SPRG (psi)	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0
SET POINTS 2										
SVON-101 SVE (min)	60	60	60	60	60	60	60	60	60	60
SVON-102 SVE (min)	60	60	60	60	60	60	60	60	60	60
SVON-103 SVE (min)	180	180	180	180	180	180	180	180	180	180
SET POINTS 3										
SVON-2801 SPRG (min)	60	60	60	60	60	60	60	60	60	60
SVON-2802 SPRG (min)	60	60	60	60	60	60	60	60	60	60
SVON-2803 SPRG (min)	180	180	180	180	180	180	180	180	180	180
SPRG DELAY (min)	0	0	0	0	0	0	0	0	0	0
SET POINTS 4										
MV-701 SVE POS (%)	30	30	30	30	30	30	30	30	30	30

DAILY DOCUMENTATION SHEET

Control Panel Touch Screen

DATE	6-4-15	6-5-15	6-6-15	6-7-15	6-8-15	6-9-15	6-10-15	6-11-15	6-12-15	6-13-15
TIME	7:49 AM	7:20 AM	7:47 AM	10:40	8:47 AM	7:38 AM	7:26 AM	8:10 AM	8:41 AM	10:48 AM
OBSERVER'S INITIALS	RK	RK	DE	KA	RK	RK	RK	RK	RK	AL
ALARMS										
Shut Down Alarm Code	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Non-critical Alarm Code	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HOURS METERS										
B-701 SVE (hrs)	35693	35717	35741	35768	35790	35813	35837	35861	35886	35912
C-2201 SPRG (hrs)	30320	30343	30368	30395	30417	30441	30465	30490	30514	30540
F-2501 H-XCH (hrs)	30320	30343	30368	30395	30417	30441	30465	30490	30514	30540
ANALOGS										
MV-701 SVE POS (%)	29	29	29	29	29	29	29	29	29	29
PT-701 SVE (-wc)	81.6	81.6	81.6	81.6	81.6	81.6	81.6	81.6	81.6	81.6
PT-2501 SPRG (psi)	12.8	12.9	12.9	11.8	13.0	11.5	12.9	12.9	12.9	11.6
SET POINTS										
PTLA-2501 SPRG (psi)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
PTHA-2501 SPRG (psi)	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0
SET POINTS 2										
SVON-101 SVE (min)	60	60	60	60	60	60	60	60	60	60
SVON-102 SVE (min)	60	60	60	60	60	60	60	60	60	60
SVON-103 SVE (min)	180	180	180	180	180	180	180	180	180	180
SET POINTS 3										
SVON-2801 SPRG (min)	60	60	60	60	60	60	60	60	60	60
SVON-2802 SPRG (min)	60	60	60	60	60	60	60	60	60	60
SVON-2803 SPRG (min)	180	180	180	180	180	180	180	180	180	180
SPRG DELAY (min)	0	0	0	0	0	0	0	0	0	0
SET POINTS 4										
MV-701 SVE POS (%)	30	30	30	30	30	30	30	30	30	30

DAILY DOCUMENTATION SHEET

Control Panel Touch Screen

DATE	5-25-15	5-26-15	5-27-15	5-28-15	5-29-15	5-30-15	5-31-15	6-1-15	6-2-15	6-3-15
TIME	11:17AM	10:01Am	8:56 Am	10:01Am	1:04 Pm	9:45Am	11:00Am	9:53 Am	10:21Am	7:44Am
OBSERVER'S INITIALS	KA	RK	RK	RK	RK	KA	DL	RK	RK	RK
ALARMS										
Shut Down Alarm Code	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Non-critical Alarm Code	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HOURS METERS										
B-701 SVE (hrs)	35457	35480	35503	35526	35555	35575	35600	35623	35648	35669
C-2201 SPRG (hrs)	30081	30104	30127	30150	30180	30201	30226	30249	30274	30295
F-2501 H-XCH (hrs)	30081	30104	30127	30156	30180	30201	30226	30249	30274	30295
ANALOGS										
MV-701 SVE POS (%)	29	29	29	29	29	29	29	29	29	29
PT-701 SVE (-wc)	-68	81.6	81.6	81.6	81.6	81.6	81.6	81.6	81.6	81.6
PT-2501 SPRG (psi)	13.1	12.9	13.4	13.0	12.9	11.6	11.4	12.8	12.7	11.5
SET POINTS										
PTLA-2501 SPRG (psi)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
PTHA-2501 SPRG (psi)	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0
SET POINTS 2										
SVON-101 SVE (min)	60	60	60	60	60	60	60	60	60	60
SVON-102 SVE (min)	60	60	60	60	60	60	60	60	60	60
SVON-103 SVE (min)	180	180	180	180	180	180	180	180	180	180
SET POINTS 3										
SVON-2801 SPRG (min)	60	60	60	60	60	60	60	60	60	60
SVON-2802 SPRG (min)	60	60	60	60	60	60	60	60	60	60
SVON-2803 SPRG (min)	180	180	180	180	180	180	180	180	180	180
SPRG DELAY (min)	0	0	0	0	0	0	0	0	0	0
SET POINTS 4										
MV-701 SVE POS (%)	30	30	30	30	30	30	30	30	30	30

DAILY DOCUMENTATION SHEET

Control Panel Touch Screen

DATE	5-15-15	5-16-15	5-17-15	5-18-15	5-19-15	5-20-15	5-21-15	5-22-15	5-23-15	5-24-15
TIME	0945	11:45	7:32 AM	9:55 Am	8:26 Am	2:20 Pm	12:21 Pm	7:23 Am	8:51 AM	11:45 AM
OBSERVER'S INITIALS	A.H.	DL	DE	RK	RK	RK	RK	RK	DE	DL
ALARMS										
Shut Down Alarm Code	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Non-critical Alarm Code	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HOURS METERS										
B-701 SVE (hrs)	35216	35242	35262	35288	35310	35340	35362	35381	35407	35434
C-2201 SPRG (hrs)	29878	29864	29884	29910	29933	29963	29986	30005	30030	30057
F-2501 H-XCH (hrs)	29838	29864	29884	29910	29933	29963	29986	30005	30030	30057
ANALOGS										
MV-701 SVE POS (%)	29	29	29	29	29	29	29	29	29	29
PT-701 SVE (-wc)	81.6	81.6	-81.6	81.6	81.6	81.6	81.6	81.6	81.6	81.6
PT-2501 SPRG (psi)	13	13	13.0	11.8	12.9	12.8	11.5	12.8	11.7	13.0
SET POINTS										
PTLA-2501 SPRG (psi)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
PTHA-2501 SPRG (psi)	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0
SET POINTS 2										
SVON-101 SVE (min)	60	60	60	60	60	60	60	60	60	60
SVON-102 SVE (min)	60	60	60	60	60	60	60	60	60	60
SVON-103 SVE (min)	180	180	180	180	180	180	180	180	180	180
SET POINTS 3										
SVON-2801 SPRG (min)	60	60	60	60	60	60	60	60	60	60
SVON-2802 SPRG (min)	60	60	60	60	60	60	60	60	60	60
SVON-2803 SPRG (min)	180	180	180	180	180	180	180	180	180	180
SPRG DELAY (min)	0	0	0	0	0	0	0	0	0	0
SET POINTS 4										
MV-701 SVE POS (%)	30	30	30	30	30	30	30	30	30	30

WEEKLY DOCUMENTATION SHEET

SYSTEM COMPONENTS

DATE	6-8-15	6-15-15	6-22-15	6-29-15	7-6-15	7-14-15			
TIME	8:43 Am	2:40pm	8:16 Am	0845	8:04 Am	8:26 Am			
OBSERVER'S INITIALS	RL	KA	RL	A.H.	RL	RL			

SYSTEM LEAKS, EXCESSIVE OR UNFAMILAR NOISE, MOISTURE, ETC.

Comments and Notes	NA	NA	NA	N/A	NA	NA			

SOIL VAPOR EXTRACTION (SVE)

Hours of Operation (hrs)	35790	35964	36124	36292	36459	36651			
Inlet Vacuum (-wc)	88	88	89	90	90	89			
Pre-Filter Vacuum (-wc)	76.2	76	75.7	76.0	78.9	78.5			
Post-Filter Vacuum (-wc)	78	78	78	76	80	80			
Outlet Pressure (wc)	7	7	7	6.0	6.0	6.0			
Outlet Temperature (°F)	160	164	162	160	175	170			
Outlet Magnehelic* (in H_2O)	0.9	0.9	0.9	0.9	0.9	0.9			
Water Level Sight Glass (in)	0	0	0	0	0	0			

AIR SPARGE (SPRG)

Hours Operation (hrs)	30418	30593	30755	30925	31093	31287			
Oil Sight Glass (half pt.)	OK	OK	OK	OK	OK	OK			

HEAT EXCHANGER (H-XCH)

Hours Operation (hrs)	30418	30593	30755	30925	31093	31287			
Inlet Temperature (°F)	205	216	205	200	210	215			
Inlet Pressure (psi)	16	16	15.5	16.0	17.0	16			
Outlet Temperature (°F)	110	112	110	105	179	130			
Outlet Pressure (psi)	13.5	13	12	12.5	14.0	13.5			
Outlet Magnehelic* (in H_2O)	4.0 +	4.0 +	4.0 +	4.0 +	4.0 +	4 +			

ELECTRICAL USAGE (see display panel below main breaker and next to control panel)

Kilowatts (kwh)	173793	174700	175543	176429	177305	178320			

*Keep plastic pinch valves on tubing to magnehelic gauge closed except when taking a reading.

WEEKLY DOCUMENTATION SHEET

SYSTEM COMPONENTS

DATE	2-2-15	2-9-15	2-23-15	3-9-15	3-10-15	5-15-15	5.18.15	5-25-15	6-1-15
TIME	2:12 PM	10:40 AM	1:18 PM	8:46 AM	7:46 AM	0945	9:55 AM	11:20 AM	9:55 AM
OBSERVER'S INITIALS	KA	TK	TK	TK	RK	A.H.	RK	KA	TK

SYSTEM LEAKS, EXCESSIVE OR UNFAMILAR NOISE, MOISTURE, ETC.

Comments and Notes		NA	NA	82°F NA	81°F NA	80°F N/A	85°F NA	82°F NA	75°F NA

SOIL VAPOR EXTRACTION (SVE)

Hours of Operation (hrs)	34457	34621	34819	34986	35171	35216	35288	35457	35623
Inlet Vacuum (-wc)	88	82	92	90	86	86	94	80	75
Pre-Filter Vacuum (-wc)	110	110	120+	100+	100+	76	①	①	69
Post-Filter Vacuum (-wc)	78	72	82	82	78	76	74	68	76
Outlet Pressure (wc)	7	7	7	7	7	7	7	8	8
Outlet Temperature (°F)	142	144	148	152	141	148	152	146	150
Outlet Magnehelic* (in H_2O)	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Water Level Sight Glass (in)	0	0	0	0	0	0	0	0	0

AIR SPARGE (SPRG)

Hours Operation (hrs)	29071	29237	29436	29605	29793	29838	29910	30081	30249
Oil Sight Glass (half pt.)	OK	OK	OK	OK	OK	OK	OK	OK	OK

HEAT EXCHANGER (H-XCH)

Hours Operation (hrs)	29071	29237	29436	29605	29793	29838	29910	30081	30249
Inlet Temperature (°F)	210	210	205	215	199	200	200	200	198
Inlet Pressure (psi)	16	16	17.5	16.5	16	16	15	16	16
Outlet Temperature (°F)	110	110	113	116	110	102	104	104	98
Outlet Pressure (psi)	15	13	14	14.5	12.5	14	12	13	14
Outlet Magnehelic* (in H_2O)	14.5	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0

ELECTRICAL USAGE (see display panel below main breaker and next to control panel)

Kilowatts (kwh)	166300	167184	168285	169196	170209	170756	171135	172033	172906

* Keep plastic pinch valves on tubing to magnehelic gauge closed except when taking a reading. CAN'T GET NIPPLE OFF FOR READING.

MONTHLY DOCUMENTATION SHEET

SVE MANIFOLD

DATE	11/14/14	1-9-15	1-29-15	2-25-15	3-13-15	5-15-15	6-29-15	7-16-15		
TIME	1055	0955	0850	1000	1045	0945	0845	0835		
INITIALS	NP/AS	A.H.	A.H.	A.H.	A.H.	A.H.	A.H.	A.H.		

MAGNEHELIC GAUGE*

CELL 1	SVE-1 (in H_2O)	1.1	1.1	1.1	1.1	1.0	1.0	1.2	1.2		
	SVE-2 (in H_2O)	1.5	1.6	1.5	1.5	1.4	1.5	1.5	~~1.0~~ 1.5 AH		
CELL 2	SVE-3 (in H_2O)	1.2	1.3	1.3	1.3	1.3	1.3	1.3	1.3		
	SVE-4 (in H_2O)	1.4	1.4	1.3	1.4	2.6	1.0	1.3	1.3		
CELL 3	SVE-5 (in H_2O)	1.1	1.2	1.0	0.9	1.0	0.9	1.2	1.2		
	SVE-6 (in H_2O)	0.7	1.0	0.9	0.3	0.5	0.6	1.0	1.0		

VACUUM GAUGE

CELL 1	SVE-1 (-wc)	30	30	30	30	32	28	32	33		
	SVE-2 (-wc)	30	28	30	30	30	26	30	30		
CELL 2	SVE-3 (-wc)	20	20	20	20	20	20	20	20		
	SVE-4 (-wc)	20	20	18	18	20	18	20	20		
CELL 3	SVE-5 (-wc)	36	36	36	36	36	36	36	37		
	SVE-6 (-wc)	40	40	38	38	38	38	38	38		

*Keep plastic pinch valves on tubing to magnehelic gauge closed except when taking a reading.

MONTHLY DOCUMENTATION SHEET

AIR SPARGE MANIFOLD

DATE		11/14/14	12-9-15	1-29-15	2-25-15	3-13-15	5-15-15	6-29-15	7-16-15		
TIME		1053	0955	0850	1000	1045	0945	0845	0835		
INITIALS		NMAS	A.H.	A.H.	A.H.	A.H.	A.H.	A.H.	A.H.		
						ROTOMETER					
CELL 1	AS-1 (scfm)	17	21	20	19	20	20	20	20		
	AS-2 (scfm)	20.5	21	21	21	21	21	20	21		
	AS-3 (scfm)	21	21	20	20.5	20	20	20	20		
	AS-4 (scfm)	19	19	20	19	20	20	19	20		
	AS-5 (scfm)	18	20	20	19	20	20	20	20		
CELL 2	AS-6 (scfm)	16.5	16.5	17	16	17	17	16.5	16		
	AS-7 (scfm)	16	16.5	17	16	16.5	17	16.0	16		
	AS-8 (scfm)	22	21.5	22	22	22	22	22	21		
	AS-9 (scfm)	20	21.0	17	17	20	18	20	20		
	AS-10 (scfm)	25	25	24	24	24	24	24	24		
CELL 3	AS-11 (scfm)	17	16	20	18	21	16	16	17		
	AS-12 (scfm)	16	16	24	23.5	24	19	19	19		
	AS-13 (scfm)	15.5	16	22	21	22	17.5	18	17		
	AS-14 (scfm)	21.5	23	30	26	27.5	22.5	22.5	22		
	AS-15 (scfm)	20.5	21.5	Not valving.	10.5	10.5	23.0	23.0	23		
						PRESSURE GAUGE					
CELL 1	AS-1 (psi)	11.5	11	10.0	10.5	9.5	10	10	10.5		
	AS-2 (psi)	11	11	10.0	10.5	10	10	10	10.5		
	AS-3 (psi)	10	10.5	9.5	10	9.0	10	10	10.0		
	AS-4 (psi)	11	11	10.0	10.5	10	10	10	10.5		
	AS-5 (psi)	11.5	11.5	10.0	10.5	10	10.5	10	10.5		
CELL 2	AS-6 (psi)	10	11	10.0	10.5	10	10.5	10	10		
	AS-7 (psi)	12	12	10.0	12.0	11	13	13	13		
	AS-8 (psi)	11	11	11.0	11	11	11	11	11		
	AS-9 (psi)	11.5	14	12.0	12	11.5	12.5	11.5	11.5		
	AS-10 (psi)	12.5	12.5	12.0	12.5	10.0	12.5	12.5	12.5		
CELL 3	AS-11 (psi)	11.5	11.5	9.5	16	9.5	10	9.5	10.5		
	AS-12 (psi)	13.5	13.5	10.5	14	11	13.5	13.5	13.5		
	AS-13 (psi)	13	13	10.0	16	11	13.5	11.5	13.0		
	AS-14 (psi)	13.5	14	10.5	12.5	11	12.5	13.5	12.0		
	AS-15 (psi)	13	13.5	13.0	13.5	13.5	13.5	13.5	13.5		

MONTHLY DOCUMENTATION SHEET

WELL HEAD GAUGES

DATE	3-13-15	5-15-15	6-29-15	7-16-15							
TIME	1045	0945	0845	0535							
INITIALS	A.H	A.H.	A.H	A.H.							

CELL 1	AS-1 (psi)	Covered	8.75	8.8	8.9						
	AS-2 (psi)	8.0	8.0	8.0	8.0						
	AS-3 (psi)	4.0	4.0	4.5	4.5						
	AS-4 (psi)	5.0	2.0	2.0	2.0						
	AS-5 (psi)	12.0	12.0	12.0	12.0						
CELL 2	AS-6 (psi)	9.0	5.0	9.0	9.5						
	AS-7 (psi)	8.0	4.0	6.5	7.0						
	AS-8 (psi)	covered	0	0	0						
	AS-9 (psi)	10.5	10.5	10.5	10.5						
	AS-10 (psi)	3.0	0	0	0						
CELL 3	AS-11 (psi)	8.0	6.0	5.0	9.0						
	AS-12 (psi)	10.5	10.5	10.0	10.5						
	AS-13 (psi)	7.0	4.0	2.5	7.0						
	AS-14 (psi)	10.5	10.5	10	10.5						
	AS-15 (psi)	Broken	10	9.53	9.95						

CELL 1	SVE-1 (in H_2O)	6.5	6.5	6.5	6.5						
	SVE-2 (in H_2O)	2.0	2.0	1.0	1.5						
CELL 2	SVE-3 (in H_2O)	2.0	7.6	7.5	7.5						
	SVE-4 (in H_2O)	1.0	0	0	0						
CELL 3	SVE-5 (in H_2O)	2.5	10	10	2.5						
	SVE-6 (in H_2O)	1.0	A* 8	4.5 A* 8.1	8.3						

DAILY DOCUMENTATION SHEET

BUILDINGS 1 - 2

Control Panel Touch Screen

DATE	6-30-15	7-1-15	7-2-15	7-3-15	7-4-15	7-5-15	7-6-15	7-7-15	7-8-15
TIME	8:58AM	0853	1230	8:15	9:35	11:00AM	8:10AM	—	1330
OBSERVER'S INITIALS	RK	A.H.	A.H.	KA	DL	DL	PC	A.H.	A.H.
WEATHER CONDITIONS									
Indoor Room Temp (°F), Outdoor Conditions: (Rain, Snow, Clear, Overcast, etc.)	CLEAR 70°	clear 60°F	clear 70°F	SUNNY 72°F	SUNNY 70°	SUNNY 78°	PARTLY CLOUDY 81°F	System down	Partly Cloudy 79°F
ALARMS									
Alarm Code	NA	N/A	N/A	NA	NA	NA	NA		N/A
P&ID									
PDT-701 SVE (-wc)	0.12	0.10	0.05	0.07	0.08	0.09	0.09		0.10
PT-701 SVE (-wc)	-65	-58	-53	-60	-60	-67	-70		-58
PT-702 SVE (-wc)	55.9	58.9	59.3	56.9	54.4	53.6	53.5		56.9
PT-2201 SPRG (psi)	13.2	14.8	14.5	13.9	10.8	13.4	13.5		14.9
P-401 PUMP (cycles)	49	49	49	49	49	49	49		49
P&ID2									
PDT-801 SVE (-wc)	0.29	0.32	0.29	0.23	0.29	0.29	0.31		0.29
PT-801 SVE (-wc)	-144	-127	-124	-135	-141	-143	-148		-129
PT-802 SVE (-wc)	47.3	49.7	49.6	48.6	47.0	45.0	45.8		47.7
PT-2301 SPRG (psi)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
P-501 PUMP (cycles)	218	218	218	218	219	219	219		219

Transmitter not recording.

DAILY DOCUMENTATION SHEET

BUILDINGS 1 - 2

Control Panel Touch Screen

DATE	6-30-15	7-1-15	7-2-15	7-3-15	7-4-15	7-5-15	7-6-15	7-7-15	7-8-15
TIME	8:56 AM	0453	1230	8:15AM	9:36AM	11:00AM	8:19AM	—	1330
OBSERVER'S INITIALS	BK	AH	A.H.	KA	DL	DL	KC	A. H	A.H
HOURS METERS									
B-701 SVE (hrs)	6222	6223	6246	6266	6291	6317	6338	S	6343
C-2201 SPRG (hrs)	6155	6156	6179	6199	6224	6250	6271	Y	6275
C-2202 SPRG (hrs)	6130	6131	6131	6131	6131	6131	6131	S	6131
B-801 SVE (hrs)	6156	6157	6180	6200	6225	6251	6272	+	6276
C-2301 SPRG (hrs)	6138	6139	6162	6182	6207	6233	6274	G	6259
C-2302 SPRG (hrs)	6138	6139	6162	6182	6207	6233	6274	M	6258
SET POINTS									
PAL-701 SVE (wc)	-27	-27	-27	-27	-27	-27	-27		-27
PAH-702 SVE (wc)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	D	100.0
PAL-702 SVE (wc)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	O	10.0
PAH-2201 SPRG (psi)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	W	30.0
PAL-2201 SPRG (psi)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N	0.0
PAL-801 SVE (wc)	-25	-25	-25	-25	-25	-25	-25		-25
PAH-802 SVE (wc)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	|	100.0
PAL-802 SVE (wc)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	|	10.0
PAH-2301 SPRG (psi)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	|	30.0
PAL-2301 SPRG (psi)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	|	0.0
SV-2801 SPRG (min)	40	40	40	40	40	40	40	|	40
SV-2802 SPRG (min)	20	20	20	20	20	20	20	|	20
SV-2901 SPRG (min)	20	20	20	20	20	20	20	|	20
SV-2902 SPRG (min)	20	20	20	20	20	20	20		20

DAILY DOCUMENTATION SHEET

BUILDINGS 1 - 2

Control Panel Touch Screen

DATE	6-21-15	6-22-15	6-23-15	6-24-15	6-25-15	6-26-15	6-27-15	6-28-15	6-29-15
TIME	10:40	8:31 AM	8:16 AM	1:39 PM	8:26 AM	8:28 AM	9:18 A.M.	10:16	0930
OBSERVER'S INITIALS	KG	TL	TL	DE	TL	TL	DE	DL	A.H
WEATHER CONDITIONS									
Indoor Room Temp (°F), Outdoor Conditions: (Rain, Snow, Clear, Overcast, etc.)	SUNNY 84°F	Cloudy 82°F	CLEAR 78°F	PARTLY CLOUDY 80°F	Cloudy 79°F	PARTLY cloudy 78°F	CLEAR 75°F	clear 75°F	clear 72%
ALARMS									
Alarm Code	NA	NA	NA	NA	NA	NA	S Y	System Down	N/A
P&ID									
PDT-701 SVE (-wc)	0.34	0.11	0.21	0.05	0.13	0.07	S		0.09
PT-701 SVE (-wc)	-66	-68	-63	-62	-68	-61	T		-62
PT-702 SVE (-wc)	54.1	54.8	56.2	54.9	24.7	56.1	E		57.1
PT-2201 SPRG (psi)	24.6	14.4	25.1	24.5	14.7	14.1	M		14.0
P-401 PUMP (cycles)	49	49	49	49	49	49	D		49
P&ID2									
PDT-801 SVE (-wc)	0.28	0.20	0.31	0.27	0.30	0.31	O		0.30
PT-801 SVE (-wc)	-142	-148	-142	-140	-148	-145	W		-138
PT-802 SVE (-wc)	46	46.0	46.8	46.3	45.9	46.0	N		47.7
PT-2301 SPRG (psi)	0.0	0.0	0.0	0.0	0.0	0.0			0.0
P-501 PUMP (cycles)	218	218	218	218	218	218			218

*Transmitter not recording.

DAILY DOCUMENTATION SHEET

BUILDINGS 1 - 2

Control Panel Touch Screen

DATE	6-21-15	6-22-15	6-23-15	6-24-15	6-25-15	6-26-15	6-27-15	6-28-15	6-29-15
TIME	10:40	8:31 Am	8:46 AM	1:39 PM	8:26 Am	8:28 Am	9:18 AM	10:15	0930
OBSERVER'S INITIALS	KA	RK	RK	DE	RL	RK	DE	DL	A H
HOURS METERS									
B-701 SVE (hrs)	6073	6094	6118	6147	6166	6190	S	S	6199
C-2201 SPRG (hrs)	6005	6027	6050	6080	6099	6123	Y	Y	6132
C-2202 SPRG (hrs)	6005	6027	6050	6080	6099	6123	S	S	6130
B-801 SVE (hrs)	6006	6028	6051	6081	6100	6124	T	T	6133
C-2301 SPRG (hrs)	5989	6010	6034	6063	6082	6106	E	C	6115
C-2302 SPRG (hrs)	5988	6010	6033	6063	6082	6106	M	M	6115
SET POINTS									
PAL-701 SVE (wc)	-27	-27	-27	-27	-27	-27			-27
PAH-702 SVE (wc)	100.0	100.0	100.0	100.0	100.0	100.0	D	D	100.0
PAL-702 SVE (wc)	10.0	10.0	10.0	10.0	10.0	10.0	O	O	10.0
PAH-2201 SPRG (psi)	30.0	30.0	30.0	30.0	30.0	30.0	W	W	30.0
PAL-2201 SPRG (psi)	0.0	0.0	0.0	0.0	0.0	0.0	N	N	0.0
PAL-801 SVE (wc)	-25	-25	-25	-25	-25	-25			-25
PAH-802 SVE (wc)	100.0	100.0	100.0	100.0	100.0	100.0			100.0
PAL-802 SVE (wc)	10.0	10.0	10.0	10.0	10.0	10.0			10.0
PAH-2301 SPRG (psi)	30.0	30.0	30.0	30.0	30.0	30.0			30.0
PAL-2301 SPRG (psi)	0.0	0.0	0.0	0.0	0.0	0.0			0.0
SV-2801 SPRG (min)	40	40	40	40	40	40			40
SV-2802 SPRG (min)	20	20	20	20	20	20			20
SV-2901 SPRG (min)	20	20	20	20	20	20			20
SV-2902 SPRG (min)	20	20	20	20	20	20			20

DAILY DOCUMENTATION SHEET

BUILDINGS 1 - 2

Control Panel Touch Screen

DATE	6-13-15	6-14-15	6-15-15	6-16-15	6-17-15	6-18-15	6-19-15	6-19-15	6-20-15
TIME	10:45Am	6:14Am	2:10Pm	8:15Am	10:12Am	9:12Am	10:52Am	1:15P	8:25AM
OBSERVER'S INITIALS	DL	FR	KA	RC	FR	FR	FR	RC	DE
WEATHER CONDITIONS									
Indoor Room Temp (°F), Outdoor Conditions: (Rain, Snow, Clear, Overcast, etc.)	78° Cloudy	RAIN 77°F	CLOUDY 86	CLEAR 82°F / POWER WENT OUT.	PARTLY CLOUDY. 79°F	CLEAR 82°F	CLEAR 80°F	CLEAR 82°F	CLOUDY 78°
ALARMS									
Alarm Code	NA	NA	NA	RESTARTED PHASE 1 AND 2 SYSTEMS.	NA	NA	NA	NA	NA
P&ID									
PDT-701 SVE (-wc)	0.29	0.40	0.38	0.07	0.25	0.22	0.16	0.19	0.23
PT-701 SVE (-wc)	-69	-68	-62	-57	-60	-65	-60	A	-62
PT-702 SVE (-wc)	53.0	54.7	55.4	55.8	56.3	55.2	56.4	L	56.2
PT-2201 SPRG (psi)	25.0	24.4	24.7	25.9	25.9	27.6	14.9	R	26.2
P-401 PUMP (cycles)	49	49	49	49	49	49	49	E	49
P&ID2									
PDT-801 SVE (-wc)	0.24	0.25	0.25	0.28	0.23	0.24	0.26	D	0.26
PT-801 SVE (-wc)	-137	-140	-138	-126	-137	-142	-127	Y	-142
PT-802 SVE (-wc)	49.4	47.5	46.9	49.0	47.5	46.7	47.1	D	46.6
PT-2301 SPRG (psi)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9/	0.0
P-501 PUMP (cycles)	217	217	217	217	217	218	218	6	218

* Transmitter not recording.

DAILY DOCUMENTATION SHEET

BUILDINGS 1 - 2

Control Panel Touch Screen

DATE	6-13-15	6-14-15	6-15-15	6-16-15	6-17-15	6-18-15	6-19-15	6-20-15	6-20-15
TIME	10:45 AM	6:14 AM	2:10 PM	8:15 AM	10:12 AM	9:02 AM	10:52 AM	1:15 PM	8:25 AM
OBSERVER'S INITIALS	DL	RK	KA	RK	RK	RK	RK	RK	DE
HOURS METERS									
B-701 SVE (hrs)	5882	5902	5934	5950	5976	5999	6025	A	6046
C-2201 SPRG (hrs)	5815	5834	5866	5883	5909	5932	5957	R	5979
C-2202 SPRG (hrs)	5815	5834	5866	5883	5909	5931	5957	R	5979
B-801 SVE (hrs)	5816	5835	5867	5884	5910	5932	5958	A	5980
C-2301 SPRG (hrs)	5798	5817	5849	5866	5892	5915	5940	R	5962
C-2302 SPRG (hrs)	5798	5817	5849	5866	5892	5915	5940		5962
SET POINTS								A	
PAL-701 SVE (wc)	-27	-27	-27	-27	-27	-27	-27	&	-27
PAH-702 SVE (wc)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	WE	100.0
PAL-702 SVE (wc)	10.0	10.0	10.0	10.0	10.0	10.0	10.0		10.0
PAH-2201 SPRG (psi)	30.0	30.0	30.0	30.0	30.0	30.0	30.0		30.0
PAL-2201 SPRG (psi)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
PAL-801 SVE (wc)	-25	-25	-25	-25	-25	-25	-25		-25
PAH-802 SVE (wc)	100.0	100.0	100.0	100.0	100.0	100.0	100.0		100.0
PAL-802 SVE (wc)	10.0	10.0	10.0	10.0	10.0	10.0	10.0		10.0
PAH-2301 SPRG (psi)	30.0	30	30.0	30.0	30.0	30.0	30.0		30.0
PAL-2301 SPRG (psi)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
SV-2801 SPRG (min)	40	40	40	40	40	40	40		40
SV-2802 SPRG (min)	20	20	20	20	20	20	20		20
SV-2901 SPRG (min)	20	20	20	20	20	20	20		20
SV-2902 SPRG (min)	20	20	20	20	20	20	20		20

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BUILDINGS 1 - 2

Control Panel Touch Screen

DATE	6-4-15	6-5-15	6-6-15	6-7-15	6-8-15	6-9-15	6-10-15	6-11-15	6-12-15
TIME	7:56AM	7:25AM	7:55 AM	10:30AM	8:59AM	8:03AM	7:18AM	8:04 AM	8:47 AM
OBSERVER'S INITIALS	RK	RK	DE	KA	RK	RK	RK	RK	RK
WEATHER CONDITIONS									
Indoor Room Temp (°F), Outdoor Conditions: (Rain, Snow, Clear, Overcast, etc.)	Cloudy 78°F	Partly Cloudy 84°F	CLEAR 80°F	Cloudy 72	CLEAR 84°F	CLEAR 78°F	CLEAR 88°F	Cloudy 76°F	RAIN 72°F
ALARMS									
Alarm Code	NA	NA	NA	NA	NA	NA	NA	TAH-1301 XCH Alm 0432 5/04	NA
P&ID									
PDT-701 SVE (-wc)	0.18	0.08	0.19	0.29	0.17	0.25	0.32	0'23	0.39
PT-701 SVE (-wc)	-69	-68	-67	-82	-75	-72	-78	-62	-71
PT-702 SVE (-wc)	53.5	53.8	54.6	51.4	52.2	52.9	51.3	54.4	52.3
PT-2201 SPRG (psi)	26.4	26.0	26.1	26.1	25.2	25.2	24.9	15.0	24.5
P-401 PUMP (cycles)	49	49	49	49	49	49	49	49	49
P&ID2									
PDT-801 SVE (-wc)	0.26	0.22	0.26	0.27	0.24	0.24	0.27	0.31	0.24
PT-801 SVE (-wc)	-132	-130	-128	-140	-137	-137	-137	-124	-140
PT-802 SVE (-wc)	49.1	48.8	49.7	47.8	47.3	48.4	47.2	49.2	47.9
PT-2301 SPRG (psi)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
P-501 PUMP (cycles)	215	215	216	216	216	216	216	216	216

Transmitter Not recording.

DAILY DOCUMENTATION SHEET

BUILDINGS 1 - 2

Control Panel Touch Screen

DATE	6-4-15	6-5-15	6-6-15	6-7-15	6-8-15	6-9-15	6-10-15	6-11-15	6-12-15
TIME	7:56Am	7:25Am	7:55 AM	10:30Am	9:59Am	8:03Am	7:18Am	8:04Am	8:47 Am
OBSERVER'S INITIALS	RK	RK	DE	KA	RK	RK	RK	RK	RK
HOURS METERS									
B-701 SVE (hrs)	5680	5703	5728	5754	5777	5800	5823	5831	5856
C-2201 SPRG (hrs)	5613	5636	5661	5687	5710	5733	5756	5764	5789
C-2202 SPRG (hrs)	5613	5636	5661	5687	5709	5733	5756	5764	5789
B-801 SVE (hrs)	5614	5637	5662	5688	5711	5734	5757	5765	5790
C-2301 SPRG (hrs)	5613	5637	9661	5688	5710	5733	5741	5747	5772
C-2302 SPRG (hrs)	5613	5637	5661	5688	5710	5733	5741	5747	5772
SET POINTS									
PAL-701 SVE (wc)	-27	-27	-27	-27	-27	-27	-27	-27	-27
PAH-702 SVE (wc)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
PAL-702 SVE (wc)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
PAH-2201 SPRG (psi)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
PAL-2201 SPRG (psi)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PAL-801 SVE (wc)	-25	-25	-25	-25	-25	-25	-25	-25	-25
PAH-802 SVE (wc)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
PAL-802 SVE (wc)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
PAH-2301 SPRG (psi)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
PAL-2301 SPRG (psi)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SV-2801 SPRG (min)	40	40	40	40	40	40	40	40	40
SV-2802 SPRG (min)	20	20	20	20	20	20	20	20	20
SV-2901 SPRG (min)	20	20	20	20	20	20	20	20	20
SV-2902 SPRG (min)	20	20	20	20	20	20	20	20	20

DAILY DOCUMENTATION SHEET

BUILDINGS 1 - 2

Control Panel Touch Screen

DATE	5-26-15	5-27-15	5-28-15	5-29-15	5-30-15	5-31-15	6-1-15	6-2-15	6-3-15
TIME	10:13 AM	8:48 AM	10:07 AM	1:08 PM	9:40 AM	0900	1226	10:30 AM	7:51 AM
OBSERVER'S INITIALS	TK	TK	TK	TK	KA		A.H	TK	TK
WEATHER CONDITIONS									
Indoor Room Temp (°F), Outdoor Conditions: (Rain, Snow, Clear, Overcast, etc.)	SPRINKLE (RAIN) 78°F	RAIN 76°F	SUNNY 82°F	PARTLY SUNNY 88°F	RAIN 82	clear 80	Clear 70°F	CLEAR 78°F	CLEAR 72°F
ALARMS									
Alarm Code	NA	NA	NA	NA	SYSTEM DOWN PAL-701 SVE	system down PAL-701 SVE	N/A	NA	NA
P&ID									
PDT-701 SVE (-wc)	0.14	0.12	0.04	0.10			0.10	0.09	0.04
PT-701 SVE (-wc)	-75	-73	-67	-70			-54	-61	-67
PT-702 SVE (-wc)	56.4	56.9	52.3	52.2			58.4	55.0	54.6
PT-2201 SPRG (psi)	25.6	14.3	26.3	14.1			27.2	27.1	26.6
P-401 PUMP (cycles)	49	49	49	49			49	49	49
P&ID2									
PDT-801 SVE (-wc)	0.26	0.24	0.24	0.22			0.29	0.25	0.24
PT-801 SVE (-wc)	-129	-127	-122	-129			-115	-124	-129
PT-802 SVE (-wc)	50.2	50.0	49.5	48.4			50.5	50.0	49.2
PT-2301 SPRG (psi)	0.0	0.0	0.0	0.0			0.0	0.0	0.0
P-501 PUMP (cycles)	215	215	215	215			215	215	215

& Compressor ON. Transmitter not recording.

DAILY DOCUMENTATION SHEET

BUILDINGS 1 - 2

Control Panel Touch Screen

DATE	5-26-15	5-27-15	5-28-15	5-29-15	5-30-15	5-31-15	6-1-15	6-2-15	6-3-15
TIME	10:13 AM	8:48 AM	10:07 AM	1:08 PM			1226	10:30 AM	7:51 AM
OBSERVER'S INITIALS	RK	RK	RK	RK			A. H	RK	RK
HOURS METERS									
B-701 SVE (hrs)	5520	5543	5568	5595			5613	5635	5656
C-2201 SPRG (hrs)	5453	5475	5501	5528			5545	5667	5589
C-2202 SPRG (hrs)	5453	5475	5500	5527			5545	5667	5588
B-801 SVE (hrs)	5453	5476	5501	5527			5546	5668	5590
C-2301 SPRG (hrs)	5453	5476	5501	5528			5546	5668	5589
C-2302 SPRG (hrs)	5453	5476	5501	5528			5546	5668	5589
SET POINTS									
PAL-701 SVE (wc)	-27	-27	-27	-27			-27	-27	-27
PAH-702 SVE (wc)	100.0	100.0	100.0	100.0			100.0	100.0	100.0
PAL-702 SVE (wc)	10.0	10.0	10.0	10.0			10.0	10.0	10.0
PAH-2201 SPRG (psi)	30.0	30.0	30.0	30.0			30.0	30.0	30.0
PAL-2201 SPRG (psi)	0.0	0.0	0.0	0.0			0.0	0.0	0.0
PAL-801 SVE (wc)	-25	-25	-25	-25			-25	-25	-25
PAH-802 SVE (wc)	100.0	100.0	100.0	100.0			100.0	100.0	100.0
PAL-802 SVE (wc)	10.0	10.0	10.0	10.0			10.0	10.0	10.0
PAH-2301 SPRG (psi)	30.0	30.0	30.0	30.0			30.0	30.0	30.0
PAL-2301 SPRG (psi)	0.0	0.0	0.0	0.0			0.0	0.0	0.0
SV-2801 SPRG (min)	40	40	40	40			40	40	40
SV-2802 SPRG (min)	20	20	20	20			20	20	20
SV-2901 SPRG (min)	20	20	20	20			20	20	20
SV-2902 SPRG (min)	20	20	20	20			20	20	20

DAILY DOCUMENTATION SHEET

BUILDINGS 1 - 2

Control Panel Touch Screen

DATE	5-17-15	5-18-15	5-19-15	5-20-15	5-21-15	5-22-15	5-23-15	5-24-15	5-25-15
TIME	7:40 AM	10:1 AM	8:31 AM	2:26 PM	12:32 PM	7:28 AM	8:58 AM	11:50 AM	11:40 AM
OBSERVER'S INITIALS	DE	TK	TK	TK	TK	TK	DE	DL	KA
WEATHER CONDITIONS									
Indoor Room Temp (°F), Outdoor Conditions: (Rain, Snow, Clear, Overcast, etc.)	CLOUDY 78°F	Sunny 76°F	Cloudy 58°F	RAIN 54°F	CLEAR 70°F	CLEAR 66°F	CLEAR 76°F	Cloudy 70°F	Cloudy 76°F
ALARMS									
Alarm Code	NA	NA	NA	NA	NA	NA	NA	NA	NA
P&ID									
PDT-701 SVE (-wc)	0.13	0.15	0.16	0.19	0.15	0.14	0.17	0.15	0.13
PT-701 SVE (-wc)	-68	-67	-65	-70	-66	-67	-64	-70	-74
PT-702 SVE (-wc)	56.0	55.3	57.1	55.6	55.1	54.9	54.5	53.5	51.8
PT-2201 SPRG (psi)	20.9	26.5	27.1	26.7	14.4	26.5	14.6	25.6	25.9
P-401 PUMP (cycles)	49	49	49	49	49	49	49	49	49
P&ID2									
PDT-801 SVE (-wc)	0.24	0.23	0.23	0.22	0.27	0.24	0.25	0.25	0.24
PT-801 SVE (-wc)	-123	-121	-119	-122	-120	-119	-116	-123	-126
PT-802 SVE (-wc)	51.1	50.6	52.2	52.2	51.1	51.2	50.2	50.4	49.9
PT-2301 SPRG (psi)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
P-501 PUMP (cycles)	215	215	215	215	215	215	215	215	215

* Compressor ON. Transmitter not recording.

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BUILDINGS 1 - 2

Control Panel Touch Screen

DATE	5-17-15	5-18-15	5-19-15	5-20-15	5-21-15	5-22-15	5-23-15	5-24-15	5-25-15
TIME	7:40 AM	10:19 Am	8:31 Am	2:26 Pm	12:32 Pm	7:28 Am	8:58 AM	11:50 AM	11:40 AM
OBSERVER'S INITIALS	DE	TRC	TRK	TRK	TRC	TRK	DE	DL	KA
HOURS METERS									
B-701 SVE (hrs)	5302	5328	5350	5380	5402	5421	5447	5474	5498
C-2201 SPRG (hrs)	5234	5261	5283	5313	5335	5354	5380	5406	5430
C-2202 SPRG (hrs)	5234	5261	5283	5313	5335	5354	5379	5406	5430
B-801 SVE (hrs)	5235	5262	5284	5314	5336	5355	5380	5407	5431
C-2301 SPRG (hrs)	5235	5262	5284	5314	5336	5355	5380	5407	5431
C-2302 SPRG (hrs)	5235	5262	5284	5314	5336	5355	5380	5407	5431
SET POINTS									
PAL-701 SVE (wc)	-27	-27	-27	-27	-27	-27	-27	-27	-27
PAH-702 SVE (wc)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
PAL-702 SVE (wc)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
PAH-2201 SPRG (psi)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
PAL-2201 SPRG (psi)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PAL-801 SVE (wc)	-25	-25	-25	-25	-25	-25	-25	-25	-25
PAH-802 SVE (wc)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
PAL-802 SVE (wc)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
PAH-2301 SPRG (psi)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
PAL-2301 SPRG (psi)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SV-2801 SPRG (min)	40	40	40	40	40	40	40	40	40
SV-2802 SPRG (min)	20	20	20	20	20	20	20	20	20
SV-2901 SPRG (min)	20	20	20	20	20	20	20	20	20
SV-2902 SPRG (min)	20	20	20	20	20	20	20	20	20

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BUILDINGS 1 - 2

Control Panel Touch Screen

DATE	3-6-15	3-7-15	3-8-15	3-10-15	3-11-15	3-12-15	3-13-15	3-14-15	3-16-15
TIME	2:20 Pm	11:44 Am	9:00 Am	8:05 Am	2:35 Pm	2:34 Pm	7:33 Am	0905	11:50
OBSERVER'S INITIALS	KA	TAL	KA	TAL	TAL	TAL	RC	A.H.	DL
WEATHER CONDITIONS									
Indoor Room Temp (°F), Outdoor Conditions: (Rain, Snow, Clear, Overcast, etc.)	SUNNY 74°F	Sunny 78°F	Cloudy 74°F	Fog/Cloudy 74°F	Sunny 82°F	Sunny 79°F	Sunny 72°F	Cloudy 70°F	Cloudy 70°F
ALARMS									
Alarm Code	NA	NA	NA	NA	NA	NA	NA	N/A	NA
P&ID									
PDT-701 SVE (-wc)	0.21	0.20	0.23	0.21	0.17	0.21	0.18	0.18	0.16
PT-701 SVE (-wc)	-71	-73	-72	-77	-68	-69	-72	-64	-66
PT-702 SVE (-wc)	55.2	55.6	55.4	52.7	54.6	54.5	54.4	57.9	55.9
PT-2201 SPRG (psi)	27.4	14.8	27.3	26.6	27.0	26.9	14.6	26.2	26.0
P-401 PUMP (cycles)	45	45	45	46	46	47	47	49	49
P&ID2									
PDT-801 SVE (-wc)	0.27	0.31	0.29	0.24	0.26	0.25	0.18	0.27	0.18
PT-801 SVE (-wc)	-111	-114	-114	-121	-112	-109	-116	-118	-120
PT-802 SVE (-wc)	54.4	53.4	55.0	53.4	51.7	52.4	53.6	52.3	50.3
*PT-2301 SPRG (psi)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
P-501 PUMP (cycles)	215	215	215	215	215	215	215	215	215

*Compressor is ON. Transmitter not working.

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Control Panel Touch Screen

DATE	3-6-15	3-7-15	3-8-15	3-10-15	3-11-15	3-12-15	3-13-15	3-14-15	3-16-15
TIME	2:20 PM	11:44 AM	9:00 AM	8:05 AM	2:35 PM	2:34 PM	7:33 AM	0905	11:50
OBSERVER'S INITIALS	KA	TK	KA	TK	TK	DL	TK	A.H.	DL
HOURS METERS									
B-701 SVE (hrs)	5088	5110	5129	5176	5207	5231	5248	5255	5283
C-2201 SPRG (hrs)	5020	5042	5062	5109	5140	5164	5180	5188	5215
C-2202 SPRG (hrs)	5020	5042	5062	5109	5140	5163	5180	5188	5215
B-801 SVE (hrs)	5021	5043	5063	5110	5141	5165	5181	5189	5216
C-2301 SPRG (hrs)	5021	5043	5063	5110	5141	5164	5181	5189	5216
C-2302 SPRG (hrs)	5021	5043	5063	5110	5141	5164	5181	5189	5216
SET POINTS									
PAL-701 SVE (wc)	-27	-27	-27	-27	-27	-27	-27	-27	-27
PAH-702 SVE (wc)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
PAL-702 SVE (wc)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
PAH-2201 SPRG (psi)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
PAL-2201 SPRG (psi)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PAL-801 SVE (wc)	-25	-25	-25	-25	-25	-25	-25	-25	-25
PAH-802 SVE (wc)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
PAL-802 SVE (wc)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
PAH-2301 SPRG (psi)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
PAL-2301 SPRG (psi)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SV-2801 SPRG (min)	40	40	40	40	40	40	40	40	40
SV-2802 SPRG (min)	20	20	20	20	20	20	20	20	20
SV-2901 SPRG (min)	20	20	20	20	20	20	20	20	20
SV-2902 SPRG (min)	20	20	20	20	20	20	20	20	20

WEEKLY DOCUMENTATION SHEET
BUILDING 1
SYSTEM COMPONENTS

DATE	6-15-15	6-22-15	6-29-15	7-6-15	7-15-15	7-10-15 A.H			
TIME	2:15 PM	8:31 Am	0930	8:16 Am	8:25 AM	1430 A.H			
OBSERVER'S INITIALS	~~KH~~	RK	A.H	RK	RK	~~A.H~~ AH			

SYSTEM LEAKS, EXCESSIVE OR UNFAMILAR NOISE; MOISTURE, ETC.

Comments and Notes	NO	NA	N/A	NA	NA				

SOIL VAPOR EXTRACTION (SVE) BLOWER B-701

Pre-Filter Vacuum (-wc)	55	75	52	60	55				
Post-Filter Vacuum (-wc)	90	90	84	94	88				
Inlet Magnehelic* (in H_2O)	.3	.2	0.2	0.2	0.2				
Inlet Vacuum (-wc)	80	-82	82	-82	GAUGE BROKE				

SOIL VAPOR EXTRACTION (SVE) HEAT EXCHANGER (H-XCH)

Inlet Pressure (wc)	22	22	23	18	20				
Inlet Temperature (°F)	140	102	125	130	125				
Outlet Pressure (wc)	9	8	5.5	6	8				
Outlet Temperature (°F)	109	102	94	95	90				
Water Level Sight Glass (in)	0	0	0	0	8"				

AIR SPARGE (SPRG) COMPRESSOR C-2201

Upper Oil Sight Glass (half pt.)	OK	OK	OK	OK	OK				
Lower Oil Sight Glass (half pt.)	OK	OK	OK	OK	OFF				

AIR SPARGE (SPRG) HEAT EXCHANGER (H-XCH)

Inlet Pressure (psi)	25	15	15	14.5	160				
Inlet Temperature (°F)	250	255	195	200	189				
Outlet Pressure (psi)	24	14.5	15.5	15	15				
Outlet Temperature (°F)	122	118	82	86	80				

* Keep plastic pinch valves on tubing to magnehelic gauge closed except when taking a reading.

WEEKLY DOCUMENTATION SHEET
BUILDING 1
SYSTEM COMPONENTS

DATE	2-23-15	3-2-15	3-10-15	5-15-15	5-18-15	5-25-15	6-1-15	6-8-15	6-15-15
TIME	1:41 pm	1:06 pm	8:02 AM	0905	10:16 AM	11:45 AM	1226	8:56 AM	
OBSERVER'S INITIALS	RK	RK	RK	A.H.	RK	KA	A.H.	RK	
SYSTEM LEAKS, EXCESSIVE OR UNFAMILAR NOISE; MOISTURE, ETC.									
Comments and Notes	Sunny 70°F	Sunny 76°F	Cloudy Fog 74°F	Cloudy 70°F	Clear 76°F	Cloudy 76°F	clear 70°F	NA 82°F	
SOIL VAPOR EXTRACTION (SVE) BLOWER B-701									
Pre-Filter Vacuum (-wc)	61	78	68	52	56	60	50	60	
Post-Filter Vacuum (-wc)	82	100+	-100+	82	86	96	80	94	
Inlet Magnehelic* (in H_2O)	0.5	0.1	0.2	0.2	0.2	0.2	0.2	0.2	
Inlet Vacuum (-wc)	90	-82	-80	-82	-82	-82	84	82	
SOIL VAPOR EXTRACTION (SVE) HEAT EXCHANGER (H-XCH)									
Inlet Pressure (wc)	40	30	28	32	30	24	30	30	
Inlet Temperature (°F)	100	110	110	125	125	125	125	126	
Outlet Pressure (wc)	8	8	8	9	9	9	8	8	
Outlet Temperature (°F)	65	84	82	96	100	100	94	110	
Water Level Sight Glass (in)	16"	13"	3"	3"	2"	2"	Ø"	Ø	
AIR SPARGE (SPRG) COMPRESSOR C-2201									
Upper Oil Sight Glass (half pt.)	OK	OK	OK	OK	OK	OK	OK	OK	
Lower Oil Sight Glass (half pt.)	OK	OK	OK	OK	OK	OK	OK	OK	
AIR SPARGE (SPRG) HEAT EXCHANGER (H-XCH)									
Inlet Pressure (psi)	14	14	26	24	24	26	27	~~25~~ 25	
Inlet Temperature (°F)	190	195	225	260	~~150~~	254	250	~~200~~ 210	
Outlet Pressure (psi)	13	13	25.5	26	26	25	26.5	24.5	
Outlet Temperature (°F)	110	105	110	112	115	117	110	118	

[redacted]eep plastic pinch valves on tubing to magnehelic gauge closed excep[redacted]n taking a reading.

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WEEKLY DOCUMENTATION SHEET
BUILDING 2
SYSTEM COMPONENTS

DATE	6-24-15	7-6-15	7-14-15						
TIME	0905	8:10AM	8:34 AM						
OBSERVER'S INITIALS	A.H	RL	RL						
SYSTEM LEAKS, EXCESSIVE OR UNFAMILAR NOISE, MOISTURE, ETC.									
Comments and Notes	N/A. 74°F	NA 80°F	NA 82°F						
SOIL VAPOR EXTRACTION (SVE) BLOWER B-801									
Pre-Filter Vacuum (-wc)	58	65	55						
Post-Filter Vacuum (-wc)	60	70	80						
Inlet Magnehelic* (in H_2O)	0.40	0.40	03.5						
Inlet Vacuum (-wc)	60	-60	-60						
SOIL VAPOR EXTRACTION (SVE) HEAT EXCHANGER (H-XCH)									
Inlet Pressure (wc)	48	46	48						
Inlet Temperature (°F)	125	125	130						
Outlet Pressure (wc)	1.0	1	1						
Outlet Temperature (°F)	96	98	100						
Water Level Sight Glass (in)	~~0~~ 0	0	9"						
AIR SPARGE (SPRG) COMPRESSOR C-2301									
Upper Oil Sight Glass (half pt.)	ok	ok	ok						
Lower Oil Sight Glass (half pt.)	ok	ok	ok						
AIR SPARGE (SPRG) HEAT EXCHANGER (H-XCH)									
Inlet Pressure (psi)	18	17.5	16.5						
Inlet Temperature (°F)	210	212	220						
Outlet Pressure (psi)	16.5	16.5	16.5						
Outlet Temperature (°F)	118	118	126						

* Keep plastic pinch valves on tubing to magnehelic gauge closed except when taking a reading.

WEEKLY DOCUMENTATION SHEET
BUILDING 2
SYSTEM COMPONENTS

DATE	3-2-15	3-10-15	5-15-15	5-18-15	5-25-15	6-1-15	6-8-15	6-15-15	6-22-15
TIME	12:59 Pm	7:55 AM	1030	10:06 AM	11:32 AM	1222	8:51 Am	2:30 PM	8:24 AM
OBSERVER'S INITIALS	RK	RK	A.H.	RK	KA	A.H.	RK	KA	RK
SYSTEM LEAKS, EXCESSIVE OR UNFAMILAR NOISE, MOISTURE, ETC.									
Comments and Notes Room Temp-	NA 74°F	NA 72°F	N/A 72°F	NA 74°F	NA 78°F	N/A 72°F	NA 80°F	NA 82	NA 80°F
SOIL VAPOR EXTRACTION (SVE) BLOWER B-801									
Pre-Filter Vacuum (-wc)	46	50	49	48	50	50	55	60	65
Post-Filter Vacuum (-wc)	52	55	52	54	52	55	60	60	69
Inlet Magnehelic* (in H_2O)	0.2	0.1.5	0.25	0.25	0.25	0.30	0.3	0.3	0.3
Inlet Vacuum (-wc)	-60	-60	-60	-6	-60	-60	-6	-60	-60
SOIL VAPOR EXTRACTION (SVE) HEAT EXCHANGER (H-XCH)									
Inlet Pressure (wc)	56	54	52	54	50	52	48	48	46
Inlet Temperature (°F)	101	100	120	119	120	125	125	124	126
Outlet Pressure (wc)	2	2	2	2	2	2	2	2	2
Outlet Temperature (°F)	70	70	96	96	98	92	98	102	100
Water Level Sight Glass (in)	0	2"	0"	Ø	4"	Ø	Ø	0	0
AIR SPARGE (SPRG) COMPRESSOR C-2301									
Upper Oil Sight Glass (half pt.)	OK	OK	OK	OK	OK	OK	OK	OK	OK
Lower Oil Sight Glass (half pt.)	OK	OK	OK	OK	OK	OK	OK	OK	OK
AIR SPARGE (SPRG) HEAT EXCHANGER (H-XCH)									
Inlet Pressure (psi)	17.5	18.0	17.5	18.5	17.5	18.5	15.5	18	17.5
Inlet Temperature (°F)	200	209	215	210	208	205	210	208	215
Outlet Pressure (psi)	15.5	14.5	16	17.0	17	16	14.5	16	16
Outlet Temperature (°F)	119	119	114	116	120	116	120	122	120

[redacted]ep plastic pinch valves on tubing to magnehelic gauge closed except [redacted] taking a reading.

Page [redacted] 1

MONTHLY DOCUMENTATION SHEET
BUILDING 1
SVE MANIFOLD

DATE	6-24-15	7-16-15								
TIME	0930	1070								
INITIALS	A.H.	A.H.								

MAGNEHELIC GAUGE*

SVE-15 (in H_2O)	0.0	0.0								
SVE-14 (in H_2O)	0.0	0.0								
SVE-13 (in H_2O)	0.0	0.0								
SVE-11 (in H_2O)	0.25	0.40								
SVE-9 (in H_2O)	0.55	0.40								

VACUUM GAUGE

SVE-15 (-wc)	50	55								
SVE-14 (-wc)	53	55								
SVE-13 (-wc)	55	60								
SVE-11 (-wc)	18	20								
SVE-9 (-wc)	50	55								

* Keep plastic pinch valves on tubing to magnehelic gauge closed except when taking a reading.

MONTHLY DOCUMENTATION SHEET
BUILDING 1
SVE MANIFOLD

DATE	5-15-14	6/26/14	7/23/14	9/16/14	10-29-14	11/14/14	1-9-15	2-25-15	3-12-15	5-15-15
TIME	1130	1350	0900	1250	1445	0755	1255	0930	0945	0905
INITIALS	A.H.	NP	NP	NP	A.H.	NP/AS	A.H.	A.H.	A.H.	A.H.

MAGNEHELIC GAUGE*

SVE-15 (in H_2O)	0.0	0.0	0.0	0.05	0.0	0.0	0.0	0.0	0.0	0.0
SVE-14 (in H_2O)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0+	0.0	0.7
SVE-13 (in H_2O)	0.0	0.0	0.48	0.0	0.0	0.0	0.0	0.25	0.65	0.0
SVE-11 (in H_2O)	0.5	0.45	0.45	0.45	0.45	0.40	0.35	0.60	0.45	0.4
SVE-9 (in H_2O)	0.8	0.7	0.65	0.65	over 2.0	0.75	0.3	0.0	0.90	0.7

VACUUM GAUGE

SVE-15 (-wc)	65	60	60	55	60	65	50	80	68	-50
SVE-14 (-wc)	65	60	60	60	65	65	52	47	70	-55
SVE-13 (-wc)	70	60	60	60	65	65	50	78	70	-55
SVE-11 (-wc)	26	26	28	24	28	29	22	33	29	-22
SVE-9 (-wc)	63	58	58	55	60	60	48	80	64	-50

*Keep plastic pinch valves on tubing to magnehelic gauge closed except when taking a reading.

MONTHLY DOCUMENTATION SHEET
BUILDING 2
SVE MANIFOLD

DATE	6-24-15	7-16-15								
TIME	0905	1020								
INITIALS	A. H.	A. H.								

MAGNEHELIC GAUGE*

SVE-10 (in H_2O)	0.35	0.25								
SVE-12 (in H_2O)	0.60	0.60								
SVE-8 (in H_2O)	0.60	0.70								
SVE-7 (in H_2O)	0.40	0.35								

VACUUM GAUGE

SVE-10 (-wc)	55	80								
SVE-12 (-wc)	55	55								
SVE-8 (-wc)	57	55								
SVE-7 (-wc)	65	68								

ELECTRICAL USAGE

Kilowatts (kwh)	13380.60	36654.60								

* Keep plastic pinch valves on tubing to magnehelic gauge closed except when taking a reading.

MONTHLY DOCUMENTATION SHEET
BUILDING 2
SVE MANIFOLD

DATE	5-15-14	6/26/14	7/23/14	9/16/14	10-29-14	11/14/14	1-9-15	2-25-15	3-13-15	5-15-15
TIME	1115	1405	0945	1100	1430	1025	1240	0950	1000	1070
INITIALS	A.H.	NP	NP	NP	A.H.	NP/AS	A.H.	A.H.	A.H.	A.H.

MAGNEHELIC GAUGE*

SVE-10 (in H_2O)	0.20	0.20	0.20	0.26	0.25	0.0	0.5	0.0	0.0	0.10
SVE-12 (in H_2O)	0.55	0.55	0.35	1.50	0.60	0.0	0.60	0.0	0.0	0.55
SVE-8 (in H_2O)	0.70	0.60	0.60	0.65	0.80	0.90	1.10	1.35	0.65	0.65
SVE-7 (in H_2O)	0.35	0.35	0.40	0.35	0.35	0.35	1.70	0.1	0.3	0.3

VACUUM GAUGE

SVE-10 (-wc)	55	60	60	15	35	45	35	70	50	48
SVE-12 (-wc)	52	58	60	55	58	58	60	70	48	47
SVE-8 (-wc)	56	60	60	58	60	88	70	70	48	49
SVE-7 (-wc)	80	70	70	70	75	90	75	70	68	69

ELECTRICAL USAGE

Kilowatts (kwh)	504953.0	599206.10	661995.20	668301.60	763311.60	800793.20	805379.10	8846320	919912.60	925975.88

Keep plastic pinch valves on tubing to magnehelic gauge closed except when taking a reading.

MONTHLY DOCUMENTATION SHEET
BUILDING 1 UPPER CELL
AIR SPARGE MANIFOLD

DATE	5-15-15	6-29-15	7-16-15							
TIME	0905	0930	1030							
INITIALS	A.H.	A.H	A.H.							
			ROTOMETER							
UPPER CELL	AS-47 (scfm)	0	0	10						
	AS-38 (scfm)	10	5	5						
	AS-37 (scfm)	16	8	7						
	AS-23 (scfm)	15	7.5	6						
	AS-24 (scfm)	14	7.0	6.5						
	AS-39 (scfm)	16	8.0	7						
	AS-48 (scfm)	17.5	9.0	8.5						
	AS-52 (scfm)	15	7.5	7						
	AS-56 (scfm)	14	7.5	6.5						
	AS-54 (scfm)	22	10	10						
	AS-58 (scfm)	12.5	6.5	5.5						
			PRESSURE GAUGE							
UPPER CELL	AS-47 (psi)	11.5	0	12						
	AS-38 (psi)	17	13	14						
	AS-37 (psi)	8.5	7.5	7						
	AS-23 (psi)	13	11	10.5						
	AS-24 (psi)	13	12	11						
	AS-39 (psi)	12	11	10						
	AS-48 (psi)	11.5	11	10						
	AS-52 (psi)	11	10.5	9.5						
	AS-56 (psi)	11	10.0	9.5						
	AS-54 (psi)	14	13.0	14						
	AS-58 (psi)	9.5	12.0	11.5						

*Note: 6-29-15 reading low due to C-2207 not in operation,
7-16-15 "

MONTHLY DOCUMENTATION SHEET
BUILDING 1 LOWER CELL
AIR SPARGE MANIFOLD

DATE	5-15-15	6-29-15	7-16-15							
TIME	0905	0930	1030							
INITIALS	A.H	A.H.	A.H.							
ROTOMETER										
LOWER CELL AS-49 (scfm)	15	8	7.5							
LOWER CELL AS-44 (scfm)	14	8	7.5							
LOWER CELL AS-31 (scfm)	12	7	7.5							
LOWER CELL AS-32 (scfm)	12	7.5	7.5							
LOWER CELL AS-45 (scfm)	14.5	6	6.5							
LOWER CELL AS-51 (scfm)	15	7	7.5							
LOWER CELL AS-55 (scfm)	18	10	10							
LOWER CELL AS-53 (scfm)	17	8	7.5							
LOWER CELL AS-59 (scfm)	14.5	8	7.5							
LOWER CELL AS-57 (scfm)	16.5	6	6							
LOWER CELL AS-50 (scfm)	22	10	9.5							
PRESSURE GAUGE										
LOWER CELL AS-49 (psi)	10.5	10	10							
LOWER CELL AS-44 (psi)	12.5	10.5	11							
LOWER CELL AS-31 (psi)	10	10	10							
LOWER CELL AS-32 (psi)	9	10	10							
LOWER CELL AS-45 (psi)	11.5	10.5	11							
LOWER CELL AS-51 (psi)	10.5	10	10							
LOWER CELL AS-55 (psi)	10.5	10	10							
LOWER CELL AS-53 (psi)	11.5	10	10.5							
LOWER CELL AS-59 (psi)	11	10	10.5							
LOWER CELL AS-57 (psi)	12	10.5	11							
LOWER CELL AS-50 (psi)	12	10.5	11							

note 6-29-15 reading low due to C-2202 not in operation,,
7-16-15 "

MONTHLY DOCUMENTATION SHEET
BUILDING 2 UPPER CELL
AIR SPARGE MANIFOLD

DATE	5-15-15	6-24-15	7/6-15							
TIME	1076	0905	1020							
INITIALS	A.H.	A.H.	A.H.							
			ROTOMETER							
UPPER CELL	AS-20 (scfm)	15	15	15						
	AS-26 (scfm)	9	8	8.5						
	AS-16 (scfm)	17	16	17						
	AS-18 (scfm)	11	10	10						
	AS-22 (scfm)	13.5	13	13						
	AS-28 (scfm)	13	12	13						
	AS-30 (scfm)	20	18	19						
	AS-36 (scfm)	16	16	15.5						
	AS-42 (scfm)	15.5	15	10						
	AS-40 (scfm)	16	15.5	19						
	AS-34 (scfm)	17	27	27						
			PRESSURE GAUGE							
UPPER CELL	AS-20 (psi)	10	10	10						
	AS-26 (psi)	10	10.5	10						
	AS-16 (psi)	10	10	10						
	AS-18 (psi)	14.5	14.5	15						
	AS-22 (psi)	10	10	10						
	AS-28 (psi)	10.5	10.5	10.5						
	AS-30 (psi)	10	10	10						
	AS-36 (psi)	11.5	11.0	11.5						
	AS-42 (psi)	10.5	10.5	10						
	AS-40 (psi)	10	10.5	10.5						
	AS-34 (psi)	10	11.0	11.5						

MONTHLY DOCUMENTATION SHEET
BUILDING 2 LOWER CELL
AIR SPARGE MANIFOLD

DATE	5-15-15	6-24-15	7-16-15							
TIME	1030	0905	1020							
INITIALS	A.H.	A.H.	A.H.							
			ROTOMETER							
LOWER CELL AS-27 (scfm)	14	14	15							
LOWER CELL AS-25 (scfm)	15.5	15	17							
LOWER CELL AS-17 (scfm)	15	14	15							
LOWER CELL AS-19 (scfm)	15	15	16							
LOWER CELL AS-21 (scfm)	18	20	20							
LOWER CELL AS-29 (scfm)	10.5	20	15							
LOWER CELL AS-43 (scfm)	11.5	10	11							
LOWER CELL AS-46 (scfm)	21	21	22							
LOWER CELL AS-41 (scfm)	13	12	12.5							
LOWER CELL AS-33 (scfm)	17	17	18							
LOWER CELL AS-35 (scfm)	13.5	13	13.5							
			PRESSURE GAUGE							
LOWER CELL AS-27 (psi)	12	11.5	10.5							
LOWER CELL AS-25 (psi)	11	10.5	10.5							
LOWER CELL AS-17 (psi)	11	10.5	11.0							
LOWER CELL AS-19 (psi)	13	12.5	13							
LOWER CELL AS-21 (psi)	12.5	11.5	12							
LOWER CELL AS-29 (psi)	14	12.5	13.5							
LOWER CELL AS-43 (psi)	11	10.5	10.5							
LOWER CELL AS-46 (psi)	12.5	12	12							
LOWER CELL AS-41 (psi)	10.5	10	10.5							
LOWER CELL AS-33 (psi)	11.5	11	11							
LOWER CELL AS-35 (psi)	11.5	11	11							

MONTHLY DOCUMENTATION SHEET
BUILDING 1
PID MEASUREMENTS

DATE	1-9-15	2-25-15	3-13-15	5-85-15	6-29-15	7-16-15						
TIME	1255	0930	0945	0905	0930	1030						
INITIALS	A.H	A.H.	A.H.	A.H.	A.H.	A.H.						

SVE Effluent	0.9	0.4	1.9	0.0	0.0	0.0						
SVE - 15	moisture	moisture	moisture	0.0	0.0	moisture						
SVE - 14	↓	↓	↓	0.0	moisture	↓						
SVE - 13	↓	↓	↓	0.0	0.0	↓						
SVE - 11	↓	↓	↓	0.0	0.0	↓						
SVE - 9	↓	↓	↓	0.0	0.0	↓						
Exhaust	0.9	0.4	1.9	0.0	0.0	0.0						

MONTHLY DOCUMENTATION SHEET
BUILDING 2
PID MEASUREMENTS

DATE	1-9-15	2-25-15	3-13-15	5-15-15	6-29-15	7-16-15						
TIME	1240	0950	1000	1070	0905	1020						
INITIALS	A.H.	A.H.	A.H.	A.H.	A.H.	A.H.						

SVE Effluent	0.00	0.00	0.90	0.00	0.00	0.0						
SVE - 10	moisture	moisture	moisture	0.00	moisture	moisture						
SVE - 12	↓	↓	↓	0.00	moisture	↓						
SVE - 8	↓	↓	↓	0.00	moisture	↓						
SVE - 7	↓	↓	↓	0.00	moisture	↓						
Exhaust	0.00	0.00	0.90	0.00	0.00	0.0						

D

Appendix D

Second Quarter 2015 Groundwater Sampling Data Sheets

AECOM

Well ID:	GMZ-01

Ground Water Sample Collection Record

Client: UTAS Plants 1/2 Facility Date: 5-11-15 Time: Start 1335 (24hr)
Project No: 60339110-4213 Finish 1450
Site Location: Rockford, Illinois
Weather: Cloudy 60-70°F Collector(s): A. Hollatz

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 47.73 Screen interval(ft): 15 Approx. depth of pump intake(ft): 40
Water table depth (ft): 34.19 Casing type/diameter: 2" PVC Minimum purge volume: 6.70 (gals)
Water column length (ft): 13.54 (calculations on reverse)

2. WELL PURGE DATA

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals.
If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	115562
	Lamotte	2020	2476-8312
	Lamotte	Smart 2 Colorimeter	7798-3510

Begin purge at 1340

Time (24hr)	Purge Vol. (ml)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1350	5000	13.61	7.12	1753	133.2	4.99	758	500	34.19	Orange/none
1355	7500	14.26	7.00	1708	87.7	4.69	608	500	34.19	↓
1400	10,000	13.87	6.97	1695	109.5	4.51	612	500	34.19	↓
1405	12,500	13.88	6.96	1686	101.8	4.26	454	500	34.19	↓
1410	15,000	14.21	6.96	1689	109.0	4.26	310	500	34.19	↓
1415	17,500	14.10	7.01	1702	118.1	4.21	211	500	34.19	↓
1420	20,000	14.41	6.97	1705	122.3	3.77	144	500	34.19	cloudy/none
1425	22,500	14.20	6.96	1707	116.8	3.67	76.3	500	34.19	↓
1430	25,000	14.29	6.97	1701	118.1	3.62	53.3	500	34.19	↓
1435	27,500	14.54	6.96	1692	118.5	3.58	42.8	500	34.19	↓
	* Turbidity not stable, removed 3 well volumes, Sample collected									

(continued on back)

Sample Collector(s): [signature] Date: 5-11-15

SAMPLE COLLECTION DATA Well ID: **GMZ-01**

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-GMZ01-051115	VOC's	3 - 40mL Clear Vials	1435	500	
	Ferrous Iron	Overrange 0-10 mg/L			

VOCs - Volatile organic compounds

G - Glass
HCl - Hydrchloric acid

AECOM

Well ID:	GMZ-02

Ground Water Sample Collection Record

Client: UTAS Plants 1/2 Facility Date: 5-13-15 Time: Start 0835 (24hr)
Project No: 60339110-4213 Finish 0945
Site Location: Rockford, Illinois
Weather: Sunny 40-50°F Collector(s): A. Heldt

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 44.80 Screen interval(ft): 15 Approx. depth of pump intake(ft): 37
Water table depth (ft): 31.69 Casing type/diameter: 2" PVC Minimum purge volume: 6.5 (gals)
Water column length (ft): 13.11 (calculations on reverse)

2. WELL PURGE DATA

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals.
If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	15556 2
	Lamotte	2020	2476-3312
	Lamotte	Smart 2 Colorimeter	729.8-3570

Begin purge at 0840

Time (24hr)	Purge Vol. (ml)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
0850	5000	12.93	7.44	1321	117.3	8.34	69.9	500	31.78	cloudy/none
0855	7500	12.99	7.36	1321	117.5	8.37	45.8	500	31.78	"
0900	10,000	13.03	7.35	1320	126.0	8.34	30.5	500	31.78	clear/none
0905	12,500	13.03	7.34	1316	129.0	8.37	21.9	500	31.78	"
0910	15,000	13.17	7.35	1311	133.1	8.42	16.6	500	31.78	"
0915	17,500	13.16	7.35	1309	136.5	8.31	14.1	500	31.78	"
0920	20,000	13.23	7.36	1305	139.5	8.31	10.35	500	31.78	"
0925	22,500	13.21	7.36	1300	141.4	8.26	7.23	500	31.78	"
0930	25,000	13.19	7.36	1298	143.2	8.28	6.83	500	31.78	"
	* Turbidity not stable, removed 3 well volumes, Sample collected									

(continued on back)

Sample Collector(s): Allen Heldt Date: 5-13-15

SAMPLE COLLECTION DATA Well ID: **GMZ-02**

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-GMZ02-051315	VOC's	3 - 40mL Clear Vials	0930	500	
HSSER_MS01-051315	VOC's	3 - 40mL Clear Vials	0930	500	
HSSER-MSD01-051315	VOC's	3 - 40mL Clear Vials	0930	500	
	Ferrous Iron	1.18 mg/L			

VOCs - Volatile organic compounds

G - Glass
HCl - Hydrchloric acid

AECOM

Well ID:	GMZ-03

Ground Water Sample Collection Record

Client: UTAS Plants 1/2 Facility Date: 5-13-15 Time: Start 0725 (24hr)
Project No: 60339110-4213 Finish 0830
Site Location: Rockford, Illinois
Weather: Sunny 40-50°F Collector(s): A. Hollatz

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 44.60 Screen interval(ft): 15 Approx. depth of pump intake(ft): 37
Water table depth (ft): 31.08 Casing type/diameter: 2" PVC Minimum purge volume: 6.7 (gals)
Water column length (ft): 13.52 (calculations on reverse)

2. WELL PURGE DATA

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals.
If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	11556Z
	Lamotte	2020	24776-3312
	Lamotte	Smart 2 Colorimeter	7798-3510

Begin purge at 0730

Time (24hr)	Purge Vol. (ml)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
0740	5000	12.98	7.81	1310	226.9	9.31	151	500	31.16	cloudy/none
0745	7500	12.98	7.63	1239	220.8	9.47	42.6	500	31.16	↓
0750	10,000	13.05	7.59	1225	219.1	9.75	28.2	500	31.16	clear/none
0755	12,500	13.05	7.58	1223	204.5	9.87	16.7	500	31.16	↓
0800	15,000	13.04	7.59	1222	204.3	9.73	12.8	500	31.16	
0805	17,500	13.02	7.60	1223	197.5	9.78	13.65	500	31.16	
0810	20,000	13.15	7.61	1221	191.0	9.53	12.52	500	31.16	

(continued on back)

Sample Collector(s): Adam Hollatz Date: 5-13-15

SAMPLE COLLECTION DATA Well ID: **GMZ-03**

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-GMZ03-051315	VOC's	3 - 40mL Clear Vials	0810	500	
HSSER-Dup01-051315	VOC's	3 - 40mL Clear Vials	0810	500	
	Ferrous Iron	1.23 mg/L			

VOCs - Volatile organic compounds

G - Glass
HCl - Hydrchloric acid

AECOM

Well ID:	GMZ-04

Ground Water Sample Collection Record

Client: UTAS Plants 1/2 Facility Date: 5-12-15 Time: Start 1425 (24hr)
Project No: 60339110-4213 Finish 1546
Site Location: Rockford, Illinois
Weather: Partly Sunny 45-55°F Collector(s): A. Hollatz

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 45.30 Screen interval(ft): 15 Approx. depth of pump intake(ft): 38
Water table depth (ft): 29.41 Casing type/diameter: 2" PVC Minimum purge volume: 7.8 (gals)
Water column length (ft): 15.89 (calculations on reverse)

2. WELL PURGE DATA

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals.
If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	11556a
	Lamotte	2020	2476-3312
	Lamotte	Smart 2 Colorimeter	7798-2510

Begin purge at 1430

Time (24hr)	Purge Vol. (ml)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1440	5000	13.77	7.99	1754	142.0	9.54	288	500	29.47	Orange/none
1445	7500	13.78	7.98	1766	141.3	9.31	154	500	29.47	cloudy/none
1450	10,000	13.78	7.99	1769	141.1	9.17	51.5	500	29.47	"
1455	12,500	13.66	8.00	1771	141.0	9.07	34.2	500	29.47	clear/none
1500	15,000	13.56	8.00	1771	141.0	9.03	22.4	500	29.47	
1505	17,500	13.60	8.00	1774	141.5	8.84	15.2	500	29.47	
1510	20,000	13.54	8.00	1773	141.8	8.65	13.06	500	29.47	
1515	22,500	13.55	8.00	1771	141.9	8.63	9.05	500	29.47	
1520	25,000	13.61	8.00	1768	142.5	8.51	6.69	500	29.47	
1525	27,500	13.61	8.00	1766	142.5	8.64	6.08	500	29.47	
1530	30,000	13.64	8.01	1765	142.2	8.66	3.94	500	29.47	
	* Turbidity not stable, removed 3 well volumes, sample collected.									

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Sample Collector(s): [signature] Date: 5-12-15

SAMPLE COLLECTION DATA Well ID: **GMZ-04**

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-GMZ04-050215	VOC's	3 - 40mL Clear Vials	1530	500	
	Ferrous Iron	0.80 mg/L			

VOCs - Volatile organic compounds

G - Glass
HCl - Hydrchloric acid

AECOM

Well ID: MW07FGA

Ground Water Sample Collection Record

Client: UTAS Plants 1/2 Facility Date: 5-12-15 Time: Start 0930 (24hr)
Project No: 60339110-4213 Finish 1150
Site Location: Rockford, Illinois
Weather: Overcast 45-55°F Collector(s): M. Hollatz

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 46.79 Screen interval(ft): 15 Approx. depth of pump intake(ft): 39
Water table depth (ft): 29.47 Casing type/diameter: 2" SS Minimum purge volume: 34.0 (gals)
Water column length (ft): 17.32 (calculations on reverse)

2. WELL PURGE DATA

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals.
If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	15556a2
	Lamotte	2020	2476-3312
	Lamotte	Smart 2 Colorimeter	7798-3510
Begin purge at 0935			

Time (24hr)	Purge Vol. (ml)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1045	5000	12.18	6.92	1636	129.6	5.15	71.6	500	29.53	cloudy/none
1050	7500	12.28	6.90	1641	127.0	5.00	136	500	29.53	
1055	10,000	12.26	6.90	1643	129.2	5.01	107.3	500	29.60	
1100	12,500	12.35	6.89	1647	129.8	4.88	92.5	500	29.60	
1105	15,000	12.33	6.89	1649	130.8	4.77	73.2	500	29.60	
1110	17,500	12.27	6.89	1653	130.6	4.62	64.7	500	29.60	
1115	20,000	12.36	6.89	1654	129.5	4.72	48.0	500	29.60	
1120	22,500	12.24	6.89	16660	129.0	4.85	46.4	500	29.60	
1125	25,000	12.33	6.89	1659	126.9	4.74	35.0	500	29.60	clear/none
1130	27,500	12.00	6.88	1661	122.6	4.78	33.9	500	29.60	
1135	30,000	12.6	6.89	1667	124.6	4.68	32.6	500	29.60	

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Sample Collector(s): [signature] Date: 5-12-15

SAMPLE COLLECTION DATA Well ID: **MW-07FGA**

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-MW07FGA-051215	VOC's	3 - 40mL Clear Vials	1135	500	
	Ferrous Iron	2.94 mg/L			

VOCs - Volatile organic compounds

G - Glass
HCl - Hydrchloric acid

AECOM

Well ID:	MW-203

Ground Water Sample Collection Record

Client:	UTAS Plants 1/2 Facility	Date:	5-11-15	Time: Start	1515 (24hr)
Project No:	60339110-4213			Finish	1635
Site Location:	Rockford, Illinois				
Weather:	Sunny 60-70 °F	Collector(s):	A. Hollatz		

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 47.50 Screen interval(ft): 15 Approx. depth of pump intake(ft): 40
Water table depth (ft): 30.30 Casing type/diameter: 2" SS Minimum purge volume: 8.50 (gals)
Water column length (ft): 17.2 (calculations on reverse)

2. WELL PURGE DATA

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals.
If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	11556B
	Lamotte	2020	8476-3312
	Lamotte	Smart 2 Colorimeter	7798-3510
Begin purge at 1520			

Time (24hr)	Purge Vol. (ml)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1530	5000	15.42	7.12	837	165.4	1.95	4.30	500	30.30	clear/none
1535	7500	15.29	6.93	879	161.7	0.91	1.19	500	30.30	
1540	10,000	15.34	6.82	936	120.6	0.62	1.94	500	30.30	
1545	12,500	15.43	6.79	999	50.3	0.54	1.52	500	30.30	
1550	15,000	15.10	6.79	1037	42.3	0.51	2.15	500	30.30	
1555	17,500	14.92	6.79	1041	43.2	0.49	2.01	500	30.30	
1600	20,000	15.41	6.79	1042	50.9	0.49	0.99	500	30.30	
1605	22,500	15.63	6.80	1043	62.6	0.50	0.43	500	30.30	
1610	25000	15.85	6.80	1047	74.9	0.53	1.22	500	30.30	
1615	27,500	15.39	6.81	1051	84.4	0.53	0.32	500	30.30	
1620	30,000	15.24	6.81	1044	90.6	0.52	0.78	500	30.30	
1625	32,500	15.62	6.81	1046	94.5	0.50	0.23	500	30.30	

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Sample Collector(s): A. Hollatz Date: 5-11-15

SAMPLE COLLECTION DATA Well ID: **MW-203**

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-MW203-051115	VOC's	3 - 40mL Clear Vials	1625	500	
	Ferrous Iron	0.06 mg/L			

VOCs - Volatile organic compounds

G - Glass
HCl - Hydrchloric acid

AECOM

Well ID: **PMW-01**

Ground Water Sample Collection Record

Client: UTAS Plants 1/2 Facility Date: 5-13-15 Time: Start 0950 (24hr)
Project No: 60339110-4213 Finish 1055
Site Location: Rockford, Illinois
Weather: Sunny 45-55°F Collector(s): A. Holtz

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 44.72 Screen interval(ft): 25 Approx. depth of pump intake(ft): 37
Water table depth (ft): 31.79 Casing type/diameter: 2" PVC Minimum purge volume: 6.4 (gals)
Water column length (ft): 12.93 (calculations on reverse)

2. WELL PURGE DATA

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals.
If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	11556a2
	Lamotte	2020	2476-3312
	Lamotte	Smart 2 Colorimeter	7798-3510

Begin purge at 0955

Time (24hr)	Purge Vol. (ml)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1005	5000	13.15	7.00	1344	136.5	2.85	1167	500	31.93	Brown/none
1010	7500	13.25	6.93	1316	122.6	2.91	691	506	31.93	↓
1015	10,000	13.24	6.90	1316	22.0	3.17	204	500	31.93	Cloudy/none
1020	12,500	13.27	6.86	1335	9.0	3.54	88.9	500	31.93	↓
1025	15,000	13.33	6.85	1344	4.7	3.82	53.2	500	31.93	↓
1030	17,500	13.42	6.83	1332	1.5	4.13	32.4	500	31.93	clear/none
1035	20,000	13.42	6.83	1323	4.9	4.26	19.9	500	31.93	↓
1040	22,500	13.41	6.83	1318	5.7	4.37	13.7	500	31.93	↓
1045	25,000	13.40	6.83	1316	5.1	4.37	11.3	500	31.93	↓
	ΔTurbidity/ORP not stable, Removed 3 well volumes, Sample collected.									

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Sample Collector(s): [signature] Date: 5-13-15

SAMPLE COLLECTION DATA Well ID: **PMW-01**

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-PMW01-051315	VOC's	3 - 40mL Clear Vials	1045	500	
	Ferrous Iron	3.04 mg/L			

VOCs - Volatile organic compounds

G - Glass
HCl - Hydrchloric acid

AECOM

Well ID: **PMW-02**

Ground Water Sample Collection Record

Client: UTAS Plants 1/2 Facility Date: 5-13-15 Time: Start 1125 (24hr)
Project No: 60339110-4213 Finish 1245
Site Location: Rockford, Illinois
Weather: Sunny 45-55°F Collector(s): A. Holst

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 46.02 Screen interval(ft): 25 Approx. depth of pump intake(ft): 37
Water table depth (ft): 31.78 Casing type/diameter: 2" PVC Minimum purge volume: 6.5 (gals)
Water column length (ft): 13.24 (calculations on reverse)

2. WELL PURGE DATA

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals.
If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	115562
	Lamotte	2020	2476-3312
	Lamotte	Smart 2 Colorimeter	7798-3510

Begin purge at 1140

Time (24hr)	Purge Vol. (ml)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1150	5000	13.56	6.88	1684	96.0	3.40	61.7	500	31.88	Slt. cloudy/turbid
1155	7500	13.54	6.81	1693	84.7	2.59	42.2	500	31.88	↓
1200	10,000	13.63	6.78	1696	84.7	1.96	23.5	500	31.88	clear/gone
1205	12,500	13.75	6.77	1693	83.2	1.60	14.01	500	31.88	
1210	15,000	13.68	6.77	1694	85.2	1.19	7.69	500	31.88	
1215	17,500	13.70	6.76	1693	87.6	0.91	5.35	500	31.88	
1220	20,000	13.67	6.76	1693	90.9	0.77	3.56	500	31.88	
1225	22,500	13.75	6.75	1701	93.9	0.69	2.71	500	31.88	
1230	25,000	13.77	6.75	1702	95.6	0.66	2.18	500	31.88	↓
	* Turbidity / DO not stable, removed 3 well volumes, Sample collected									

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Sample Collector(s): [signature] Date: 5-13-15

SAMPLE COLLECTION DATA Well ID: **PMW-02**

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-PMW02-051315	VOC's	3 - 40mL Clear Vials	1230	500	
HSSER-EBLK01-051315	VOC's	3 - 40mL Clear Vials	1130	—	
	Ferrous Iron	0.81 mg/L			

VOCs - Volatile organic compounds

G - Glass
HCl - Hydrchloric acid

AECOM

Well ID:	SMW-01

Ground Water Sample Collection Record

Client: UTAS Plants 1/2 Facility Date: 5-12-15 Time: Start 0725 (24hr)
Project No: 60339110-4213 Finish 0815
Site Location: Rockford, Illinois
Weather: overcast 45-55°F Collector(s): A. Hollatz

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 39.50 Screen interval(ft): 15 Approx. depth of pump intake(ft): 32
Water table depth (ft): 32.26 Casing type/diameter: 2" PVC Minimum purge volume: 3.60 (gals)
Water column length (ft): 7.24 (calculations on reverse)

2. WELL PURGE DATA

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals.
If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	15562
	Lamotte	2020	2476-3312
	Lamotte	Smart 2 Colorimeter	7298-3510

Begin purge at 0730

Time (24hr)	Purge Vol. (ml)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
0740	5000	12.06	6.88	1375	232.5	8.46	134	500	32.24	cloudy/none
0745	7500	12.14	6.86	1374	229.0	8.24	46.9	500	32.24	↓
0750	10,000	12.23	6.86	1345	218.5	8.06	20.8	500	32.24	clear/none
0755	12,500	12.29	6.87	1324	207.0	8.14	11.8	500	32.24	↓
0800	15,000	12.31	6.87	1310	187.3	8.14	9.74	500	32.24	↓
	* Turbidity / Cond not stable, removed 3 well volumes									
	Sample collected.									

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Sample Collector(s): Allen Hollatz Date: 5-12-15

SAMPLE COLLECTION DATA Well ID: **SMW-01**

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-SMW01-051215	VOC's	3 - 40mL Clear Vials	0800	500	
	Ferrous Iron	1.46 mg/L			

VOCs - Volatile organic compounds

G - Glass
HCl - Hydrchloric acid

AECOM

Well ID:	SMW-02

Ground Water Sample Collection Record

Client: UTAS Plants 1/2 Facility Date: 5-12-15 Time: Start 0920 (24hr)
Project No: 60339110-4213 Finish 1020
Site Location: Rockford, Illinois
Weather: overcast 45-55°F Collector(s): A. Hollatz

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 46.00 Screen interval(ft): 15 Approx. depth of pump intake(ft): 32
Water table depth (ft): 28.77 Casing type/diameter: 2" PVC Minimum purge volume: 5.5 (gals)
Water column length (ft): 11.23 (calculations on reverse)

2. WELL PURGE DATA

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals.
If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	115562
	Lamotte	2020	2476-3312
	Lamotte	Smart 2 Colorimeter	7798-3510

Begin purge at 0925

Time (24hr)	Purge Vol. (ml)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
0935	5000	11.82	6.87	1351	84.7	4.40	46.9	500	28.82	cloudy/none
0940	7500	12.09	6.85	1358	90.6	3.86	32.8	500	28.82	clear/none
0945	10,000	12.11	6.84	1361	92.6	3.68	20.2	500	28.82	
0950	12,500	12.22	6.83	1360	92.7	3.49	15.1	500	28.82	
0955	15,000	12.20	6.82	1367	101.5	3.48	12.67	500	28.82	
1000	17,500	12.22	6.82	13666	105.3	3.45	11.34	500	28.82	
1005	20,000	12.18	6.81	1373	102.1	3.48	8.41	500	28.82	
1010	22,500	12.18	6.81	1372	105.8	3.48	7.02	500	28.82	

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Sample Collector(s): A. Hollatz Date: 5-12-15

SAMPLE COLLECTION DATA Well ID: **SMW-02**

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-SMW02-051215	VOC's	3 - 40mL Clear Vials	1010	500	
	Ferrous Iron	1.30 mg/L			

VOCs - Volatile organic compounds

G - Glass
HCl - Hydrchloric acid

AECOM

Well ID:	SMW-04

Ground Water Sample Collection Record

Client:	UTAS Plants 1/2 Facility	Date:	5-13-15	Time: Start	1245 (24hr)
Project No:	60339110-4213			Finish	1350
Site Location:	Rockford, Illinois				
Weather:	Sunny 45-55°F	Collector(s):	A. Hollatz		

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 42.50 Screen interval(ft): 15 Approx. depth of pump intake(ft): 35
Water table depth (ft): 31.41 Casing type/diameter: 2" PVC Minimum purge volume: 5.5 (gals)
Water column length (ft): 11.09 (calculations on reverse)

2. WELL PURGE DATA

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals.
If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	11556 2
	Lamotte	2020	2476- 3312
	Lamotte	Smart 2 Colorimeter	7298- 3510

Begin purge at 1250

Time (24hr)	Purge Vol. (ml)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1300	5000	13.85	6.88	1649	11.4	2.93	15.3	500	31.44	clear/none
1305	7500	13.82	6.80	1666	4.7	1.80	11.76	500	31.49	
1310	10,000	13.78	6.78	1666	-2.9	0.96	6.72	500	31.49	
1315	12,500	13.84	6.78	1666	0.5	0.38	3.41	500	31.49	
1320	15,000	13.87	6.78	1662	-4.6	0.28	1.76	500	31.49	
1325	17,500	13.99	6.78	1659	-4.5	0.26	1.48	500	31.49	
1330	20,000	14.19	6.79	1654	2.6	0.24	1.17	500	31.49	
1335	22,500	14.45	6.79	1652	8.4	0.20	0.71	500	31.49	
	* Turbidity, ORP, DO not stable, removed 3 well volumes, Sample collected.									

(continued on back)

Sample Collector(s): Allen Hollatz Date: 5-13-15

SAMPLE COLLECTION DATA — Well ID: **SMW-04**

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-SMW04-051315	VOC's	3 - 40mL Clear Vials	1335	500	
	Ferrous Iron	1.34 mg/L			

VOCs - Volatile organic compounds

G - Glass

HCl - Hydrchloric acid

AECOM

Well ID:	SMW-08

Ground Water Sample Collection Record

Client: UTAS Plants 1/2 Facility Date: 5-11-15 Time: Start 1225 (24hr)
Project No: 60339110-4213 Finish 1330
Site Location: Rockford, Illinois
Weather: Cloudy 60s-70°F Collector(s): A. Holtz

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 41.85 Screen interval(ft): 15 Approx. depth of pump intake(ft): 34
Water table depth (ft): 31.64 Casing type/diameter: 2" PVC Minimum purge volume: 5.0 (gals)
Water column length (ft): 10.21 (calculations on reverse)

2. WELL PURGE DATA

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals.
If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	115562
	Lamotte	2020	2476-3312
	Lamotte	Smart 2 Colorimeter	7796-3570

Begin purge at 1235

Time (24hr)	Purge Vol. (ml)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1245	5000	13.57	6.61	1920	238.1	1.97	63.6	500	31.64	Orange/none
1250	7500	13.57	6.61	1940	235.9	1.88	42.8	500	31.64	↓
1255	10,000	13.48	6.61	2005	224.5	1.60	21.3	500	31.64	↓
1300	12,500	13.46	6.63	2016	184.6	1.61	17.0	500	31.64	cloudy/none
1305	15,000	13.46	6.64	2012	197.9	1.51	46.9	500	31.64	↓
1310	17,500	13.51	6.65	2008	189.8	1.47	31.9	500	31.64	cloudy/none
1315	20,000	13.33	6.66	2002	150.7	1.40	31.9	500	31.64	↓
	* Turbidity not stable, removed 3 well volumes, sample collected.									

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Sample Collector(s): [signature] Date: 5-11-15

SAMPLE COLLECTION DATA Well ID: **SMW-08**

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-SMW08-051115	VOC's	3 - 40mL Clear Vials	1315	500	
HSSER-FBLK01-051115	VOC's	3 - 40mL Clear Vials	1230	—	
	Ferrous Iron	mg/L	Over range		0-10 mg/L

VOCs - Volatile organic compounds

G - Glass
HCl - Hydrchloric acid

AECOM

Well ID:	SMW-19

Ground Water Sample Collection Record

Client: UTAS Plants 1/2 Facility Date: 5-12-15 Time: Start 1155 (24hr)
Project No: 60339110-4213 Finish 1300
Site Location: Rockford, Illinois
Weather: Overcast 45-55°F Collector(s): A. Hallatt

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 41.16 Screen interval(ft): 15 Approx. depth of pump intake(ft): 35
Water table depth (ft): 30.44 Casing type/diameter: 2" SS Minimum purge volume: 5.3 (gals)
Water column length (ft): 10.72 (calculations on reverse)

2. WELL PURGE DATA

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals.
If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	15562
	Lamotte	2020	24716-3312
	Lamotte	Smart 2 Colorimeter	7798-3510

Begin purge at 1200

Time (24hr)	Purge Vol. (ml)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1210	5000	13.42	6.84	1384	120.6	4.62	74.4	500	30.55	cloudy/none
1215	7500	13.54	6.80	1382	122.6	4.19	32.4	500	30.55	clear/none
1220	10,000	13.58	6.79	1377	125.1	3.94	18.6	500	30.55	
1225	12,500	13.53	6.77	1364	126.7	3.60	13.54	500	30.56	
1230	15,000	13.49	6.76	1356	127.9	3.50	10.85	500	30.55	
1235	17,500	13.56	6.78	1348	129.3	3.39	6.93	500	30.55	
1240	20,000	13.67	6.75	1342	130.2	3.45	6.11	500	30.55	
1245	22,500	13.53	6.75	1337	130.5	3.49	4.68	500	30.55	
	* Turbid. Not stable, removed 3 well volumes, sample collected.									

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Sample Collector(s): [signature] Date: 5-12-15

SAMPLE COLLECTION DATA Well ID: **SMW-19**

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-SMW19-051215	VOC's	3 - 40mL Clear Vials	1245	500	
	Ferrous Iron	1.51 mg/L			

VOCs - Volatile organic compounds

G - Glass
HCl - Hydrchloric acid

AECOM

Well ID:	SMW-20

Ground Water Sample Collection Record

Client: UTAS Plants 1/2 Facility Date: 5-12-15 Time: Start 1550 (24hr)
Project No: 60339110-4213 Finish 1645
Site Location: Rockford, Illinois
Weather: Partly Sunny 45-55 °F Collector(s): A. Hollatz

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 40.15 Screen interval(ft): 15 Approx. depth of pump intake(ft): 33
Water table depth (ft): 30.52 Casing type/diameter: 2" PVC Minimum purge volume: 4.70 (gals)
Water column length (ft): 9.63 (calculations on reverse)

2. WELL PURGE DATA

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals.
If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	11556a
	Lamotte	2020	2476-3312
	Lamotte	Smart 2 Colorimeter	7798-3510

Begin purge at 1555

Time (24hr)	Purge Vol. (ml)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1605	5000	13.95	7.96	829	151.4	9.51	8.47	500	30.55	clear/none
1610	7500	14.20	7.90	818	150.1	9.46	5.68	500	30.55	
1615	10,000	14.25	7.88	817	148.3	9.45	3.89	500	30.55	
1620	12,500	14.25	7.86	824	147.3	9.27	3.76	500	30.55	
1625	15,000	14.21	7.85	830	146.1	9.24	1.91	500	30.55	
1630	17,500	14.23	7.85	835	146.0	9.21	1.60	500	30.55	
1635	20,000	14.02	7.84	842	145.4	9.28	0.89	500	30.55	
	* Turbidity not stable, removed 3 well volumes, sample collected									

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Sample Collector(s): [signature] Date: 5-12-15

SAMPLE COLLECTION DATA — Well ID: **SMW-20**

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-SMW20-051215	VOC's	3 - 40mL Clear Vials	1635	500	
	Ferrous Iron	0.32 mg/L			

VOCs - Volatile organic compounds

G - Glass
HCl - Hydrchloric acid

AECOM

Well ID:	SMW-21

Ground Water Sample Collection Record

Client: UTAS Plants 1/2 Facility Date: 5-12-15 Time: Start 1320 (24hr)
Project No: 60339110-4213 Finish 1425
Site Location: Rockford, Illinois
Weather: Cloudy 45-55°F Collector(s): A. Hollatz

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 41.40 Screen interval(ft): 15 Approx. depth of pump intake(ft): 34
Water table depth (ft): 30.02 Casing type/diameter: 2" PVC Minimum purge volume: 5.6 (gals)
Water column length (ft): 11.38 (calculations on reverse)

2. WELL PURGE DATA

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals.
If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	11.5562
	Lamotte	2020	2476-3312
	Lamotte	Smart 2 Colorimeter	7798-3510

Begin purge at 1325

Time (24hr)	Purge Vol. (ml)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1335	5000	12.61	7.99	1387	139.8	9.74	103.4	500	30.05	cloudy/none
1340	7500	12.68	8.01	1398	139.3	9.88	67.9	500	30.07	↓
1345	10,000	12.54	8.00	1399	140.5	9.65	36.1	500	30.07	clear/none
1350	12,500	12.78	8.02	1399	138.4	9.94	26.7	500	30.07	
1355	15,000	12.75	8.03	1381	139.1	9.93	18.7	500	30.07	
1400	17,500	12.81	8.02	1371	140.0	9.80	12.1	500	30.07	
1405	20,000	12.81	8.03	1360	141.2	9.69	11.39	500	30.07	
1410	22,500	13.02	8.03	1353	141.9	9.51	7.16	500	30.07	

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Sample Collector(s): Date: 5-12-15

SAMPLE COLLECTION DATA Well ID: **SMW-21**

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-SMW21-05121.5	VOC's	3 - 40mL Clear Vials	1410	500	
	Ferrous Iron	0.79 mg/L			

VOCs - Volatile organic compounds

G - Glass
HCl - Hydrchloric acid

AECOM

Well ID:	RAMW-01

Ground Water Sample Collection Record

Client:	UTAS Plants 1/2 Facility	Date:	5-14-15	Time: Start	1155 (24hr)
Project No:	60339110-4213			Finish	1300
Site Location:	Rockford, Illinois				
Weather:	cloudy 45-55°F	Collector(s):	A. Holtz		

1. **WELL and WATER LEVEL DATA: (measured from Top of Casing)**

Total well length (ft): 46.00 Screen interval(ft): 15 Approx. depth of pump intake(ft): 38
Water table depth (ft): 31.75 Casing type/diameter: 2" PVC Minimum purge volume: 7.0 (gals)
Water column length (ft): 14.25 (calculations on reverse)

2. **WELL PURGE DATA**

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals.
If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	15562
	Lamotte	2020	2476-3312
	Lamotte	Smart 2 Colorimeter	7796-3510

Begin purge at 1200

Time (24hr)	Purge Vol. (ml)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1210	5000	14.02	7.02	1063	109.6	5.14	14.80	500	31.79	clear/none
1215	7500	14.11	6.89	1071	113.5	4.64	14.40	500	31.79	
1220	10,000	14.12	6.86	1083	114.9	4.29	11.04	500	31.79	
1225	12,500	14.23	6.86	1089	116.2	4.14	5.33	500	31.79	
1230	15,000	14.21	6.86	1092	116.2	4.02	3.86	500	31.79	
1235	17,500	14.18	6.86	1095	118.1	3.93	2.45	500	31.79	
1240	20,000	14.21	6.86	1097	118.9	3.86	1.43	500	31.79	
1245	22,500	14.31	6.86	1096	120.3	3.83	0.60	500	31.79	
1250	25,000	14.42	6.86	1098	119.9	3.83	0.43	500	31.79	
1255	27,500	14.50	6.86	1101	119.9	3.78	0.27	500	31.79	
	* Turbidity not Stable removed 3 well volumes, sample collected.									

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Sample Collector(s): [signature] Date: 5-14-15

SAMPLE COLLECTION DATA Well ID: **RAMW-01**

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-RAMW01-051415	VOC's	3 - 40mL Clear Vials	1255	500	
HSSER-FBLK02-051415	VOC's	3 - 40mL Clear Vials	1200	—	
	Ferrous Iron	0.48 mg/L			

VOCs - Volatile organic compounds

G - Glass
HCl - Hydrchloric acid

AECOM

Well ID: **RAMW-02**

Ground Water Sample Collection Record

Client: UTAS Plants 1/2 Facility Date: 5-14-15 Time: Start 1040 (24hr)
Project No: 60339110-4213 Finish 1155
Site Location: Rockford, Illinois
Weather: Cloudy 45-55°F Collector(s): A. Hollatz

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 44.84 Screen interval(ft): 15 Approx. depth of pump intake(ft): 37
Water table depth (ft): 31.64 Casing type/diameter: 2" PVC Minimum purge volume: 6.5 (gals)
Water column length (ft): 13.20 (calculations on reverse)

2. WELL PURGE DATA

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals.
If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	115562
	Lamotte	2020	2476-3312
	Lamotte	Smart 2 Colorimeter	7298-3510

Begin purge at 1045

Time (24hr)	Purge Vol. (ml)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1055	5000	14.02	6.94	1428	-5.1	2.17	25.3	500	31.66	clear/none
1100	7500	14.05	6.90	1441	-13.1	1.75	17.7	500	31.66	
1105	10,000	14.09	6.90	1445	-21.7	1.57	13.2	500	31.66	
1110	12,500	14.11	6.90	1446	-20.1	1.43	12.62	500	31.66	
1115	15,000	14.12	6.90	1446	-24.8	1.38	8.14	500	31.66	
1120	17,500	14.14	6.91	1445	-26.6	1.35	5.66	500	31.66	
1125	20,000	14.15	6.90	1445	-29.9	1.30	5.22	500	31.66	
1130	22,500	14.15	6.91	1443	-30.7	1.30	2.88	500	31.66	
1135	25,000	14.16	6.91	1445	-29.8	1.34	2.21	500	31.66	
	* Turbidity not Stable, removed 3 well volumes, sample collected.									

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Sample Collector(s): [signature] Date: 5-14-15

SAMPLE COLLECTION DATA Well ID: **RAMW-02**

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-RAMW02-051415	VOC's	3 - 40mL Clear Vials	1135	500	
HSSER-MS02-051415	VOC's	3 - 40mL Clear Vials	1135	500	
HESSER-MSD02-051415	VOC's	3 - 40mL Clear Vials	1135	500	
	Ferrous Iron	2.51 mg/L			

VOCs - Volatile organic compounds

G - Glass
HCl - Hydrchloric acid

AECOM

Well ID:	RAMW-03

Ground Water Sample Collection Record

Client: UTAS Plants 1/2 Facility Date: 5-14-15 Time: Start 0925 (24hr)
Project No: 60339110-4213 Finish 1040
Site Location: Rockford, Illinois
Weather: Cloudy 40-50°F Collector(s): A. Holtz

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 46.30 Screen interval(ft): 15 Approx. depth of pump intake(ft): 38
Water table depth (ft): 21.45 Casing type/diameter: 2" PVC Minimum purge volume: 6.8 (gals)
Water column length (ft): 1385 (calculations on reverse)

2. WELL PURGE DATA

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals.
If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	11556J
	Lamotte	2020	2476-3312
	Lamotte	Smart 2 Colorimeter	7798-3510

Begin purge at 0930

Time (24hr)	Purge Vol. (ml)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
0940	5000	15.15	7.29	832	153.7	6.02	11.6	500	31.50	clear/none
0945	7500	15.30	7.21	836	154.2	5.72	9.67	500	31.50	
0950	10,000	15.25	7.18	841	152.6	5.60	8.83	500	31.50	
0955	12,500	15.33	7.15	847	152.6	5.45	5.92	500	31.50	
1000	15,000	15.28	7.13	855	151.5	5.36	4.18	500	31.50	
1005	17,500	15.20	7.11	862	151.4	5.17	3.38	500	31.50	
1010	20,000	15.22	7.09	868	151.7	5.08	2.95	500	31.50	
1015	22,500	15.22	7.09	877	151.7	4.96	2.41	500	31.50	
1020	25,000	15.23	7.08	883	151.9	4.89	2.40	500	31.50	
1025	27,500	15.27	7.07	886	151.8	4.85	2.37	500	31.50	

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Sample Collector(s): Date: 5-14-15

SAMPLE COLLECTION DATA Well ID: **RAMW-03**

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-RAMW03-051415	VOC's	3 - 40mL Clear Vials	1025	500	
HSSER-Dup02- 051415	VOC's	3 - 40mL Clear Vials	0000	500	
	Ferrous Iron	0.13 mg/L			

VOCs - Volatile organic compounds

G - Glass
HCl - Hydrchloric acid

AECOM

Well ID: **RAMW-04**

Ground Water Sample Collection Record

Client: UTAS Plants 1/2 Facility Date: 5-14-15 Time: Start 0810 (24hr)
Project No: 60339110-4213 Finish 0920
Site Location: Rockford, Illinois
Weather: Cloudy 40-50°F Collector(s): A. Heltz

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 45.00 Screen interval(ft): 15 Approx. depth of pump intake(ft): 41
Water table depth (ft): 31.32 Casing type/diameter: 2" PVC Minimum purge volume: 6.7 (gals)
Water column length (ft): 13.68 (calculations on reverse)

2. WELL PURGE DATA

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals.
If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	15567
	Lamotte	2020	2476-3712
	Lamotte	Smart 2 Colorimeter	7745-3510

Begin purge at 0830

Time (24hr)	Purge Vol. (ml)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
0830	5000	13.43	7.27	944	168.5	2.12	15.16	500	31.37	cloudy
0835	7500	13.71	7.20	973	162.7	1.71	14.5	500	31.37	
0840	10,000	13.74	7.17	967	157.5	1.43	13.25	500	31.37	
0845	12,500	13.79	7.17	962	153.7	1.29	11.05	500	31.37	
0850	15,000	13.82	7.17	957	151.1	1.18	9.70	500	31.37	
0855	17,500	13.87	7.17	953	149.8	1.10	7.47	500	31.37	
0900	20,000	14.14	7.17	951	146.4	1.03	7.18	500	31.37	
0905	22,500	13.96	7.17	951	140.7	1.02	7.31	500	31.37	

(continued on back)

Sample Collector(s): [signature] Date: 5-14-15

SAMPLE COLLECTION DATA

Well ID: **RAMW-04**

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-RAMW04-051415	VOC's	3 - 40mL Clear Vials	0965	500	
HSSER-EBLK02-051415	VOC's	3 - 40mL Clear Vials	0895	—	
	Ferrous Iron	0.25 mg/L			

VOCs - Volatile organic compounds

G - Glass

HCl - Hydrchloric acid

AECOM

Well ID:	RAMW-05

Ground Water Sample Collection Record

Client: UTAS Plants 1/2 Facility Date: 5-14-15 Time: Start 0705 (24hr)
Project No: 60339110-4213 Finish 0810
Site Location: Rockford, Illinois
Weather: Cloudy / 40-50°F Collector(s): A. Hollatz

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 43.85 Screen interval(ft): 15 Approx. depth of pump intake(ft): 36
Water table depth (ft): 30.20 Casing type/diameter: 2" PVC Minimum purge volume: 6.7 (gals)
Water column length (ft): 13.65 (calculations on reverse)

2. WELL PURGE DATA

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals.
If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	15562
	Lamotte	2020	24776-3312
	Lamotte	Smart 2 Colorimeter	7798-3510

Begin purge at 0710

Time (24hr)	Purge Vol. (ml)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
0720	5000	13.80	7.72	1179	235.9	8.83	30.0	500	30.23	clear/none
0725	7500	13.96	7.51	1147	233.1	8.97	22.1	500	30.23	
0730	10,000	14.06	7.46	1139	226.2	8.93	19.1	500	30.23	
0735	12,500	14.14	7.45	1133	217.7	8.89	14.3	500	30.23	
0740	15,000	14.14	7.46	1128	216.6	8.84	11.96	500	30.23	
0745	17,500	14.15	7.47	1125	208.2	8.62	6.97	500	30.23	
0750	20,000	14.14	7.48	1122	198.2	8.64	3.92	500	30.23	
0755	22,500	14.20	7.49	1118	192.1	8.50	2.84	500	30.23	
0800	25,000	14.22	7.50	1115	186.4	8.42	3.06	500	30.23	
0805	27,500	14.22	7.51	1112	183.2	8.30	1.77	500	30.23	
	* Turbid. by not stable, removed 3 well volumes, sample collected.									

(continued on back)

Sample Collector(s): Allison Hollatz Date: 5-14-15

SAMPLE COLLECTION DATA Well ID: **RAMW-05**

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-RAMW05-051415	VOC's	3 - 40mL Clear Vials	0825	500	
	Ferrous Iron	0.163 mg/L			

VOCs - Volatile organic compounds

G - Glass
HCl - Hydrchloric acid

AECOM

Well ID: **RAMW-06**

Ground Water Sample Collection Record

Client: UTAS Plants 1/2 Facility Date: 5-13-15 Time: Start 1650 (24hr)
Project No: 60339110-4213 Finish 1745
Site Location: Rockford, Illinois
Weather: Sunny 50-60°F Collector(s): A. Hollatz

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 44.27 Screen interval(ft): 15 Approx. depth of pump intake(ft): 37
Water table depth (ft): 30.22 Casing type/diameter: 2" PVC Minimum purge volume: 6.9 (gals)
Water column length (ft): 14.05 (calculations on reverse)

2. WELL PURGE DATA

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals.
If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	16556Q
	Lamotte	2020	2476-3312
	Lamotte	Smart 2 Colorimeter	2798-3510

Begin purge at 1655

Time (24hr)	Purge Vol. (ml)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1705	5000	15.41	7.65	1175	97.4	9.18	1.09	500	30.29	clear/none
1710	7,500	15.40	7.59	1149	101.5	9.18	0.83	500	30.29	
1715	10,000	15.32	7.58	1135	103.7	9.46	0.29	500	30.29	
1720	12,500	15.34	7.59	1120	104.5	9.42	0.31	500	30.29	
1725	15,000	15.34	7.59	1113	106.1	9.42	0.42	500	30.29	
1730	17,500	15.31	7.59	1110	108.3	9.35	0.42	500	30.29	
1735	20,000	15.30	7.59	1107	109.3	9.14	0.41	500	30.29	

(continued on back)

Sample Collector(s): Allen Hollatz Date: 5-13-15

SAMPLE COLLECTION DATA

Well ID: **RAMW-06**

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-RAMW06-051315	VOC's	3 - 40mL Clear Vials	1735	500	
	Ferrous Iron	0.01 mg/L			

VOCs - Volatile organic compounds

G - Glass
HCl - Hydrchloric acid

AECOM

Well ID: **RAMW-07**

Ground Water Sample Collection Record

Client: UTAS Plants 1/2 Facility Date: 5-13-15 Time: Start 1540 (24hr)
Project No: 60339110-4213 Finish 1650
Site Location: Rockford, Illinois
Weather: Sunny 50-60°F Collector(s): A. Hollatz

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 48.60 Screen interval(ft): 15 Approx. depth of pump intake(ft): 41
Water table depth (ft): 34.68 Casing type/diameter: 2" PVC Minimum purge volume: 6.8 (gals)
Water column length (ft): 13.92 (calculations on reverse)

2. WELL PURGE DATA

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals.
If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	115562
	Lamotte	2020	2476-3312
	Lamotte	Smart 2 Colorimeter	2798-3510

Begin purge at 1545

Time (24hr)	Purge Vol. (ml)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1555	5000	16.79	6.70	2408	221.5	3.41	3.26	500	34.74	clear/none
1600	7500	16.74	6.59	2011	204.0	2.86	2.30	500	34.74	
1605	10,000	16.73	6.59	1998	201.1	2.35	1.62	500	34.74	
1610	12,500	16.67	6.61	1993	172.4	1.10	1.52	500	34.74	
1615	15,000	16.62	6.61	1989	141.9	0.68	1.31	500	34.74	
1620	17,500	16.63	6.62	1986	92.7	0.64	1.47	500	34.74	
1625	20,000	16.58	6.62	1985	76.7	0.62	1.08	500	34.74	
1630	22,500	16.64	6.62	1981	62.8	0.61	0.33	500	34.74	
1635	25,000	16.66	6.62	1981	54.2	0.60	1.29	500	34.74	
1640	27,500	16.68	6.62	1982	47.5	0.57	0.25	500	34.74	
	# Turbidity/Orp/DO not stable removed 3 well volumes, Sample collected.									

(continued on back)

Sample Collector(s): [signature] Date: 5-13-15

SAMPLE COLLECTION DATA Well ID: **RAMW-07**

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-RAMW07-051315	VOC's	3 - 40mL Clear Vials	1646	500	
	Ferrous Iron	0.86 mg/L			

VOCs - Volatile organic compounds

G - Glass

HCl - Hydrchloric acid

AECOM

Well ID:	RAMW-08

Ground Water Sample Collection Record

Client: UTAS Plants 1/2 Facility Date: 5-13-15 Time: Start 1405 (24hr)
Project No: 60339110-4213 Finish 1515
Site Location: Rockford, Illinois
Weather: Sunny 50-60°F Collector(s): A. Hollatz

1. **WELL and WATER LEVEL DATA: (measured from Top of Casing)**

Total well length (ft): 44.29 Screen interval(ft): 15 Approx. depth of pump intake(ft): 37
Water table depth (ft): 30.83 Casing type/diameter: 2" PVC Minimum purge volume: 6.6 (gals)
Water column length (ft): 13.46 (calculations on reverse)

2. **WELL PURGE DATA**
Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals.
If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	16556 2
	Lamotte	2020	2476-3312
	Lamotte	Smart 2 Colorimeter	7798-3510

Begin purge at 1410

Time (24hr)	Purge Vol. (ml)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1420	5000	16.27	6.84	1541	-147.2	2.72	11.9	500	31.11	clear/N.A. none Sewage
1425	7,500	16.15	6.87	1495	-150.1	1.52	12.9	500	31.11	
1430	10,000	16.18	6.89	1469	-135.5	0.66	9.20	500	31.11	
1435	12,500	16.20	6.92	1458	-110.7	0.20	7.65	500	31.08	
1440	15,000	16.22	6.93	1459	-109.4	0.13	8.47	500	31.08	
1445	17,500	16.27	6.93	1477	-108.2	0.10	8.28	500	31.08	
1450	20,000	16.26	6.93	1491	-108.6	0.09	6.36	500	31.08	
1455	22,500	16.13	6.94	1498	-110.9	0.09	6.05	500	31.08	
1500	25,000	16.18	6.96	1504	-109.7	0.09	4.64	500	31.08	
	* Turbidity not stable, removed 3 well volumes, Sample Collected									

(continued on back)

Sample Collector(s): [signature] Date: 5-13-15

SAMPLE COLLECTION DATA

Well ID: **RAMW-08**

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-RAMW08-051315	VOC's	3 - 40mL Clear Vials	1500	500	
	Ferrous Iron	Hach range 0 - 10 mg/L			

VOCs - Volatile organic compounds

G - Glass
HCl - Hydrchloric acid

Project Name: UTAS Plants 1/2 Facility

Project Number: 60339110-4213

Date: 5-11-15

Calibration Form

Parameter	Instrument Manf/Model	Instrument Serial No.	Standard Manf/Model	Standard SN/Exp. Date	Standard Value @ C	Ambient Temp. C	Initial Value	Adjusted Value	Initials & Time	Comments
pH 4.00	YSI MPS556	115562	NCL	1-26-17 BH4150126	4.00 @ 25C	20.37	4.16	4.00	A.H 1139	
								---		Post Cal
pH 7.00				8-5-16 B7140805	7.00 @ 25C	19.92	7.12	7.00	A.H 1137	
								---		Post Cal
pH 10.00				8-11-16 B5140811	10.00 @ 25C	20.47	10.20	10.03	A.H 1141	
								---		Post Cal
Specific Cond.				12-24-15 C3A131224	1,000 uS/cm @ 25C	20.16	1640	1000	A.H. 1135	
								---		Post Cal
ORP			YSI Zobell	4/16 14D100068	244 mV @ 1.5 C	20.55	216.9	244.0	A.H 1143	
								---		Post Cal
DO			H2O Saturated Air	—	100% H2O Sat. Air	19.86	82.4	96.2	A.H 1133	BP =
								---		Post Cal, BP =
Turbidity	LaMotte 2020	2476	—	—	0 NTU	NA	0.00	0.00	A.H 1130	
						NA		---		Post Cal
		3312			10 NTU	NA	9.89	10.01	1130	
						NA		---		Post Cal

BP = Barometric Pressure (mmHg)

Project Name: UTAS plants 1/2 Facility

Project Number: 60339110

Date: 5-12-15

Calibration Form

Parameter	Instrument Manf/Model	Instrument Serial No.	Standard Manf/Model	Standard SN/Exp. Date	Standard Value @ C	Ambient Temp. C	Initial Value	Adjusted Value	Initials & Time	Comments
pH 4.00	YSI 556MPS	115562	NCL	1-26-17 B44150126	4.00 @ 25C	17.34	4.23	4.00	AH0656	
								———		Post Cal
pH 7.00				8-5-16 B47140805	7.00 @ 25C	17.35	6.94	7.00	AH0654	
								———		Post Cal
pH 10.00				8-11-16 B50140811	10.00 @ 25C	17.32	10.34	10.05	AH0658	
								———		Post Cal
Specific Cond.				12-24-15 C37B131224	1,000 uS/cm @ 25C	17.32	958	1000	AH0652	
								———		Post Cal
ORP			YSI Zobell	4/16 14D100068	244 mV @ 15 C	17.38	249.0	244.0	AH700	
								———		Post Cal
DO			— H2O Saturated Air	—	100% H20 Sat. Air	17.36	114.6	96.2	AH0650	BP =
								———		Post Cal, BP =
Turbidity	LaMotte 2020	2476 3312	—	—	0 NTU	NA	0.03	0.00	AH0700	
						NA		———		Post Cal
					10 NTU	NA	9.77	10.01	AH0700	
						NA		———		Post Cal

BP = Barometric Pressure (mmHg)

Project Name: UTAS Plants 1/2 Facility

Project Number: 60339110

Date: 5-13-15

Calibration Form

Parameter	Instrument Manf/Model	Instrument Serial No.	Standard Manf/Model	Standard SN/Exp. Date	Standard Value @ C	Ambient Temp. C	Initial Value	Adjusted Value	Initials & Time	Comments
pH 4.00	YSI 556 MPS	115562	NCL	1-26-17 B44150126	4.00 @ 25C	16.62	4.21	4.00	AH0656	
								———		Post Cal
pH 7.00				8-5-16 B47140805	7.00 @ 25C	16.63	6.91	7.00	AH0654	
								———		Post Cal
pH 10.00				8-11-16 B50140811	10.00 @ 25C	16.62	10.31	10.05	AH0658	
								———		Post Cal
Specific Cond.			↓	12-24-15 C37B13122	1,000 uS/cm @ 25C	16.60	1010	1000	AH0652	
								———		Post Cal
ORP			YSI Zobell	4-16 14D1000068	244 mV @ 15 C	16.64	244.4	244.0	AH0760	
								———		Post Cal
DO			H2O Saturated Air	—	100% H2O Sat. Air	16.27	65.5	96.2	AH0650	BP =
								———		Post Cal; BP =
Turbidity	LaMotte 2020	2476 3312	—	—	0 NTU	NA	0.01	0.00	AH0700	
						NA		———		Post Cal
					10 NTU	NA	10.09	10.01	AH0700	
						NA		———		Post Cal

BP = Barometric Pressure (mmHg)

Project Name: UTAS - Plants 1/2 Facilities

Project Number: 60339110

Date: 5-13-15

Calibration Form

Parameter	Instrument Manf/Model	Instrument Serial No.	Standard Manf/Model	Standard SN/Exp. Date	Standard Value @ C	Ambient Temp. C	Initial Value	Adjusted Value	Initials & Time	Comments
pH 4.00	YSI 556 MPS	115562	NCL	~~1-26-17~~ B44150126	4.00 @ 25C	18.04	4.19	4.00	A.H 1527	
								———		Post Cal
pH 7.00				8-5-16 B42140805	7.00 @ 25C	17.97	6.88	7.00	A.H 1525	
								———		Post Cal
pH 10.00				8-11-16 BE0140811	10.00 @ 25C	18.03	10.26	10.04	A.H 1529	
								———		Post Cal
Specific Cond.			↓	12-24-15 C37R131224	1,000 uS/cm @ 25C	18.20	971	1000	A.H 1523	
								———		Post Cal
ORP			YSI ZoBell	4/16 14D1000186	244 mV @ 15 C	18.38	240.1	244.0	A.H 1531	
								———		Post Cal
DO			H2O Saturated Air	—	100% H20 Sat. Air	18.51	84.4	96.2	A.H 1521	BP =
								———		Post Cal, BP =
Turbidity	LaMotte 202	2476 3312	—	—	0 NTU	NA	0.00	0.00	A.H 1530	
						NA		———		Post Cal
					10 NTU	NA	9.76	10.00	A.H 1530	
						NA		———		Post Cal

BP = Barometric Pressure (mmHg)

Project Name: UTAS Plants 1/2 Facility

Project Number: 60339410

Date: 5-14-15

Calibration Form

Parameter	Instrument Manf/Model	Instrument Serial No.	Standard Manf/Model	Standard SN/Exp. Date	Standard Value @ C	Ambient Temp. C	Initial Value	Adjusted Value	Initials & Time	Comments
pH 4.00	YSI 556 MPS	115562	NCL	1-26-17 B44150126	4.00 @ 25C	17.26	4.21	4.00	A.H 0641	
								—		Post Cal
pH 7.00				8-5-16 B47140805	7.00 @ 25C	17.23	6.93	7.00	A.H 0639	
								—		Post Cal
pH 10.00				8-11-16 B50140811	10.00 @ 25C	17.24	10.40	10.07	A.H 0643	
								—		Post Cal
Specific Cond.			↓	12-24-15 C37913122 4	1,000 uS/cm @ 25C	17.29	1012	1000	A.H 0637	
								—		Post Cal
ORP			YSI 20501	4/16 14D100068	244 mV @ 15 C	17.21	239.4	244.0	A.H 0645	
								—		Post Cal
DO			H2O Saturated Air	—	100% H20 Sat. Air	17.35	104.6	96.2	A.H 0635	BP =
								—		Post Cal, BP =
Turbidity	LaMotte 2020	2476 3312	—	—	0 NTU	NA	0.02	0.00	A.H 0635	
						NA		—		Post Cal
					10 NTU	NA	9.97	10.01	A.H 0635	
						NA		—		Post Cal

BP = Barometric Pressure (mmHg)

ACCUTEST LABORATORIES

CHAIN OF CUSTODY

2235 Route 130, Dayton, NJ 08810
TEL. 732-329-0200 FAX: 732-329-3499/3480
www.accutest.com

FED-EX Tracking #	Bottle Order Control #
6250635359 85	
Accutest Quote #	Accutest Job #

Client / Reporting Information

Company Name: AFCAM
Street Address: 27255 [illegible]
City / State / Zip: [illegible] CL [illegible]
Project Contact / E-mail: [illegible]
Phone # / Fax #: [illegible]
Sampler(s) Name(s) / Phone #: [illegible]

Project Information

Project Name: [illegible]
Street:
City / State: Rockland [illegible]
Project #: 100329110
Client Purchase Order #: 590[illegible]8ACM
Project Manager: Peter Hollatz

Billing Information (If different from Report to)
Company Name:
Street Address:
City / State / Zip:
Attention:

Requested Analysis (see TEST CODE sheet)

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE		[illegible]	LAB USE ONLY
	[illegible]		5-11-15	1315	AH	GW	3	X									X	
	[illegible]		5-11-15	1435	AH	GW	3	X									X	
	[illegible]		5-11-15	1625	AH	GW	3	X									X	
	[illegible]		5-12-15	0800	AH	GW	3	X									X	
	[illegible]		5-12-15	1230	AH	GW	3	X									X	
	[illegible]		5-12-15	1010	AH	GW	3	X									X	
	[illegible]		5-12-15	1135	AH	GW	3	X									X	
	[illegible]		5-12-15	1245	AH	GW	3	X									X	
	[illegible]		5-12-15	1410	AH	GW	3	X									X	
	[illegible]		5-12-15	1530	AH	GW	3	X									X	
	[illegible]		5-12-15	1635	AH	GW	3	X									X	
	[illegible]		5-12-15	0810	AH	GW	3	X									X	

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB-Field Blank
EB-Equipment Blank
RB- Rinse Blank
TB-Trip Blank

Turnaround Time (Business days)

- [x] Std. 10 Business Days
- [ ] 5 Day RUSH
- [ ] 3 Day RUSH
- [ ] 2 Day RUSH
- [ ] 1 Day RUSH
- [ ] other _____

Emergency & Rush T/A data available VIA Lablink

Approved By (Accutest PM): / Date:

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] NJ Reduced
- [ ] Commercial "C"
- [ ] NJ Data of Known Quality Protocol Reporting
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format _____
- [ ] Other _____

Commercial "A" = Results Only, Commercial "B" = Results + QC Summary
NJ Reduced = Results + QC Summary + Partial Raw data

Comments / Special Instructions

[illegible]
Level IV Data

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

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 [signature]	5-14-15 1800	1	2		2
3		3	4		4
5		5			

Custody Seal # ☐ Intact ☐ Not intact — Preserved where applicable ☐ — On Ice ☐ — Cooler Temp.

ACCUTEST LABORATORIES

CHAIN OF CUSTODY

2235 Route 130, Dayton, NJ 08810
TEL: 732-329-0200 FAX: 732-329-3499/3480
www.accutest.com

FED-EX Tracking #: 62506253 5985
Bottle Order Control #:
Accutest Quote #:
Accutest Job #:

Client / Reporting Information

Company Name: AECOM
Street Address: 27755 Diehl Rd suite 100
City: Warrenville State: IL Zip: 100555
Project Contact: Peter Hollatz@aecom.com E-mail:
Phone #: 630-839-5386 Fax #: 620836-1711
Sampler(s) Name(s): Allan Hollatz Phone #: 630-849-4621

Project Information

Project Name: UTAS Plants 1/2 Facility
Street:
City: Rockford State: IL
Project #: 60339110
Client Purchase Order #: 59048ACM
Project Manager: Peter Hollatz

Billing Information (If different from Report to)
Company Name:
Street Address:
City: State: Zip:
Attention:

Requested Analysis (see TEST CODE sheet)

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB-Equipment Blank; RB- Rinse Blank; TB-Trip Blank

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	VOC*	LAB USE ONLY
	HSSER-LM702-051315		5-13-15	0945	A.H	GW	3	X								X	
	HSSER-MS01-051315		↓	0945	A.H	GW	3	X								X	
	HSSER-MSD01-051315		↓	0945	A.H	GW	3	X								X	
	HSSER-PMW01-051315		↓	1055	A.H	GW	3	X								X	
	HSSER-PMW02-051315		↓	1230	A.H	GW	3	X								X	
	HSSER-ERC001-051315		↓	1130	A.H	GW	3	X								X	
	HSSER-SMW04-051315		↓	1335	A.H	GW	3	X								X	
	HSSER-DUP01-051315		↓	0000	A.H	GW	3	X								X	
	HSSER-Trip01-051115		5-11-15	—	A.H	GW	2	X								X	

Turnaround Time (Business days)

- [x] Std. 10 Business Days
- [ ] 5 Day RUSH
- [ ] 3 Day RUSH
- [ ] 2 Day RUSH
- [ ] 1 Day RUSH
- [ ] other _____

Emergency & Rush T/A data available VIA Lablink

Approved By (Accutest PM): / Date:

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] NJ Reduced
- [ ] Commercial "C"
- [ ] NJ Data of Known Quality Protocol Reporting
- [ ] NYASP Category A
- [ ] NYASP Category B
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Comments / Special Instructions

*List of 13 VOC
Level IV Data

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

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 Allan Hollatz	5-14-15 1800	1	2		2
3		3	4		4
5		5	Custody Seal # ☐ Intact ☐ Not intact	Preserved where applicable ☐	On Ice ☐ Cooler Temp.

ACCUTEST LABORATORIES

CHAIN OF CUSTODY

2235 Route 130, Dayton, NJ 08810
TEL: 732-329-0200 FAX: 732-329-3499/3480
www.accutest.com

FED-EX Tracking # 6250 6353 5985
Bottle Order Control #
Accutest Quote #
Accutest Job #

Client / Reporting Information

Company Name: AECOM
Street Address: 27755 Diehl Rd Suite 100
City: Warrenville State: FL Zip: 60555
Project Contact: Peter Hollatz E-mail: Peter.Hollatz@aecom.com
Phone #: 630-839-5386 Fax #: 630-836-1711
Sampler(s) Name(s): Allan Hollatz Phone #: 630-840-4621

Project Information

Project Name: UTAS Plants 1/2 Facility
Street:
City: Rockford State: FL
Project #: 60339110
Client Purchase Order #: 590048 ACM
Project Manager: Peter Hollatz

Billing Information (if different from Report to)
Company Name:
Street Address:
City: State: Zip:
Attention:

Requested Analysis (see TEST CODE sheet)

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL - Sludge; SED - Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB - Field Blank; EB - Equipment Blank; RB - Rinse Blank; TB - Trip Blank

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	★ VOC	LAB USE ONLY
	HSSER-RAMW08-051315		5-13-15	1500	AH	GW	3	X								X	
	HSSER-RAMW07-051315		5-13-15	1640			3	X								X	
	HSSER-RAMW06-051315		5-13-15	1735			3	X								X	
	HSSER-RAMW05-051415		5-14-15	0805			3	X								X	
	HSSER-RAMW04-051415		5-14-15	0905			3	X								X	
	HSSER-EBLK02-051415		5-14-15	0815			3	X								X	
	HSSER-RAMW03-051415		5-14-15	1025			3	X								X	
	HSSER-RAMW02-051415		5-14-15	1135			3	X								X	
	HSSER-MS02-051415		5-14-15	1135			3	X								X	
	HSSER-MSD02-051415		5-14-15	1135			3	X								X	
	HSSER-~~DU~~RAMW01-051415		5-14-15	1255			3	X								X	
	HSSER-~~DU~~EBLK02-051415		5-14-15	1200 ~~[illegible]~~			3	X								X	

Turnaround Time (Business days)

- [x] Std. 10 Business Days
- [ ] 5 Day RUSH
- [ ] 3 Day RUSH
- [ ] 2 Day RUSH
- [ ] 1 Day RUSH
- [ ] other

Emergency & Rush T/A data available VIA Lablink

Approved By (Accutest PM): / Date:

Data Deliverable Information

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- [ ] NJ Reduced
- [ ] Commercial "C"
- [ ] NJ Data of Known Quality Protocol Reporting
- [ ] NYASP Category A
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Level IV Data

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1 [signature]	5-14-15 1800	1	2		2
3		3	4		4
5		5			

Custody Seal # ☐ Intact ☐ Not intact Preserved where applicable ☐ On Ice ☐ [illegible]mp.

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CHAIN OF CUSTODY

2235 Route 130, Dayton, NJ 08810
TEL. 732-329-0200 FAX: 732-329-3499/3480
www.accutest.com

FED-EX Tracking #	Bottle Order Control #
6250663535985	
Accutest Quote #	Accutest Job #

Client / Reporting Information

Company Name: AECOM
Street Address: 2775 Diehl Rd Suite 100
City: Warrenville State: IL Zip: 60555
Project Contact: Peter Hollatz E-mail: Peter.Hollatz@aecom.com
Phone #: 630-839-5386 Fax #: 630-836-1711
Sampler(s) Name(s): Alex Hollatz Phone #: 630-840-0621

Project Information

Project Name: UTAS-Plants 1/2 Facility
Street:
City: Rockford State: IL
Project #: 100229110
Client Purchase Order #: 590418ALM
Project Manager: Peter Hollatz

Billing Information (if different from Report to)
Company Name:
Street Address:
City: State: Zip:
Attention:

Requested Analysis (see TEST CODE sheet)

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	VOC *	LAB USE ONLY
	USSER-DUR02-05115		05-11-15	0000	AH	GW	3	X								X	
	USSER-AB+CIN02-05115		05-11-15	—	AH	GW	2	X								X	

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB-Field Blank
EB-Equipment Blank
RB- Rinse Blank
TB-Trip Blank

Turnaround Time (Business days)

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Approved By (Accutest PM): / Date:

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1 [signature]	5-14-15 1800	1	2		2
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal # ☐ Intact ☐ Not intact	Preserved where applicable ☐	On Ice ☐ Cooler Temp.

Appendix E

Third Quarter 2015 Progress Report

AECOM

Submitted to:
UTC Aerospace Systems
Rockford, IL

Submitted by:
AECOM
Warrenville, IL
60339110
September 2015

QUARTERLY PROGRESS REPORT – Third Quarter 2015 (June 2015 – August 2015)

UTC Aerospace Systems Plants 1/2 Facility
Southeast Rockford Groundwater Contamination
Superfund Site
2421 11th Street
Rockford, Illinois 61104
ILD981000417, ILD010219665
AECOM Project No. 60339110

This Quarterly Progress Report has been prepared on behalf of UTC Aerospace Systems (UTAS, fka Hamilton Sundstrand or HS) by AECOM Technical Services Inc. (AECOM). This report summarizes activities that occurred during the months of June, July, and August of the Third Quarter of 2015 at the above-referenced facility.

Progress Report- Reporting Quarters			
Q1	December	January	February
Q2	March	April	May
Q3	June	July	August
Q4	September	October	November

This report is the twenty-eight in the series of Quarterly Progress Reports and consistent with United States Environmental Protection Agency (USEPA) approval of combining project reporting documents from a letter dated April 15, 2011. Quarterly Progress Reports are included as attachments to the Groundwater Management Zone (GMZ) Monitoring and System Performances Reports.

This Quarterly Progress Report follows the requirements outlined in Section X of the Consent Decree (CD) and includes the following:

Actions taken during the prior quarter to maintain compliance with the CD:

- Summaries of sampling results and tests;
- An identification of work plans and other deliverables completed in accordance with the CD;
- Actions scheduled for the next quarter;
- Information on the progress, percentage of completion, delays, and efforts to mitigate delays;
- Modifications to Work Plans and/or schedules; and
- Activities undertaken in support of the Community Relations Plan.

Each of these sections is described in more detail below.

Actions Taken During the Third Quarter to Achieve Compliance with the Consent Decree

The following actions were taken during June, July, and August of the Third Quarter of 2015:

- On June 12, 2015, AECOM submitted to the USEPA the First Quarter GMZ Monitoring and System Performance Report.
- Phase 1 and Phase 2 AS/SVE system air sampling of the SVE system effluent prior to the system being deactivated (switched to the pulse-off mode). SVE process air effluent sampling was conducted on July 16, 2015.

- AECOM completed GMZ and performance well quarterly monitoring (3rd quarter 2015) well network sampling August 3 - 7, 2015. The following wells were sampled for volatile organic compounds (VOCs): GMZ wells (which include the Phase 1 AS/SVE performance monitoring network) SMW01, SMW02, SMW04, SMW08, SMW19, SMW20, SMW21, MW07FG, MW203, GMZ01, GMZ02, GMZ03, GMZ04, PMW01 and PMW02; and performance monitoring wells RAMW01 RAMW02, RAMW03, RAMW04, RAMW05, RAMW06, RAMW07, and RAMW08.

Summary of Sampling and Tests

- Three process air samples were collected from the Phase 1 AS/SVE system effluent during the July 16, 2015 sampling event.
- Two process air samples were collected from the Phase 2 AS/SVE system effluent during the July 16, 2015 sampling event.

Work Plans and Other Deliverables Completed In Accordance With the CD

- The *First Quarter GMZ Monitoring and System Performance Report, Area 9/10 Remedial Action* (June 2015) was submitted in accordance with Section X, paragraph 30 of the CD and consistent with Section V of the Statement of Work (SOW).

Actions Scheduled for Next Quarter

The following actions are scheduled for the next quarter:

- Operation of the Phase 1 and Phase 2 AS/SVE systems will be in pulse-on mode (system in run mode) from approximately September 21, 2015 until approximately November 20, 2015.

Percentage of Completion/Anticipated Delays

There are 39 specific deliverables or activities required to be completed as part of the CD. Some of these are ongoing activities and others, such as submittal of documents, require approval by the USEPA/Illinois Environmental Protection Agency to fulfill the requirements of the CD. To date, UTAS has completed their current obligations for 28 of the 39 items or 72%. There are currently no anticipated delays to the schedule.

Modifications to Work Plans/Schedules Proposed

None

Activities Undertaken In Support of Community Relations Plan

No activities are required with regard to the Community Relations Plan at this time.