AECOM

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UTC Aerospace Systems
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Third Quarter 2014 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

Tables

Fourth Quarter 2013 to Third Quarter 2014 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 Elevation (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)
		12/2/2013		2/24/2014		5/5/2014		8/4/2014	
MW07FGA	727.49	28.39	699.10	29.15	698.34	28.96	698.53	28.30	699.19
MW203	728.58	29.10	699.48	29.91	698.67	29.75	698.83	29.05	699.53
SMW01	729.71	31.20	698.51	31.91	697.80	31.69	698.02	31.06	698.65
SMW02	726.77	27.66	699.11	28.43	698.34	28.26	698.51	27.58	699.19
SMW04	728.51	30.42	698.09	31.13	697.38	30.90	697.61	30.23	698.28
SMW08	728.81	30.61	698.20	31.34	697.47	31.06	697.75	30.45	698.36
SMW19	728.49	29.32	699.17	30.11	698.38	29.97	698.52	29.28	699.21
SMW20	727.69	29.51	698.18	30.27	697.42	29.96	697.73	29.30	698.39
SMW21	727.25	28.93	698.32	29.70	697.55	29.49	697.76	28.77	698.48
GMZ01	731.41	33.17	698.24	33.90	697.51	33.64	697.77	32.94	698.47
GMZ02	728.76	30.70	698.06	31.48	697.28	31.18	697.58	30.50	698.26
GMZ03	728.22	30.12	698.10	30.87	697.35	30.20	698.02	29.95	698.27
GMZ04	726.84	28.38	698.46	29.13	697.71	28.91	697.93	28.27	698.57
BGW01	728.19	29.11	699.08	29.92	698.27	29.74	698.45	29.17	699.02
BGW02	728.81	29.59	699.22	30.05	698.76	30.16	698.65	29.54	699.27
BGW03	728.96	29.62	699.34	30.42	698.54	30.29	698.67	29.62	699.34
RAMW01	728.91	30.74	698.17	31.49	697.42	31.24	697.67	30.58	698.33
RAMW02	728.90	30.61	698.29	31.35	697.55	31.09	697.81	30.48	698.42
RAMW03	728.71	30.41	698.30	31.15	697.56	30.92	697.79	30.27	698.44
RAMW04	728.80	30.23	698.57	30.94	697.86	30.77	698.03	30.13	698.67
RAMW05	727.65	29.15	698.50	29.88	697.77	29.66	697.99	29.02	698.63
RAMW06	727.64	29.17	698.47	29.91	697.73	29.68	697.96	29.05	698.59
RAMW07	732.20	33.61	698.59	34.35	697.85	34.18	698.02	33.51	698.69
RAMW08	728.45	29.74	698.71	30.50	697.95	30.31	698.14	29.65	698.80
PMW01	728.88	30.89	697.99	31.60	697.28	31.32	697.56	30.67	698.21
PMW02	728.88	30.84	698.04	31.55	697.33	31.29	697.59	30.59	698.29
Ave. GW Elev. (ft AMSL)			698.55		697.81		698.03		698.68

Notes:

NM = Not monitored

* - Well riser was encased in ice; depth to groundwater was measured on February 13, 2013.

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 previous winter. Well was resurveyed on July 1, 2013.

Table 2
Fourth Quarter 2013 to Third Quarter 2014 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-GMZ01-120213	2-Dec-13		**0.0022**	0.0010 U	0.00044 J	**0.0064**	0.0010 U	**0.0022**	0.0010 U	**0.0083**	0.0010 U	0.0010 U	**0.0230[A]**	0.0010 U	0.0010 U
	HS SER-GMZ01-022514	25-Feb-14		**0.0052[A]**	0.0017 U	0.0013 J	**0.0051**	0.0017 U	**0.0024**	0.0017 U	**0.0160**	0.0017 U	0.0017 U	**0.0360[A]**	0.0017 U	0.0017 U
	HS SER-GMZ01-050614	6-May-14		**0.0022**	0.002 U	0.0010 U	**0.0034**	0.0010 U	**0.00078**	0.0010 U	**0.0062**	0.0010 U	0.0005 U	**0.0254[A]**	0.0010 U	0.0010 U
	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
GMZ02	HS SER-GMZ02-120413	4-Dec-13		0.00056 J	0.0010 U	0.0010 U	**0.0014**	0.0010 U	0.0010 U	0.0010 U	**0.0042**	0.0010 U	0.0010 U	0.00075 J	0.0010 U	0.0010 U
	HS SER-GMZ02-022614	26-Feb-14		0.00025 J	0.0010 U	0.00074 J	**0.0036**	0.0010 U	0.00096 J	0.0010 U	**0.0094**	0.0010 U	0.0010 U	0.00063 J	0.0010 U	0.0010 U
	HS SER-GMZ02-050714	7-May-14		0.0010 J	0.002 U	0.0010 U	**0.0020**	0.0010 U	0.00034 J	0.0010 U	**0.0027**	0.0010 U	0.0005 U	0.00061 J	0.0010 U	0.0010 U
	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
GMZ03	HS SER-GMZ03-120413	4-Dec-13		0.0010 U	0.0010 U	0.0010 U	0.00038 J	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-DUP01-120413	4-Dec-13	Field Duplicate	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.00076 J	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-GMZ03-022614	26-Feb-14		0.0010 U	0.0010 U	0.0010 U	0.00051 J	0.0010 U	0.00062 J	0.0010 U	**0.0011**	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-DUP01-022614	26-Feb-14	Field Duplicate	0.0010 U	0.00034 JB	0.0010 U	0.00056 J	0.0010 U	0.00058 J	0.0010 U	**0.0010**	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-GMZ03-050714	7-May-14		0.0010 U	0.0020 U	0.0010 U	**0.0013**	0.0010 U	0.00057 J	0.0010 U	**0.0010**	0.0010 U	0.0005 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-DUP01-050714	7-May-14	Field Duplicate	0.0010 U	0.0020 U	0.0010 U	**0.0012**	0.0010 U	0.00062 J	0.0010 U	**0.0010**	0.0010 U	0.0005 U	0.0010 U	0.0010 U	0.0010 U
	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
GMZ04	HS SER-GMZ04-120413	4-Dec-13		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	0.0010 U	0.0010 U
	HS SER-GMZ04-022614	26-Feb-14		0.0010 U	0.00052 J	0.0010 U	0.00028 J	0.0010 U	**0.0013**	0.0010 U	**0.0025**	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-GMZ04-050714	7-May-14		0.0010 U	0.0020 U	0.00048 J	**0.0016**	0.0010 U	**0.0098**	0.0010 U	**0.0176**	0.0010 U	0.0005 U	0.0010 U	0.0010 U	0.0010 U
	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
MW07FGA	HS SER-MW07FGA-120313	3-Dec-13		0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	**0.0011**	0.0010 U	0.0010 U	0.00083 J	0.0010 U	0.0010 U
	HS SER-MW07FGA-022514	25-Feb-14		0.0010 U	0.00050 J	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	**0.0016**	0.0010 U	0.0010 U	0.00098 J	0.0010 U	0.0010 U
	HS SER-MW07FGA-050614	6-May-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	0.0005 U	**0.0011**	0.0010 U	0.0010 U
	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
MW203	HS SER-MW203-120313	3-Dec-13		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	**0.0064[A]**	0.0010 U	0.0010 U
	HS SER-MW203-022514	25-Feb-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	**0.0060[A]**	0.0010 U	0.0010 U
	HS SER-MW203-050614	6-May-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	0.0005 U	**0.0047**	0.0010 U	0.0010 U
	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
SMW01	HS SER-SMW01-120313	3-Dec-13		0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.00087 J	0.0010 U	0.0010 U	**0.0012**	0.0010 U	0.0010 U
	HS SER-SMW01-022514	25-Feb-14		0.0010 U	0.00057 J	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	**0.0010**	0.0010 U	0.0010 U	**0.0020**	0.0010 U	0.0010 U
	HS SER-SMW01-050614	6-May-14		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	**0.0015**	0.0010 U	0.0005 U	**0.0020**	0.0010 U	0.0010 U
	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
SMW02	HS SER-SMW02-120313	3-Dec-13		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	0.00069 J	0.0010 U	0.0010 U
	HS SER-SMW02-022514	25-Feb-14		0.0010 U	0.00041 J	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.00026 J	0.0010 U	0.0010 U	0.00065 J	0.0010 U	0.0010 U
	HS SER-SMW02-050614	6-May-14		0.0010 U	0.0020 U	0.0010 U	0.00066 J	0.0010 U	0.00042 J	0.0010 U	0.0010 U	0.0010 U	0.0005 U	0.0004 J	0.0010 U	0.0010 U
	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
SMW04	HS SER-SMW04-120513	5-Dec-13		**0.0042**	0.0010 U	0.00093 J	**0.0095**	0.0010 U	**0.0440**	0.00033 J	**0.0012**	0.0010 U	0.0010 U	**0.0260[A]**	0.0010 U	**0.0051[A]**
	HS SER-SMW04-022814	28-Feb-14		**0.007[A]**	0.00040 JB	**0.0017**	**0.0075**	0.0010 U	**0.0290**	0.00045 J	0.00080 J	0.0010 U	0.0010 U	**0.0160[A]**	0.0010 U	**0.019[A]**
	HS SER-SMW04-050614	6-May-14		**0.0051[A]**	0.0020 U	**0.0013**	**0.0103**	0.0010 U	**0.0828[A]**	0.00066 J	**0.0016**	0.0010 U	0.0005 U	**0.0115[A]**	0.0010 U	**0.0151[A]**
	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]**

See next page for notes.

Table 2
Fourth Quarter 2013 to Third Quarter 2014 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-SMW08-120213	2-Dec-13		**0.0054 J[A]**	***0.0067 U***	0.0067 U	**0.0180**	***0.0067 U***	**0.3[A]**	0.0067 U	**0.0140**	***0.0067 U***	0.0067 U	**0.0690[A]**	0.0067 U	***0.0067 U***
	HS SER-SMW08-022514	25-Feb-14		0.0014 J	0.0020 U	0.0020 U	**0.0075**	0.0020 U	**0.0020**	0.00046 J	**0.0047**	0.0020 U	0.0020 U	**0.0450[A]**	0.0020 U	0.0020 U
	HS SER-SMW08-050614	6-May-14		**0.0025**	0.0020 U	0.0010 U	**0.0120**	0.0010 U	**0.0528**	0.0007 J	**0.0106**	0.0010 U	0.0005 U	**0.0670[A]**	0.0010 U	0.0010 U
	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
SMW19	HS SER-SMW19-120513	5-Dec-13		**0.017[A]**	0.0010 U	0.0010 U	0.0010 U	0.0010 U	**0.0010**	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.00075 J	0.0010 U	0.0010 U
	HS SER-SMW19-022814	28-Feb-14		**0.023[A]**	0.0010 U	0.0010 U	0.00035 J	0.0010 U	**0.0020**	0.00032 J	0.00049 J	0.0010 U	0.0010 U	**0.0010**	0.0010 U	0.0010 U
	HS SER-SMW19-050714	7-May-14		**0.0154[A]**	0.0020 U	0.00038 J	**0.0017**	0.0010 U	**0.0011**	0.0010 U	**0.00036**	0.0010 U	0.0005 U	**0.0010**	0.0010 U	0.0010 U
	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
SMW20	HS SER-SMW20-120413	4-Dec-13		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	0.0010 U	0.0010 U
	HS SER-SMW20-022614	26-Feb-14		0.0010 U	0.0010 U	0.0010 U	0.00019 J	0.0010 U	0.00041 J	0.0010 U	0.00054 J	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-SMW20-050714	7-May-14		0.0010 U	0.0020 U	0.0010 U	0.00035 J	0.0010 U	0.00059 J	0.0010 U	**0.0005**	0.0010 U	0.0005 U	0.0010 U	0.0010 U	0.0010 U
	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
SMW21	HS SER SMW21-120413	4-Dec-13		0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	**0.0031**	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-SMW21-022614	26-Feb-14		**0.0026**	0.0010 U	**0.0022**	0.00076 J	0.0010 U	**0.0051**	0.0010 U	**0.0360**	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-SMW21-050714	7-May-14		0.0010 U	0.0020 U	0.0010 U	**0.0017**	0.0010 U	0.00080 J	0.0010 U	**0.0061**	0.0010 U	0.0005 U	0.0010 U	0.0010 U	0.0010 U
	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
PMW01	HS SER-PMW01-120413	4-Dec-13		0.00090 J	0.0010 U	0.0010 U	**0.0130**	0.0010 U	0.00099 J	0.0010 U	**0.0066**	0.0010 U	0.0010 U	**0.021[A]**	0.0010 U	0.0010 U
	HS SER-PMW01-022814	28-Feb-14		**0.0016**	0.00038 JB	0.00023 J	**0.0130**	0.0010 U	**0.0011**	0.0010 U	**0.0150**	0.0010 U	0.0010 U	**0.017[A]**	0.0010 U	0.0010 U
	HS SER-PMW01-050714	7-May-14		**0.0016**	0.0020 U	**0.0026**	**0.0118**	0.0010 U	**0.0027**	0.0010 U	**0.0503**	0.0010 U	0.0005 U	**0.0233[A]**	0.0010 U	0.0010 U
	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
PMW02	HSSER-PMW02-120513	5-Dec-13		**0.0028**	0.0010 U	0.00024 J	**0.0082**	0.0010 U	**0.0018**	0.0010 U	**0.0180**	0.0010 U	0.0010 U	**0.028[A]**	0.0010 U	0.0010 U
	HS SER-PMW02-022814	28-Feb-14		**0.0034**	0.0010 U	0.0010 U	**0.0062**	0.0010 U	**0.0014**	0.0010 U	**0.0120**	0.0010 U	0.0010 U	**0.035[A]**	0.0010 U	0.0010 U
	HS SER-PMW02-050714	7-May-14		**0.0023**	0.0020 U	0.0010 U	**0.0086**	0.0010 U	**0.0035**	0.0010 U	**0.0059**	0.0010 U	0.0005 U	**0.0199[A]**	0.0010 U	0.00091 J
	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

Notes:

PRG	Preliminary Remediation Goals (PRGs) from 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.
0.50 U	Laboratory estimated quantitation limit exceeded standard.
0.03 U	The analyte was not detected above the laboratory estimated quantitation limit.
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. 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
Fourth Quarter 2013 to Third Quarter 2014 VOC Analytical Results - Performance 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
RAMW01	HS SER-RAMW01-120413	4-Dec-13		**0.0013**	0.0010 U	0.0010 U	**0.0160**	0.0010 U	**0.0021**	0.0010 U	**0.0085**	0.0010 U	0.0010 U	**0.014[A]**	0.0010 U	0.0010 U
	HS SER-RAMW01-022814	28-Feb-14		**0.0016**	0.00044 JB	0.0010 U	**0.0084**	0.0010 U	**0.0011**	0.0010 U	**0.0071**	0.0010 U	0.0010 U	**0.016[A]**	0.0010 U	0.0010 U
	HS SER-RAMW01-050714	7-May-14		**0.0014**	0.0020 U	0.0010 U	**0.0037**	0.0010 U	**0.0012**	0.0010 U	**0.0046**	0.00031 J	0.0005 U	**0.0108[A]**	0.0010 U	0.0010 U
	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
RAMW02	HS SER-RAMW02-120313	3-Dec-13		**0.0016**	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.00064 J	0.0010 U	**0.0057**	0.0010 U	0.0010 U	**0.0054[A]**	0.0010 U	0.0010 U
	HS SER-RAMW02-022814	28-Feb-14		**0.0012**	0.00053 JB	0.0010 U	**0.0025**	0.0010 U	0.00041 J	0.0010 U	**0.0036**	0.0010 U	0.0010 U	**0.0050**	0.0010 U	0.0010 U
	HS SER-RAMW02-050614	6-May-14		0.00097 J	0.0020 U	0.0010 U	**0.0047**	0.0010 U	0.00073 J	0.0010 U	**0.0046**	0.0010 U	0.0005 U	**0.0045**	0.0010 U	0.0010 U
	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
RAMW03	HS SER-RAMW03-120313	3-Dec-13		0.00028 J	0.0010 U	0.0010 U	0.00058 J	0.0010 U	0.0010 U	0.0010 U	0.00081 J	0.0010 U	0.0010 U	**0.0011**	0.0010 U	0.0010 U
	HS SER-DUP02-120313	3-Dec-13	Field Duplicate	0.00031 J	0.0010 U	0.0010 U	0.00060 J	0.0010 U	0.0010 U	0.0010 U	0.00075 J	0.0010 U	0.0010 U	**0.0012**	0.0010 U	0.0010 U
	HS SER-RAMW03-022814	28-Feb-14		0.00037 J	0.00039 JB	0.0010 U	0.00058 J	0.0010 U	0.00037 J	0.0010 U	0.00066 J	0.0010 U	0.0010 U	0.00098 J	0.0010 U	0.0010 U
	HS SER-DUP02-022814	28-Feb-14	Field Duplicate	0.00033 J	0.00061 JB	0.0010 U	0.00060 J	0.0010 U	0.00035 J	0.0010 U	0.00065 J	0.0010 U	0.0010 U	0.00090 J	0.0010 U	0.0010 U
	HS SER-RAMW03-050614	6-May-14		0.0010 U	0.0020 U	0.0010 U	0.00082 J	0.0010 U	0.00082 J	0.0010 U	0.00091 J	0.0010 U	0.0005 U	0.0006 J	0.0010 U	0.0010 U
	HS SER-DUP02-050614	6-May-14	Field Duplicate	0.0010 U	0.0020 U	0.0010 U	0.00082 J	0.0010 U	0.00075 J	0.0010 U	0.00078 J	0.0010 U	0.0005 U	0.00055 J	0.0010 U	0.0010 U
	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
RAMW04	HS SER-RAMW04-120313	3-Dec-13		0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.00062 J	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-RAMW04-022814	28-Feb-14		0.00026 J	0.0010 U	0.0010 U	**0.0010**	0.0010 U	0.0010 U	0.0010 U	**0.0034**	0.0010 U	0.0010 U	0.00071 J	0.0010 U	0.0010 U
	HS SER-RAMW04-050614	6-May-14		0.0010 U	0.002 U	0.0010 U	0.00051 J	0.0010 U	0.0010 U	0.0010 U	0.00067 J	0.0010 U	0.0005 U	0.00054 J	0.0010 U	0.0010 U
	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
RAMW05	HS SER-RAMW05-120313	3-Dec-13		**0.0012**	0.0010 U	0.00029 J	0.00053 J	0.0010 U	**0.0028**	0.0010 U	**0.0210**	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-RAMW05-022814	28-Feb-14		**0.014[A]**	0.0010 U	0.0026 J	0.0038 J	0.0010 U	**0.0200**	0.0010 U	**0.37[A]**	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-RAMW05-050614	6-May-14		**0.0057[A]**	0.0020 U	0.00081 J	0.00094 J	0.0010 U	**0.0032**	0.0010 U	**0.0800**	0.0010 U	0.0005 U	0.00029 J	0.0010 U	0.0010 U
	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
RAMW06	HS SER-RAMW06-120313	3-Dec-13		**0.012 J[A]**	***0.017 U***	**0.013 J[A]**	0.0099 J	***0.017 U***	**0.0380**	0.017 U	**0.84 J[A]**	***0.017 U***	0.017 U	***0.017 U***	0.017 U	***0.017 U***
	HS SER-RAMW06-022814	28-Feb-14		0.00036 J	0.00062 JB	0.0010 U	0.0010 U	0.0010 U	**0.0052**	0.0010 U	**0.0120**	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-RAMW06-050614	6-May-14		**0.0024**	0.0020 U	**0.0049**	**0.0026**	0.0010 U	**0.0037**	0.0010 U	**0.259[A]**	0.0010 U	0.0005 U	0.00026 J	0.0010 U	0.0010 U
	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
RAMW07	HS SER-RAMW07-120313	3-Dec-13		**0.0050**	0.0025 U	0.00076 J	0.0015 J	0.0025 U	**0.0074**	0.0025 U	**0.11**	0.0025 U	0.0025 U	**0.0026**	0.0025 U	***0.0025 U***
	HS SER-RAMW07-022814	28-Feb-14		0.0043 J	***0.0071 U***	0.0028 J	0.0042 J	***0.0071 U***	0.0042 J	0.0071 U	**0.2800[A]**	***0.0071 U***	0.0071 U	0.0043 J	0.0071 U	***0.0071 U***
	HS SER-RAMW07-050614	6-May-14		**0.0027**	0.0020 U	**0.0074**	**0.0329**	0.0010 U	**0.0109**	0.0010 U	**0.2480[A]**	0.0010 U	0.0005 U	**0.0084[A]**	0.0010 U	0.0010 U
	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

See next page for notes.

Table 3
Fourth Quarter 2013 to Third Quarter 2014 VOC Analytical Results - Performance 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
RAMW08	HS SER-RAMW08-120313	3-Dec-13		0.0010 U	0.0010 U	0.0010 U	**0.0025**	0.0010 U	0.0010 U	0.0010 U	**0.0091**	0.0010 U	0.0010 U	**0.0013**	0.0010 U	0.0010 U
	HS SER-RAMW08-022814	28-Feb-14		0.00023 J	0.00042 JB	0.0010 U	**0.0032**	0.0010 U	0.0010 U	0.0010 U	**0.0025**	0.0010 U	0.0010 U	0.00073 J	0.0010 U	0.0010 U
	HS SER-RAMW08-050614	6-May-14		0.0010 U	0.0020 U	0.0010 U	**0.0021**	0.0010 U	**0.0015**	0.0010 U	**0.0013**	0.0010 U	0.0005 U	0.0010 U	0.0010 U	0.0010 U
	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

Notes:

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

Groundwater monitoring wells located within the influence of active treatment systems yield groundwater sample data that is potentially biased by the treatment activities. This potential bias should be considered during evaluation of this data.

Table 4.1
Cell 1 - Phase 1 SVE System Data
December 2009 - September 2014
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	2.8	7.15E-06	63	1.61E-04	2.3 U	0.00E+00	110	4.81E-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		31571	9321	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

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 - September 2014
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	4.80E-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		31571	9321	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

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 - September 2014
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		31571	9321	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	50.01

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 - September 2014
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		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)
12/11/2009		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	25000	5.64E-02	86 U	0.00E+00	1500	5.78E-03
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	16000	3.37E-02	110 U	0.00E+00	950	3.42E-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	9200	1.94E-02	100 U	0.00E+00	1000	3.60E-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	3200	7.21E-03	35 U	0.00E+00	610	2.35E-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	3900	8.79E-03	40 U	0.00E+00	600	2.31E-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	4400	9.92E-03	40 U	0.00E+00	630	2.43E-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	2300	5.19E-03	22 U	0.00E+00	200	7.71E-04
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	6300	1.33E-02	48 U	0.00E+00	860	3.10E-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	2000	4.51E-03	23 U	0.00E+00	1300	5.01E-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	2800	5.89E-03	11 U	0.00E+00	380	1.37E-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	2100	3.41E-03	23 U	0.00E+00	300	8.33E-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	1200	2.53E-03	14 U	0.00E+00	260	9.36E-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	1400	0.00E+00	20 U	0.00E+00	620	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	940	2.05E-03	12 U	0.00E+00	290	1.08E-03
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	470	9.89E-04	10 U	0.00E+00	180	6.48E-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	440	9.26E-04	11 U	0.00E+00	120	4.32E-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	730	1.65E-03	14 U	0.00E+00	72	2.78E-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	390	9.96E-04	2.7 U	0.00E+00	26	1.14E-04
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	560	1.39E-03	4.0 U	0.00E+00	32	1.36E-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	62	1.54E-04	1.0 U	0.00E+00	19	8.06E-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	41	9.86E-05	1.0 U	0.00E+00	20	8.23E-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	21	5.05E-05	1.1 U	0.00E+00	14	5.76E-05
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	21	5.37E-05	1.2 U	0.00E+00	30	1.31E-04
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	18	4.60E-05	1.2 U	0.00E+00	30	1.31E-04
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	17	4.34E-05	1.2 U	0.00E+00	54	2.36E-04
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	12	3.07E-05	1.1 U	0.00E+00	32	1.40E-04
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	6.3	1.52E-05	0.82 U	0.00E+00	8.4	3.46E-05
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	4.1	1.05E-05	1.6 U	0.00E+00	7	3.06E-05
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	4.2	1.07E-05	0.76 U	0.00E+00	6.9	3.02E-05
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	3	7.67E-06	0.74 U	0.00E+00	4.4	1.92E-05
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	3.5	8.94E-06	0.73 U	0.00E+00	4.8	2.10E-05
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	3.7	9.45E-06	0.71 U	0.00E+00	3.9	1.70E-05
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	4.6	1.11E-05	0.76 U	0.00E+00	8.2	3.37E-05
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	5	1.20E-05	0.78 U	0.00E+00	11	4.53E-05
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	11	2.65E-05	1.3 U	0.00E+00	16	6.58E-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	10	2.40E-05	1.1 U	0.00E+00	20	8.23E-05
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	13	3.13E-05	1.1 U	0.00E+00	41	1.69E-04
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	4	1.02E-05	1.9 U	0.00E+00	5.3	2.32E-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	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	3.3	7.94E-06	1.2 U	0.00E+00	5.4	2.22E-05
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	5.4	1.30E-05	1.1 U	0.00E+00	6.4	2.63E-05
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	3.7	8.90E-06	1.1 U	0.00E+00	21	8.64E-05
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	3.5	8.42E-06	1.2 U	0.00E+00	17	6.99E-05
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	7	1.68E-05	2.0 U	0.00E+00	49	2.02E-04
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	2.3	5.53E-06	1.1 U	0.00E+00	14	5.76E-05
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	2.9	6.97E-06	1.2 U	0.00E+00	7.2	2.96E-05
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	1.9	4.57E-06	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	1.8	4.33E-06	1.2 U	0.00E+00	1.7	6.99E-06
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	7.8	1.88E-05	1.1 U	0.00E+00	14	5.76E-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	3.7	8.90E-06	1.2 U	0.00E+00	11	4.52E-05
Pulse -off period July 23, 2014 to September 16, 2014																				
9/16/2014		31571	9321	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	6	1.44E-05	2.1 U	0.00E+00	19	7.82E-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
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 - September 2014
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)	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)
12/11/2009		178	59	150	330	1.01E-03	4400	6.40E-03	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	240	6.84E-04	3500	4.75E-03	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	240	6.84E-04	1500	2.03E-03	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	130	3.97E-04	250	3.63E-04	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	150	4.58E-04	200	2.91E-04	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	180	5.50E-04	240	3.49E-04	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	98	2.99E-04	73	1.06E-04	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	210	5.99E-04	62	8.41E-05	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	190	5.81E-04	69	1.00E-04	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	78	2.22E-04	42	5.70E-05	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	88	1.94E-04	23 U	0.00E+00	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	80	2.28E-04	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
8/23/2010		5784	1928	0	150	0.00E+00	20 U	0.00E+00	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	74	2.19E-04	12	1.69E-05	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	42	1.20E-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	35	9.98E-05	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
12/22/2010		8508	2955	150	27	8.25E-05	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
1/24/2011		9302	3352	170	9	3.12E-05	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	2.7 U	0.00E+00	3.1	7.53E-06
2/25/2011		10071	3737	165	15	5.04E-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	3988	165	7.3	2.45E-05	1.0 U	0.00E+00	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	8.5	2.77E-05	1.0 U	0.00E+00	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	11	3.59E-05	1.1 U	0.00E+00	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	15	5.19E-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	4.7 U	0.00E+00	1.9	3.91E-06	1.2 U	0.00E+00
7/15/2011		13417	4472	170	21	7.27E-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	5.3	1.09E-05	1.2 U	0.00E+00
8/22/2011		14324	4775	170	22	7.62E-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	4.7 U	0.00E+00	1.6	3.29E-06	1.2 U	0.00E+00
9/15/2011		14905	4968	170	18	6.23E-05	1.1 U	0.00E+00	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	9.1	2.97E-05	0.82 U	0.00E+00	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	5.1	1.77E-05	1.6 U	0.00E+00	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	3.4	1.18E-05	0.76 U	0.00E+00	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	2.9	1.00E-05	0.74 U	0.00E+00	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	2.2	7.62E-06	0.73 U	0.00E+00	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	2.4	8.31E-06	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	1.6	3.89E-06
4/19/2012		20102	6701	160	4.3	1.40E-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	5.3	1.73E-05	0.78 U	0.00E+00	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
Pulse -off period June 1, 2012 to August 14, 2012																				
8/14/2012		21282	7094	160	12	3.91E-05	1.3 U	0.00E+00	13 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	5.3 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00
9/17/2012		21952	7317	160	29	9.45E-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	26	8.47E-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
12/14/2012		22554	7518	170	17	5.89E-05	1.9 U	0.00E+00	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	1.2 U	0.00E+00	1.2 U	0.00E+00	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	8	2.61E-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 April 11, 2013 to May 10, 2013																				
5/10/2013		23583	7724	160	9.5	3.10E-05	1.1 U	0.00E+00	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	24	7.82E-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
7/15/2013	Dup	25160	8039	160	24	7.82E-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	31	1.01E-04	2.0 U	0.00E+00	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	8.4	2.74E-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 18, 2013 to January 15, 2014																				
1/15/2014		28218	8651	160	7.2	2.35E-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	4.9	1.12E-05
3/14/2014		29432	8894	160	1.2 U	0.00E+00	1.2 U	0.00E+00	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	1.5	4.89E-06	1.2 U	0.00E+00	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	6.6	2.15E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	16	2.56E-05	1.1 U	0.00E+00	1.1 U	0.00E+00
7/23/2014		31567	9321	160	19	6.19E-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	1.2 U	0.00E+00
Pulse -off period July 23, 2014 to September 16, 2014																				
9/16/2014		31571	9321	160	26	8.47E-05	2.1 U	0.00E+00	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

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
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 - September 2014
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
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		31571	9321	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	117.79

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
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 - September 2014
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		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)
12/14/2009		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	8100	1.70E-02	270 U	0.00E+00	750	2.70E-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	5500	1.24E-02	110 U	0.00E+00	400	1.54E-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	1500	3.16E-03	150 U	0.00E+00	240	8.64E-04
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	1600	3.61E-03	42 U	0.00E+00	170	6.56E-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	1700	3.83E-03	43 U	0.00E+00	170	6.56E-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	1100	2.48E-03	28 U	0.00E+00	140	5.40E-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	1900	4.00E-03	21 U	0.00E+00	280	1.01E-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	1200	2.71E-03	100 U	0.00E+00	820	3.16E-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	960	2.02E-03	12 U	0.00E+00	200	7.20E-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	660	1.07E-03	21 U	0.00E+00	160	4.44E-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	460	9.68E-04	20 U	0.00E+00	120	4.32E-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	490	0.00E+00	20 U	0.00E+00	220	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	440	9.59E-04	11 U	0.00E+00	160	5.96E-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	210	4.42E-04	14 U	0.00E+00	110	3.96E-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	170	3.58E-04	15 U	0.00E+00	88	3.17E-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	330	7.44E-04	20 U	0.00E+00	56	2.16E-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	200	5.11E-04	8.3 U	0.00E+00	35	1.53E-04
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	72	1.79E-04	4.0 U	0.00E+00	28	1.19E-04
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	35	8.68E-05	1.3 U	0.00E+00	13	5.51E-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	28	6.73E-05	1.0 U	0.00E+00	15	6.17E-05
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	12	2.89E-05	1.2 U	0.00E+00	9.6	3.95E-05
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	34	8.69E-05	1.2 U	0.00E+00	61	2.67E-04
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	23	5.88E-05	1.2 U	0.00E+00	22	9.62E-05
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	130	3.32E-04	4.3 U	0.00E+00	39	1.70E-04
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	62	1.58E-04	3.7 U	0.00E+00	24	1.05E-04
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	37	8.90E-05	3.0 U	0.00E+00	15	6.17E-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	24	6.13E-05	1.4 U	0.00E+00	7.9	3.45E-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	33	8.43E-05	3.5 U	0.00E+00	6.9	3.02E-05
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	33	8.43E-05	3.0 U	0.00E+00	6.4	2.80E-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	95	2.43E-04	4.5 U	0.00E+00	6.7	2.93E-05
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	59	1.51E-04	5.1 U	0.00E+00	7.3	3.19E-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	23	5.53E-05	1.8 U	0.00E+00	11	4.53E-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	21	5.05E-05	0.80 U	0.00E+00	7.5	3.09E-05
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	8.4	2.02E-05	4.7 U	0.00E+00	26	1.07E-04
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	130	3.13E-04	16 U	0.00E+00	100	4.11E-04
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	18	4.33E-05	2.1 U	0.00E+00	18	7.40E-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	70 J	1.79E-04	4.6 U	0.00E+00	7.1 J	3.10E-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	36 J	9.20E-05	4.5 U	0.00E+00	49 J	2.14E-04
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	23	5.53E-05	2.4 U	0.00E+00	15	6.17E-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	28	6.73E-05	1.2 U	0.00E+00	4.6	1.89E-05
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	22	5.29E-05	1.1 U	0.00E+00	4.4	1.81E-05
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	1.9	4.57E-06	1.2 U	0.00E+00	14	5.76E-05
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	2	4.81E-06	1.7 U	0.00E+00	21	8.64E-05
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	45	1.08E-04	1.2 U	0.00E+00	5.7	2.34E-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	16	3.85E-05	1.2 U	0.00E+00	18	7.40E-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	6.4	1.54E-05	1.2 U	0.00E+00	9.5	3.91E-05
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	86	2.07E-04	2.3 U	0.00E+00	6.9	2.84E-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	10	2.40E-05	1.4 U	0.00E+00	10	4.11E-05
Pulse -off period July 23, 2014 to September 16, 2014																				
9/16/2014		31571	12927	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	8.4	2.02E-05	2.4 U	0.00E+00	17	6.99E-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
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 - September 2014
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)	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)
12/14/2009		181	60	140	1000	2.85E-03	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	270 U	0.00E+00
12/16/2009		229	76	150	550	1.68E-03	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	110 U	0.00E+00
1/5/2010		707	236	140	250	7.13E-04	150 U	0.00E+00	220	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
1/21/2010		1084	361	150	140	4.28E-04	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	140	4.28E-04	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	66	2.02E-04	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	120	3.42E-04	51	6.92E-05	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		2604	935	150	190	5.81E-04	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	43	1.23E-04	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	55	1.21E-04	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	44	1.25E-04	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	66	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	50	1.48E-04	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	31	8.84E-05	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	29	8.27E-05	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	21	6.42E-05	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	17	5.89E-05	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	16	5.38E-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	5.9	1.98E-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	5.4 U	0.00E+00	1.9	3.80E-06	1.3 U	0.00E+00
4/15/2011		11241	3460	160	7.7	2.51E-05	1.0 U	0.00E+00	1.0 U	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
5/19/2011		12061	3665	160	6.9	2.25E-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	4.8 U	0.00E+00	1.9	3.68E-06	1.2 U	0.00E+00
6/16/2011		12722	3830	170	9.8	3.39E-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	4.7 U	0.00E+00	1.6	3.29E-06	1.2 U	0.00E+00
7/15/2011		13417	4472	170	9.3	3.22E-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	4.8 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
8/22/2011		14324	4775	170	21	7.27E-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
9/15/2011		14905	4968	170	14	4.85E-05	3.7 U	0.00E+00	3.7 U	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
10/14/2011		15598	5199	160	13	4.24E-05	3.0 U	0.00E+00	3.0 U	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
11/21/2011		16510	5503	170	9.2	3.19E-05	1.4 U	0.00E+00	1.4 UJ	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
12/14/2011		17010	5670	170	22	7.62E-05	3.5 U	0.00E+00	35 U	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
1/19/2012		17923	5974	170	12	4.16E-05	3.0 U	0.00E+00	3.0 U	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
2/15/2012		18566	6189	170	24	8.31E-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
3/15/2012		19262	6421	170	30	1.04E-04	5.1 U	0.00E+00	5.1 U	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
4/19/2012		20102	6701	160	19	6.19E-05	1.8 U	0.00E+00	1.8 U	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
5/16/2012		20748	6916	160	18	5.87E-05	0.80 U	0.00E+00	0.80 U	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
Pulse -off period June 1, 2012 to August 14, 2012																				
8/14/2012		21282	7094	160	25	8.15E-05	4.7 U	0.00E+00	47 U	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
9/17/2012		21952	7317	160	180	5.87E-04	16 U	0.00E+00	160 U	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
Pulse -off period September 17, 2012 to November 15, 2012																				
11/15/2012		21959	7320	160	39	1.27E-04	2.1 U	0.00E+00	21 U	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
12/14/2012		22554	7518	170	90 J	3.12E-04	4.6 U	0.00E+00	46 U	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
12/14/2012	Dup	22554	7518	170	52 J	1.80E-04	4.5 U	0.00E+00	45 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
Pulse -off period December 14, 2012 to February 26, 2013																				
2/26/2013		22556	7519	160	36	1.17E-04	2.4 U	0.00E+00	24 U	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
4/11/2013		23581	8134	160	15	4.89E-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 April 11, 2013 to May 10, 2013																				
5/10/2013		23583	8135	160	13	4.24E-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
7/15/2013		25160	9082	160	10	3.26E-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	9083	160	12	3.91E-05	1.7 U	0.00E+00	17 U	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
11/18/2013		26825	10081	160	14	4.56E-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 November 18, 2013 to January 15, 2014																				
1/15/2014		28218	10916	160	7.6	2.48E-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	1.2 U	0.00E+00
3/14/2014		29432	11645	160	8.1	2.64E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.9 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	20	6.52E-05	2.3 U	0.00E+00	23 U	0.00E+00	2.3 U	0.00E+00	2.3 U	0.00E+00	9.3 U	0.00E+00	2.3 U	0.00E+00	2.3 U	0.00E+00
7/23/2014		31567	12926	160	9	2.93E-05	1.4 U	0.00E+00	14 U	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
Pulse -off period July 23, 2014 to September 16, 2014																				
9/16/2014		31571	12927	160	14	4.56E-05	2.4 U	0.00E+00	24 U	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

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
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 - September 2014
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)	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)		
12/14/2009		181	60	140	270 U	0.00E+00	1600	3.69E-03	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	110 U	0.00E+00	540	1.33E-03	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	150 U	0.00E+00	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	42 U	0.00E+00	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	43 U	0.00E+00	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	28 U	0.00E+00	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	21 U	0.00E+00	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	100 U	0.00E+00	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	12 U	0.00E+00	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	21 U	0.00E+00	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	20 U	0.00E+00	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	20 U	0.00E+00	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	11 U	0.00E+00	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	14 U	0.00E+00	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	15 U	0.00E+00	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	20 U	0.00E+00	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	8.3 U	0.00E+00	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	4.0 U	0.00E+00	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	1.3 U	0.00E+00	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	1.0 U	0.00E+00	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	1.2 U	0.00E+00	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	1.2 U	0.00E+00	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	1.2 U	0.00E+00	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	4.3 U	0.00E+00	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	3.7 U	0.00E+00	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	3.0 U	0.00E+00	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	1.4 U	0.00E+00	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	3.5 U	0.00E+00	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	3.0 U	0.00E+00	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	4.5 U	0.00E+00	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	5.1 U	0.00E+00	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	1.8 U	0.00E+00	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	0.80 U	0.00E+00	0.80 U	0.00E+00	3.2 U	0.00E+00	3.2 U	0.00E+00	1.16E-03	128.27
Pulse -off period June 1, 2012 to August 14, 2012																
8/14/2012		21282	7094	160	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	4.27E-03	129.03
9/17/2012		21952	7317	160	16 U	0.00E+00	16 U	0.00E+00	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	2.1 U	0.00E+00	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	4.6 U	0.00E+00	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	4.5 U	0.00E+00	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	2.4 U	0.00E+00	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	1.2 U	0.00E+00	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	1.1 U	0.00E+00	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	1.2 U	0.00E+00	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	1.7 U	0.00E+00	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	1.2 U	0.00E+00	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	1.2 U	0.00E+00	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	1.2 U	0.00E+00	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	2.3 U	0.00E+00	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	1.4 U	0.00E+00	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		31571	12927	160	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	1.48E-03	138.52

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
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 4.4
Cell 4 - Phase 2 SVE System Data
March 2011 - September 2014
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		trans-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)	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	600 U	0.00E+00
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	150 U	0.00E+00
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	130 U	0.00E+00
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	62 U	0.00E+00
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	68 U	0.00E+00
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	80 U	0.00E+00
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	84 U	0.00E+00
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	60 U	0.00E+00
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	11 U	0.00E+00
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	11 U	0.00E+00
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	11 U	0.00E+00
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	24 U	0.00E+00
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	27 U	0.00E+00
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	22 U	0.00E+00
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	22 U	0.00E+00
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	19 U	0.00E+00
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	16 U	0.00E+00
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	19 U	0.00E+00
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	24 U	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	19 U	0.00E+00
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	15 U	0.00E+00
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	16 U	0.00E+00
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	15 U	0.00E+00
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	16 U	0.00E+00
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	15 U	0.00E+00
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	28 U	0.00E+00
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	24 U	0.00E+00
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	1.9 U	0.00E+00
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	2.2 U	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	1.8 U	0.00E+00
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	1.1 U	0.00E+00
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	1.1 U	0.00E+00
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	1.2	6.13E-06
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	1.1 U	0.00E+00
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	1.2 U	0.00E+00
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	2.6 U	0.00E+00
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	1.1 U	0.00E+00
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	1.3 U	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	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
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 4.4
Cell 4 - Phase 2 SVE System Data
March 2011 - September 2014
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)	Tetrachloroethene		Trichloroethene		Vinyl chloride		Methylene Chloride		Carbon Tetrachloride		Chloroform		Chloroethane		Benzene	
					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	7200	9.26E-02	3900	3.97E-02	600 U	0.00E+00	600 U	0.00E+00	600 U	0.00E+00	600 U	0.00E+00	2400 U	0.00E+00	600 U	0.00E+00
3/18/2011		366	366	500	2900	3.73E-02	1600	1.63E-02	150 U	0.00E+00	150 U	0.00E+00	150 U	0.00E+00	150 U	0.00E+00	750 J	3.75E-03	150 U	0.00E+00
3/18/2011	Dup	366	366	500	3000	3.86E-02	1600	1.63E-02	130 UJ	0.00E+00	130 U	0.00E+00	130 U	0.00E+00	130 U	0.00E+00	1100 J	5.50E-03	130 U	0.00E+00
3/25/2011		463	463	500	3200	4.11E-02	970	9.88E-03	62 U	0.00E+00	61 NJ	4.02E-04	62 U	0.00E+00	62 U	0.00E+00	610	3.05E-03	62 U	0.00E+00
3/30/2011		558	558	500	2500	3.21E-02	1000	1.02E-02	68 U	0.00E+00	68 U	0.00E+00	68 U	0.00E+00	68 U	0.00E+00	470	2.35E-03	68 U	0.00E+00
4/8/2011		764	764	500	2400	3.09E-02	1000	1.02E-02	80 U	0.00E+00	80 U	0.00E+00	80 U	0.00E+00	80 U	0.00E+00	430	2.15E-03	80 U	0.00E+00
4/15/2011		924	924	500	1700	2.19E-02	920	9.37E-03	84 U	0.00E+00	84 U	0.00E+00	84 U	0.00E+00	84 U	0.00E+00	340 U	0.00E+00	84 U	0.00E+00
4/15/2011	Dup	924	924	500	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	60 U	0.00E+00	260 J	1.30E-03	60 U	0.00E+00
5/19/2011		1685	1685	500	1400	1.80E-02	530	5.40E-03	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	67	3.35E-04	26	1.57E-04
6/16/2011		2191	2191	420	1000	1.08E-02	410	3.51E-03	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	46 U	0.00E+00	14	7.12E-05
6/16/2011	Dup	2191	2191	420	960	1.04E-02	400	3.42E-03	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	45 U	0.00E+00	12	6.10E-05
7/15/2011		2750	2750	420	570	6.16E-03	250	2.14E-03	24 U	0.00E+00	28	1.55E-04	24 U	0.00E+00	24 U	0.00E+00	95 U	0.00E+00	24 U	0.00E+00
8/22/2011		3133	3133	420	920	9.93E-03	380	3.25E-03	27 U	0.00E+00	27 U	0.00E+00	27 U	0.00E+00	27 U	0.00E+00	110 U	0.00E+00	27 U	0.00E+00
8/22/2011	Dup	3133	3133	420	940	1.02E-02	360	3.08E-03	22 U	0.00E+00	22 U	0.00E+00	22 U	0.00E+00	22 U	0.00E+00	90 U	0.00E+00	22 U	0.00E+00
9/15/2011		3630	3630	420	660	7.13E-03	270	2.31E-03	22 U	0.00E+00	22 U	0.00E+00	22 U	0.00E+00	22 U	0.00E+00	90 U	0.00E+00	22 U	0.00E+00
10/14/2011		4226	4226	420	390	4.21E-03	180	1.54E-03	19 U	0.00E+00	19 U	0.00E+00	19 U	0.00E+00	19 U	0.00E+00	77 U	0.00E+00	19 U	0.00E+00
11/21/2011		5019	5019	380	360	3.52E-03	180	1.39E-03	16 U	0.00E+00	160 U	0.00E+00	16 U	0.00E+00	16 U	0.00E+00	63 U	0.00E+00	16 U	0.00E+00
12/14/2011		5343	5343	260	360	2.41E-03	160	8.47E-04	19 U	0.00E+00	190 U	0.00E+00	19 U	0.00E+00	19 U	0.00E+00	74 U	0.00E+00	19 U	0.00E+00
1/19/2012		5993	5993	0	320	0.00E+00	180	0.00E+00	24 U	0.00E+00	24 U	0.00E+00	24 U	0.00E+00	24 U	0.00E+00	97 U	0.00E+00	24 U	0.00E+00
2/15/2012		6368	6368	260	280	1.87E-03	150	7.94E-04	19 U	0.00E+00	19 U	0.00E+00	19 U	0.00E+00	19 U	0.00E+00	78 U	0.00E+00	19 U	0.00E+00
3/15/2012		6946	6946	350	240	2.16E-03	140	9.98E-04	15 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00	58 U	0.00E+00	15 U	0.00E+00
4/19/2012		7629	7629	380	400	3.91E-03	180	1.39E-03	16 U	0.00E+00	16 U	0.00E+00	16 U	0.00E+00	16 U	0.00E+00	62 U	0.00E+00	16 U	0.00E+00
5/16/2012		8143	8143	420	320	3.46E-03	150	1.28E-03	15 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00	61 U	0.00E+00	15 U	0.00E+00
Pulse -off period June 1, 2012 to August 14, 2012																				
8/14/2012		8546	8546	420	490	5.29E-03	180	1.54E-03	16 U	0.00E+00	160 U	0.00E+00	16 U	0.00E+00	16 U	0.00E+00	63 U	0.00E+00	16 U	0.00E+00
9/17/2012		9033	9033	470	410	4.95E-03	220	2.11E-03	15 U	0.00E+00	150 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00	61 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	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	28 U	0.00E+00	110 U	0.00E+00	28 U	0.00E+00
11/15/2012	Dup	9037	9037	420	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	24 U	0.00E+00	94 U	0.00E+00	24 U	0.00E+00
12/14/2012		9439	9439	150	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	1.9 U	0.00E+00	7.5 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	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	2.2 U	0.00E+00	8.7 U	0.00E+00	2.2 U	0.00E+00
4/11/2013		9876	9876	340	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	1.8 U	0.00E+00	7.1 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	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	1.1 U	0.00E+00	4.5 U	0.00E+00	1.1 U	0.00E+00
7/15/2013		10907	10907	340	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	1.1 U	0.00E+00	4.6 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	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	1.2 U	0.00E+00	4.6 U	0.00E+00	1.2 U	0.00E+00
11/18/2013		11992	11992	260	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	1.1 U	0.00E+00	4.4 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	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	1.2 U	0.00E+00	4.8 U	0.00E+00	1.2 U	0.00E+00
3/14/2014		12980	12980	180	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	2.6 U	0.00E+00	10 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	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	1.1 U	0.00E+00	4.6 U	0.00E+00	1.1 U	0.00E+00
7/23/2014		14627	14627	300	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	1.3 U	0.00E+00	5.2 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	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	1.2 U	0.00E+00	4.9 U	0.00E+00	2	7.75E-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
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 4.4
Cell 4 - Phase 2 SVE System Data
March 2011 - September 2014
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)	Toluene		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)	Conc (ppbv)	Mass Removal Rate (lb/hr)		
3/11/2011		222	222	500	600 U	0.00E+00	600 U	0.00E+00	710	5.84E-03	600 U	0.00E+00	2400 U	0.00E+00	2400 U	0.00E+00	1.72E+00	381.87
3/18/2011		366	366	500	620 J	4.43E-03	150 U	0.00E+00	240	1.98E-03	200	1.65E-03	1500 J	6.75E-03	590 U	0.00E+00	5.09E-01	453.50
3/18/2011	Dup	366	366	500	380 J	2.71E-03	130 U	0.00E+00	250	2.06E-03	240	1.98E-03	690 J	3.11E-03	540 U	0.00E+00	4.97E-01	453.50
3/25/2011		463	463	500	140	1.00E-03	62 U	0.00E+00	78	6.42E-04	67	5.51E-04	250 U	0.00E+00	250 U	0.00E+00	2.95E-01	482.07
3/30/2011		558	558	500	190	1.36E-03	68 U	0.00E+00	250	2.06E-03	140	1.15E-03	270 U	0.00E+00	270 U	0.00E+00	3.18E-01	512.25
4/8/2011		764	764	500	200	1.43E-03	120	9.88E-04	560	4.61E-03	260	2.14E-03	320 U	0.00E+00	320 U	0.00E+00	2.91E-01	572.27
4/15/2011		924	924	500	170	1.21E-03	110	9.05E-04	540	4.44E-03	260	2.14E-03	340 U	0.00E+00	340 U	0.00E+00	2.36E-01	610.05
4/15/2011	Dup	924	924	500	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	240 U	0.00E+00	2.12E-01	610.05
5/19/2011		1685	1685	500	100	7.14E-04	140	1.15E-03	920	7.57E-03	420	3.46E-03	81	3.65E-04	43 U	0.00E+00	1.58E-01	730.28
6/16/2011		2191	2191	420	51	3.06E-04	83	5.74E-04	600	4.15E-03	280	1.94E-03	46 J,B	1.74E-04	46 U	0.00E+00	1.14E-01	753.86
6/16/2011	Dup	2191	2191	420	53	3.18E-04	78	5.39E-04	580	4.01E-03	270	1.87E-03	69 J,B	2.61E-04	45 U	0.00E+00	1.09E-01	785.55
7/15/2011		2750	2750	420	28	1.68E-04	41	2.83E-04	270	1.87E-03	120	8.30E-04	180	6.81E-04	95 U	0.00E+00	8.10E-02	830.85
8/22/2011		3133	3133	420	35 J	2.10E-04	59 J	4.08E-04	340	2.35E-03	140	9.68E-04	110 U	0.00E+00	110 U	0.00E+00	9.95E-02	868.97
8/22/2011	Dup	3133	3133	420	22 UJ	0.00E+00	30 J	2.07E-04	310	2.14E-03	130	8.99E-04	90 U	0.00E+00	90 U	0.00E+00	9.87E-02	868.65
9/15/2011		3630	3630	420	22 U	0.00E+00	31	2.14E-04	340	2.35E-03	130	8.99E-04	90 U	0.00E+00	90 U	0.00E+00	7.63E-02	906.88
10/14/2011		4226	4226	420	38	2.28E-04	19 U	0.00E+00	170	1.18E-03	70	4.84E-04	77 U	0.00E+00	77 U	0.00E+00	4.78E-02	935.35
11/21/2011		5019	5019	380	16 U	0.00E+00	17	1.06E-04	220	1.38E-03	100	6.25E-04	160 U	0.00E+00	63 U	0.00E+00	3.93E-02	966.50
12/14/2011		5343	5343	260	19 U	0.00E+00	19 U	0.00E+00	76	3.25E-04	55	2.35E-04	190 UJ	0.00E+00	74 U	0.00E+00	2.73E-02	975.34
1/19/2012		5993	5993	0	36	0.00E+00	24 U	0.00E+00	78	0.00E+00	50	0.00E+00	97 U	0.00E+00	97 U	0.00E+00	0.00E+00	975.34
2/15/2012		6368	6368	260	19 U	0.00E+00	19 U	0.00E+00	58	2.48E-04	40	1.71E-04	300	7.02E-04	78 U	0.00E+00	2.97E-02	986.48
3/15/2012		6946	6946	350	15 U	0.00E+00	15 U	0.00E+00	44	2.53E-04	31	1.79E-04	58 U	0.00E+00	58 U	0.00E+00	3.36E-02	1005.89
4/19/2012		7629	7629	380	16 U	0.00E+00	16 U	0.00E+00	48	3.00E-04	33	2.06E-04	62 U	0.00E+00	62 U	0.00E+00	4.81E-02	1038.74
5/16/2012		8143	8143	420	15 U	0.00E+00	15 U	0.00E+00	28	1.94E-04	23	1.59E-04	61 U	0.00E+00	61 U	0.00E+00	4.19E-02	1060.30
Pulse -off period June 1, 2012 to August 14, 2012																		
8/14/2012		8546	8546	420	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	63 U	0.00E+00	5.15E-02	1081.05
9/17/2012		9033	9033	470	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	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	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	110 U	0.00E+00	4.80E-02	1102.78
11/15/2012	Dup	9037	9037	420	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	94 U	0.00E+00	9.68E-02	1102.97
12/14/2012		9439	9439	150	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	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	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	8.7 U	0.00E+00	0.00E+00	1103.57
4/11/2013		9876	9876	340	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	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	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	4.5 U	0.00E+00	3.40E-03	1105.50
7/15/2013		10907	10907	340	19	9.23E-05	1.2	6.72E-06	2.2	1.23E-05	1.1 U	0.00E+00	24	7.35E-05	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	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	4.6 U	0.00E+00	4.89E-03	1108.44
11/18/2013		11992	11992	260	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	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	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	4.8 U	0.00E+00	1.90E-03	1110.91
3/14/2014		12980	12980	180	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	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	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	4.6 U	0.00E+00	2.10E-03	1112.67
7/23/2014		14627	14627	300	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	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	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	4.9 U	0.00E+00	3.09E-03	1113.03

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
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 - September 2014
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		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)
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	10000	5.41E-02	100 U	0.00E+00	5900	5.46E-02
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	4800	2.60E-02	52 U	0.00E+00	6800	6.29E-02
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	2600	1.41E-02	30 U	0.00E+00	5400	5.00E-02
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	1300	7.03E-03	13 U	0.00E+00	4000	3.70E-02
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	1100	5.95E-03	20 U	0.00E+00	5700	5.28E-02
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	980	5.30E-03	20 U	0.00E+00	4600	4.26E-02
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	730	3.62E-03	12 U	0.00E+00	7800	6.62E-02
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	520	2.34E-03	7.8 U	0.00E+00	2400	1.85E-02
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	840	2.78E-03	7.6 U	0.00E+00	2700	1.53E-02
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	690	2.70E-03	5.0 U	0.00E+00	2000	1.34E-02
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	380	1.26E-03	4.5 U	0.00E+00	1100	6.22E-03
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	310	1.03E-03	3.9 U	0.00E+00	760	4.30E-03
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	290	8.72E-04	3.2 U	0.00E+00	380	1.95E-03
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	300	9.02E-04	3.1 U	0.00E+00	390	2.01E-03
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	270	8.12E-04	3.2 U	0.00E+00	350	1.80E-03
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	69	0.00E+00	2.8 U	0.00E+00	78	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	230	0.00E+00	4.1 U	0.00E+00	150	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	220	0.00E+00	3.8 U	0.00E+00	140	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	130	1.56E-04	2.4 U	0.00E+00	100	2.06E-04
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	110	3.31E-04	2.0 U	0.00E+00	130	6.68E-04
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	110	3.64E-04	2.5 U	0.00E+00	540	3.05E-03
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	42	1.26E-04	8.0 U	0.00E+00	190	9.77E-04
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	8	2.65E-05	4.4 U	0.00E+00	55	3.11E-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	37	1.11E-04	4.8 U	0.00E+00	61	3.14E-04
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	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	88	5.56E-04	5.1 U	0.00E+00	320	3.46E-03
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	45	2.84E-04	5.4 U	0.00E+00	220	2.38E-03
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	38	2.06E-04	4.7 U	0.00E+00	310	2.87E-03
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	16	9.14E-05	4 U	0.00E+00	170	1.66E-03
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	50	2.86E-04	7.6 U	0.00E+00	180	1.76E-03
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	23	1.31E-04	3.5 U	0.00E+00	82	8.01E-04
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	88	5.03E-04	7.8 U	0.00E+00	30	2.93E-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	65	2.93E-04	3.0 U	0.00E+00	71	5.48E-04
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	12	1.80E-05	2.2 U	0.00E+00	47	1.21E-04
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	6.9	1.24E-05	2.3 U	0.00E+00	79	2.44E-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
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 - September 2014
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)	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)
3/11/2011		218	218	360	1400	1.03E-02	100 U	0.00E+00	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	350	1.80E-03
3/18/2011		362	362	360	1100	8.07E-03	52 U	0.00E+00	52 U	0.00E+00	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	760	5.57E-03	30 U	0.00E+00	33	1.56E-04	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	420	3.08E-03	13 U	0.00E+00	13 U	0.00E+00	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	560	4.11E-03	20 U	0.00E+00	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	57	2.93E-04
4/15/2011		920	920	360	560	4.11E-03	20 U	0.00E+00	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	85	4.37E-04
5/19/2011		1681	1681	330	360	2.42E-03	12 U	0.00E+00	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	120	5.66E-04
6/16/2011		2187	2187	300	180	1.10E-03	7.8 U	0.00E+00	7.8 U	0.00E+00	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	280	1.25E-03	7.6 U	0.00E+00	20	5.79E-05	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	160	8.47E-04	5.0 U	0.00E+00	5.0 U	0.00E+00	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	83	3.72E-04	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	5	1.33E-05	4.5 U	0.00E+00
10/14/2011		4222	4222	220	50	2.24E-04	3.9 U	0.00E+00	3.9 U	0.00E+00	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	27	1.10E-04	3.2 U	0.00E+00	32 U	0.00E+00	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	28	1.14E-04	3.1 U	0.00E+00	31 U	0.00E+00	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	24	9.78E-05	3.2 U	0.00E+00	32 U	0.00E+00	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	10	0.00E+00	2.8 U	0.00E+00	2.8 U	0.00E+00	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	19	0.00E+00	4.1 U	0.00E+00	4.1 U	0.00E+00	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	25	0.00E+00	3.8 U	0.00E+00	3.8 U	0.00E+00	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	19	3.10E-05	2.4 U	0.00E+00	2.4 U	0.00E+00	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	24	9.78E-05	2.0 U	0.00E+00	2.0 U	0.00E+00	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	64	2.87E-04	2.5 U	0.00E+00	25 U	0.00E+00	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	71	2.89E-04	8.0 U	0.00E+00	80 U	0.00E+00	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	39	1.75E-04	4.4 U	0.00E+00	44 U	0.00E+00	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	60	2.44E-04	4.8 U	0.00E+00	48 U	0.00E+00	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	68 U	0.00E+00	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	110	9.41E-04	5.1 U	0.00E+00	51 U	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
Pulse -off period April 11, 2013 to May 10, 2013																				
5/10/2013		9958	9958	420	79	6.76E-04	5.4 U	0.00E+00	54 U	0.00E+00	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	100	7.33E-04	4.7 U	0.00E+00	47 U	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
Pulse -off period July 15, 2013 to September 9, 2013																				
9/9/2013		10991	10991	380	62	4.80E-04	4 U	0.00E+00	40 U	0.00E+00	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	71	5.50E-04	7.6 U	0.00E+00	76 U	0.00E+00	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	37	2.86E-04	3.5 U	0.00E+00	35 U	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
3/14/2014		13057	13057	380	41	3.17E-04	7.8 U	0.00E+00	78 U	0.00E+00	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	33	2.02E-04	3.0 U	0.00E+00	30 U	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
7/23/2014		14714	14714	100	14	2.85E-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
Pulse -off period July 23, 2014 to September 16, 2014																				
9/16/2014		14721	14715	120	22	5.38E-05	2.3 U	0.00E+00	23 U	0.00E+00	2.3 U	0.00E+00	2.3 U	0.00E+00	9.4 U	0.00E+00	6.4	9.30E-06	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
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 - September 2014
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 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	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

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
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 4.6
VOC Mass Removal - Phase 1 and Phase 2 AS/SVE Systems
December 2009 - September 2014
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
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	9321	0.00	50.01	9321	0.00	117.79	12927	0.00	138.52	14628	0.00	1113.03	14715	0.00	371.61	1790.96

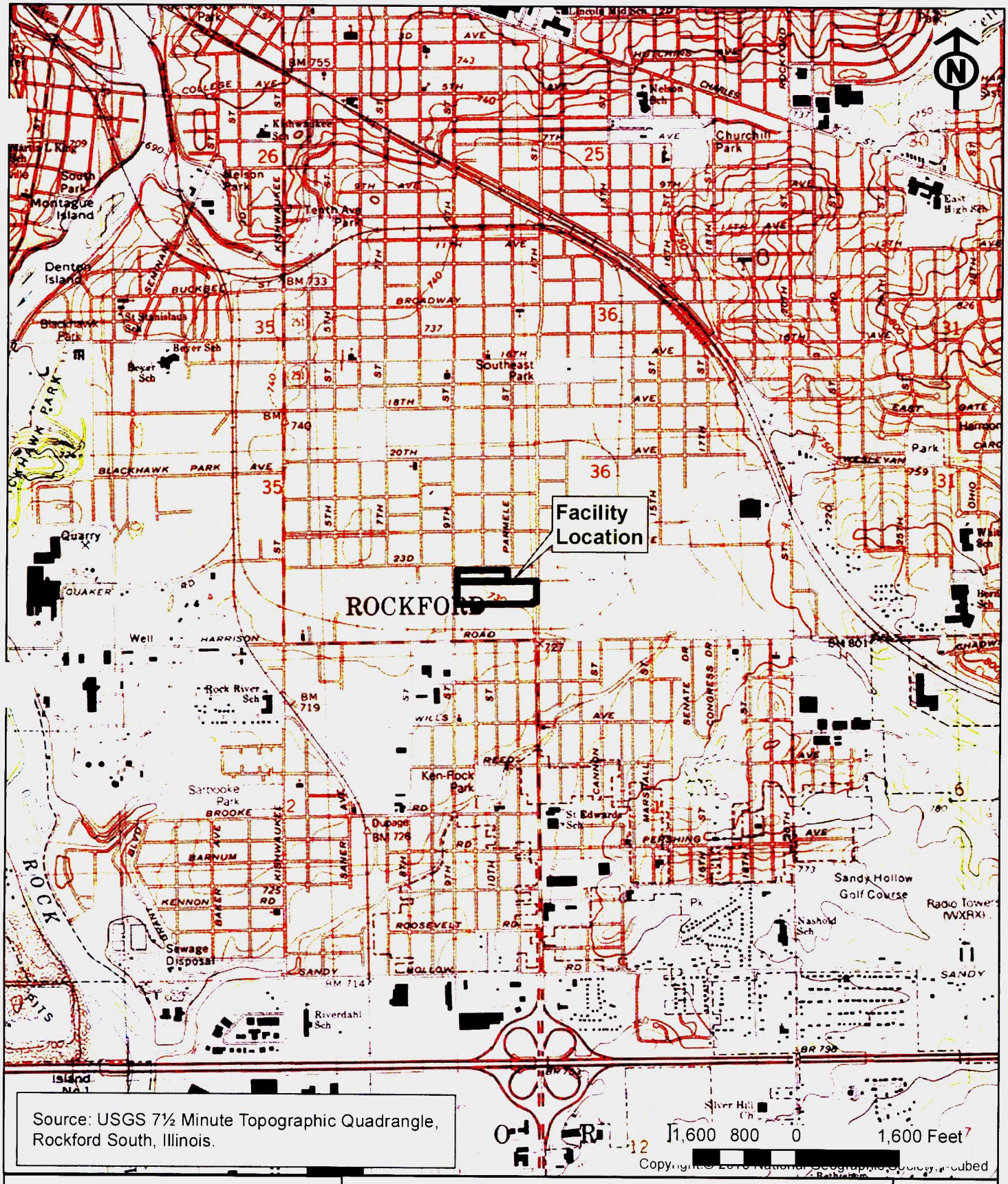
Table 5
Systems Moisture Separator Tank Effluent VOC Results
UTC Aerospace Systems
Plants 1/2 Facility
Rockford, Illinois

				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]
Cell	**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
Phase 1	HS SER-MSCELL4-072314	23-Jul-14		0.0007 J	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.00072 J	0.0010 U	**0.0022**	0.0010 U	0.0010 U	0.0032	0.0010 U	0.0010 U

Notes:

PRG	Preliminary Remediation Goals (PRGs) from 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.
0.50 U	Laboratory estimated quantitation limit exceeded standard.
0.03 U	The analyte was not detected above the laboratory estimated quantitation limit.
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. 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.
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.

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	09/11/14	60312350.4214	1 of 1

Path: U:\Cad_Drive_New\UTC\60288803 UTC Rockford SER 9-10\Q3 2014\GIS\Site Location Map.mxd

AECOM

AREA 9/10 REMEDIAL ACTION ROCKFORD, ILLINOIS PROJECT NO. 60312350.4214	GMZ / PERFORMANCE WELL NETWORK
	FIGURE 2

LEGEND:
GMZ Monitoring Well
Performance Monitoring Well
Site and GMZ Boundary
Approximate Extent of Phase 1 AS/SVE System Influence
Approximate Extent of Phase 2 AS/SVE System Influence
Potentiometric Surface Contour
699 34 Groundwater Elevation (Feet)
Groundwater Flow Direction
10th Street
Parmele Street
23rd Avenue
11th Street
9th Street
Illinois Central Railroad
GMZ 1 AREA
GMZ 2 AREA
Cell 1
Cell 2
Cell 3
SMW01 698.65
SMW02 699.19
GMZ01 698.47
SMW08 698.36
SMW04 698.28
PMW02 698.29
PMW01 698.21
RAMW01 698.33
RAMW02 698.42
RAMW03 698.44
RAMW04 698.67
RAMW05 698.63
RAMW06 698.59
RAMW07 698.69
RAMW08 698.80
GMZ02 698.26
GMZ03 698.27
SMW20 698.39
SMW21 698.48
GMZ04 698.57
BGW01 699.02
SMW19 699.21
BGW02 699.27
BGW03 699.34
MW203 699.53
MW07FGA 699.19
698.25
698.50
698.75
699.00
699.25
699.50
60 0 120
1"=120'
AECOM
AREA 9/10 REMEDIAL ACTION
ROCKFORD, ILLINOIS
PROJECT NO. 60312350.4214
THIRD QUARTER 2014
POTENTIOMETRIC SURFACE MAP
FIGURE 3

GMZ01		
Date	TCE	PCE
2-Dec-13	<PRG	0.0230
25-Feb-14	0.0052	0.0360
6-May-14	<PRG	0.0254
4-Aug-14	<PRG	0.0215

SMW08			
Date	TCE	cis-1,2-DCE	PCE
2-Dec-13	0.0054	0.30	0.0690
25-Feb-14	<PRG	<PRG	0.0450
6-May-14	<PRG	<PRG	0.0670
4-Aug-14	<PRG	0.1030	0.0367

SMW04				
Date	TCE	cis-1,2-DCE	PCE	Vinyl chloride
5-Dec-13	<PRG	<PRG	0.0260	0.0051
28-Feb-14	0.0070	<PRG	0.0160	0.0190
6-May-14	0.0051	0.0828	0.0115	0.0151
6-Aug-14	0.0106	<PRG	0.0197	0.0344

PMW02	
Date	PCE
5-Dec-13	0.0280
28-Feb-14	0.0350
7-May-14	0.0199
6-Aug-14	0.0226

PMW01	
Date	PCE
4-Dec-13	0.0210
28-Feb-14	0.0170
7-May-14	0.0233
6-Aug-14	0.0244

SMW19	
Date	TCE
5-Dec-13	0.0170
28-Feb-14	0.0230
7-May-14	0.0154
6-Aug-14	0.0265

MW203	
Date	PCE
3-Dec-13	0.0064
25-Feb-14	0.0060
6-May-14	<PRG
5-Aug-14	<PRG

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

65 0 130

1"=130'

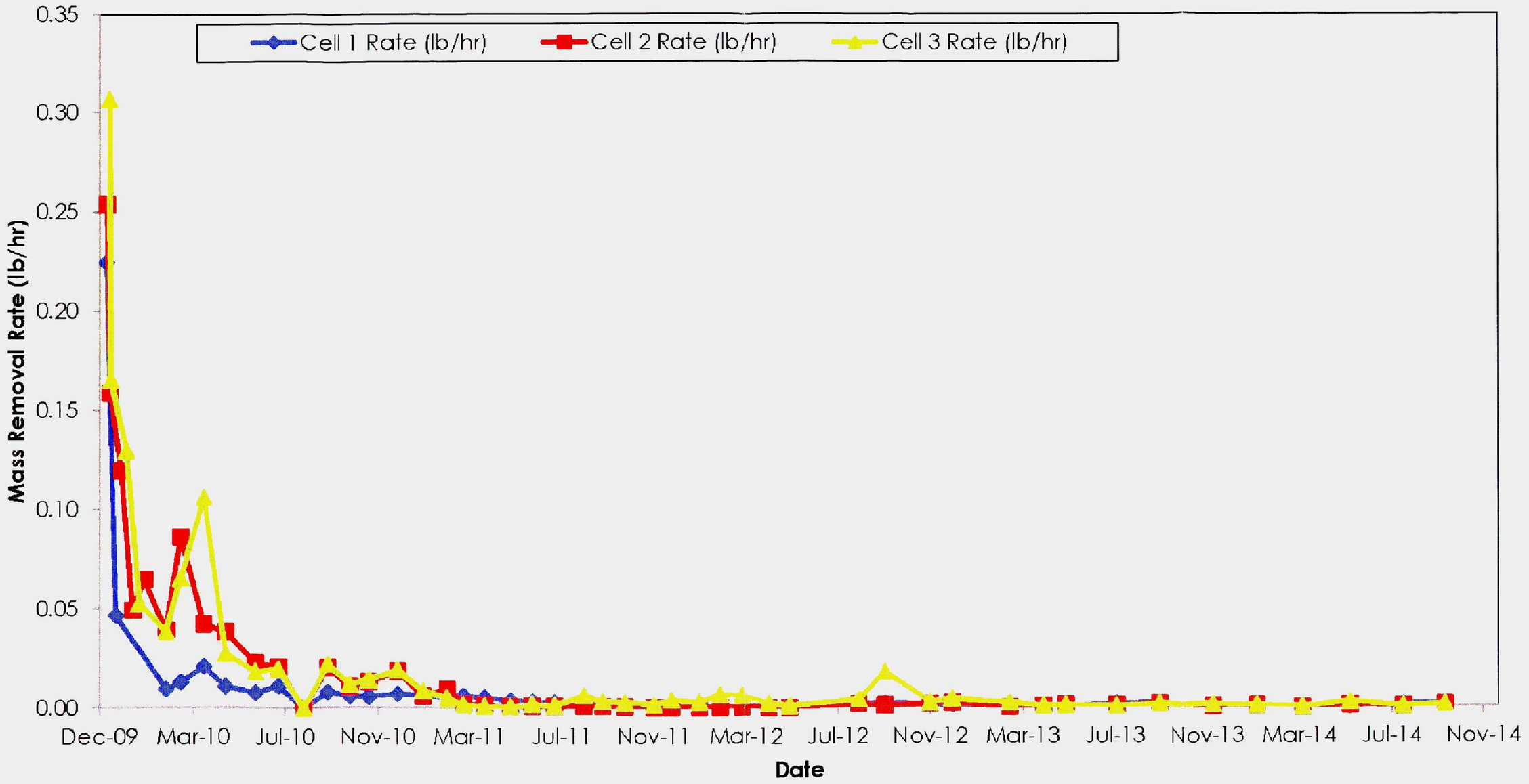
AECOM

AREA 9/10 REMEDIAL ACTION
ROCKFORD, ILLINOIS

PROJECT NO. 60312350.4213

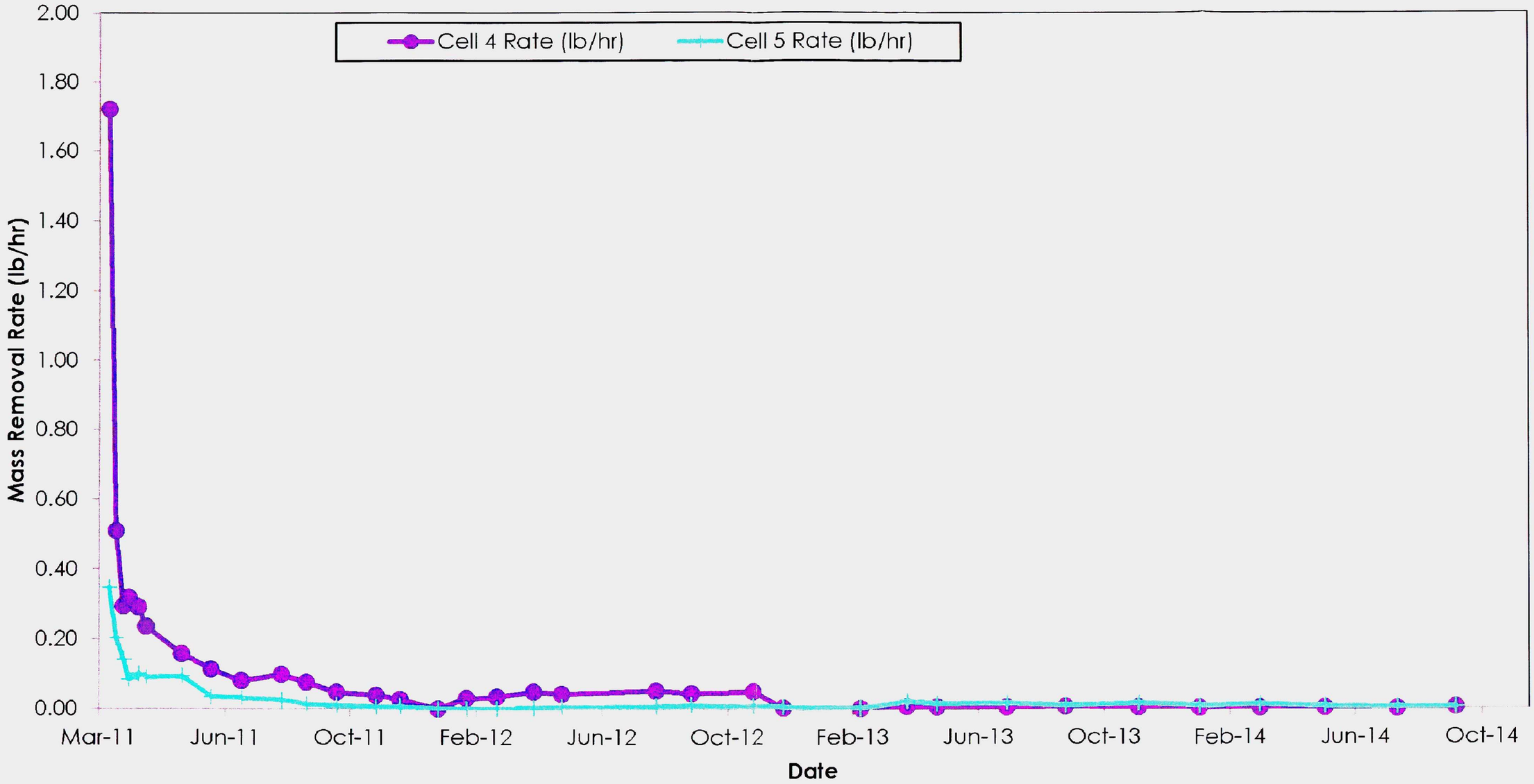
VOC ANALYTICAL RESULTS
EXCEEDING THE PRG
THIRD QUARTER 2014

FIGURE 4



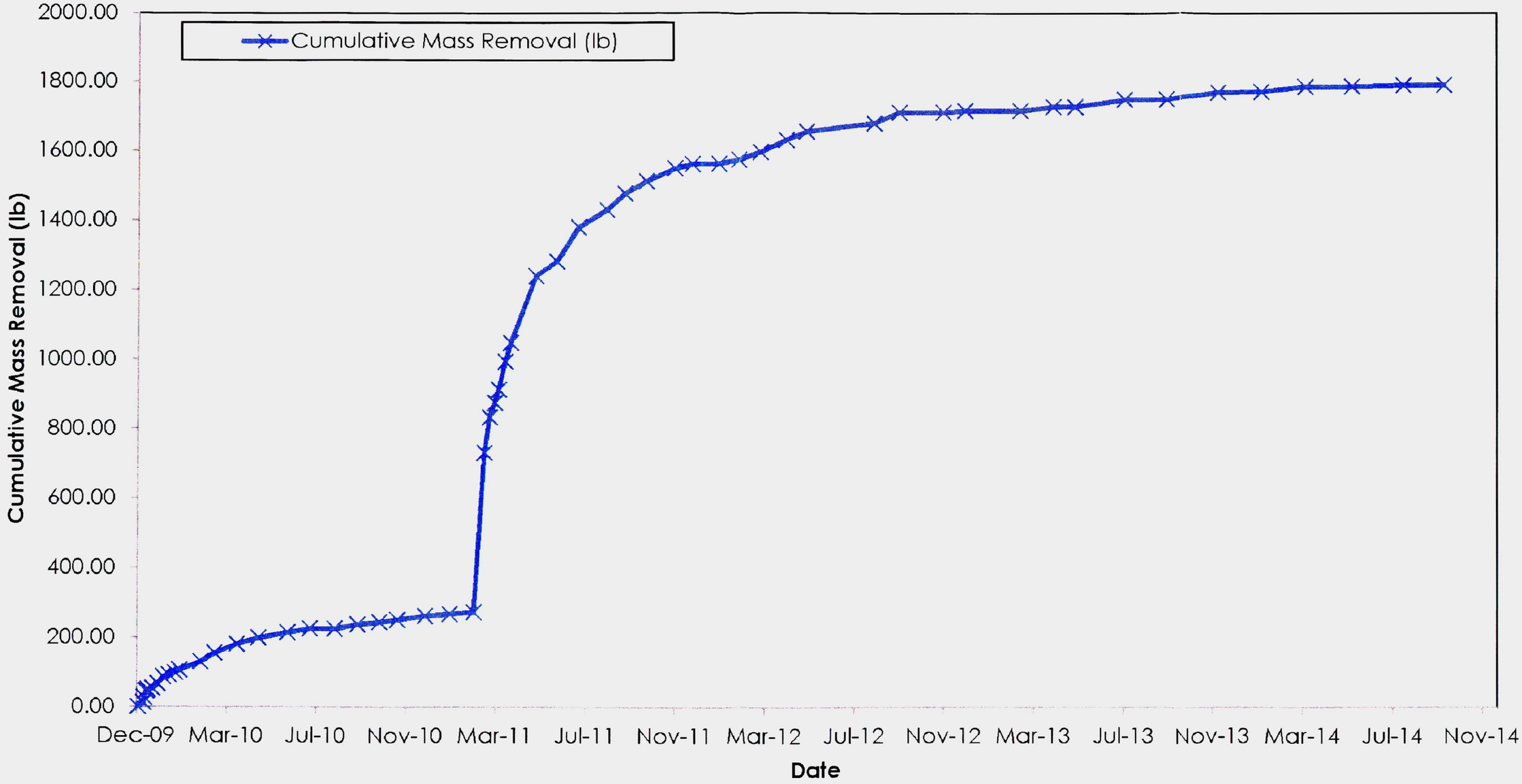
AECOM

AREA 9/10 REMEDIAL ACTION ROCKFORD, ILLINOIS PROJECT NO. 60288803.4213			AVERAGE VOC MASS REMOVAL RATE VS TIME PHASE 1 AS/SVE SYSTEM
DATE: 11/03/14	DRWN: JG		FIGURE 7



AECOM

AREA 9/10 REMEDIAL ACTION ROCKFORD, ILLINOIS PROJECT NO. 60288803.4213	AVERAGE VOC MASS REMOVAL RATE VS TIME PHASE 2 AS/SVE SYSTEM
	FIGURE 8



AECOM

AREA 9/10 REMEDIAL ACTION ROCKFORD, ILLINOIS PROJECT NO. 60288803.4213	**CUMULATIVE MASS REMOVAL** **PHASE 1/ PHASE 2 AS/SVE SYSTEM**
	FIGURE 9

Appendix A

Third Quarter 2014 GMZ and Performance Monitoring Well Analytical Data

New Jersey
ACCUTEST
LABORATORIES

08/14/14

Technical Report for

United Technologies Corporation

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

60312350

Accutest Job Number: JB73449

Sampling Dates: 08/04/14 - 08/06/14

Report to:

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

ATTN: Peter Hollatz

Total number of pages in report: **217**

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), PA, RI, SC, TN, VA, WV, DoD ELAP (L-A-B L2248)

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Sample Summary

United Technologies Corporation

Job No: JB73449

ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Project No: 60312350

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
JB73449-1	08/04/14	11:10	NP	08/07/14	AQ	Ground Water	HSSER-SMW08-080414
JB73449-2	08/04/14	12:25	NP	08/07/14	AQ	Ground Water	HSSER-GMZ01-080414
JB73449-3	08/04/14	13:40	NP	08/07/14	AQ	Ground Water	HSSER-SMW01-080414
JB73449-4	08/04/14	15:10	NP	08/07/14	AQ	Ground Water	HSSER-SMW02-080414
JB73449-5	08/04/14	10:05	NP	08/07/14	AQ	Field Blank Water	HSSER-FBLK01-080414
JB73449-6	08/05/14	07:55	NP	08/07/14	AQ	Ground Water	HSSER-MW203-080514
JB73449-7	08/05/14	09:10	NP	08/07/14	AQ	Ground Water	HSSER-MW07FGA-080514
JB73449-8	08/05/14	14:55	NP	08/07/14	AQ	Ground Water	HSSER-GMZ04-080514
JB73449-9	08/05/14	16:00	NP	08/07/14	AQ	Ground Water	HSSER-SMW21-080514
JB73449-10	08/06/14	07:50	NP	08/07/14	AQ	Ground Water	HSSER-SMW20-080614
JB73449-11	08/06/14	09:05	NP	08/07/14	AQ	Ground Water	HSSER-GMZ03-080614
JB73449-12	08/06/14	10:20	NP	08/07/14	AQ	Ground Water	HSSER-GMZ02-080614
JB73449-12D	08/06/14	10:20	NP	08/07/14	AQ	Water Dup/MSD	HSSER-MSD01-080614

Sample Summary
(continued)

United Technologies Corporation

Job No: JB73449

ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Project No: 60312350

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
JB73449-12S	08/06/14	10:20	NP	08/07/14	AQ	Water Matrix Spike	HSSER-MS01-080614
JB73449-13	08/06/14	11:45	NP	08/07/14	AQ	Ground Water	HSSER-PMW01-080614
JB73449-14	08/06/14	13:20	NP	08/07/14	AQ	Ground Water	HSSER-PMW02-080614
JB73449-15	08/06/14	15:00	NP	08/07/14	AQ	Ground Water	HSSER-SMW04-080614
JB73449-16	08/06/14	16:10	NP	08/07/14	AQ	Ground Water	HSSER-SMW19-080614
JB73449-17	08/06/14	00:00	NP	08/07/14	AQ	Ground Water	HSSER-DUP01-080614
JB73449-18	08/06/14	12:20	NP	08/07/14	AQ	Equipment Blank	HSSER-EBLK01-080614
JB73449-19	08/06/14	16:10	NP	08/07/14	AQ	Trip Blank Water	HSSER-TRIP02-080614

ACCUTEST LABORATORIES

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	United Technologies Corporation	**Job No**	JB73449
Site:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL	**Report Date**	8/14/2014 11:17:45 A

On 08/07/2014, 16 Sample(s), 1 Trip Blank(s) and 1 Field Blank(s) and 1 Equipment Blank(s) were received at Accutest Laboratories at a temperature of 4.1 C. Samples were intact and chemically preserved, unless noted below. An Accutest Job Number of JB73449 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 8260B

Matrix: AQ **Batch ID:** VC7067

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JB73449-12MS, JB73449-12MSD 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: JB73449
Account: United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Collected: 08/04/14 thru 08/06/14

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JB73449-1	**HSSER-SMW08-080414**					
1,1-Dichloroethane		0.0151	0.0010	0.00035	mg/l	SW846 8260B
cis-1,2-Dichloroethene		0.103	0.0010	0.00033	mg/l	SW846 8260B
trans-1,2-Dichloroethene		0.0012	0.0010	0.00051	mg/l	SW846 8260B
Tetrachloroethene		0.0367	0.0010	0.00035	mg/l	SW846 8260B
1,1,1-Trichloroethane		0.0043	0.0010	0.00032	mg/l	SW846 8260B
Trichloroethene		0.0015	0.0010	0.00025	mg/l	SW846 8260B
JB73449-2	**HSSER-GMZ01-080414**					
1,1-Dichloroethane		0.0032	0.0010	0.00035	mg/l	SW846 8260B
cis-1,2-Dichloroethene		0.0016	0.0010	0.00033	mg/l	SW846 8260B
Tetrachloroethene		0.0215	0.0010	0.00035	mg/l	SW846 8260B
1,1,1-Trichloroethane		0.0083	0.0010	0.00032	mg/l	SW846 8260B
Trichloroethene		0.0021	0.0010	0.00025	mg/l	SW846 8260B
JB73449-3	**HSSER-SMW01-080414**					
Tetrachloroethene		0.0029	0.0010	0.00035	mg/l	SW846 8260B
1,1,1-Trichloroethane		0.0024	0.0010	0.00032	mg/l	SW846 8260B
JB73449-4	**HSSER-SMW02-080414**					
1,1-Dichloroethane		0.0032	0.0010	0.00035	mg/l	SW846 8260B
cis-1,2-Dichloroethene		0.0115	0.0010	0.00033	mg/l	SW846 8260B
Tetrachloroethene		0.00037 J	0.0010	0.00035	mg/l	SW846 8260B
JB73449-5	**HSSER-FBLK01-080414**					
No hits reported in this sample.						
JB73449-6	**HSSER-MW203-080514**					
Tetrachloroethene		0.0030	0.0010	0.00035	mg/l	SW846 8260B
JB73449-7	**HSSER-MW07FGA-080514**					
Tetrachloroethene		0.0012	0.0010	0.00035	mg/l	SW846 8260B
1,1,1-Trichloroethane		0.00049 J	0.0010	0.00032	mg/l	SW846 8260B
JB73449-8	**HSSER-GMZ04-080514**					
1,1,1-Trichloroethane		0.00084 J	0.0010	0.00032	mg/l	SW846 8260B

Summary of Hits

Job Number: JB73449
Account: United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Collected: 08/04/14 thru 08/06/14

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JB73449-9	**HSSER-SMW21-080514**					
cis-1,2-Dichloroethene		0.0013	0.0010	0.00033	mg/l	SW846 8260B
1,1,1-Trichloroethane		0.0093	0.0010	0.00032	mg/l	SW846 8260B
Trichloroethene		0.00087 J	0.0010	0.00025	mg/l	SW846 8260B
JB73449-10	**HSSER-SMW20-080614**					
No hits reported in this sample.						
JB73449-11	**HSSER-GMZ03-080614**					
1,1-Dichloroethane		0.00038 J	0.0010	0.00035	mg/l	SW846 8260B
1,1,1-Trichloroethane		0.00098 J	0.0010	0.00032	mg/l	SW846 8260B
JB73449-12	**HSSER-GMZ02-080614**					
1,1-Dichloroethane		0.0021	0.0010	0.00035	mg/l	SW846 8260B
cis-1,2-Dichloroethene		0.0011	0.0010	0.00033	mg/l	SW846 8260B
Tetrachloroethene		0.00062 J	0.0010	0.00035	mg/l	SW846 8260B
1,1,1-Trichloroethane		0.0067	0.0010	0.00032	mg/l	SW846 8260B
Trichloroethene		0.00038 J	0.0010	0.00025	mg/l	SW846 8260B
JB73449-13	**HSSER-PMW01-080614**					
1,1-Dichloroethane		0.0081	0.0010	0.00035	mg/l	SW846 8260B
1,1-Dichloroethene		0.0021	0.0010	0.00050	mg/l	SW846 8260B
cis-1,2-Dichloroethene		0.0021	0.0010	0.00033	mg/l	SW846 8260B
Tetrachloroethene		0.0244	0.0010	0.00035	mg/l	SW846 8260B
1,1,1-Trichloroethane		0.0431	0.0010	0.00032	mg/l	SW846 8260B
Trichloroethene		0.0016	0.0010	0.00025	mg/l	SW846 8260B
JB73449-14	**HSSER-PMW02-080614**					
1,1-Dichloroethane		0.0069	0.0010	0.00035	mg/l	SW846 8260B
1,1-Dichloroethene		0.00052 J	0.0010	0.00050	mg/l	SW846 8260B
cis-1,2-Dichloroethene		0.0067	0.0010	0.00033	mg/l	SW846 8260B
Tetrachloroethene		0.0226	0.0010	0.00035	mg/l	SW846 8260B
1,1,1-Trichloroethane		0.0078	0.0010	0.00032	mg/l	SW846 8260B
Trichloroethene		0.0025	0.0010	0.00025	mg/l	SW846 8260B
Vinyl chloride		0.00033 J	0.0010	0.00017	mg/l	SW846 8260B
JB73449-15	**HSSER-SMW04-080614**					
1,1-Dichloroethane		0.0084	0.0010	0.00035	mg/l	SW846 8260B

Summary of Hits

Job Number: JB73449
Account: United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Collected: 08/04/14 thru 08/06/14

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
1,1-Dichloroethene		0.0012	0.0010	0.00050	mg/l	SW846 8260B
cis-1,2-Dichloroethene		0.0304	0.0010	0.00033	mg/l	SW846 8260B
Tetrachloroethene		0.0197	0.0010	0.00035	mg/l	SW846 8260B
1,1,1-Trichloroethane		0.0039	0.0010	0.00032	mg/l	SW846 8260B
Trichloroethene		0.0106	0.0010	0.00025	mg/l	SW846 8260B
Vinyl chloride		0.0344	0.0010	0.00017	mg/l	SW846 8260B
JB73449-16	**HSSER-SMW19-080614**					
1,1-Dichloroethane		0.00047 J	0.0010	0.00035	mg/l	SW846 8260B
cis-1,2-Dichloroethene		0.0020	0.0010	0.00033	mg/l	SW846 8260B
Tetrachloroethene		0.0013	0.0010	0.00035	mg/l	SW846 8260B
1,1,1-Trichloroethane		0.00067 J	0.0010	0.00032	mg/l	SW846 8260B
Trichloroethene		0.0265	0.0010	0.00025	mg/l	SW846 8260B
JB73449-17	**HSSER-DUP01-080614**					
1,1-Dichloroethane		0.00037 J	0.0010	0.00035	mg/l	SW846 8260B
cis-1,2-Dichloroethene		0.00042 J	0.0010	0.00033	mg/l	SW846 8260B
1,1,1-Trichloroethane		0.0010	0.0010	0.00032	mg/l	SW846 8260B
JB73449-18	**HSSER-EBLK01-080614**					
No hits reported in this sample.						
JB73449-19	**HSSER-TRIP02-080614**					
No hits reported in this sample.						

Sample Results

Report of Analysis

Accutest Laboratories

Report of Analysis

Client Sample ID:	HSSER-SMW08-080414		
Lab Sample ID:	JB73449-1	**Date Sampled:**	08/04/14
Matrix:	AQ - Ground Water	**Date Received:**	08/07/14
Method:	SW846 8260B	**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	C193715.D	1	08/09/14	TDN	n/a	n/a	VC7067
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	0.0151	0.0010	0.00035	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00030	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00050	mg/l	
156-59-2	cis-1,2-Dichloroethene	0.103	0.0010	0.00033	mg/l	
156-60-5	trans-1,2-Dichloroethene	0.0012	0.0010	0.00051	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00040	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.00081	mg/l	
127-18-4	Tetrachloroethene	0.0367	0.0010	0.00035	mg/l	
108-88-3	Toluene	ND	0.0010	0.00022	mg/l	
71-55-6	1,1,1-Trichloroethane	0.0043	0.0010	0.00032	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	0.0015	0.0010	0.00025	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00017	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		79-120%
17060-07-0	1,2-Dichloroethane-D4	101%		72-123%
2037-26-5	Toluene-D8	104%		78-119%
460-00-4	4-Bromofluorobenzene	95%		74-119%

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-GMZ01-080414		
Lab Sample ID:	JB73449-2	**Date Sampled:**	08/04/14
Matrix:	AQ - Ground Water	**Date Received:**	08/07/14
Method:	SW846 8260B	**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	C193716.D	1	08/09/14	TDN	n/a	n/a	VC7067
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	0.00035	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00030	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00050	mg/l	
156-59-2	cis-1,2-Dichloroethene	0.0016	0.0010	0.00033	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00051	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00040	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.00081	mg/l	
127-18-4	Tetrachloroethene	0.0215	0.0010	0.00035	mg/l	
108-88-3	Toluene	ND	0.0010	0.00022	mg/l	
71-55-6	1,1,1-Trichloroethane	0.0083	0.0010	0.00032	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	0.0021	0.0010	0.00025	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00017	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		79-120%
17060-07-0	1,2-Dichloroethane-D4	100%		72-123%
2037-26-5	Toluene-D8	104%		78-119%
460-00-4	4-Bromofluorobenzene	97%		74-119%

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-SMW01-080414		
Lab Sample ID:	JB73449-3	**Date Sampled:**	08/04/14
Matrix:	AQ - Ground Water	**Date Received:**	08/07/14
Method:	SW846 8260B	**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	C193717.D	1	08/09/14	TDN	n/a	n/a	VC7067
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	0.00035	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00030	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00050	mg/l	
156-59-2	cis-1,2-Dichloroethene	ND	0.0010	0.00033	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00051	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00040	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.00081	mg/l	
127-18-4	Tetrachloroethene	0.0029	0.0010	0.00035	mg/l	
108-88-3	Toluene	ND	0.0010	0.00022	mg/l	
71-55-6	1,1,1-Trichloroethane	0.0024	0.0010	0.00032	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	ND	0.0010	0.00025	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00017	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		79-120%
17060-07-0	1,2-Dichloroethane-D4	102%		72-123%
2037-26-5	Toluene-D8	104%		78-119%
460-00-4	4-Bromofluorobenzene	96%		74-119%

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-SMW02-080414		
Lab Sample ID:	JB73449-4	**Date Sampled:**	08/04/14
Matrix:	AQ - Ground Water	**Date Received:**	08/07/14
Method:	SW846 8260B	**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	C193718.D	1	08/09/14	TDN	n/a	n/a	VC7067
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	0.00035	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00030	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00050	mg/l	
156-59-2	cis-1,2-Dichloroethene	0.0115	0.0010	0.00033	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00051	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00040	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.00081	mg/l	
127-18-4	Tetrachloroethene	0.00037	0.0010	0.00035	mg/l	J
108-88-3	Toluene	ND	0.0010	0.00022	mg/l	
71-55-6	1,1,1-Trichloroethane	ND	0.0010	0.00032	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	ND	0.0010	0.00025	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00017	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		79-120%
17060-07-0	1,2-Dichloroethane-D4	102%		72-123%
2037-26-5	Toluene-D8	105%		78-119%
460-00-4	4-Bromofluorobenzene	97%		74-119%

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

Raw Data: C193719.D

Accutest Laboratories

Report of Analysis

Client Sample ID:	HSSER-FBLK01-080414		
Lab Sample ID:	JB73449-5	**Date Sampled:**	08/04/14
Matrix:	AQ - Field Blank Water	**Date Received:**	08/07/14
Method:	SW846 8260B	**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	C193719.D	1	08/09/14	TDN	n/a	n/a	VC7067
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	0.00035	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00030	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00050	mg/l	
156-59-2	cis-1,2-Dichloroethene	ND	0.0010	0.00033	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00051	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00040	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.00081	mg/l	
127-18-4	Tetrachloroethene	ND	0.0010	0.00035	mg/l	
108-88-3	Toluene	ND	0.0010	0.00022	mg/l	
71-55-6	1,1,1-Trichloroethane	ND	0.0010	0.00032	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	ND	0.0010	0.00025	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00017	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		79-120%
17060-07-0	1,2-Dichloroethane-D4	101%		72-123%
2037-26-5	Toluene-D8	104%		78-119%
460-00-4	4-Bromofluorobenzene	99%		74-119%

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-MW203-080514		
Lab Sample ID:	JB73449-6	**Date Sampled:**	08/05/14
Matrix:	AQ - Ground Water	**Date Received:**	08/07/14
Method:	SW846 8260B	**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	C193720.D	1	08/09/14	TDN	n/a	n/a	VC7067
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	0.00035	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00030	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00050	mg/l	
156-59-2	cis-1,2-Dichloroethene	ND	0.0010	0.00033	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00051	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00040	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.00081	mg/l	
127-18-4	Tetrachloroethene	0.0030	0.0010	0.00035	mg/l	
108-88-3	Toluene	ND	0.0010	0.00022	mg/l	
71-55-6	1,1,1-Trichloroethane	ND	0.0010	0.00032	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	ND	0.0010	0.00025	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00017	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		79-120%
17060-07-0	1,2-Dichloroethane-D4	102%		72-123%
2037-26-5	Toluene-D8	104%		78-119%
460-00-4	4-Bromofluorobenzene	98%		74-119%

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-080514		
Lab Sample ID:	JB73449-7	**Date Sampled:**	08/05/14
Matrix:	AQ - Ground Water	**Date Received:**	08/07/14
Method:	SW846 8260B	**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	C193721.D	1	08/09/14	TDN	n/a	n/a	VC7067
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	0.00035	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00030	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00050	mg/l	
156-59-2	cis-1,2-Dichloroethene	ND	0.0010	0.00033	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00051	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00040	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.00081	mg/l	
127-18-4	Tetrachloroethene	0.0012	0.0010	0.00035	mg/l	
108-88-3	Toluene	ND	0.0010	0.00022	mg/l	
71-55-6	1,1,1-Trichloroethane	0.00049	0.0010	0.00032	mg/l	J
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	ND	0.0010	0.00025	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00017	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		79-120%
17060-07-0	1,2-Dichloroethane-D4	103%		72-123%
2037-26-5	Toluene-D8	104%		78-119%
460-00-4	4-Bromofluorobenzene	96%		74-119%

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-GMZ04-080514		
Lab Sample ID:	JB73449-8	**Date Sampled:**	08/05/14
Matrix:	AQ - Ground Water	**Date Received:**	08/07/14
Method:	SW846 8260B	**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	C193722.D	1	08/09/14	TDN	n/a	n/a	VC7067
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	0.00035	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00030	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00050	mg/l	
156-59-2	cis-1,2-Dichloroethene	ND	0.0010	0.00033	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00051	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00040	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.00081	mg/l	
127-18-4	Tetrachloroethene	ND	0.0010	0.00035	mg/l	
108-88-3	Toluene	ND	0.0010	0.00022	mg/l	
71-55-6	1,1,1-Trichloroethane	0.00084	0.0010	0.00032	mg/l	J
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	ND	0.0010	0.00025	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00017	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		79-120%
17060-07-0	1,2-Dichloroethane-D4	102%		72-123%
2037-26-5	Toluene-D8	104%		78-119%
460-00-4	4-Bromofluorobenzene	97%		74-119%

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

Raw Data: C193723.D

Accutest Laboratories

Report of Analysis

4.9

Client Sample ID:	HSSER-SMW21-080514		
Lab Sample ID:	JB73449-9	**Date Sampled:**	08/05/14
Matrix:	AQ - Ground Water	**Date Received:**	08/07/14
Method:	SW846 8260B	**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	C193723.D	1	08/09/14	TDN	n/a	n/a	VC7067
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	0.00035	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00030	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00050	mg/l	
156-59-2	cis-1,2-Dichloroethene	0.0013	0.0010	0.00033	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00051	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00040	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.00081	mg/l	
127-18-4	Tetrachloroethene	ND	0.0010	0.00035	mg/l	
108-88-3	Toluene	ND	0.0010	0.00022	mg/l	
71-55-6	1,1,1-Trichloroethane	0.0093	0.0010	0.00032	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	0.00087	0.0010	0.00025	mg/l	J
75-01-4	Vinyl chloride	ND	0.0010	0.00017	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		79-120%
17060-07-0	1,2-Dichloroethane-D4	102%		72-123%
2037-26-5	Toluene-D8	104%		78-119%
460-00-4	4-Bromofluorobenzene	98%		74-119%

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-SMW20-080614		
Lab Sample ID:	JB73449-10	**Date Sampled:**	08/06/14
Matrix:	AQ - Ground Water	**Date Received:**	08/07/14
Method:	SW846 8260B	**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	C193724.D	1	08/09/14	TDN	n/a	n/a	VC7067
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	0.00035	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00030	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00050	mg/l	
156-59-2	cis-1,2-Dichloroethene	ND	0.0010	0.00033	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00051	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00040	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.00081	mg/l	
127-18-4	Tetrachloroethene	ND	0.0010	0.00035	mg/l	
108-88-3	Toluene	ND	0.0010	0.00022	mg/l	
71-55-6	1,1,1-Trichloroethane	ND	0.0010	0.00032	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	ND	0.0010	0.00025	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00017	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		79-120%
17060-07-0	1,2-Dichloroethane-D4	101%		72-123%
2037-26-5	Toluene-D8	104%		78-119%
460-00-4	4-Bromofluorobenzene	97%		74-119%

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

Raw Data: C193725.D

Accutest Laboratories

Report of Analysis

Client Sample ID:	HSSER-GMZ03-080614		
Lab Sample ID:	JB73449-11	**Date Sampled:**	08/06/14
Matrix:	AQ - Ground Water	**Date Received:**	08/07/14
Method:	SW846 8260B	**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	C193725.D	1	08/09/14	TDN	n/a	n/a	VC7067
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	0.00038	0.0010	0.00035	mg/l	J
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00030	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00050	mg/l	
156-59-2	cis-1,2-Dichloroethene	ND	0.0010	0.00033	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00051	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00040	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.00081	mg/l	
127-18-4	Tetrachloroethene	ND	0.0010	0.00035	mg/l	
108-88-3	Toluene	ND	0.0010	0.00022	mg/l	
71-55-6	1,1,1-Trichloroethane	0.00098	0.0010	0.00032	mg/l	J
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	ND	0.0010	0.00025	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00017	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		79-120%
17060-07-0	1,2-Dichloroethane-D4	101%		72-123%
2037-26-5	Toluene-D8	105%		78-119%
460-00-4	4-Bromofluorobenzene	98%		74-119%

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-GMZ02-080614		
Lab Sample ID:	JB73449-12	**Date Sampled:**	08/06/14
Matrix:	AQ - Ground Water	**Date Received:**	08/07/14
Method:	SW846 8260B	**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	C193714.D	1	08/09/14	TDN	n/a	n/a	VC7067
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	0.0021	0.0010	0.00035	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00030	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00050	mg/l	
156-59-2	cis-1,2-Dichloroethene	0.0011	0.0010	0.00033	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00051	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00040	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.00081	mg/l	
127-18-4	Tetrachloroethene	0.00062	0.0010	0.00035	mg/l	J
108-88-3	Toluene	ND	0.0010	0.00022	mg/l	
71-55-6	1,1,1-Trichloroethane	0.0067	0.0010	0.00032	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	0.00038	0.0010	0.00025	mg/l	J
75-01-4	Vinyl chloride	ND	0.0010	0.00017	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		79-120%
17060-07-0	1,2-Dichloroethane-D4	101%		72-123%
2037-26-5	Toluene-D8	104%		78-119%
460-00-4	4-Bromofluorobenzene	97%		74-119%

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-PMW01-080614		
Lab Sample ID:	JB73449-13	**Date Sampled:**	08/06/14
Matrix:	AQ - Ground Water	**Date Received:**	08/07/14
Method:	SW846 8260B	**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	C193726.D	1	08/09/14	TDN	n/a	n/a	VC7067
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	0.0081	0.0010	0.00035	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00030	mg/l	
75-35-4	1,1-Dichloroethene	0.0021	0.0010	0.00050	mg/l	
156-59-2	cis-1,2-Dichloroethene	0.0021	0.0010	0.00033	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00051	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00040	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.00081	mg/l	
127-18-4	Tetrachloroethene	0.0244	0.0010	0.00035	mg/l	
108-88-3	Toluene	ND	0.0010	0.00022	mg/l	
71-55-6	1,1,1-Trichloroethane	0.0431	0.0010	0.00032	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	0.0016	0.0010	0.00025	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00017	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		79-120%
17060-07-0	1,2-Dichloroethane-D4	102%		72-123%
2037-26-5	Toluene-D8	104%		78-119%
460-00-4	4-Bromofluorobenzene	97%		74-119%

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-PMW02-080614		
Lab Sample ID:	JB73449-14	**Date Sampled:**	08/06/14
Matrix:	AQ - Ground Water	**Date Received:**	08/07/14
Method:	SW846 8260B	**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	C193727.D	1	08/09/14	TDN	n/a	n/a	VC7067
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	0.0069	0.0010	0.00035	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00030	mg/l	
75-35-4	1,1-Dichloroethene	0.00052	0.0010	0.00050	mg/l	J
156-59-2	cis-1,2-Dichloroethene	0.0067	0.0010	0.00033	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00051	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00040	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.00081	mg/l	
127-18-4	Tetrachloroethene	0.0226	0.0010	0.00035	mg/l	
108-88-3	Toluene	ND	0.0010	0.00022	mg/l	
71-55-6	1,1,1-Trichloroethane	0.0078	0.0010	0.00032	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	0.0025	0.0010	0.00025	mg/l	
75-01-4	Vinyl chloride	0.00033	0.0010	0.00017	mg/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		79-120%
17060-07-0	1,2-Dichloroethane-D4	101%		72-123%
2037-26-5	Toluene-D8	104%		78-119%
460-00-4	4-Bromofluorobenzene	97%		74-119%

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

Raw Data: C193728.D

Accutest Laboratories

Report of Analysis

Client Sample ID:	HSSER-SMW04-080614		
Lab Sample ID:	JB73449-15	**Date Sampled:**	08/06/14
Matrix:	AQ - Ground Water	**Date Received:**	08/07/14
Method:	SW846 8260B	**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	C193728.D	1	08/09/14	TDN	n/a	n/a	VC7067
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	0.00035	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00030	mg/l	
75-35-4	1,1-Dichloroethene	0.0012	0.0010	0.00050	mg/l	
156-59-2	cis-1,2-Dichloroethene	0.0304	0.0010	0.00033	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00051	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00040	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.00081	mg/l	
127-18-4	Tetrachloroethene	0.0197	0.0010	0.00035	mg/l	
108-88-3	Toluene	ND	0.0010	0.00022	mg/l	
71-55-6	1,1,1-Trichloroethane	0.0039	0.0010	0.00032	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	0.0106	0.0010	0.00025	mg/l	
75-01-4	Vinyl chloride	0.0344	0.0010	0.00017	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		79-120%
17060-07-0	1,2-Dichloroethane-D4	101%		72-123%
2037-26-5	Toluene-D8	104%		78-119%
460-00-4	4-Bromofluorobenzene	97%		74-119%

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-SMW19-080614		
Lab Sample ID:	JB73449-16	**Date Sampled:**	08/06/14
Matrix:	AQ - Ground Water	**Date Received:**	08/07/14
Method:	SW846 8260B	**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	C193729.D	1	08/09/14	TDN	n/a	n/a	VC7067
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	0.00047	0.0010	0.00035	mg/l	J
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00030	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00050	mg/l	
156-59-2	cis-1,2-Dichloroethene	0.0020	0.0010	0.00033	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00051	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00040	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.00081	mg/l	
127-18-4	Tetrachloroethene	0.0013	0.0010	0.00035	mg/l	
108-88-3	Toluene	ND	0.0010	0.00022	mg/l	
71-55-6	1,1,1-Trichloroethane	0.00067	0.0010	0.00032	mg/l	J
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	0.0265	0.0010	0.00025	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00017	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		79-120%
17060-07-0	1,2-Dichloroethane-D4	102%		72-123%
2037-26-5	Toluene-D8	104%		78-119%
460-00-4	4-Bromofluorobenzene	96%		74-119%

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

Raw Data: C193730.D

Accutest Laboratories

Report of Analysis

Client Sample ID:	HSSER-DUP01-080614		
Lab Sample ID:	JB73449-17	**Date Sampled:**	08/06/14
Matrix:	AQ - Ground Water	**Date Received:**	08/07/14
Method:	SW846 8260B	**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	C193730.D	1	08/09/14	TDN	n/a	n/a	VC7067
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	0.00037	0.0010	0.00035	mg/l	J
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00030	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00050	mg/l	
156-59-2	cis-1,2-Dichloroethene	0.00042	0.0010	0.00033	mg/l	J
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00051	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00040	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.00081	mg/l	
127-18-4	Tetrachloroethene	ND	0.0010	0.00035	mg/l	
108-88-3	Toluene	ND	0.0010	0.00022	mg/l	
71-55-6	1,1,1-Trichloroethane	0.0010	0.0010	0.00032	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	ND	0.0010	0.00025	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00017	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		79-120%
17060-07-0	1,2-Dichloroethane-D4	103%		72-123%
2037-26-5	Toluene-D8	104%		78-119%
460-00-4	4-Bromofluorobenzene	96%		74-119%

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-EBLK01-080614		
Lab Sample ID:	JB73449-18	**Date Sampled:**	08/06/14
Matrix:	AQ - Equipment Blank	**Date Received:**	08/07/14
Method:	SW846 8260B	**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	C193735.D	1	08/09/14	TDN	n/a	n/a	VC7067
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	0.00035	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00030	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00050	mg/l	
156-59-2	cis-1,2-Dichloroethene	ND	0.0010	0.00033	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00051	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00040	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.00081	mg/l	
127-18-4	Tetrachloroethene	ND	0.0010	0.00035	mg/l	
108-88-3	Toluene	ND	0.0010	0.00022	mg/l	
71-55-6	1,1,1-Trichloroethane	ND	0.0010	0.00032	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	ND	0.0010	0.00025	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00017	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		79-120%
17060-07-0	1,2-Dichloroethane-D4	102%		72-123%
2037-26-5	Toluene-D8	105%		78-119%
460-00-4	4-Bromofluorobenzene	96%		74-119%

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-TRIP02-080614		
Lab Sample ID:	JB73449-19	**Date Sampled:**	08/06/14
Matrix:	AQ - Trip Blank Water	**Date Received:**	08/07/14
Method:	SW846 8260B	**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	C193736.D	1	08/09/14	TDN	n/a	n/a	VC7067
Run #2							

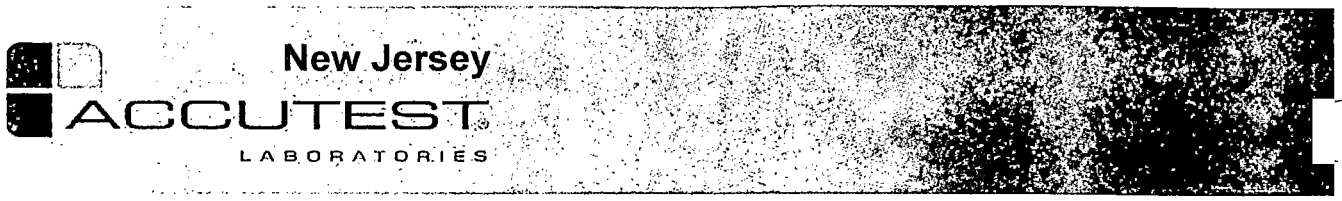
	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	ND	0.0010	0.00035	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00030	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00050	mg/l	
156-59-2	cis-1,2-Dichloroethene	ND	0.0010	0.00033	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00051	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00040	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.00081	mg/l	
127-18-4	Tetrachloroethene	ND	0.0010	0.00035	mg/l	
108-88-3	Toluene	ND	0.0010	0.00022	mg/l	
71-55-6	1,1,1-Trichloroethane	ND	0.0010	0.00032	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	ND	0.0010	0.00025	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00017	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		79-120%
17060-07-0	1,2-Dichloroethane-D4	102%		72-123%
2037-26-5	Toluene-D8	103%		78-119%
460-00-4	4-Bromofluorobenzene	94%		74-119%

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



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
FB

CHAIN OF CUSTODY

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

PAGE 1 OF 2

FED-EX Tracking # 660200942793 | Bottle Order Control #
Accutest Quote # | Accutest Job # JB73449

Client / Reporting Information	Project Information	Requested Analysis (see TEST CODE sheet)	Matrix Codes
Company Name: AECOM	Project Name: UTAS Plants 1/2 Facility		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
Street Address: 27755 Diehl Rd Suite 100	Street:	Billing Information (if different from Report to)	
City: Warrenville State: IL Zip: 60555	City: Rockford State: IL	Company Name:	
Project Contact: Peter Hollatz E-mail: Peter.Hollatz@aecom.com	Project #: 60313250	Street Address:	
Phone #: 630-839-5386 Fax #: 630-836-1711	Client Purchase Order #:	City State Zip:	
Sampler(s) Name(s): P. Hollatz / N. Pins Phone #:	Project Manager: Peter Hollatz	Attention:	

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	Requested Analysis	LAB USE ONLY
1	HSSER-SMW08-080414		8-4-14	1110	N.P	GW	3	X								X VOC 8260 B *	
2	HSSER-GM201-080414			1225	N.P	GW	3	X									V180
3	HSSER-SMW01-080414			1340	N.P	GW	3	X									
4	HSER-SMW02-080414			1510	N.P	GW	3	X									
5	HSSER-FBLK01-080414			1005	N.P	GW	3	X									
6	HSSER-MW203-080514		080514	0755	A.H	GW	3	X									
7	HSSER-MW07FGA-080514			0910	A.H	GW	3	X									
8	HSSER-GM204-080514			1455	A.H	GW	3	X									
9	HSSER-SMW21-080514			1600	A.H	GW	3	X									
10	HSSER-SMW20-080614		8-6-14	0750	A.H	GW	3	X									
11	HSSER-GM203-080614			0905	A.H	GW	3	X									
12	HSSER-GM202-080614			1020	A.H	GW	3	X									

Turnaround Time (Business days)	Approved By (Accutest PM): / Date:	Data Deliverable Information		Comments / Special Instructions
☒ Std. 10 Business Days		☐ Commercial "A" (Level 1)	☐ NYASP Category A	* List 13 VOCs
☐ 5 Day RUSH		☐ Commercial "B" (Level 2)	☐ NYASP Category B	Level IV Data
☐ 3 Day EMERGENCY		☐ FULLT1 (Level 3+4)	☐ State Forms	
☐ 2 Day EMERGENCY		☐ NJ Reduced	☐ EDD Format	
☐ 1 Day EMERGENCY		☐ Commercial "C"	☐ Other	
☐ other		Commercial "A" = Results Only		
Emergency & Rush T/A data available VIA Lablink		Commercial "B" = Results + QC Summary		
		NJ Reduced = Results + QC Summary + Partial Raw 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		8-7-14 1800	FEDEX	Fedex	8/7/14 1615	Fedex
2	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
3						
4	Relinquished by:	Date Time:	Received By:	Custody Seal # 866 ☐ Intact ☐ Not Intact	Preserved where applicable ☐	On Ice ☒ Cooler Temp. 4.1°C
5						

FB JM

5.1

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 # 602004942793 | 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: 60555
Project Contact: Peter Hollatz E-mail: Peter.Hollatz@aecom.com
Phone #: 630-839-5356 Fax #: 630-836-1711
Sampler(s) Name(s): A. Hollatz Phone #:

Project Information

Project Name: UTAS Plant 1/2 Facility
Street:
City: Rockford State: IL
Project #: 60312350
Client Purchase Order #:
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	Number of preserved Bottles: HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	LAB USE ONLY
12	HSSER-MS01-080614		8-6-14	1020	AH	GW	3	X								
	HSSER-MSD01-080614			1020	AH	GW	3	X								
13	HSSER-PMW01-080614			1145	AH	GW	3	X								
14	HSSER-PMW02-080614			1320	AH	GW	3	X								
15	HSSER-SMW04-080614			1500	AH	GW	3	X								
16	HSSER-SMW19-080614			1610	AH	GW	3	X								
17	HSSER-DUP01-080614			0000	AH	GW	3	X								
18	HSSER-EBLK01-080614			1220	AH	GW	3	X								
19	HSSER-TripO2-080614			—	AH	GW	2	X								

Turnaround Time (Business days)

Approved By (Accutest PM): / Date:

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

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"
- [ ] 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 VOCs
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		8/6/14 1800	1 FEDX	2 FEDX	8/7/14 1015	2
3			3	4		4
5			5	Custody Seal #	Intact / Not Intact	Preserved where applicable / On Ice / Cooler Temp.

5.1

JB73449: Chain of Custody
Page 2 of 3

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: JB73449 **Client:** _____ **Project:** _____

Date / Time Received: 8/7/2014 **Delivery Method:** _____ **Airbill #'s:** _____

Cooler Temps (Initial/Adjusted): #1: (4.1/4.1); 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:			
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	1		

Quality Control Preservatio	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

JB73449: Chain of Custody
Page 3 of 3

Internal Sample Tracking Chronicle

United Technologies Corporation

Job No: JB73449

ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Project No: 60312350

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JB73449-1 Collected: 04-AUG-14 11:10 By: NP Received: 07-AUG-14 By: AS HSSER-SMW08-080414						
JB73449-1	SW846 8260B	09-AUG-14 12:40	TDN			V8260SL
JB73449-2 Collected: 04-AUG-14 12:25 By: NP Received: 07-AUG-14 By: AS HSSER-GMZ01-080414						
JB73449-2	SW846 8260B	09-AUG-14 13:07	TDN			V8260SL
JB73449-3 Collected: 04-AUG-14 13:40 By: NP Received: 07-AUG-14 By: AS HSSER-SMW01-080414						
JB73449-3	SW846 8260B	09-AUG-14 13:33	TDN			V8260SL
JB73449-4 Collected: 04-AUG-14 15:10 By: NP Received: 07-AUG-14 By: AS HSSER-SMW02-080414						
JB73449-4	SW846 8260B	09-AUG-14 14:00	TDN			V8260SL
JB73449-5 Collected: 04-AUG-14 10:05 By: NP Received: 07-AUG-14 By: AS HSSER-FBLK01-080414						
JB73449-5	SW846 8260B	09-AUG-14 14:26	TDN			V8260SL
JB73449-6 Collected: 05-AUG-14 07:55 By: NP Received: 07-AUG-14 By: AS HSSER-MW203-080514						
JB73449-6	SW846 8260B	09-AUG-14 14:53	TDN			V8260SL
JB73449-7 Collected: 05-AUG-14 09:10 By: NP Received: 07-AUG-14 By: AS HSSER-MW07FGA-080514						
JB73449-7	SW846 8260B	09-AUG-14 15:19	TDN			V8260SL
JB73449-8 Collected: 05-AUG-14 14:55 By: NP Received: 07-AUG-14 By: AS HSSER-GMZ04-080514						
JB73449-8	SW846 8260B	09-AUG-14 15:46	TDN			V8260SL

Internal Sample Tracking Chronicle

United Technologies Corporation

Job No: JB73449

ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Project No: 60312350

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JB73449-9 Collected: 05-AUG-14 16:00 By: NP Received: 07-AUG-14 By: AS HSSER-SMW21-080514						
JB73449-9	SW846 8260B	09-AUG-14 16:12	TDN			V8260SL
JB73449-10 Collected: 06-AUG-14 07:50 By: NP Received: 07-AUG-14 By: AS HSSER-SMW20-080614						
JB73449-10	SW846 8260B	09-AUG-14 16:39	TDN			V8260SL
JB73449-11 Collected: 06-AUG-14 09:05 By: NP Received: 07-AUG-14 By: AS HSSER-GMZ03-080614						
JB73449-11	SW846 8260B	09-AUG-14 17:05	TDN			V8260SL
JB73449-12 Collected: 06-AUG-14 10:20 By: NP Received: 07-AUG-14 By: AS HSSER-GMZ02-080614						
JB73449-12	SW846 8260B	09-AUG-14 12:14	TDN			V8260SL
JB73449-13 Collected: 06-AUG-14 11:45 By: NP Received: 07-AUG-14 By: AS HSSER-PMW01-080614						
JB73449-13	SW846 8260B	09-AUG-14 17:32	TDN			V8260SL
JB73449-14 Collected: 06-AUG-14 13:20 By: NP Received: 07-AUG-14 By: AS HSSER-PMW02-080614						
JB73449-14	SW846 8260B	09-AUG-14 17:58	TDN			V8260SL
JB73449-15 Collected: 06-AUG-14 15:00 By: NP Received: 07-AUG-14 By: AS HSSER-SMW04-080614						
JB73449-15	SW846 8260B	09-AUG-14 18:25	TDN			V8260SL
JB73449-16 Collected: 06-AUG-14 16:10 By: NP Received: 07-AUG-14 By: AS HSSER-SMW19-080614						
JB73449-16	SW846 8260B	09-AUG-14 18:51	TDN			V8260SL

Internal Sample Tracking Chronicle

United Technologies Corporation

Job No: JB73449

ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Project No: 60312350

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JB73449-17 Collected: 06-AUG-14 00:00 By: NP Received: 07-AUG-14 By: AS HSSER-DUP01-080614						
JB73449-17	SW846 8260B	09-AUG-14 19:18	TDN			V8260SL
JB73449-18 Collected: 06-AUG-14 12:20 By: NP Received: 07-AUG-14 By: AS HSSER-EBLK01-080614						
JB73449-18	SW846 8260B	09-AUG-14 21:31	TDN			V8260SL
JB73449-19 Collected: 06-AUG-14 16:10 By: NP Received: 07-AUG-14 By: AS HSSER-TRIP02-080614						
JB73449-19	SW846 8260B	09-AUG-14 21:57	TDN			V8260SL

Accutest Internal Chain of Custody

Job Number: JB73449
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Received: 08/07/14

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB73449-1.1	Secured Storage	Thien Nguyen	08/08/14 14:22	Retrieve from Storage
JB73449-1.1	Thien Nguyen	GCMSC	08/08/14 14:22	Load on Instrument
JB73449-1.1	GCMSC	Thien Nguyen	08/11/14 10:59	Unload from Instrument
JB73449-1.1	Thien Nguyen	Secured Storage	08/11/14 10:59	Return to Storage
JB73449-2.1	Secured Storage	Thien Nguyen	08/08/14 14:22	Retrieve from Storage
JB73449-2.1	Thien Nguyen	GCMSC	08/08/14 14:22	Load on Instrument
JB73449-2.1	GCMSC	Thien Nguyen	08/11/14 10:59	Unload from Instrument
JB73449-2.1	Thien Nguyen	Secured Storage	08/11/14 10:59	Return to Storage
JB73449-3.1	Secured Storage	Thien Nguyen	08/08/14 14:22	Retrieve from Storage
JB73449-3.1	Thien Nguyen	GCMSC	08/08/14 14:22	Load on Instrument
JB73449-3.1	GCMSC	Thien Nguyen	08/11/14 10:59	Unload from Instrument
JB73449-3.1	Thien Nguyen	Secured Storage	08/11/14 10:59	Return to Storage
JB73449-4.1	Secured Storage	Thien Nguyen	08/08/14 14:22	Retrieve from Storage
JB73449-4.1	Thien Nguyen	GCMSC	08/08/14 14:22	Load on Instrument
JB73449-4.1	GCMSC	Thien Nguyen	08/11/14 10:59	Unload from Instrument
JB73449-4.1	Thien Nguyen	Secured Storage	08/11/14 10:59	Return to Storage
JB73449-5.1	Secured Storage	Thien Nguyen	08/08/14 14:22	Retrieve from Storage
JB73449-5.1	Thien Nguyen	GCMSC	08/08/14 14:22	Load on Instrument
JB73449-5.1	GCMSC	Thien Nguyen	08/11/14 10:59	Unload from Instrument
JB73449-5.1	Thien Nguyen	Secured Storage	08/11/14 10:59	Return to Storage
JB73449-6.1	Secured Storage	Thien Nguyen	08/08/14 14:22	Retrieve from Storage
JB73449-6.1	Thien Nguyen	GCMSC	08/08/14 14:22	Load on Instrument
JB73449-6.1	GCMSC	Thien Nguyen	08/11/14 10:59	Unload from Instrument
JB73449-6.1	Thien Nguyen	Secured Storage	08/11/14 10:59	Return to Storage
JB73449-7.1	Secured Storage	Thien Nguyen	08/08/14 14:22	Retrieve from Storage
JB73449-7.1	Thien Nguyen	GCMSC	08/08/14 14:22	Load on Instrument
JB73449-7.1	GCMSC	Thien Nguyen	08/11/14 10:59	Unload from Instrument
JB73449-7.1	Thien Nguyen	Secured Storage	08/11/14 10:59	Return to Storage
JB73449-8.1	Secured Storage	Thien Nguyen	08/08/14 14:22	Retrieve from Storage
JB73449-8.1	Thien Nguyen	GCMSC	08/08/14 14:22	Load on Instrument
JB73449-8.1	GCMSC	Thien Nguyen	08/11/14 10:59	Unload from Instrument
JB73449-8.1	Thien Nguyen	Secured Storage	08/11/14 10:59	Return to Storage
JB73449-9.1	Secured Storage	Thien Nguyen	08/08/14 14:22	Retrieve from Storage
JB73449-9.1	Thien Nguyen	GCMSC	08/08/14 14:22	Load on Instrument
JB73449-9.1	GCMSC	Thien Nguyen	08/11/14 10:59	Unload from Instrument
JB73449-9.1	Thien Nguyen	Secured Storage	08/11/14 10:59	Return to Storage

5.3

Accutest Internal Chain of Custody

Job Number: JB73449
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Received: 08/07/14

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB73449-10.1	Secured Storage	Thien Nguyen	08/08/14 14:22	Retrieve from Storage
JB73449-10.1	Thien Nguyen	GCMSC	08/08/14 14:22	Load on Instrument
JB73449-10.1	GCMSC	Thien Nguyen	08/11/14 10:59	Unload from Instrument
JB73449-10.1	Thien Nguyen	Secured Storage	08/11/14 10:59	Return to Storage
JB73449-11.1	Secured Storage	Thien Nguyen	08/08/14 14:22	Retrieve from Storage
JB73449-11.1	Thien Nguyen	GCMSC	08/08/14 14:22	Load on Instrument
JB73449-11.1	GCMSC	Thien Nguyen	08/11/14 10:59	Unload from Instrument
JB73449-11.1	Thien Nguyen	Secured Storage	08/11/14 10:59	Return to Storage
JB73449-12.1	Secured Storage	Thien Nguyen	08/08/14 14:22	Retrieve from Storage
JB73449-12.1	Thien Nguyen	GCMSC	08/08/14 14:22	Load on Instrument
JB73449-12.1	GCMSC	Thien Nguyen	08/11/14 10:59	Unload from Instrument
JB73449-12.1	Thien Nguyen	Secured Storage	08/11/14 10:59	Return to Storage
JB73449-12.2	Secured Storage	Thien Nguyen	08/08/14 14:22	Retrieve from Storage
JB73449-12.2	Thien Nguyen	GCMSC	08/08/14 14:22	Load on Instrument
JB73449-12.2	GCMSC	Thien Nguyen	08/11/14 10:59	Unload from Instrument
JB73449-12.2	Thien Nguyen	Secured Storage	08/11/14 10:59	Return to Storage
JB73449-12.3	Secured Storage	Thien Nguyen	08/08/14 14:22	Retrieve from Storage
JB73449-12.3	Thien Nguyen	GCMSC	08/08/14 14:22	Load on Instrument
JB73449-12.3	GCMSC	Thien Nguyen	08/11/14 10:59	Unload from Instrument
JB73449-12.3	Thien Nguyen	Secured Storage	08/11/14 10:59	Return to Storage
JB73449-13.1	Secured Storage	Thien Nguyen	08/08/14 14:22	Retrieve from Storage
JB73449-13.1	Thien Nguyen	GCMSC	08/08/14 14:22	Load on Instrument
JB73449-13.1	GCMSC	Thien Nguyen	08/11/14 10:59	Unload from Instrument
JB73449-13.1	Thien Nguyen	Secured Storage	08/11/14 10:59	Return to Storage
JB73449-14.1	Secured Storage	Thien Nguyen	08/08/14 14:22	Retrieve from Storage
JB73449-14.1	Thien Nguyen	GCMSC	08/08/14 14:22	Load on Instrument
JB73449-14.1	GCMSC	Thien Nguyen	08/11/14 10:59	Unload from Instrument
JB73449-14.1	Thien Nguyen	Secured Storage	08/11/14 10:59	Return to Storage
JB73449-15.1	Secured Storage	Thien Nguyen	08/08/14 14:22	Retrieve from Storage
JB73449-15.1	Thien Nguyen	GCMSC	08/08/14 14:22	Load on Instrument
JB73449-15.1	GCMSC	Thien Nguyen	08/11/14 10:59	Unload from Instrument
JB73449-15.1	Thien Nguyen	Secured Storage	08/11/14 10:59	Return to Storage
JB73449-16.1	Secured Storage	Thien Nguyen	08/08/14 14:22	Retrieve from Storage
JB73449-16.1	Thien Nguyen	GCMSC	08/08/14 14:22	Load on Instrument
JB73449-16.1	GCMSC	Thien Nguyen	08/11/14 10:59	Unload from Instrument

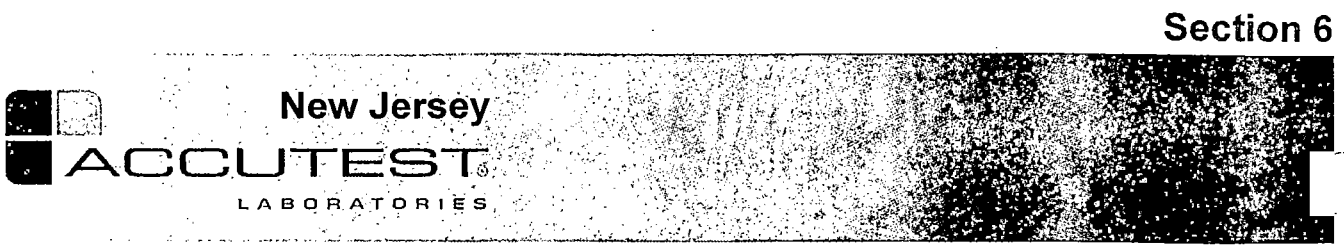
5.3

Accutest Internal Chain of Custody

Job Number: JB73449
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Received: 08/07/14

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB73449-16.1	Thien Nguyen	Secured Storage	08/11/14 10:59	Return to Storage
JB73449-17.1	Secured Storage	Thien Nguyen	08/08/14 14:22	Retrieve from Storage
JB73449-17.1	Thien Nguyen	GCMSC	08/08/14 14:22	Load on Instrument
JB73449-17.1	GCMSC	Thien Nguyen	08/11/14 10:59	Unload from Instrument
JB73449-17.1	Thien Nguyen	Secured Storage	08/11/14 10:59	Return to Storage
JB73449-18.1	Secured Storage	Thien Nguyen	08/08/14 14:22	Retrieve from Storage
JB73449-18.1	Thien Nguyen	GCMSC	08/08/14 14:22	Load on Instrument
JB73449-18.1	GCMSC	Thien Nguyen	08/11/14 10:59	Unload from Instrument
JB73449-18.1	Thien Nguyen	Secured Storage	08/11/14 10:59	Return to Storage
JB73449-19.1	Secured Storage	Thien Nguyen	08/08/14 14:22	Retrieve from Storage
JB73449-19.1	Thien Nguyen	GCMSC	08/08/14 14:22	Load on Instrument
JB73449-19.1	GCMSC	Thien Nguyen	08/11/14 10:59	Unload from Instrument
JB73449-19.1	Thien Nguyen	Secured Storage	08/11/14 10:59	Return to Storage

5.3



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: C193709.D

Method Blank Summary

Job Number: JB73449
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
VC7067-MB1	C193709.D	1	08/09/14	TDN	n/a	n/a	VC7067

6.1.1

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

JB73449-1, JB73449-2, JB73449-3, JB73449-4, JB73449-5, JB73449-6, JB73449-7, JB73449-8, JB73449-9, JB73449-10, JB73449-11, JB73449-12, JB73449-13, JB73449-14, JB73449-15, JB73449-16, JB73449-17

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	ND	1.0	0.35	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.30	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.33	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.51	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.40	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.81	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.35	ug/l	
108-88-3	Toluene	ND	1.0	0.22	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.32	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.28	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.25	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.17	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	101%	79-120%
17060-07-0	1,2-Dichloroethane-D4	103%	72-123%
2037-26-5	Toluene-D8	104%	78-119%
460-00-4	4-Bromofluorobenzene	97%	74-119%

Method Blank Summary

Job Number: JB73449
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
VC7067-MB2	C193734.D	1	08/09/14	TDN	n/a	n/a	VC7067

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

JB73449-18, JB73449-19

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	ND	1.0	0.35	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.30	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.33	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.51	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.40	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.81	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.35	ug/l	
108-88-3	Toluene	ND	1.0	0.22	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.32	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.28	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.25	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.17	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	102%	79-120%
17060-07-0	1,2-Dichloroethane-D4	102%	72-123%
2037-26-5	Toluene-D8	104%	78-119%
460-00-4	4-Bromofluorobenzene	95%	74-119%

6.1.2

Raw Data: C193710.D

Blank Spike Summary

Job Number: JB73449
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
VC7067-BS	C193710.D	1	08/09/14	TDN	n/a	n/a	VC7067

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

JB73449-1, JB73449-2, JB73449-3, JB73449-4, JB73449-5, JB73449-6, JB73449-7, JB73449-8, JB73449-9, JB73449-10, JB73449-11, JB73449-12, JB73449-13, JB73449-14, JB73449-15, JB73449-16, JB73449-17, JB73449-18, JB73449-19

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
75-34-3	1,1-Dichloroethane	50	50.4	101	78-129
107-06-2	1,2-Dichloroethane	50	53.5	107	75-133
75-35-4	1,1-Dichloroethene	50	51.6	103	74-128
156-59-2	cis-1,2-Dichloroethene	50	48.3	97	78-123
156-60-5	trans-1,2-Dichloroethene	50	49.6	99	75-122
100-41-4	Ethylbenzene	50	52.4	105	82-120
75-09-2	Methylene chloride	50	49.8	100	75-121
127-18-4	Tetrachloroethene	50	50.9	102	69-141
108-88-3	Toluene	50	54.4	109	80-122
71-55-6	1,1,1-Trichloroethane	50	56.6	113	80-132
79-00-5	1,1,2-Trichloroethane	50	52.5	105	80-127
79-01-6	Trichloroethene	50	52.9	106	82-126
75-01-4	Vinyl chloride	50	55.2	110	53-135

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	102%	79-120%
17060-07-0	1,2-Dichloroethane-D4	102%	72-123%
2037-26-5	Toluene-D8	105%	78-119%
460-00-4	4-Bromofluorobenzene	96%	74-119%

* = Outside of Control Limits.

6.2.1

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB73449
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
JB73449-12MS	C193711.D	1	08/09/14	TDN	n/a	n/a	VC7067
JB73449-12MSD	C193712.D	1	08/09/14	TDN	n/a	n/a	VC7067
JB73449-12	C193714.D	1	08/09/14	TDN	n/a	n/a	VC7067

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

JB73449-1, JB73449-2, JB73449-3, JB73449-4, JB73449-5, JB73449-6, JB73449-7, JB73449-8, JB73449-9, JB73449-10, JB73449-11, JB73449-12, JB73449-13, JB73449-14, JB73449-15, JB73449-16, JB73449-17, JB73449-18, JB73449-19

CAS No.	Compound	JB73449-12 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	2.1		50	51.6	99	50	51.1	98	1	61-134/12
107-06-2	1,2-Dichloroethane	ND		50	53.0	106	50	53.1	106	0	68-137/11
75-35-4	1,1-Dichloroethene	ND		50	53.1	106	50	52.5	105	1	40-143/17
156-59-2	cis-1,2-Dichloroethene	1.1		50	49.3	96	50	48.8	95	1	59-133/12
156-60-5	trans-1,2-Dichloroethene	ND		50	51.0	102	50	50.2	100	2	55-132/14
100-41-4	Ethylbenzene	ND		50	53.2	106	50	52.5	105	1	49-137/13
75-09-2	Methylene chloride	ND		50	50.4	101	50	49.5	99	2	64-128/11
127-18-4	Tetrachloroethene	0.62	J	50	51.6	102	50	51.6	102	0	48-143/15
108-88-3	Toluene	ND		50	55.1	110	50	55.0	110	0	54-137/13
71-55-6	1,1,1-Trichloroethane	6.7		50	62.7	112	50	62.4	111	0	52-145/16
79-00-5	1,1,2-Trichloroethane	ND		50	52.4	105	50	52.5	105	0	73-130/10
79-01-6	Trichloroethene	0.38	J	50	53.5	106	50	54.0	107	1	54-141/13
75-01-4	Vinyl chloride	ND		50	52.4	105	50	51.1	102	3	36-149/19

CAS No.	Surrogate Recoveries	MS	MSD	JB73449-12	Limits
1868-53-7	Dibromofluoromethane	102%	102%	100%	79-120%
17060-07-0	1,2-Dichloroethane-D4	101%	101%	101%	72-123%
2037-26-5	Toluene-D8	105%	105%	104%	78-119%
460-00-4	4-Bromofluorobenzene	96%	96%	97%	74-119%

* = Outside of Control Limits.

Instrument Performance Check (BFB)

Job Number: JB73449
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample:	VC7054-BFB	**Injection Date:**	07/28/14
Lab File ID:	C193390.D	**Injection Time:**	09:16
Instrument ID:	GCMSC		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	16694	16.3		Pass
75	30.0 - 60.0% of mass 95	46536	45.4		Pass
95	Base peak, 100% relative abundance	102445	100.0		Pass
96	5.0 - 9.0% of mass 95	7076	6.91		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	70832	69.1		Pass
175	5.0 - 9.0% of mass 174	5760	5.62	(8.13) [a]	Pass
176	95.0 - 101.0% of mass 174	67874	66.3	(95.8) [a]	Pass
177	5.0 - 9.0% of mass 176	4639	4.53	(6.83) [b]	Pass

6.4.1

(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
VC7054-IC7054	C193391.D	07/28/14	09:52	00:36	Initial cal 0.2
VC7054-IC7054	C193392.D	07/28/14	10:18	01:02	Initial cal 0.5
VC7054-IC7054	C193393.D	07/28/14	10:45	01:29	Initial cal 1
VC7054-IC7054	C193394.D	07/28/14	11:11	01:55	Initial cal 2
VC7054-IC7054	C193395.D	07/28/14	11:38	02:22	Initial cal 5
VC7054-IC7054	C193396.D	07/28/14	12:05	02:49	Initial cal 10
VC7054-IC7054	C193397.D	07/28/14	12:31	03:15	Initial cal 20
VC7054-ICC7054	C193398.D	07/28/14	12:58	03:42	Initial cal 50
VC7054-IC7054	C193399.D	07/28/14	13:25	04:09	Initial cal 100
VC7054-IC7054	C193400.D	07/28/14	13:52	04:36	Initial cal 400
VC7054-ICV7054	C193403.D	07/28/14	15:43	06:27	Initial cal verification 50

Instrument Performance Check (BFB)

Job Number: JB73449
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample:	VC7067-BFB	**Injection Date:**	08/09/14
Lab File ID:	C193706.D	**Injection Time:**	08:22
Instrument ID:	GCMSC		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	9719	15.7		Pass
75	30.0 - 60.0% of mass 95	28152	45.5		Pass
95	Base peak, 100% relative abundance	61904	100.0		Pass
96	5.0 - 9.0% of mass 95	4366	7.05		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	44877	72.5		Pass
175	5.0 - 9.0% of mass 174	3718	6.01	(8.28) [a]	Pass
176	95.0 - 101.0% of mass 174	43821	70.8	(97.6) [a]	Pass
177	5.0 - 9.0% of mass 176	3078	4.97	(7.02) [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
VC7067-CC7054	C193707.D	08/09/14	08:53	00:31	Continuing cal 50
VC7067-MB1	C193709.D	08/09/14	10:01	01:39	Method Blank
VC7067-BS	C193710.D	08/09/14	10:27	02:05	Blank Spike
JB73449-12MS	C193711.D	08/09/14	10:54	02:32	Matrix Spike
JB73449-12MSD	C193712.D	08/09/14	11:21	02:59	Matrix Spike Duplicate
JB73449-12	C193714.D	08/09/14	12:14	03:52	HSSER-GMZ02-080614
JB73449-1	C193715.D	08/09/14	12:40	04:18	HSSER-SMW08-080414
JB73449-2	C193716.D	08/09/14	13:07	04:45	HSSER-GMZ01-080414
JB73449-3	C193717.D	08/09/14	13:33	05:11	HSSER-SMW01-080414
JB73449-4	C193718.D	08/09/14	14:00	05:38	HSSER-SMW02-080414
JB73449-5	C193719.D	08/09/14	14:26	06:04	HSSER-FBLK01-080414
JB73449-6	C193720.D	08/09/14	14:53	06:31	HSSER-MW203-080514
JB73449-7	C193721.D	08/09/14	15:19	06:57	HSSER-MW07FGA-080514
JB73449-8	C193722.D	08/09/14	15:46	07:24	HSSER-GMZ04-080514
JB73449-9	C193723.D	08/09/14	16:12	07:50	HSSER-SMW21-080514
JB73449-10	C193724.D	08/09/14	16:39	08:17	HSSER-SMW20-080614
JB73449-11	C193725.D	08/09/14	17:05	08:43	HSSER-GMZ03-080614
JB73449-13	C193726.D	08/09/14	17:32	09:10	HSSER-PMW01-080614
JB73449-14	C193727.D	08/09/14	17:58	09:36	HSSER-PMW02-080614
JB73449-15	C193728.D	08/09/14	18:25	10:03	HSSER-SMW04-080614
JB73449-16	C193729.D	08/09/14	18:51	10:29	HSSER-SMW19-080614
JB73449-17	C193730.D	08/09/14	19:18	10:56	HSSER-DUP01-080614

6.4.2

Raw Data: C193731.D

Instrument Performance Check (BFB)

Job Number: JB73449
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample:	VC7067-BFB2	**Injection Date:**	08/09/14
Lab File ID:	C193731.D	**Injection Time:**	19:44
Instrument ID:	GCMSC		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	10214	16.0		Pass
75	30.0 - 60.0% of mass 95	29224	45.7		Pass
95	Base peak, 100% relative abundance	63955	100.0		Pass
96	5.0 - 9.0% of mass 95	4544	7.10		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	47315	74.0		Pass
175	5.0 - 9.0% of mass 174	3880	6.07	(8.20) [a]	Pass
176	95.0 - 101.0% of mass 174	45584	71.3	(96.3) [a]	Pass
177	5.0 - 9.0% of mass 176	3238	5.06	(7.10) [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
VC7067-CC7054	C193732.D	08/09/14	20:11	00:27	Continuing cal 20
VC7067-MB2	C193734.D	08/09/14	21:04	01:20	Method Blank
JB73449-18	C193735.D	08/09/14	21:31	01:47	HSSER-EBLK01-080614
JB73449-19	C193736.D	08/09/14	21:57	02:13	HSSER-TRIP02-080614
ZZZZZZ	C193737.D	08/09/14	22:23	02:39	(unrelated sample)

6.4.3

Volatile Internal Standard Area Summary

Job Number: JB73449
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Check Std:	VC7067-CC7054	**Injection Date:**	08/09/14
Lab File ID:	C193707.D	**Injection Time:**	08:53
Instrument ID:	GCMSC	**Method:**	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	150763	8.18	148119	10.85	215899	11.80	189008	14.84	95550	16.86
Upper Limit [a]	301526	8.68	296238	11.35	431798	12.30	378016	15.34	191100	17.36
Lower Limit [b]	75382	7.68	74060	10.35	107950	11.30	94504	14.34	47775	16.36

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
VC7067-MB1	144041	8.18	156393	10.85	223142	11.81	196697	14.84	99534	16.86
VC7067-BS	146559	8.18	154362	10.86	221999	11.81	198802	14.84	102530	16.86
JB73449-12MS	151212	8.19	152876	10.86	220696	11.81	197741	14.84	103090	16.86
JB73449-12MSD	165177	8.19	155340	10.85	221252	11.81	199590	14.84	103657	16.86
JB73449-12	148849	8.18	158455	10.85	223861	11.81	196859	14.84	100768	16.86
JB73449-1	152835	8.18	155445	10.85	220604	11.81	195839	14.84	102417	16.86
JB73449-2	144818	8.18	155208	10.86	218205	11.81	192905	14.84	98755	16.86
JB73449-3	142475	8.18	154844	10.86	220859	11.81	194140	14.84	100314	16.86
JB73449-4	142524	8.18	155975	10.86	220581	11.81	194368	14.84	99187	16.86
JB73449-5	144645	8.18	156087	10.86	220864	11.81	194417	14.84	97667	16.86
JB73449-6	152039	8.19	157290	10.86	222666	11.81	196018	14.84	98221	16.86
JB73449-7	146615	8.18	150528	10.85	214878	11.81	191233	14.84	98718	16.86
JB73449-8	152059	8.18	156195	10.86	221818	11.81	194234	14.84	99602	16.86
JB73449-9	150623	8.18	155676	10.86	219858	11.81	193732	14.84	98576	16.86
JB73449-10	150968	8.18	155355	10.86	219592	11.81	192918	14.84	98236	16.86
JB73449-11	160386	8.19	160393	10.86	226017	11.81	198479	14.84	100754	16.86
JB73449-13	150313	8.18	153858	10.86	219082	11.81	193158	14.84	99143	16.86
JB73449-14	144105	8.18	154938	10.86	218068	11.81	192191	14.84	98116	16.86
JB73449-15	149517	8.18	156459	10.86	220929	11.81	193615	14.84	98535	16.86
JB73449-16	137756	8.18	154178	10.85	217494	11.81	191233	14.84	98805	16.85
JB73449-17	149564	8.19	150202	10.85	212188	11.81	186920	14.84	96857	16.85

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

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

Volatile Internal Standard Area Summary

Job Number: JB73449
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Check Std:	VC7067-CC7054	**Injection Date:**	08/09/14
Lab File ID:	C193732.D	**Injection Time:**	20:11
Instrument ID:	GCMSC	**Method:**	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	149516	8.18	152676	10.85	217918	11.81	194701	14.84	96897	16.86
Upper Limit [a]	299032	8.68	305352	11.35	435836	12.31	389402	15.34	193794	17.36
Lower Limit [b]	74758	7.68	76338	10.35	108959	11.31	97351	14.34	48449	16.36

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
VC7067-MB2	138497	8.18	149056	10.85	210763	11.81	186416	14.84	98219	16.86
JB73449-18	133634	8.18	145052	10.86	203501	11.81	180375	14.84	94644	16.86
JB73449-19	135650	8.18	144052	10.85	202251	11.81	178973	14.84	94435	16.86
ZZZZZZ	154288	8.18	144316	10.85	208997	11.81	187542	14.84	100365	16.86

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.

6.5.2

Volatile Surrogate Recovery Summary

Job Number: JB73449
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Method: SW846 8260B **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4
JB73449-1	C193715.D	101	101	104	95
JB73449-2	C193716.D	100	100	104	97
JB73449-3	C193717.D	100	102	104	96
JB73449-4	C193718.D	101	102	105	97
JB73449-5	C193719.D	101	101	104	99
JB73449-6	C193720.D	101	102	104	98
JB73449-7	C193721.D	102	103	104	96
JB73449-8	C193722.D	101	102	104	97
JB73449-9	C193723.D	101	102	104	98
JB73449-10	C193724.D	100	101	104	97
JB73449-11	C193725.D	100	101	105	98
JB73449-12	C193714.D	100	101	104	97
JB73449-13	C193726.D	102	102	104	97
JB73449-14	C193727.D	101	101	104	97
JB73449-15	C193728.D	100	101	104	97
JB73449-16	C193729.D	101	102	104	96
JB73449-17	C193730.D	103	103	104	96
JB73449-18	C193735.D	104	102	105	96
JB73449-19	C193736.D	103	102	103	94
JB73449-12MS	C193711.D	102	101	105	96
JB73449-12MSD	C193712.D	102	101	105	96
VC7067-BS	C193710.D	102	102	105	96
VC7067-MB1	C193709.D	101	103	104	97
VC7067-MB2	C193734.D	102	102	104	95

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	79-120%
S2 = 1,2-Dichloroethane-D4	72-123%
S3 = Toluene-D8	78-119%
S4 = 4-Bromofluorobenzene	74-119%

Initial Calibration Summary

Job Number: JB73449
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: VC7054-ICC7054
Lab FileID: C193398.D

Response Factor Report MSC

Method : C:\MSDCHEM\1\METHODS\MC7054.M (RTE Integrator)
Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
Last Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration

Calibration Files
5 =c193395.D 2 =c193394.D 20 =c193397.D 50 =c193398.D
100 =c193399.D 1 =c193393.D 400 =c193400.D 0.5 =c193392.D
10 =c193396.D 0.2 =c193391.D = =

Compound	5	2	20	50	100	1	400	0.5	10	0.2	Avg	%RSD
1) Tert Butyl Alcohol-d9	----------ISTD----------											
2) 1,4-dioxane	0.102	0.094	0.110	0.105	0.104	0.113	0.091		0.100		0.102	7.31
3) tertiary butyl alcohol	1.380	1.436	1.402	1.309	1.332	1.670	1.092		1.251		1.359	12.16
4) ethanol											0.000#	-1.00
5) I pentafluorobenzene	----------ISTD----------											
6) chlorotrifluoroethene											0.000#	-1.00
7) chlorodifluoromethane	0.287	0.283	0.322	0.347	0.355	0.288	0.390		0.268		0.317	13.63
8) dichlorodifluoromethane	0.599	0.524	0.644	0.664	0.641	0.505	0.593		0.628		0.600	9.62
9) chloromethane	0.688	0.670	0.693	0.705	0.696	0.682	0.653	0.608	0.727		0.680	5.02
10) vinyl chloride	0.660	0.597	0.696	0.714	0.720	0.586	0.683	0.519	0.699		0.653	10.68
11) 1,3-Butadiene											0.000#	-1.00
12) acetaldehyde											0.000#	-1.00
13) bromomethane	0.388	0.346	0.396	0.372	0.342	0.297			0.410		0.364	10.71
14) chloroethane	0.356	0.315	0.369	0.373	0.364	0.308			0.374		0.351	7.94
15) VINYL BROMIDE											0.000#	-1.00
16) trichlorofluoromethane	0.610	0.555	0.669	0.710	0.700	0.512	0.673		0.670		0.637	11.21
17) pentane	0.833	0.867	0.822	0.788		0.843			0.789		0.824	3.74
18) ethyl ether	0.373	0.377	0.398	0.386	0.381	0.353	0.352		0.388		0.376	4.36
19) 2-chloropropane	0.819	0.870	0.856	0.827	0.798	0.918	0.642		0.829		0.820	9.88
20) acrolein	0.175	0.195	0.187	0.184	0.129	0.193	0.224	0.171	0.172		0.181	14.08
21) 1,1-dichloroethene	0.793	0.760	0.856	0.829	0.806	0.755	0.781	0.587	0.815		0.776	10.03
22) isopropyl alcohol											0.000#	-1.00
23) acetone												

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Initial Calibration Summary

Job Number: JB73449 **Sample:** VC7054-ICC7054
Account: UTC United Technologies Corporation **Lab FileID:** C193398.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

	0.189		0.190	0.172	0.160		0.120		0.194	0.171	16.44
		----- Linear regression ----- Coefficient = 0.9936									
		Response Ratio = 0.03526 + 0.11744 *A									
24)	allyl chloride										
	0.292	0.286	0.299	0.289	0.279	0.265	0.254		0.306	0.284	6.05
25)	acetonitrile										
	0.078	0.079	0.076	0.075	0.073	0.085	0.067		0.074	0.076	7.03
26)	iodomethane										
	0.795	0.805	0.877	0.847	0.839	0.753	0.780	0.576	0.835	0.790	11.20
27)	iso-butyl alcohol										
	0.008		0.009	0.008	0.008		0.007		0.008	0.008#	6.48
28)	carbon disulfide										
	1.796	1.763	1.928	1.852	1.785	1.661	1.658	1.431	1.853	1.748	8.46
29)	methylene chloride										
	0.584	0.591	0.620	0.594	0.591	0.589	0.550	0.470	0.598	0.576	7.56
30)	1-chloropropane										
	0.078		0.060	0.050	0.048		0.043		0.064	0.057	22.40
		----- Linear regression ----- Coefficient = 0.9995									
		Response Ratio = 0.00656 + 0.04251 *A									
31)	methyl acetate										
	0.734	0.722	0.747	0.677	0.691	0.782	0.651	0.713	0.683	0.711	5.65
32)	methyl tert butyl ether										
	1.869	1.882	1.865	1.825	1.821	1.829	1.602	1.900	1.830	1.825	4.82
33)	trans-1,2-dichloroethene										
	0.786	0.801	0.830	0.810	0.789	0.775	0.718	0.644	0.805	0.773	7.44
34)	di-isopropyl ether										
	1.790	1.764	1.891	1.756	1.776	1.920	1.631	1.593	1.721	1.760	6.03
35)	ethyl tert-butyl ether										
	1.840	1.769	1.919	1.771	1.790	1.919	1.625	1.572	1.696	1.767	6.80
36)	2-butanone										
	0.157	0.147	0.174	0.169	0.162	0.155	0.138		0.164	0.158	7.35
37)	1,1-dichloroethane										
	0.985	1.004	1.042	1.017	0.987	0.944	0.920	0.838	1.029	0.974	6.58
38)	chloroprene										
	0.746	0.719	0.814	0.782	0.776	0.778	0.742	0.543	0.708	0.734	10.74
39)	acrylonitrile										
	0.351	0.360	0.364	0.351	0.346	0.323	0.316	0.336	0.354	0.345	4.73
40)	vinyl acetate										
	0.136	0.127	0.143	0.137	0.142		0.139		0.124	0.136	5.41
41)	ethyl acetate										
	0.128	0.140	0.130	0.123	0.125	0.136	0.117		0.117	0.127	6.49
42)	2,2-dichloropropane										
	0.534	0.547	0.534	0.502	0.463	0.563	0.356	0.536	0.534	0.508	12.56
43)	cis-1,2-dichloroethene										
	0.621	0.653	0.660	0.637	0.622	0.647	0.555	0.707	0.643	0.638	6.34
44)	methyl acrylate										
	0.689	0.719	0.764	0.767	0.770	0.760	0.722	0.731	0.702	0.736	4.13
45)	propionitrile										
	0.148	0.150	0.156	0.152	0.151	0.146	0.140	0.188	0.151	0.154	8.98
46)	bromochloromethane										
	0.284	0.288	0.301	0.294	0.292	0.265	0.266		0.293	0.285	4.67
47)	tetrahydrofuran										
	0.307	0.327	0.341	0.329	0.325	0.358	0.317	0.368	0.321	0.333	5.93
48)	chloroform										
	0.925	0.910	0.994	0.960	0.939	0.908	0.849	0.836	0.957	0.920	5.59
49)	t-butyl formate										
	0.310	0.332	0.324	0.324	0.331	0.374	0.313		0.270	0.322	8.96
50)	dibromofluoromethane (s)										

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Initial Calibration Summary

Job Number: JB73449 **Sample:** VC7054-ICC7054
Account: UTC United Technologies Corporation **Lab FileID:** C193398.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

	0.450	0.433	0.475	0.461	0.476	0.391	0.421	0.328	0.486		0.436	11.59
51)	1,2-dichloroethane-d4 (s)												
	0.547	0.506	0.557	0.545	0.558	0.477	0.495	0.442	0.584		0.523	8.78
52)	freon 113												
	0.311	0.302	0.344	0.325	0.315	0.243	0.303		0.295		0.305	9.55
53)	methacrylonitrile												
	0.344	0.351	0.378	0.363	0.370	0.299	0.350	0.357	0.346		0.351	6.45
54)	cyclohexane												
	0.813	0.819	0.887	0.850	0.811	0.788	0.759		0.839		0.821	4.75
55)	1,1,1-trichloroethane												
	0.714	0.718	0.760	0.732	0.705	0.713	0.616	0.633	0.722		0.702	6.63
56)	tert-amyl alcohol												
											0.000#	-1.00
57)	2,2,4-trimethylpentane												
	1.174	1.141	1.284	1.187	1.140	1.233	1.040		1.097		1.162	6.54
58)	tert-amyl methyl ether												
	1.826	1.734	1.897	1.769	1.781	1.940	1.616	1.695	1.688		1.772	5.84
59)	I 1,4-difluorobenzene	----------ISTD----------											
60)	epichlorohydrin												
	0.074	0.075	0.079	0.076	0.077	0.094	0.078		0.071		0.078	8.67
61)	n-butyl alcohol												
	0.026	0.027	0.027	0.027	0.028	0.035	0.028		0.024		0.028	11.94
62)	carbon tetrachloride												
	0.415	0.427	0.450	0.440	0.425	0.395	0.405	0.316	0.429		0.411	9.61
63)	1,1-dichloropropene												
	0.512	0.530	0.552	0.545	0.524	0.524	0.492	0.445	0.536	0.503	0.516	6.01
64)	hexane												
	0.416	0.418	0.449	0.424	0.404	0.458	0.412		0.396		0.422	5.07
65)	benzene												
	1.640	1.687	1.712	1.658	1.614	1.599	1.458	1.474	1.657	1.673	1.617	5.32
66)	heptane												
	0.197	0.201	0.209	0.199	0.191	0.216	0.196		0.185		0.199	4.80
67)	isopropyl acetate												
	0.224	0.208	0.256	0.234	0.239	0.260	0.231	0.188	0.216		0.228	10.02
68)	1,2-dichloroethane												
	0.477	0.495	0.505	0.489	0.482	0.486	0.454	0.394	0.486		0.474	7.02
69)	ethyl acrylate												
											0.000#	-1.00
70)	trichloroethene												
	0.379	0.401	0.411	0.400	0.390	0.369	0.366	0.323	0.396		0.382	7.02
71)	2-chloroethyl vinyl ether												
	0.269	0.279	0.301	0.294	0.300	0.321	0.275	0.236	0.257		0.281	9.21
72)	2-Nitropropane												
	0.201	0.227	0.212	0.200	0.202	0.249	0.190		0.195		0.210	9.28
73)	methylcyclohexane												
	0.560	0.556	0.605	0.567	0.549	0.577	0.552		0.530		0.562	3.94
74)	tert-amyl ethyl ether												
											0.000#	-1.00
75)	methyl methacrylate												
	0.345	0.349	0.389	0.391	0.398	0.355	0.393	0.350	0.355		0.370	6.04
76)	1,2-dichloropropane												
	0.400	0.392	0.424	0.413	0.409	0.374	0.381	0.322	0.402		0.391	7.72
77)	dibromomethane												
	0.248	0.266	0.271	0.263	0.264	0.228	0.248	0.192	0.259		0.249	10.06
78)	bromodichloromethane												
	0.494	0.488	0.529	0.523	0.523	0.466	0.496	0.393	0.501	0.453	0.487	8.45
79)	cis-1,3-dichloropropene												
	0.651	0.677	0.701	0.693	0.690	0.656	0.661	0.665	0.666	0.661	0.672	2.57
80)	toluene-d8 (s)												

6.7.1

Initial Calibration Summary

Job Number: JB73449 **Sample:** VC7054-ICC7054
Account: UTC United Technologies Corporation **Lab FileID:** C193398.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

	1.198	1.137	1.277	1.267	1.281	1.219	1.194	1.050	1.303		1.214	6.68
81)	4-methyl-2-pentanone											
	0.246	0.235	0.274	0.271	0.272	0.224	0.275	0.313	0.253		0.263	10.07
82)	toluene											
	0.939	0.942	1.013	0.995	0.979	0.939	0.915	0.838	0.948	0.900	0.941	5.32
83)	3-methyl-1-butanol											
	0.041	0.043	0.043	0.042	0.043	0.054	0.043	0.053	0.039		0.045	11.56
84)	trans-1,3-dichloropropene											
	0.607	0.608	0.642	0.639	0.639	0.620	0.623	0.645	0.607	0.709	0.634	4.83
85)	ethyl methacrylate											
	0.566	0.602	0.649	0.657	0.672	0.581	0.682	0.691	0.588	0.555	0.624	8.25
86)	1,1,2-trichloroethane											
	0.306	0.312	0.330	0.328	0.329	0.310	0.324	0.317	0.309		0.318	3.01
87)	2-hexanone											
	0.253	0.270	0.285	0.288	0.286	0.272	0.284		0.269		0.276	4.39
88)	I chlorobenzene-d5	----------ISTD----------										
89)	cyclohexanone											
	0.092	0.090	0.098	0.096	0.090	0.098	0.065		0.094		0.090	11.82
90)	tetrachloroethene											
	0.417	0.408	0.459	0.458	0.421	0.413	0.372	0.316	0.462		0.414	11.37
91)	1,3-dichloropropane											
	0.731	0.752	0.775	0.763	0.752	0.727	0.693	0.748	0.746	0.545	0.723	9.20
92)	butyl acetate											
	0.436	0.454	0.435	0.416	0.425	0.535	0.426		0.390		0.440	9.71
93)	3,3-dimethyl-1-butanol											
	0.116	0.121	0.120	0.112	0.115	0.137	0.108	0.153	0.108		0.121	12.24
94)	dibromochloromethane											
	0.422	0.425	0.461	0.459	0.462	0.410	0.435	0.418	0.439		0.437	4.56
95)	1,2-dibromoethane											
	0.440	0.458	0.475	0.469	0.464	0.449	0.435	0.472	0.450	0.378	0.449	6.32
96)	n-butyl ether											
											0.000#	-1.00
97)	chlorobenzene											
	1.168	1.204	1.229	1.210	1.178	1.175	1.089	1.117	1.181	1.277	1.183	4.51
98)	1,1,1,2-tetrachloroethane											
	0.420	0.432	0.444	0.433	0.422	0.411	0.397	0.433	0.436		0.425	3.38
99)	ethylbenzene											
	2.023	2.111	2.179	2.121	2.056	2.044	1.866	1.909	2.099	2.197	2.061	5.19
100)	m,p-xylene											
	0.774	0.796	0.827	0.805	0.778	0.794	0.672	0.705	0.791	0.756	0.770	6.15
101)	o-xylene											
	0.808	0.825	0.838	0.816	0.797	0.796	0.707	0.718	0.817	0.815	0.794	5.61
102)	styrene											
	1.290	1.320	1.385	1.383	1.380	1.351	1.255	1.319	1.332	1.484	1.350	4.68
103)	bromoform											
	0.308	0.316	0.334	0.340	0.351	0.297	0.343	0.382	0.318		0.332	7.75
104)	I 1,4-dichlorobenzene-d	----------ISTD----------										
105)	isopropylbenzene											
	4.116	4.200	4.329	4.158	3.835	4.246	3.381	4.083	4.179	5.050	4.158	9.98
106)	4-bromofluorobenzene (s)											
	0.840	0.870	0.849	0.836	0.816	0.950	0.740	0.857	0.863		0.847	6.50
107)	bromobenzene											
	0.993	1.077	1.041	0.992	0.946	1.258	0.863		1.003		1.022	11.23
108)	1,1,2,2-tetrachloroethane											
	1.483	1.553	1.553	1.497	1.442	1.591	1.357		1.503		1.497	4.92
109)	trans-1,4-dichloro-2-butene											
	0.413	0.440	0.436	0.432	0.419	0.437	0.405		0.413		0.425	3.14
110)	1,2,3-trichloropropane											

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Initial Calibration Summary

Job Number: JB73449 **Sample:** VC7054-ICC7054
Account: UTC United Technologies Corporation **Lab FileID:** C193398.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

	0.415	0.421	0.437	0.413	0.402	0.414	0.369		0.417	0.411	4.79
111)	n-propylbenzene										
	4.598	4.764	4.922	4.795	4.495	4.630	3.898	4.747	4.785	4.626	6.50
112)	4-ethyltoluene										
										0.000#	-1.00
113)	2-chlorotoluene										
	1.000	1.057	1.027	0.981	0.929	1.201	0.861		0.989	1.006	9.87
114)	4-chlorotoluene										
	2.920	3.069	3.157	3.066	2.961	3.215	2.762	3.539	3.017	3.078	7.08
115)	1,3,5-trimethylbenzene										
	3.491	3.680	3.666	3.570	3.417	3.949	3.030	3.750	3.540	3.566	7.15
116)	tert-butylbenzene										
	0.757	0.812	0.767	0.736	0.706	0.965	0.636		0.759	0.767	12.40
117)	pentachloroethane										
	0.491	0.547	0.523	0.501	0.519	0.524	0.507		0.475	0.511	4.37
118)	1,2,4-trimethylbenzene										
	3.502	3.710	3.648	3.580	3.455	3.604	3.088	3.800	3.564	3.550	5.69
119)	sec-butylbenzene										
	4.183	4.561	4.527	4.433	4.235	4.380	3.729	4.012	4.375	4.270	6.24
120)	1,3-dichlorobenzene										
	1.931	2.052	2.021	1.961	1.914	2.206	1.755	2.417	1.941	2.022	9.46
121)	p-isopropyltoluene										
	3.570	3.689	3.800	3.752	3.625	3.843	3.123	3.642	3.642	3.632	5.79
122)	1,4-dichlorobenzene										
	1.914	2.098	2.047	1.996	1.955	2.224	1.779	2.643	1.967	2.069	11.98
123)	benzyl chloride										
	3.241	3.306	3.287	3.102	3.105		2.874		2.977	3.127	5.19
124)	p-diethylbenzene										
										0.000#	-1.00
125)	1,2-dichlorobenzene										
	1.978	2.164	2.033	1.986	1.939	2.291	1.715		1.986	2.012	8.35
126)	n-butylbenzene										
	1.806	1.911	1.908	1.897	1.837	2.044	1.614	2.014	1.855	1.876	6.67
127)	1,2,4,5-tetramethylbenzene										
										0.000#	-1.00
128)	1,2-dibromo-3-chloropropane										
	0.399	0.450	0.384	0.375	0.368		0.321		0.415	0.387	10.42
129)	1,3,5-trichlorobenzene										
	1.576	1.638	1.618	1.592	1.543	1.787	1.284	2.083	1.562	1.631	13.11
130)	1,2,4-trichlorobenzene										
	1.519	1.662	1.546	1.508	1.442	1.777	1.181		1.491	1.516	11.39
131)	hexachlorobutadiene										
	0.549	0.589	0.536	0.514	0.478		0.405		0.520	0.513	11.42
132)	naphthalene										
	5.453	5.657	5.536	5.357	5.110	5.975	3.902		5.440	5.304	11.66
133)	1,2,3-trichlorobenzene										
	1.492	1.563	1.487	1.449	1.375	1.810	1.120		1.479	1.472	13.01
134)	hexachloroethane										
	0.547	0.606	0.625	0.635	0.632		0.595		0.596	0.605	5.05

(#) = Out of Range ### Number of calibration levels exceeded format ###

MC7054.M Tue Jul 29 13:22:13 2014 C

6.7.1

Initial Calibration Verification

Job Number: JB73449
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: VC7054-ICV7054
Lab FileID: C193403.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\c193403.D
Acq On : 28 Jul 2014 3:43 pm
Sample : icv7054-50
Misc : MS70510,VC7054,5,,,,1
MS Integration Params: RTEINT.P

Vial: 14
Operator: thienn
Inst : MSC
Multiplr: 1.00

Method : C:\MSDCHEM\1\METHODS\MC7054.M (RTE Integrator)
Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
Last Update : Tue Jul 29 13:15:32 2014
Response via : Multiple Level Calibration

Min. RRF : 0.010 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		Tert Butyl Alcohol-d9	1.000	1.000	0.0	104	0.00	8.19
2	M	1,4-dioxane	0.102	0.110	-7.8	108	0.00	12.55
3	M	tertiary butyl alcohol	1.359	1.348	0.8	107	0.00	8.34
4		ethanol		----------NA----------				
5	I	pentafluorobenzene	1.000	1.000	0.0	98	0.00	10.85
6	M	chlorotrifluoroethene		----------NA----------				
7	M	chlorodifluoromethane	0.317	0.362	-14.2	102	0.00	3.97
8	M	dichlorodifluoromethane	0.600	0.657	-9.5	97	0.00	3.93
9	M	chloromethane	0.680	0.714	-5.0	99	0.00	4.36
10	M	vinyl chloride	0.653	0.729	-11.6	100	0.00	4.64
11		1,3-Butadiene		----------NA----------				
12	M	acetaldehyde		----------NA----------				
13	M	bromomethane	0.364	0.347	4.7	91	0.00	5.42
14	M	chloroethane	0.351	0.375	-6.8	98	0.00	5.64
15		VINYL BROMIDE		----------NA----------				
16	M	trichlorofluoromethane	0.637	0.722	-13.3	99	0.00	6.16
17		pentane	0.824	0.812	1.5	101	0.00	6.27
18	M	ethyl ether	0.376	0.394	-4.8	100	0.00	6.71
19	m	2-chloropropane	0.820	0.844	-2.9	100	0.00	6.95
20	M	acrolein	0.181	0.186	-2.8	99	0.00	7.08
21	M	1,1-dichloroethene	0.776	0.822	-5.9	97	0.00	7.22
22	M	isopropyl alcohol		----------NA----------				
		----------	True	Calc.	% Drift	----------		
23	M	acetone	50.000	58.121	-16.2	98	0.00	7.38
		----------	AvgRF	CCRF	% Dev	----------		
24	M	allyl chloride	0.284	0.338	-19.0	114	0.00	7.92
25	M	acetonitrile	0.076	0.092	-21.1#	120	0.00	7.92
26	M	iodomethane	0.790	0.838	-6.1	97	0.00	7.58
27	M	iso-butyl alcohol	0.008	0.016	-100.0#	200	-0.01	8.56
28	M	carbon disulfide	1.748	1.856	-6.2	98	0.00	7.69
29	M	methylene chloride	0.576	0.594	-3.1	98	0.00	8.19
		----------	True	Calc.	% Drift	----------		
30	m	1-chloropropane	50.000	48.983	2.0	93	-0.01	8.20
		----------	AvgRF	CCRF	% Dev	----------		
31	M	methyl acetate	0.711	0.698	1.8	101	0.00	7.94
32	M	methyl tert butyl ether	1.825	1.790	1.9	96	-0.01	8.56
33	M	trans-1,2-dichloroethene	0.773	0.793	-2.6	96	0.00	8.64

6.7.2

Initial Calibration Verification

Job Number: JB73449
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: VC7054-ICV7054
Lab FileID: C193403.D

34	M	di-isopropyl ether	1.760	1.830	-4.0	102	0.00	9.32
35	M	ethyl tert-butyl ether	1.767	1.789	-1.2	99	0.00	9.89
36	M	2-butanone	0.158	0.170	-7.6	98	0.00	10.26
37	M	1,1-dichloroethane	0.974	1.016	-4.3	98	0.00	9.38
38	M	chloroprene	0.734	0.854	-16.3	107	0.00	9.49
39	M	acrylonitrile	0.345	0.355	-2.9	99	0.00	8.68
40	M	vinyl acetate	0.136	0.151	-11.0	108	0.00	9.39
41	M	ethyl acetate	0.127	0.127	0.0	101	0.00	10.27
42	M	2,2-dichloropropane	0.508	0.469	7.7	91	0.00	10.23
43	M	cis-1,2-dichloroethene	0.638	0.626	1.9	96	0.00	10.27
44	m	methyl acrylate	0.736	0.760	-3.3	97	0.00	10.36
45	M	propionitrile	0.154	0.155	-0.6	100	0.00	10.42
46	M	bromochloromethane	0.285	0.293	-2.8	97	0.00	10.62
47	M	tetrahydrofuran	0.333	0.337	-1.2	100	0.00	10.65
48	M	chloroform	0.920	0.964	-4.8	98	0.00	10.69
49	m	t-butyl formate	0.322	0.365	-13.4	110	0.00	10.71
50	S	dibromofluoromethane (s)	0.436	0.471	-8.0	100	0.00	10.92
51	S	1,2-dichloroethane-d4 (s)	0.523	0.556	-6.3	100	0.00	11.36
52	M	freon 113	0.305	0.358	-17.4	108	0.00	7.15
53	M	methacrylonitrile	0.351	0.373	-6.3	100	0.00	10.60
54		cyclohexane	0.821	0.838	-2.1	96	0.00	10.96
55	M	1,1,1-trichloroethane	0.702	0.737	-5.0	98	0.00	10.92
56		tert-amyl alcohol		----------NA----------				
57		2,2,4-trimethylpentane	1.162	1.443	-24.2#	119	0.00	11.35
58	M	tert-amyl methyl ether	1.772	1.837	-3.7	101	0.00	11.42
59	I	1,4-difluorobenzene	1.000	1.000	0.0	99	0.00	11.81
60	M	epichlorohydrin	0.078	0.076	2.6	99	0.00	13.10
61	M	n-butyl alcohol	0.028	0.028	0.0	105	0.00	12.00
62	M	carbon tetrachloride	0.411	0.434	-5.6	97	0.00	11.12
63	M	1,1-dichloropropene	0.516	0.510	1.2	93	0.00	11.11
64	M	hexane	0.422	0.468	-10.9	109	0.00	8.98
65	M	benzene	1.617	1.651	-2.1	98	0.00	11.40
66	M	heptane	0.199	0.219	-10.1	109	0.00	11.54
67	M	isopropyl acetate	0.228	0.242	-6.1	102	0.00	11.36
68	M	1,2-dichloroethane	0.474	0.486	-2.5	98	0.00	11.46
69		ethyl acrylate		----------NA----------				
70	M	trichloroethene	0.382	0.396	-3.7	98	0.00	12.13
71	M	2-chloroethyl vinyl ether	0.281	0.289	-2.8	97	0.00	12.96
72		2-Nitropropane	0.210	0.201	4.3	99	0.00	12.97
73	M	methylcyclohexane	0.562	0.626	-11.4	109	0.00	12.31
74		tert-amyl ethyl ether		----------NA----------				
75	M	methyl methacrylate	0.370	0.389	-5.1	98	0.00	12.43
76	M	1,2-dichloropropane	0.391	0.416	-6.4	100	0.00	12.42
77	M	dibromomethane	0.249	0.261	-4.8	98	0.00	12.59
78	M	bromodichloromethane	0.487	0.527	-8.2	100	0.00	12.72
79	M	cis-1,3-dichloropropene	0.672	0.670	0.3	95	0.00	13.16
80	S	toluene-d8 (s)	1.214	1.264	-4.1	99	0.00	13.41
81	M	4-methyl-2-pentanone	0.263	0.271	-3.0	99	0.00	13.26
82	M	toluene	0.941	0.979	-4.0	97	0.00	13.49
83	M	3-methyl-1-butanol	0.045	0.044	2.2	104	0.00	13.31
84	M	trans-1,3-dichloropropene	0.634	0.599	5.5	93	0.00	13.71
85	M	ethyl methacrylate	0.624	0.628	-0.6	94	0.00	13.68
86	M	1,1,2-trichloroethane	0.318	0.321	-0.9	97	0.00	13.92
87	M	2-hexanone	0.276	0.277	-0.4	95	0.00	14.07
88	I	chlorobenzene-d5	1.000	1.000	0.0	98	0.00	14.84
89	M	cyclohexanone	0.090	0.094	-4.4	96	0.00	15.87
90	M	tetrachloroethene	0.414	0.453	-9.4	97	0.00	14.03
91	M	1,3-dichloropropane	0.723	0.755	-4.4	97	0.00	14.08

6.7.2

Initial Calibration Verification

Job Number: JB73449
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: VC7054-ICV7054
Lab FileID: C193403.D

92	M	butyl acetate	0.440	0.414	5.9	97	0.00	14.12
93	m	3,3-dimethyl-1-butanol	0.121	0.121	0.0	106	0.00	14.25
94	M	dibromochloromethane	0.437	0.448	-2.5	96	0.00	14.33
95	M	1,2-dibromoethane	0.449	0.460	-2.4	96	0.00	14.47
96	M	n-butyl ether		----------NA----------				
97	M	chlorobenzene	1.183	1.197	-1.2	97	0.00	14.87
98	M	1,1,1,2-tetrachloroethane	0.425	0.423	0.5	96	0.00	14.93
99	M	ethylbenzene	2.061	2.085	-1.2	96	0.00	14.90
100	M	m,p-xylene	0.770	0.797	-3.5	97	0.00	15.00
101	M	o-xylene	0.794	0.798	-0.5	96	0.00	15.37
102	M	styrene	1.350	1.350	0.0	96	0.00	15.39
103	M	bromoform	0.332	0.332	0.0	96	0.00	15.66
104	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	97	0.00	16.86
105	M	isopropylbenzene	4.158	4.151	0.2	97	0.00	15.67
106	S	4-bromofluorobenzene (s)	0.847	0.833	1.7	97	0.00	15.87
107	M	bromobenzene	1.022	0.976	4.5	95	0.00	16.04
108	M	1,1,2,2-tetrachloroethane	1.497	1.418	5.3	92	0.00	15.98
109	M	trans-1,4-dichloro-2-bute	0.425	0.401	5.6	90	0.00	16.01
110	M	1,2,3-trichloropropane	0.411	0.403	1.9	95	0.00	16.04
111	M	n-propylbenzene	4.626	4.964	-7.3	101	0.00	16.02
112	M	4-ethyltoluene		----------NA----------				
113	M	2-chlorotoluene	1.006	0.981	2.5	97	0.00	16.16
114	M	4-chlorotoluene	3.078	3.025	1.7	96	0.00	16.25
115	M	1,3,5-trimethylbenzene	3.566	3.535	0.9	96	0.00	16.14
116	M	tert-butylbenzene	0.767	0.736	4.0	97	0.00	16.44
117	M	pentachloroethane	0.511	0.517	-1.2	100	0.00	16.55
118	M	1,2,4-trimethylbenzene	3.550	3.728	-5.0	101	0.00	16.48
119	M	sec-butylbenzene	4.270	4.374	-2.4	96	0.00	16.62
120	M	1,3-dichlorobenzene	2.022	1.911	5.5	95	0.00	16.81
121	M	p-isopropyltoluene	3.632	3.737	-2.9	97	0.00	16.71
122	M	1,4-dichlorobenzene	2.069	1.947	5.9	95	0.00	16.88
123		benzyl chloride	3.127	2.969	5.1	93	0.00	16.98
124		p-diethylbenzene		----------NA----------				
125	M	1,2-dichlorobenzene	2.012	1.952	3.0	95	0.00	17.21
126	M	n-butylbenzene	1.876	1.894	-1.0	97	0.00	17.06
127		1,2,4,5-tetramethylbenzen		----------NA----------				
128	M	1,2-dibromo-3-chloropropa	0.387	0.368	4.9	95	0.00	17.85
129	m	1,3,5-trichlorobenzene	1.631	1.575	3.4	96	0.00	17.97
130	M	1,2,4-trichlorobenzene	1.516	1.501	1.0	97	0.00	18.51
131	M	hexachlorobutadiene	0.513	0.520	-1.4	98	0.00	18.57
132	M	naphthalene	5.304	5.315	-0.2	96	0.00	18.76
133	M	1,2,3-trichlorobenzene	1.472	1.443	2.0	97	0.00	18.97
134	M	hexachloroethane	0.605	0.642	-6.1	98	0.00	17.41

(#) = Out of Range SPCC's out = 0 CCC's out = 0

c193398.D MC7054.M Tue Jul 29 13:23:06 2014 C

6.7.2

Continuing Calibration Summary

Job Number: JB73449 **Sample:** VC7067-CC7054
Account: UTC United Technologies Corporation **Lab FileID:** C193707.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\C-CORE\vc7067\c193707.D Vial: 2
Acq On : 9 Aug 2014 8:53 am Operator: thienn
Sample : cc7054-50 Inst : MSC
Misc : MS71798,VC7067,5,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\MC7054.M (RTE Integrator)
Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
Last Update : Tue Jul 29 13:15:32 2014
Response via : Multiple Level Calibration

Min. RRF : 0.010 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		Tert Butyl Alcohol-d9	1.000	1.000	0.0	63	-0.02	8.18
2	M	1,4-dioxane	0.102	0.116	-13.7	70	-0.02	12.54
3	M	tertiary butyl alcohol	1.359	1.620	-19.2	78	-0.02	8.33
4		ethanol		----------NA----------				
5	I	pentafluorobenzene	1.000	1.000	0.0	66	-0.02	10.85
6	M	chlorotrifluoroethene		----------NA----------				
7	M	chlorodifluoromethane	0.317	0.311	1.9	59	0.00	3.97
8	M	dichlorodifluoromethane	0.600	0.613	-2.2	61	-0.01	3.92
9	M	chloromethane	0.680	0.690	-1.5	64	0.00	4.36
10	M	vinyl chloride	0.653	0.730	-11.8	67	0.00	4.63
11		1,3-Butadiene		----------NA----------				
12	M	acetaldehyde		----------NA----------				
13	M	bromomethane	0.364	0.393	-8.0	69	0.00	5.41
14	M	chloroethane	0.351	0.364	-3.7	64	-0.01	5.64
15		VINYL BROMIDE		----------NA----------				
16	M	trichlorofluoromethane	0.637	0.742	-16.5	69	-0.01	6.15
17		pentane		----------NA----------				
18	M	ethyl ether	0.376	0.402	-6.9	68	-0.02	6.70
19	m	2-chloropropane	0.820	0.867	-5.7	69	-0.02	6.95
20	M	acrolein	0.181	0.154	14.9	55	-0.02	7.08
21	M	1,1-dichloroethene	0.776	0.859	-10.7	68	-0.02	7.21
22	M	isopropyl alcohol		----------NA----------				
		----------	True	Calc.	% Drift	----------		
23	M	acetone	50.000	24.120	51.8#	35	-0.01	7.37
		----------	AvgRF	CCRF	% Dev	----------		
24	M	allyl chloride	0.284	0.295	-3.9	67	-0.02	7.91
25	M	acetonitrile	0.076	0.078	-2.6	68	-0.01	7.92
26	M	iodomethane	0.790	0.891	-12.8	69	-0.02	7.57
27	M	iso-butyl alcohol	0.008	0.008#	0.0	64	-0.02	8.55
28	M	carbon disulfide	1.748	1.897	-8.5	67	-0.01	7.69
29	M	methylene chloride	0.576	0.623	-8.2	69	-0.01	8.18
		----------	True	Calc.	% Drift	----------		
30	m	1-chloropropane	50.000	55.154	-10.3	70	-0.02	8.19
		----------	AvgRF	CCRF	% Dev	----------		
31	M	methyl acetate	0.711	0.625	12.1	61	-0.02	7.93
32	M	methyl tert butyl ether	1.825	1.688	7.5	61	-0.02	8.55
33	M	trans-1,2-dichloroethene	0.773	0.848	-9.7	69	-0.02	8.63

6.7.3 6

Continuing Calibration Summary

Job Number: JB73449 **Sample:** VC7067-CC7054
Account: UTC United Technologies Corporation **Lab FileID:** C193707.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

34	M	di-isopropyl ether	1.760	1.722	2.2	64	-0.02	9.31
35	M	ethyl tert-butyl ether	1.767	1.232	30.3#	46#	-0.01	9.88
36	M	2-butanone	0.158	0.119	24.7#	46#	-0.02	10.25
37	M	1,1-dichloroethane	0.974	1.046	-7.4	68	-0.02	9.38
38	M	chloroprene	0.734	0.768	-4.6	64	-0.02	9.48
39	M	acrylonitrile	0.345	0.338	2.0	63	-0.02	8.67
40	M	vinyl acetate	0.136	0.139	-2.2	67	-0.02	9.38
41	M	ethyl acetate	0.127	0.113	11.0	60	-0.01	10.26
42	M	2,2-dichloropropane	0.508	0.550	-8.3	72	-0.01	10.23
43	M	cis-1,2-dichloroethene	0.638	0.684	-7.2	70	-0.01	10.26
44	m	methyl acrylate	0.736	0.741	-0.7	63	-0.01	10.35
45	M	propionitrile	0.154	0.146	5.2	63	-0.02	10.41
46	M	bromochloromethane	0.285	0.315	-10.5	70	-0.01	10.62
47	M	tetrahydrofuran	0.333	0.311	6.6	62	-0.02	10.65
48	M	chloroform	0.920	1.038	-12.8	71	-0.01	10.69
49	m	t-butyl formate	0.322	0.199	38.2#	40#	-0.01	10.70
50	S	dibromofluoromethane (s)	0.436	0.470	-7.8	67	-0.02	10.91
51	S	1,2-dichloroethane-d4 (s)	0.523	0.550	-5.2	66	-0.01	11.36
52	M	freon 113	0.305	0.326	-6.9	66	-0.01	7.15
53	M	methacrylonitrile	0.351	0.361	-2.8	65	-0.01	10.59
54		cyclohexane	0.821	0.893	-8.8	69	-0.01	10.95
55	M	1,1,1-trichloroethane	0.702	0.837	-19.2	75	-0.01	10.91
56		tert-amyl alcohol		----------NA----------				
57		2,2,4-trimethylpentane	1.162	1.163	-0.1	64	0.00	11.35
58	M	tert-amyl methyl ether	1.772	1.205	32.0#	45#	-0.02	11.41
59	I	1,4-difluorobenzene	1.000	1.000	0.0	67	-0.01	11.80
60	M	epichlorohydrin	0.078	0.067	14.1	59	-0.01	13.09
61	M	n-butyl alcohol	0.028	0.027	3.6	68	-0.01	12.00
62	M	carbon tetrachloride	0.411	0.485	-18.0	73	-0.01	11.11
63	M	1,1-dichloropropene	0.516	0.552	-7.0	67	-0.01	11.11
64	M	hexane	0.422	0.360	14.7	56	-0.02	8.97
65	M	benzene	1.617	1.709	-5.7	69	-0.01	11.39
66	M	heptane	0.199	0.176	11.6	59	-0.01	11.54
67	M	isopropyl acetate	0.228	0.223	2.2	63	-0.01	11.35
68	M	1,2-dichloroethane	0.474	0.529	-11.6	72	-0.01	11.45
69		ethyl acrylate		----------NA----------				
70	M	trichloroethene	0.382	0.416	-8.9	69	-0.01	12.13
71	M	2-chloroethyl vinyl ether	0.281	0.178	36.7#	40#	-0.01	12.95
72		2-Nitropropane	0.210	0.181	13.8	60	-0.01	12.96
73	M	methylcyclohexane	0.562	0.546	2.8	64	-0.01	12.30
74		tert-amyl ethyl ether		----------NA----------				
75	M	methyl methacrylate	0.370	0.373	-0.8	63	-0.01	12.42
76	M	1,2-dichloropropane	0.391	0.410	-4.9	66	-0.01	12.42
77	M	dibromomethane	0.249	0.276	-10.8	70	-0.01	12.59
78	M	bromodichloromethane	0.487	0.559	-14.8	71	-0.01	12.72
79	M	cis-1,3-dichloropropene	0.672	0.705	-4.9	68	-0.01	13.16
80	S	toluene-d8 (s)	1.214	1.242	-2.3	65	-0.01	13.41
81	M	4-methyl-2-pentanone	0.263	0.269	-2.3	66	-0.01	13.26
82	M	toluene	0.941	1.026	-9.0	69	-0.01	13.48
83	M	3-methyl-1-butanol	0.045	0.043	4.4	68	-0.01	13.30
84	M	trans-1,3-dichloropropene	0.634	0.639	-0.8	67	-0.01	13.70
85	M	ethyl methacrylate	0.624	0.645	-3.4	65	0.00	13.68
86	M	1,1,2-trichloroethane	0.318	0.329	-3.5	67	-0.01	13.91
87	M	2-hexanone	0.276	0.242	12.3	56	-0.01	14.07
88	I	chlorobenzene-d5	1.000	1.000	0.0	67	0.00	14.84
89	M	cyclohexanone	0.090	0.020	77.8#	14#	-0.01	15.86
90	M	tetrachloroethene	0.414	0.427	-3.1	62	-0.01	14.02
91	M	1,3-dichloropropane	0.723	0.754	-4.3	66	-0.01	14.08

6.7.3

Continuing Calibration Summary

Job Number: JB73449 **Sample:** VC7067-CC7054
Account: UTC United Technologies Corporation **Lab FileID:** C193707.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

92	M	butyl acetate	0.440	0.393	10.7	63	0.00	14.12
93	m	3,3-dimethyl-1-butanol	0.121	0.116	4.1	69	0.00	14.24
94	M	dibromochloromethane	0.437	0.487	-11.4	71	-0.01	14.33
95	M	1,2-dibromoethane	0.449	0.468	-4.2	66	-0.01	14.46
96	M	n-butyl ether		----------NA----------				
97	M	chlorobenzene	1.183	1.220	-3.1	67	0.00	14.87
98	M	1,1,1,2-tetrachloroethane	0.425	0.465	-9.4	71	-0.01	14.92
99	M	ethylbenzene	2.061	2.180	-5.8	68	0.00	14.90
100	M	m,p-xylene	0.770	0.828	-7.5	68	0.00	15.00
101	M	o-xylene	0.794	0.858	-8.1	70	0.00	15.37
102	M	styrene	1.350	1.412	-4.6	68	0.00	15.39
103	M	bromoform	0.332	0.343	-3.3	67	-0.01	15.65
104	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	67	0.00	16.86
105	M	isopropylbenzene	4.158	4.394	-5.7	71	0.00	15.67
106	S	4-bromofluorobenzene (s)	0.847	0.802	5.3	64	-0.01	15.86
107	M	bromobenzene	1.022	1.015	0.7	69	0.00	16.04
108	M	1,1,2,2-tetrachloroethane	1.497	1.497	0.0	67	0.00	15.97
109	M	trans-1,4-dichloro-2-bute	0.425	0.370	12.9	57	-0.01	16.00
110	M	1,2,3-trichloropropane	0.411	0.417	-1.5	68	-0.01	16.04
111	M	n-propylbenzene	4.626	4.888	-5.7	68	0.00	16.02
112	M	4-ethyltoluene		----------NA----------				
113	M	2-chlorotoluene	1.006	1.006	0.0	69	0.00	16.16
114	M	4-chlorotoluene	3.078	3.139	-2.0	69	0.00	16.25
115	M	1,3,5-trimethylbenzene	3.566	3.791	-6.3	71	-0.01	16.14
116	M	tert-butylbenzene	0.767	0.752	2.0	69	-0.01	16.44
117	M	pentachloroethane	0.511	0.636	-24.5#	85	0.00	16.54
118	M	1,2,4-trimethylbenzene	3.550	3.802	-7.1	71	-0.01	16.48
119	M	sec-butylbenzene	4.270	4.687	-9.8	71	-0.01	16.62
120	M	1,3-dichlorobenzene	2.022	2.003	0.9	68	-0.01	16.81
121	M	p-isopropyltoluene	3.632	3.945	-8.6	71	0.00	16.71
122	M	1,4-dichlorobenzene	2.069	2.027	2.0	68	0.00	16.88
123		benzyl chloride	3.127	3.152	-0.8	68	0.00	16.98
124		p-diethylbenzene		----------NA----------				
125	M	1,2-dichlorobenzene	2.012	2.055	-2.1	69	0.00	17.21
126	M	n-butylbenzene	1.876	1.946	-3.7	69	0.00	17.06
127		1,2,4,5-tetramethylbenzen		----------NA----------				
128	M	1,2-dibromo-3-chloropropa	0.387	0.378	2.3	68	0.00	17.85
129	m	1,3,5-trichlorobenzene	1.631	1.665	-2.1	70	-0.01	17.96
130	M	1,2,4-trichlorobenzene	1.516	1.602	-5.7	71	0.00	18.50
131	M	hexachlorobutadiene	0.513	0.567	-10.5	74	-0.01	18.56
132	M	naphthalene	5.304	5.845	-10.2	73	-0.01	18.76
133	M	1,2,3-trichlorobenzene	1.472	1.553	-5.5	72	0.00	18.96
134	M	hexachloroethane	0.605	0.696	-15.0	74	0.00	17.40

(#) = Out of Range SPCC's out = 0 CCC's out = 0
c193398.D MC7054.M Tue Aug 12 08:10:05 2014

6.7.3

Continuing Calibration Summary

Job Number: JB73449 **Sample:** VC7067-CC7054
Account: UTC United Technologies Corporation **Lab FileID:** C193732.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\C-CORE\vc7067\c193732.D Vial: 27
Acq On : 9 Aug 2014 8:11 pm Operator: thienn
Sample : cc7054-20 Inst : MSC
Misc : MS71807,VC7067,5,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\MC7054.M (RTE Integrator)
Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
Last Update : Tue Jul 29 13:15:32 2014
Response via : Multiple Level Calibration

Min. RRF : 0.010 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	Tert Butyl Alcohol-d9	1.000	1.000	0.0	63	-0.02	8.18
2 M	1,4-dioxane	0.102	0.121	-18.6	70	0.00	12.55
3 M	tertiary butyl alcohol	1.359	1.635	-20.3#	74	-0.02	8.33
4	ethanol		----------NA----------				
5 I	pentafluorobenzene	1.000	1.000	0.0	69	0.00	10.85
6 M	chlorotrifluoroethene		----------NA----------				
7 M	chlorodifluoromethane	0.317	0.249	21.5#	53	0.00	3.98
8 M	dichlorodifluoromethane	0.600	0.550	8.3	59	0.00	3.93
9 M	chloromethane	0.680	0.626	7.9	62	0.00	4.37
10 M	vinyl chloride	0.653	0.645	1.2	64	0.00	4.64
11	1,3-Butadiene		----------NA----------				
12 M	acetaldehyde		----------NA----------				
13 M	bromomethane	0.364	0.387	-6.3	67	0.02	5.44
14 M	chloroethane	0.351	0.338	3.7	63	0.00	5.65
15	VINYL BROMIDE		----------NA----------				
16 M	trichlorofluoromethane	0.637	0.648	-1.7	66	0.00	6.17
17	pentane		----------NA----------				
18 M	ethyl ether	0.376	0.376	0.0	65	0.00	6.71
19 m	2-chloropropane	0.820	0.804	2.0	64	0.00	6.96
20 M	acrolein	0.181	0.139	23.2#	51	0.00	7.09
21 M	1,1-dichloroethene	0.776	0.776	0.0	62	0.00	7.23
22 M	isopropyl alcohol		----------NA----------				
	----------	True	Calc.	% Drift	----------		
23 M	acetone	20.000	2.073	89.6#	36	0.00	7.38
	----------	AvgRF	CCRF	% Dev	----------		
24 M	allyl chloride	0.284	0.285	-0.4	65	0.00	7.92
25 M	acetonitrile	0.076	0.067	11.8	61	0.00	7.92
26 M	iodomethane	0.790	0.829	-4.9	65	0.00	7.58
27 M	iso-butyl alcohol	0.008	0.007#	12.5	52	-0.01	8.56
28 M	carbon disulfide	1.748	1.732	0.9	62	0.00	7.70
29 M	methylene chloride	0.576	0.579	-0.5	64	0.00	8.19
	----------	True	Calc.	% Drift	----------		
30 m	1-chloropropane	20.000	16.415	17.9	59	0.00	8.20
	----------	AvgRF	CCRF	% Dev	----------		
31 M	methyl acetate	0.711	0.626	12.0	58	0.00	7.94
32 M	methyl tert butyl ether	1.825	1.528	16.3	56	-0.01	8.56
33 M	trans-1,2-dichloroethene	0.773	0.788	-1.9	65	0.00	8.64

6.7.4

Continuing Calibration Summary

Job Number: JB73449 **Sample:** VC7067-CC7054
Account: UTC United Technologies Corporation **Lab FileID:** C193732.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

34	M	di-isopropyl ether	1.760	1.653	6.1	60	0.00	9.32
35	M	ethyl tert-butyl ether	1.767	1.110	37.2#	40#	0.00	9.88
36	M	2-butanone	0.158	0.122	22.8#	48#	0.00	10.27
37	M	1,1-dichloroethane	0.974	0.982	-0.8	65	0.00	9.39
38	M	chloroprene	0.734	0.715	2.6	60	0.00	9.50
39	M	acrylonitrile	0.345	0.329	4.6	62	0.00	8.68
40	M	vinyl acetate	0.136	0.138	-1.5	66	0.00	9.39
41	M	ethyl acetate	0.127	0.120	5.5	63	0.00	10.27
42	M	2,2-dichloropropane	0.508	0.427	15.9	55	0.00	10.23
43	M	cis-1,2-dichloroethene	0.638	0.614	3.8	64	0.00	10.26
44	m	methyl acrylate	0.736	0.752	-2.2	68	0.00	10.36
45	M	propionitrile	0.154	0.148	3.9	65	0.00	10.42
46	M	bromochloromethane	0.285	0.296	-3.9	68	0.00	10.62
47	M	tetrahydrofuran	0.333	0.319	4.2	64	0.00	10.66
48	M	chloroform	0.920	0.977	-6.2	67	0.00	10.70
49	m	t-butyl formate	0.322	0.176	45.3#	37#	0.00	10.70
50	S	dibromofluoromethane (s)	0.436	0.448	-2.8	65	0.00	10.92
51	S	1,2-dichloroethane-d4 (s)	0.523	0.534	-2.1	66	0.00	11.37
52	M	freon 113	0.305	0.292	4.3	58	0.00	7.16
53	M	methacrylonitrile	0.351	0.363	-3.4	66	0.00	10.60
54		cyclohexane	0.821	0.806	1.8	62	0.00	10.96
55	M	1,1,1-trichloroethane	0.702	0.787	-12.1	71	0.00	10.92
56		tert-amyl alcohol		----------NA----------				
57		2,2,4-trimethylpentane	1.162	0.984	15.3	53	0.00	11.35
58	M	tert-amyl methyl ether	1.772	1.104	37.7#	40#	0.00	11.42
59	I	1,4-difluorobenzene	1.000	1.000	0.0	68	0.00	11.81
60	M	epichlorohydrin	0.078	0.069	11.5	59	0.00	13.10
61	M	n-butyl alcohol	0.028	0.028	0.0	71	0.00	12.00
62	M	carbon tetrachloride	0.411	0.463	-12.7	70	0.00	11.12
63	M	1,1-dichloropropene	0.516	0.534	-3.5	66	0.00	11.12
64	M	hexane	0.422	0.328	22.3#	50#	0.00	8.99
65	M	benzene	1.617	1.675	-3.6	67	0.00	11.40
66	M	heptane	0.199	0.153	23.1#	50#	0.00	11.54
67	M	isopropyl acetate	0.228	0.247	-8.3	66	0.00	11.36
68	M	1,2-dichloroethane	0.474	0.518	-9.3	70	0.00	11.46
69		ethyl acrylate		----------NA----------				
70	M	trichloroethene	0.382	0.408	-6.8	67	0.00	12.14
71	M	2-chloroethyl vinyl ether	0.281	0.177	37.0#	40#	0.00	12.96
72		2-Nitropropane	0.210	0.193	8.1	62	0.00	12.97
73	M	methylcyclohexane	0.562	0.510	9.3	57	0.00	12.31
74		tert-amyl ethyl ether		----------NA----------				
75	M	methyl methacrylate	0.370	0.395	-6.8	69	0.00	12.43
76	M	1,2-dichloropropane	0.391	0.408	-4.3	65	0.00	12.42
77	M	dibromomethane	0.249	0.272	-9.2	68	0.00	12.60
78	M	bromodichloromethane	0.487	0.538	-10.5	69	0.00	12.73
79	M	cis-1,3-dichloropropene	0.672	0.676	-0.6	66	0.00	13.16
80	S	toluene-d8 (s)	1.214	1.275	-5.0	68	0.00	13.42
81	M	4-methyl-2-pentanone	0.263	0.272	-3.4	68	0.00	13.26
82	M	toluene	0.941	1.037	-10.2	70	0.00	13.48
83	M	3-methyl-1-butanol	0.045	0.044	2.2	70	0.00	13.31
84	M	trans-1,3-dichloropropene	0.634	0.627	1.1	66	0.00	13.71
85	M	ethyl methacrylate	0.624	0.672	-7.7	71	0.00	13.68
86	M	1,1,2-trichloroethane	0.318	0.337	-6.0	69	0.00	13.92
87	M	2-hexanone	0.276	0.274	0.7	65	0.00	14.07
88	I	chlorobenzene-d5	1.000	1.000	0.0	70	0.00	14.84
89	M	cyclohexanone	0.090	0.016	82.2#	11#	0.00	15.87
90	M	tetrachloroethene	0.414	0.418	-1.0	64	0.00	14.03
91	M	1,3-dichloropropane	0.723	0.768	-6.2	69	0.00	14.09

6.7.4

Continuing Calibration Summary

Job Number: JB73449 **Sample:** VC7067-CC7054
Account: UTC United Technologies Corporation **Lab FileID:** C193732.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

92	M	butyl acetate	0.440	0.437	0.7	70	0.00	14.12
93	m	3,3-dimethyl-1-butanol	0.121	0.116	4.1	68	0.00	14.24
94	M	dibromochloromethane	0.437	0.468	-7.1	71	0.00	14.33
95	M	1,2-dibromoethane	0.449	0.474	-5.6	70	0.00	14.47
96	M	n-butyl ether		----------NA----------				
97	M	chlorobenzene	1.183	1.199	-1.4	68	0.00	14.87
98	M	1,1,1,2-tetrachloroethane	0.425	0.440	-3.5	69	0.00	14.93
99	M	ethylbenzene	2.061	2.173	-5.4	70	0.00	14.91
100	M	m,p-xylene	0.770	0.822	-6.8	70	0.00	15.00
101	M	o-xylene	0.794	0.830	-4.5	69	0.00	15.38
102	M	styrene	1.350	1.374	-1.8	69	0.00	15.39
103	M	bromoform	0.332	0.338	-1.8	71	0.00	15.66
104	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	70	0.00	16.86
105	M	isopropylbenzene	4.158	4.270	-2.7	69	0.00	15.67
106	S	4-bromofluorobenzene (s)	0.847	0.829	2.1	69	0.00	15.87
107	M	bromobenzene	1.022	1.022	0.0	69	0.00	16.04
108	M	1,1,2,2-tetrachloroethane	1.497	1.531	-2.3	69	0.00	15.98
109	M	trans-1,4-dichloro-2-bute	0.425	0.349	17.9	56	0.00	16.00
110	M	1,2,3-trichloropropane	0.411	0.439	-6.8	70	0.00	16.04
111	M	n-propylbenzene	4.626	4.852	-4.9	69	0.00	16.02
112	M	4-ethyltoluene		----------NA----------				
113	M	2-chlorotoluene	1.006	0.975	3.1	67	0.00	16.17
114	M	4-chlorotoluene	3.078	3.143	-2.1	70	0.00	16.25
115	M	1,3,5-trimethylbenzene	3.566	3.630	-1.8	69	0.00	16.14
116	M	tert-butylbenzene	0.767	0.710	7.4	65	0.00	16.44
117	M	pentachloroethane	0.511	0.603	-18.0	81	0.00	16.54
118	M	1,2,4-trimethylbenzene	3.550	3.636	-2.4	70	0.00	16.48
119	M	sec-butylbenzene	4.270	4.399	-3.0	68	0.00	16.62
120	M	1,3-dichlorobenzene	2.022	2.007	0.7	70	0.00	16.81
121	M	p-isopropyltoluene	3.632	3.762	-3.6	69	0.00	16.72
122	M	1,4-dichlorobenzene	2.069	2.029	1.9	70	0.00	16.88
123		benzyl chloride	3.127	2.335	25.3#	50#	0.00	16.98
124		p-diethylbenzene		----------NA----------				
125	M	1,2-dichlorobenzene	2.012	1.990	1.1	69	0.00	17.21
126	M	n-butylbenzene	1.876	1.832	2.3	67	0.00	17.06
127		1,2,4,5-tetramethylbenzen		----------NA----------				
128	M	1,2-dibromo-3-chloropropa	0.387	0.382	1.3	70	0.00	17.85
129	m	1,3,5-trichlorobenzene	1.631	1.540	5.6	67	0.00	17.96
130	M	1,2,4-trichlorobenzene	1.516	1.490	1.7	68	0.00	18.50
131	M	hexachlorobutadiene	0.513	0.520	-1.4	68	0.00	18.57
132	M	naphthalene	5.304	5.613	-5.8	71	0.00	18.76
133	M	1,2,3-trichlorobenzene	1.472	1.472	0.0	69	0.00	18.96
134	M	hexachloroethane	0.605	0.619	-2.3	69	0.00	17.41

(#) = Out of Range SPCC's out = 0 CCC's out = 0
c193397.D MC7054.M Tue Aug 12 08:37:25 2014

6.7.4

GC/MS Volatiles

Raw Data

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\C-CORE\vc7067\
Data File : c193715.D
Acq On : 9 Aug 2014 12:40 pm
Operator : thienn
Sample : jb73449-1
Misc : MS71807,VC7067,5,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 12 08:56:39 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	8.183	65	152835	500.00	ug/L	-0.02
5) pentafluorobenzene	10.854	168	155445	50.00	ug/L	0.00
59) 1,4-difluorobenzene	11.811	114	220604	50.00	ug/L	0.00
88) chlorobenzene-d5	14.838	117	195839	50.00	ug/L	0.00
104) 1,4-dichlorobenzene-d4	16.856	152	102417	50.00	ug/L	0.00
System Monitoring Compounds						
50) dibromofluoromethane (s)	10.917	113	68158	50.33	ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 100.66%			
51) 1,2-dichloroethane-d4 (s)	11.362	65	82473	50.69	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 101.38%			
80) toluene-d8 (s)	13.416	98	279426	52.17	ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 104.34%			
106) 4-bromofluorobenzene (s)	15.868	174	82462	47.54	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 95.08%			
Target Compounds						Qvalue
33) trans-1,2-dichloroethene	8.638	61	2966	1.23	ug/L	98
37) 1,1-dichloroethane	9.385	63	45633	15.07	ug/L	99
43) cis-1,2-dichloroethene	10.269	96	204895	103.25	ug/L	87
55) 1,1,1-trichloroethane	10.922	97	9462	4.34	ug/L	94
65) benzene	11.398	78	1488	0.21	ug/L	89
70) trichloroethene	12.135	95	2584	1.53	ug/L	92
90) tetrachloroethene	14.028	166	59434	36.66	ug/L	98

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

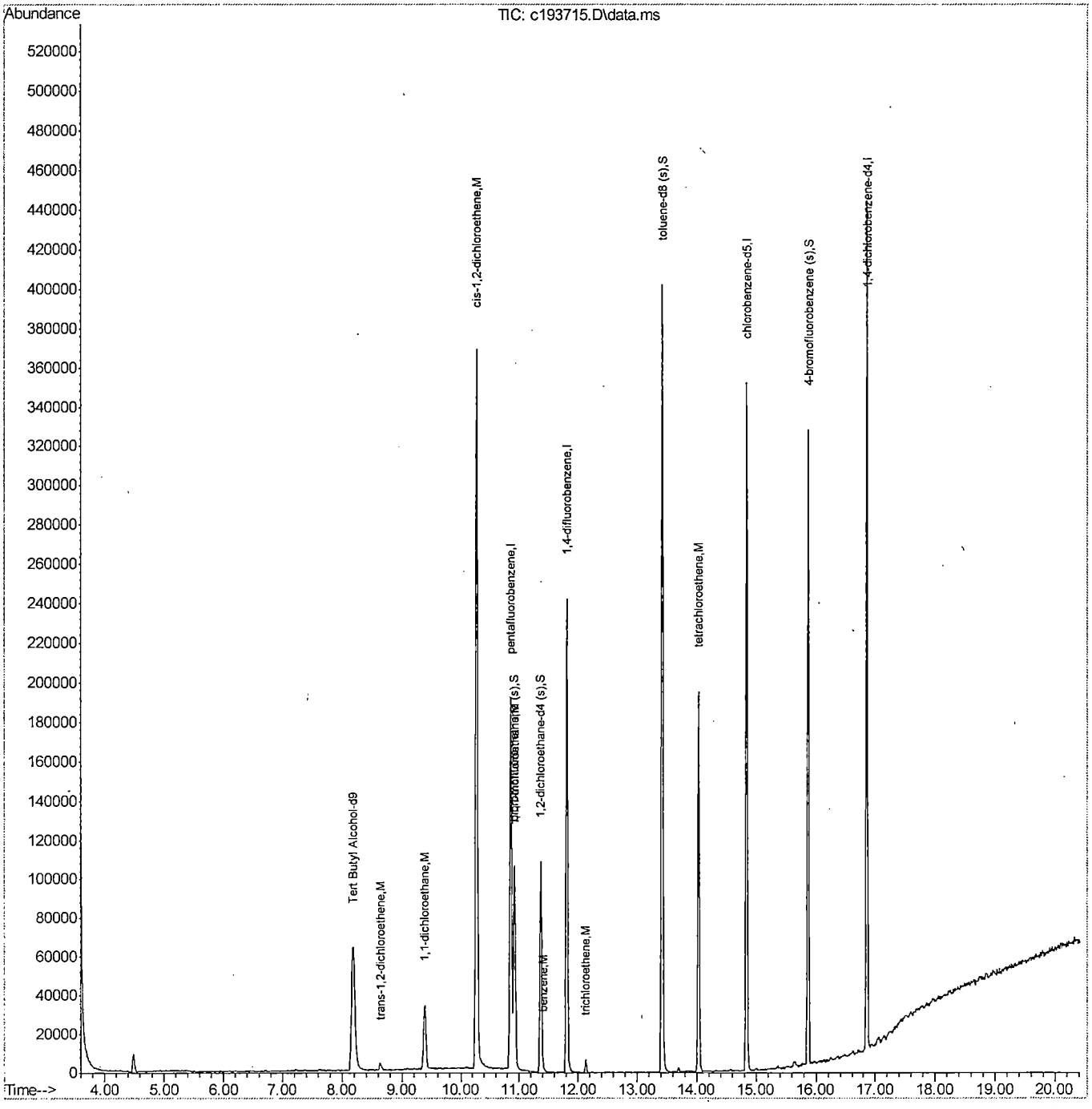
7.1.1

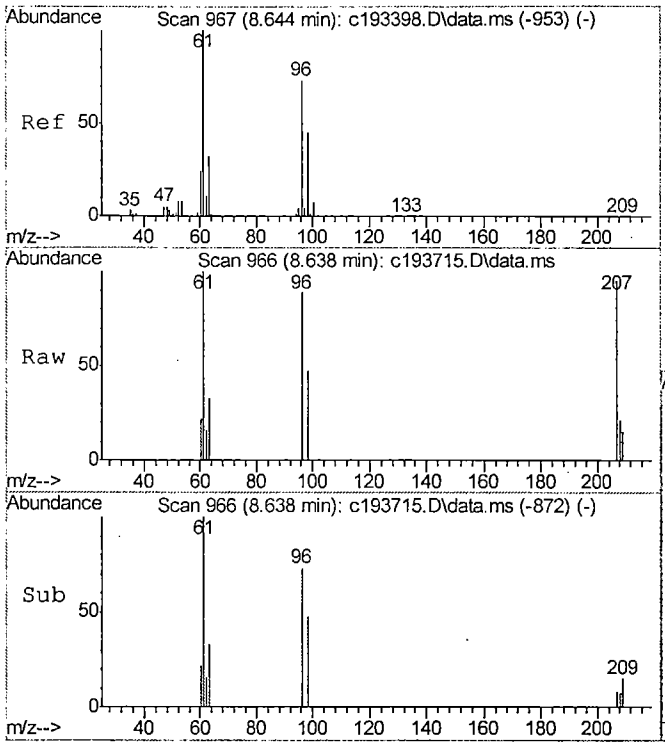
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\C-CORE\vc7067\
Data File : c193715.D
Acq On : 9 Aug 2014 12:40 pm
Operator : thienn
Sample : jb73449-1
Misc : MS71807,VC7067,5,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 12 08:56:39 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration

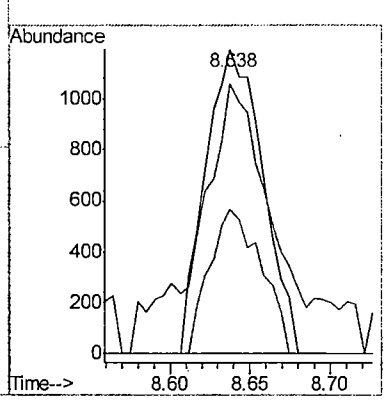


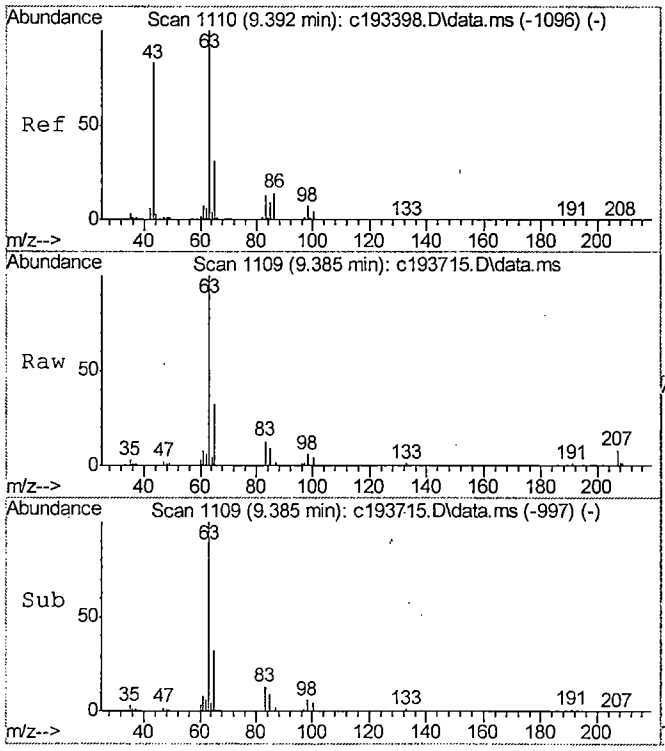


#33
trans-1,2-dichloroethene
Concen: 1.23 ug/L
RT: 8.638 min Scan# 966
Delta R.T. -0.007 min
Lab File: c193715.D
Acq: 9 Aug 2014 12:40 pm

Tgt Ion: 61 Resp: 2966

Ion	Ratio	Lower	Upper
61	100		
96	73.4	50.8	94.4
98	47.4	31.8	59.0

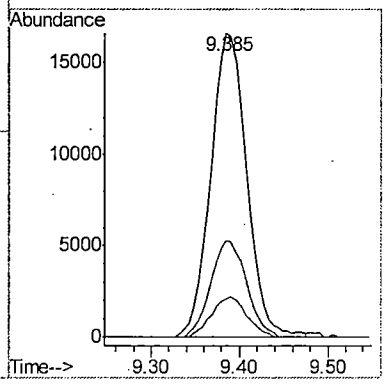




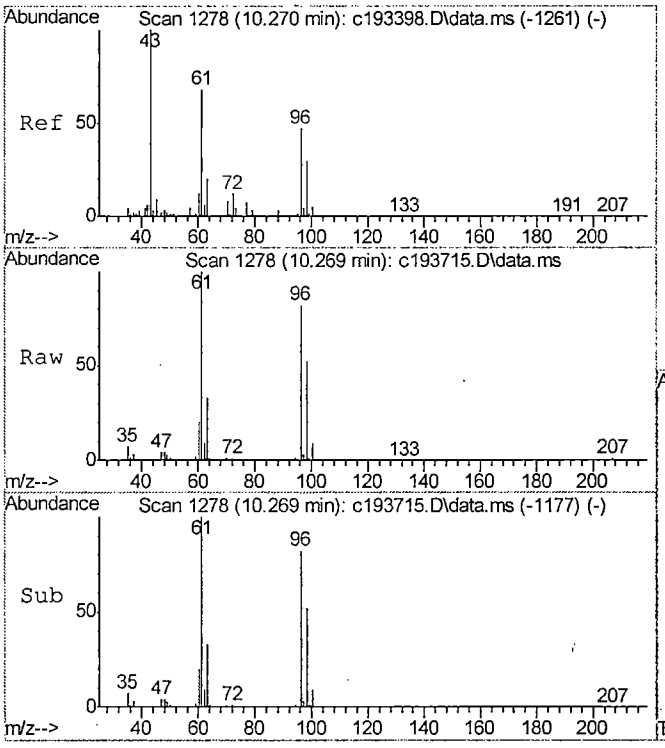
#37
1,1-dichloroethane
Concen: 15.07 ug/L
RT: 9.385 min Scan# 1109
Delta R.T. -0.007 min
Lab File: c193715.D
Acq: 9 Aug 2014 12:40 pm

Tgt Ion: 63 Resp: 45633

Ion	Ratio	Lower	Upper
63	100		
65	31.8	1.1	61.1
83	12.6	0.0	43.0



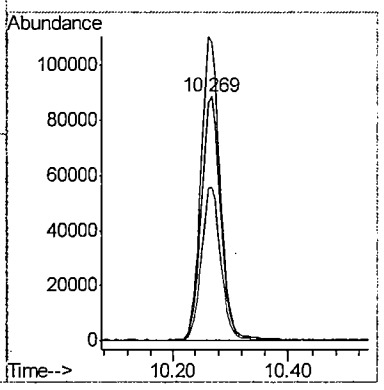
7.1.1

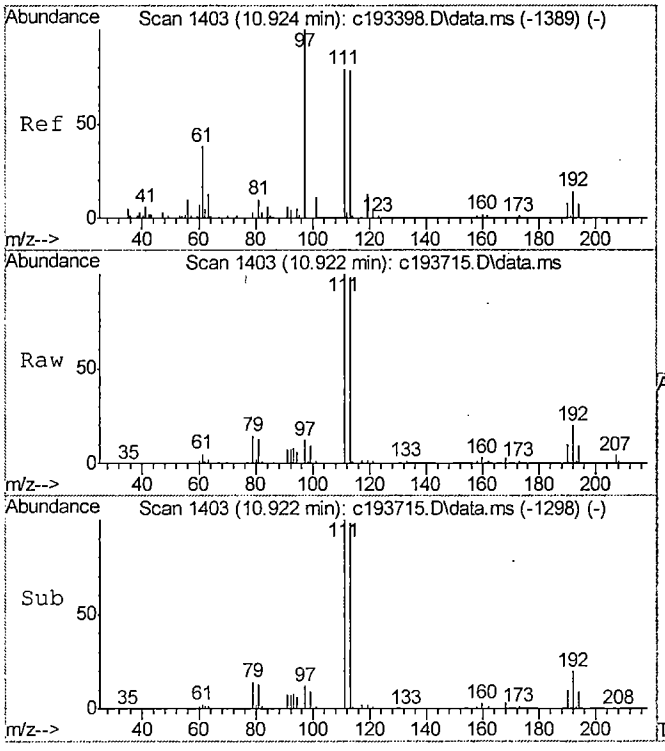


#43
cis-1,2-dichloroethene
Concen: 103.25 ug/L
RT: 10.269 min Scan# 1278
Delta R.T. -0.001 min
Lab File: c193715.D
Acq: 9 Aug 2014 12:40 pm

Tgt Ion: 96 Resp: 204895

Ion	Ratio	Lower	Upper
96	100		
61	122.4	115.6	175.6
98	63.1	33.8	93.8

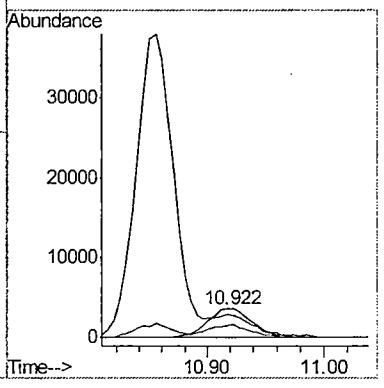




#55
1,1,1-trichloroethane
Concen: 4.34 ug/L
RT: 10.922 min Scan# 1403
Delta R.T. -0.001 min
Lab File: c193715.D
Acq: 9 Aug 2014 12:40 pm

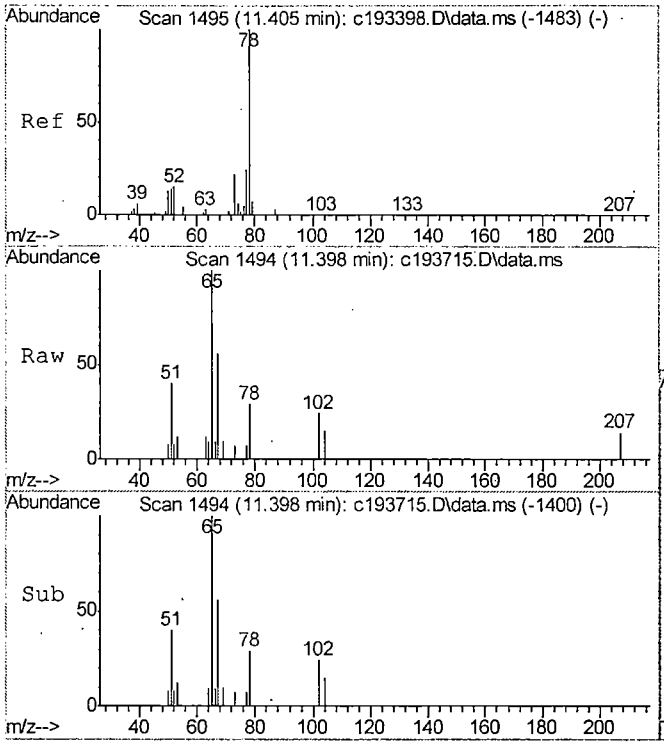
Tgt Ion: 97 Resp: 9462

Ion	Ratio	Lower	Upper
97	100		
99	71.9	35.7	95.7
61	42.8	10.8	70.8



7.1.1

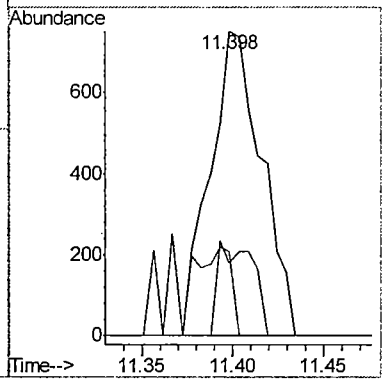
7

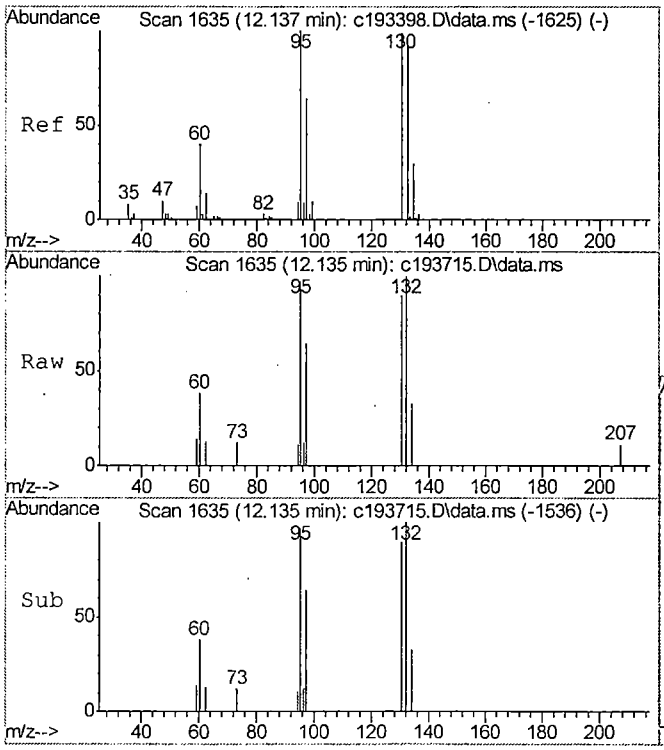


#65
benzene
Concen: 0.21 ug/L
RT: 11.398 min Scan# 1494
Delta R.T. -0.007 min
Lab File: c193715.D
Acq: 9 Aug 2014 12:40 pm

Tgt Ion: 78 Resp: 1488

Ion	Ratio	Lower	Upper
78	100		
77	23.9	0.0	53.8
52	27.5	0.0	45.5

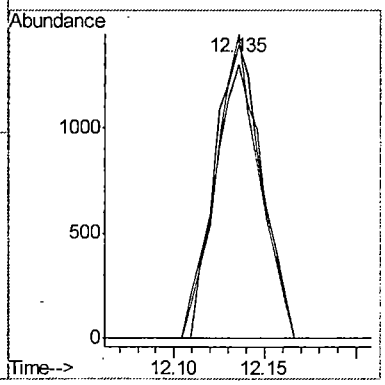




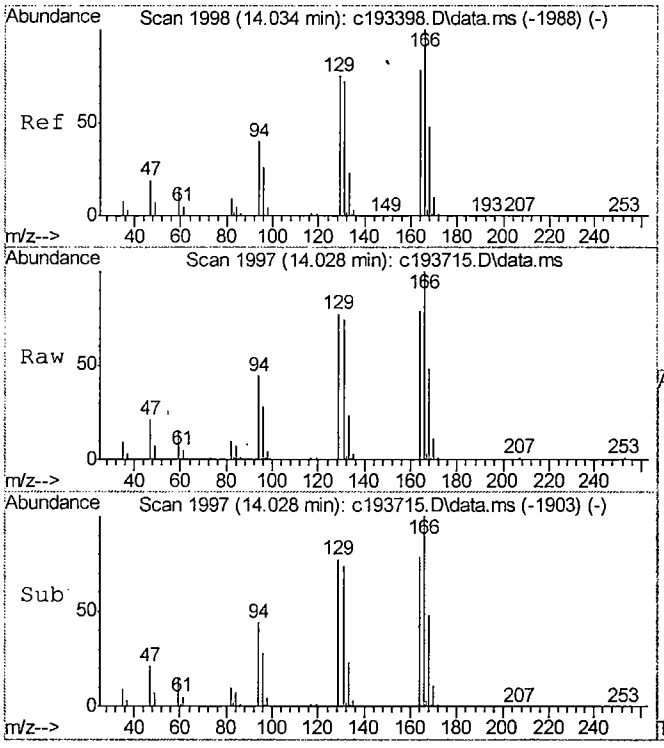
#70
trichloroethene
Concen: 1.53 ug/L
RT: 12.135 min Scan# 1635
Delta R.T. -0.001 min
Lab File: c193715.D
Acq: 9 Aug 2014 12:40 pm

Tgt Ion: 95 Resp: 2584

Ion	Ratio	Lower	Upper
95	100		
130	93.2	68.8	128.8
132	103.6	63.0	123.0



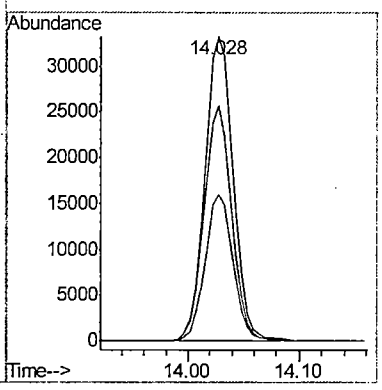
7.1.1



#90
tetrachloroethene
Concen: 36.66 ug/L
RT: 14.028 min Scan# 1997
Delta R.T. -0.007 min
Lab File: c193715.D
Acq: 9 Aug 2014 12:40 pm

Tgt Ion:166 Resp: 59434

Ion	Ratio	Lower	Upper
166	100		
168	48.2	17.6	77.6
129	77.5	44.8	104.8



7.1.1

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\C-CORE\vc7067\
Data File : c193716.D
Acq On : 9 Aug 2014 1:07 pm
Operator : thienn
Sample : jb73449-2
Misc : MS71807,VC7067,5,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Aug 12 08:26:27 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	8.184	65	144818	500.00	ug/L	-0.01
5) pentafluorobenzene	10.856	168	155208	50.00	ug/L	0.00
59) 1,4-difluorobenzene	11.812	114	218205	50.00	ug/L	0.00
88) chlorobenzene-d5	14.839	117	192905	50.00	ug/L	0.00
104) 1,4-dichlorobenzene-d4	16.857	152	98755	50.00	ug/L	0.00
System Monitoring Compounds						
50) dibromofluoromethane (s)	10.918	113	67842	50.18	ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 100.36%			
51) 1,2-dichloroethane-d4 (s)	11.363	65	81361	50.09	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 100.18%			
80) toluene-d8 (s)	13.417	98	276362	52.16	ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 104.32%			
106) 4-bromofluorobenzene (s)	15.869	174	81062	48.46	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 96.92%			
Target Compounds						Qvalue
37) 1,1-dichloroethane	9.386	63	9669	3.20	ug/L	92
43) cis-1,2-dichloroethene	10.270	96	3128	1.58	ug/L #	76
48) chloroform	10.688	83	1614	0.57	ug/L	88
55) 1,1,1-trichloroethane	10.918	97	18010	8.27	ug/L	99
70) trichloroethene	12.136	95	3430	2.06	ug/L	99
90) tetrachloroethene	14.029	166	34328	21.49	ug/L	99

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

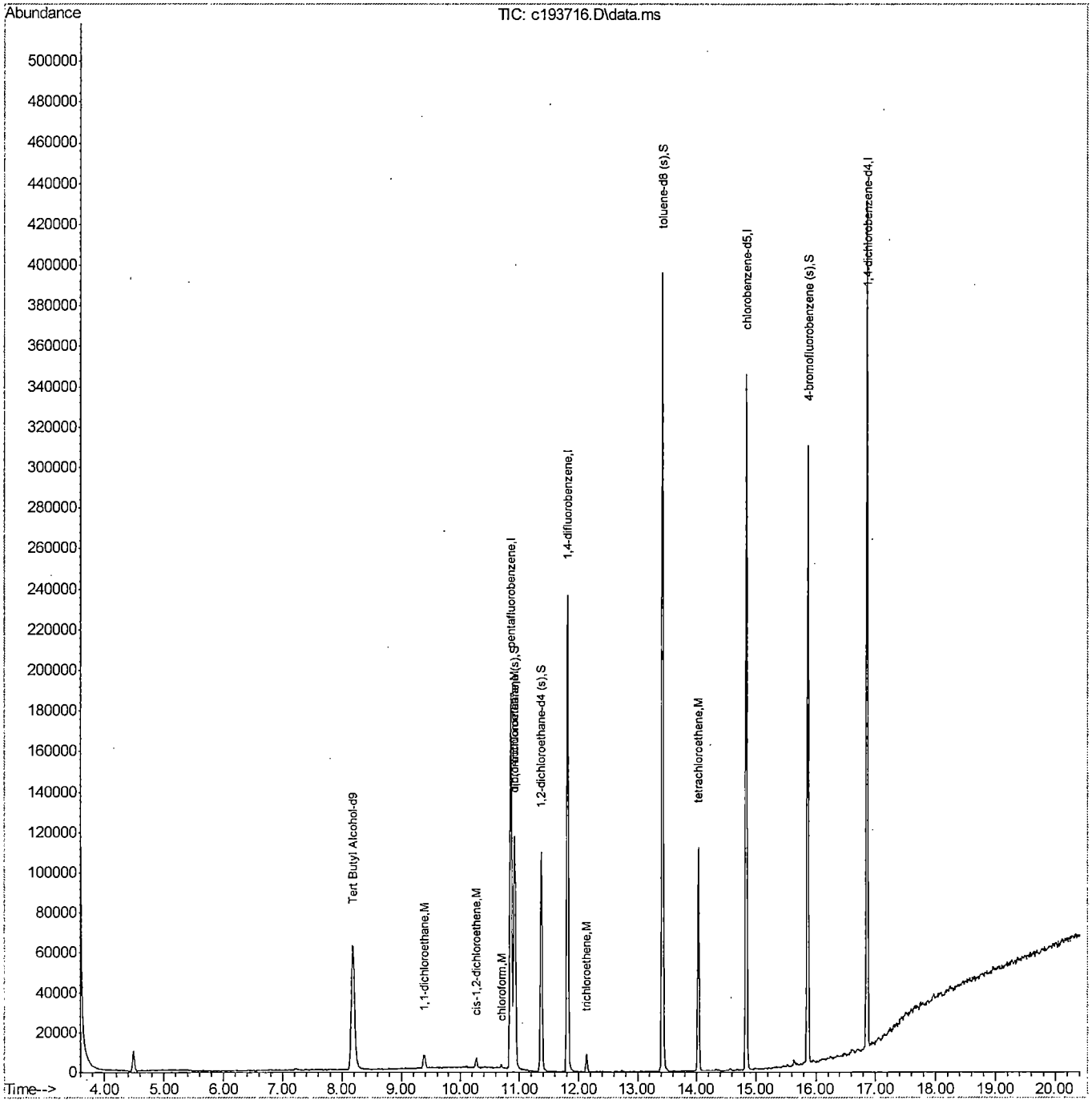
7.1.2

7

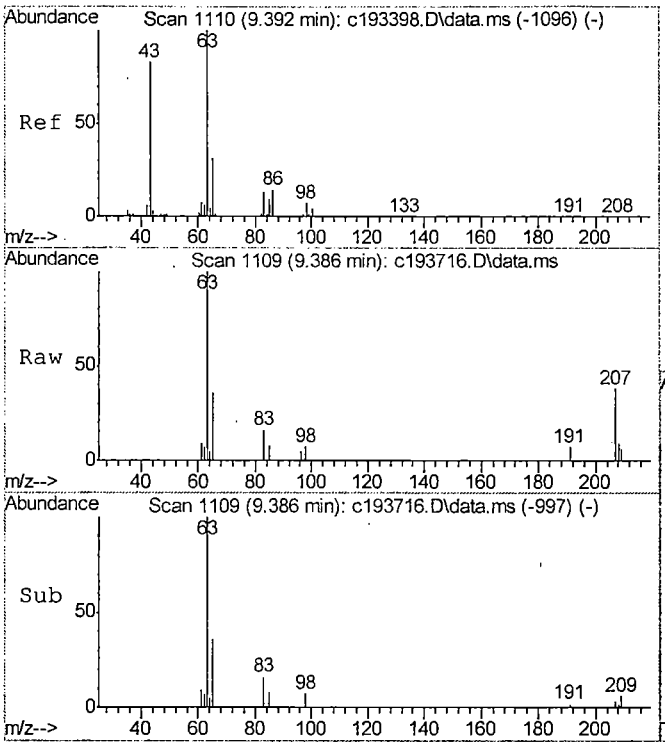
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\C-CORE\vc7067\
Data File : c193716.D
Acq On : 9 Aug 2014 1:07 pm
Operator : thienn
Sample : jb73449-2
Misc : MS71807,VC7067,5,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Aug 12 08:26:27 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration



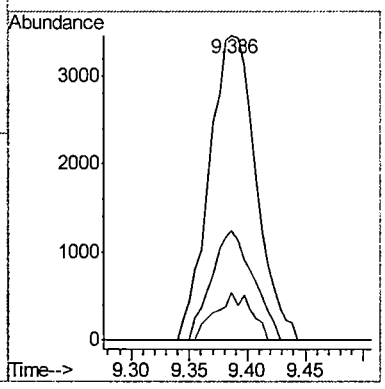
MC7054.M Tue Aug 12 08:42:39 2014 Page: 2

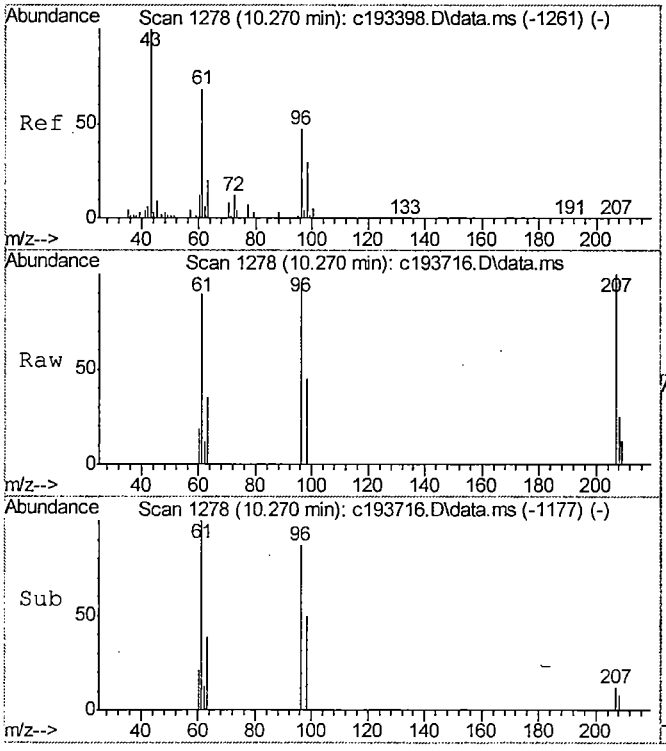


#37
1,1-dichloroethane
Concen: 3.20 ug/L
RT: 9.386 min Scan# 1109
Delta R.T. -0.005 min
Lab File: c193716.D
Acq: 9 Aug 2014 1:07 pm

Tgt Ion: 63 Resp: 9669

Ion	Ratio	Lower	Upper
63	100		
65	35.9	1.1	61.1
83	15.5	0.0	43.0

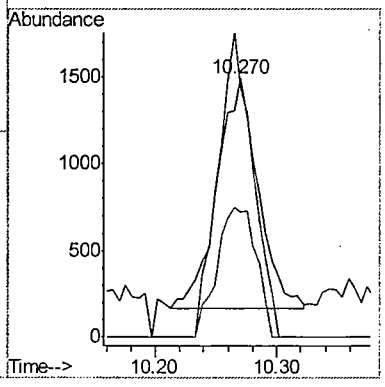


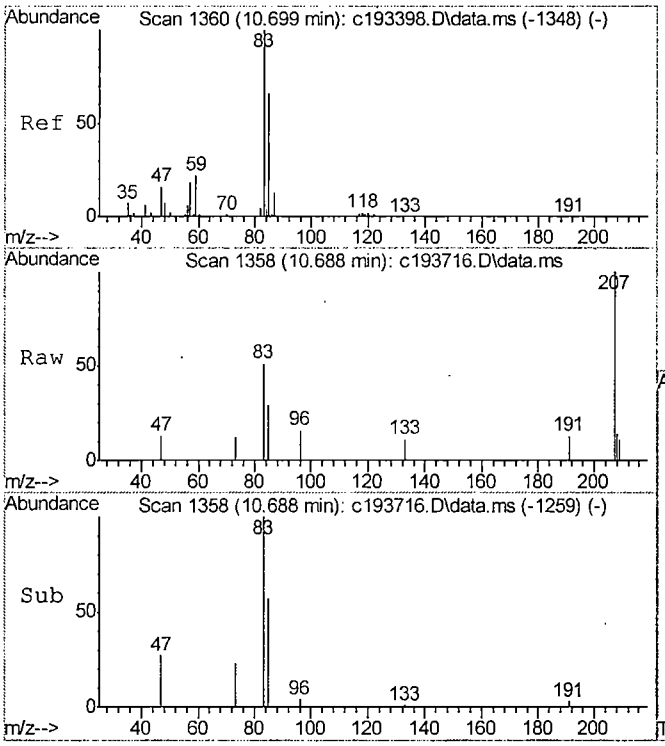


#43
cis-1,2-dichloroethene
Concen: 1.58 ug/L
RT: 10.270 min Scan# 1278
Delta R.T. -0.000 min
Lab File: c193716.D
Acq: 9 Aug 2014 1:07 pm

Tgt Ion: 96 Resp: 3128

Ion	Ratio	Lower	Upper
96	100		
61	108.4	115.6	175.6#
98	54.3	33.8	93.8

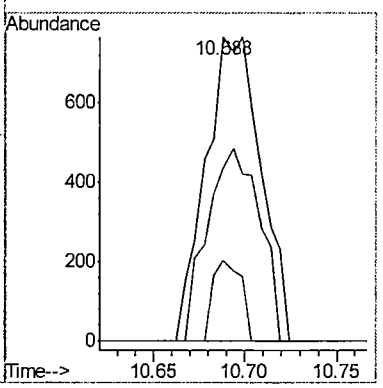


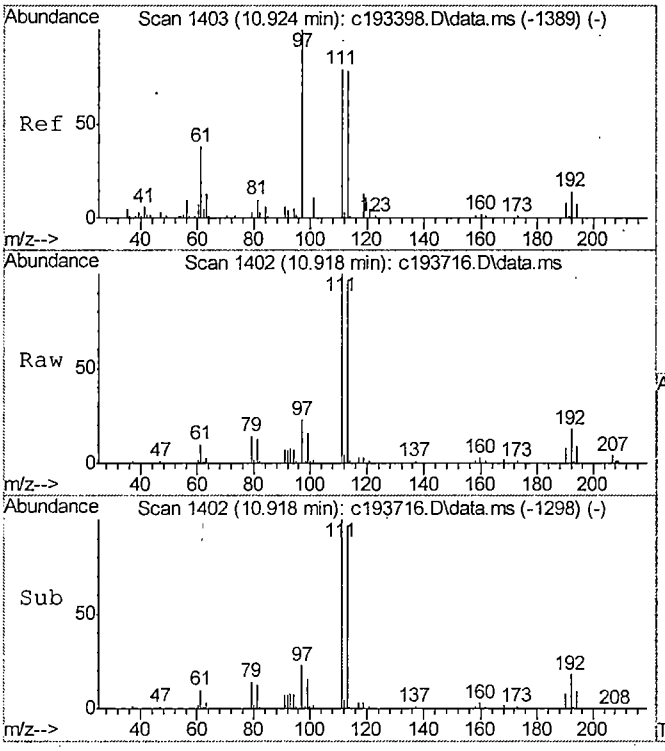


#48
chloroform
Concen: 0.57 ug/L
RT: 10.688 min Scan# 1358
Delta R.T. -0.011 min
Lab File: c193716.D
Acq: 9 Aug 2014 1:07 pm

Tgt Ion: 83 Resp: 1614

Ion	Ratio	Lower	Upper
83	100		
85	57.0	35.5	95.5
47	26.5	0.0	49.9

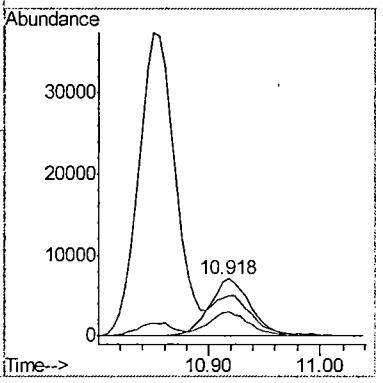




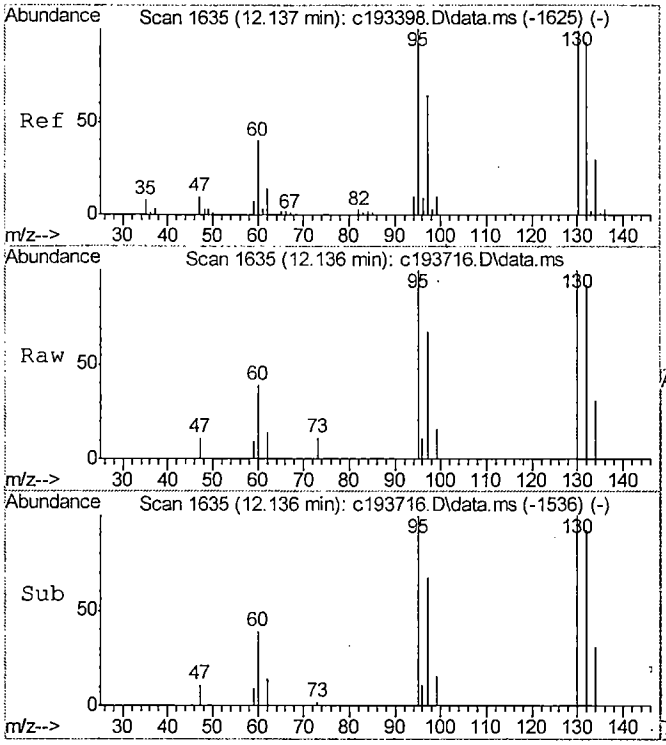
#55
1,1,1-trichloroethane
Concen: 8.27 ug/L
RT: 10.918 min Scan# 1402
Delta R.T. -0.005 min
Lab File: c193716.D
Acq: 9 Aug 2014 1:07 pm

Tgt Ion: 97 Resp: 18010

Ion	Ratio	Lower	Upper
97	100		
99	66.1	35.7	95.7
61	42.4	10.8	70.8



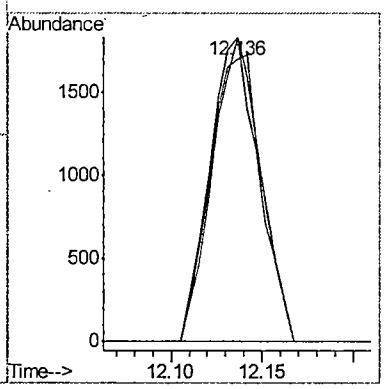
7.1.2

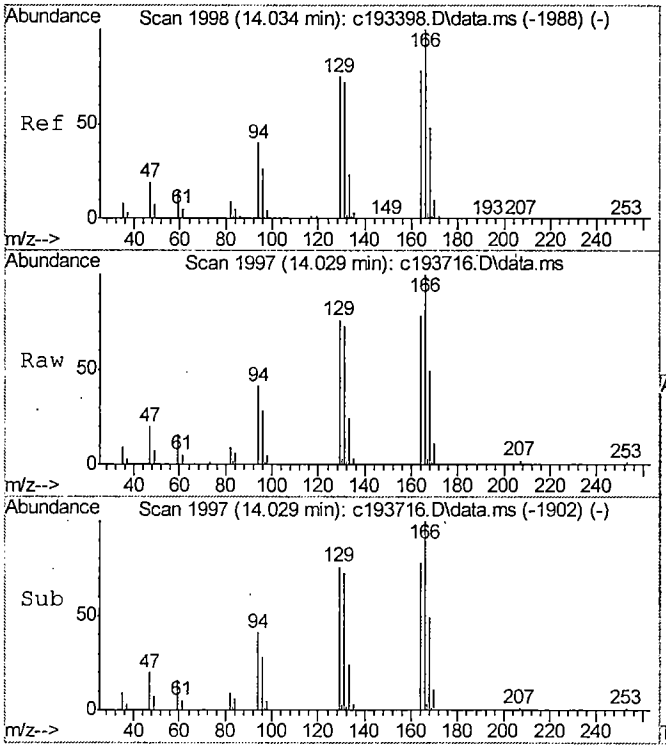


#70
trichloroethene
Concen: 2.06 ug/L
RT: 12.136 min Scan# 1635
Delta R.T. -0.000 min
Lab File: c193716.D
Acq: 9 Aug 2014 1:07 pm

Tgt Ion: 95 Resp: 3430

Ion	Ratio	Lower	Upper
95	100		
130	100.0	68.8	128.8
132	92.7	63.0	123.0

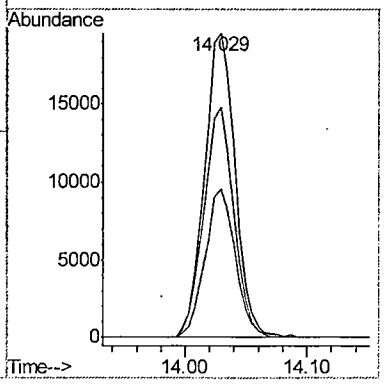




#90
tetrachloroethene
Concen: 21.49 ug/L
RT: 14.029 min Scan# 1997
Delta R.T. -0.005 min
Lab File: c193716.D
Acq: 9 Aug 2014 1:07 pm

Tgt Ion:166 Resp: 34328

Ion	Ratio	Lower	Upper
166	100		
168	48.8	17.6	77.6
129	75.8	44.8	104.8



7.1.2

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\C-CORE\vc7067\
Data File : c193717.D
Acq On : 9 Aug 2014 1:33 pm
Operator : thienn
Sample : jb73449-3
Misc : MS71807,VC7067,5,,,,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Aug 12 08:27:01 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	8.184	65	142475	500.00	ug/L	-0.01
5) pentafluorobenzene	10.856	168	154844	50.00	ug/L	0.00
59) 1,4-difluorobenzene	11.807	114	220859	50.00	ug/L	0.00
88) chlorobenzene-d5	14.839	117	194140	50.00	ug/L	0.00
104) 1,4-dichlorobenzene-d4	16.857	152	100314	50.00	ug/L	0.00
System Monitoring Compounds						
50) dibromofluoromethane (s)	10.918	113	67694	50.18	ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 100.36%			
51) 1,2-dichloroethane-d4 (s)	11.363	65	82288	50.78	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 101.56%			
80) toluene-d8 (s)	13.417	98	277720	51.79	ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 103.58%			
106) 4-bromofluorobenzene (s)	15.869	174	81136	47.75	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 95.50%			
Target Compounds						Qvalue
55) 1,1,1-trichloroethane	10.918	97	5131	2.36	ug/L	87
70) trichloroethene	12.136	95	392	0.23	ug/L	86
90) tetrachloroethene	14.024	166	4589	2.85	ug/L	93

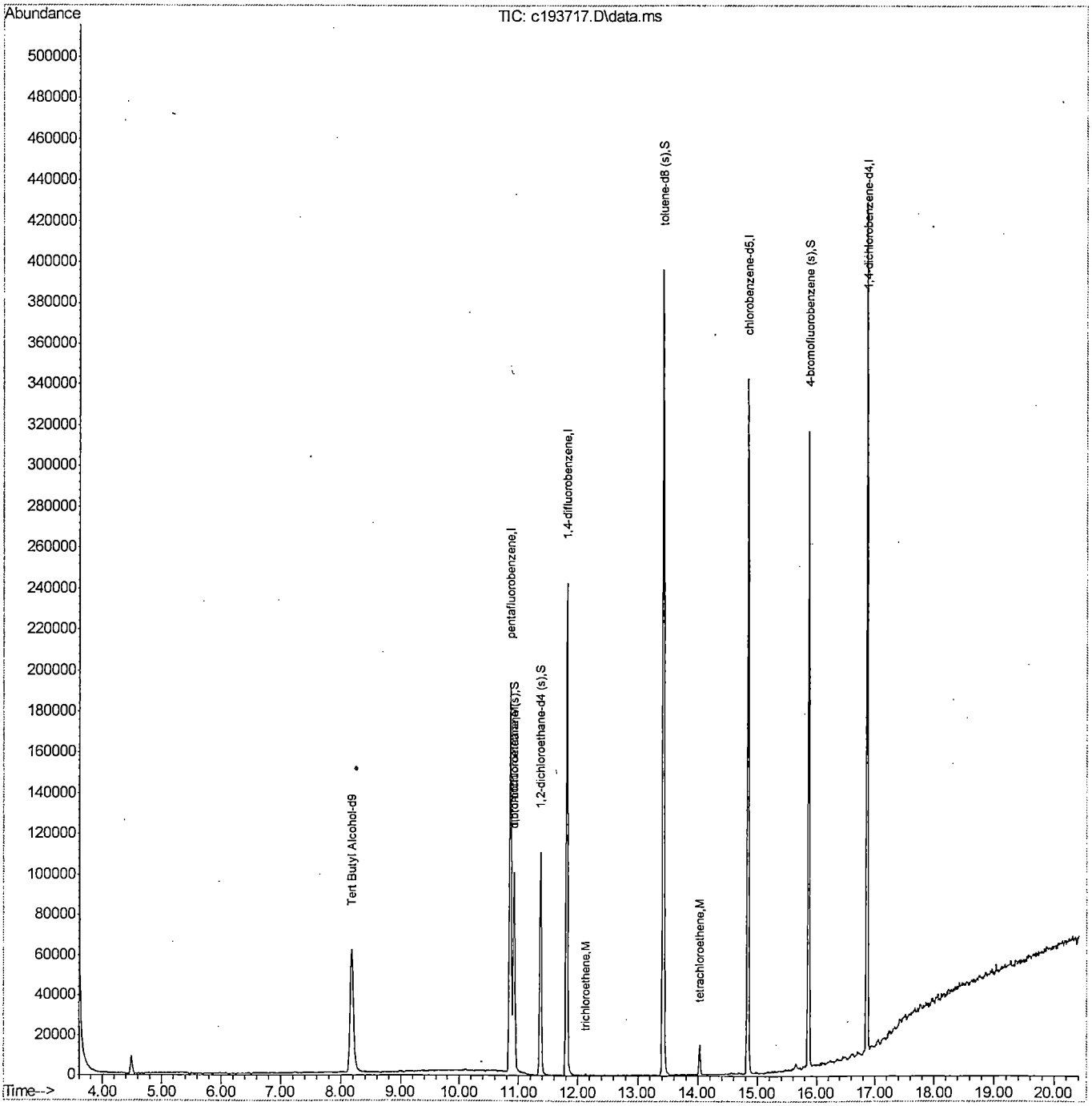
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.3

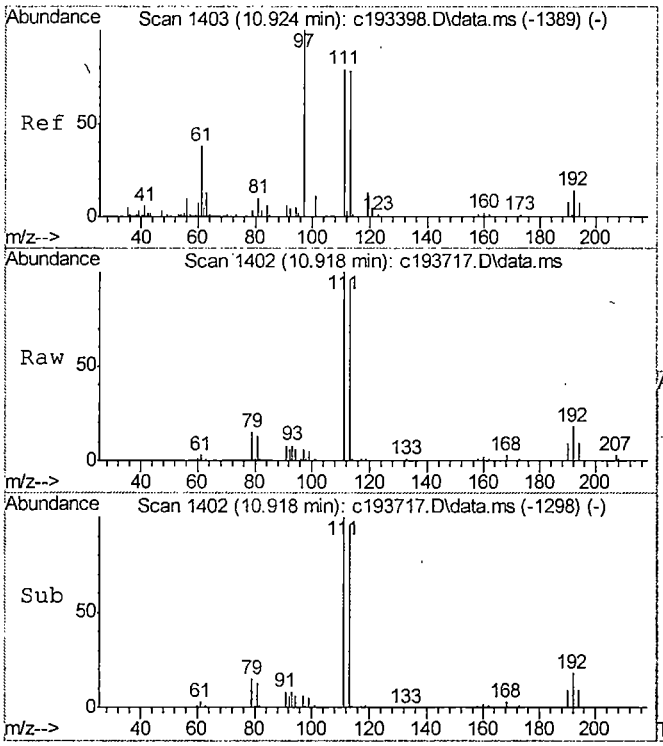
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\C-CORE\vc7067\
Data File : c193717.D
Acq On : 9 Aug 2014 1:33 pm
Operator : thienn
Sample : jb73449-3
Misc : MS71807,VC7067,5,,,,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Aug 12 08:27:01 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration



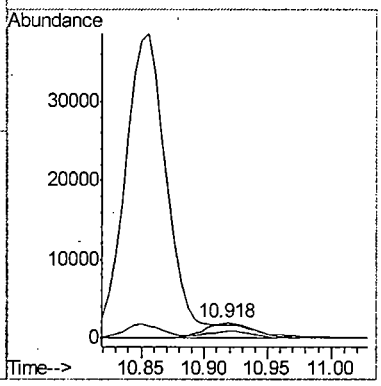
MC7054.M Tue Aug 12 08:42:42 2014

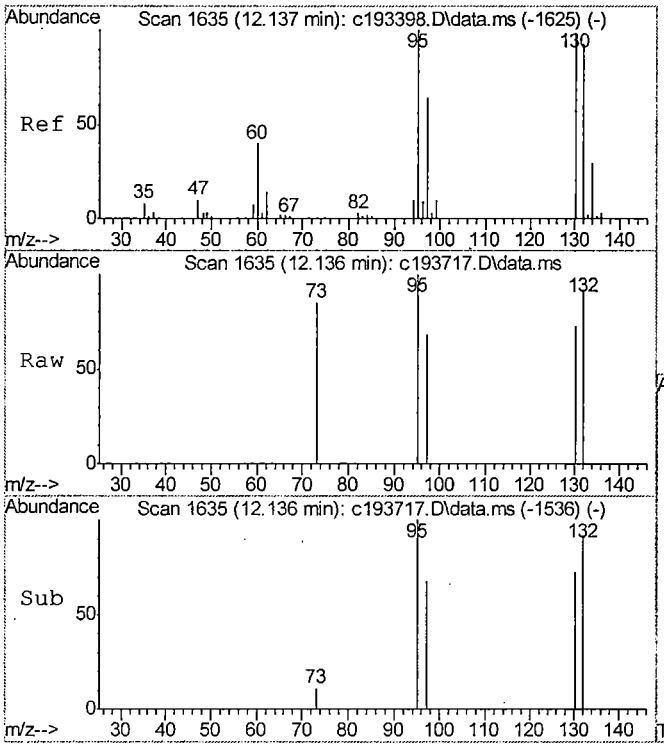


#55
1,1,1-trichloroethane
Concen: 2.36 ug/L
RT: 10.918 min Scan# 1402
Delta R.T. -0.005 min
Lab File: c193717.D
Acq: 9 Aug 2014 1:33 pm

Tgt Ion: 97 Resp: 5131

Ion	Ratio	Lower	Upper
97	100		
99	75.0	35.7	95.7
61	50.1	10.8	70.8

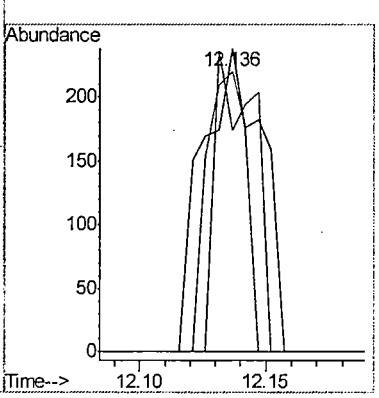


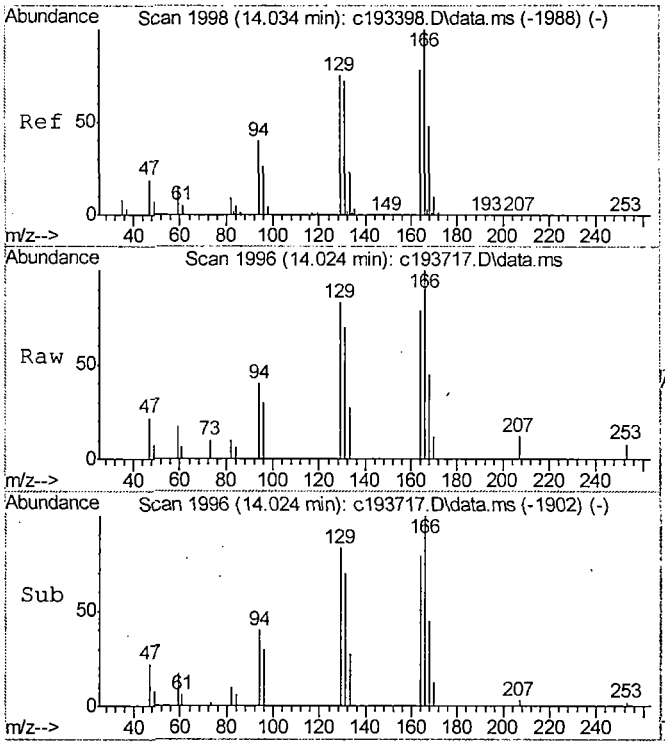


#70
trichloroethene
Concen: 0.23 ug/L
RT: 12.136 min Scan# 1635
Delta R.T. -0.000 min
Lab File: c193717.D
Acq: 9 Aug 2014 1:33 pm

Tgt Ion: 95 Resp: 392

Ion	Ratio	Lower	Upper
95	100		
130	73.1	68.8	128.8
132	92.4	63.0	123.0

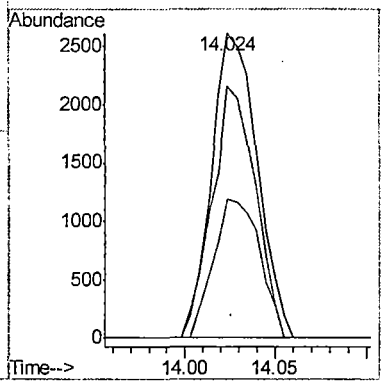




#90
tetrachloroethene
Concen: 2.85 ug/L
RT: 14.024 min Scan# 1996
Delta R.T. -0.011 min
Lab File: c193717.D
Acq: 9 Aug 2014 1:33 pm

Tgt Ion:166 Resp: 4589

Ion	Ratio	Lower	Upper
166	100		
168	45.4	17.6	77.6
129	82.5	44.8	104.8



7.1.3

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\C-CORE\vc7067\
Data File : c193718.D
Acq On : 9 Aug 2014 2:00 pm
Operator : thienn
Sample : jb73449-4
Misc : MS71807,VC7067,5,,,,1
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Aug 12 08:27:38 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	8.184	65	142524	500.00	ug/L	-0.02
5) pentafluorobenzene	10.855	168	155975	50.00	ug/L	0.00
59) 1,4-difluorobenzene	11.812	114	220581	50.00	ug/L	0.00
88) chlorobenzene-d5	14.839	117	194368	50.00	ug/L	0.00
104) 1,4-dichlorobenzene-d4	16.857	152	99187	50.00	ug/L	0.00
System Monitoring Compounds						
50) dibromofluoromethane (s)	10.923	113	68549	50.45	ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 100.90%			
51) 1,2-dichloroethane-d4 (s)	11.362	65	83552	51.18	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 102.36%			
80) toluene-d8 (s)	13.417	98	280083	52.30	ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 104.60%			
106) 4-bromofluorobenzene (s)	15.869	174	81475	48.50	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 97.00%			
Target Compounds						Qvalue
37) 1,1-dichloroethane	9.391	63	9681	3.19	ug/L	96
43) cis-1,2-dichloroethene	10.264	96	22985	11.54	ug/L	87
90) tetrachloroethene	14.028	166	593	0.37	ug/L	97

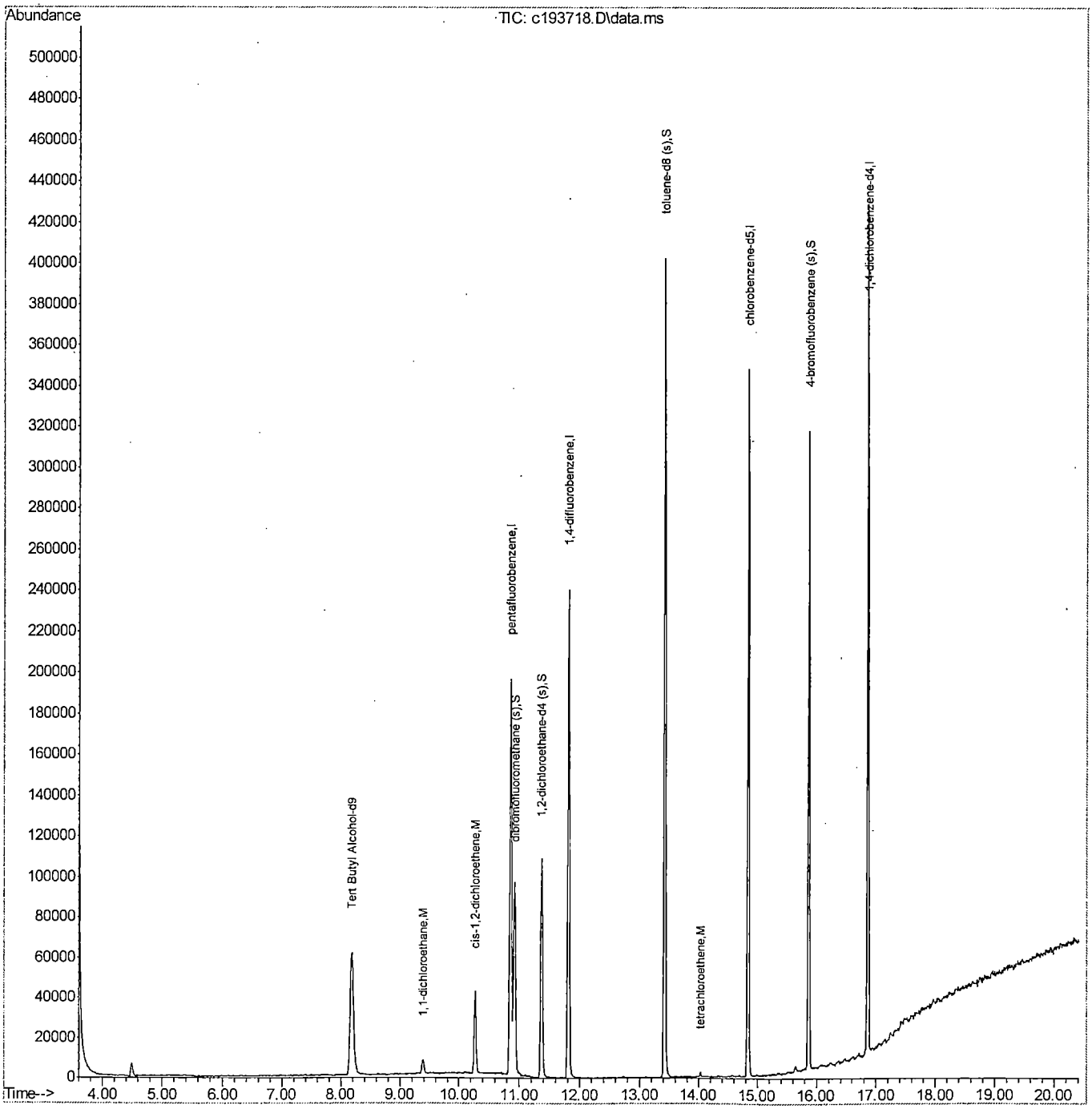
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.4 7

Quantitation Report (QT Reviewed)

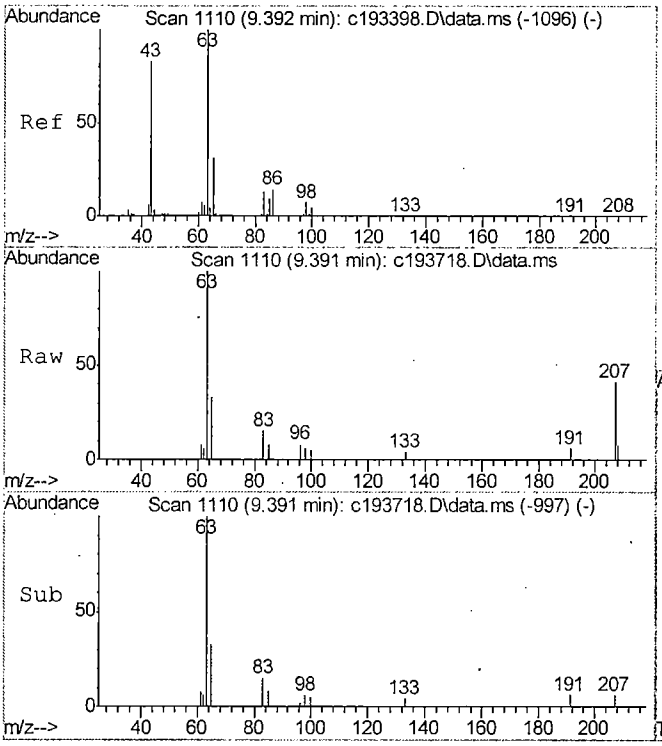
Data Path : C:\msdchem\1\DATA\C-CORE\vc7067\
Data File : c193718.D
Acq On : 9 Aug 2014 2:00 pm
Operator : thienn
Sample : jb73449-4
Misc : MS71807,VC7067,5,,,,1
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Aug 12 08:27:38 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration



MC7054.M Tue Aug 12 08:42:45 2014 Page: 2

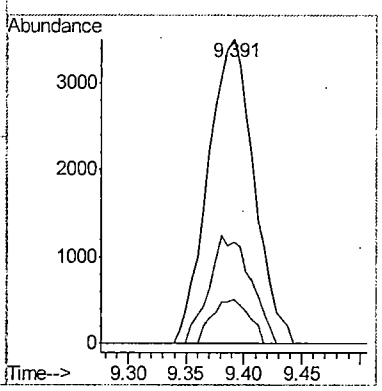
7.1.4

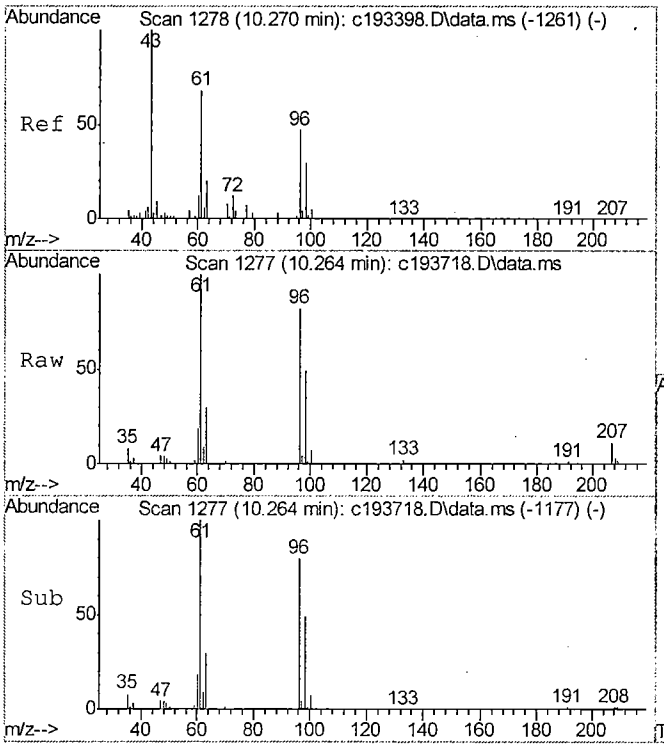


#37
1,1-dichloroethane
Concen: 3.19 ug/L
RT: 9.391 min Scan# 1110
Delta R.T. -0.001 min
Lab File: c193718.D
Acq: 9 Aug 2014 2:00 pm

Tgt Ion: 63 Resp: 9681

Ion	Ratio	Lower	Upper
63	100		
65	33.4	1.1	61.1
83	14.6	0.0	43.0

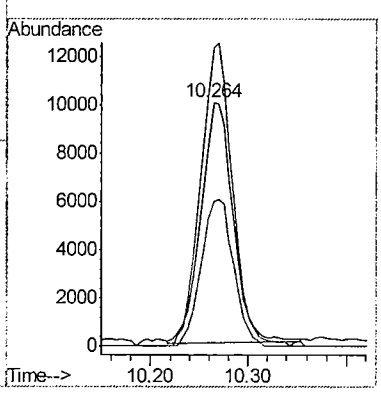




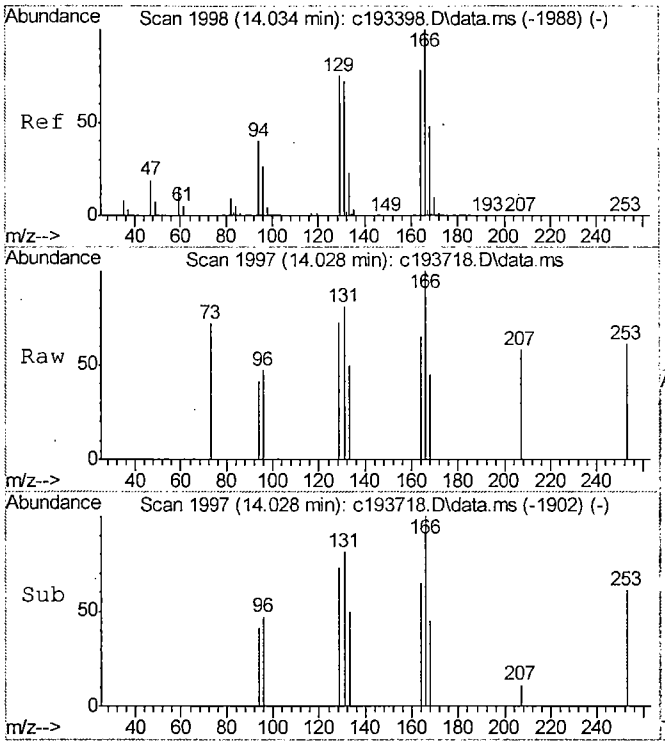
#43
cis-1,2-dichloroethene
Concen: 11.54 ug/L
RT: 10.264 min Scan# 1277
Delta R.T. -0.006 min
Lab File: c193718.D
Acq: 9 Aug 2014 2:00 pm

Tgt Ion: 96 Resp: 22985

Ion	Ratio	Lower	Upper
96	100		
61	125.0	115.6	175.6
98	60.8	33.8	93.8



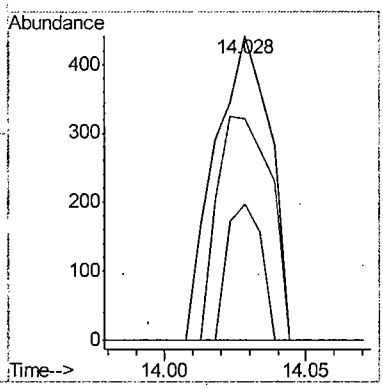
7.1.4



#90
tetrachloroethene
Concen: 0.37 ug/L
RT: 14.028 min Scan# 1997
Delta R.T. -0.006 min
Lab File: c193718.D
Acq: 9 Aug 2014 2:00 pm

Tgt Ion:166 Resp: 593

Ion	Ratio	Lower	Upper
166	100		
168	44.9	17.6	77.6
129	72.8	44.8	104.8



7.1.4

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\C-CORE\vc7067\
Data File : c193719.D
Acq On : 9 Aug 2014 2:26 pm
Operator : thienn
Sample : jb73449-5
Misc : MS71807,VC7067,5,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Aug 12 08:28:25 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	8.184	65	144645	500.00	ug/L	-0.02
5) pentafluorobenzene	10.855	168	156087	50.00	ug/L	0.00
59) 1,4-difluorobenzene	11.812	114	220864	50.00	ug/L	0.00
88) chlorobenzene-d5	14.839	117	194417	50.00	ug/L	0.00
104) 1,4-dichlorobenzene-d4	16.857	152	97667	50.00	ug/L	0.00
System Monitoring Compounds						
50) dibromofluoromethane (s)	10.918	113	68354	50.27	ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 100.54%			
51) 1,2-dichloroethane-d4 (s)	11.362	65	82435	50.46	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 100.92%			
80) toluene-d8 (s)	13.417	98	279204	52.07	ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 104.14%			
106) 4-bromofluorobenzene (s)	15.869	174	81498	49.27	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 98.54%			
Target Compounds						Qvalue

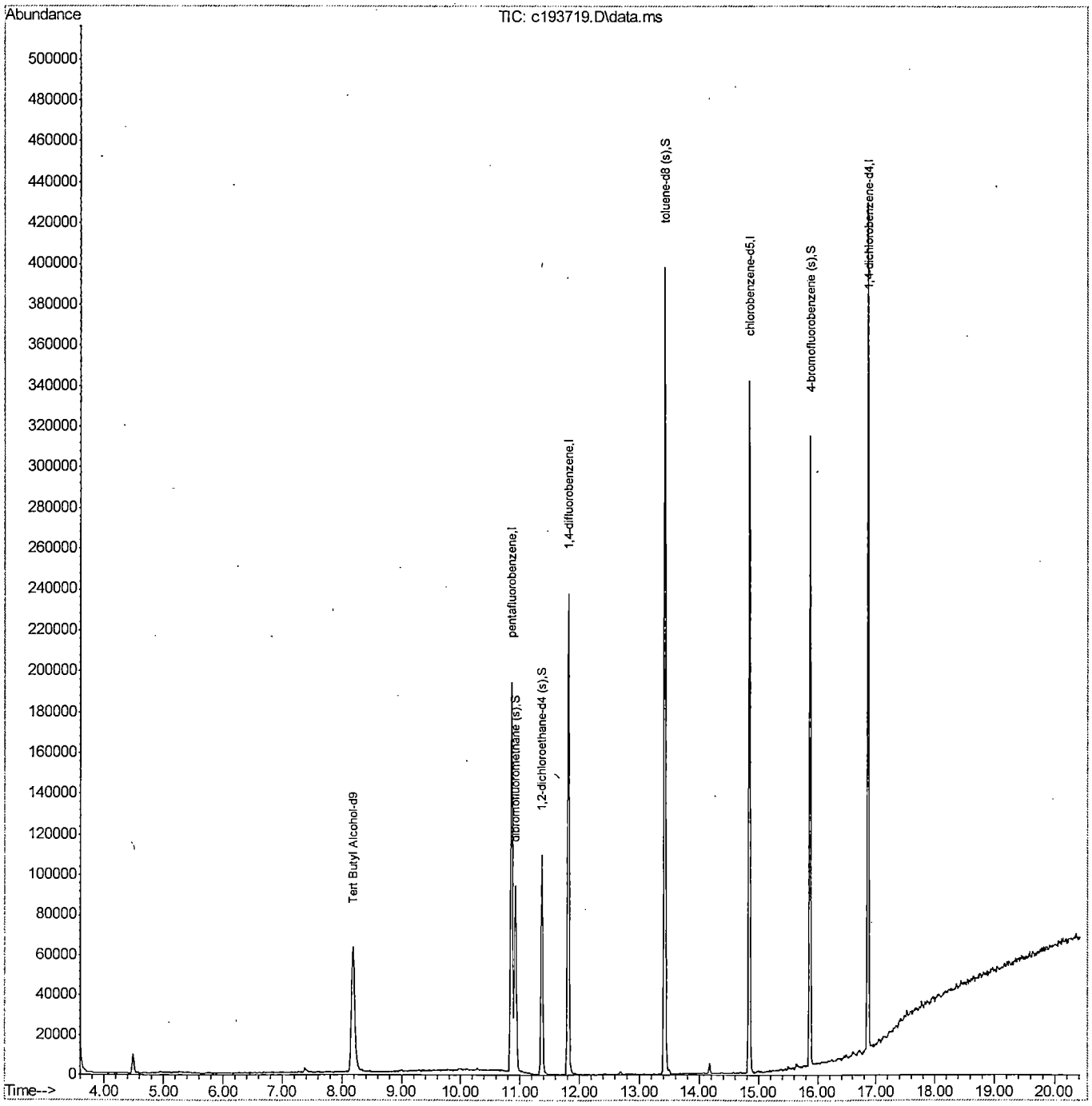
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.5

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\C-CORE\vc7067\
Data File : c193719.D
Acq On : 9 Aug 2014 2:26 pm
Operator : thienn
Sample : jb73449-5
Misc : MS71807,VC7067,5,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Aug 12 08:28:25 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration



7.1.5 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\C-CORE\vc7067\
Data File : c193720.D
Acq On : 9 Aug 2014 2:53 pm
Operator : thienn
Sample : jb73449-6
Misc : MS71807,VC7067,5,,,,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Aug 12 08:29:00 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	8.185	65	152039	500.00	ug/L	-0.01
5) pentafluorobenzene	10.857	168	157290	50.00	ug/L	0.00
59) 1,4-difluorobenzene	11.808	114	222666	50.00	ug/L	0.00
88) chlorobenzene-d5	14.840	117	196018	50.00	ug/L	0.00
104) 1,4-dichlorobenzene-d4	16.858	152	98221	50.00	ug/L	0.00
System Monitoring Compounds						
50) dibromofluoromethane (s)	10.919	113	68913	50.29	ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 100.58%			
51) 1,2-dichloroethane-d4 (s)	11.364	65	83643	50.81	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 101.62%			
80) toluene-d8 (s)	13.418	98	281295	52.03	ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 104.06%			
106) 4-bromofluorobenzene (s)	15.870	174	81383	48.92	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 97.84%			
Target Compounds						Qvalue
90) tetrachloroethene	14.030	166	4793	2.95	ug/L	95

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

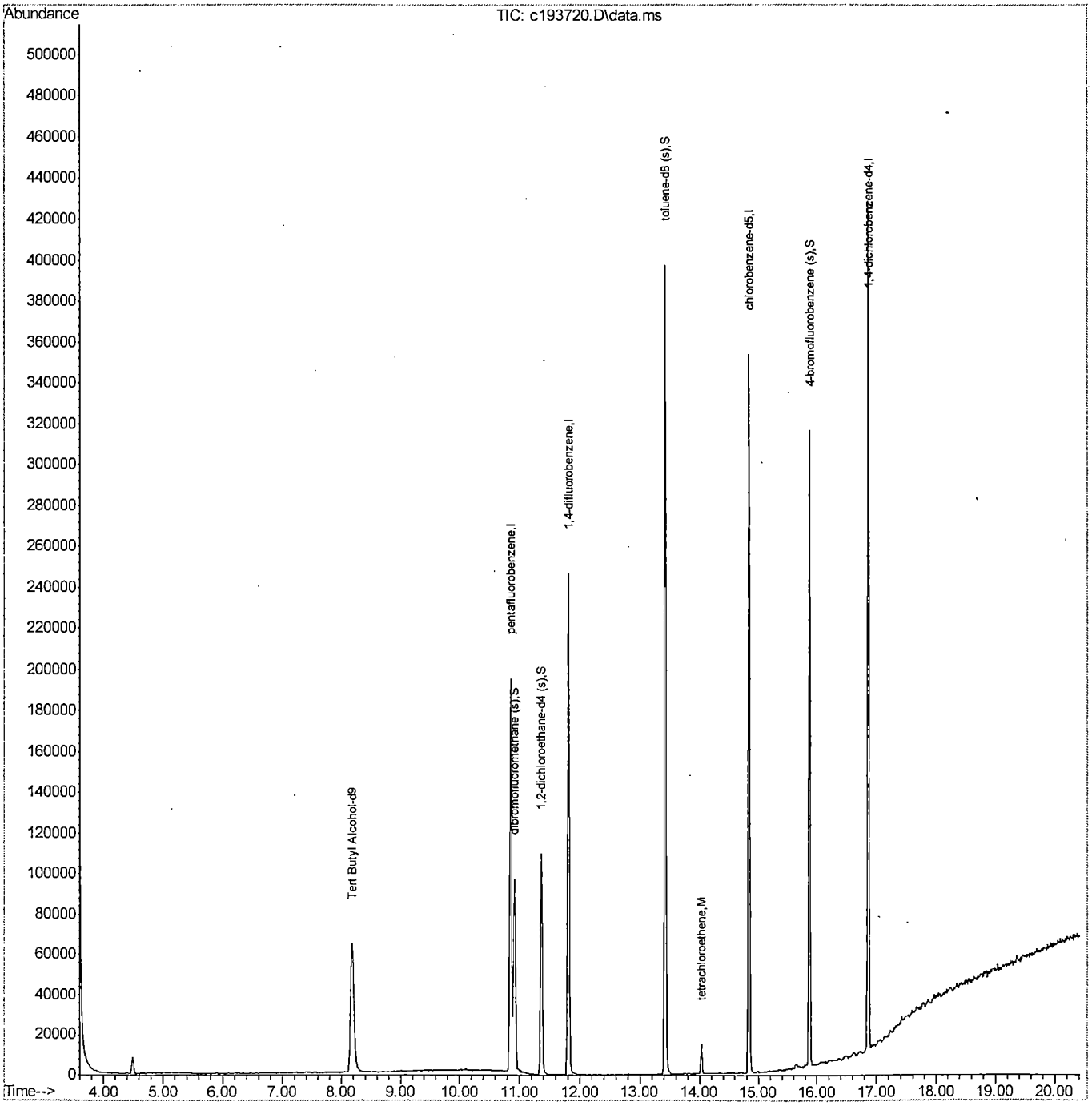
7.1.6

7

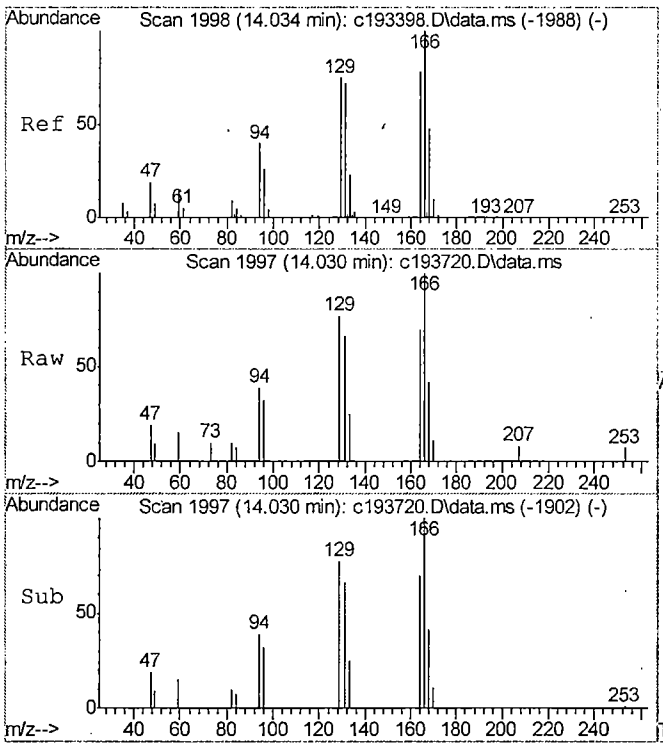
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\C-CORE\vc7067\
Data File : c193720.D
Acq On : 9 Aug 2014 2:53 pm
Operator : thienn
Sample : jb73449-6
Misc : MS71807,VC7067,5,,,,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Aug 12 08:29:00 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration



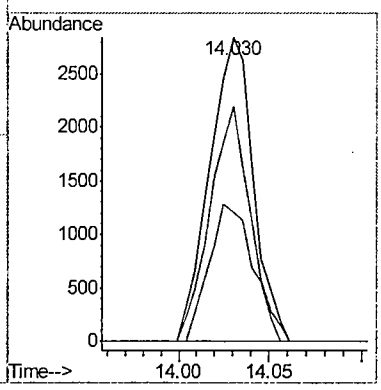
MC7054.M Tue Aug 12 08:42:51 2014 Page: 2



#90
tetrachloroethene
Concen: 2.95 ug/L
RT: 14.030 min Scan# 1997
Delta R.T. -0.004 min
Lab File: c193720.D
Acq: 9 Aug 2014 2:53 pm

Tgt Ion:166 Resp: 4793

Ion	Ratio	Lower	Upper
166	100		
168	42.3	17.6	77.6
129	77.5	44.8	104.8



7.1.6

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\C-CORE\vc7067\
Data File : c193721.D
Acq On : 9 Aug 2014 3:19 pm
Operator : thienn
Sample : jb73449-7
Misc : MS71807,VC7067,5,,,,1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Aug 12 08:29:40 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	8.181	65	146615	500.00	ug/L	-0.02
5) pentafluorobenzene	10.853	168	150528	50.00	ug/L	0.00
59) 1,4-difluorobenzene	11.810	114	214878	50.00	ug/L	0.00
88) chlorobenzene-d5	14.842	117	191233	50.00	ug/L	0.00
104) 1,4-dichlorobenzene-d4	16.860	152	98718	50.00	ug/L	0.00
System Monitoring Compounds						
50) dibromofluoromethane (s)	10.921	113	66587	50.78	ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 101.56%			
51) 1,2-dichloroethane-d4 (s)	11.365	65	80754	51.26	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 102.52%			
80) toluene-d8 (s)	13.414	98	270572	51.86	ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 103.72%			
106) 4-bromofluorobenzene (s)	15.872	174	80411	48.09	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 96.18%			
Target Compounds						Qvalue
55) 1,1,1-trichloroethane	10.916	97	1043	0.49	ug/L #	37
90) tetrachloroethene	14.026	166	1892	1.19	ug/L	87

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

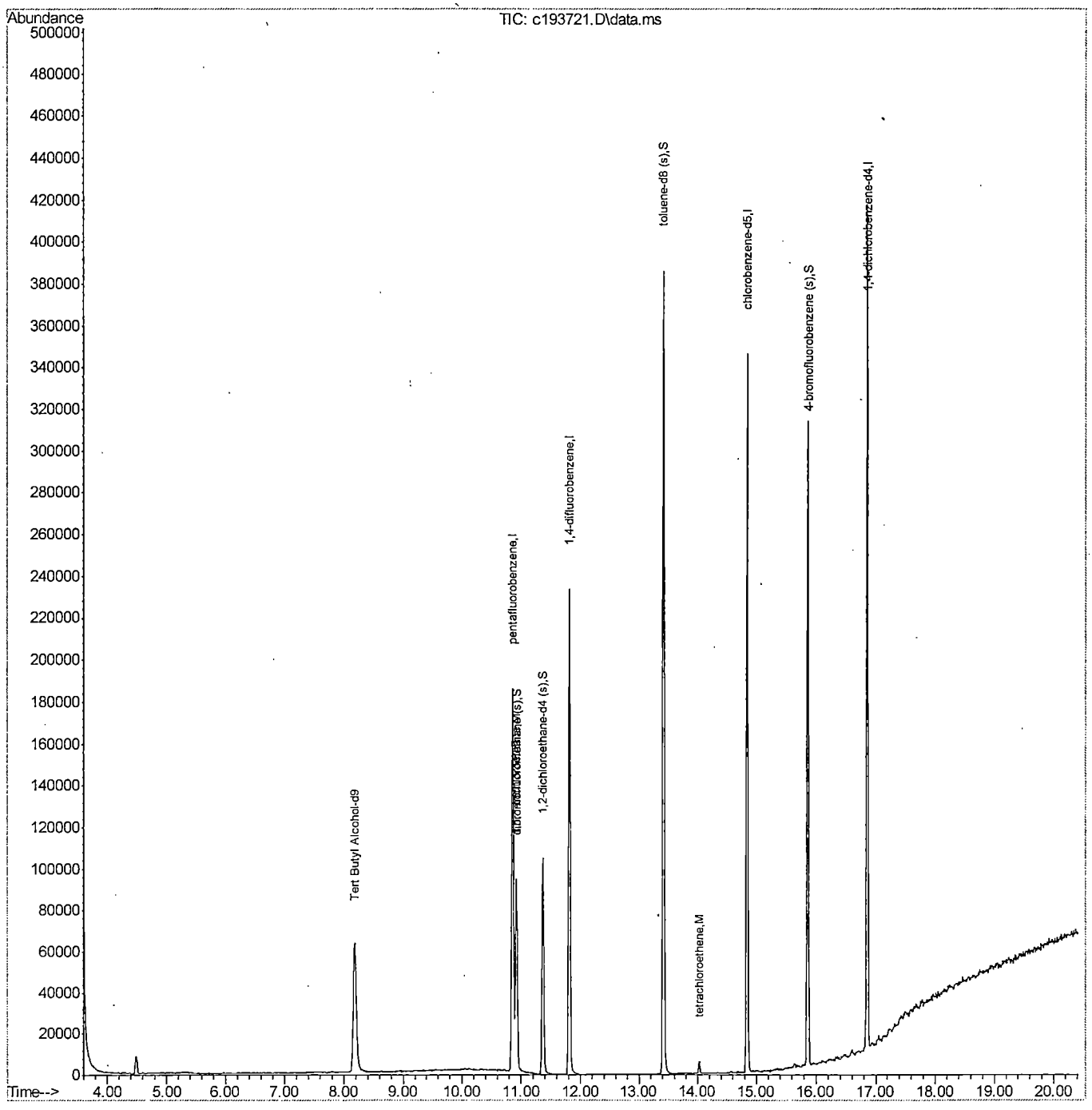
7.1.7

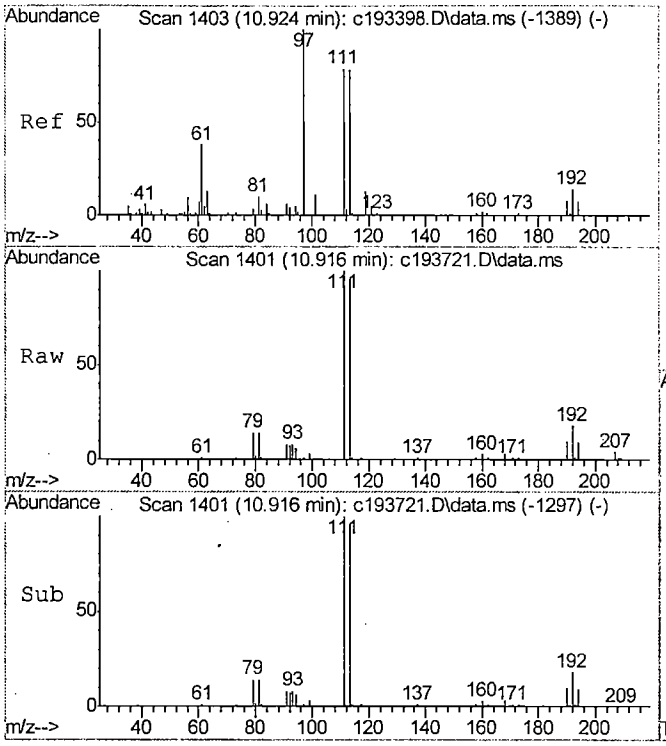
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\C-CORE\vc7067\
Data File : c193721.D
Acq On : 9 Aug 2014 3:19 pm
Operator : thienn
Sample : jb73449-7
Misc : MS71807,VC7067,5,,,,1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Aug 12 08:29:40 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration

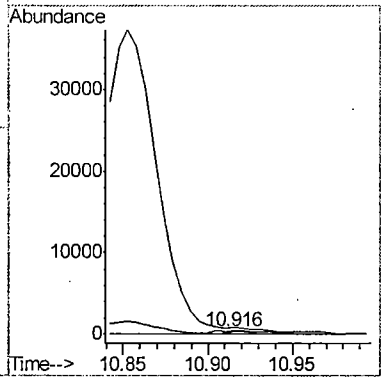


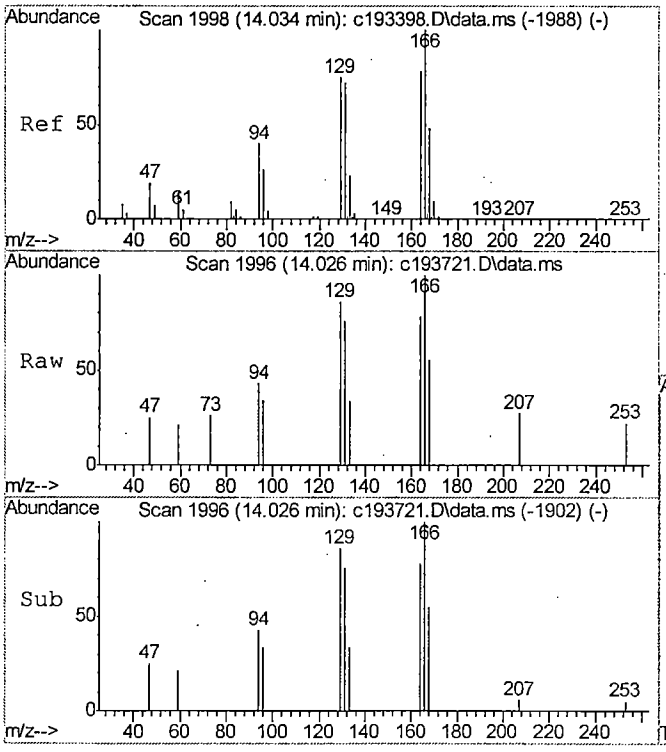


#55
1,1,1-trichloroethane
Concen: 0.49 ug/L
RT: 10.916 min Scan# 1401
Delta R.T. -0.008 min
Lab File: c193721.D
Acq: 9 Aug 2014 3:19 pm

Tgt Ion: 97 Resp: 1043

Ion	Ratio	Lower	Upper
97	100		
99	133.7	35.7	95.7#
61	57.8	10.8	70.8

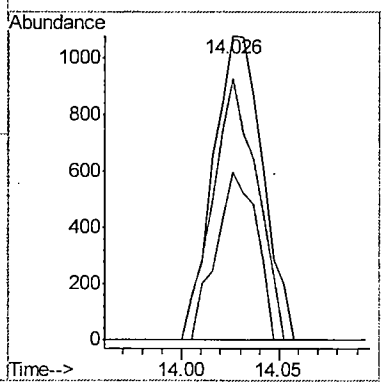




#90
tetrachloroethene
Concen: 1.19 ug/L
RT: 14.026 min Scan# 1996
Delta R.T. -0.008 min
Lab File: c193721.D
Acq: 9 Aug 2014 3:19 pm

Tgt Ion:166 Resp: 1892

Ion	Ratio	Lower	Upper
166	100		
168	55.2	17.6	77.6
129	86.2	44.8	104.8



7.1.7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\C-CORE\vc7067\
Data File : c193722.D
Acq On : 9 Aug 2014 3:46 pm
Operator : thienn
Sample : jb73449-8
Misc : MS71807,VC7067,5,,,,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Aug 12 08:30:12 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	8.180	65	152059	500.00	ug/L	-0.02
5) pentafluorobenzene	10.857	168	156195	50.00	ug/L	0.00
59) 1,4-difluorobenzene	11.809	114	221818	50.00	ug/L	0.00
88) chlorobenzene-d5	14.841	117	194234	50.00	ug/L	0.00
104) 1,4-dichlorobenzene-d4	16.859	152	99602	50.00	ug/L	0.00
System Monitoring Compounds						
50) dibromofluoromethane (s)	10.920	113	68915	50.65	ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 101.30%			
51) 1,2-dichloroethane-d4 (s)	11.364	65	83490	51.07	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 102.14%			
80) toluene-d8 (s)	13.414	98	279078	51.82	ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 103.64%			
106) 4-bromofluorobenzene (s)	15.871	174	81843	48.52	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 97.04%			
Target Compounds						Qvalue
55) 1,1,1-trichloroethane	10.925	97	1844	0.84	ug/L	78

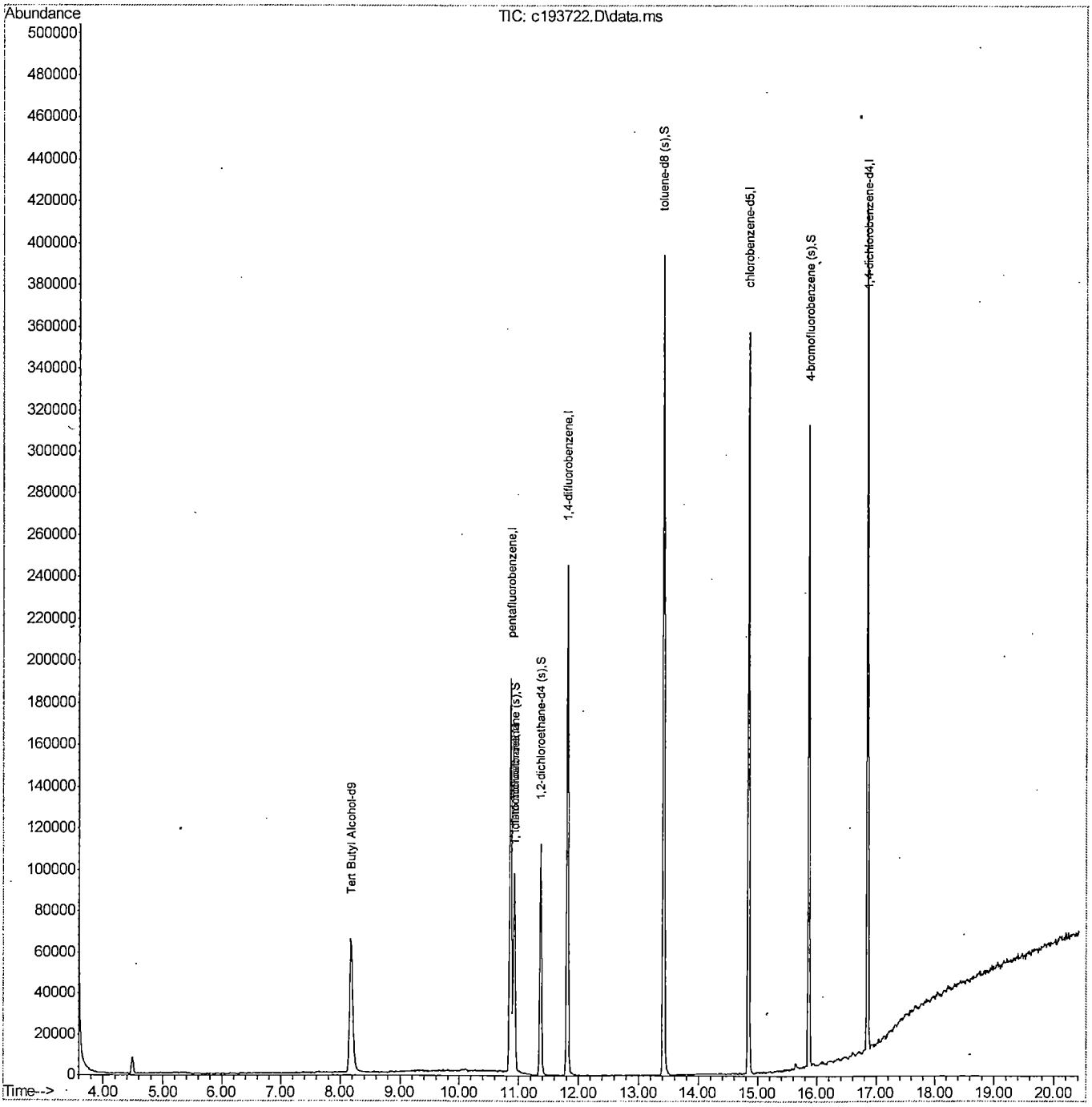
(#) = qualifier out of range (m) = manual integration (+) = signals summed

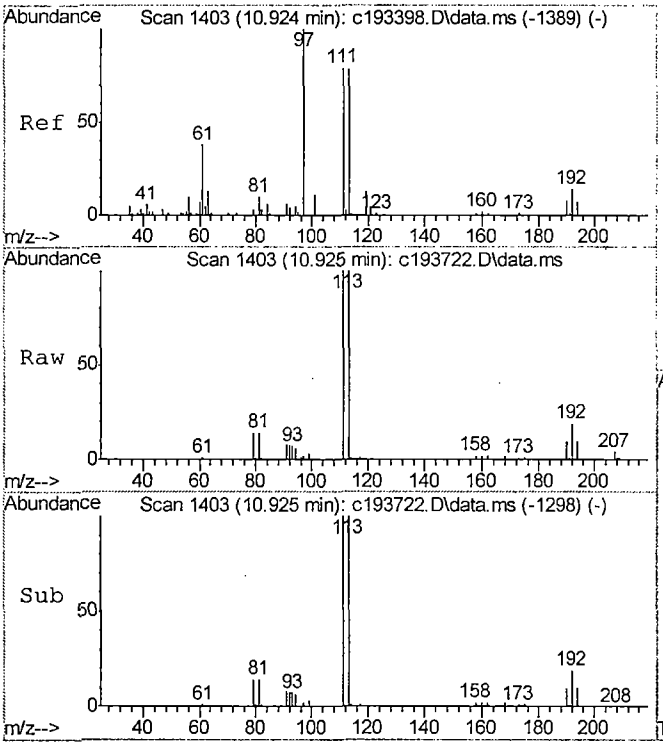
7.1.8

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\C-CORE\vc7067\
Data File : c193722.D
Acq On : 9 Aug 2014 3:46 pm
Operator : thienn
Sample : jb73449-8
Misc : MS71807,VC7067,5,,,,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Aug 12 08:30:12 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration

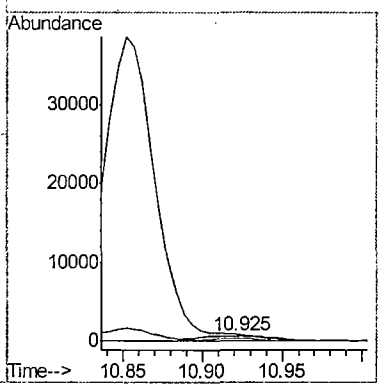




#55
1,1,1-trichloroethane
Concen: 0.84 ug/L
RT: 10.925 min Scan# 1403
Delta R.T. 0.001 min
Lab File: c193722.D
Acq: 9 Aug 2014 3:46 pm

Tgt Ion: 97 Resp: 1844

Ion	Ratio	Lower	Upper
97	100		
99	91.7	35.7	95.7
61	43.4	10.8	70.8



7.1.8

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\C-CORE\vc7067\
Data File : c193723.D
Acq On : 9 Aug 2014 4:12 pm
Operator : thienn
Sample : jb73449-9
Misc : MS71807,VC7067,5,,,,1
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Aug 12 08:30:53 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	8.184	65	150623	500.00	ug/L	-0.01
5) pentafluorobenzene	10.856	168	155676	50.00	ug/L	0.00
59) 1,4-difluorobenzene	11.813	114	219858	50.00	ug/L	0.00
88) chlorobenzene-d5	14.845	117	193732	50.00	ug/L	0.00
104) 1,4-dichlorobenzene-d4	16.858	152	98576	50.00	ug/L	0.00
System Monitoring Compounds						
50) dibromofluoromethane (s)	10.919	113	68330	50.38	ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 100.76%			
51) 1,2-dichloroethane-d4 (s)	11.363	65	82965	50.92	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 101.84%			
80) toluene-d8 (s)	13.418	98	278891	52.24	ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 104.48%			
106) 4-bromofluorobenzene (s)	15.869	174	81838	49.02	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 98.04%			
Target Compounds						Qvalue
43) cis-1,2-dichloroethene	10.270	96	2490	1.25	ug/L #	80
55) 1,1,1-trichloroethane	10.919	97	20410	9.34	ug/L	98
70) trichloroethene	12.137	95	1466	0.87	ug/L	99

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

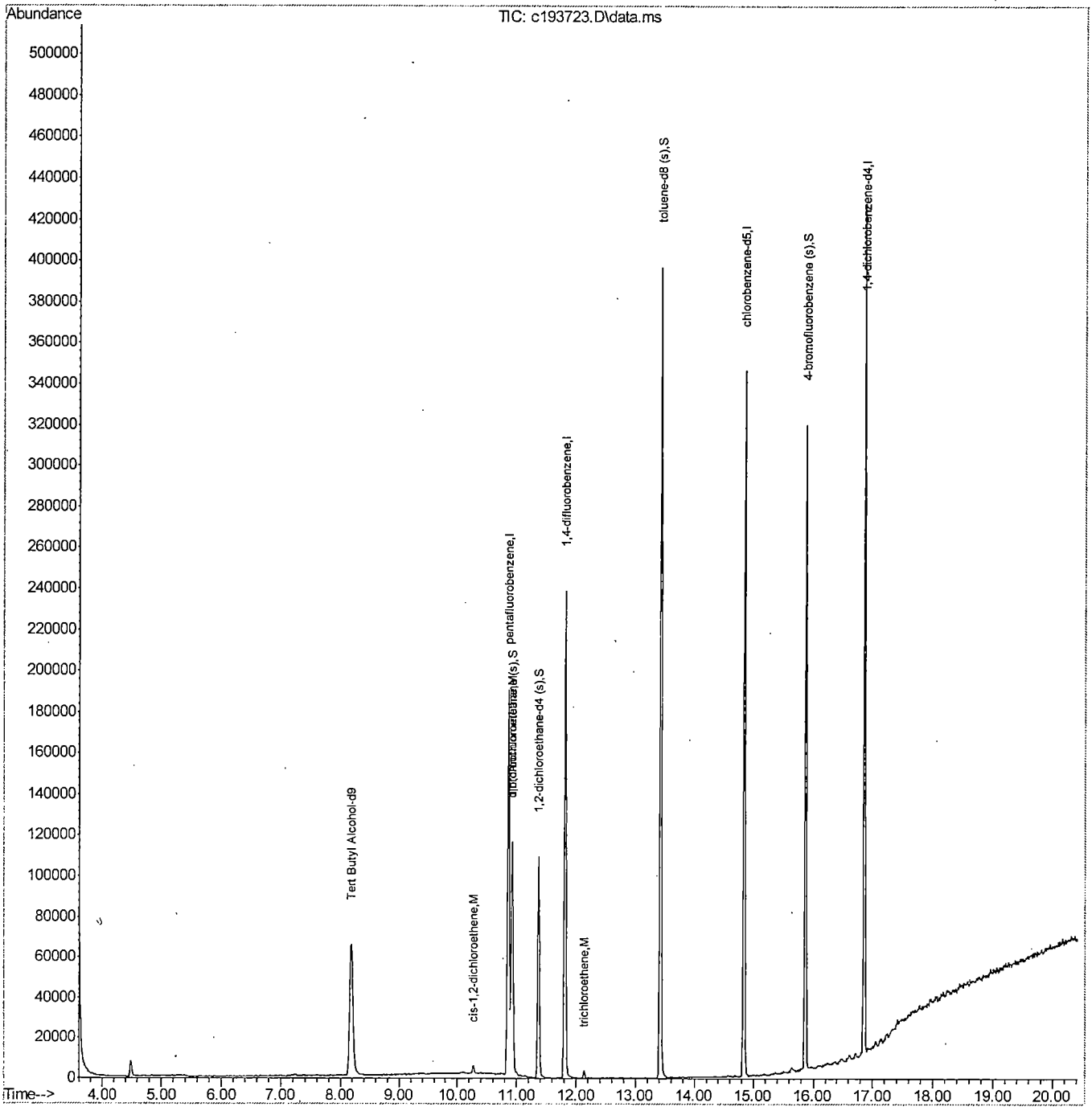
7.1.9

7

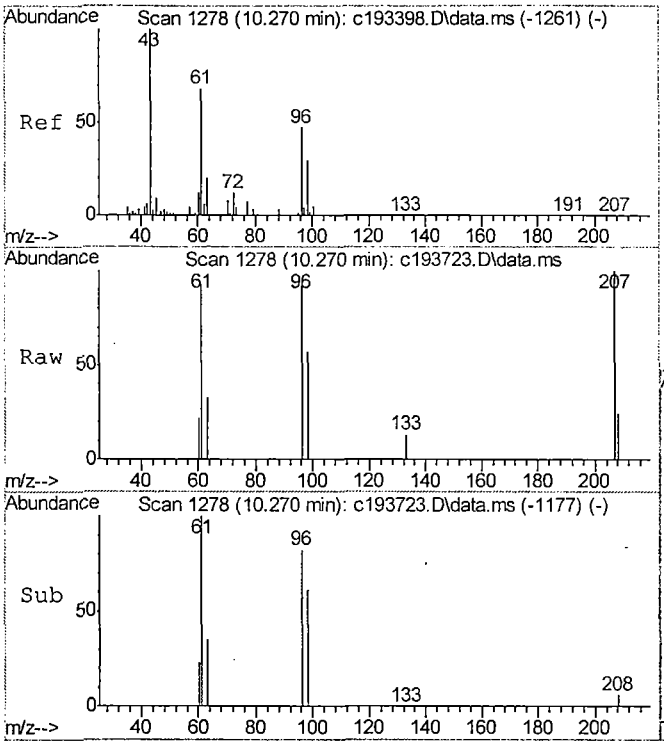
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\C-CORE\vc7067\
Data File : c193723.D
Acq On : 9 Aug 2014 4:12 pm
Operator : thienn
Sample : jb73449-9
Misc : MS71807,VC7067,5,,,,1
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Aug 12 08:30:53 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration



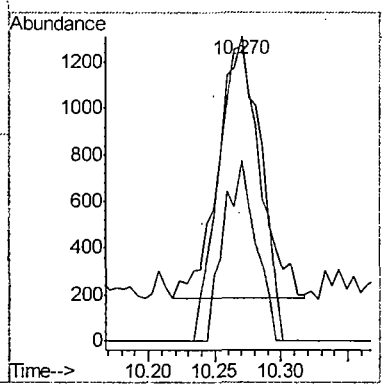
MC7054.M Tue Aug 12 08:43:00 2014

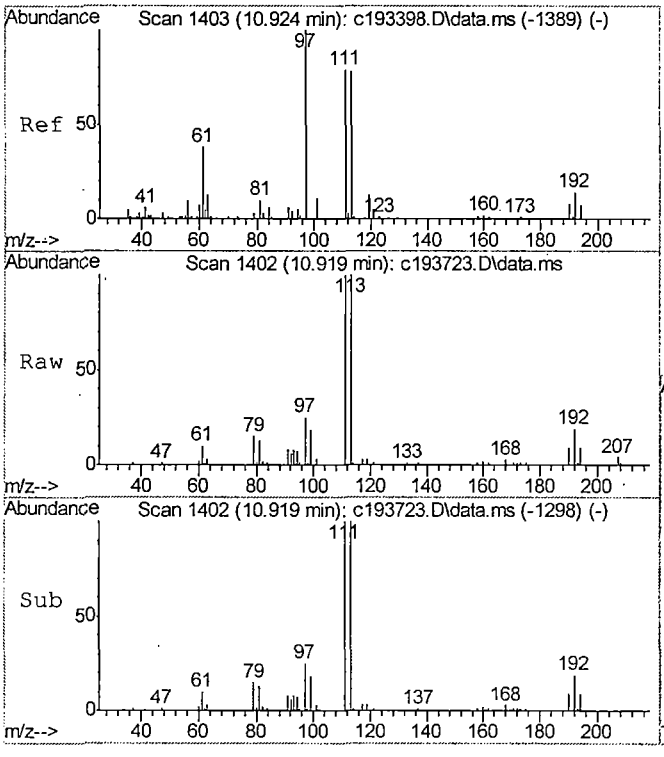


#43
cis-1,2-dichloroethene
Concen: 1.25 ug/L
RT: 10.270 min Scan# 1278
Delta R.T. 0.000 min
Lab File: c193723.D
Acq: 9 Aug 2014 4:12 pm

Tgt Ion: 96 Resp: 2490

Ion	Ratio	Lower	Upper
96	100		
61	113.1	115.6	175.6#
98	68.8	33.8	93.8

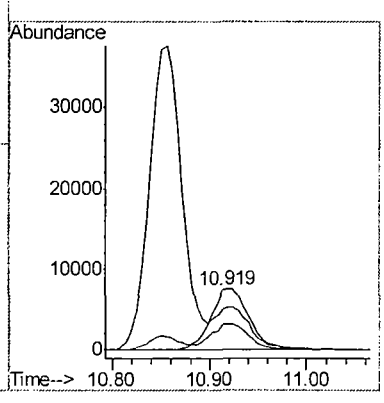




#55
1,1,1-trichloroethane
Concen: 9.34 ug/L
RT: 10.919 min Scan# 1402
Delta R.T. -0.005 min
Lab File: c193723.D
Acq: 9 Aug 2014 4:12 pm

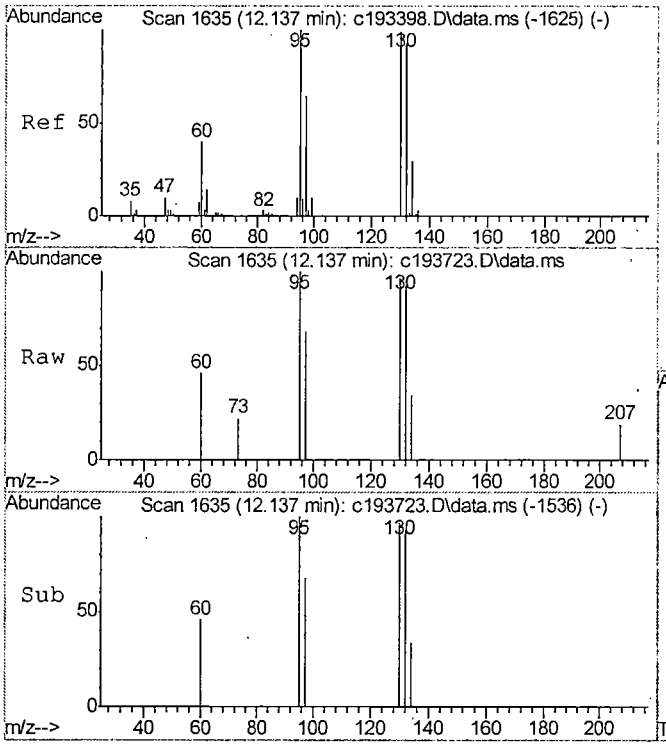
Tgt Ion: 97 Resp: 20410

Ion	Ratio	Lower	Upper
97	100		
99	68.2	35.7	95.7
61	41.3	10.8	70.8



7.1.9

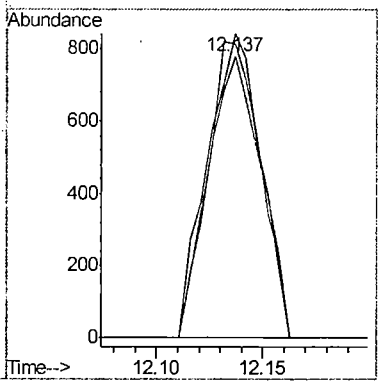
7



#70
trichloroethene
Concen: 0.87 ug/L
RT: 12.137 min Scan# 1635
Delta R.T. 0.000 min
Lab File: c193723.D
Acq: 9 Aug 2014 4:12 pm

Tgt Ion: 95 Resp: 1466

Ion	Ratio	Lower	Upper
95	100		
130	96.8	68.8	128.8
132	92.5	63.0	123.0



7.1.9

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\C-CORE\vc7067\
Data File : c193724.D
Acq On : 9 Aug 2014 4:39 pm
Operator : thienn
Sample : jb73449-10
Misc : MS71807,VC7067,5,,,,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Aug 12 08:31:27 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	8.184	65	150968	500.00	ug/L	-0.02
5) pentafluorobenzene	10.855	168	155355	50.00	ug/L	0.00
59) 1,4-difluorobenzene	11.812	114	219592	50.00	ug/L	0.00
88) chlorobenzene-d5	14.844	117	192918	50.00	ug/L	0.00
104) 1,4-dichlorobenzene-d4	16.857	152	98236	50.00	ug/L	0.00
System Monitoring Compounds						
50) dibromofluoromethane (s)	10.918	113	67534	49.90	ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 99.80%			
51) 1,2-dichloroethane-d4 (s)	11.362	65	81870	50.35	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 100.70%			
80) toluene-d8 (s)	13.417	98	276932	51.94	ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 103.88%			
106) 4-bromofluorobenzene (s)	15.869	174	80576	48.43	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 96.86%			
Target Compounds						Qvalue

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

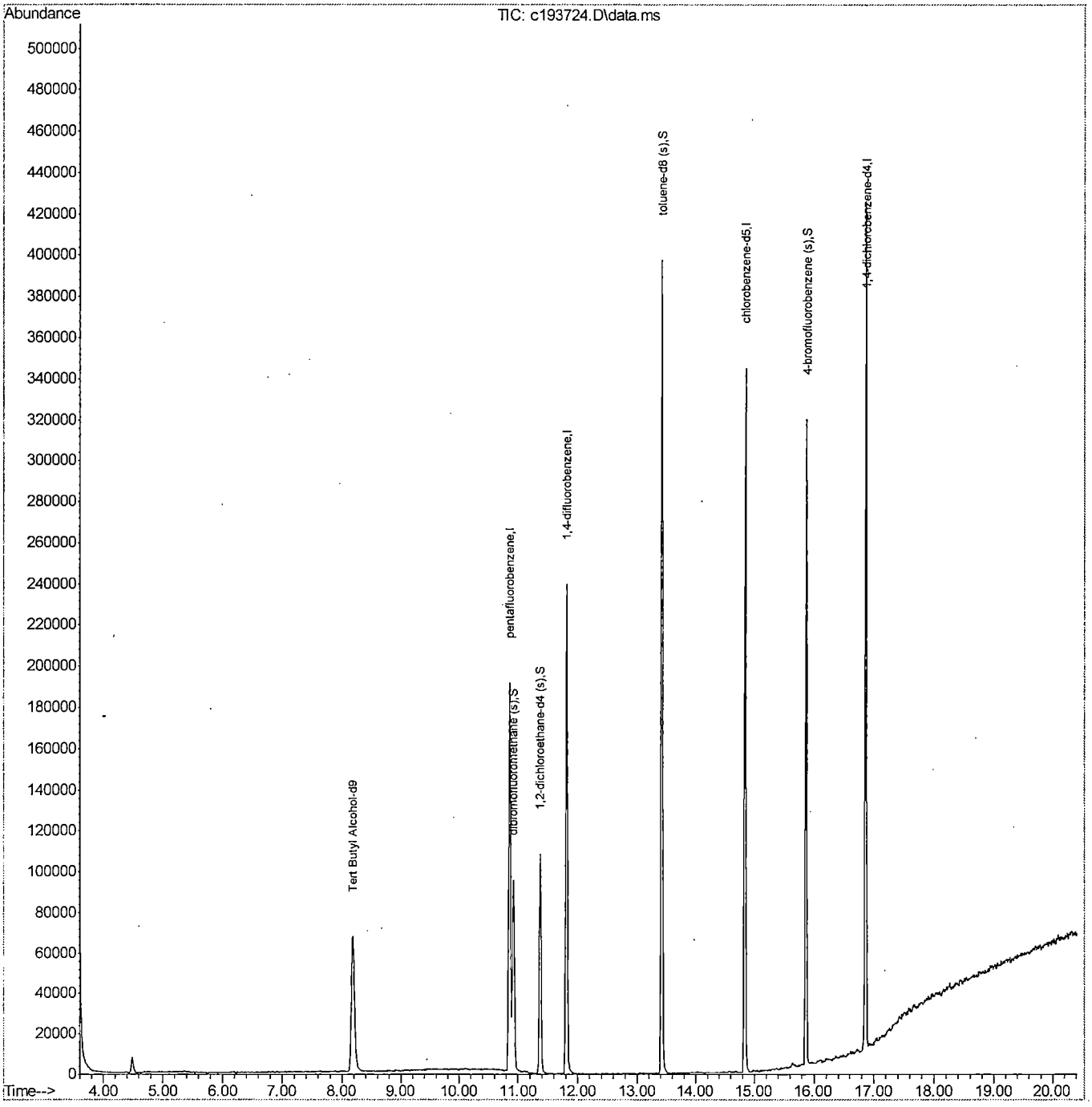
7.1.10

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\C-CORE\vc7067\
Data File : c193724.D
Acq On : 9 Aug 2014 4:39 pm
Operator : thienn
Sample : jb73449-10
Misc : MS71807,VC7067,5,,,,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Aug 12 08:31:27 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\C-CORE\vc7067\
Data File : c193725.D
Acq On : 9 Aug 2014 5:05 pm
Operator : thienn
Sample : jb73449-11
Misc : MS71807,VC7067,5,,,,1
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Aug 12 08:32:03 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	8.187	65	160386	500.00	ug/L	-0.01
5) pentafluorobenzene	10.858	168	160393	50.00	ug/L	0.00
59) 1,4-difluorobenzene	11.810	114	226017	50.00	ug/L	0.00
88) chlorobenzene-d5	14.842	117	198479	50.00	ug/L	0.00
104) 1,4-dichlorobenzene-d4	16.860	152	100754	50.00	ug/L	0.00
System Monitoring Compounds						
50) dibromofluoromethane (s)	10.921	113	70005	50.10	ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 100.20%			
51) 1,2-dichloroethane-d4 (s)	11.365	65	84566	50.38	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 100.76%			
80) toluene-d8 (s)	13.415	98	287792	52.44	ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 104.88%			
106) 4-bromofluorobenzene (s)	15.872	174	83560	48.97	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 97.94%			
Target Compounds						Qvalue
37) 1,1-dichloroethane	9.384	63	1193	0.38	ug/L #	51
55) 1,1,1-trichloroethane	10.911	97	2211	0.98	ug/L #	64

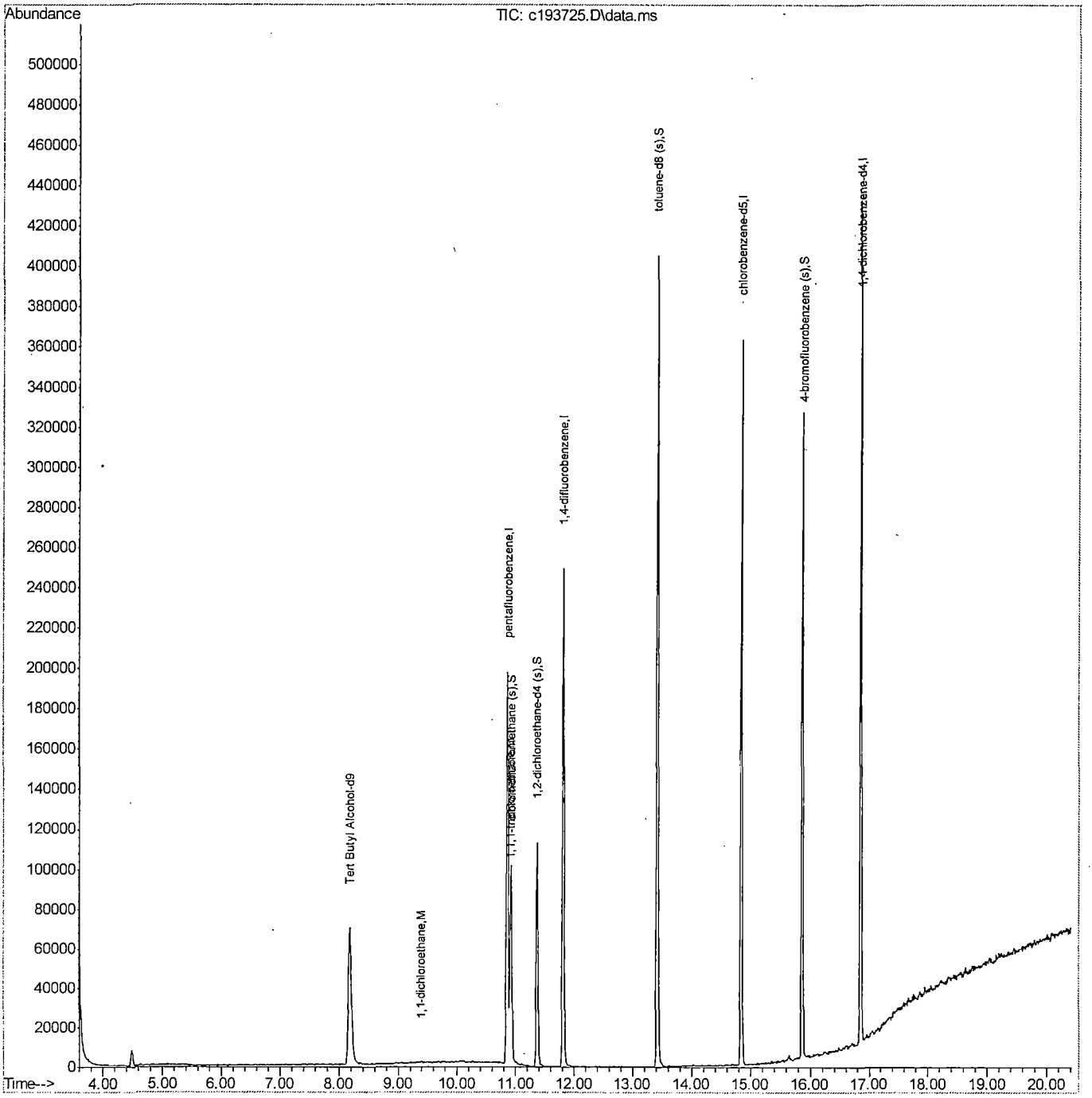
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.11

Quantitation Report (QT Reviewed)

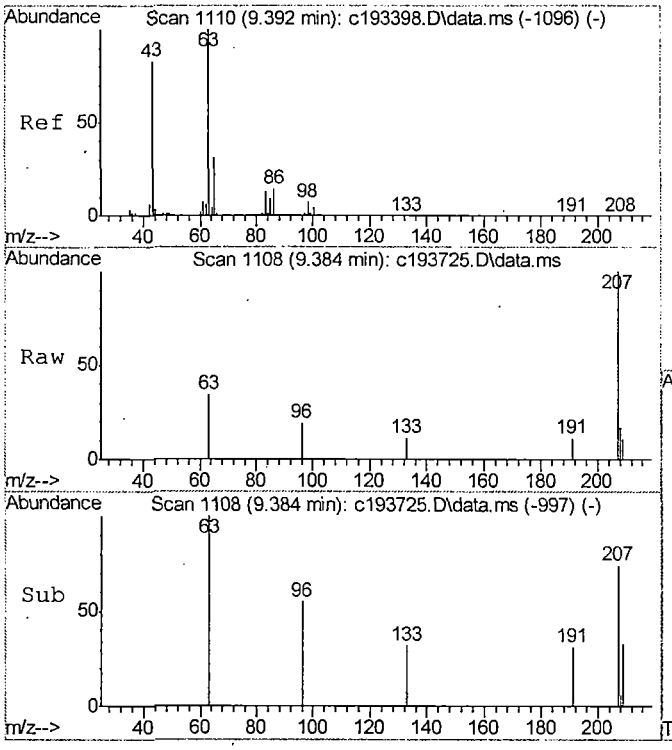
Data Path : C:\msdchem\1\DATA\C-CORE\vc7067\
Data File : c193725.D
Acq On : 9 Aug 2014 5:05 pm
Operator : thienn
Sample : jb73449-11
Misc : MS71807,VC7067,5,,,,1
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Aug 12 08:32:03 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration



7.1.11

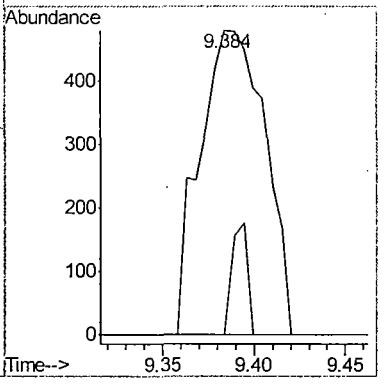
7

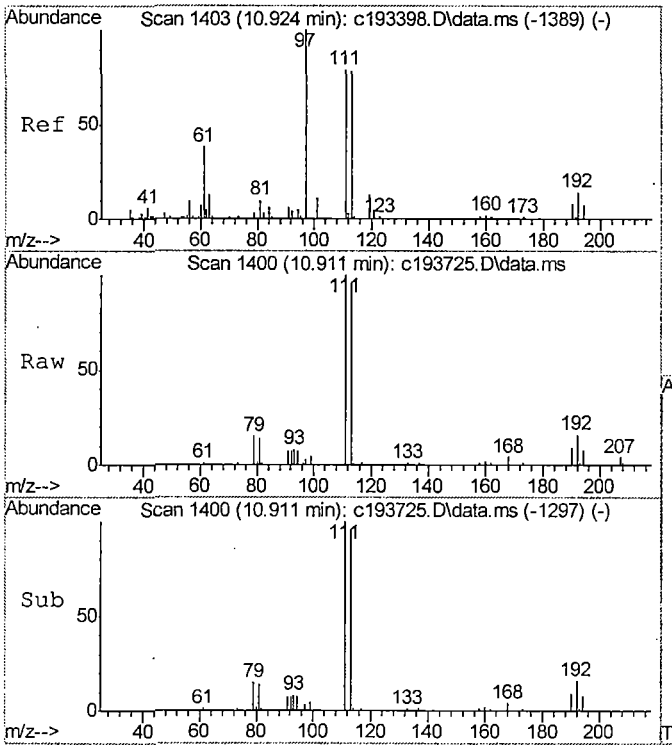


#37
1,1-dichloroethane
Concen: 0.38 ug/L
RT: 9.384 min Scan# 1108
Delta R.T. -0.008 min
Lab File: c193725.D
Acq: 9 Aug 2014 5:05 pm

Tgt Ion: 63 Resp: 1193

Ion	Ratio	Lower	Upper
63	100		
65	0.0	1.1	61.1#
83	0.0	0.0	43.0

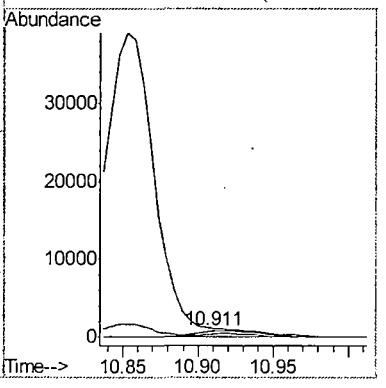




#55
1,1,1-trichloroethane
Concen: 0.98 ug/L
RT: 10.911 min Scan# 1400
Delta R.T. -0.013 min
Lab File: c193725.D
Acq: 9 Aug 2014 5:05 pm

Tgt Ion: 97 Resp: 2211

Ion	Ratio	Lower	Upper
97	100		
99	108.3	35.7	95.7#
61	36.0	10.8	70.8



7.1.11

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\C-CORE\vc7067\
Data File : c193714.D
Acq On : 9 Aug 2014 12:14 pm
Operator : thienn
Sample : jb73449-12
Misc : MS71807,VC7067,5,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 12 08:23:47 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	8.183	65	148849	500.00	ug/L	-0.02
5) pentafluorobenzene	10.854	168	158455	50.00	ug/L	0.00
59) 1,4-difluorobenzene	11.811	114	223861	50.00	ug/L	0.00
88) chlorobenzene-d5	14.843	117	196859	50.00	ug/L	0.00
104) 1,4-dichlorobenzene-d4	16.856	152	100768	50.00	ug/L	0.00
System Monitoring Compounds						
50) dibromofluoromethane (s)	10.917	113	68995	49.98	ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 99.96%			
51) 1,2-dichloroethane-d4 (s)	11.367	65	83865	50.57	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 101.14%			
80) toluene-d8 (s)	13.416	98	283731	52.20	ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 104.40%			
106) 4-bromofluorobenzene (s)	15.868	174	82526	48.35	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 96.70%			
Target Compounds						Qvalue
37) 1,1-dichloroethane	9.391	63	6336	2.05	ug/L	95
43) cis-1,2-dichloroethene	10.274	96	2264	1.12	ug/L #	80
55) 1,1,1-trichloroethane	10.922	97	14882	6.69	ug/L	97
70) trichloroethene	12.135	95	656	0.38	ug/L	94
90) tetrachloroethene	14.028	166	1005	0.62	ug/L	96

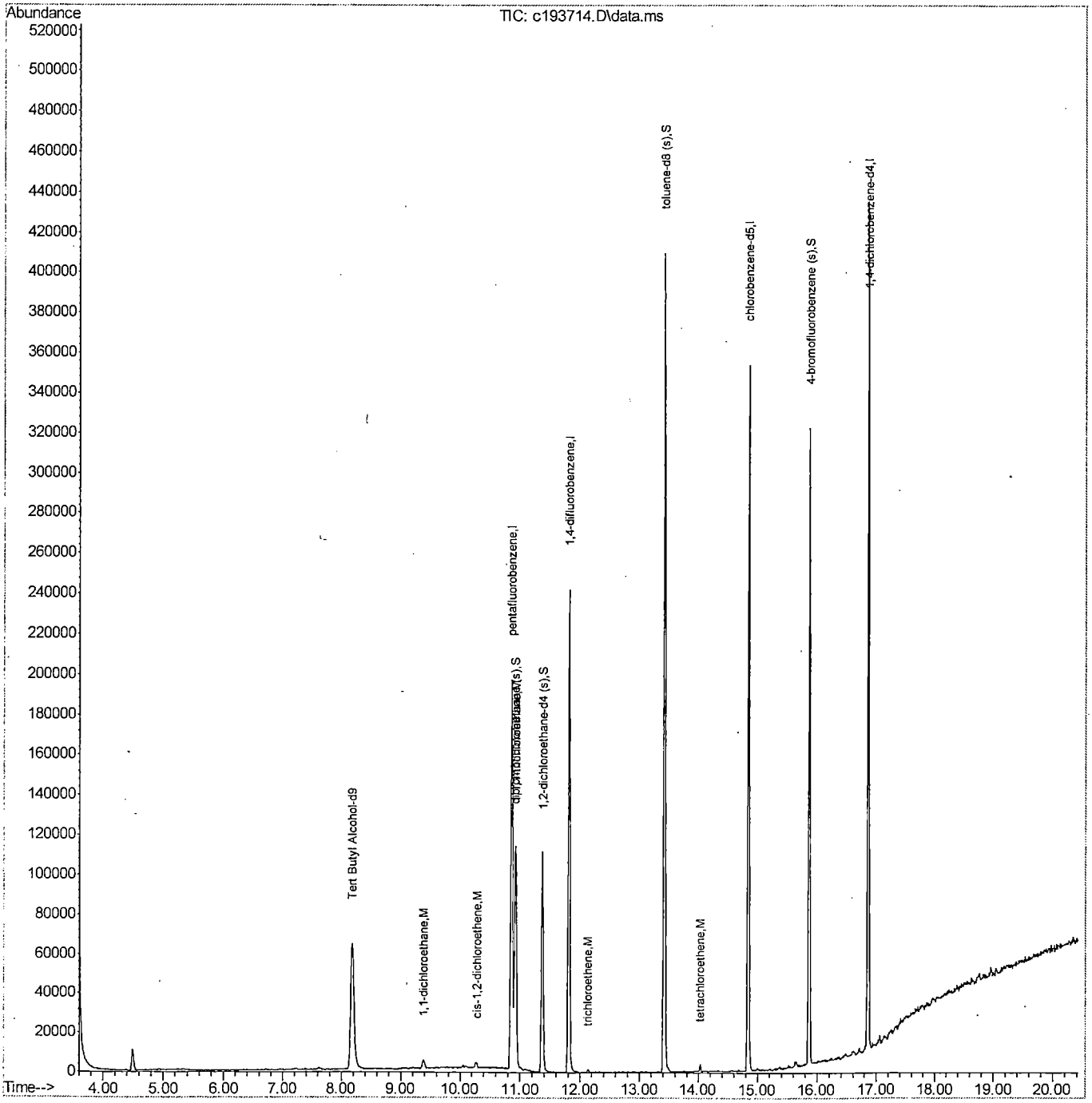
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.12

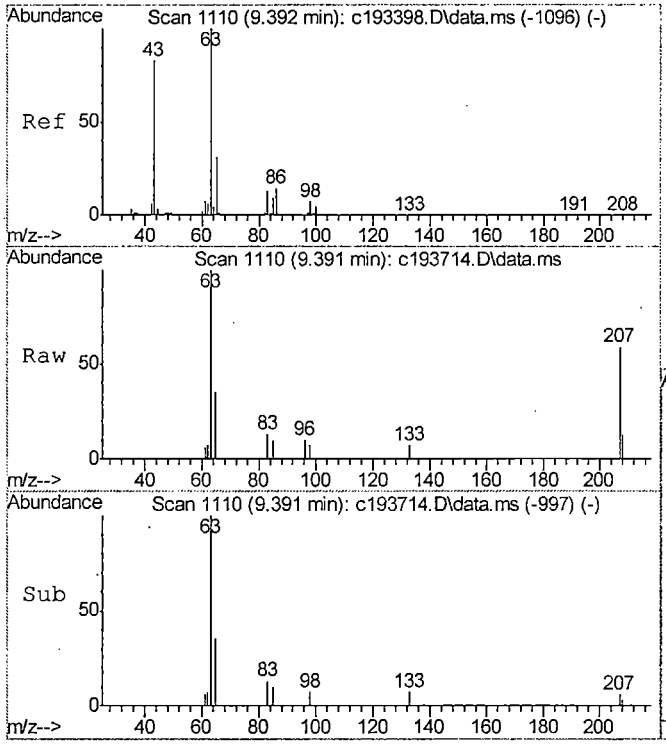
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\C-CORE\vc7067\
Data File : c193714.D
Acq On : 9 Aug 2014 12:14 pm
Operator : thienn
Sample : jb73449-12
Misc : MS71807,VC7067,5,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 12 08:23:47 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration



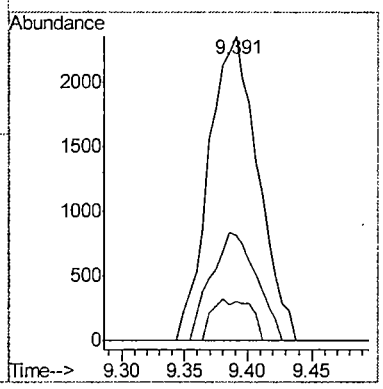
MC7054.M Tue Aug 12 08:42:33 2014

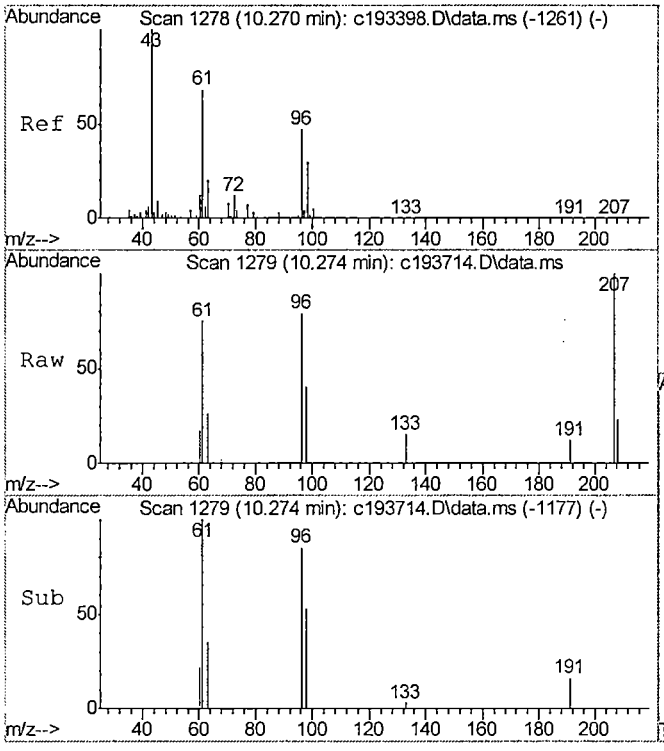


#37
1,1-dichloroethane
Concen: 2.05 ug/L
RT: 9.391 min Scan# 1110
Delta R.T. -0.001 min
Lab File: c193714.D
Acq: 9 Aug 2014 12:14 pm

Tgt Ion: 63 Resp: 6336

Ion	Ratio	Lower	Upper
63	100		
65	34.6	1.1	61.1
83	12.8	0.0	43.0

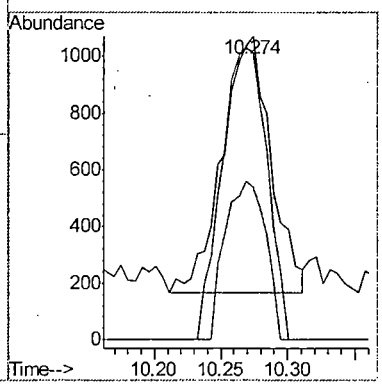


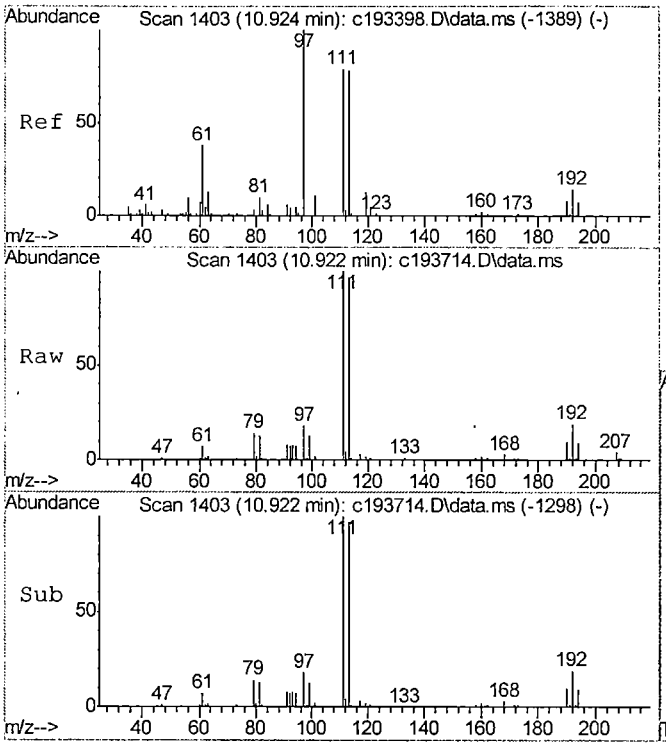


#43
cis-1,2-dichloroethene
Concen: 1.12 ug/L
RT: 10.274 min Scan# 1279
Delta R.T. 0.004 min
Lab File: c193714.D
Acq: 9 Aug 2014 12:14 pm

Tgt Ion: 96 Resp: 2264

Ion	Ratio	Lower	Upper
96	100		
61	112.3	115.6	175.6#
98	59.5	33.8	93.8

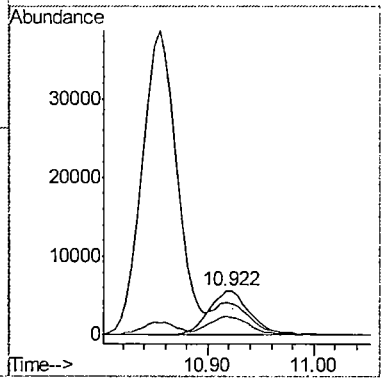


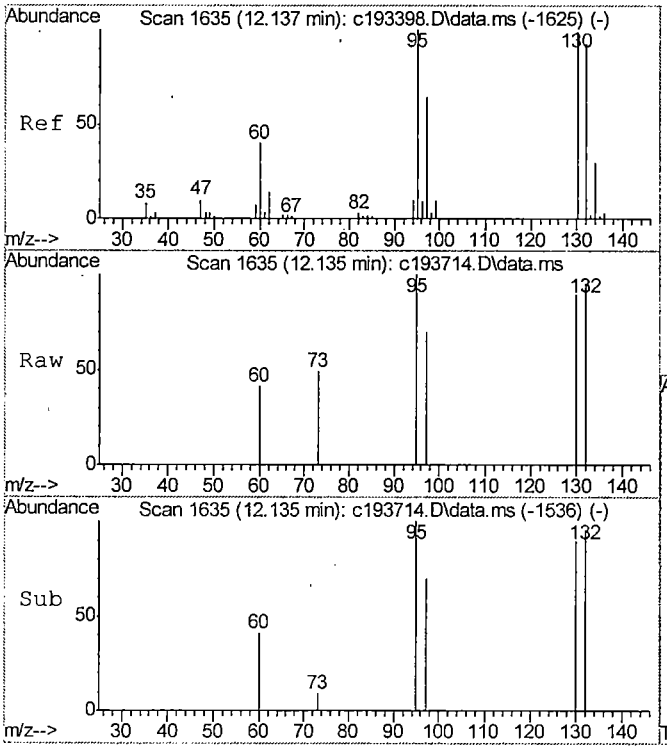


#55
1,1,1-trichloroethane
Concen: 6.69 ug/L
RT: 10.922 min Scan# 1403
Delta R.T. -0.001 min
Lab File: c193714.D
Acq: 9 Aug 2014 12:14 pm

Tgt Ion: 97 Resp: 14882

Ion	Ratio	Lower	Upper
97	100		
99	67.9	35.7	95.7
61	38.4	10.8	70.8

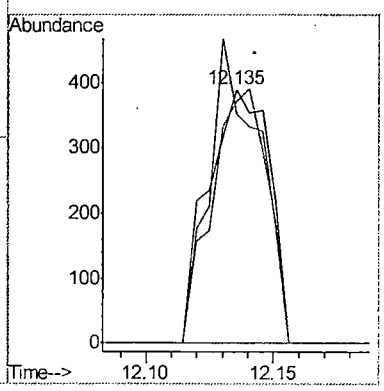


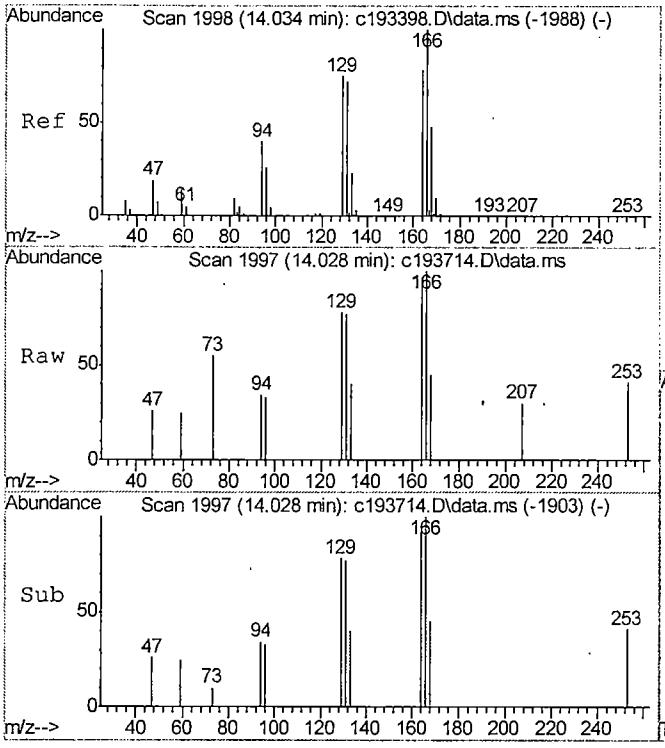


#70
trichloroethene
Concen: 0.38 ug/L
RT: 12.135 min Scan# 1635
Delta R.T. -0.001 min
Lab File: c193714.D
Acq: 9 Aug 2014 12:14 pm

Tgt Ion: 95 Resp: 656

Ion	Ratio	Lower	Upper
95	100		
130	90.3	68.8	128.8
132	95.1	63.0	123.0

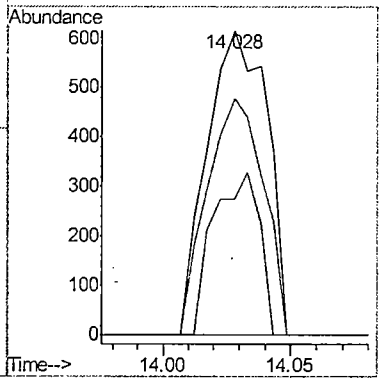




#90
tetrachloroethene
Concen: 0.62 ug/L
RT: 14.028 min Scan# 1997
Delta R.T. -0.007 min
Lab File: c193714.D
Acq: 9 Aug 2014 12:14 pm

Tgt Ion:166 Resp: 1005

Ion	Ratio	Lower	Upper
166	100		
168	44.8	17.6	77.6
129	77.7	44.8	104.8



7.1.12 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\C-CORE\vc7067\
Data File : c193726.D
Acq On : 9 Aug 2014 5:32 pm
Operator : thienn
Sample : jb73449-13
Misc : MS71807,VC7067,5,,,,1
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Aug 12 08:32:49 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	8.184	65	150313	500.00	ug/L	-0.01
5) pentafluorobenzene	10.856	168	153858	50.00	ug/L	0.00
59) 1,4-difluorobenzene	11.812	114	219082	50.00	ug/L	0.00
88) chlorobenzene-d5	14.839	117	193158	50.00	ug/L	0.00
104) 1,4-dichlorobenzene-d4	16.857	152	99143	50.00	ug/L	0.00
System Monitoring Compounds						
50) dibromofluoromethane (s)	10.918	113	68319	50.97	ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 101.94%			
51) 1,2-dichloroethane-d4 (s)	11.363	65	82473	51.22	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 102.44%			
80) toluene-d8 (s)	13.417	98	276659	52.01	ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 104.02%			
106) 4-bromofluorobenzene (s)	15.869	174	81252	48.39	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 96.78%			
Target Compounds						Qvalue
21) 1,1-dichloroethene	7.227	61	4922	2.06	ug/L	94
37) 1,1-dichloroethane	9.386	63	24263	8.09	ug/L	99
43) cis-1,2-dichloroethene	10.270	96	4222	2.15	ug/L #	80
55) 1,1,1-trichloroethane	10.918	97	93035	43.10	ug/L	99
70) trichloroethene	12.131	95	2667	1.60	ug/L	95
90) tetrachloroethene	14.029	166	39100	24.45	ug/L	99

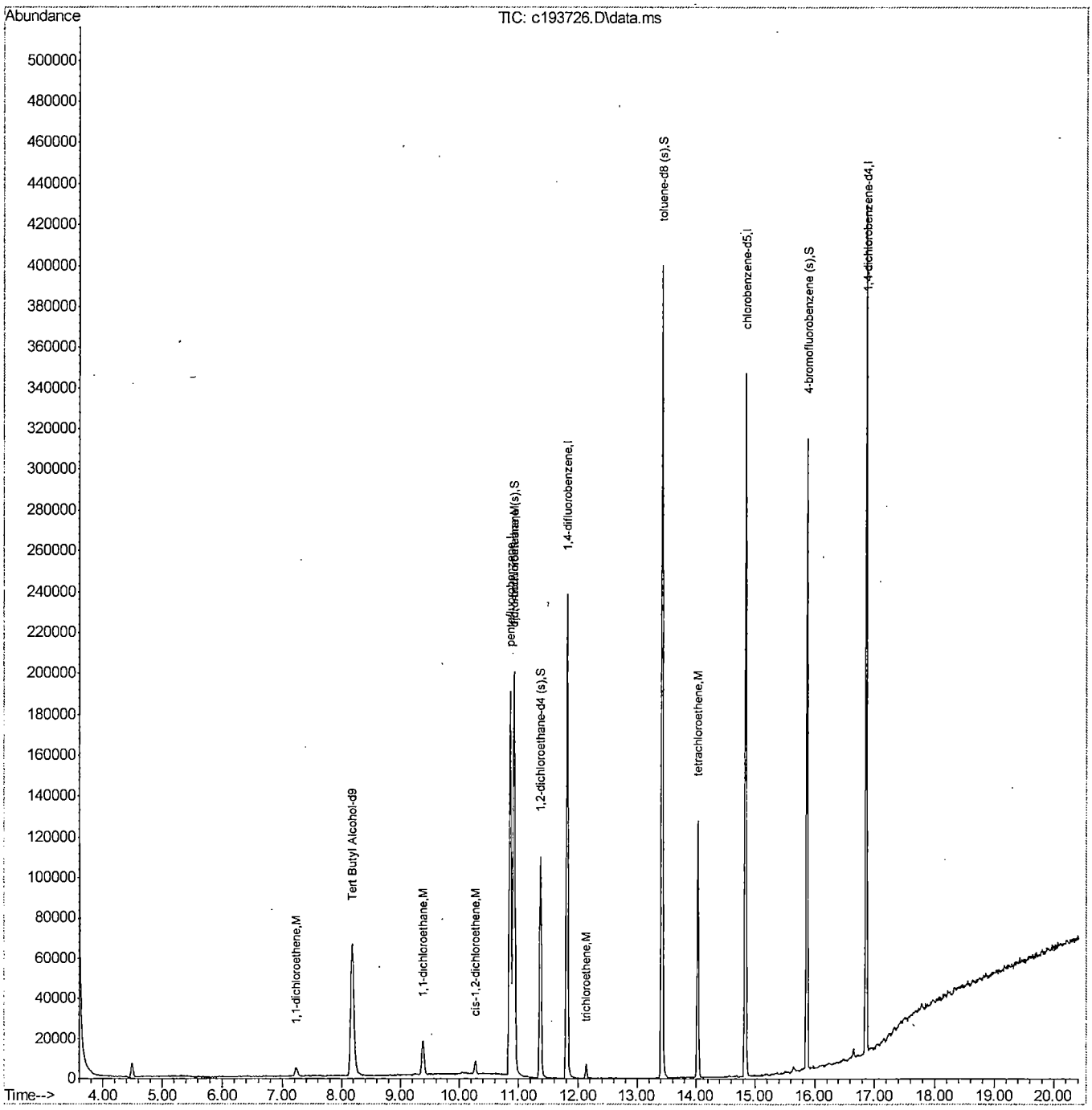
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.13 7

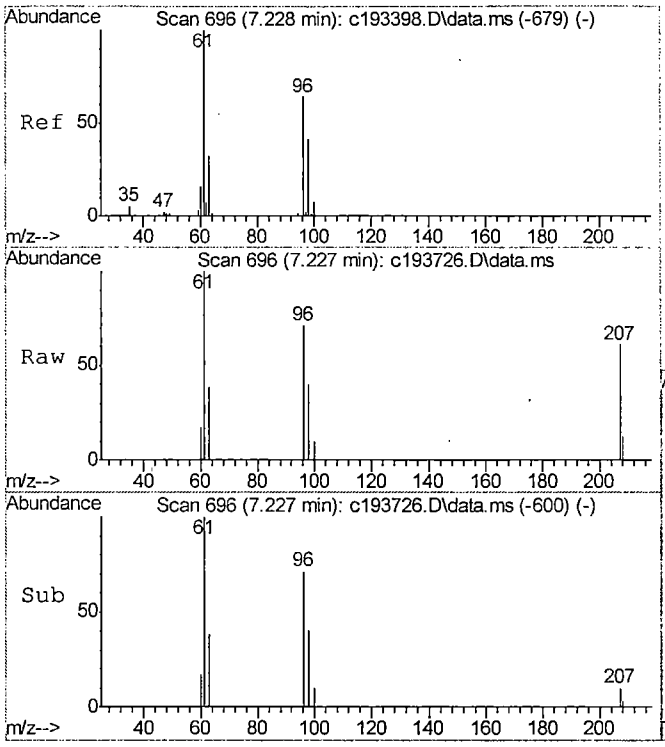
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\C-CORE\vc7067\
Data File : c193726.D
Acq On : 9 Aug 2014 5:32 pm
Operator : thienn
Sample : jb73449-13
Misc : MS71807,VC7067,5,,,,1
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Aug 12 08:32:49 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration



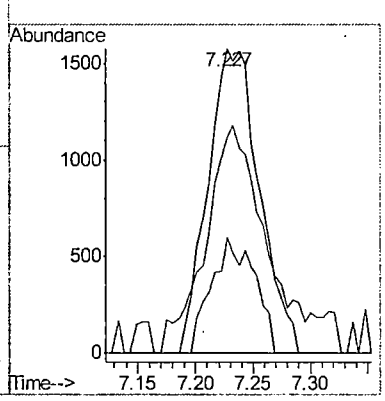
MC7054.M Tue Aug 12 08:43:09 2014 Page: 2

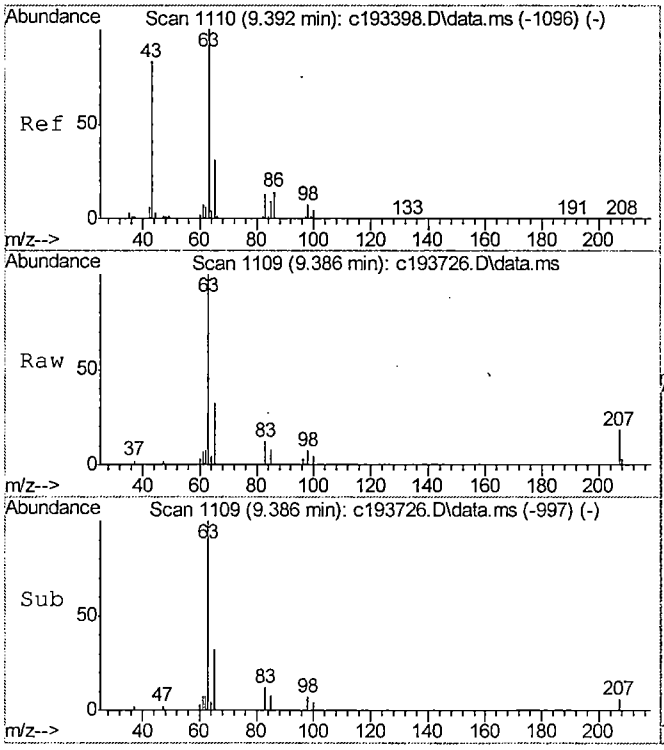


#21
1,1-dichloroethene
Concen: 2.06 ug/L
RT: 7.227 min Scan# 696
Delta R.T. -0.000 min
Lab File: c193726.D
Acq: 9 Aug 2014 5:32 pm

Tgt Ion: 61 Resp: 4922

Ion	Ratio	Lower	Upper
61	100		
96	61.0	34.2	94.2
63	37.8	2.4	62.4

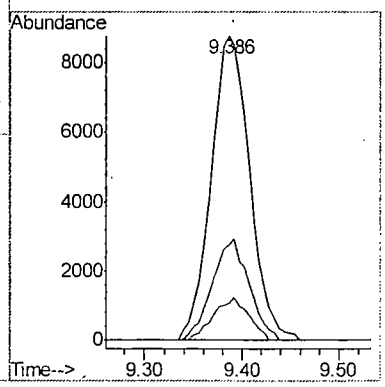


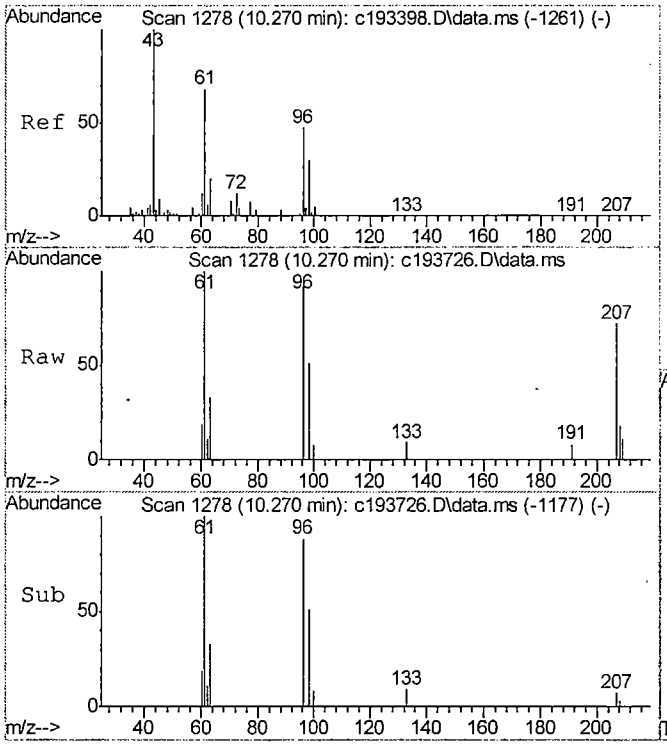


#37
1,1-dichloroethane
Concen: 8.09 ug/L
RT: 9.386 min Scan# 1109
Delta R.T. -0.005 min
Lab File: c193726.D
Acq: 9 Aug 2014 5:32 pm

Tgt Ion: 63 Resp: 24263

Ion	Ratio	Lower	Upper
63	100		
65	31.6	1.1	61.1
83	12.3	0.0	43.0

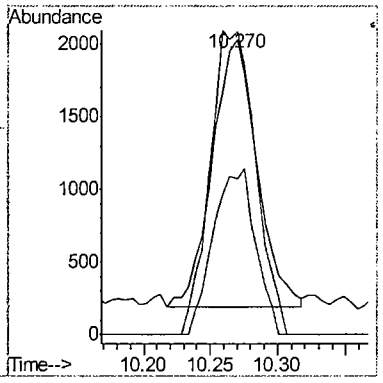


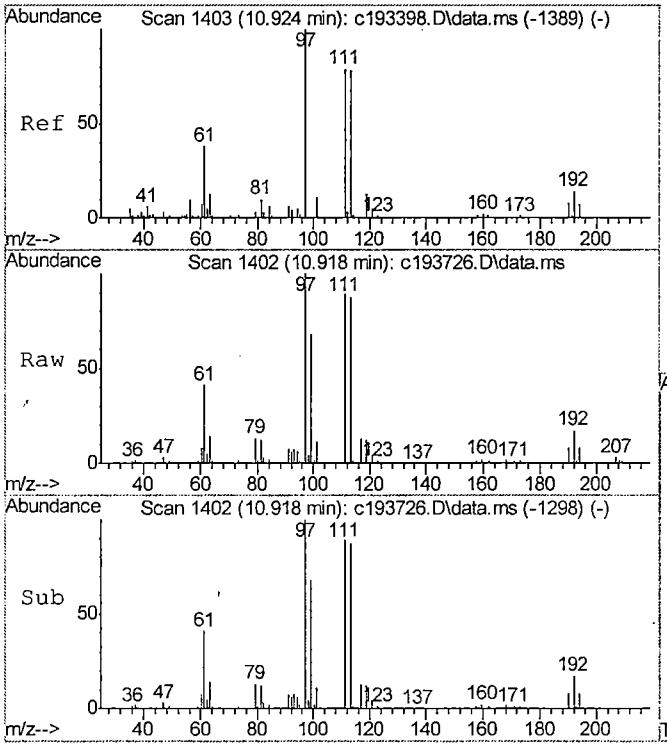


#43
cis-1,2-dichloroethene
Concen: 2.15 ug/L
RT: 10.270 min Scan# 1278
Delta R.T. -0.000 min
Lab File: c193726.D
Acq: 9 Aug 2014 5:32 pm

Tgt Ion: 96 Resp: 4222

Ion	Ratio	Lower	Upper
96	100		
61	113.3	115.6	175.6#
98	58.0	33.8	93.8

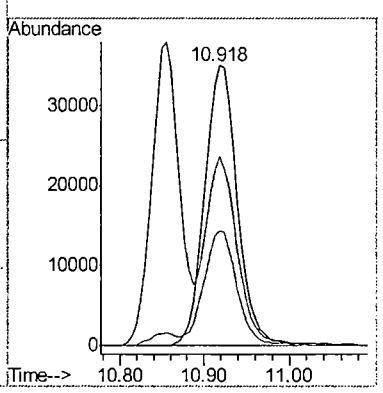




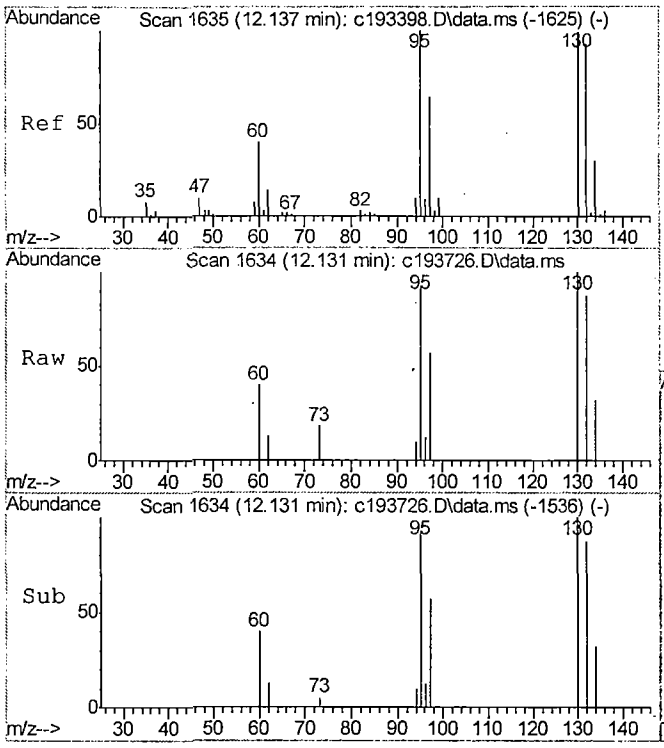
#55
1,1,1-trichloroethane
Concen: 43.10 ug/L
RT: 10.918 min Scan# 1402
Delta R.T. -0.005 min
Lab File: c193726.D
Acq: 9 Aug 2014 5:32 pm

Tgt Ion: 97 Resp: 93035

Ion	Ratio	Lower	Upper
97	100		
99	67.1	35.7	95.7
61	41.0	10.8	70.8



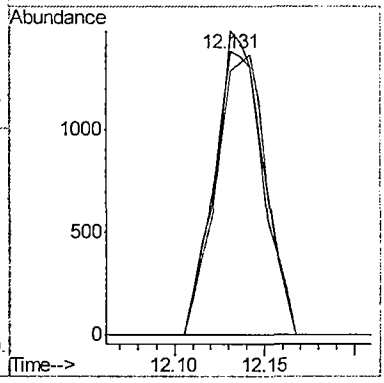
7.1.13 7

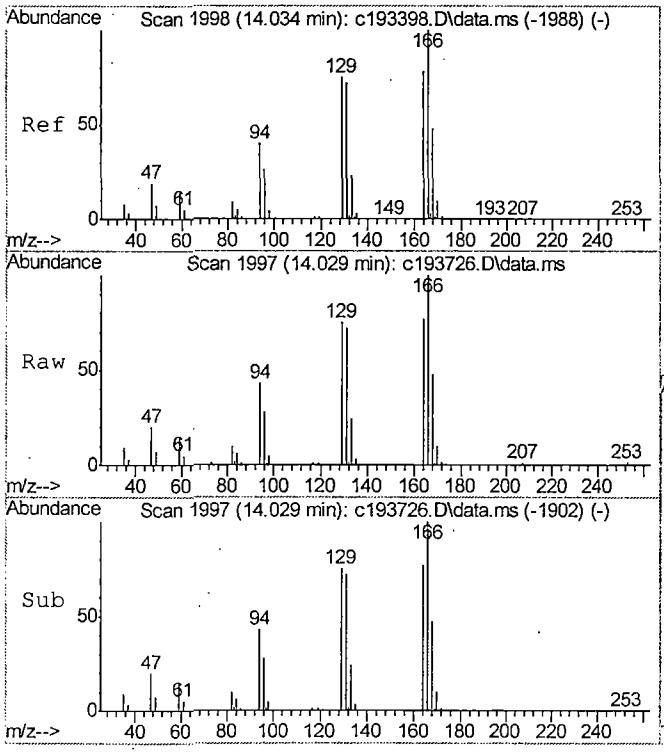


#70
trichloroethene
Concen: 1.60 ug/L
RT: 12.131 min Scan# 1634
Delta R.T. -0.005 min
Lab File: c193726.D
Acq: 9 Aug 2014 5:32 pm

Tgt Ion: 95 Resp: 2667

Ion	Ratio	Lower	Upper
95	100		
130	107.4	68.8	128.8
132	93.3	63.0	123.0

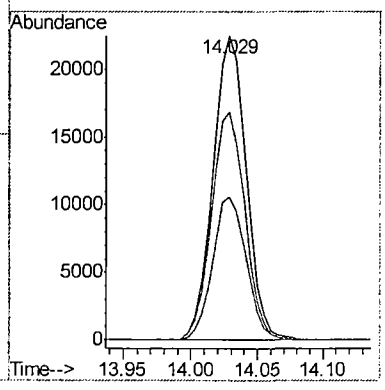




#90
tetrachloroethene
Concen: 24.45 ug/L
RT: 14.029 min Scan# 1997
Delta R.T. -0.005 min
Lab File: c193726.D
Acq: 9 Aug 2014 5:32 pm

Tgt Ion:166 Resp: 39100

Ion	Ratio	Lower	Upper
166	100		
168	46.8	17.6	77.6
129	75.1	44.8	104.8



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\C-CORE\vc7067\
Data File : c193727.D
Acq On : 9 Aug 2014 5:58 pm
Operator : thienn
Sample : jb73449-14
Misc : MS71807,VC7067,5,,,,1
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Aug 12 08:33:34 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	8.184	65	144105	500.00	ug/L	-0.01
5) pentafluorobenzene	10.856	168	154938	50.00	ug/L	0.00
59) 1,4-difluorobenzene	11.813	114	218068	50.00	ug/L	0.00
88) chlorobenzene-d5	14.840	117	192191	50.00	ug/L	0.00
104) 1,4-dichlorobenzene-d4	16.858	152	98116	50.00	ug/L	0.00
System Monitoring Compounds						
50) dibromofluoromethane (s)	10.919	113	68432	50.70	ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 101.40%			
51) 1,2-dichloroethane-d4 (s)	11.363	65	81994	50.57	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 101.14%			
80) toluene-d8 (s)	13.418	98	276168	52.16	ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 104.32%			
106) 4-bromofluorobenzene (s)	15.869	174	80235	48.28	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 96.56%			
Target Compounds						Qvalue
10) vinyl chloride	4.640	62	672	0.33	ug/L	79
21) 1,1-dichloroethene	7.228	61	1251	0.52	ug/L	87
37) 1,1-dichloroethane	9.387	63	20777	6.88	ug/L	98
43) cis-1,2-dichloroethene	10.270	96	13335	6.74	ug/L	83
55) 1,1,1-trichloroethane	10.919	97	16968	7.81	ug/L	98
70) trichloroethene	12.137	95	4125	2.48	ug/L	97
90) tetrachloroethene	14.029	166	36031	22.64	ug/L	99

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

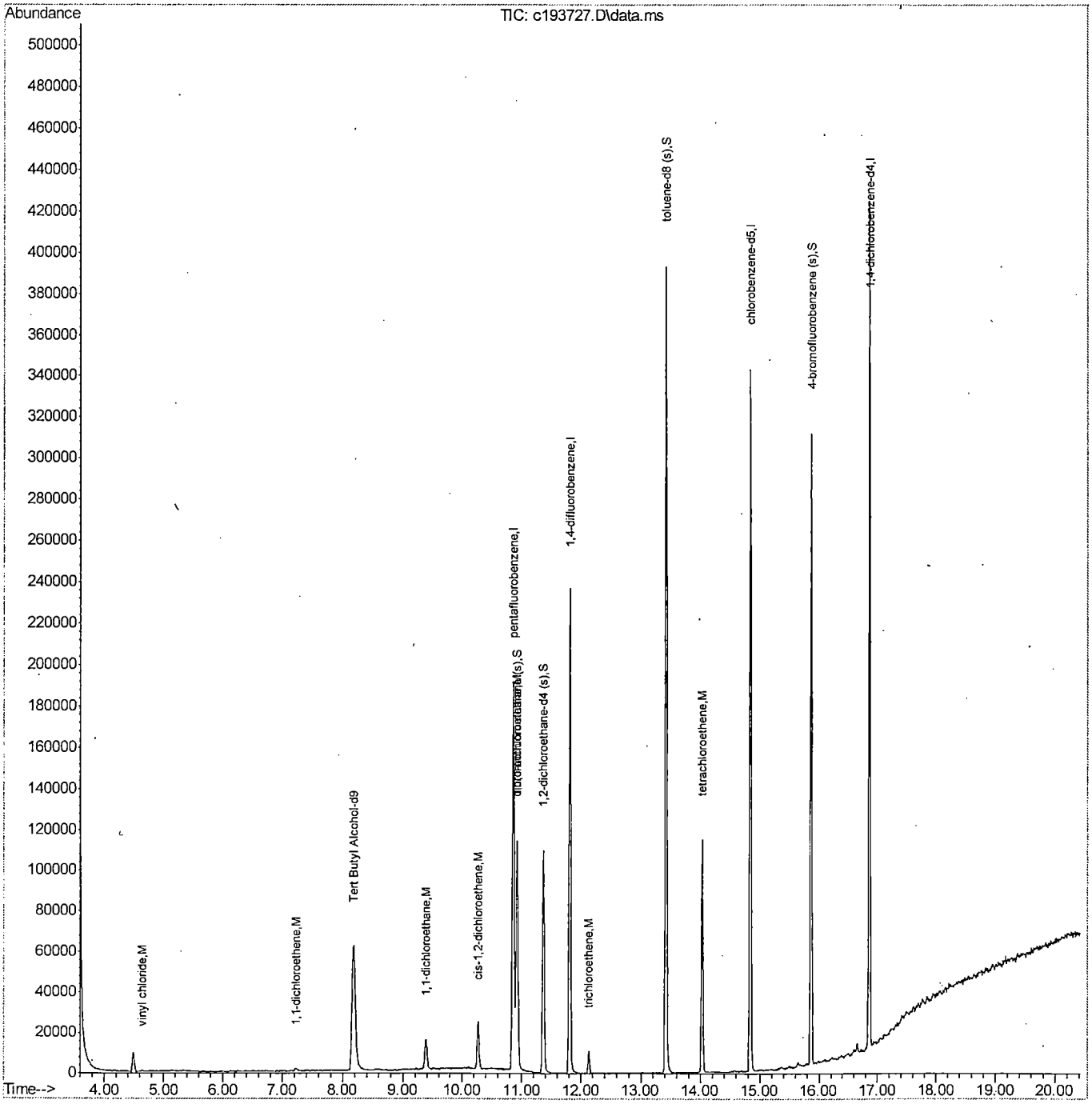
7.1.14

7

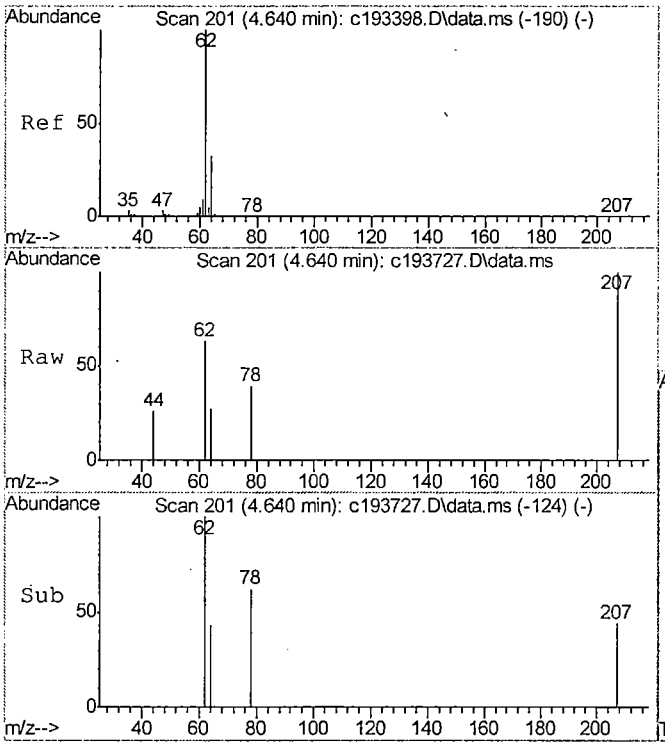
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\C-CORE\vc7067\
Data File : c193727.D
Acq On : 9 Aug 2014 5:58 pm
Operator : thienn
Sample : jb73449-14
Misc : MS71807,VC7067,5,,,,1
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Aug 12 08:33:34 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration



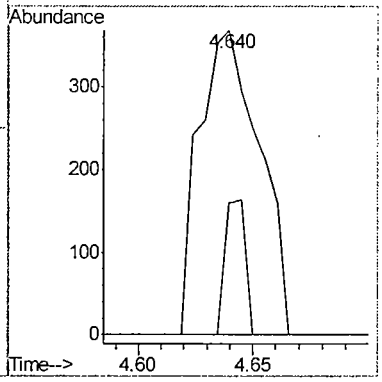
MC7054.M Tue Aug 12 08:43:12 2014 Page: 2

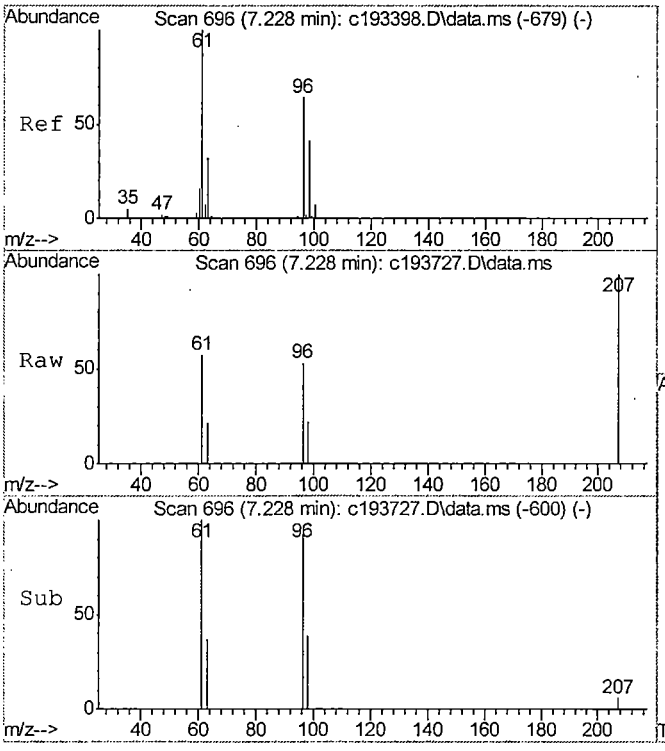


#10
vinyl chloride
Concen: 0.33 ug/L
RT: 4.640 min Scan# 201
Delta R.T. 0.000 min
Lab File: c193727.D
Acq: 9 Aug 2014 5:58 pm

Tgt Ion: 62 Resp: 672

Ion	Ratio	Lower	Upper
62	100		
64	43.4	2.0	62.0
61	0.0	0.0	38.6

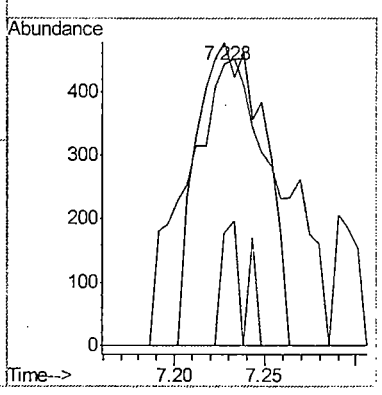




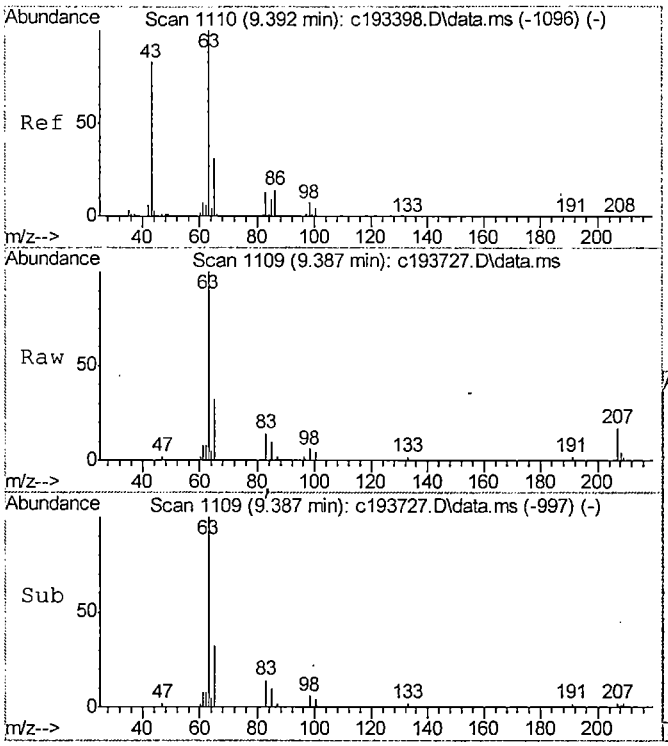
#21
1,1-dichloroethene
Concen: 0.52 ug/L
RT: 7.228 min Scan# 696
Delta R.T. 0.000 min
Lab File: c193727.D
Acq: 9 Aug 2014 5:58 pm

Tgt Ion: 61 Resp: 1251

Ion	Ratio	Lower	Upper
61	100		
96	52.4	34.2	94.2
63	37.3	2.4	62.4



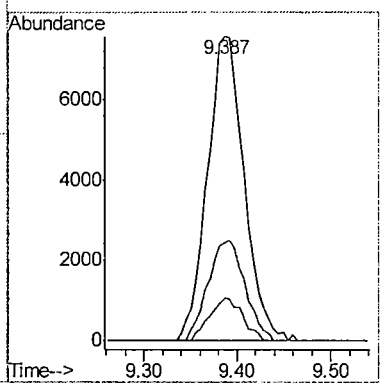
7.1.14

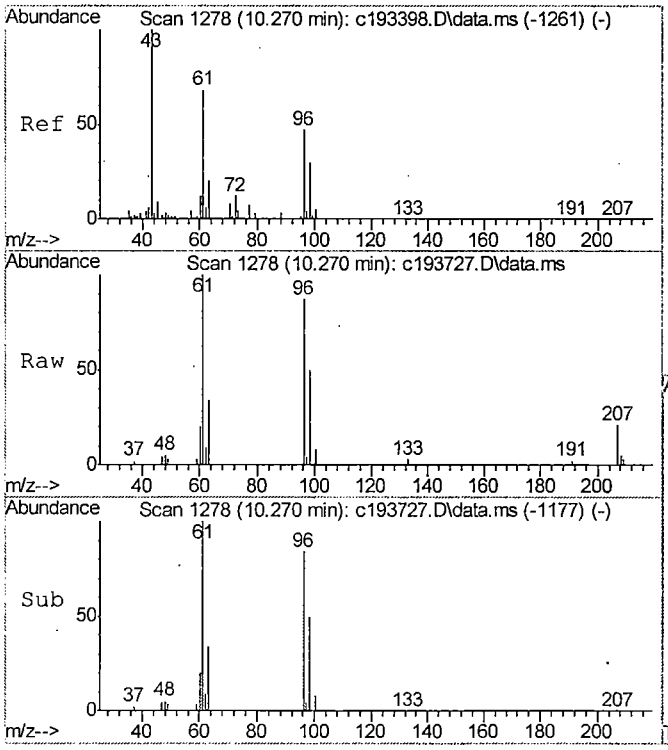


#37
1,1-dichloroethane
Concen: 6.88 ug/L
RT: 9.387 min Scan# 1109
Delta R.T. -0.005 min
Lab File: c193727.D
Acq: 9 Aug 2014 5:58 pm

Tgt Ion: 63 Resp: 20777

Ion	Ratio	Lower	Upper
63	100		
65	32.3	1.1	61.1
83	14.1	0.0	43.0

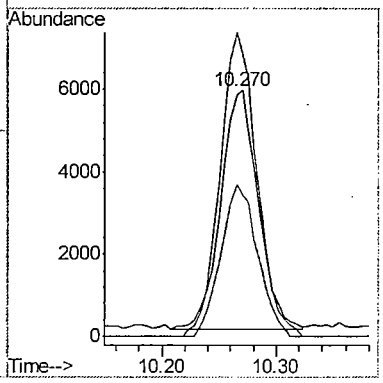


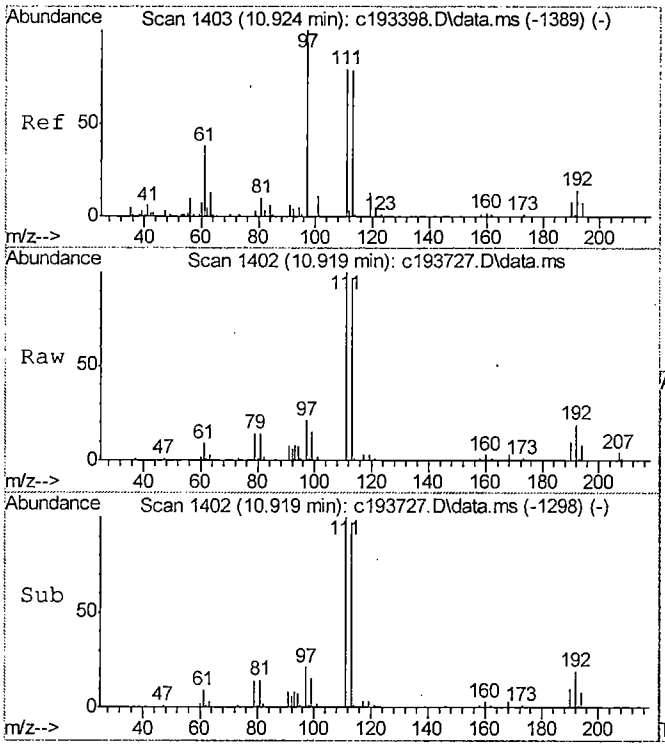


#43
cis-1,2-dichloroethene
Concen: 6.74 ug/L
RT: 10.270 min Scan# 1278
Delta R.T. 0.000 min
Lab File: c193727.D
Acq: 9 Aug 2014 5:58 pm

Tgt Ion: 96 Resp: 13335

Ion	Ratio	Lower	Upper
96	100		
61	117.9	115.6	175.6
98	59.4	33.8	93.8

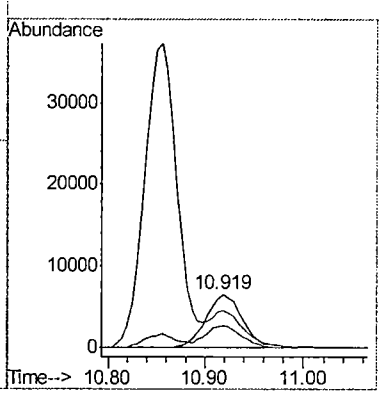


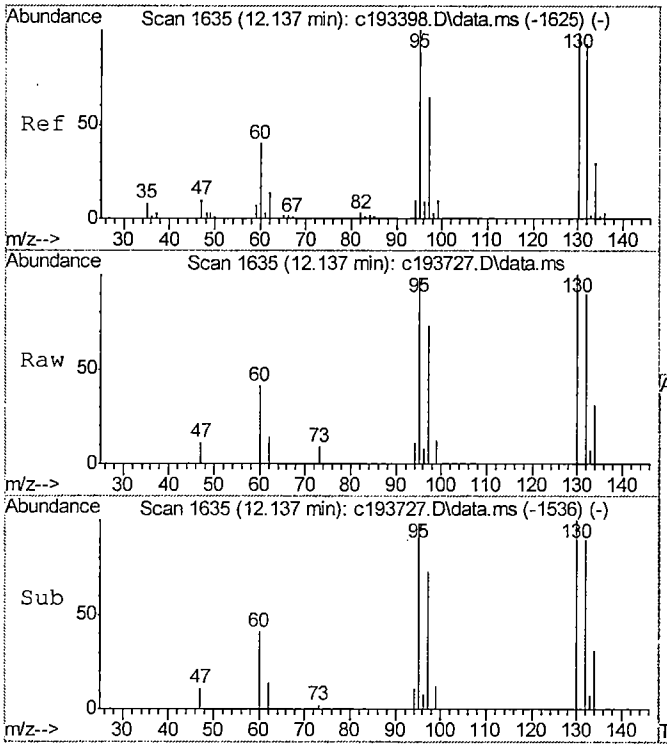


#55
1,1,1-trichloroethane
Concen: 7.81 ug/L
RT: 10.919 min Scan# 1402
Delta R.T. -0.005 min
Lab File: c193727.D
Acq: 9 Aug 2014 5:58 pm

Tgt Ion: 97 Resp: 16968

Ion	Ratio	Lower	Upper
97	100		
99	67.8	35.7	95.7
61	42.2	10.8	70.8

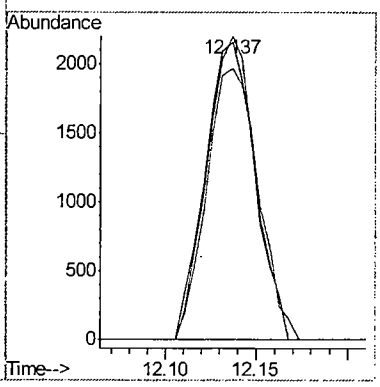


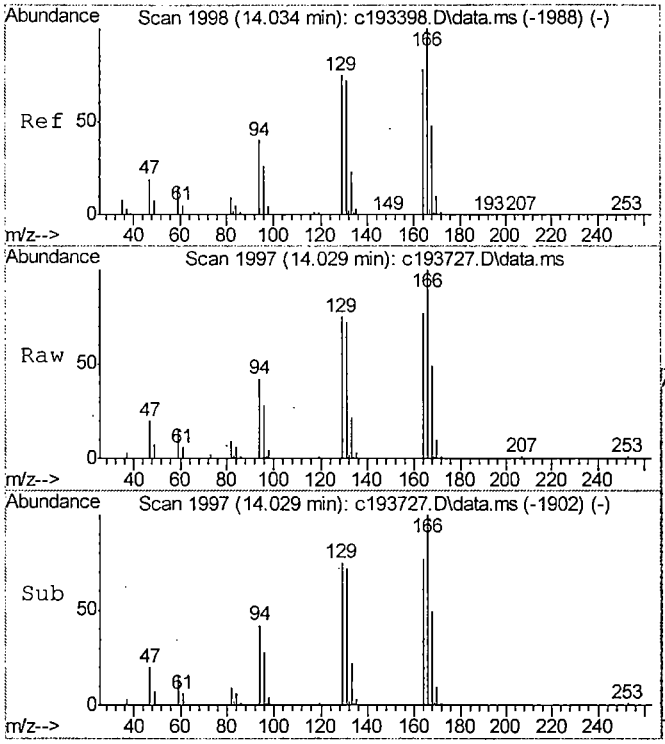


#70
trichloroethene
Concen: 2.48 ug/L
RT: 12.137 min Scan# 1635
Delta R.T. 0.000 min
Lab File: c193727.D
Acq: 9 Aug 2014 5:58 pm

Tgt Ion: 95 Resp: 4125

Ion	Ratio	Lower	Upper
95	100		
130	101.9	68.8	128.8
132	91.2	63.0	123.0

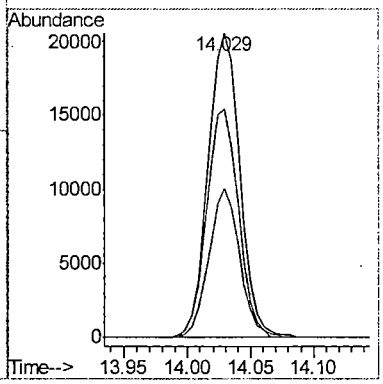




#90
tetrachloroethene
Concen: 22.64 ug/L
RT: 14.029 min Scan# 1997
Delta R.T. -0.005 min
Lab File: c193727.D
Acq: 9 Aug 2014 5:58 pm

Tgt Ion:166 Resp: 36031

Ion	Ratio	Lower	Upper
166	100		
168	48.9	17.6	77.6
129	75.1	44.8	104.8



7.1.14

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\C-CORE\vc7067\
Data File : c193728.D
Acq On : 9 Aug 2014 6:25 pm
Operator : thienn
Sample : jb73449-15
Misc : MS71807,VC7067,5,,,,1
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Aug 12 08:34:50 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	8.179	65	149517	500.00	ug/L	-0.02
5) pentafluorobenzene	10.856	168	156459	50.00	ug/L	0.00
59) 1,4-difluorobenzene	11.813	114	220929	50.00	ug/L	0.00
88) chlorobenzene-d5	14.840	117	193615	50.00	ug/L	0.00
104) 1,4-dichlorobenzene-d4	16.858	152	98535	50.00	ug/L	0.00
System Monitoring Compounds						
50) dibromofluoromethane (s)	10.919	113	68276	50.09	ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 100.18%			
51) 1,2-dichloroethane-d4 (s)	11.363	65	82503	50.38	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 100.76%			
80) toluene-d8 (s)	13.418	98	279637	52.13	ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 104.26%			
106) 4-bromofluorobenzene (s)	15.870	174	81277	48.70	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 97.40%			
Target Compounds						Qvalue
10) vinyl chloride	4.640	62	70337	34.44	ug/L	99
21) 1,1-dichloroethene	7.222	61	3026	1.25	ug/L	97
33) trans-1,2-dichloroethene	8.639	61	1011	0.42	ug/L #	84
37) 1,1-dichloroethane	9.387	63	25570	8.39	ug/L	99
43) cis-1,2-dichloroethene	10.265	96	60800	30.44	ug/L	87
55) 1,1,1-trichloroethane	10.924	97	8666	3.95	ug/L	96
70) trichloroethene	12.137	95	17898	10.62	ug/L	97
90) tetrachloroethene	14.029	166	31539	19.67	ug/L	98
125) 1,2-dichlorobenzene	17.208	146	3876	0.98	ug/L	94

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

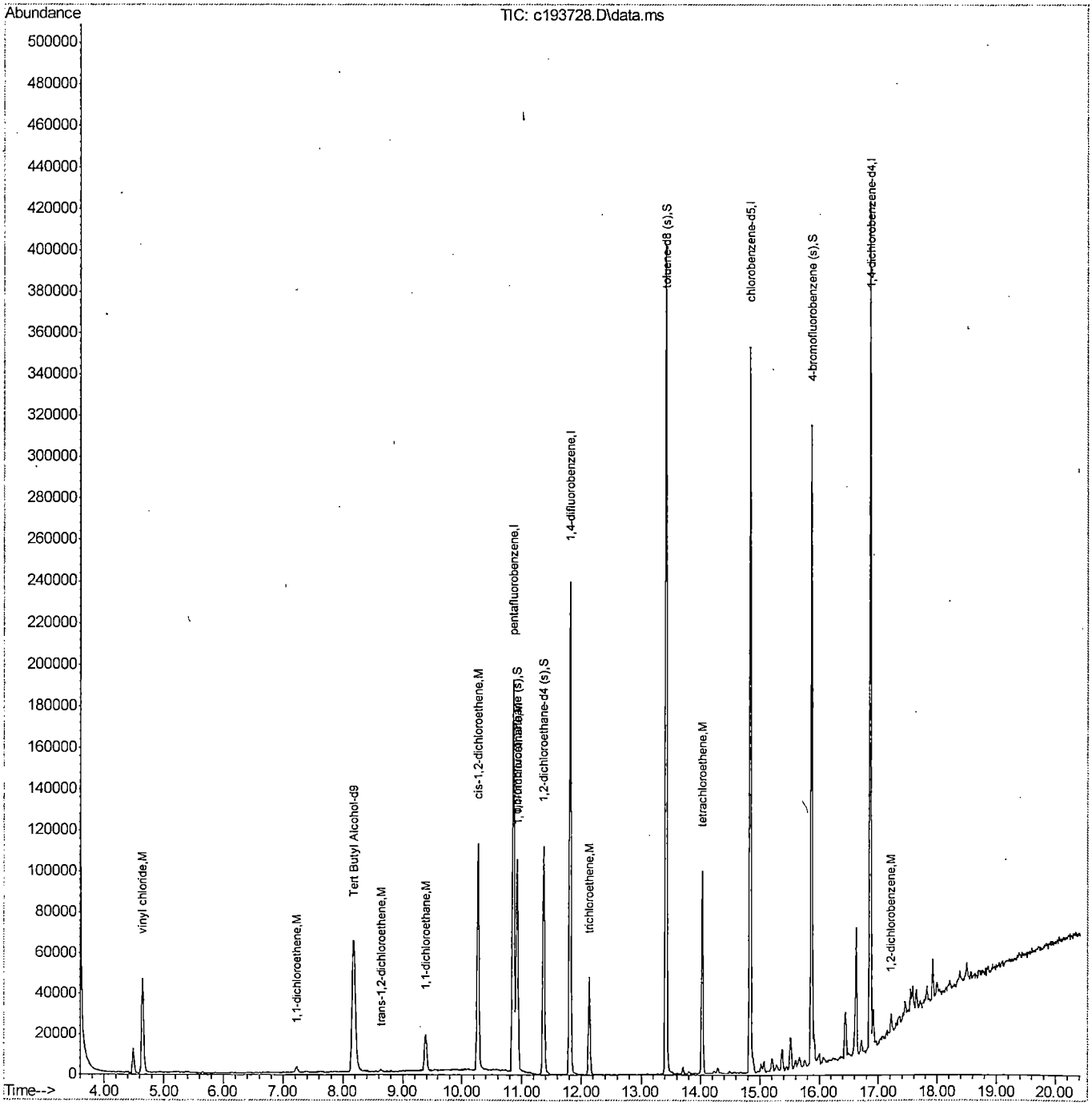
7.1.15

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\C-CORE\vc7067\
Data File : c193728.D
Acq On : 9 Aug 2014 6:25 pm
Operator : thienn
Sample : jb73449-15
Misc : MS71807,VC7067,5,,,,1
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Aug 12 08:34:50 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration



7.1.15

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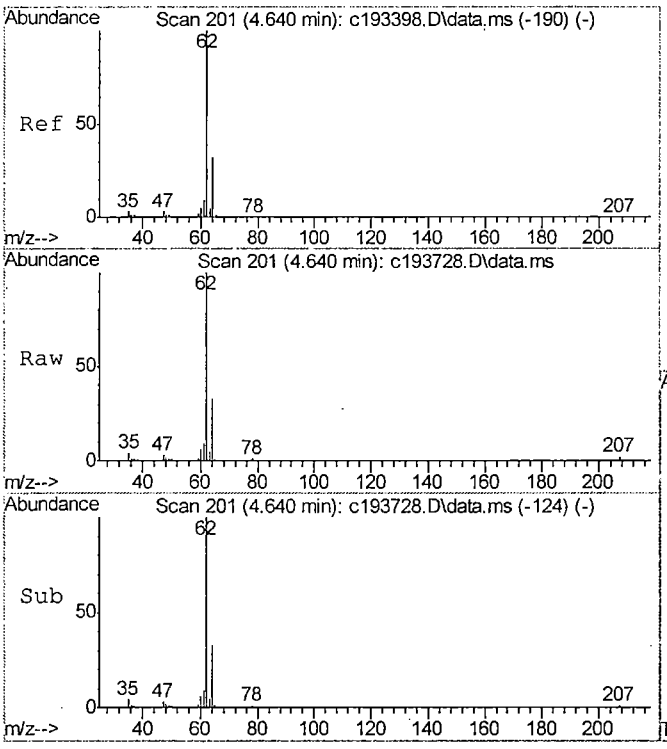
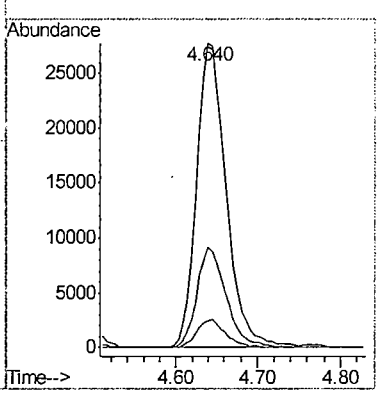
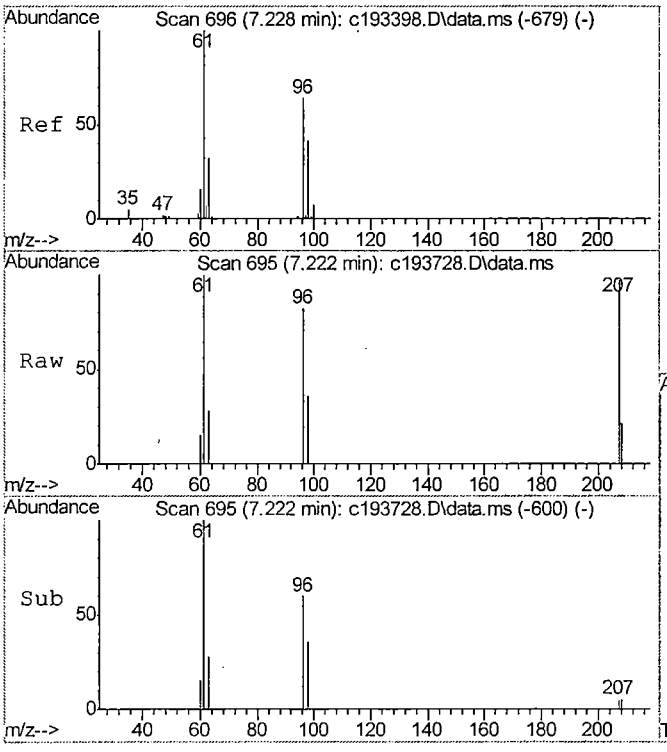


#10
vinyl chloride
Concen: 34.44 ug/L
RT: 4.640 min Scan# 201
Delta R.T. 0.000 min
Lab File: c193728.D
Acq: 9 Aug 2014 6:25 pm

Tgt Ion: 62 Resp: 70337

Ion	Ratio	Lower	Upper
62	100		
64	32.9	2.0	62.0
61	8.9	0.0	38.6

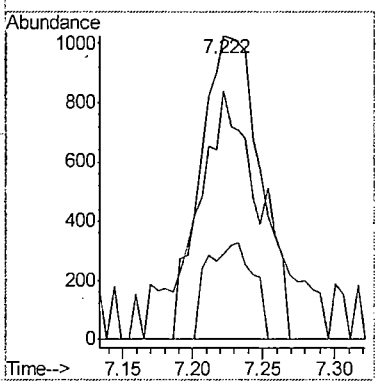




#21
1,1-dichloroethene
Concen: 1.25 ug/L
RT: 7.222 min Scan# 695
Delta R.T. -0.005 min
Lab File: c193728.D
Acq: 9 Aug 2014 6:25 pm

Tgt Ion: 61 Resp: 3026

Ion	Ratio	Lower	Upper
61	100		
96	65.0	34.2	94.2
63	28.2	2.4	62.4



7.1.15

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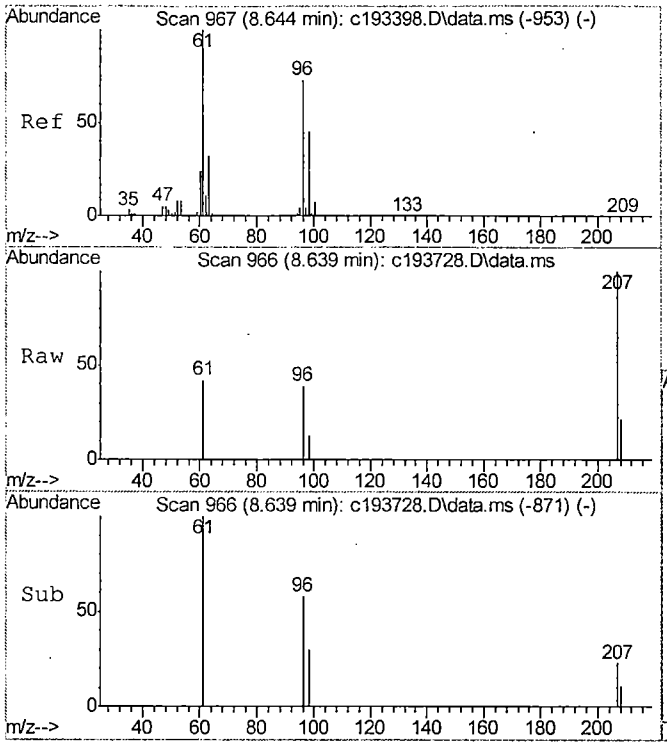
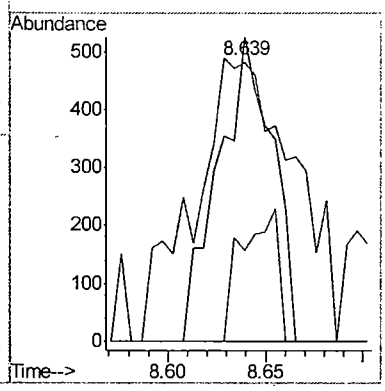
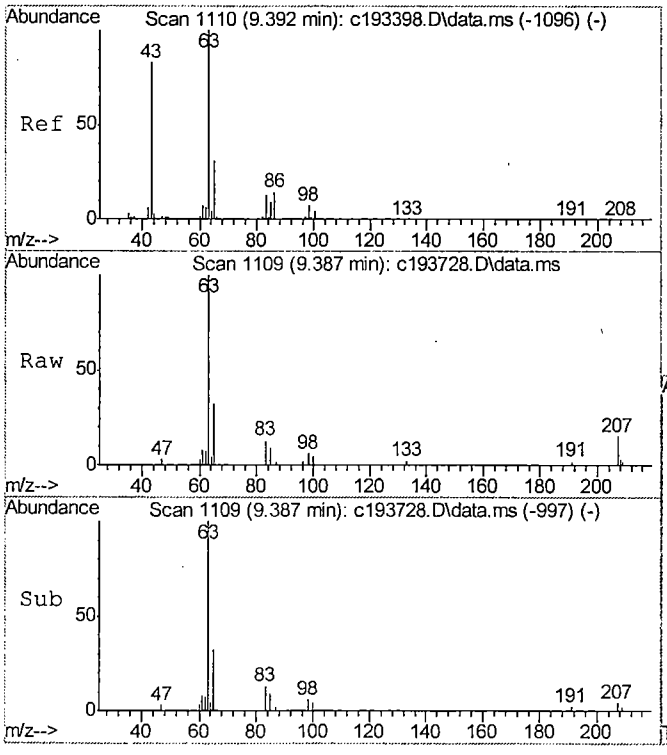


#33
trans-1,2-dichloroethene
Concen: 0.42 ug/L
RT: 8.639 min Scan# 966
Delta R.T. -0.005 min
Lab File: c193728.D
Acq: 9 Aug 2014 6:25 pm

Tgt Ion: 61 Resp: 1011

Ion	Ratio	Lower	Upper
61	100		
96	63.0	50.8	94.4
98	29.9	31.8	59.0#

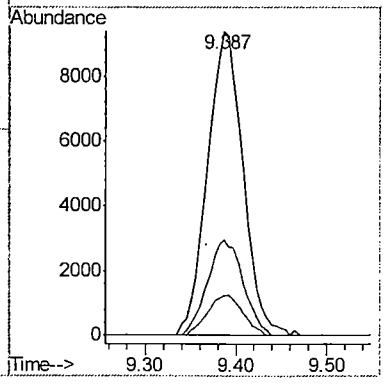




#37
1,1-dichloroethane
Concen: 8.39 ug/L
RT: 9.387 min Scan# 1109
Delta R.T. -0.005 min
Lab File: c193728.D
Acq: 9 Aug 2014 6:25 pm

Tgt Ion: 63 Resp: 25570

Ion	Ratio	Lower	Upper
63	100		
65	31.6	1.1	61.1
83	13.0	0.0	43.0



7.1.15

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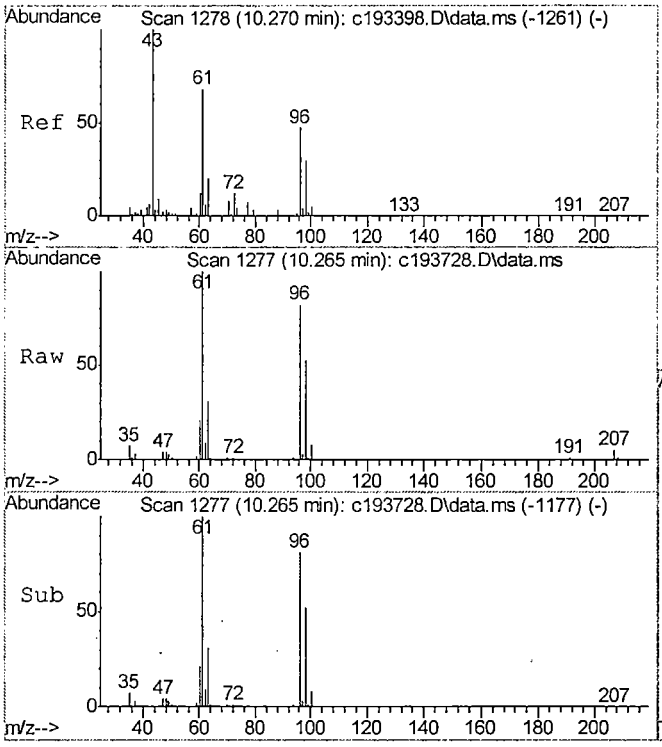
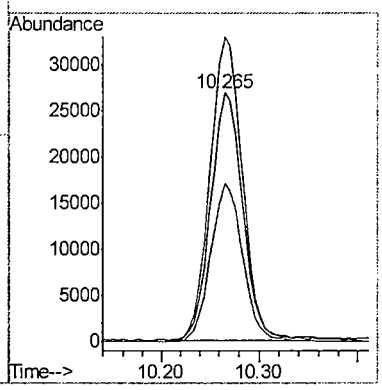
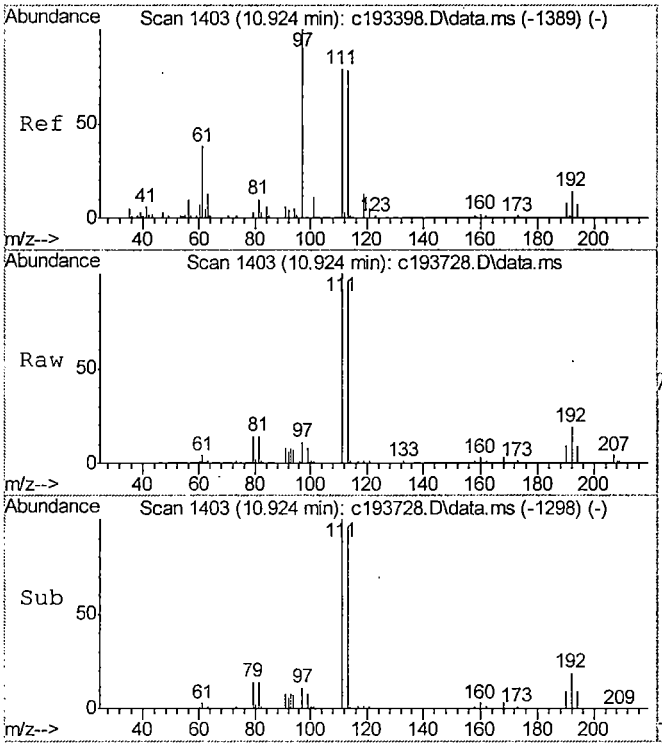


#43
cis-1,2-dichloroethene
Concen: 30.44 ug/L
RT: 10.265 min Scan# 1277
Delta R.T. -0.005 min
Lab File: c193728.D
Acq: 9 Aug 2014 6:25 pm

Tgt Ion: 96 Resp: 60800

Ion	Ratio	Lower	Upper
96	100		
61	123.2	115.6	175.6
98	64.1	33.8	93.8

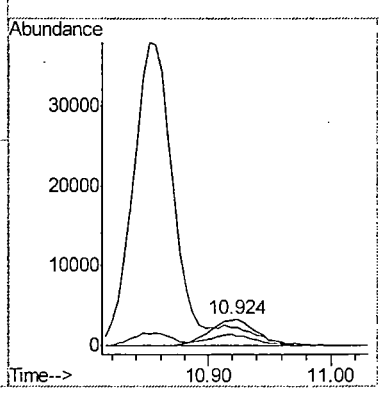




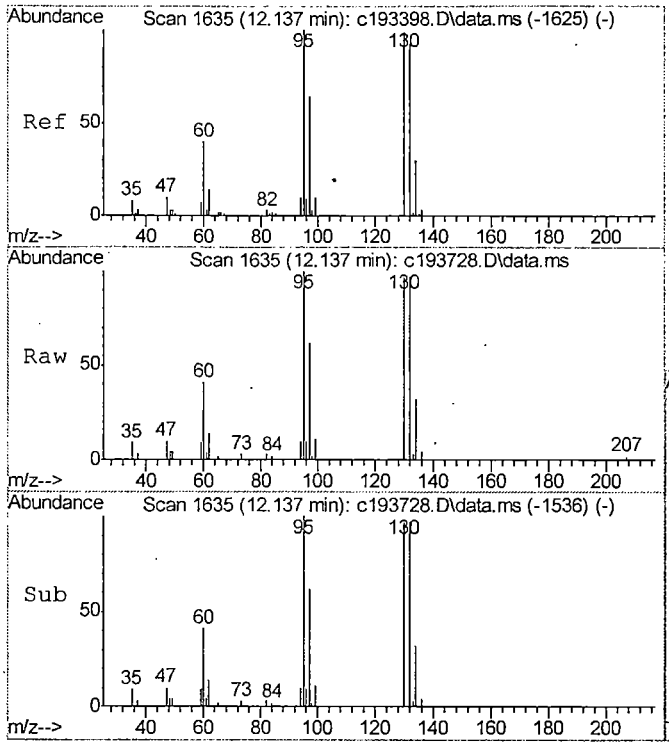
#55
1,1,1-trichloroethane
Concen: 3.95 ug/L
RT: 10.924 min Scan# 1403
Delta R.T. 0.000 min
Lab File: c193728.D
Acq: 9 Aug 2014 6:25 pm

Tgt Ion: 97 Resp: 8666

Ion	Ratio	Lower	Upper
97	100		
99	64.4	35.7	95.7
61	35.7	10.8	70.8



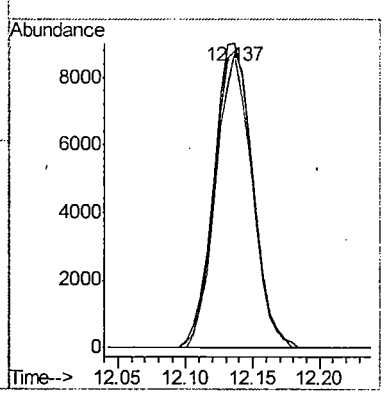
7.1.15 7

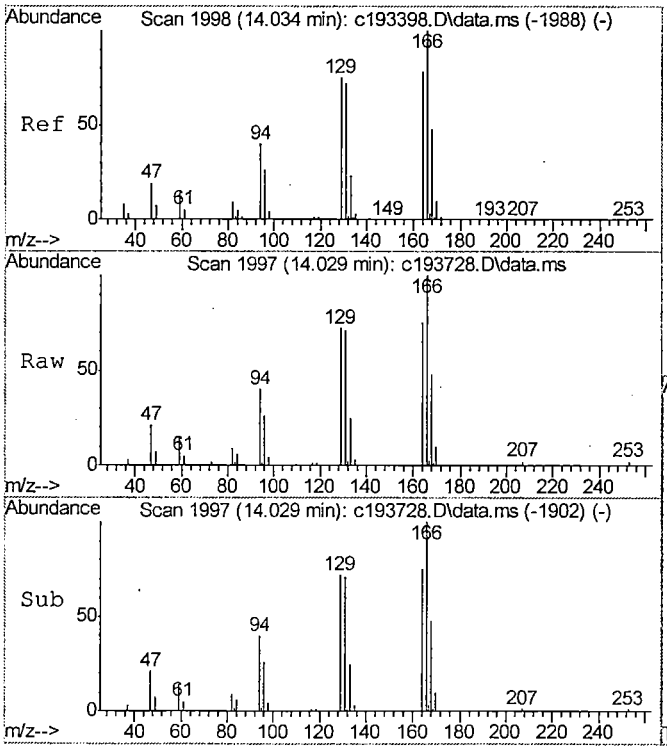


#70
trichloroethene
Concen: 10.62 ug/L
RT: 12.137 min Scan# 1635
Delta R.T. 0.000 min
Lab File: c193728.D
Acq: 9 Aug 2014 6:25 pm

Tgt Ion: 95 Resp: 17898

Ion	Ratio	Lower	Upper
95	100		
130	97.3	68.8	128.8
132	96.5	63.0	123.0

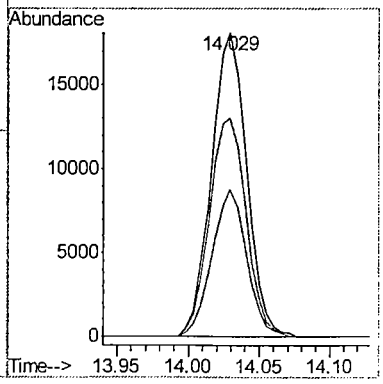




#90
tetrachloroethene
Concen: 19.67 ug/L
RT: 14.029 min Scan# 1997
Delta R.T. -0.005 min
Lab File: c193728.D
Acq: 9 Aug 2014 6:25 pm

Tgt Ion:166 Resp: 31539

Ion	Ratio	Lower	Upper
166	100		
168	48.4	17.6	77.6
129	72.1	44.8	104.8



7.1.15

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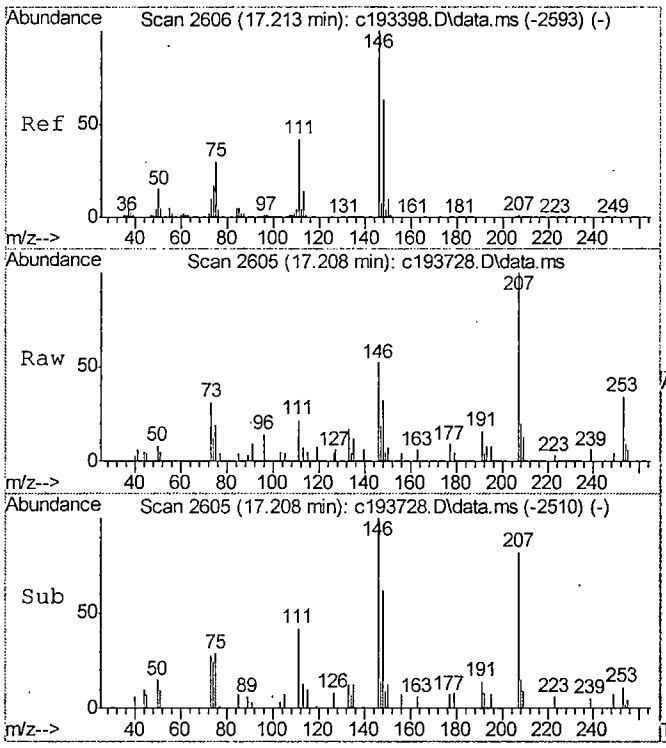
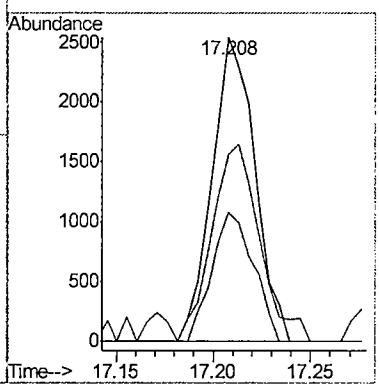


#125
1,2-dichlorobenzene
Concen: 0.98 ug/L
RT: 17.208 min Scan# 2605
Delta R.T. -0.005 min
Lab File: c193728.D
Acq: 9 Aug 2014 6:25 pm

Tgt Ion:146 Resp: 3876

Ion	Ratio	Lower	Upper
146	100		
111	42.5	12.4	72.4
148	54.9	33.1	93.1



7.1.15

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\C-CORE\vc7067\
Data File : c193729.D
Acq On : 9 Aug 2014 6:51 pm
Operator : thienn
Sample : jb73449-16
Misc : MS71807,VC7067,5,,,,1
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Aug 12 08:35:36 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	8.182	65	137756	500.00	ug/L	-0.02
5) pentafluorobenzene	10.853	168	154178	50.00	ug/L	0.00
59) 1,4-difluorobenzene	11.810	114	217494	50.00	ug/L	0.00
88) chlorobenzene-d5	14.842	117	191233	50.00	ug/L	0.00
104) 1,4-dichlorobenzene-d4	16.855	152	98805	50.00	ug/L	0.00
System Monitoring Compounds						
50) dibromofluoromethane (s)	10.921	113	67627	50.35	ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 100.70%			
51) 1,2-dichloroethane-d4 (s)	11.365	65	82247	50.97	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 101.94%			
80) toluene-d8 (s)	13.415	98	275043	52.08	ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 104.16%			
106) 4-bromofluorobenzene (s)	15.867	174	80130	47.88	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 95.76%			
Target Compounds						Qvalue
37) 1,1-dichloroethane	9.389	63	1398	0.47	ug/L	81
43) cis-1,2-dichloroethene	10.267	96	3893	1.98	ug/L #	80
55) 1,1,1-trichloroethane	10.921	97	1450	0.67	ug/L	91
70) trichloroethene	12.134	95	44044	26.53	ug/L	96
90) tetrachloroethene	14.026	166	2116	1.34	ug/L	97

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

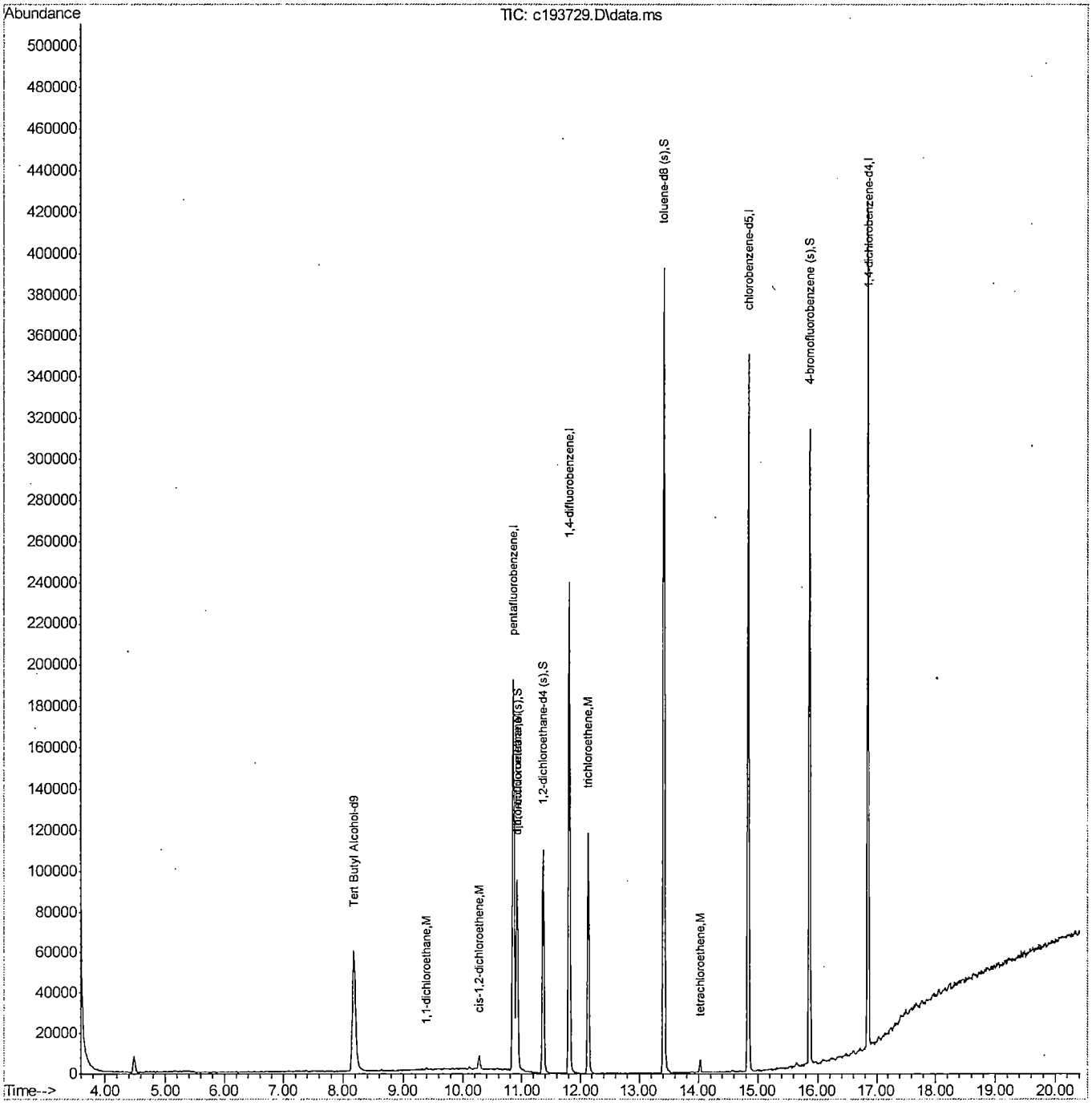
7.1.16

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\C-CORE\vc7067\
Data File : c193729.D
Acq On : 9 Aug 2014 6:51 pm
Operator : thienn
Sample : jb73449-16
Misc : MS71807,VC7067,5,,,,1
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Aug 12 08:35:36 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration



7.1.16

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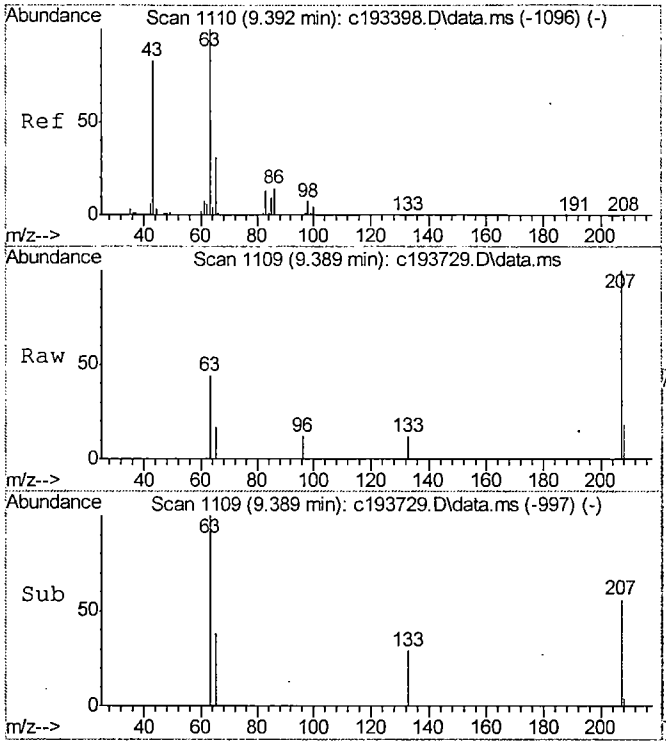
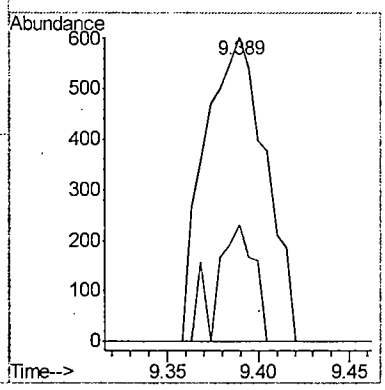
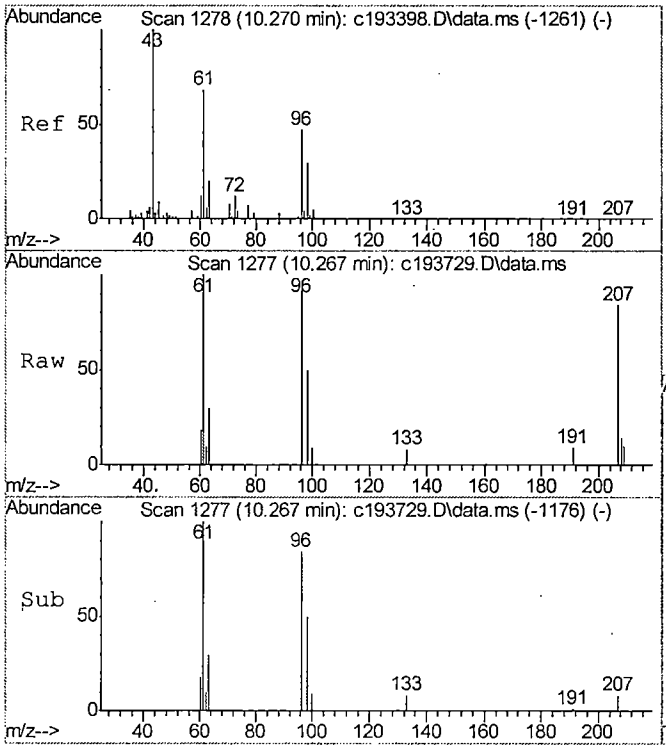


#37
1,1-dichloroethane
Concen: 0.47 ug/L
RT: 9.389 min Scan# 1109
Delta R.T. -0.003 min
Lab File: c193729.D
Acq: 9 Aug 2014 6:51 pm

Tgt Ion: 63 Resp: 1398

Ion	Ratio	Lower	Upper
63	100		
65	38.3	1.1	61.1
83	0.0	0.0	43.0

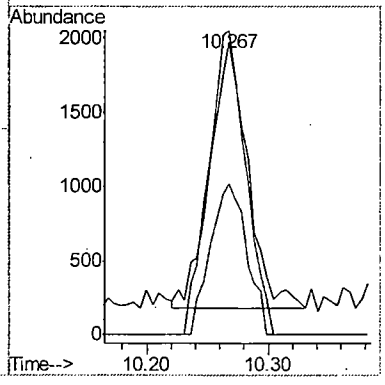




#43
cis-1,2-dichloroethene
Concen: 1.98 ug/L
RT: 10.267 min Scan# 1277
Delta R.T. -0.003 min
Lab File: c193729.D
Acq: 9 Aug 2014 6:51 pm

Tgt Ion: 96 Resp: 3893

Ion	Ratio	Lower	Upper
96	100		
61	114.4	115.6	175.6#
98	56.7	33.8	93.8



7.1.16

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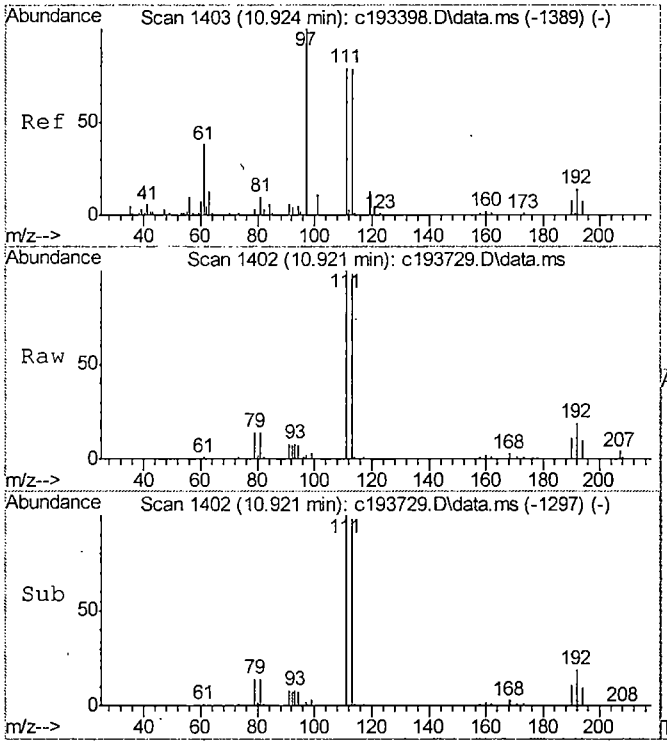
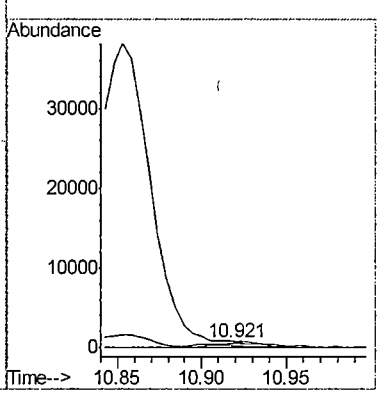
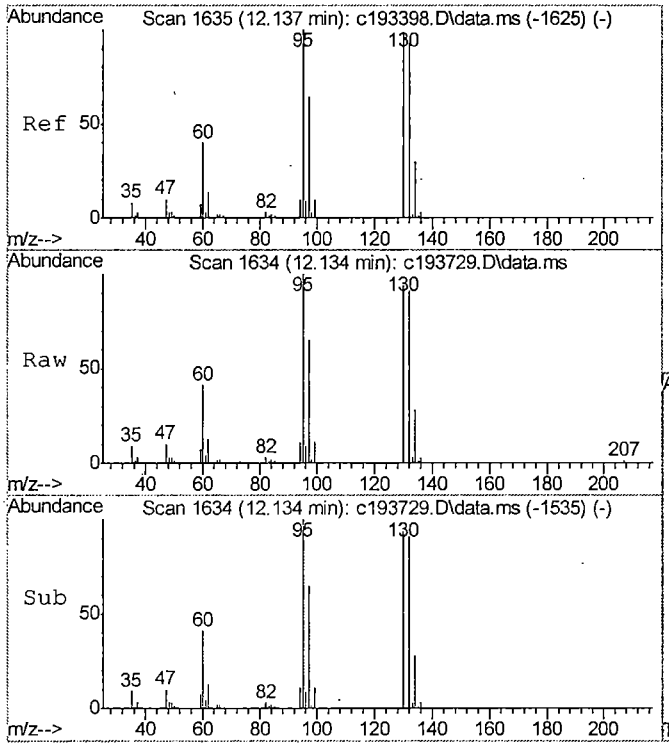


#55
1,1,1-trichloroethane
Concen: 0.67 ug/L
RT: 10.921 min Scan# 1402
Delta R.T. -0.003 min
Lab File: c193729.D
Acq: 9 Aug 2014 6:51 pm

Tgt Ion: 97 Resp: 1450

Ion	Ratio	Lower	Upper
97	100		
99	71.8	35.7	95.7
61	34.2	10.8	70.8

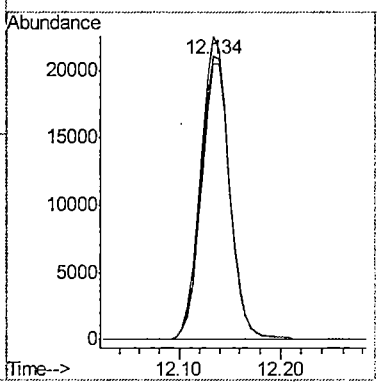


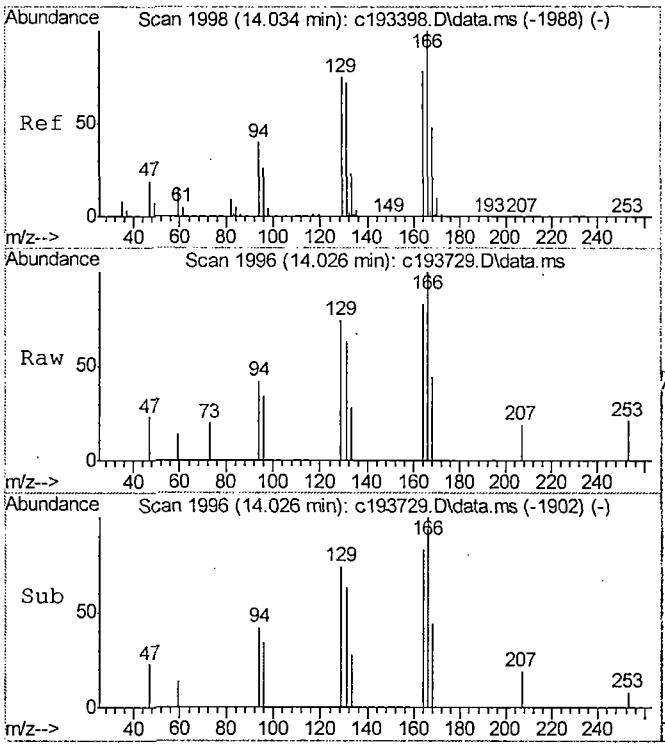


#70
trichloroethene
Concen: 26.53 ug/L
RT: 12.134 min Scan# 1634
Delta R.T. -0.003 min
Lab File: c193729.D
Acq: 9 Aug 2014 6:51 pm

Tgt Ion: 95 Resp: 44044

Ion	Ratio	Lower	Upper
95	100		
130	93.7	68.8	128.8
132	90.7	63.0	123.0

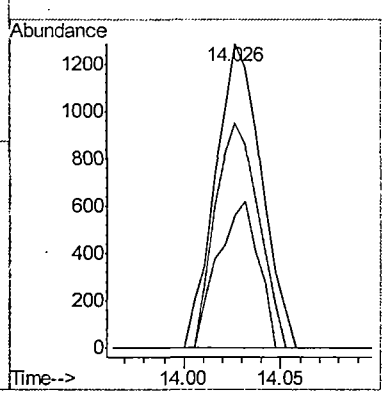




#90
tetrachloroethene
Concen: 1.34 ug/L
RT: 14.026 min Scan# 1996
Delta R.T. -0.008 min
Lab File: c193729.D
Acq: 9 Aug 2014 6:51 pm

Tgt Ion:166 Resp: 2116

Ion	Ratio	Lower	Upper
166	100		
168	43.5	17.6	77.6
129	73.8	44.8	104.8



7.1.16

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Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\C-CORE\vc7067\
Data File : c193730.D
Acq On : 9 Aug 2014 7:18 pm
Operator : thienn
Sample : jb73449-17
Misc : MS71807,VC7067,5,,,,1
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Aug 12 08:36:12 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	8.186	65	149564	500.00	ug/L	-0.01
5) pentafluorobenzene	10.852	168	150202	50.00	ug/L	0.00
59) 1,4-difluorobenzene	11.809	114	212188	50.00	ug/L	0.00
88) chlorobenzene-d5	14.841	117	186920	50.00	ug/L	0.00
104) 1,4-dichlorobenzene-d4	16.854	152	96857	50.00	ug/L	0.00
System Monitoring Compounds						
50) dibromofluoromethane (s)	10.920	113	67082	51.27	ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 102.54%			
51) 1,2-dichloroethane-d4 (s)	11.365	65	80834	51.42	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 102.84%			
80) toluene-d8 (s)	13.414	98	268491	52.11	ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 104.22%			
106) 4-bromofluorobenzene (s)	15.871	174	79100	48.22	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 96.44%			
Target Compounds						Qvalue
37) 1,1-dichloroethane	9.389	63	1072	0.37	ug/L #	51
43) cis-1,2-dichloroethene	10.267	96	804	0.42	ug/L #	80
55) 1,1,1-trichloroethane	10.915	97	2166	1.03	ug/L	90

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

7.1.17

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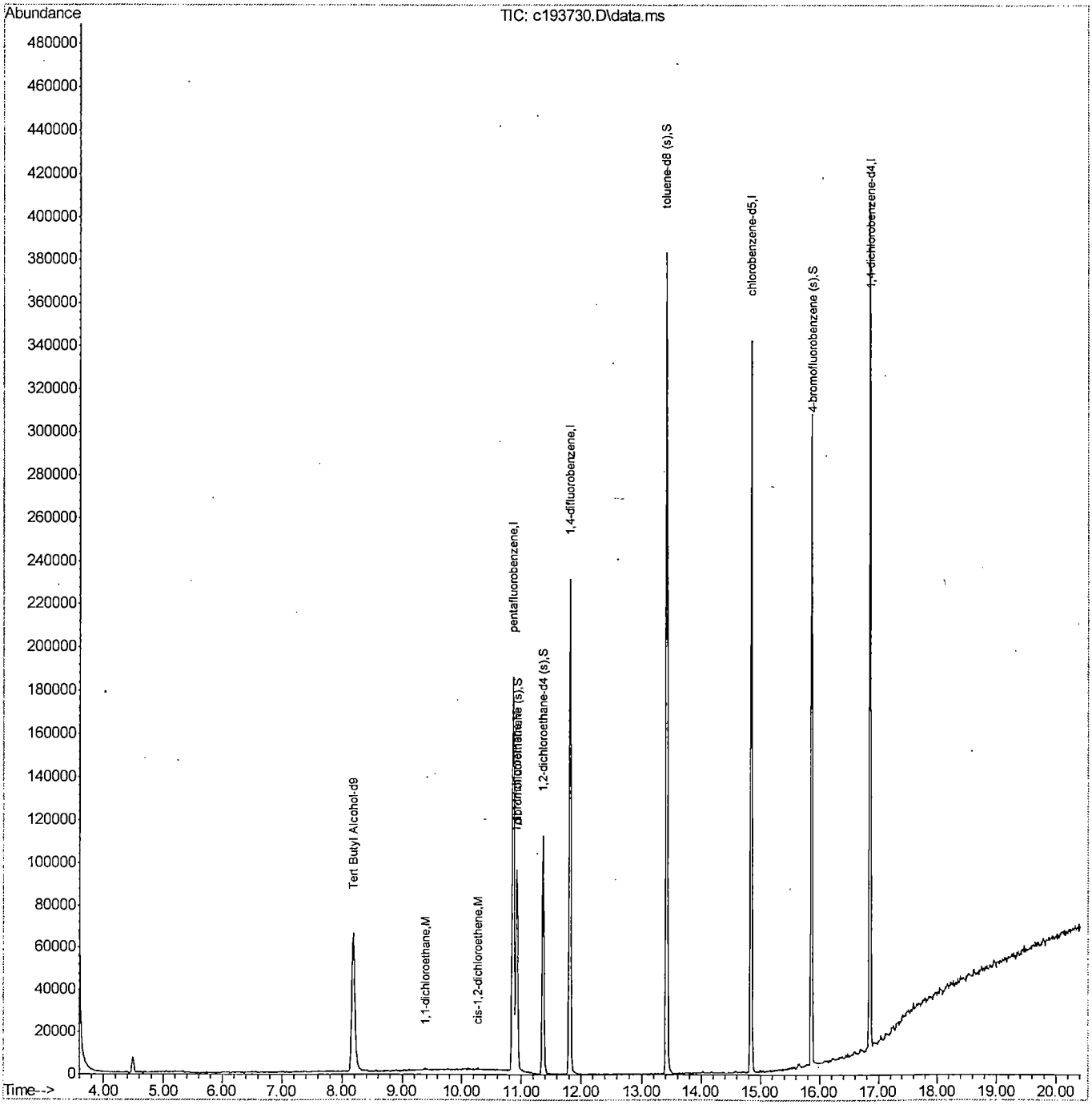
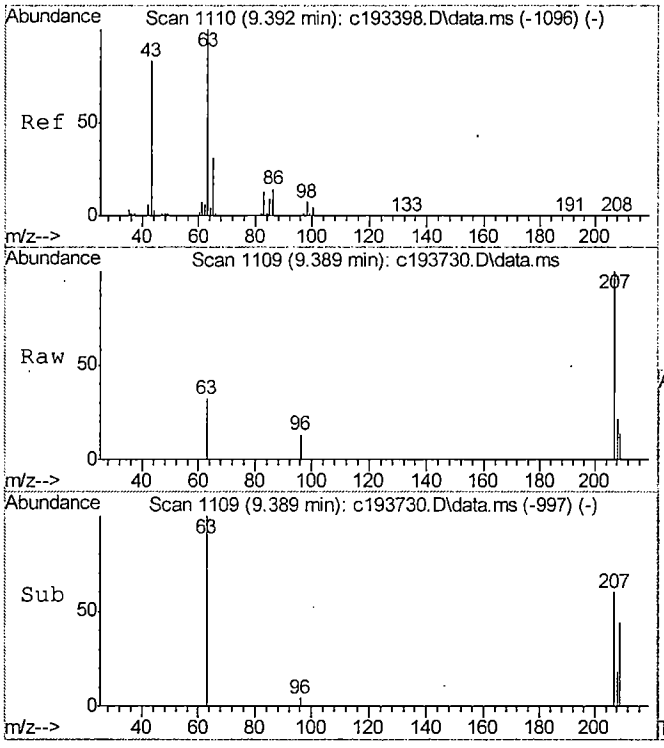
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\C-CORE\vc7067\
Data File : c193730.D
Acq On : 9 Aug 2014 7:18 pm
Operator : thienn
Sample : jb73449-17
Misc : MS71807,VC7067,5,,,,1
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Aug 12 08:36:12 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration

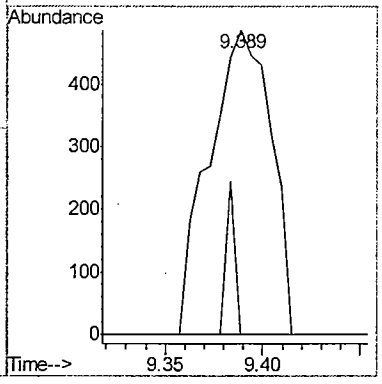


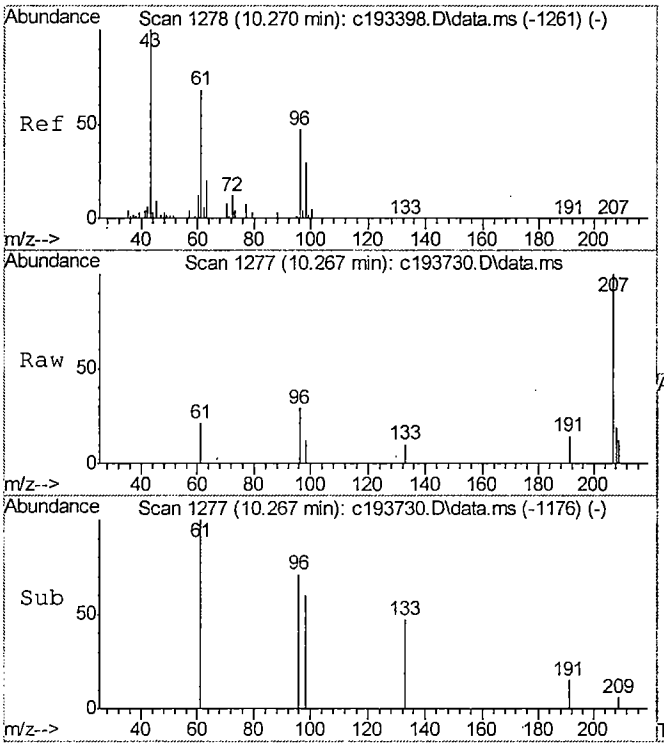


#37
1,1-dichloroethane
Concen: 0.37 ug/L
RT: 9.389 min Scan# 1109
Delta R.T. -0.003 min
Lab File: c193730.D
Acq: 9 Aug 2014 7:18 pm

Tgt Ion: 63 Resp: 1072

Ion	Ratio	Lower	Upper
63	100		
65	0.0	1.1	61.1#
83	0.0	0.0	43.0

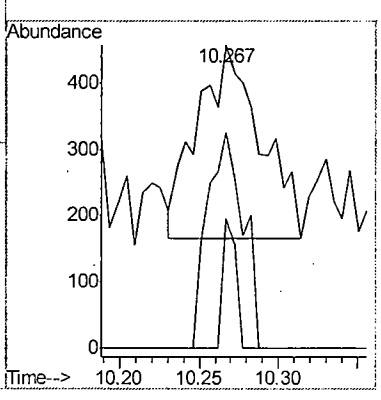


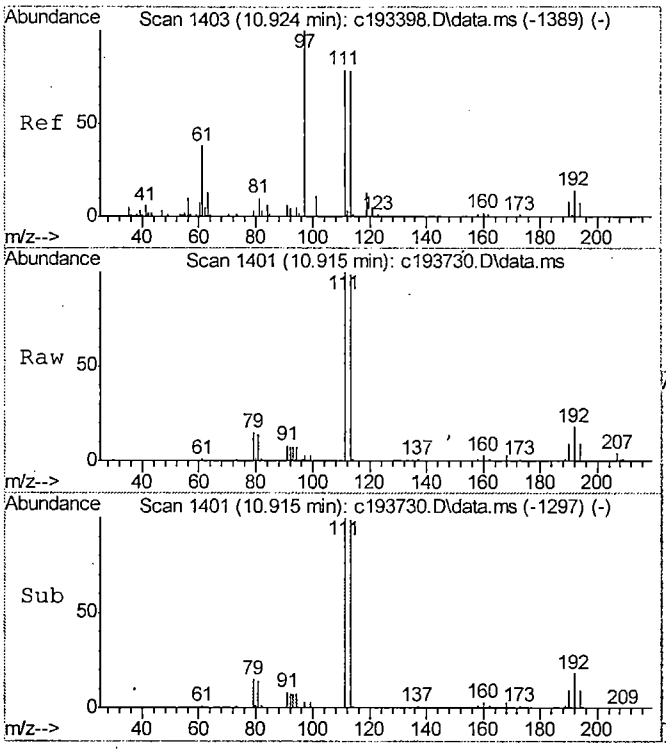


#43
cis-1,2-dichloroethene
Concen: 0.42 ug/L
RT: 10.267 min Scan# 1277
Delta R.T. -0.003 min
Lab File: c193730.D
Acq: 9 Aug 2014 7:18 pm

Tgt Ion: 96 Resp: 804

Ion	Ratio	Lower	Upper
96	100		
61	112.4	115.6	175.6#
98	67.2	33.8	93.8

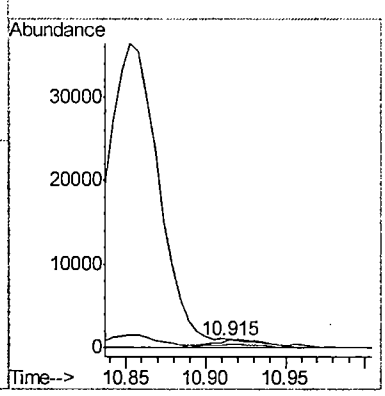




#55
1,1,1-trichloroethane
Concen: 1.03 ug/L
RT: 10.915 min Scan# 1401
Delta R.T. -0.008 min
Lab File: c193730.D
Acq: 9 Aug 2014 7:18 pm

Tgt Ion: 97 Resp: 2166

Ion	Ratio	Lower	Upper
97	100		
99	77.3	35.7	95.7
61	38.7	10.8	70.8



7.1.17

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\C-CORE\vc7067\
Data File : c193735.D
Acq On : 9 Aug 2014 9:31 pm
Operator : thienn
Sample : jb73449-18
Misc : MS71807,VC7067,5,,,,1
ALS Vial : 30 Sample Multiplier: 1

Quant Time: Aug 12 08:39:13 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	8.179	65	133634	500.00	ug/L	-0.02
5) pentafluorobenzene	10.855	168	145052	50.00	ug/L	0.00
59) 1,4-difluorobenzene	11.807	114	203501	50.00	ug/L	0.00
88) chlorobenzene-d5	14.844	117	180375	50.00	ug/L	0.00
104) 1,4-dichlorobenzene-d4	16.857	152	94644	50.00	ug/L	0.00
System Monitoring Compounds						
50) dibromofluoromethane (s)	10.918	113	65695	51.99	ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 103.98%			
51) 1,2-dichloroethane-d4 (s)	11.363	65	77270	50.90	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 101.80%			
80) toluene-d8 (s)	13.417	98	258485	52.31	ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 104.62%			
106) 4-bromofluorobenzene (s)	15.869	174	76907	47.98	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 95.96%			
Target Compounds						Qvalue

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

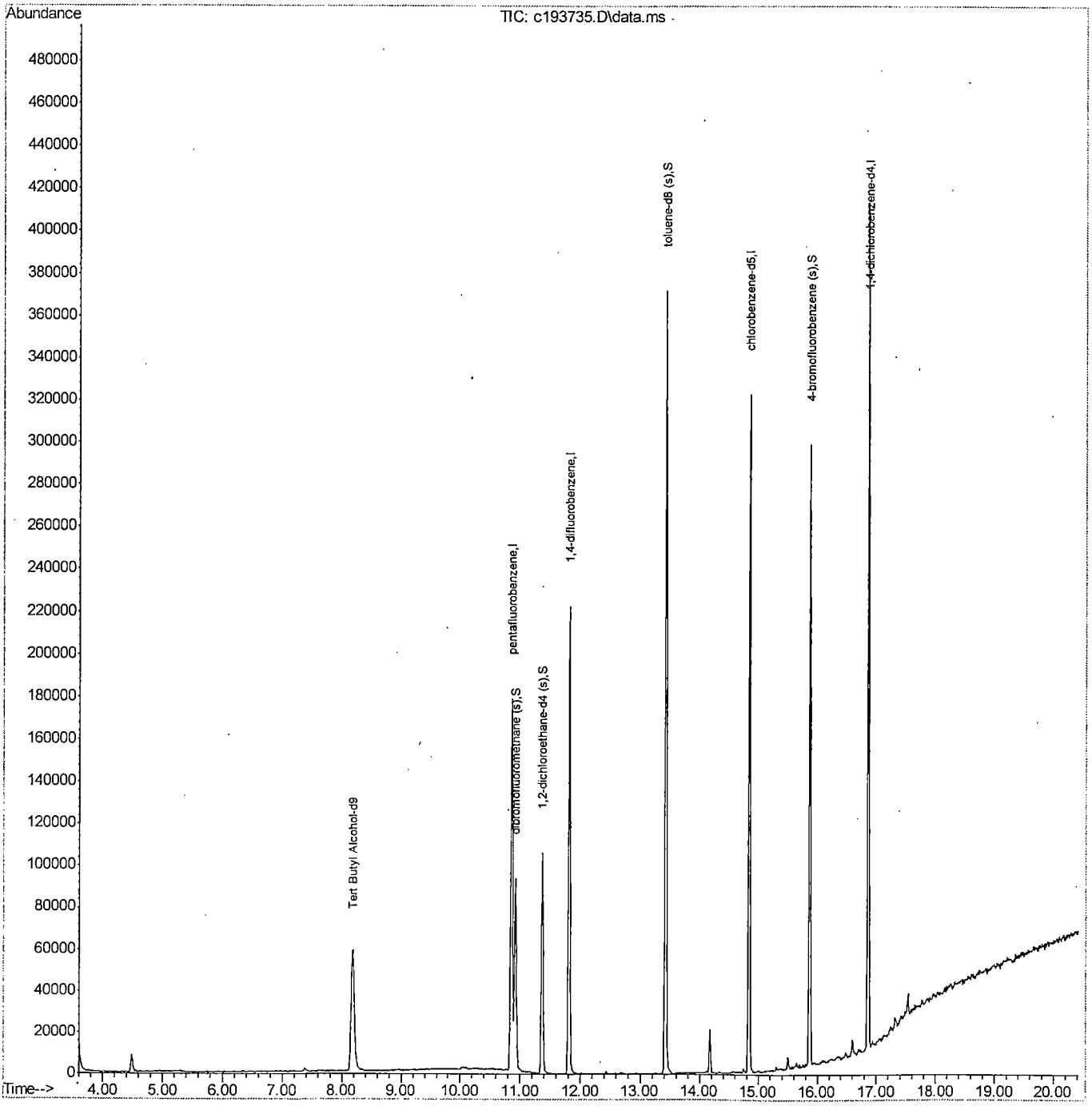
7.1.18

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\C-CORE\vc7067\
Data File : c193735.D
Acq On : 9 Aug 2014 9:31 pm
Operator : thienn
Sample : jb73449-18
Misc : MS71807,VC7067,5,,,,1
ALS Vial : 30 Sample Multiplier: 1

Quant Time: Aug 12 08:39:13 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration



MC7054.M Tue Aug 12 08:43:25 2014

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\C-CORE\vc7067\
Data File : c193736.D
Acq On : 9 Aug 2014 9:57 pm
Operator : thienn
Sample : jb73449-19
Misc : MS71807,VC7067,5,,,,1
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Aug 12 08:40:11 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	8.183	65	135650	500.00	ug/L	-0.02
5) pentafluorobenzene	10.855	168	144052	50.00	ug/L	0.00
59) 1,4-difluorobenzene	11.812	114	202251	50.00	ug/L	0.00
88) chlorobenzene-d5	14.844	117	178973	50.00	ug/L	0.00
104) 1,4-dichlorobenzene-d4	16.857	152	94435	50.00	ug/L	0.00
System Monitoring Compounds						
50) dibromofluoromethane (s)	10.918	113	64708	51.56	ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 103.12%			
51) 1,2-dichloroethane-d4 (s)	11.362	65	77254	51.24	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 102.48%			
80) toluene-d8 (s)	13.417	98	252890	51.50	ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 103.00%			
106) 4-bromofluorobenzene (s)	15.869	174	74863	46.81	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 93.62%			
Target Compounds						Qvalue

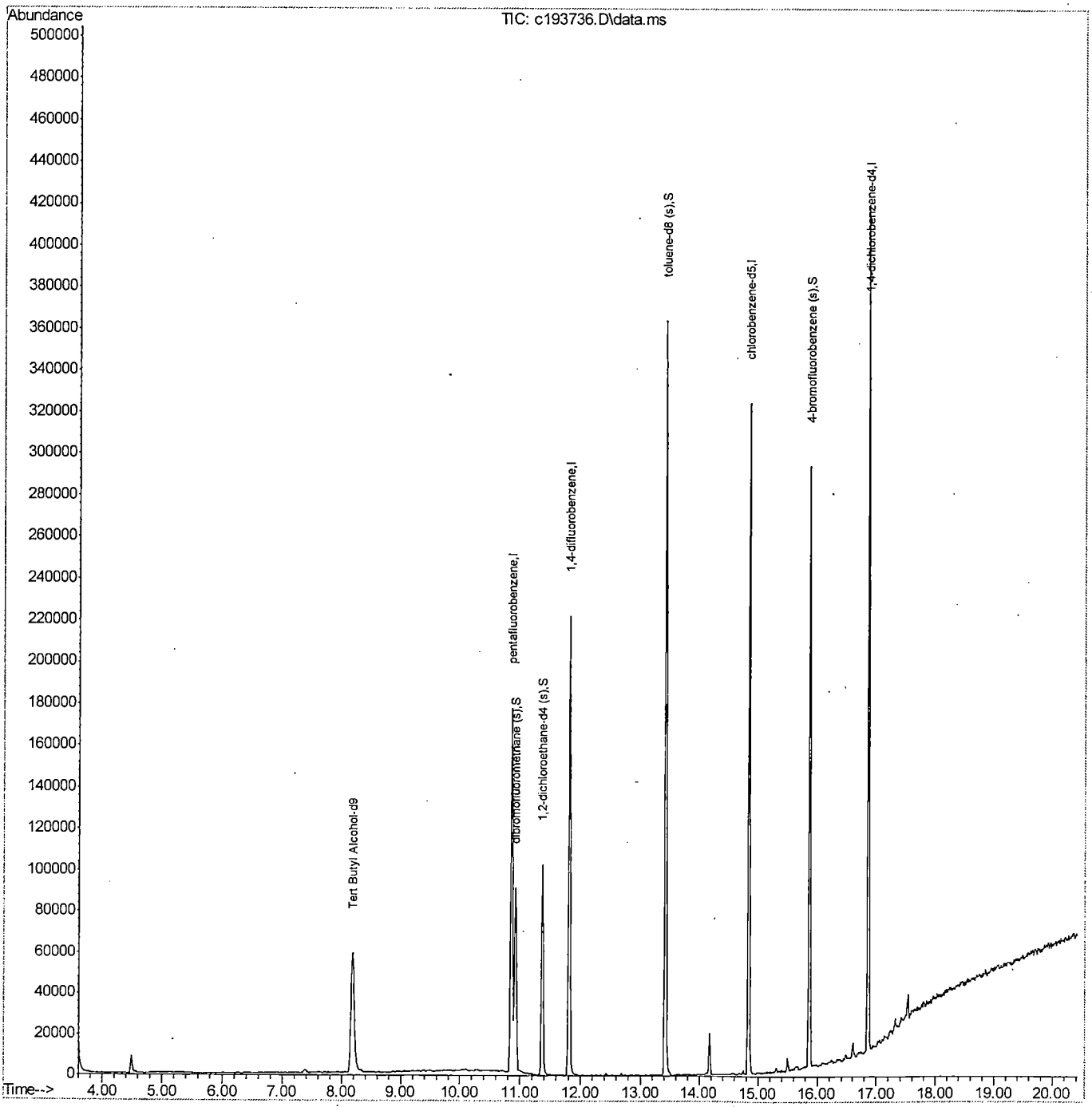
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.19 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\C-CORE\vc7067\
Data File : c193736.D
Acq On : 9 Aug 2014 9:57 pm
Operator : thienn
Sample : jb73449-19
Misc : MS71807,VC7067,5,,,,1
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Aug 12 08:40:11 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration



MC7054.M Tue Aug 12 08:43:28 2014

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\C-CORE\vc7067\
Data File : c193709.D
Acq On : 9 Aug 2014 10:01 am
Operator : thienn
Sample : mb1
Misc : MS71807,VC7067,5,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 12 08:21:28 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	8.179	65	144041	500.00	ug/L	-0.02
5) pentafluorobenzene	10.851	168	156393	50.00	ug/L	-0.01
59) 1,4-difluorobenzene	11.807	114	223142	50.00	ug/L	0.00
88) chlorobenzene-d5	14.840	117	196697	50.00	ug/L	0.00
104) 1,4-dichlorobenzene-d4	16.858	152	99534	50.00	ug/L	0.00
System Monitoring Compounds						
50) dibromofluoromethane (s)	10.913	113	68804	50.50	ug/L	-0.01
Spiked Amount 50.000	Range 79 - 120		Recovery = 101.00%			
51) 1,2-dichloroethane-d4 (s)	11.363	65	83896	51.26	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 102.52%			
80) toluene-d8 (s)	13.412	98	281834	52.02	ug/L	-0.01
Spiked Amount 50.000	Range 78 - 119		Recovery = 104.04%			
106) 4-bromofluorobenzene (s)	15.869	174	81932	48.60	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 97.20%			
Target Compounds						Qvalue

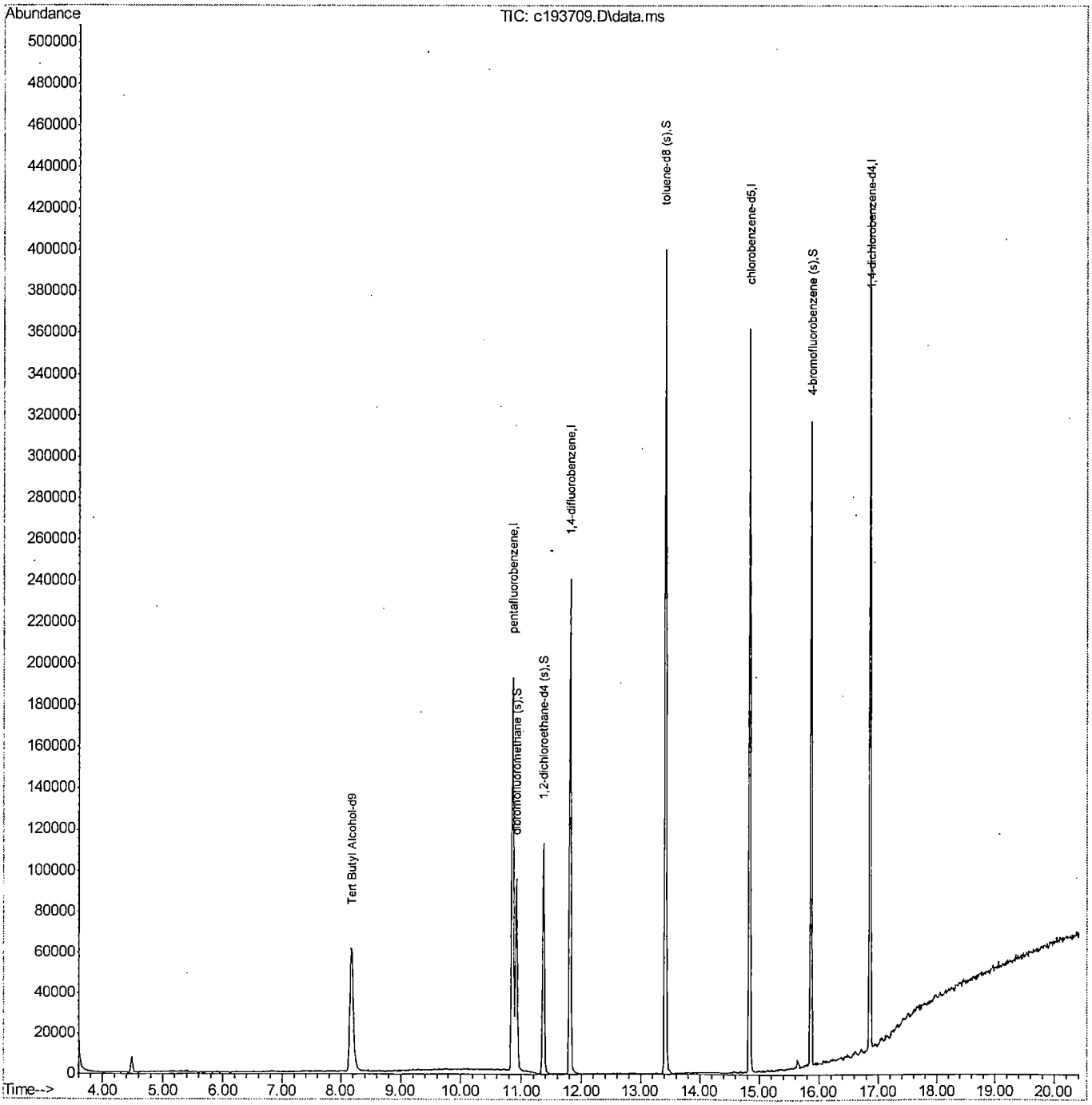
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.2.1 7.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\C-CORE\vc7067\
Data File : c193709.D
Acq On : 9 Aug 2014 10:01 am
Operator : thienn
Sample : mb1
Misc : MS71807,VC7067,5,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 12 08:21:28 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration



MC7054.M Tue Aug 12 08:41:43 2014 Page: 2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\C-CORE\vc7067\
Data File : c193734.D
Acq On : 9 Aug 2014 9:04 pm
Operator : thienn
Sample : mb2
Misc : MS71807,VC7067,5,,,,1
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Aug 12 08:38:39 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration

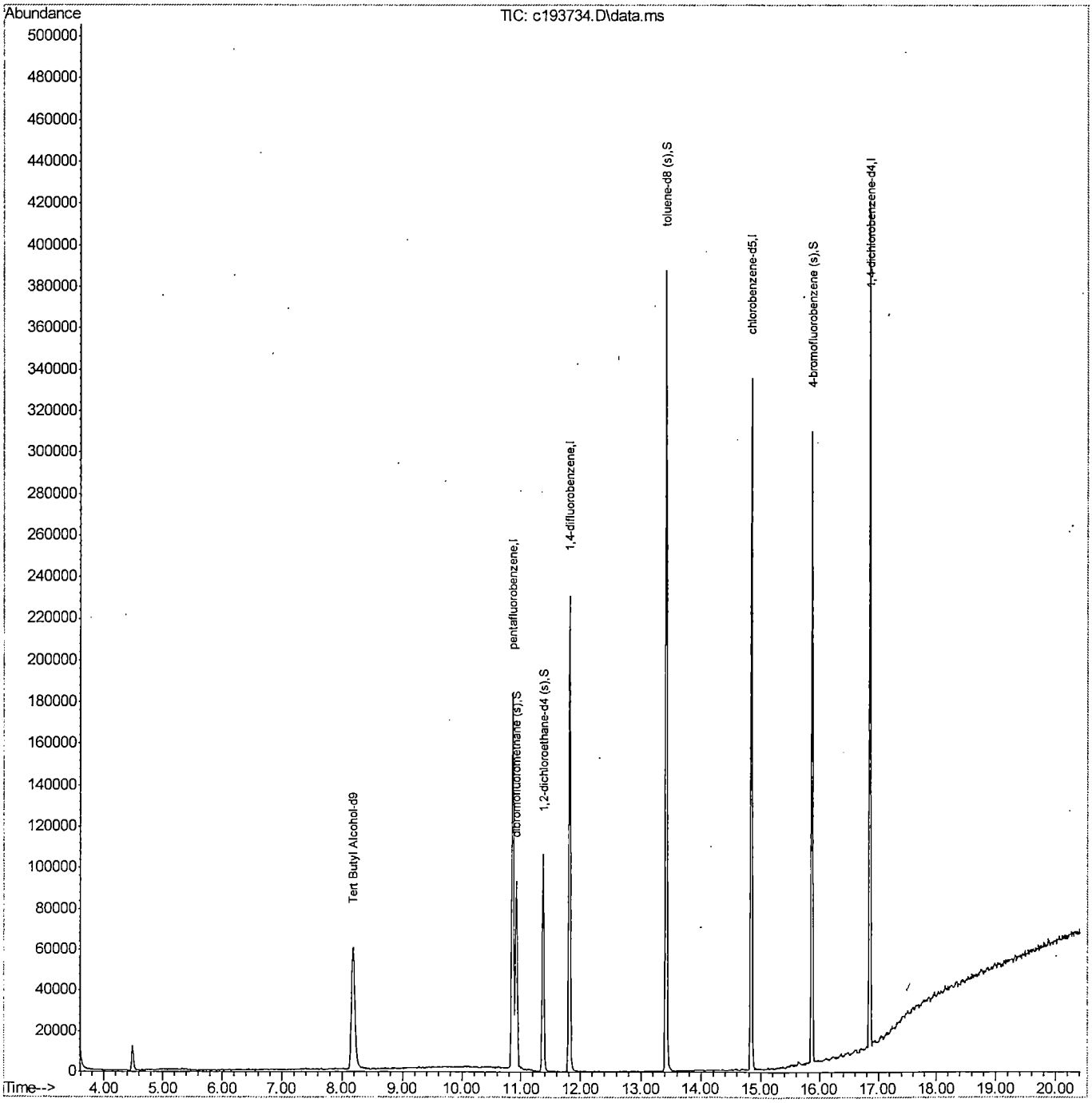
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	8.183	65	138497	500.00	ug/L	-0.02
5) pentafluorobenzene	10.854	168	149056	50.00	ug/L	0.00
59) 1,4-difluorobenzene	11.811	114	210763	50.00	ug/L	0.00
88) chlorobenzene-d5	14.843	117	186416	50.00	ug/L	0.00
104) 1,4-dichlorobenzene-d4	16.856	152	98219	50.00	ug/L	0.00
System Monitoring Compounds						
50) dibromofluoromethane (s)	10.917	113	66183	50.97	ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 101.94%			
51) 1,2-dichloroethane-d4 (s)	11.367	65	79315	50.84	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 101.68%			
80) toluene-d8 (s)	13.416	98	265868	51.95	ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 103.90%			
106) 4-bromofluorobenzene (s)	15.868	174	79123	47.56	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 95.12%			
Target Compounds						Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\C-CORE\vc7067\
Data File : c193734.D
Acq On : 9 Aug 2014 9:04 pm
Operator : thienn
Sample : mb2
Misc : MS71807,VC7067,5,,,,1
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Aug 12 08:38:39 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\C-CORE\vc7067\
Data File : c193710.D
Acq On : 9 Aug 2014 10:27 am
Operator : thienn
Sample : bs
Misc : MS71798,VC7067,5,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 12 08:54:53 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Tert Butyl Alcohol-d9	8.185	65	146559	500.00	ug/L		-0.01
5) pentafluorobenzene	10.856	168	154362	50.00	ug/L		0.00
59) 1,4-difluorobenzene	11.808	114	221999	50.00	ug/L		0.00
88) chlorobenzene-d5	14.840	117	198802	50.00	ug/L		0.00
104) 1,4-dichlorobenzene-d4	16.858	152	102530	50.00	ug/L		0.00
System Monitoring Compounds							
50) dibromofluoromethane (s)	10.919	113	68775	51.14	ug/L		0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 102.28%				
51) 1,2-dichloroethane-d4 (s)	11.363	65	82102	50.82	ug/L		0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 101.64%				
80) toluene-d8 (s)	13.413	98	282553	52.42	ug/L		-0.01
Spiked Amount 50.000	Range 78 - 119		Recovery = 104.84%				
106) 4-bromofluorobenzene (s)	15.870	174	83761	48.23	ug/L		0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 96.46%				
Target Compounds							Qvalue
2) 1,4-dioxane	12.550	88	43743	1458.56	ug/L	#	92
3) tertiary butyl alcohol	8.336	59	124980	313.76	ug/L		97
7) chlorodifluoromethane	3.971	51	53218	54.32	ug/L		95
8) dichlorodifluoromethane	3.924	85	96444	52.08	ug/L		99
9) chloromethane	4.368	50	103424	49.25	ug/L		98
10) vinyl chloride	4.645	62	111167	55.17	ug/L		100
13) bromomethane	5.424	94	60851	54.09	ug/L		99
14) chloroethane	5.644	64	54963	50.71	ug/L		97
16) trichlorofluoromethane	6.156	101	112384	57.13	ug/L		98
18) ethyl ether	6.710	74	58581	50.46	ug/L		98
19) 2-chloropropane	6.951	43	144512	57.10	ug/L	#	84
20) acrolein	7.081	56	218080	390.33	ug/L		99
21) 1,1-dichloroethene	7.223	61	123662	51.64	ug/L		99
23) acetone	7.369	58	13438	22.05	ug/L		100
24) allyl chloride	7.918	76	48367	55.18	ug/L		92
25) acetonitrile	7.918	41	125453	534.32	ug/L		100
26) iodomethane	7.578	142	126409	51.86	ug/L		99
27) iso-butyl alcohol	8.556	74	20891	857.68	ug/L		98
28) carbon disulfide	7.693	76	280377	51.97	ug/L		100
29) methylene chloride	8.185	84	88622	49.80	ug/L		99
30) 1-chloropropane	8.200	63	7709	51.02	ug/L		75
31) methyl acetate	7.934	43	89623	40.82	ug/L		99
32) methyl tert butyl ether	8.556	73	469260	83.30	ug/L		98
33) trans-1,2-dichloroethene	8.634	61	118285	49.55	ug/L		99
34) di-isopropyl ether	9.324	45	259361	47.72	ug/L		98
35) ethyl tert-butyl ether	9.884	59	185348	33.98	ug/L		99
36) 2-butanone	10.260	72	18492	37.84	ug/L		72
37) 1,1-dichloroethane	9.387	63	151536	50.39	ug/L		98
38) chloroprene	9.492	53	121817	53.73	ug/L		100
39) acrylonitrile	8.676	53	234956	220.91	ug/L		99
40) vinyl acetate	9.387	86	22349	53.42	ug/L		99
41) ethyl acetate	10.265	45	18054	46.08	ug/L		81

ACCUTEST LABORATORIES JB73449

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\C-CORE\vc7067\
Data File : c193710.D
Acq On : 9 Aug 2014 10:27 am
Operator : thienn
Sample : bs
Misc : MS71798,VC7067,5,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 12 08:54:53 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
42)	2,2-dichloropropane	10.234	77	77452	49.41	ug/L		98
43)	cis-1,2-dichloroethene	10.265	96	95152	48.28	ug/L		99
44)	methyl acrylate	10.354	55	112337	49.43	ug/L		100
45)	propionitrile	10.422	54	214695	452.68	ug/L		98
46)	bromochloromethane	10.626	128	44168	50.13	ug/L		95
47)	tetrahydrofuran	10.652	42	45671	44.49	ug/L		98
48)	chloroform	10.694	83	149973	52.82	ug/L		97
49)	t-butyl formate	10.704	59	30529	30.71	ug/L		92
52)	freon 113	7.160	151	54187	57.58	ug/L		95
53)	methacrylonitrile	10.595	67	54051	49.93	ug/L		95
54)	cyclohexane	10.961	84	130847	51.64	ug/L		99
55)	1,1,1-trichloroethane	10.919	97	122530	56.58	ug/L		99
57)	2,2,4-trimethylpentane	11.353	57	191962	53.51	ug/L		93
58)	tert-amyl methyl ether	11.421	73	185532	33.92	ug/L		97
60)	epichlorohydrin	13.099	57	76455	220.47	ug/L		99
61)	n-butyl alcohol	12.001	56	296472	2403.73	ug/L		99
62)	carbon tetrachloride	11.117	119	104179	57.03	ug/L		99
63)	1,1-dichloropropene	11.112	75	113714	49.60	ug/L		98
64)	hexane	8.979	57	87000	46.40	ug/L		100
65)	benzene	11.400	78	369350	51.44	ug/L		100
66)	heptane	11.541	57	40796	46.11	ug/L		98
67)	isopropyl acetate	11.353	61	52196	51.49	ug/L	#	82
68)	1,2-dichloroethane	11.457	62	112598	53.50	ug/L		97
70)	trichloroethene	12.132	95	89633	52.90	ug/L		98
71)	2-chloroethyl vinyl ether	12.958	63	205334	164.46	ug/L		99
72)	2-Nitropropane	12.968	41	41826	44.94	ug/L	#	56
73)	methylcyclohexane	12.309	83	124279	49.81	ug/L		82
75)	methyl methacrylate	12.430	69	88231	53.76	ug/L		99
76)	1,2-dichloropropane	12.424	63	91748	52.89	ug/L		95
77)	dibromomethane	12.592	93	58784	53.20	ug/L		97
78)	bromodichloromethane	12.722	83	121576	56.27	ug/L		100
79)	cis-1,3-dichloropropene	13.162	75	151455	50.75	ug/L		98
81)	4-methyl-2-pentanone	13.261	58	59611	51.15	ug/L		97
82)	toluene	13.486	92	227229	54.40	ug/L		99
83)	3-methyl-1-butanol	13.308	55	185959	939.66	ug/L		97
84)	trans-1,3-dichloropropene	13.711	75	139067	49.42	ug/L		98
85)	ethyl methacrylate	13.679	69	149397	53.89	ug/L		99
86)	1,1,2-trichloroethane	13.920	83	74243	52.53	ug/L		99
87)	2-hexanone	14.071	58	58680	47.88	ug/L		96
89)	cyclohexanone	15.870	98	29870	83.06	ug/L		96
90)	tetrachloroethene	14.029	166	83794	50.91	ug/L		99
91)	1,3-dichloropropane	14.087	76	148873	51.78	ug/L		99
92)	butyl acetate	14.118	56	85230	48.77	ug/L		99
93)	3,3-dimethyl-1-butanol	14.244	57	216733	450.65	ug/L		100
94)	dibromochloromethane	14.333	129	92770	53.44	ug/L		99
95)	1,2-dibromoethane	14.469	107	92303	51.68	ug/L		99
97)	chlorobenzene	14.871	112	238870	50.79	ug/L		99
98)	1,1,1,2-tetrachloroethane	14.929	131	85796	50.74	ug/L		100
99)	ethylbenzene	14.903	91	429362	52.41	ug/L		100
100)	m,p-xylene	14.997	106	325999	106.51	ug/L		99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\C-CORE\vc7067\
Data File : c193710.D
Acq On : 9 Aug 2014 10:27 am
Operator : thienn
Sample : bs
Misc : MS71798,VC7067,5,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 12 08:54:53 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
101) o-xylene	15.373	106	162467	51.48	ug/L	99
102) styrene	15.389	104	278713	51.93	ug/L	100
103) bromoform	15.661	173	68471	51.84	ug/L	98
105) isopropylbenzene	15.666	105	422467	49.55	ug/L	99
107) bromobenzene	16.042	156	100403	47.92	ug/L	99
108) 1,1,2,2-tetrachloroethane	15.974	83	143484	46.73	ug/L	100
109) trans-1,4-dichloro-2-b...	16.000	53	38824	44.59	ug/L	91
110) 1,2,3-trichloropropane	16.042	110	41537	49.29	ug/L	95
111) n-propylbenzene	16.021	91	511742	53.95	ug/L	99
113) 2-chlorotoluene	16.162	126	97418	47.25	ug/L	98
114) 4-chlorotoluene	16.246	91	314482	49.82	ug/L	99
115) 1,3,5-trimethylbenzene	16.142	105	363596	49.72	ug/L	99
116) tert-butylbenzene	16.445	134	72980	46.39	ug/L	89
117) pentachloroethane	16.544	167	60632	57.88	ug/L	99
118) 1,2,4-trimethylbenzene	16.481	105	384449	52.81	ug/L	99
119) sec-butylbenzene	16.623	105	448910	51.26	ug/L	99
120) 1,3-dichlorobenzene	16.811	146	197955	47.74	ug/L	100
121) p-isopropyltoluene	16.711	119	386125	51.85	ug/L	99
122) 1,4-dichlorobenzene	16.879	146	203041	47.85	ug/L	99
123) benzyl chloride	16.983	91	312102	48.67	ug/L	99
125) 1,2-dichlorobenzene	17.208	146	200110	48.51	ug/L	98
126) n-butylbenzene	17.056	92	196061	50.96	ug/L	99
128) 1,2-dibromo-3-chloropr...	17.851	75	36732	46.24	ug/L	97
129) 1,3,5-trichlorobenzene	17.966	180	159768	47.76	ug/L	99
130) 1,2,4-trichlorobenzene	18.505	180	151885	48.87	ug/L	99
131) hexachlorobutadiene	18.567	225	52929	50.30	ug/L	99
132) naphthalene	18.761	128	546221	50.23	ug/L	99
133) 1,2,3-trichlorobenzene	18.965	180	145807	48.31	ug/L	99
134) hexachloroethane	17.407	119	66745	53.79	ug/L	100

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

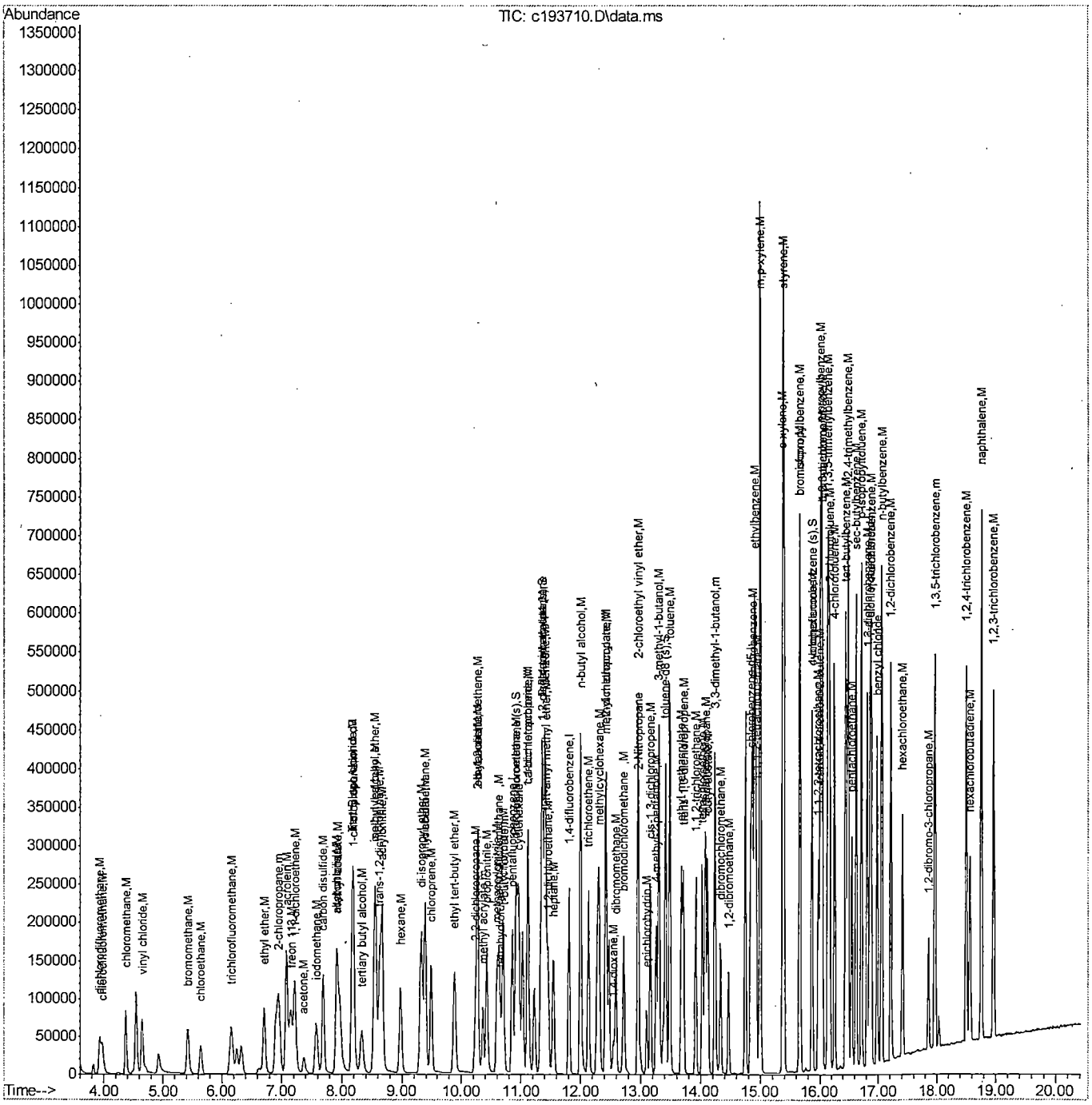
7.3.1

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\C-CORE\vc7067\
Data File : c193710.D
Acq On : 9 Aug 2014 10:27 am
Operator : thienn
Sample : bs
Misc : MS71798,VC7067,5,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 12 08:54:53 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration



7.3.1

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\C-CORE\vc7067\
Data File : c193711.D
Acq On : 9 Aug 2014 10:54 am
Operator : thienn
Sample : jb73449-12ms
Misc : MS71807,VC7067,5,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 12 08:22:20 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Tert Butyl Alcohol-d9	8.189	65	151212	500.00	ug/L		0.00
5) pentafluorobenzene	10.855	168	152876	50.00	ug/L		0.00
59) 1,4-difluorobenzene	11.807	114	220696	50.00	ug/L		0.00
88) chlorobenzene-d5	14.839	117	197741	50.00	ug/L		0.00
104) 1,4-dichlorobenzene-d4	16.857	152	103090	50.00	ug/L		0.00
System Monitoring Compounds							
50) dibromofluoromethane (s)	10.918	113	67787	50.90	ug/L		0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 101.80%				
51) 1,2-dichloroethane-d4 (s)	11.362	65	80822	50.51	ug/L		0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 101.02%				
80) toluene-d8 (s)	13.417	98	281635	52.56	ug/L		0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 105.12%				
106) 4-bromofluorobenzene (s)	15.869	174	83858	48.03	ug/L		0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 96.06%				
Target Compounds							Qvalue
2) 1,4-dioxane	12.549	88	42142	1361.94	ug/L		97
3) tertiary butyl alcohol	8.335	59	120623	293.51	ug/L		97
7) chlorodifluoromethane	3.975	51	50613	52.16	ug/L		92
8) dichlorodifluoromethane	3.928	85	95347	51.99	ug/L		99
9) chloromethane	4.367	50	96529	46.41	ug/L		100
10) vinyl chloride	4.644	62	104618	52.43	ug/L		99
13) bromomethane	5.429	94	57754	51.84	ug/L		97
14) chloroethane	5.648	64	51355	47.84	ug/L		100
16) trichlorofluoromethane	6.166	101	106137	54.48	ug/L		100
18) ethyl ether	6.715	74	56881	49.47	ug/L		97
19) 2-chloropropane	6.955	43	125381	50.02	ug/L	#	87
20) acrolein	7.086	56	185375	335.02	ug/L		98
21) 1,1-dichloroethene	7.222	61	126012	53.13	ug/L		98
23) acetone	7.373	58	13205	21.76	ug/L		100
24) allyl chloride	7.928	76	41806	48.16	ug/L		97
25) acetonitrile	7.922	41	109450	470.69	ug/L		98
26) iodomethane	7.583	142	128049	53.04	ug/L		100
27) iso-butyl alcohol	8.560	74	10876	450.85	ug/L		94
28) carbon disulfide	7.692	76	277297	51.90	ug/L		100
29) methylene chloride	8.189	84	88779	50.38	ug/L		98
30) 1-chloropropane	8.205	63	7443	49.54	ug/L		79
31) methyl acetate	7.938	43	84550	38.89	ug/L		100
32) methyl tert butyl ether	8.560	73	239981	43.01	ug/L		98
33) trans-1,2-dichloroethene	8.639	61	120628	51.02	ug/L		99
34) di-isopropyl ether	9.324	45	247075	45.90	ug/L		99
35) ethyl tert-butyl ether	9.888	59	173580	32.13	ug/L		98
36) 2-butanone	10.265	72	18173	37.54	ug/L		84
37) 1,1-dichloroethane	9.386	63	153603	51.57	ug/L		97
38) chloroprene	9.496	53	109899	48.95	ug/L		99
39) acrylonitrile	8.680	53	236270	224.30	ug/L		100
40) vinyl acetate	9.392	86	19270	46.51	ug/L		91
41) ethyl acetate	10.265	45	16395	42.25	ug/L		74

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\C-CORE\vc7067\
Data File : c193711.D
Acq On : 9 Aug 2014 10:54 am
Operator : thienn
Sample : jb73449-12ms
Misc : MS71807,VC7067,5,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 12 08:22:20 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
42)	2,2-dichloropropane	10.238	77	76445	49.25	ug/L		99
43)	cis-1,2-dichloroethene	10.265	96	96277	49.33	ug/L		100
44)	methyl acrylate	10.353	55	109308	48.57	ug/L		99
45)	propionitrile	10.421	54	211196	449.63	ug/L		98
46)	bromochloromethane	10.625	128	44410	50.90	ug/L		98
47)	tetrahydrofuran	10.651	42	44615	43.88	ug/L		97
48)	chloroform	10.693	83	148362	52.76	ug/L		99
49)	t-butyl formate	10.698	59	1914	1.94	ug/L	#	66
52)	freon 113	7.159	151	48875	52.44	ug/L		97
53)	methacrylonitrile	10.594	67	53049	49.48	ug/L		98
54)	cyclohexane	10.960	84	135292	53.91	ug/L		99
55)	1,1,1-trichloroethane	10.918	97	134444	62.68	ug/L		97
57)	2,2,4-trimethylpentane	11.352	57	170213	47.91	ug/L		98
58)	tert-amyl methyl ether	11.425	73	170761	31.52	ug/L		98
60)	epichlorohydrin	13.098	57	56322	163.38	ug/L		98
61)	n-butyl alcohol	12.000	56	297342	2425.02	ug/L		99
62)	carbon tetrachloride	11.122	119	105679	58.19	ug/L		100
63)	1,1-dichloropropene	11.112	75	118982	52.20	ug/L		99
64)	hexane	8.984	57	78066	41.88	ug/L		99
65)	benzene	11.399	78	366908	51.40	ug/L		100
66)	heptane	11.545	57	38237	43.48	ug/L		97
67)	isopropyl acetate	11.357	61	47879	47.51	ug/L		98
68)	1,2-dichloroethane	11.457	62	110987	53.04	ug/L		100
70)	trichloroethene	12.136	95	90097	53.49	ug/L		99
72)	2-Nitropropane	12.967	41	32964	35.63	ug/L	#	1
73)	methylcyclohexane	12.309	83	119997	48.38	ug/L		99
75)	methyl methacrylate	12.429	69	86089	52.76	ug/L		99
76)	1,2-dichloropropane	12.424	63	89759	52.05	ug/L		97
77)	dibromomethane	12.591	93	58654	53.39	ug/L		98
78)	bromodichloromethane	12.722	83	119642	55.70	ug/L		99
79)	cis-1,3-dichloropropene	13.161	75	153857	51.86	ug/L		97
81)	4-methyl-2-pentanone	13.260	58	58510	50.50	ug/L		98
82)	toluene	13.485	92	228685	55.07	ug/L		99
83)	3-methyl-1-butanol	13.307	55	187376	952.41	ug/L		98
84)	trans-1,3-dichloropropene	13.710	75	141334	50.52	ug/L		97
85)	ethyl methacrylate	13.684	69	147830	53.64	ug/L		99
86)	1,1,2-trichloroethane	13.919	83	73575	52.36	ug/L		100
87)	2-hexanone	14.071	58	58212	47.78	ug/L		98
89)	cyclohexanone	15.869	98	31244	87.35	ug/L		97
90)	tetrachloroethene	14.029	166	84405	51.56	ug/L		99
91)	1,3-dichloropropane	14.086	76	148278	51.85	ug/L		99
92)	butyl acetate	14.123	56	79640	45.82	ug/L		96
93)	3,3-dimethyl-1-butanol	14.243	57	227582	475.75	ug/L		100
94)	dibromochloromethane	14.332	129	94054	54.47	ug/L		99
95)	1,2-dibromoethane	14.468	107	92300	51.96	ug/L		99
97)	chlorobenzene	14.870	112	237929	50.86	ug/L		99
98)	1,1,1,2-tetrachloroethane	14.928	131	87864	52.24	ug/L		99
99)	ethylbenzene	14.902	91	433607	53.21	ug/L		99
100)	m,p-xylene	14.996	106	328904	108.04	ug/L		100
101)	o-xylene	15.372	106	165099	52.60	ug/L		99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\C-CORE\vc7067\
Data File : c193711.D
Acq On : 9 Aug 2014 10:54 am
Operator : thienn
Sample : jb73449-12ms
Misc : MS71807,VC7067,5,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 12 08:22:20 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
102) styrene	15.388	104	279129	52.28 ug/L	98
103) bromoform	15.660	173	68862	52.42 ug/L	96
105) isopropylbenzene	15.665	105	427481	49.87 ug/L	99
107) bromobenzene	16.042	156	101245	48.06 ug/L	97
108) 1,1,2,2-tetrachloroethane	15.974	83	149242	48.34 ug/L	99
109) trans-1,4-dichloro-2-b...	16.005	53	39125	44.70 ug/L	96
110) 1,2,3-trichloropropane	16.042	110	41820	49.36 ug/L	95
111) n-propylbenzene	16.021	91	489991	51.37 ug/L	100
113) 2-chlorotoluene	16.162	126	98995	47.75 ug/L	97
114) 4-chlorotoluene	16.251	91	317484	50.02 ug/L	100
115) 1,3,5-trimethylbenzene	16.141	105	370873	50.44 ug/L	98
116) tert-butylbenzene	16.444	134	73579	46.51 ug/L	91
117) pentachloroethane	16.543	167	61151	58.06 ug/L	98
118) 1,2,4-trimethylbenzene	16.481	105	369419	50.47 ug/L	99
119) sec-butylbenzene	16.622	105	458216	52.04 ug/L	98
120) 1,3-dichlorobenzene	16.810	146	201590	48.35 ug/L	100
121) p-isopropyltoluene	16.716	119	388836	51.93 ug/L	99
122) 1,4-dichlorobenzene	16.878	146	204669	47.97 ug/L	99
123) benzyl chloride	16.983	91	302521	46.92 ug/L	99
125) 1,2-dichlorobenzene	17.213	146	202498	48.82 ug/L	100
126) n-butylbenzene	17.056	92	190855	49.34 ug/L	98
128) 1,2-dibromo-3-chloropr...	17.850	75	37702	47.21 ug/L	98
129) 1,3,5-trichlorobenzene	17.965	180	159995	47.57 ug/L	99
130) 1,2,4-trichlorobenzene	18.504	180	151684	48.54 ug/L	100
131) hexachlorobutadiene	18.567	225	53840	50.88 ug/L	100
132) naphthalene	18.760	128	554956	50.75 ug/L	100
133) 1,2,3-trichlorobenzene	18.964	180	148638	48.98 ug/L	99
134) hexachloroethane	17.406	119	66657	53.43 ug/L	100

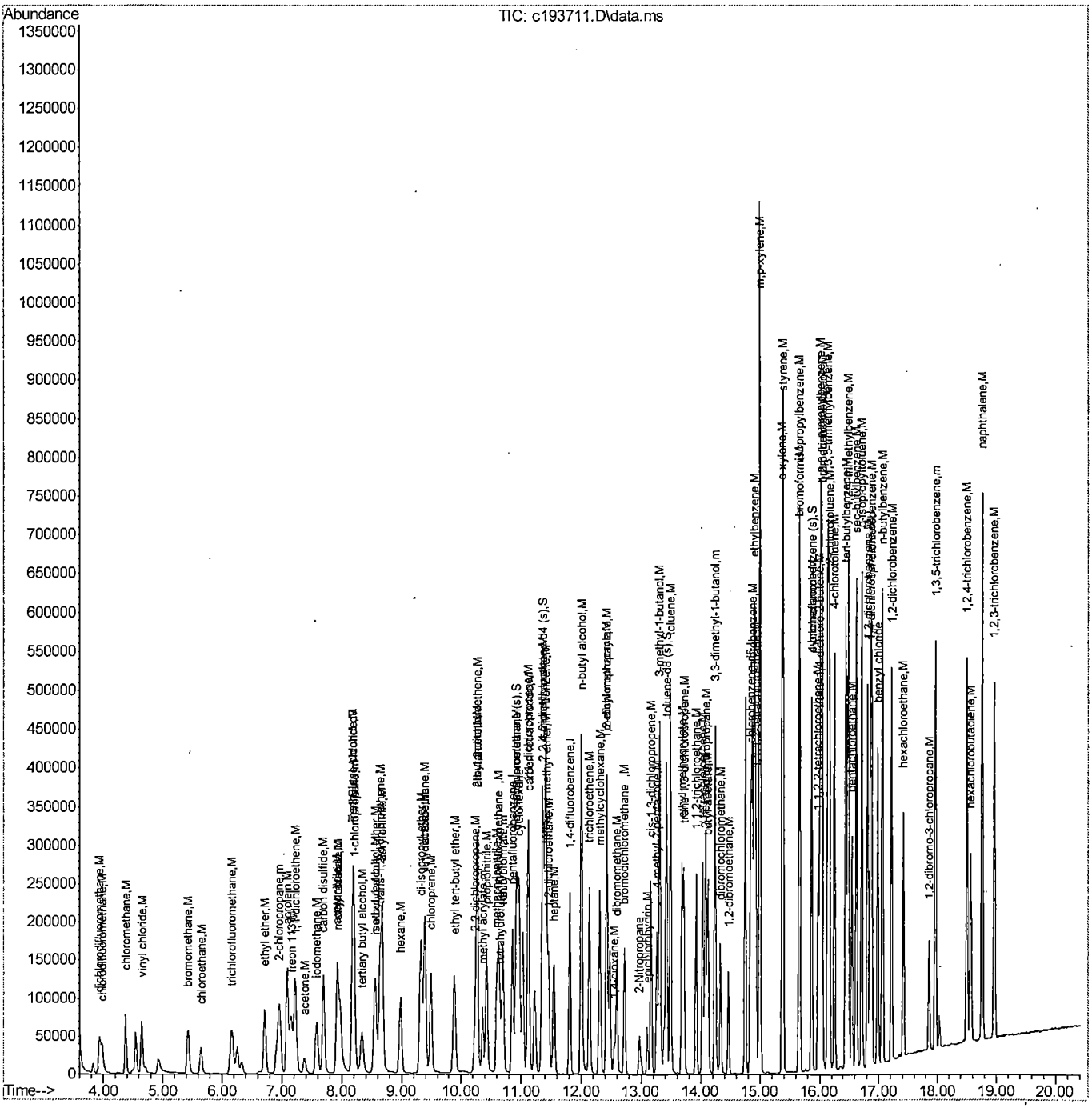
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.4.1 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\C-CORE\vc7067\
Data File : c193711.D
Acq On : 9 Aug 2014 10:54 am
Operator : thienn
Sample : jb73449-12ms
Misc : MS71807,VC7067,5,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 12 08:22:20 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\C-CORE\vc7067\
Data File : c193712.D
Acq On : 9 Aug 2014 11:21 am
Operator : thienn
Sample : jb73449-12msd
Misc : MS71807,VC7067,5,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 12 08:22:42 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Tert Butyl Alcohol-d9	8.189	65	165177	500.00	ug/L		-0.01
5) pentafluorobenzene	10.855	168	155340	50.00	ug/L		0.00
59) 1,4-difluorobenzene	11.812	114	221252	50.00	ug/L		0.00
88) chlorobenzene-d5	14.844	117	199590	50.00	ug/L		0.00
104) 1,4-dichlorobenzene-d4	16.857	152	103657	50.00	ug/L		0.00
System Monitoring Compounds							
50) dibromofluoromethane (s)	10.918	113	69271	51.19	ug/L		0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 102.38%				
51) 1,2-dichloroethane-d4 (s)	11.362	65	82204	50.56	ug/L		0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 101.12%				
80) toluene-d8 (s)	13.417	98	283028	52.69	ug/L		0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 105.38%				
106) 4-bromofluorobenzene (s)	15.869	174	84201	47.96	ug/L		0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 95.92%				
Target Compounds							Qvalue
2) 1,4-dioxane	12.549	88	43329	1281.91	ug/L		97
3) tertiary butyl alcohol	8.335	59	130820	291.41	ug/L		97
7) chlorodifluoromethane	3.970	51	52273	53.02	ug/L		98
8) dichlorodifluoromethane	3.933	85	94007	50.45	ug/L		99
9) chloromethane	4.367	50	95673	45.27	ug/L		97
10) vinyl chloride	4.644	62	103586	51.09	ug/L		98
13) bromomethane	5.423	94	58477	51.66	ug/L		97
14) chloroethane	5.648	64	50644	46.43	ug/L		97
16) trichlorofluoromethane	6.160	101	106581	53.84	ug/L		99
18) ethyl ether	6.714	74	57632	49.33	ug/L		98
19) 2-chloropropane	6.955	43	129049	50.66	ug/L	#	90
20) acrolein	7.086	56	193196	343.61	ug/L		98
21) 1,1-dichloroethene	7.221	61	126432	52.46	ug/L		97
23) acetone	7.373	58	14406	24.47	ug/L		100
24) allyl chloride	7.922	76	42119	47.75	ug/L		94
25) acetonitrile	7.922	41	110170	466.28	ug/L		99
26) iodomethane	7.582	142	131054	53.42	ug/L		100
27) iso-butyl alcohol	8.565	74	11457	467.40	ug/L		97
28) carbon disulfide	7.697	76	278657	51.33	ug/L		99
29) methylene chloride	8.189	84	88562	49.46	ug/L		99
30) 1-chloropropane	8.204	63	7635	50.09	ug/L		79
31) methyl acetate	7.938	43	89340	40.44	ug/L		99
32) methyl tert butyl ether	8.560	73	252060	44.46	ug/L		98
33) trans-1,2-dichloroethene	8.638	61	120520	50.17	ug/L		98
34) di-isopropyl ether	9.323	45	247256	45.21	ug/L		99
35) ethyl tert-butyl ether	9.883	59	189857	34.59	ug/L		100
36) 2-butanone	10.264	72	19406	39.46	ug/L		84
37) 1,1-dichloroethane	9.386	63	154526	51.06	ug/L		99
38) chloroprene	9.496	53	111541	48.89	ug/L		98
39) acrylonitrile	8.680	53	253566	236.90	ug/L		97
40) vinyl acetate	9.391	86	19825	47.09	ug/L		90
41) ethyl acetate	10.275	45	17542	44.49	ug/L		77

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\C-CORE\vc7067\
Data File : c193712.D
Acq On : 9 Aug 2014 11:21 am
Operator : thienn
Sample : jb73449-12msd
Misc : MS71807,VC7067,5,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 12 08:22:42 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
42)	2,2-dichloropropane	10.233	77	79856	50.63	ug/L		98
43)	cis-1,2-dichloroethene	10.264	96	96873	48.85	ug/L		96
44)	methyl acrylate	10.353	55	117432	51.35	ug/L		100
45)	propionitrile	10.421	54	227524	476.70	ug/L		100
46)	bromochloromethane	10.625	128	45206	50.99	ug/L		95
47)	tetrahydrofuran	10.651	42	47420	45.90	ug/L		96
48)	chloroform	10.693	83	147741	51.71	ug/L		99
49)	t-butyl formate	10.709	59	1803	1.80	ug/L	#	67
52)	freon 113	7.159	151	48711	51.44	ug/L		99
53)	methacrylonitrile	10.599	67	56325	51.70	ug/L		96
54)	cyclohexane	10.959	84	134565	52.77	ug/L		99
55)	1,1,1-trichloroethane	10.918	97	136083	62.44	ug/L		98
57)	2,2,4-trimethylpentane	11.352	57	159901	44.29	ug/L		97
58)	tert-amyl methyl ether	11.425	73	185844	33.76	ug/L		97
60)	epichlorohydrin	13.098	57	59158	171.17	ug/L		98
61)	n-butyl alcohol	12.000	56	317018	2578.99	ug/L		100
62)	carbon tetrachloride	11.122	119	105656	58.03	ug/L		99
63)	1,1-dichloropropene	11.116	75	120602	52.78	ug/L		99
64)	hexane	8.983	57	75774	40.55	ug/L		98
65)	benzene	11.399	78	366961	51.28	ug/L		99
66)	heptane	11.545	57	36891	41.84	ug/L		98
67)	isopropyl acetate	11.362	61	49482	48.98	ug/L		98
68)	1,2-dichloroethane	11.456	62	111449	53.13	ug/L		99
70)	trichloroethene	12.136	95	91102	53.95	ug/L		98
71)	2-chloroethyl vinyl ether	13.098	63	1995	1.60	ug/L		68
72)	2-Nitropropane	12.972	41	34813	37.53	ug/L	#	1
73)	methylcyclohexane	12.314	83	118517	47.66	ug/L		99
75)	methyl methacrylate	12.429	69	89461	54.69	ug/L		98
76)	1,2-dichloropropane	12.423	63	90402	52.29	ug/L		99
77)	dibromomethane	12.591	93	59157	53.71	ug/L		99
78)	bromodichloromethane	12.727	83	120151	55.80	ug/L		99
79)	cis-1,3-dichloropropene	13.160	75	153826	51.72	ug/L		97
81)	4-methyl-2-pentanone	13.260	58	61766	53.17	ug/L		99
82)	toluene	13.485	92	228882	54.98	ug/L		98
83)	3-methyl-1-butanol	13.307	55	201778	1023.04	ug/L		97
84)	trans-1,3-dichloropropene	13.709	75	144061	51.37	ug/L		97
85)	ethyl methacrylate	13.683	69	151869	54.97	ug/L		97
86)	1,1,2-trichloroethane	13.919	83	73973	52.51	ug/L		98
87)	2-hexanone	14.070	58	61676	50.49	ug/L		97
89)	cyclohexanone	15.869	98	33577	93.00	ug/L		100
90)	tetrachloroethene	14.028	166	85211	51.57	ug/L		99
91)	1,3-dichloropropane	14.086	76	149999	51.96	ug/L		99
92)	butyl acetate	14.122	56	81352	46.37	ug/L		98
93)	3,3-dimethyl-1-butanol	14.243	57	246158	509.81	ug/L		100
94)	dibromochloromethane	14.332	129	94231	54.07	ug/L		99
95)	1,2-dibromoethane	14.467	107	93368	52.07	ug/L		98
97)	chlorobenzene	14.870	112	240010	50.83	ug/L		100
98)	1,1,1,2-tetrachloroethane	14.928	131	87598	51.60	ug/L		100
99)	ethylbenzene	14.901	91	432207	52.55	ug/L		100
100)	m,p-xylene	14.996	106	326868	106.37	ug/L		98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\C-CORE\vc7067\
Data File : c193712.D
Acq On : 9 Aug 2014 11:21 am
Operator : thienn
Sample : jb73449-12msd
Misc : MS71807,VC7067,5,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 12 08:22:42 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration

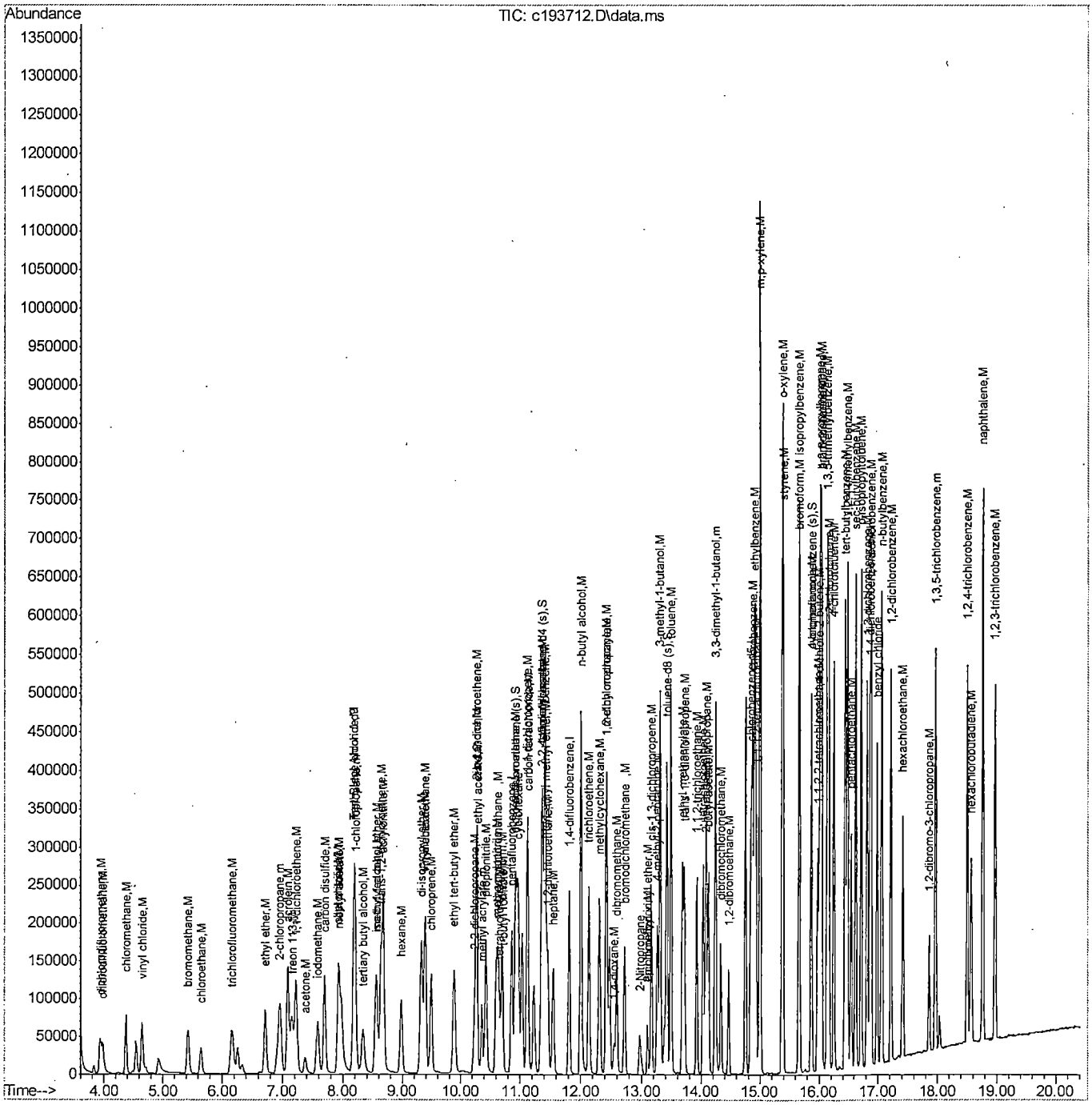
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
101) o-xylene	15.377	106	164962	52.07 ug/L	98
102) styrene	15.393	104	280170	51.99 ug/L	98
103) bromoform	15.659	173	70268	52.99 ug/L	99
105) isopropylbenzene	15.665	105	428354	49.69 ug/L	99
107) bromobenzene	16.041	156	101921	48.12 ug/L	95
108) 1,1,2,2-tetrachloroethane	15.978	83	152433	49.11 ug/L	99
109) trans-1,4-dichloro-2-b...	16.005	53	39833	45.26 ug/L	92
110) 1,2,3-trichloropropane	16.041	110	43285	50.81 ug/L	94
111) n-propylbenzene	16.020	91	488174	50.90 ug/L	99
113) 2-chlorotoluene	16.167	126	98628	47.31 ug/L	99
114) 4-chlorotoluene	16.250	91	315797	49.48 ug/L	99
115) 1,3,5-trimethylbenzene	16.140	105	367582	49.72 ug/L	98
116) tert-butylbenzene	16.444	134	74095	46.58 ug/L	93
117) pentachloroethane	16.543	167	61289	57.87 ug/L	99
118) 1,2,4-trimethylbenzene	16.480	105	368981	50.13 ug/L	100
119) sec-butylbenzene	16.621	105	456841	51.60 ug/L	99
120) 1,3-dichlorobenzene	16.810	146	201409	48.04 ug/L	99
121) p-isopropyltoluene	16.716	119	387409	51.46 ug/L	100
122) 1,4-dichlorobenzene	16.878	146	203946	47.54 ug/L	99
123) benzyl chloride	16.982	91	307815	47.48 ug/L	99
125) 1,2-dichlorobenzene	17.212	146	201827	48.40 ug/L	100
126) n-butylbenzene	17.061	92	189455	48.71 ug/L	99
128) 1,2-dibromo-3-chloropr...	17.855	75	39110	48.70 ug/L	94
129) 1,3,5-trichlorobenzene	17.965	180	156387	46.24 ug/L	98
130) 1,2,4-trichlorobenzene	18.503	180	150375	47.86 ug/L	98
131) hexachlorobutadiene	18.566	225	52941	49.76 ug/L	98
132) naphthalene	18.760	128	566597	51.53 ug/L	100
133) 1,2,3-trichlorobenzene	18.964	180	147884	48.46 ug/L	99
134) hexachloroethane	17.406	119	66556	53.05 ug/L	99

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\C-CORE\vc7067\
Data File : c193712.D
Acq On : 9 Aug 2014 11:21 am
Operator : thienn
Sample : jb73449-12msd
Misc : MS71807,VC7067,5,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 12 08:22:42 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration

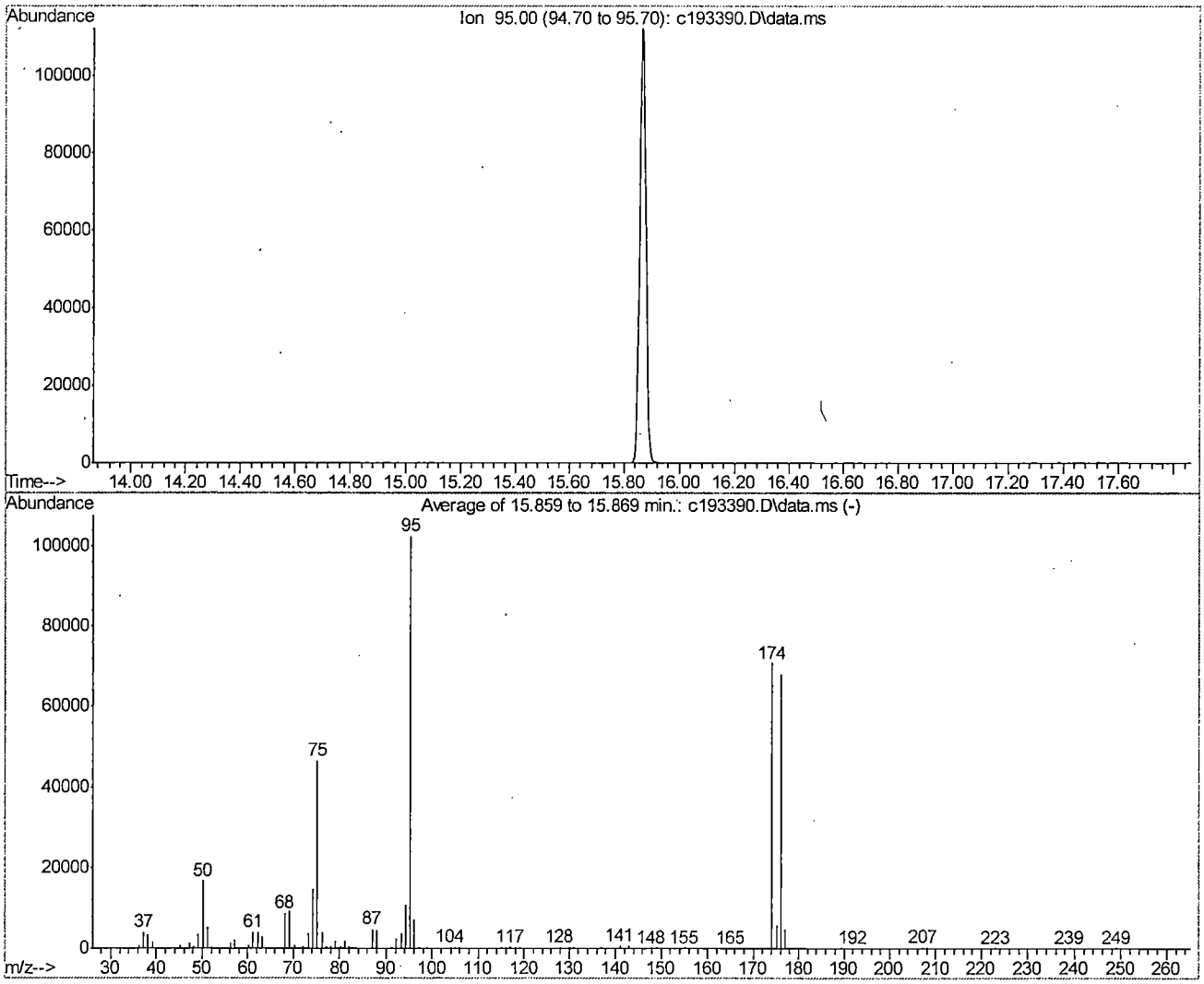


7.4.2

SW-846 Method 8260

Data File : C:\msdchem\1\DATA\c193390.D Vial: 1
Acq On : 28 Jul 2014 9:16 am Operator: thienn
Sample : bfb Inst : MSC
Misc : MS70510,VC7054,5,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\MC7054.M (RTE Integrator)
Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um



AutoFind: Scans 2347, 2348, 2349; Background Corrected with Scan 2339

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	16.3	16694	PASS
75	95	30	60	45.4	46536	PASS
95	95	100	100	100.0	102445	PASS
96	95	5	9	6.9	7076	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	69.1	70832	PASS
175	174	5	9	8.1	5760	PASS
176	174	95	101	95.8	67874	PASS
177	176	5	9	6.8	4639	PASS

c193390.D MC7054.M Mon Jul 28 16:24:02 2014 C

Average of 15.859 to 15.869 min.: c193390.D\data.ms
bfb
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.15	771	49.15	3411	63.15	2805	77.10	501
37.15	4050	50.15	16694	64.15	324	78.10	593
38.15	3450	51.15	5268	67.25	127	79.05	1734
39.15	1550	52.10	266	68.15	8756	80.05	562
41.15	18	55.15	346	69.15	9208	81.05	1783
42.15	55	56.15	1204	70.15	758	82.00	476
43.15	17	57.15	2129	72.10	497	85.15	17
44.10	334	58.15	52	73.15	3766	86.05	56
45.10	762	60.10	728	74.15	14796	87.05	4775
47.15	1363	61.15	3954	75.15	46536	88.05	4372
48.10	542	62.15	3900	76.15	3837	91.15	322

Average of 15.859 to 15.869 min.: c193390.D\data.ms
bfb
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
92.10	2406	116.00	312	137.05	223	150.15	51
93.15	3754	117.05	473	139.60	19	155.05	236
94.15	10828	118.05	306	141.05	728	156.05	171
95.15	102445	119.05	251	142.05	51	156.95	132
96.10	7076	126.05	118	143.00	685	158.95	56
97.10	283	128.00	342	145.85	59	161.05	164
103.05	23	129.05	118	146.05	125	163.00	6
104.05	372	130.00	302	147.05	103	165.10	166
105.10	240	131.05	178	148.00	232	172.15	54
106.00	296	133.05	1	149.10	181	174.05	70832
115.05	187	135.10	91	149.95	51	175.05	5760

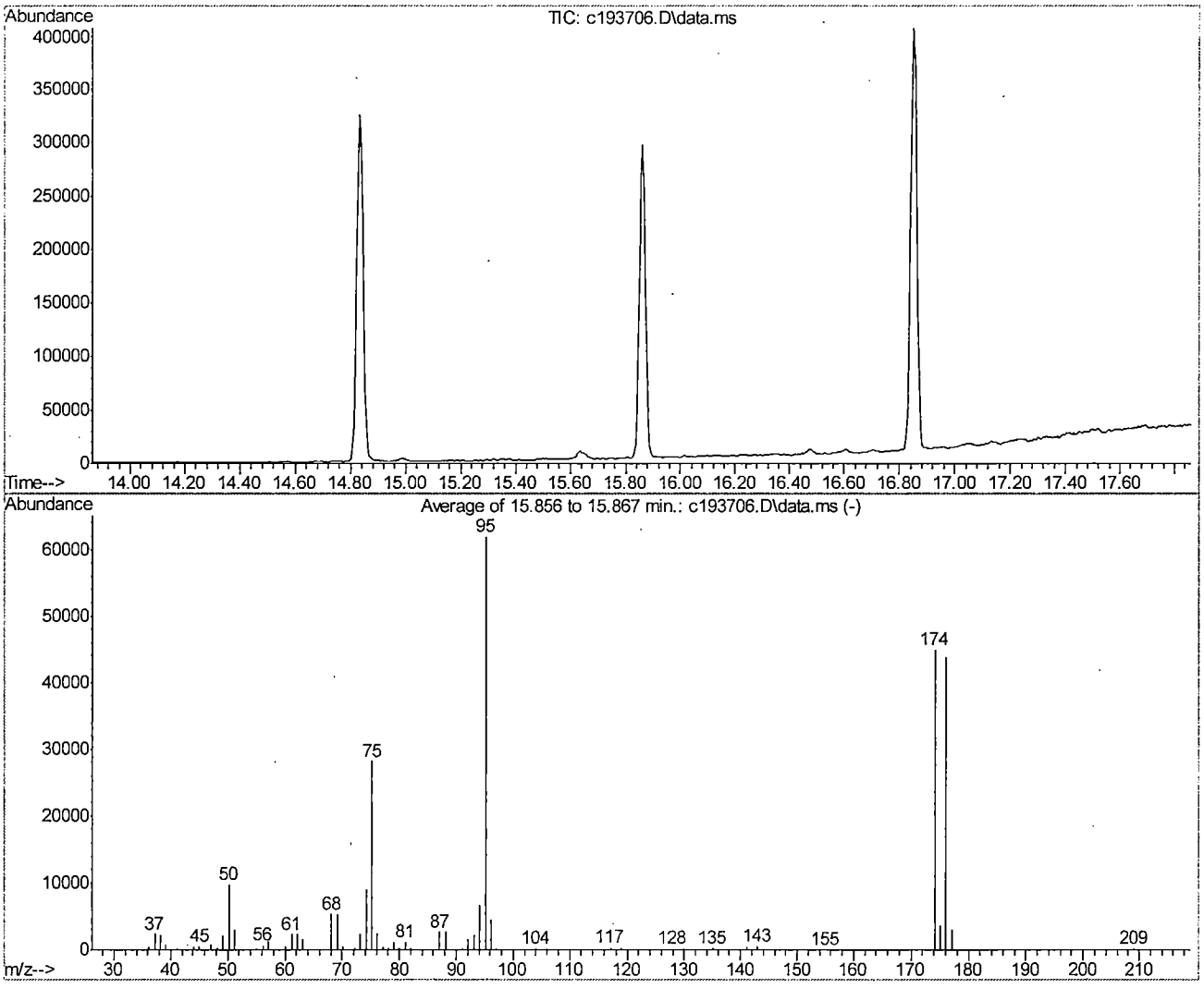
Average of 15.859 to 15.869 min.: c193390.D\data.ms
bfb
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
176.05	67874	239.05	48				
177.05	4639	249.10	161				
178.05	234	253.10	35				
179.10	124	255.10	24				
191.10	10						
192.15	51						
195.10	28						
207.15	292						
208.15	186						
209.10	7						
223.10	193						

SW-846 Method 8260

Data File : C:\msdchem\1\DATA\C-CORE\vc7067\c193706.D Vial: 1
Acq On : 9 Aug 2014 8:22 am Operator: thienn
Sample : bfb Inst : MSC
Misc : MS71798,VC7067,5,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\MC7054.M (RTE Integrator)
Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um



AutoFind: Scans 2346, 2347, 2348; Background Corrected with Scan 2338

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	15.7	9719	PASS
75	95	30	60	45.5	28152	PASS
95	95	100	100	100.0	61904	PASS
96	95	5	9	7.1	4366	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	72.5	44877	PASS
175	174	5	9	8.3	3718	PASS
176	174	95	101	97.6	43821	PASS
177	176	5	9	7.0	3078	PASS

c193706.D MC7054.M Tue Aug 12 08:08:38 2014

Average of 15.856 to 15.867 min.: c193706.D\data.ms
bfb
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.10	479	51.15	3056	68.15	5336	80.05	381
37.15	2309	52.05	52	69.10	5212	81.05	1167
38.15	2165	55.10	176	70.10	456	82.00	269
39.15	845	56.10	702	72.10	312	87.05	2667
41.15	172	57.10	1229	73.15	2393	88.05	2666
44.10	410	60.10	484	74.15	8969	91.10	117
45.10	548	61.15	2356	75.15	28152	92.05	1540
47.15	781	62.10	2321	76.15	2399	93.10	2225
48.15	305	63.15	1652	77.10	433	94.15	6711
49.15	2116	64.05	80	78.10	312	95.15	61904
50.15	9719	67.15	82	79.00	1041	96.15	4366

Average of 15.856 to 15.867 min.: c193706.D\data.ms
bfb
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
97.10	165	141.00	460				
104.00	232	143.00	488				
106.00	211	147.00	13				
116.00	121	147.95	118				
117.05	368	155.05	53				
118.00	190	174.05	44877				
119.05	362	175.10	3718				
128.00	205	176.05	43821				
130.00	191	177.05	3078				
133.10	100	209.10	187				
135.10	247						

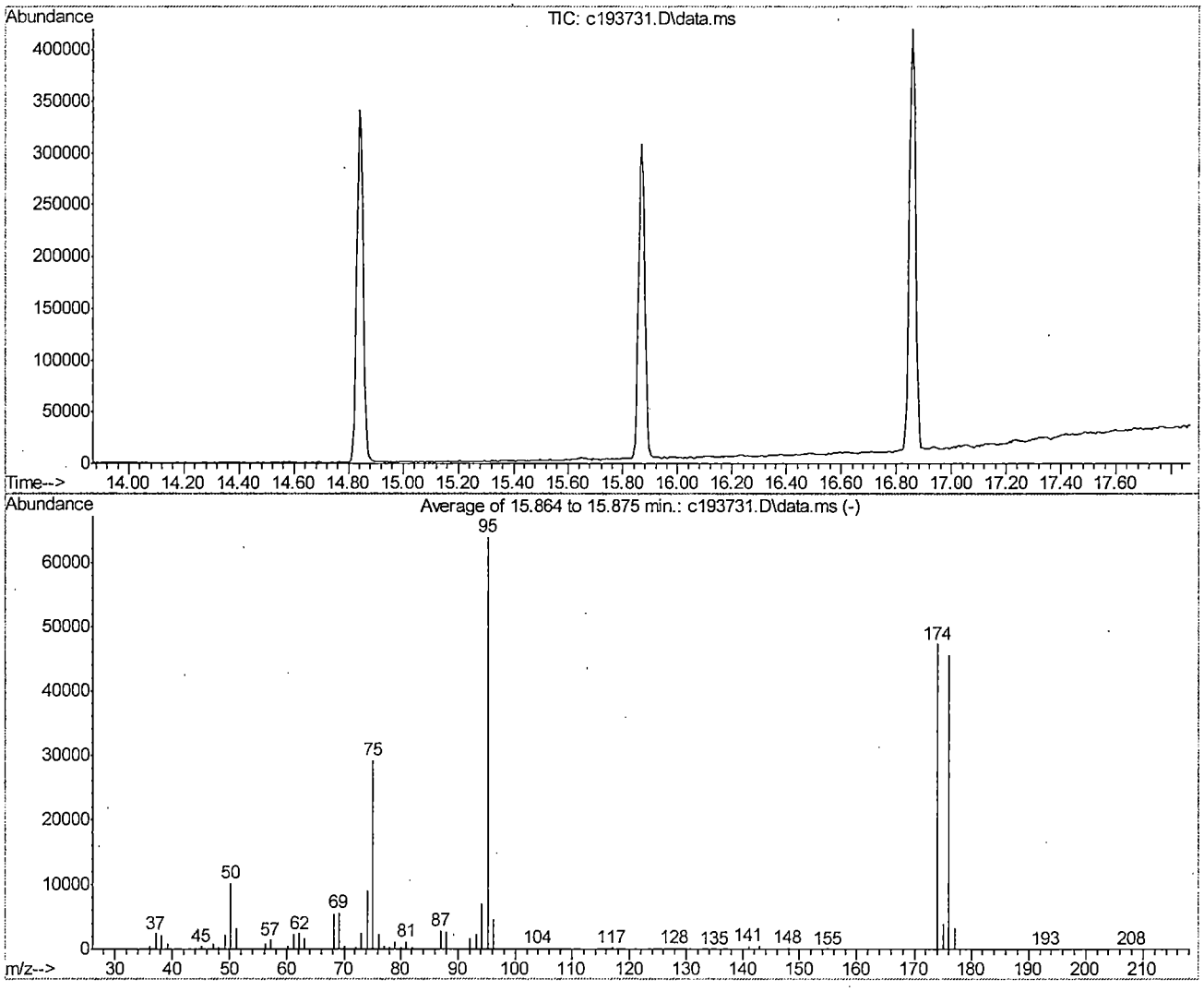
7.5.2

7

SW-846 Method 8260

Data File : C:\msdchem\1\DATA\C-CORE\vc7067\c193731.D Vial: 26
Acq On : 9 Aug 2014 7:44 pm Operator: thienn
Sample : bfb2 Inst : MSC
Misc : MS71807,VC7067,5,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\MC7054.M (RTE Integrator)
Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um



AutoFind: Scans 2348, 2349, 2350; Background Corrected with Scan 2339

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	16.0	10214	PASS
75	95	30	60	45.7	29224	PASS
95	95	100	100	100.0	63955	PASS
96	95	5	9	7.1	4544	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	74.0	47315	PASS
175	174	5	9	8.2	3880	PASS
176	174	95	101	96.3	45584	PASS
177	176	5	9	7.1	3238	PASS

c193731.D MC7054.M Tue Aug 12 08:36:34 2014

Average of 15.864 to 15.875 min.: c193731.D\data.ms
bfb2
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.10	456	51.15	3212	68.15	5344	80.05	412
37.15	2444	52.15	110	69.15	5586	81.00	1202
38.15	2114	55.15	63	70.10	416	82.05	271
39.15	812	56.15	813	72.15	317	87.05	2851
41.15	53	57.10	1423	73.10	2417	88.05	2651
44.10	224	60.10	490	74.15	8955	91.05	122
45.10	447	61.15	2368	75.15	29224	92.10	1588
47.15	847	62.15	2406	76.15	2376	93.10	2298
48.15	334	63.15	1676	77.05	429	94.15	7015
49.15	2163	64.15	136	78.05	329	95.15	63955
50.15	10214	67.10	122	79.00	1144	96.15	4544

Average of 15.864 to 15.875 min.: c193731.D\data.ms
bfb2
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
97.00	109	135.05	94	178.05	60		
104.00	229	137.05	51	193.10	125		
106.00	188	141.00	509	208.15	23		
116.05	124	143.00	478				
116.95	297	147.05	26				
118.00	216	148.00	227				
119.00	185	155.00	119				
127.05	71	174.05	47315				
128.00	201	175.05	3880				
130.00	133	176.05	45584				
133.10	17	177.05	3238				

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c193391.D
Acq On : 28 Jul 2014 9:52 am
Operator : thienn
Sample : ic7054-0.2
Misc : MS70510,VC7054,5,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 28 16:19:09 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 22 08:23:54 2014
Response via : Initial Calibration

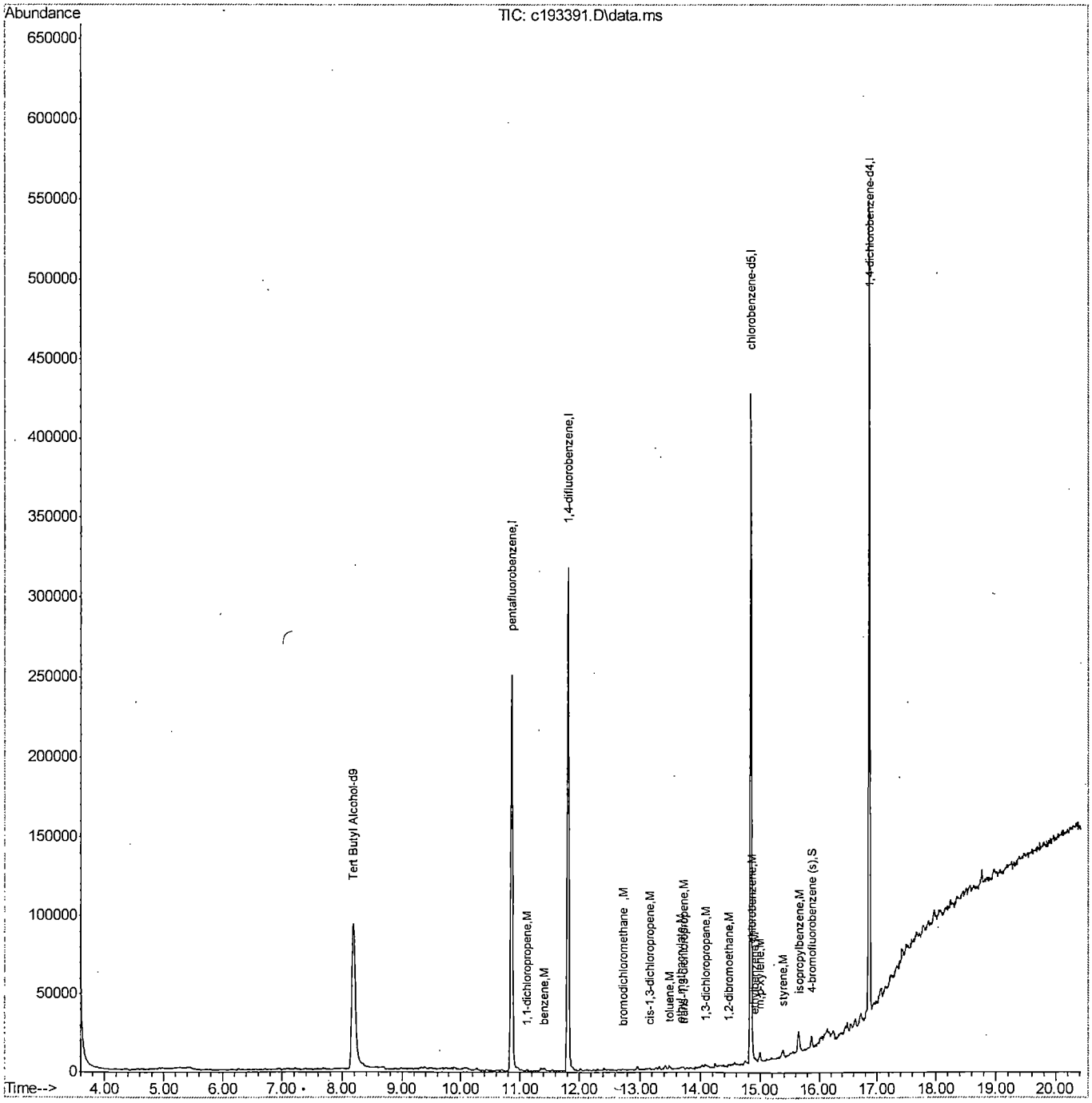
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.189	65	242170	500.00	ug/L	0.03
5) pentafluorobenzene	10.856	168	208999	50.00	ug/L	0.00
59) 1,4-difluorobenzene	11.807	114	292484	50.00	ug/L	0.00
88) chlorobenzene-d5	14.839	117	238130	50.00	ug/L	0.00
104) 1,4-dichlorobenzene-d4	16.857	152	122331	50.00	ug/L	0.00
System Monitoring Compounds						
50) dibromofluoromethane (s)	0.000	113	0	0.00	ug/L	
Spiked Amount 50.000	Range 79 - 120		Recovery =	0.00%#		
51) 1,2-dichloroethane-d4 (s)	0.000	65	0d	0.00	ug/L	
Spiked Amount 50.000	Range 72 - 123		Recovery =	0.00%#		
80) toluene-d8 (s)	0.000	98	0d	0.00	ug/L	
Spiked Amount 50.000	Range 78 - 119		Recovery =	0.00%#		
106) 4-bromofluorobenzene (s)	15.869	174	852	0.50	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery =	1.00%#		
Target Compounds						Qvalue
63) 1,1-dichloropropene	11.117	75	589	0.16	ug/L #	41
65) benzene	11.399	78	1957	0.17	ug/L	90
78) bromodichloromethane	12.727	83	530	0.16	ug/L	89
79) cis-1,3-dichloropropene	13.166	75	773	0.22	ug/L	86
82) toluene	13.485	92	1053	0.19	ug/L	95
84) trans-1,3-dichloropropene	13.715	75	830	0.31	ug/L	87
85) ethyl methacrylate	13.684	69	649	0.25	ug/L	82
91) 1,3-dichloropropane	14.087	76	519	0.16	ug/L	66
95) 1,2-dibromoethane	14.468	107	360	0.19	ug/L	74
97) chlorobenzene	14.871	112	1216	0.21	ug/L	90
99) ethylbenzene	14.907	91	2093	0.20	ug/L	85
100) m,p-xylene	15.001	106	1440	0.35	ug/L	97
102) styrene	15.388	104	1414	0.23	ug/L	86
105) isopropylbenzene	15.665	105	2471	0.18	ug/L	94

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c193391.D
Acq On : 28 Jul 2014 9:52 am
Operator : thienn
Sample : ic7054-0.2
Misc : MS70510,VC7054,5,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 28 16:19:09 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 22 08:23:54 2014
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c193392.D
Acq On : 28 Jul 2014 10:18 am
Operator : thienn
Sample : ic7054-0.5
Misc : MS70510,VC7054,5,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 28 16:33:45 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 22 08:23:54 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Tert Butyl Alcohol-d9	8.188	65	236648	500.00	ug/L		0.03
5) pentafluorobenzene	10.854	168	222127	50.00	ug/L		0.00
59) 1,4-difluorobenzene	11.811	114	314301	50.00	ug/L		0.00
88) chlorobenzene-d5	14.843	117	267237	50.00	ug/L		0.00
104) 1,4-dichlorobenzene-d4	16.861	152	134733	50.00	ug/L		0.00
System Monitoring Compounds							
50) dibromofluoromethane (s)	10.917	113	728	0.23	ug/L		0.01
Spiked Amount 50.000	Range 79 - 120		Recovery = 0.46%#				
51) 1,2-dichloroethane-d4 (s)	11.367	65	981	0.29	ug/L		0.02
Spiked Amount 50.000	Range 72 - 123		Recovery = 0.58%#				
80) toluene-d8 (s)	13.416	98	3300	0.39	ug/L		0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 0.78%#				
106) 4-bromofluorobenzene (s)	15.873	174	1155	0.61	ug/L		0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 1.22%#				
Target Compounds							Qvalue
9) chloromethane	4.366	50	1351	0.18	ug/L		92
21) 1,1-dichloroethene	7.226	61	1303	0.19	ug/L		90
26) iodomethane	7.587	142	1280	0.17	ug/L		88
28) carbon disulfide	7.702	76	3178	0.19	ug/L		84
29) methylene chloride	8.193	84	1045	0.21	ug/L		91
31) methyl acetate	7.958	43	1584	0.41	ug/L	#	57
32) methyl tert butyl ether	8.575	73	4220	0.27	ug/L		89
33) trans-1,2-dichloroethene	8.632	61	1431	0.27	ug/L		84
34) di-isopropyl ether	9.322	45	3539	0.32	ug/L		95
35) ethyl tert-butyl ether	9.898	59	3491	0.25	ug/L		91
37) 1,1-dichloroethane	9.396	63	1862	0.29	ug/L		87
38) chloroprene	9.495	53	1207	0.27	ug/L		83
39) acrylonitrile	8.685	53	3736	1.68	ug/L		95
42) 2,2-dichloropropane	10.232	77	1190	0.27	ug/L	#	55
43) cis-1,2-dichloroethene	10.274	96	1571	0.36	ug/L		92
44) methyl acrylate	10.363	55	1624	0.50	ug/L	#	63
45) propionitrile	10.431	54	4185	4.27	ug/L		97
47) tetrahydrofuran	10.687	42	817	0.46	ug/L	#	28
48) chloroform	10.697	83	1857	0.29	ug/L		93
53) methacrylonitrile	10.603	67	793	0.42	ug/L		81
55) 1,1,1-trichloroethane	10.922	97	1406	0.24	ug/L		68
58) tert-amyl methyl ether	11.424	73	3764	0.26	ug/L		97
62) carbon tetrachloride	11.126	119	994	0.28	ug/L	#	86
63) 1,1-dichloropropene	11.116	75	1399	0.36	ug/L		86
65) benzene	11.408	78	4633	0.37	ug/L		96
67) isopropyl acetate	11.367	61	590	0.39	ug/L	#	77
68) 1,2-dichloroethane	11.461	62	1237	0.34	ug/L		81
70) trichloroethene	12.135	95	1014	0.35	ug/L		85
71) 2-chloroethyl vinyl ether	12.961	63	3702	3.05	ug/L		96
75) methyl methacrylate	12.433	69	1101	0.63	ug/L		88
76) 1,2-dichloropropane	12.428	63	1011	0.37	ug/L		93
77) dibromomethane	12.590	93	603	0.32	ug/L		87
78) bromodichloromethane	12.726	83	1235	0.35	ug/L		95

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c193392.D
Acq On : 28 Jul 2014 10:18 am
Operator : thienn
Sample : ic7054-0.5
Misc : MS70510,VC7054,5,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 28 16:33:45 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 22 08:23:54 2014
Response via : Initial Calibration

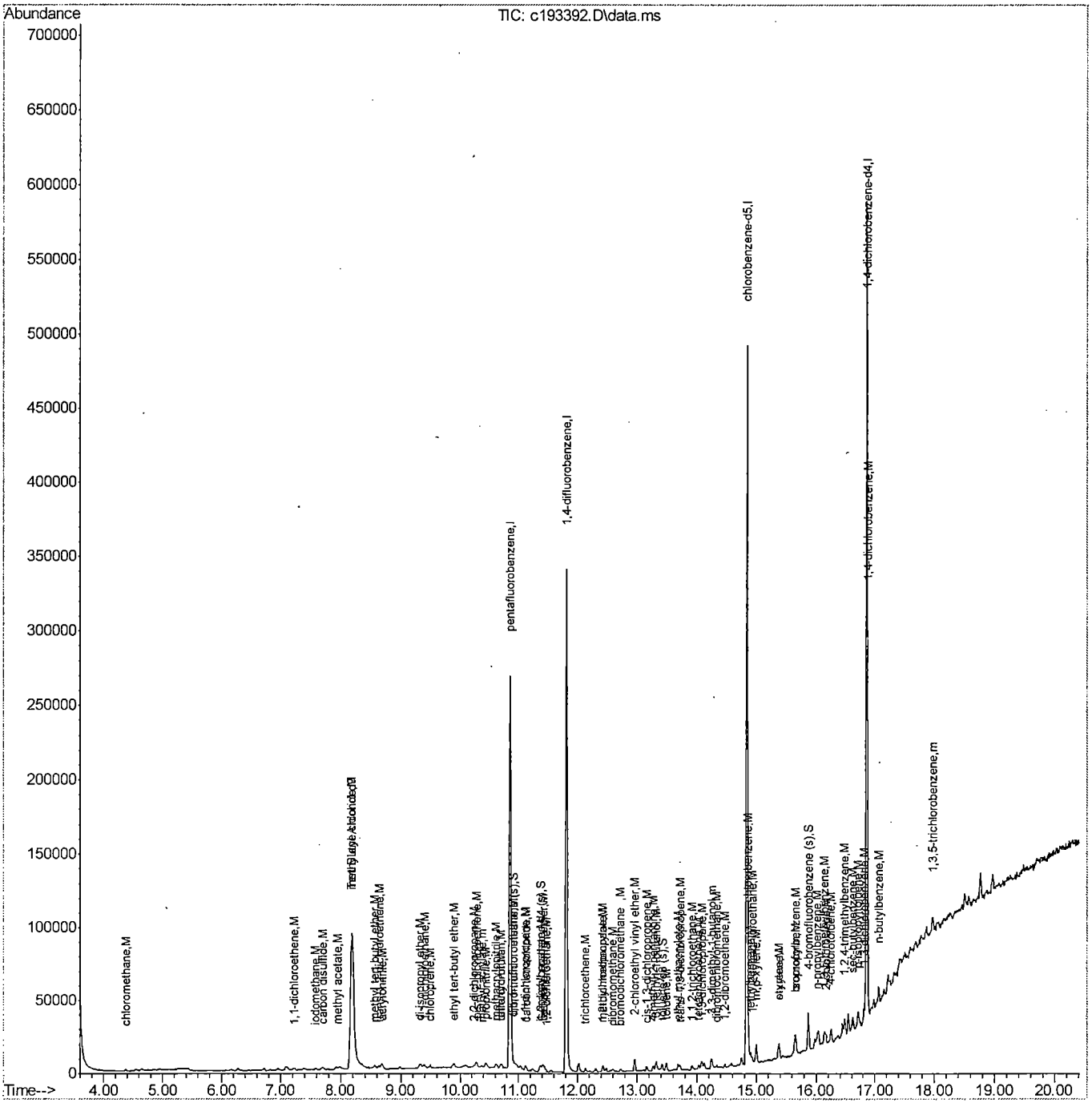
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
79) cis-1,3-dichloropropene	13.165	75	2091	0.56 ug/L	97
81) 4-methyl-2-pentanone	13.264	58	984	0.52 ug/L #	58
82) toluene	13.489	92	2635	0.43 ug/L	97
83) 3-methyl-1-butanol	13.317	55	3316	8.02 ug/L	94
84) trans-1,3-dichloropropene	13.719	75	2026	0.71 ug/L	94
85) ethyl methacrylate	13.688	69	2173	0.76 ug/L	97
86) 1,1,2-trichloroethane	13.923	83	996	0.56 ug/L	92
90) tetrachloroethene	14.028	166	844	0.26 ug/L	99
91) 1,3-dichloropropane	14.090	76	1998	0.56 ug/L	93
93) 3,3-dimethyl-1-butanol	14.247	57	4078	2.89 ug/L #	82
94) dibromochloromethane	14.331	129	1116	0.45 ug/L	83
95) 1,2-dibromoethane	14.472	107	1262	0.58 ug/L	87
97) chlorobenzene	14.869	112	2985	0.46 ug/L	94
98) 1,1,1,2-tetrachloroethane	14.932	131	1158	0.30 ug/L	76
99) ethylbenzene	14.906	91	5101	0.44 ug/L	96
100) m,p-xylene	15.000	106	3767	0.82 ug/L	91
101) o-xylene	15.377	106	1920	0.31 ug/L	91
102) styrene	15.392	104	3525	0.51 ug/L	91
103) bromoform	15.664	173	1021	0.62 ug/L	98
105) isopropylbenzene	15.669	105	5501	0.37 ug/L	95
111) n-propylbenzene	16.020	91	6396	0.50 ug/L	95
113) 2-chlorotoluene	16.166	126	2123	0.70 ug/L #	75
114) 4-chlorotoluene	16.250	91	4768	0.69 ug/L	91
115) 1,3,5-trimethylbenzene	16.140	105	5053	0.37 ug/L	92
118) 1,2,4-trimethylbenzene	16.480	105	5120	0.39 ug/L	100
119) sec-butylbenzene	16.621	105	5405	0.30 ug/L	98
120) 1,3-dichlorobenzene	16.814	146	3257	0.61 ug/L	97
121) p-isopropyltoluene	16.720	119	4907	0.33 ug/L	95
122) 1,4-dichlorobenzene	16.877	146	3561	0.66 ug/L	88
126) n-butylbenzene	17.060	92	2713	0.41 ug/L	99
129) 1,3,5-trichlorobenzene	17.970	180	2806	0.35 ug/L #	67

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c193392.D
Acq On : 28 Jul 2014 10:18 am
Operator : thienn
Sample : ic7054-0.5
Misc : MS70510,VC7054,5,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 28 16:33:45 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 22 08:23:54 2014
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c193393.D
Acq On : 28 Jul 2014 10:45 am
Operator : thienn
Sample : ic7054-1
Misc : MS70510,VC7054,5,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jul 28 16:36:38 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 22 08:23:54 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Tert Butyl Alcohol-d9	8.196	65	240448	500.00	ug/L		0.04
5) pentafluorobenzene	10.857	168	224487	50.00	ug/L		0.00
59) 1,4-difluorobenzene	11.809	114	318990	50.00	ug/L		0.00
88) chlorobenzene-d5	14.846	117	271445	50.00	ug/L		0.00
104) 1,4-dichlorobenzene-d4	16.859	152	135513	50.00	ug/L		0.00
System Monitoring Compounds							
50) dibromofluoromethane (s)	10.920	113	1756	0.54	ug/L		0.02
Spiked Amount 50.000	Range 79 - 120		Recovery =	1.08%	#		
51) 1,2-dichloroethane-d4 (s)	11.359	65	2141	0.63	ug/L		0.01
Spiked Amount 50.000	Range 72 - 123		Recovery =	1.26%	#		
80) toluene-d8 (s)	13.419	98	7775	0.91	ug/L		0.00
Spiked Amount 50.000	Range 78 - 119		Recovery =	1.82%	#		
106) 4-bromofluorobenzene (s)	15.871	174	2576	1.36	ug/L		0.00
Spiked Amount 50.000	Range 74 - 119		Recovery =	2.72%	#		
Target Compounds							Qvalue
2) 1,4-dioxane	12.562	88	1364	27.69	ug/L	#	78
3) tertiary butyl alcohol	8.358	59	4015	6.20	ug/L		62
7) chlorodifluoromethane	3.967	51	1291	0.33	ug/L		67
8) dichlorodifluoromethane	3.925	85	2267	0.25	ug/L		81
9) chloromethane	4.364	50	3060	0.40	ug/L		98
10) vinyl chloride	4.636	62	2631	0.29	ug/L		88
13) bromomethane	5.410	94	1332	0.30	ug/L		84
14) chloroethane	5.645	64	1383	0.36	ug/L		72
16) trichlorofluoromethane	6.157	101	2300	0.33	ug/L		78
17) pentane	6.267	43	756618	151.42	ug/L		99
18) ethyl ether	6.722	74	1587	0.77	ug/L		80
19) 2-chloropropane	6.947	43	4121	0.63	ug/L	#	88
20) acrolein	7.088	56	1730487	1316.86	ug/L		99
21) 1,1-dichloroethene	7.224	61	3390	0.50	ug/L		97
24) allyl chloride	7.930	76	1192	0.71	ug/L	#	1
25) acetonitrile	7.925	41	3832	2.48	ug/L	#	63
26) iodomethane	7.585	142	3379	0.43	ug/L		93
28) carbon disulfide	7.700	76	7456	0.44	ug/L		91
29) methylene chloride	8.196	84	2643	0.52	ug/L		78
31) methyl acetate	7.956	43	3512	0.90	ug/L	#	87
32) methyl tert butyl ether	8.568	73	8210	0.52	ug/L		97
33) trans-1,2-dichloroethene	8.646	61	3481	0.66	ug/L		82
34) di-isopropyl ether	9.331	45	8622	0.77	ug/L		97
35) ethyl tert-butyl ether	9.885	59	8618	0.62	ug/L		97
36) 2-butanone	10.282	72	696	0.92	ug/L	#	42
37) 1,1-dichloroethane	9.388	63	4237	0.65	ug/L		98
38) chloroprene	9.493	53	3491	0.77	ug/L		94
39) acrylonitrile	8.683	53	7252	3.22	ug/L		99
41) ethyl acetate	10.272	45	609	1.15	ug/L	#	12
42) 2,2-dichloropropane	10.235	77	2529	0.57	ug/L		99
43) cis-1,2-dichloroethene	10.277	96	2904	0.67	ug/L		86
44) methyl acrylate	10.366	55	3413	1.04	ug/L	#	82
45) propionitrile	10.434	54	6548	6.62	ug/L		98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c193393.D
Acq On : 28 Jul 2014 10:45 am
Operator : thienn
Sample : ic7054-1
Misc : MS70510,VC7054,5,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jul 28 16:36:38 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 22 08:23:54 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
46) bromochloromethane	10.627	128	1189	0.57 ug/L	91
47) tetrahydrofuran	10.674	42	1608	0.90 ug/L	73
48) chloroform	10.695	83	4077	0.63 ug/L	94
49) t-butyl formate	10.711	59	1678	0.67 ug/L #	55
52) freon 113	7.156	151	1093	0.34 ug/L	88
53) methacrylonitrile	10.601	67	1341	0.71 ug/L	89
54) cyclohexane	10.962	84	3540	0.50 ug/L #	82
55) 1,1,1-trichloroethane	10.920	97	3199	0.53 ug/L	92
57) 2,2,4-trimethylpentane	11.354	57	5535	0.54 ug/L	92
58) tert-amyl methyl ether	11.427	73	8712	0.59 ug/L	94
60) epichlorohydrin	13.105	57	2987	6.61 ug/L	93
61) n-butyl alcohol	12.013	56	11288	43.34 ug/L	94
62) carbon tetrachloride	11.124	119	2518	0.69 ug/L	98
63) 1,1-dichloropropene	11.108	75	3343	0.86 ug/L	91
64) hexane	8.981	57	2924	1.31 ug/L	98
65) benzene	11.401	78	10199	0.81 ug/L	95
66) heptane	11.548	57	1377	1.35 ug/L	94
67) isopropyl acetate	11.365	61	1660	1.08 ug/L	97
68) 1,2-dichloroethane	11.459	62	3100	0.85 ug/L	90
70) trichloroethene	12.138	95	2354	0.79 ug/L	91
71) 2-chloroethyl vinyl ether	12.959	63	10252	8.33 ug/L	98
72) 2-Nitropropane	12.970	41	1587	1.53 ug/L #	80
73) methylcyclohexane	12.306	83	3684	0.64 ug/L	80
75) methyl methacrylate	12.436	69	2268	1.27 ug/L	85
76) 1,2-dichloropropane	12.431	63	2387	0.87 ug/L	89
77) dibromomethane	12.593	93	1457	0.76 ug/L	92
78) bromodichloromethane	12.724	83	2970	0.82 ug/L	98
79) cis-1,3-dichloropropene	13.163	75	4183	1.10 ug/L	90
81) 4-methyl-2-pentanone	13.273	58	1432	0.74 ug/L #	62
82) toluene	13.487	92	5990	0.97 ug/L	95
83) 3-methyl-1-butanol	13.315	55	6858	16.33 ug/L	92
84) trans-1,3-dichloropropene	13.717	75	3953	1.37 ug/L	98
85) ethyl methacrylate	13.686	69	3705	1.28 ug/L	92
86) 1,1,2-trichloroethane	13.921	83	1977	1.09 ug/L	96
87) 2-hexanone	14.073	58	1735	1.73 ug/L	98
89) cyclohexanone	15.876	98	5317	6.83 ug/L	90
90) tetrachloroethene	14.031	166	2240	0.68 ug/L	97
91) 1,3-dichloropropane	14.088	76	3948	1.09 ug/L	94
92) butyl acetate	14.125	56	2904	2.07 ug/L	90
93) 3,3-dimethyl-1-butanol	14.250	57	7447	5.19 ug/L	90
94) dibromochloromethane	14.339	129	2224	0.87 ug/L	82
95) 1,2-dibromoethane	14.470	107	2440	1.11 ug/L	93
97) chlorobenzene	14.873	112	6381	0.98 ug/L	87
98) 1,1,1,2-tetrachloroethane	14.930	131	2230	0.57 ug/L	96
99) ethylbenzene	14.909	91	11097	0.93 ug/L	99
100) m,p-xylene	14.998	106	8624	1.84 ug/L	95
101) o-xylene	15.380	106	4319	0.69 ug/L	92
102) styrene	15.390	104	7332	1.04 ug/L	96
103) bromoform	15.662	173	1613	0.97 ug/L	96
105) isopropylbenzene	15.667	105	11509	0.77 ug/L	96

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c193393.D
Acq On : 28 Jul 2014 10:45 am
Operator : thienn
Sample : ic7054-1
Misc : MS70510,VC7054,5,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jul 28 16:36:38 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 22 08:23:54 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
107) bromobenzene	16.044	156	3410	1.47 ug/L		97
108) 1,1,2,2-tetrachloroethane	15.981	83	4312	0.98 ug/L		98
109) trans-1,4-dichloro-2-b...	16.002	53	1185	1.95 ug/L	#	61
110) 1,2,3-trichloropropane	16.044	110	1122	1.08 ug/L	#	84
111) n-propylbenzene	16.023	91	12549	0.98 ug/L		99
113) 2-chlorotoluene	16.169	126	3254	1.07 ug/L	#	83
114) 4-chlorotoluene	16.253	91	8713	1.25 ug/L		98
115) 1,3,5-trimethylbenzene	16.143	105	10704	0.77 ug/L		99
116) tert-butylbenzene	16.446	134	2616	0.85 ug/L	#	74
117) pentachloroethane	16.546	167	1420	0.62 ug/L		88
118) 1,2,4-trimethylbenzene	16.483	105	9768	0.74 ug/L		92
119) sec-butylbenzene	16.624	105	11871	0.65 ug/L		99
120) 1,3-dichlorobenzene	16.812	146	5980	1.11 ug/L		99
121) p-isopropyltoluene	16.718	119	10416	0.69 ug/L		97
122) 1,4-dichlorobenzene	16.880	146	6027	1.11 ug/L		95
125) 1,2-dichlorobenzene	17.215	146	6208	0.88 ug/L		97
126) n-butylbenzene	17.058	92	5541	0.84 ug/L		91
129) 1,3,5-trichlorobenzene	17.968	180	4843	0.61 ug/L	#	76
130) 1,2,4-trichlorobenzene	18.506	180	4815	0.57 ug/L		99
132) naphthalene	18.762	128	16194	0.50 ug/L		98
133) 1,2,3-trichlorobenzene	18.966	180	4906	0.56 ug/L		93

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

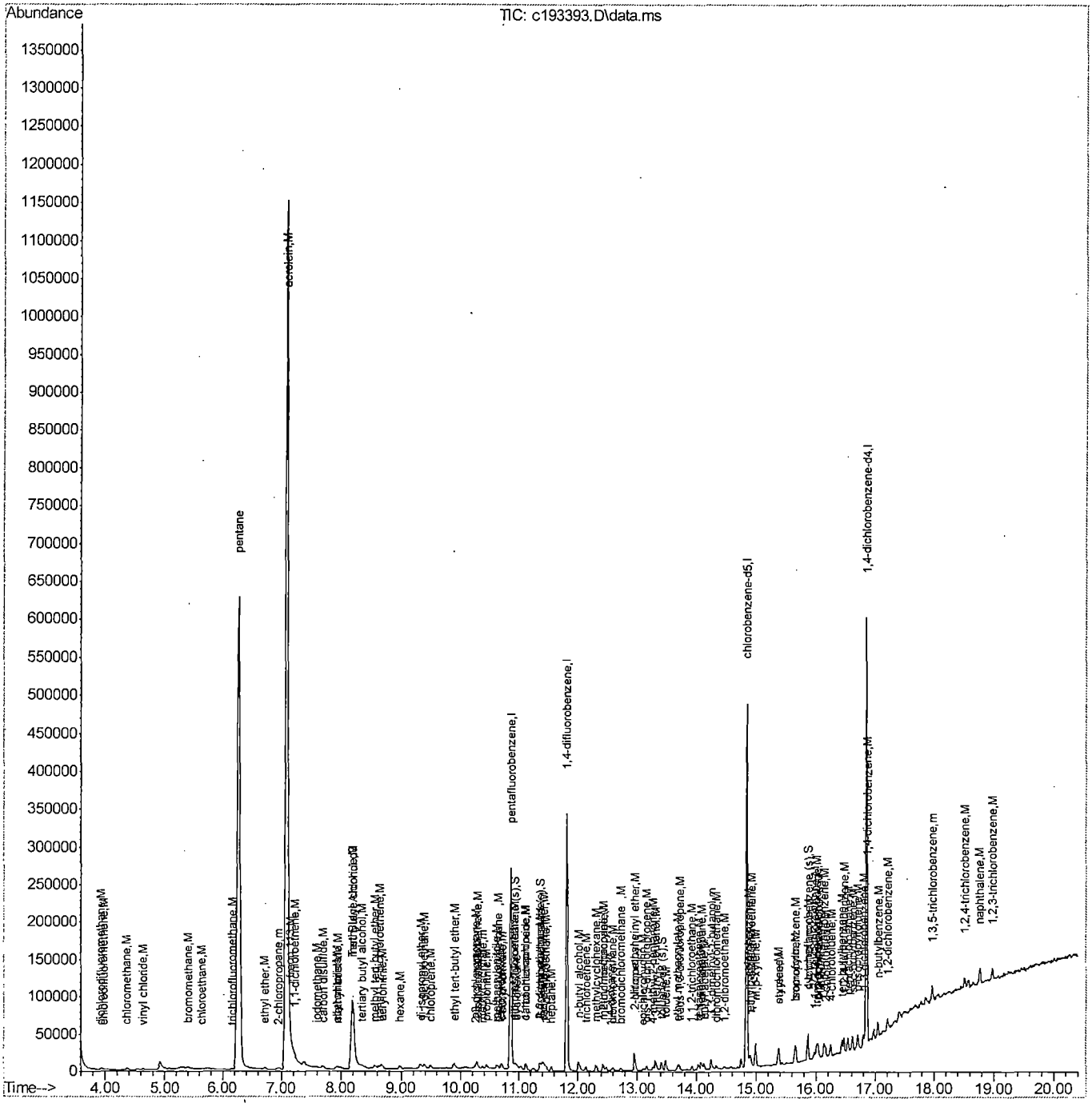
7.6.3

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c193393.D
Acq On : 28 Jul 2014 10:45 am
Operator : thienn
Sample : ic7054-1
Misc : MS70510,VC7054,5,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jul 28 16:36:38 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 22 08:23:54 2014
Response via : Initial Calibration



ACCUTEST LABORATORIES

Manual Integrations APPROVED (compounds with "m" flag)
Jessica Reitan-Chu
07/29/14 15:23

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c193394.D
Acq On : 28 Jul 2014 11:11 am
Operator : thienn
Sample : ic7054-2
Misc : MS70510,VC7054,5,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 29 13:13:58 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Jul 28 15:55:14 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Tert Butyl Alcohol-d9	8.195	65	237857	500.00	ug/L		0.00
5) pentafluorobenzene	10.861	168	220466	50.00	ug/L		0.00
59) 1,4-difluorobenzene	11.813	114	312147	50.00	ug/L		0.00
88) chlorobenzene-d5	14.845	117	265002	50.00	ug/L		0.00
104) 1,4-dichlorobenzene-d4	16.863	152	134664	50.00	ug/L		0.00
System Monitoring Compounds							
50) dibromofluoromethane (s)	10.929	113	3819	1.99	ug/L		0.00
Spiked Amount 50.000	Range 79 - 120		Recovery =	3.98%#			
51) 1,2-dichloroethane-d4 (s)	11.368	65	4465	1.94	ug/L		0.00
Spiked Amount 50.000	Range 72 - 123		Recovery =	3.88%#			
80) toluene-d8 (s)	13.418	98	14200	1.87	ug/L		0.00
Spiked Amount 50.000	Range 78 - 119		Recovery =	3.74%#			
106) 4-bromofluorobenzene (s)	15.875	174	4689	2.06	ug/L		0.00
Spiked Amount 50.000	Range 74 - 119		Recovery =	4.12%#			
Target Compounds							Qvalue
2) 1,4-dioxane	12.566	88	2229	45.80	ug/L	#	94
3) tertiary butyl alcohol	8.362	59	6829	10.56	ug/L		96
7) chlorodifluoromethane	3.971	51	2492	1.78	ug/L		87
8) dichlorodifluoromethane	3.929	85	4622	1.75	ug/L		87
9) chloromethane	4.373	50	5909	1.97	ug/L		96
10) vinyl chloride	4.635	62	5262	1.81	ug/L		98
13) bromomethane	5.424	94	3052	1.90	ug/L		87
14) chloroethane	5.649	64	2775	1.79	ug/L		94
16) trichlorofluoromethane	6.161	101	4890	1.74	ug/L		97
17) pentane	6.276	43	382158	105.23	ug/L		100
18) ethyl ether	6.726	74	3323	2.00	ug/L		91
19) 2-chloropropane	6.961	43	7674	2.12	ug/L		91
20) acrolein	7.092	56	859664	1077.56	ug/L		99
21) 1,1-dichloroethene	7.228	61	6704	1.96	ug/L		93
24) allyl chloride	7.928	76	2520	2.01	ug/L		93
25) acetonitrile	7.928	41	7009	20.90	ug/L	#	94
26) iodomethane	7.589	142	7102	2.04	ug/L		96
27) iso-butyl alcohol	8.571	74	470	13.51	ug/L	#	2
28) carbon disulfide	7.698	76	15544	2.02	ug/L		98
29) methylene chloride	8.190	84	5214	2.05	ug/L		92
31) methyl acetate	7.949	43	6368	2.03	ug/L	#	89
32) methyl tert butyl ether	8.566	73	16594	2.06	ug/L		97
33) trans-1,2-dichloroethene	8.639	61	7063	2.07	ug/L		93
34) di-isopropyl ether	9.329	45	15555	2.00	ug/L		97
35) ethyl tert-butyl ether	9.894	59	15598	2.00	ug/L		96
36) 2-butanone	10.276	72	1298	1.86	ug/L	#	66
37) 1,1-dichloroethane	9.392	63	8852	2.06	ug/L		99
38) chloroprene	9.502	53	6341	1.96	ug/L		92
39) acrylonitrile	8.692	53	15865	10.44	ug/L		95
40) vinyl acetate	9.403	86	1124	1.86	ug/L	#	53
41) ethyl acetate	10.281	45	1233	2.20	ug/L	#	42
42) 2,2-dichloropropane	10.244	77	4825	2.16	ug/L		96
43) cis-1,2-dichloroethene	10.270	96	5759	2.05	ug/L		95

7.6.4

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c193394.D
Acq On : 28 Jul 2014 11:11 am
Operator : thienn
Sample : ic7054-2
Misc : MS70510,VC7054,5,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 29 13:13:58 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Jul 28 15:55:14 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
44) methyl acrylate	10.365	55	6343	1.95 ug/L		96
45) propionitrile	10.438	54	13252	19.56 ug/L		94
46) bromochloromethane	10.626	128	2538	2.02 ug/L		93
47) tetrahydrofuran	10.678	42	2881	1.97 ug/L		94
48) chloroform	10.699	83	8023	1.98 ug/L		95
49) t-butyl formate	10.715	59	2925	2.06 ug/L	#	58
52) freon 113	7.165	151	2662	1.98 ug/L		79
53) methacrylonitrile	10.610	67	3093	2.00 ug/L		80
54) cyclohexane	10.961	84	7223	2.00 ug/L		97
55) 1,1,1-trichloroethane	10.929	97	6333	2.05 ug/L		95
57) 2,2,4-trimethylpentane	11.353	57	10064	1.96 ug/L		97
58) tert-amyl methyl ether	11.431	73	15292	1.96 ug/L		95
60) epichlorohydrin	13.104	57	4689	9.62 ug/L		97
61) n-butyl alcohol	12.011	56	16886	97.37 ug/L		99
62) carbon tetrachloride	11.123	119	5326	2.07 ug/L		96
63) 1,1-dichloropropene	11.123	75	6619	2.05 ug/L		98
64) hexane	8.995	57	5214	1.98 ug/L		89
65) benzene	11.405	78	21060	2.09 ug/L		97
66) heptane	11.546	57	2505	2.01 ug/L		93
67) isopropyl acetate	11.363	61	2592	1.82 ug/L	#	77
68) 1,2-dichloroethane	11.468	62	6178	2.09 ug/L		96
70) trichloroethene	12.137	95	5002	2.10 ug/L		95
71) 2-chloroethyl vinyl ether	12.963	63	17421	9.92 ug/L		98
72) 2-Nitropropane	12.968	41	2836	2.17 ug/L	#	75
73) methylcyclohexane	12.315	83	6940	1.98 ug/L		100
75) methyl methacrylate	12.440	69	4363	1.89 ug/L		84
76) 1,2-dichloropropane	12.430	63	4899	2.01 ug/L		94
77) dibromomethane	12.592	93	3327	2.14 ug/L		94
78) bromodichloromethane	12.728	83	6091	2.01 ug/L		96
79) cis-1,3-dichloropropene	13.167	75	8459	2.02 ug/L		94
81) 4-methyl-2-pentanone	13.266	58	2932	1.79 ug/L		86
82) toluene	13.491	92	11757	2.00 ug/L		99
83) 3-methyl-1-butanol	13.318	55	10859	39.02 ug/L		99
84) trans-1,3-dichloropropene	13.716	75	7586	1.92 ug/L		97
85) ethyl methacrylate	13.684	69	7522	1.93 ug/L		98
86) 1,1,2-trichloroethane	13.925	83	3890	1.96 ug/L		96
87) 2-hexanone	14.076	58	3365	1.95 ug/L		99
89) cyclohexanone	15.875	98	9590	20.01 ug/L		99
90) tetrachloroethene	14.035	166	4326	1.97 ug/L		92
91) 1,3-dichloropropane	14.087	76	7968	2.08 ug/L		97
92) butyl acetate	14.129	56	4810	2.06 ug/L		83
93) 3,3-dimethyl-1-butanol	14.249	57	12827	20.01 ug/L		92
94) dibromochloromethane	14.338	129	4501	1.95 ug/L		99
95) 1,2-dibromoethane	14.469	107	4860	2.04 ug/L		98
97) chlorobenzene	14.871	112	12767	2.04 ug/L		93
98) 1,1,1,2-tetrachloroethane	14.934	131	4579	2.03 ug/L		96
99) ethylbenzene	14.908	91	22382	2.05 ug/L		99
100) m,p-xylene	15.002	106	16872	4.14 ug/L		92
101) o-xylene	15.378	106	8743	2.08 ug/L		92
102) styrene	15.394	104	13992	1.96 ug/L		96

7.6.4 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c193394.D
Acq On : 28 Jul 2014 11:11 am
Operator : thienn
Sample : ic7054-2
Misc : MS70510,VC7054,5,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 29 13:13:58 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Jul 28 15:55:14 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
103) bromoform	15.666	173	3348	1.90 ug/L		97
105) isopropylbenzene	15.671	105	22626	2.02 ug/L		97
107) bromobenzene	16.047	156	5800	2.11 ug/L		94
108) 1,1,2,2-tetrachloroethane	15.979	83	8363	2.07 ug/L		99
109) trans-1,4-dichloro-2-b...	16.006	53	2369	2.07 ug/L		91
110) 1,2,3-trichloropropane	16.042	110	2267	2.05 ug/L		98
111) n-propylbenzene	16.021	91	25662	2.06 ug/L		99
113) 2-chlorotoluene	16.168	126	5694	2.10 ug/L		91
114) 4-chlorotoluene	16.251	91	16529	1.99 ug/L		98
115) 1,3,5-trimethylbenzene	16.142	105	19822	2.06 ug/L		98
116) tert-butylbenzene	16.445	134	4373	2.12 ug/L		98
117) pentachloroethane	16.549	167	2946	2.14 ug/L		87
118) 1,2,4-trimethylbenzene	16.481	105	19984	2.09 ug/L		96
119) sec-butylbenzene	16.622	105	24566	2.14 ug/L		98
120) 1,3-dichlorobenzene	16.811	146	11052	2.03 ug/L		100
121) p-isopropyltoluene	16.717	119	19869	2.03 ug/L		97
122) 1,4-dichlorobenzene	16.884	146	11299	2.03 ug/L		95
123) benzyl chloride	16.983	91	17808	2.13 ug/L	#	85
125) 1,2-dichlorobenzene	17.213	146	11659	2.15 ug/L		99
126) n-butylbenzene	17.062	92	10293	2.04 ug/L		95
128) 1,2-dibromo-3-chloropr...	17.856	75	2424	2.32 ug/L		88
129) 1,3,5-trichlorobenzene	17.971	180	8821	2.01 ug/L		89
130) 1,2,4-trichlorobenzene	18.510	180	8951	2.19 ug/L		98
131) hexachlorobutadiene	18.573	225	3175	2.30 ug/L		46
132) naphthalene	18.766	128	30471	2.13 ug/L		98
133) 1,2,3-trichlorobenzene	18.970	180	8417	2.12 ug/L		97
134) hexachloroethane	17.412	119	3263m	2.00 ug/L		

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

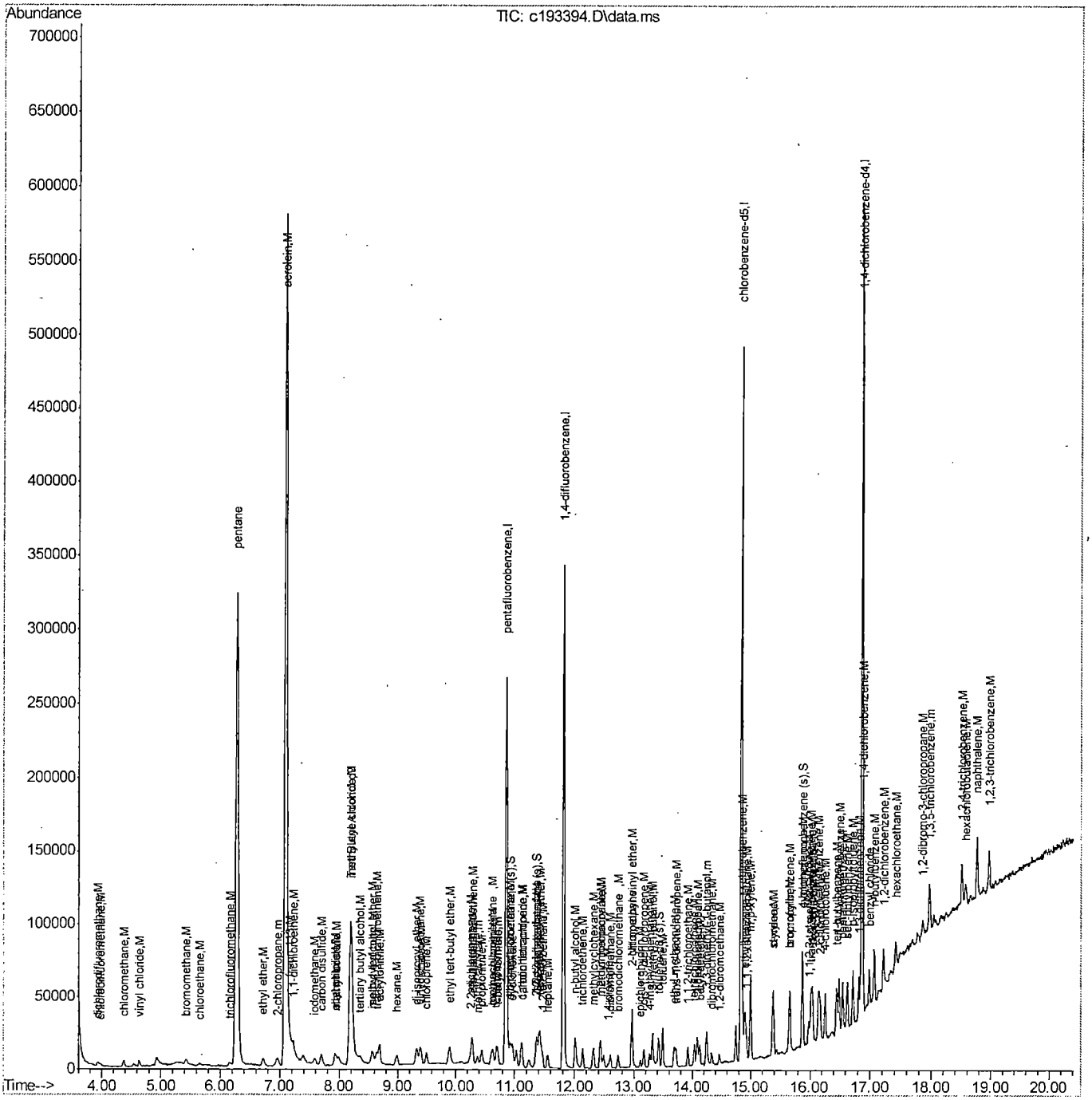
7.6.4

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c193394.D
Acq On : 28 Jul 2014 11:11 am
Operator : thienn
Sample : ic7054-2
Misc : MS70510,VC7054,5,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 29 13:13:58 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Jul 28 15:55:14 2014
Response via : Initial Calibration



MC7054.M Tue Jul 29 13:19:22 2014 C

Page: 4

Manual Integration Approval Summary

Sample Number: VC7054-IC7054
Lab FileID: C193394.D
Injection Time: 07/28/14 11:11

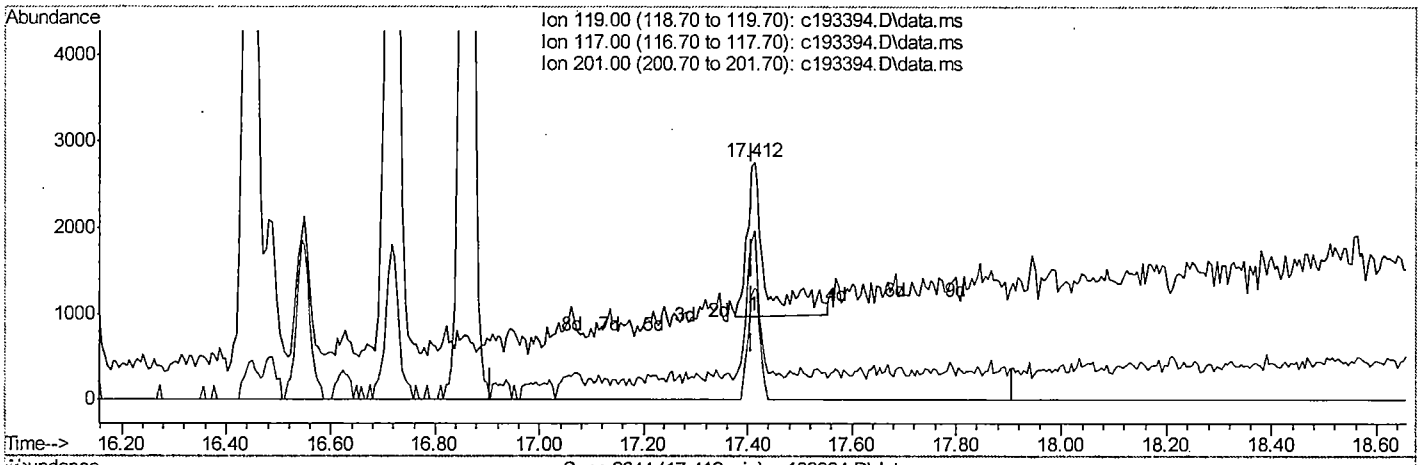
Method: SW846 8260B
Analyst approved: 07/29/14 13:29 Ying Li
Supervisor approved: 07/29/14 15:23 Jessica Reitan-Chu

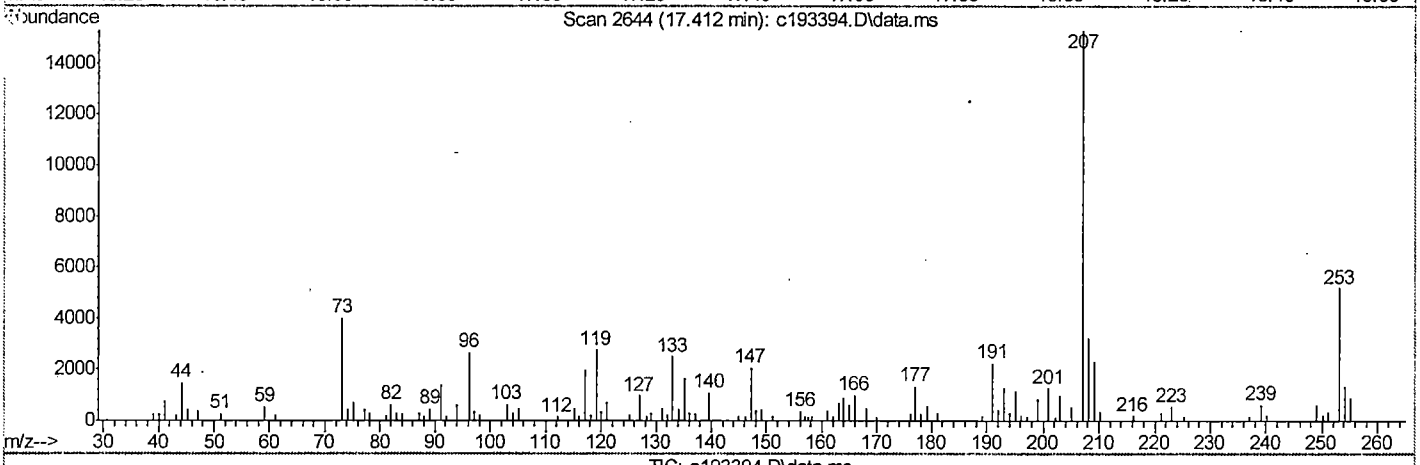
Parameter	CAS	Sig#	R.T. (min.)	Reason
Hexachloroethane	67-72-1		17.41	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\
Data File : c193394.D
Acq On : 28 Jul 2014 11:11 am
Operator : thienn
Sample : ic7054-2
Misc : MS70510,VC7054,5,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 28 11:32:17 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 22 08:23:54 2014
Response via : Initial Calibration





TIC: c193394.D\data.ms

(134) hexachloroethane (M)

17.412min (+0.005) 1.64ug/L

response 4497

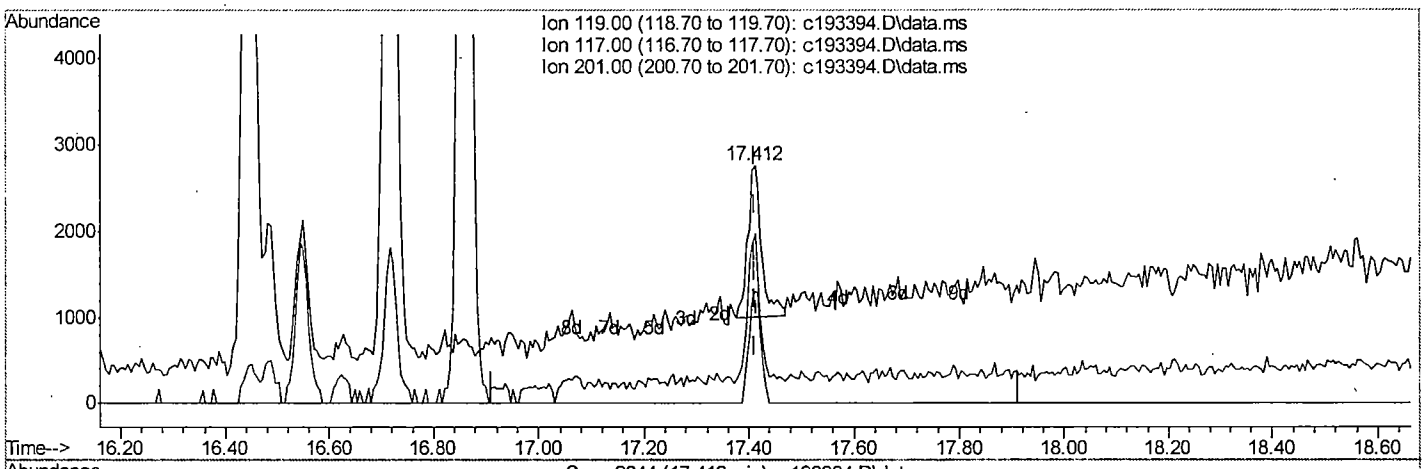
Ion	Exp%	Act%
119.00	100	100
117.00	105.10	70.47#
201.00	80.50	47.23#
0.00	0.00	0.00

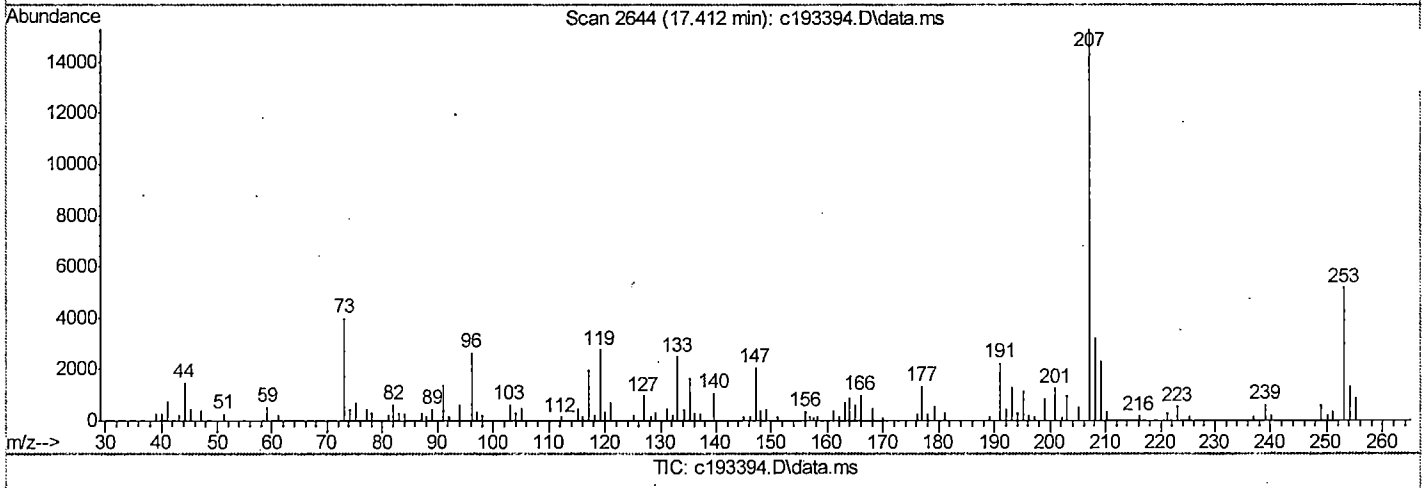
C193394.D edits: hexachloroethane

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\
Data File : c193394.D
Acq On : 28 Jul 2014 11:11 am
Operator : thienn
Sample : ic7054-2
Misc : MS70510,VC7054,5,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 29 13:13:58 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Jul 28 15:55:14 2014
Response via : Initial Calibration





TIC: c193394.D\data.ms

(134) hexachloroethane (M)

17.412min (+0.000) 2.00ug/L m

response 3263

Ion	Exp%	Act%
119.00	100	100
117.00	105.20	97.12
201.00	80.80	65.09
0.00	0.00	0.00

7.6.4.3

7

C193394.D edits: hexachloroethane

ACCUTEST LABORATORIES
JB73449

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c193395.D
Acq On : 28 Jul 2014 11:38 am
Operator : thienn
Sample : ic7054-5
Misc : MS70510,VC7054;5,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jul 29 13:17:25 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 22 08:23:54 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.195	65	242233	500.00 ug/L	0.04
5) pentafluorobenzene	10.856	168	222849	50.00 ug/L	0.00
59) 1,4-difluorobenzene	11.813	114	317145	50.00 ug/L	0.00
88) chlorobenzene-d5	14.845	117	269544	50.00 ug/L	0.00
104) 1,4-dichlorobenzene-d4	16.858	152	135225	50.00 ug/L	0.00
System Monitoring Compounds					
50) dibromofluoromethane (s)	10.924	113	10019	3.10 ug/L	0.02
Spiked Amount 50.000	Range 79 - 120		Recovery = 6.20%#		
51) 1,2-dichloroethane-d4 (s)	11.369	65	12180	3.60 ug/L	0.02
Spiked Amount 50.000	Range 72 - 123		Recovery = 7.20%#		
80) toluene-d8 (s)	13.418	98	37993	4.45 ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 8.90%#		
106) 4-bromofluorobenzene (s)	15.875	174	11360	6.01 ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 12.02%#		
Target Compounds					Qvalue
2) 1,4-dioxane	12.566	88	6157	124.09 ug/L #	90
3) tertiary butyl alcohol	8.357	59	16718	25.64 ug/L	81
7) chlorodifluoromethane	3.982	51	6394	1.64 ug/L	90
8) dichlorodifluoromethane	3.935	85	13353	1.50 ug/L	97
9) chloromethane	4.374	50	15325	2.00 ug/L	100
10) vinyl chloride	4.640	62	14703	1.64 ug/L	95
13) bromomethane	5.435	94	8653	1.95 ug/L	97
14) chloroethane	5.660	64	7927	2.10 ug/L	95
16) trichlorofluoromethane	6.167	101	13588	1.95 ug/L	98
17) pentane	6.282	43	18566	3.74 ug/L	99
18) ethyl ether	6.721	74	8311	4.04 ug/L	97
19) 2-chloropropane	6.962	43	18247	2.79 ug/L	98
20) acrolein	7.098	56	38900	29.82 ug/L	99
21) 1,1-dichloroethene	7.228	61	17668	2.62 ug/L	96
23) acetone	7.390	58	4221	4.57 ug/L	90
24) allyl chloride	7.929	76	6510	3.88 ug/L #	1
25) acetonitrile	7.934	41	17451	11.36 ug/L #	55
26) iodomethane	7.584	142	17713	2.29 ug/L	99
27) iso-butyl alcohol	8.577	74	1773	26.27 ug/L #	75
28) carbon disulfide	7.699	76	40033	2.35 ug/L	99
29) methylene chloride	8.195	84	13023	2.58 ug/L	91
30) 1-chloropropane	8.201	63	1748	5.34 ug/L	64
31) methyl acetate	7.950	43	16356	4.21 ug/L	97
32) methyl tert butyl ether	8.572	73	41655	2.66 ug/L	98
33) trans-1,2-dichloroethene	8.645	61	17519	3.35 ug/L	96
34) di-isopropyl ether	9.330	45	39890	3.59 ug/L	97
35) ethyl tert-butyl ether	9.894	59	41005	2.95 ug/L	99
36) 2-butanone	10.276	72	3504	4.66 ug/L	79
37) 1,1-dichloroethane	9.393	63	21951	3.38 ug/L	97
38) chloroprene	9.497	53	16633	3.68 ug/L	98
39) acrylonitrile	8.687	53	39151	17.51 ug/L	99
40) vinyl acetate	9.403	86	3036	4.84 ug/L	77
41) ethyl acetate	10.276	45	2847	5.40 ug/L	54

7.6.5 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c193395.D
Acq On : 28 Jul 2014 11:38 am
Operator : thienn
Sample : ic7054-5
Misc : MS70510,VC7054,5,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jul 29 13:17:25 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 22 08:23:54 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
42) 2,2-dichloropropane	10.240	77	11900	2.71	ug/L		98
43) cis-1,2-dichloroethene	10.271	96	13828	3.20	ug/L		88
44) methyl acrylate	10.365	55	15355	4.71	ug/L		98
45) propionitrile	10.433	54	32968	33.55	ug/L		93
46) bromochloromethane	10.632	128	6336	3.07	ug/L		90
47) tetrahydrofuran	10.679	42	6841	3.85	ug/L		92
48) chloroform	10.700	83	20613	3.20	ug/L		97
49) t-butyl formate	10.710	59	6906	2.77	ug/L	#	69
52) freon 113	7.165	151	6936	2.20	ug/L		91
53) methacrylonitrile	10.605	67	7655	4.07	ug/L		98
54) cyclohexane	10.961	84	18118	2.58	ug/L		92
55) 1,1,1-trichloroethane	10.919	97	15911	2.66	ug/L		97
57) 2,2,4-trimethylpentane	11.358	57	26170	2.55	ug/L		95
58) tert-amyl methyl ether	11.432	73	40695	2.80	ug/L		96
60) epichlorohydrin	13.104	57	11794	26.25	ug/L		97
61) n-butyl alcohol	12.012	56	40768	157.43	ug/L		97
62) carbon tetrachloride	11.128	119	13177	3.63	ug/L		99
63) 1,1-dichloropropene	11.118	75	16230	4.19	ug/L		97
64) hexane	8.990	57	13191	5.93	ug/L		92
65) benzene	11.405	78	52022	4.16	ug/L		98
66) heptane	11.547	57	6241	6.18	ug/L		94
67) isopropyl acetate	11.369	61	7099	4.64	ug/L		95
68) 1,2-dichloroethane	11.463	62	15112	4.16	ug/L		96
70) trichloroethene	12.137	95	12022	4.06	ug/L		96
71) 2-chloroethyl vinyl ether	12.963	63	42579	34.78	ug/L		99
72) 2-Nitropropane	12.974	41	6389	6.18	ug/L	#	81
73) methylcyclohexane	12.315	83	17752	3.12	ug/L		97
75) methyl methacrylate	12.435	69	10954	6.19	ug/L		98
76) 1,2-dichloropropane	12.430	63	12673	4.66	ug/L		100
77) dibromomethane	12.597	93	7856	4.14	ug/L		97
78) bromodichloromethane	12.728	83	15661	4.34	ug/L		96
79) cis-1,3-dichloropropene	13.167	75	20636	5.45	ug/L		94
81) 4-methyl-2-pentanone	13.267	58	7798	4.07	ug/L		87
82) toluene	13.491	92	29769	4.85	ug/L		89
83) 3-methyl-1-butanol	13.314	55	26277	62.95	ug/L		95
84) trans-1,3-dichloropropene	13.716	75	19238	6.69	ug/L		95
85) ethyl methacrylate	13.685	69	17946	6.25	ug/L		95
86) 1,1,2-trichloroethane	13.925	83	9719	5.41	ug/L		95
87) 2-hexanone	14.077	58	8033	8.05	ug/L		99
89) cyclohexanone	15.875	98	24688	31.94	ug/L		89
90) tetrachloroethene	14.030	166	11231	3.45	ug/L		97
91) 1,3-dichloropropane	14.087	76	19703	5.47	ug/L		97
92) butyl acetate	14.124	56	11744	8.42	ug/L		97
93) 3,3-dimethyl-1-butanol	14.249	57	31140	21.85	ug/L		97
94) dibromochloromethane	14.338	129	11381	4.50	ug/L		97
95) 1,2-dibromoethane	14.469	107	11865	5.44	ug/L		99
97) chlorobenzene	14.872	112	31490	4.85	ug/L		99
98) 1,1,1,2-tetrachloroethane	14.934	131	11311	2.93	ug/L		97
99) ethylbenzene	14.908	91	54539	4.62	ug/L		97
100) m,p-xylene	15.002	106	41736	8.98	ug/L		98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c193395.D
Acq On : 28 Jul 2014 11:38 am
Operator : thienn
Sample : ic7054-5
Misc : MS70510,VC7054,5,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jul 29 13:17:25 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 22 08:23:54 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
101) o-xylene	15.379	106	21783	3.50 ug/L	99
102) styrene	15.394	104	34775	4.97 ug/L	97
103) bromoform	15.661	173	8301	5.01 ug/L	93
105) isopropylbenzene	15.671	105	55659	3.75 ug/L	100
107) bromobenzene	16.048	156	13427	5.82 ug/L	99
108) 1,1,2,2-tetrachloroethane	15.980	83	20057	4.55 ug/L	96
109) trans-1,4-dichloro-2-b...	16.011	53	5585	9.22 ug/L	96
110) 1,2,3-trichloropropane	16.043	110	5612	5.39 ug/L #	72
111) n-propylbenzene	16.022	91	62173	4.87 ug/L	99
113) 2-chlorotoluene	16.168	126	13524	4.45 ug/L	99
114) 4-chlorotoluene	16.252	91	39491	5.67 ug/L	97
115) 1,3,5-trimethylbenzene	16.142	105	47210	3.41 ug/L	97
116) tert-butylbenzene	16.445	134	10243	3.34 ug/L #	84
117) pentachloroethane	16.550	167	6641	2.92 ug/L	93
118) 1,2,4-trimethylbenzene	16.482	105	47356	3.60 ug/L	99
119) sec-butylbenzene	16.623	105	56567	3.09 ug/L	99
120) 1,3-dichlorobenzene	16.811	146	26118	4.84 ug/L	99
121) p-isopropyltoluene	16.717	119	48271	3.21 ug/L	99
122) 1,4-dichlorobenzene	16.884	146	25888	4.79 ug/L	99
123) benzyl chloride	16.984	91	43831	6.62 ug/L	97
125) 1,2-dichlorobenzene	17.214	146	26747	3.79 ug/L	96
126) n-butylbenzene	17.062	92	24421	3.72 ug/L	98
128) 1,2-dibromo-3-chloropr...	17.857	75	5399	3.38 ug/L	98
129) 1,3,5-trichlorobenzene	17.972	180	21307	2.67 ug/L	96
130) 1,2,4-trichlorobenzene	18.510	180	20545	2.43 ug/L	98
131) hexachlorobutadiene	18.568	225	7419	2.85 ug/L	45
132) naphthalene	18.766	128	73736	2.28 ug/L	100
133) 1,2,3-trichlorobenzene	18.970	180	20182	2.32 ug/L	98
134) hexachloroethane	17.407	119	7395	2.69 ug/L	97

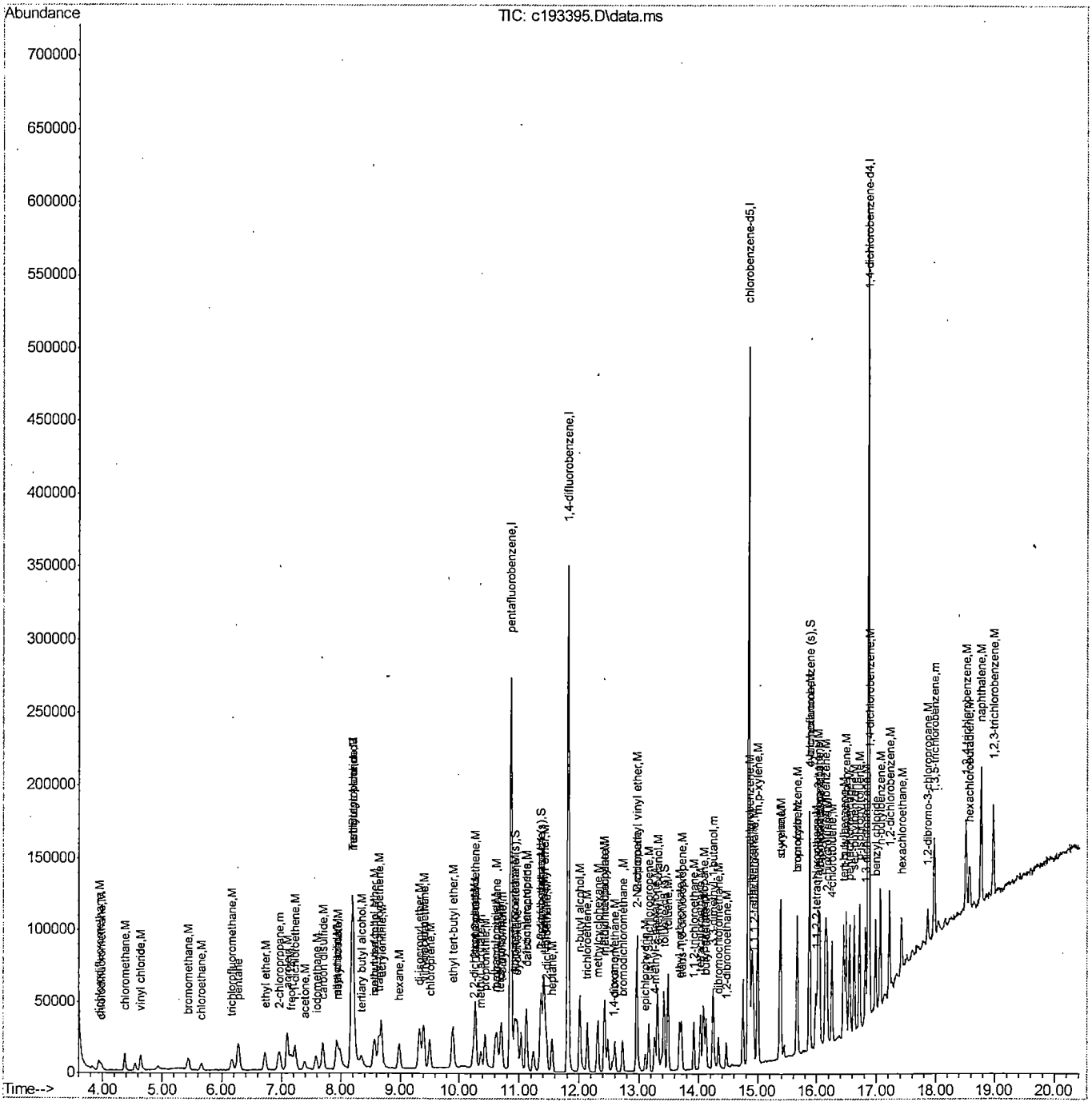
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.6.5

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c193395.D
Acq On : 28 Jul 2014 11:38 am
Operator : thienn
Sample : ic7054-5
Misc : MS70510,VC7054,5,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jul 29 13:17:25 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 22 08:23:54 2014
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c193396.D
Acq On : 28 Jul 2014 12:05 pm
Operator : thienn
Sample : ic7054-10
Misc : MS70510,VC7054,5,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jul 29 13:18:07 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Jul 28 13:04:12 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Tert Butyl Alcohol-d9	8.195	65	237724	500.00	ug/L		0.04
5) pentafluorobenzene	10.856	168	223737	50.00	ug/L		0.00
59) 1,4-difluorobenzene	11.813	114	319148	50.00	ug/L		0.00
88) chlorobenzene-d5	14.845	117	271984	50.00	ug/L		0.00
104) 1,4-dichlorobenzene-d4	16.863	152	136132	50.00	ug/L		0.00
System Monitoring Compounds							
50) dibromofluoromethane (s)	10.924	113	21756	6.71	ug/L		0.02
Spiked Amount 50.000	Range 79 - 120		Recovery = 13.42%#				
51) 1,2-dichloroethane-d4 (s)	11.368	65	26123	7.69	ug/L		0.02
Spiked Amount 50.000	Range 72 - 123		Recovery = 15.38%#				
80) toluene-d8 (s)	13.423	98	83166	9.69	ug/L		0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 19.38%#				
106) 4-bromofluorobenzene (s)	15.875	174	23489	12.34	ug/L		0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 24.68%#				
Target Compounds							Qvalue
2) 1,4-dioxane	12.560	88	11873	243.83	ug/L		96
3) tertiary butyl alcohol	8.346	59	29737	46.47	ug/L		77
7) chlorodifluoromethane	3.971	51	11982	3.06	ug/L		88
8) dichlorodifluoromethane	3.929	85	28094	3.13	ug/L		94
9) chloromethane	4.373	50	32550	4.23	ug/L		98
10) vinyl chloride	4.635	62	31300	3.48	ug/L		97
13) bromomethane	5.440	94	18333	4.12	ug/L		93
14) chloroethane	5.654	64	16719	4.42	ug/L		94
16) trichlorofluoromethane	6.161	101	29972	4.28	ug/L		98
17) pentane	6.276	43	35316	7.09	ug/L		100
18) ethyl ether	6.721	74	17382	8.41	ug/L		98
19) 2-chloropropane	6.961	43	37096	5.65	ug/L		98
20) acrolein	7.092	56	76813	58.65	ug/L		99
21) 1,1-dichloroethene	7.222	61	36473	5.39	ug/L		94
23) acetone	7.384	58	8687	9.36	ug/L		92
24) allyl chloride	7.928	76	13695	8.13	ug/L	#	1
25) acetonitrile	7.928	41	33227	21.55	ug/L	#	56
26) iodomethane	7.583	142	37382	4.81	ug/L		99
27) iso-butyl alcohol	8.561	74	3550	52.40	ug/L	#	83
28) carbon disulfide	7.703	76	82917	4.86	ug/L		100
29) methylene chloride	8.190	84	26771	5.28	ug/L		95
30) 1-chloropropane	8.205	63	2848	8.67	ug/L		90
31) methyl acetate	7.944	43	30582	7.84	ug/L		97
32) methyl tert butyl ether	8.571	73	81871	5.20	ug/L		98
33) trans-1,2-dichloroethene	8.644	61	36015	6.86	ug/L		95
34) di-isopropyl ether	9.329	45	77029	6.90	ug/L		99
35) ethyl tert-butyl ether	9.889	59	75903	5.44	ug/L		99
36) 2-butanone	10.276	72	7356	9.74	ug/L		91
37) 1,1-dichloroethane	9.392	63	46060	7.06	ug/L		99
38) chloroprene	9.497	53	31699	6.98	ug/L		99
39) acrylonitrile	8.686	53	79111	35.24	ug/L		98
40) vinyl acetate	9.397	86	5536	8.80	ug/L		95
41) ethyl acetate	10.276	45	5222	9.87	ug/L		51

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c193396.D
Acq On : 28 Jul 2014 12:05 pm
Operator : thienn
Sample : ic7054-10
Misc : MS70510,VC7054,5,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jul 29 13:18:07 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Jul 28 13:04:12 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
42) 2,2-dichloropropane	10.244	77	23900	5.42	ug/L		97
43) cis-1,2-dichloroethene	10.270	96	28794	6.63	ug/L		98
44) methyl acrylate	10.359	55	31403	9.59	ug/L		98
45) propionitrile	10.427	54	67645	68.57	ug/L		91
46) bromochloromethane	10.631	128	13121	6.34	ug/L		93
47) tetrahydrofuran	10.668	42	14360	8.06	ug/L		89
48) chloroform	10.699	83	42812	6.62	ug/L		99
49) t-butyl formate	10.709	59	12067	4.82	ug/L	#	70
52) freon 113	7.160	151	13191	4.17	ug/L		93
53) methacrylonitrile	10.600	67	15462	8.19	ug/L		94
54) cyclohexane	10.960	84	37532	5.33	ug/L		92
55) 1,1,1-trichloroethane	10.919	97	32325	5.38	ug/L		96
57) 2,2,4-trimethylpentane	11.352	57	49096	4.77	ug/L		95
58) tert-amyl methyl ether	11.431	73	75526	5.17	ug/L		97
60) epichlorohydrin	13.104	57	22694	50.19	ug/L		99
61) n-butyl alcohol	12.006	56	77094	295.84	ug/L		97
62) carbon tetrachloride	11.122	119	27392	7.51	ug/L		99
63) 1,1-dichloropropene	11.117	75	34224	8.77	ug/L		99
64) hexane	8.989	57	25301	11.31	ug/L		98
65) benzene	11.405	78	105780	8.40	ug/L		98
66) heptane	11.546	57	11829	11.63	ug/L		95
67) isopropyl acetate	11.358	61	13763	8.94	ug/L		92
68) 1,2-dichloroethane	11.462	62	31002	8.49	ug/L		99
70) trichloroethene	12.142	95	25258	8.47	ug/L		98
71) 2-chloroethyl vinyl ether	12.963	63	82085	66.62	ug/L		97
72) 2-Nitropropane	12.973	41	12417	11.93	ug/L	#	84
73) methylcyclohexane	12.314	83	33816	5.91	ug/L		95
75) methyl methacrylate	12.435	69	22653	12.72	ug/L		95
76) 1,2-dichloropropane	12.424	63	25650	9.37	ug/L		96
77) dibromomethane	12.597	93	16521	8.66	ug/L		98
78) bromodichloromethane	12.727	83	31968	8.80	ug/L		98
79) cis-1,3-dichloropropene	13.167	75	42515	11.15	ug/L		99
81) 4-methyl-2-pentanone	13.266	58	16121	8.36	ug/L		88
82) toluene	13.491	92	60540	9.81	ug/L		95
83) 3-methyl-1-butanol	13.313	55	49237	117.21	ug/L		95
84) trans-1,3-dichloropropene	13.716	75	38750	13.40	ug/L		96
85) ethyl methacrylate	13.684	69	37507	12.98	ug/L		97
86) 1,1,2-trichloroethane	13.925	83	19720	10.91	ug/L		100
87) 2-hexanone	14.076	58	17201	17.12	ug/L		95
89) cyclohexanone	15.875	98	51188	65.63	ug/L		87
90) tetrachloroethene	14.029	166	25111	7.65	ug/L		94
91) 1,3-dichloropropane	14.087	76	40598	11.17	ug/L		99
92) butyl acetate	14.123	56	21201	15.06	ug/L		100
93) 3,3-dimethyl-1-butanol	14.249	57	58754	40.85	ug/L		94
94) dibromochloromethane	14.338	129	23897	9.37	ug/L		99
95) 1,2-dibromoethane	14.474	107	24476	11.13	ug/L		98
97) chlorobenzene	14.871	112	64259	9.82	ug/L		95
98) 1,1,1,2-tetrachloroethane	14.934	131	23713	6.10	ug/L		94
99) ethylbenzene	14.908	91	114173	9.58	ug/L		98
100) m,p-xylene	15.002	106	86050	18.35	ug/L		98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c193396.D
Acq On : 28 Jul 2014 12:05 pm
Operator : thienn
Sample : ic7054-10
Misc : MS70510,VC7054,5,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jul 29 13:18:07 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Jul 28 13:04:12 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
101) o-xylene	15.378	106	44443	7.08 ug/L		98
102) styrene	15.394	104	72471	10.27 ug/L		99
103) bromoform	15.660	173	17317	10.36 ug/L		96
105) isopropylbenzene	15.671	105	113779	7.61 ug/L		100
107) bromobenzene	16.047	156	27308	11.76 ug/L		97
108) 1,1,2,2-tetrachloroethane	15.979	83	40924	9.22 ug/L		99
109) trans-1,4-dichloro-2-b...	16.005	53	11257	18.46 ug/L		94
110) 1,2,3-trichloropropane	16.042	110	11359	10.84 ug/L	#	66
111) n-propylbenzene	16.021	91	130282	10.15 ug/L		98
113) 2-chlorotoluene	16.168	126	26921	8.79 ug/L		95
114) 4-chlorotoluene	16.251	91	82138	11.72 ug/L		99
115) 1,3,5-trimethylbenzene	16.141	105	96386	6.91 ug/L		98
116) tert-butylbenzene	16.445	134	20652	6.69 ug/L		98
117) pentachloroethane	16.549	167	12927	5.64 ug/L		99
118) 1,2,4-trimethylbenzene	16.481	105	97024	7.34 ug/L		99
119) sec-butylbenzene	16.622	105	119119	6.47 ug/L		100
120) 1,3-dichlorobenzene	16.811	146	52838	9.72 ug/L		98
121) p-isopropyltoluene	16.716	119	99151	6.55 ug/L		99
122) 1,4-dichlorobenzene	16.884	146	53553	9.84 ug/L		96
123) benzyl chloride	16.983	91	81049	12.16 ug/L		98
125) 1,2-dichlorobenzene	17.213	146	54082	7.61 ug/L		99
126) n-butylbenzene	17.061	92	50509	7.65 ug/L		98
128) 1,2-dibromo-3-chloropr...	17.861	75	11298	7.02 ug/L		97
129) 1,3,5-trichlorobenzene	17.971	180	42541	5.30 ug/L		96
130) 1,2,4-trichlorobenzene	18.510	180	40581	4.76 ug/L		99
131) hexachlorobutadiene	18.572	225	14170	5.40 ug/L		99
132) naphthalene	18.766	128	148109	4.55 ug/L		99
133) 1,2,3-trichlorobenzene	18.970	180	40266	4.61 ug/L		99
134) hexachloroethane	17.407	119	16224	5.85 ug/L		97

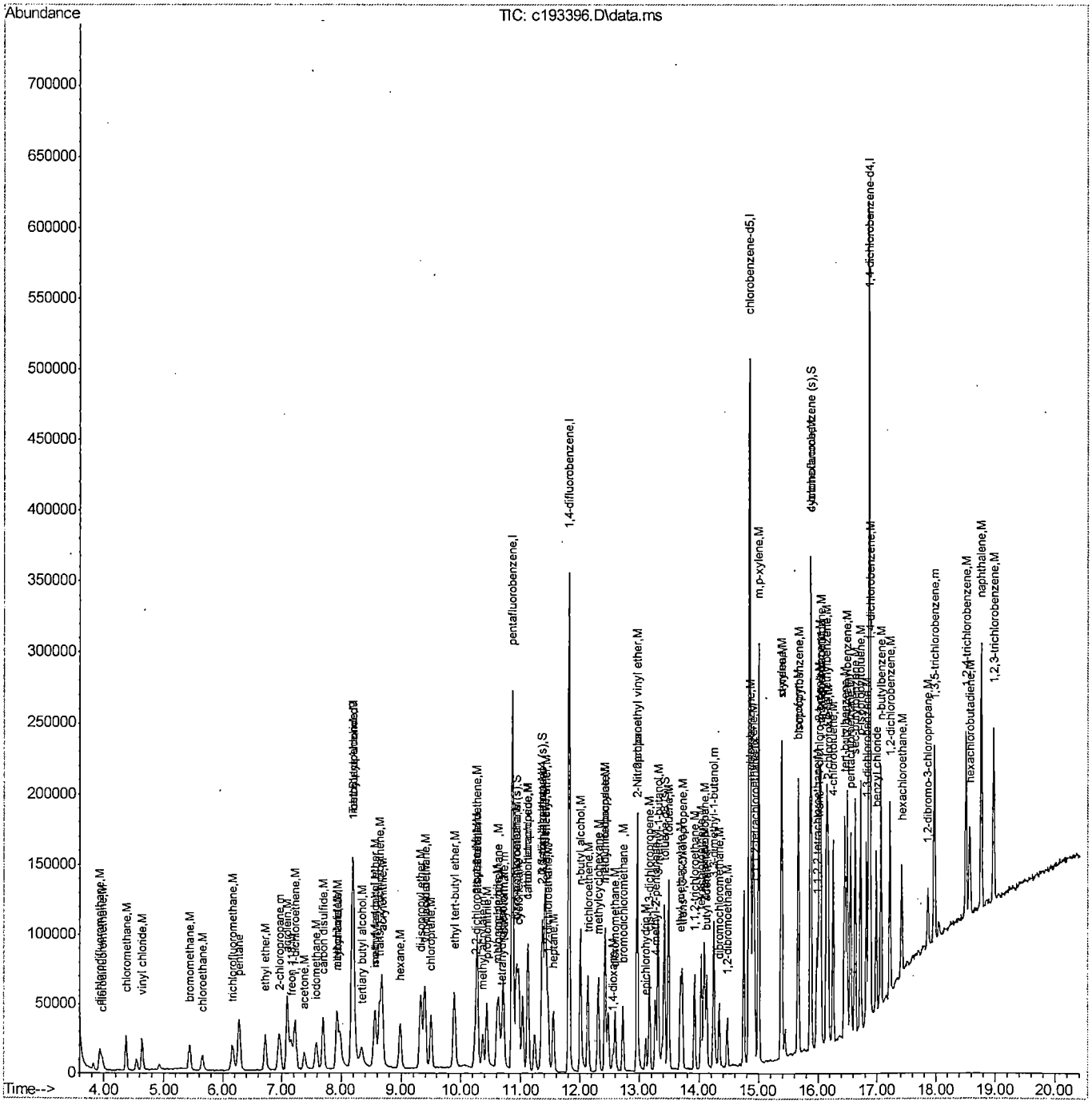
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.6.9 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c193396.D
Acq On : 28 Jul 2014 12:05 pm
Operator : thienn
Sample : ic7054-10
Misc : MS70510,VC7054,5,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jul 29 13:18:07 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Jul 28 13:04:12 2014
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c193397.D
Acq On : 28 Jul 2014 12:31 pm
Operator : thienn
Sample : ic7054-20
Misc : MS70510,VC7054,5,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jul 29 13:20:24 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Jul 28 13:04:12 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.194	65	236422	500.00	ug/L	0.03
5) pentafluorobenzene	10.860	168	222543	50.00	ug/L	0.00
59) 1,4-difluorobenzene	11.812	114	320334	50.00	ug/L	0.00
88) chlorobenzene-d5	14.844	117	278018	50.00	ug/L	0.00
104) 1,4-dichlorobenzene-d4	16.862	152	138098	50.00	ug/L	0.00
System Monitoring Compounds						
50) dibromofluoromethane (s)	10.923	113	105622	32.73	ug/L	0.02
Spiked Amount 50.000	Range 79 - 120		Recovery = 65.46%#			
51) 1,2-dichloroethane-d4 (s)	11.367	65	123856	36.68	ug/L	0.02
Spiked Amount 50.000	Range 72 - 123		Recovery = 73.36%			
80) toluene-d8 (s)	13.422	98	408994	47.46	ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 94.92%			
106) 4-bromofluorobenzene (s)	15.874	174	117239	60.72	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 121.44%#			
Target Compounds						Qvalue
2) 1,4-dioxane	12.559	88	25988	536.64	ug/L	99
3) tertiary butyl alcohol	8.351	59	66304	104.19	ug/L	76
7) chlorodifluoromethane	3.970	51	28672	7.35	ug/L	94
8) dichlorodifluoromethane	3.928	85	57352	6.43	ug/L	97
9) chloromethane	4.372	50	61655	8.05	ug/L	98
10) vinyl chloride	4.639	62	61973	6.93	ug/L	97
13) bromomethane	5.434	94	35274	7.98	ug/L	99
14) chloroethane	5.653	64	32888	8.75	ug/L	96
16) trichlorofluoromethane	6.165	101	59566	8.56	ug/L	96
17) pentane	6.280	43	73190	14.78	ug/L	99
18) ethyl ether	6.720	74	35424	17.24	ug/L	94
19) 2-chloropropane	6.960	43	76239	11.67	ug/L	98
20) acrolein	7.091	56	166442	127.76	ug/L	99
21) 1,1-dichloroethene	7.232	61	76167	11.32	ug/L	98
23) acetone	7.384	58	16887	18.29	ug/L	95
24) allyl chloride	7.927	76	26645	15.90	ug/L #	4
25) acetonitrile	7.933	41	67881	44.26	ug/L #	55
26) iodomethane	7.587	142	78036	10.09	ug/L	100
27) iso-butyl alcohol	8.565	74	7588	112.60	ug/L	95
28) carbon disulfide	7.702	76	171657	10.11	ug/L	99
29) methylene chloride	8.194	84	55172	10.95	ug/L	95
30) 1-chloropropane	8.199	63	5337	16.33	ug/L	89
31) methyl acetate	7.948	43	66452	17.13	ug/L	98
32) methyl tert butyl ether	8.570	73	165979	10.60	ug/L	97
33) trans-1,2-dichloroethene	8.644	61	73913	14.15	ug/L	97
34) di-isopropyl ether	9.328	45	168372	15.17	ug/L	97
35) ethyl tert-butyl ether	9.893	59	170816	12.31	ug/L	97
36) 2-butanone	10.275	72	15460	20.58	ug/L	85
37) 1,1-dichloroethane	9.391	63	92767	14.29	ug/L	98
38) chloroprene	9.496	53	72441	16.05	ug/L	100
39) acrylonitrile	8.685	53	161845	72.49	ug/L	99
40) vinyl acetate	9.396	86	12752	20.37	ug/L	94
41) ethyl acetate	10.275	45	11599	22.03	ug/L #	44

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c193397.D
Acq On : 28 Jul 2014 12:31 pm
Operator : thienn
Sample : ic7054-20
Misc : MS70510,VC7054,5,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jul 29 13:20:24 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Jul 28 13:04:12 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
42) 2,2-dichloropropane	10.243	77	47556	10.84 ug/L	99
43) cis-1,2-dichloroethene	10.269	96	58780	13.61 ug/L	94
44) methyl acrylate	10.358	55	67992	20.87 ug/L	98
45) propionitrile	10.426	54	139258	141.91 ug/L	91
46) bromochloromethane	10.630	128	26767	13.00 ug/L	88
47) tetrahydrofuran	10.662	42	30380	17.14 ug/L	91
48) chloroform	10.698	83	88463	13.76 ug/L	99
49) t-butyl formate	10.709	59	28826	11.58 ug/L #	70
52) freon 113	7.159	151	30591	9.71 ug/L	99
53) methacrylonitrile	10.604	67	33651	17.92 ug/L	94
54) cyclohexane	10.960	84	78959	11.28 ug/L	96
55) 1,1,1-trichloroethane	10.923	97	67655	11.33 ug/L	99
57) 2,2,4-trimethylpentane	11.357	57	114272	11.16 ug/L	96
58) tert-amyl methyl ether	11.430	73	168830	11.61 ug/L	98
60) epichlorohydrin	13.103	57	50864	112.08 ug/L	99
61) n-butyl alcohol	12.010	56	175625	671.44 ug/L	99
62) carbon tetrachloride	11.122	119	57713	15.76 ug/L	96
63) 1,1-dichloropropene	11.116	75	70793	18.08 ug/L	99
64) hexane	8.983	57	57594	25.64 ug/L	98
65) benzene	11.404	78	219315	17.36 ug/L	98
66) heptane	11.545	57	26762	26.22 ug/L	92
67) isopropyl acetate	11.362	61	32793	21.23 ug/L #	84
68) 1,2-dichloroethane	11.461	62	64726	17.66 ug/L	98
70) trichloroethene	12.136	95	52708	17.61 ug/L	96
71) 2-chloroethyl vinyl ether	12.962	63	192613	155.76 ug/L	98
72) 2-Nitropropane	12.972	41	27200	26.03 ug/L #	73
73) methylcyclohexane	12.314	83	77461	13.48 ug/L	96
75) methyl methacrylate	12.434	69	49867	27.90 ug/L	97
76) 1,2-dichloropropane	12.429	63	54347	19.78 ug/L	96
77) dibromomethane	12.596	93	34731	18.14 ug/L	96
78) bromodichloromethane	12.727	83	67829	18.60 ug/L	99
79) cis-1,3-dichloropropene	13.166	75	89855	23.48 ug/L	99
81) 4-methyl-2-pentanone	13.265	58	35101	18.14 ug/L	90
82) toluene	13.490	92	129848	20.96 ug/L	96
83) 3-methyl-1-butanol	13.312	55	109374	259.41 ug/L	96
84) trans-1,3-dichloropropene	13.715	75	82314	28.36 ug/L	98
85) ethyl methacrylate	13.689	69	83125	28.66 ug/L	97
86) 1,1,2-trichloroethane	13.924	83	42327	23.32 ug/L	98
87) 2-hexanone	14.075	58	36568	36.26 ug/L	98
89) cyclohexanone	15.874	98	109033	136.76 ug/L	90
90) tetrachloroethene	14.034	166	51054	15.21 ug/L	99
91) 1,3-dichloropropane	14.091	76	86168	23.18 ug/L	99
92) butyl acetate	14.128	56	48385	33.63 ug/L	99
93) 3,3-dimethyl-1-butanol	14.248	57	133209	90.61 ug/L	98
94) dibromochloromethane	14.337	129	51274	19.66 ug/L	97
95) 1,2-dibromoethane	14.473	107	52846	23.51 ug/L	98
96) n-butyl ether	16.731	57	486	3.56 ug/L #	1
97) chlorobenzene	14.875	112	136728	20.43 ug/L	96
98) 1,1,1,2-tetrachloroethane	14.933	131	49364	12.41 ug/L	95
99) ethylbenzene	14.907	91	242311	19.90 ug/L	98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c193397.D
Acq On : 28 Jul 2014 12:31 pm
Operator : thienn
Sample : ic7054-20
Misc : MS70510,VC7054,5,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jul 29 13:20:24 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Jul 28 13:04:12 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
100) m,p-xylene	15.001	106	183837	38.36 ug/L		100
101) o-xylene	15.377	106	93207	14.52 ug/L		96
102) styrene	15.393	104	154003	21.36 ug/L		99
103) bromoform	15.665	173	37180	21.76 ug/L		97
105) isopropylbenzene	15.670	105	239150	15.76 ug/L		100
107) bromobenzene	16.046	156	57513	24.41 ug/L		92
108) 1,1,2,2-tetrachloroethane	15.978	83	85784	19.06 ug/L		99
109) trans-1,4-dichloro-2-b...	16.010	53	24104	38.97 ug/L		97
110) 1,2,3-trichloropropane	16.046	110	24136	22.70 ug/L	#	72
111) n-propylbenzene	16.025	91	271910	20.87 ug/L		99
113) 2-chlorotoluene	16.167	126	56716	18.27 ug/L		91
114) 4-chlorotoluene	16.250	91	174410	24.53 ug/L		98
115) 1,3,5-trimethylbenzene	16.146	105	202525	14.31 ug/L		99
116) tert-butylbenzene	16.449	134	42354	13.53 ug/L		93
117) pentachloroethane	16.548	167	28909	12.44 ug/L		97
118) 1,2,4-trimethylbenzene	16.486	105	201520	15.02 ug/L		99
119) sec-butylbenzene	16.627	105	250048	13.38 ug/L		99
120) 1,3-dichlorobenzene	16.815	146	111619	20.24 ug/L		99
121) p-isopropyltoluene	16.716	119	209898	13.67 ug/L		99
122) 1,4-dichlorobenzene	16.883	146	113073	20.48 ug/L		97
123) benzyl chloride	16.987	91	181555	26.86 ug/L		99
125) 1,2-dichlorobenzene	17.217	146	112319	15.58 ug/L		100
126) n-butylbenzene	17.061	92	105386	15.73 ug/L		99
128) 1,2-dibromo-3-chloropr...	17.855	75	21195	12.99 ug/L		92
129) 1,3,5-trichlorobenzene	17.970	180	89352	10.98 ug/L		100
130) 1,2,4-trichlorobenzene	18.509	180	85425	9.88 ug/L		100
131) hexachlorobutadiene	18.572	225	29623	11.14 ug/L		100
132) naphthalene	18.765	128	305803	9.27 ug/L		100
133) 1,2,3-trichlorobenzene	18.969	180	82152	9.26 ug/L		99
134) hexachloroethane	17.411	119	34540	12.29 ug/L		99

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

7.6.7

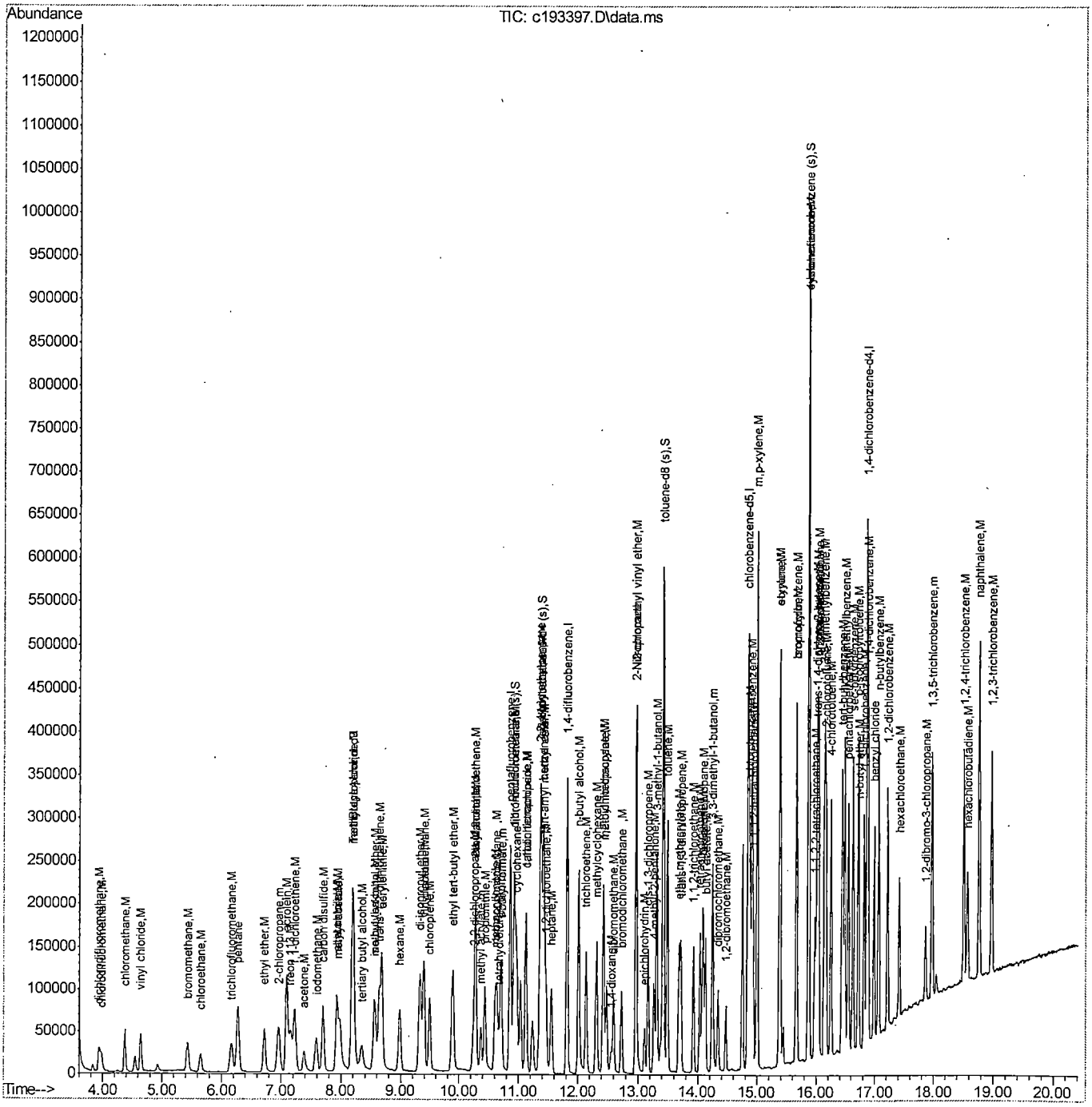
7

ACCUTEST LABORATORIES JB73449

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c193397.D
Acq On : 28 Jul 2014 12:31 pm
Operator : thienn
Sample : ic7054-20
Misc : MS70510,VC7054,5,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jul 29 13:20:24 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Jul 28 13:04:12 2014
Response via : Initial Calibration



7.6.7

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c193398.D
Acq On : 28 Jul 2014 12:58 pm
Operator : thienn
Sample : icc7054-50
Misc : MS70510,VC7054,5,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jul 29 13:20:43 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Jul 28 13:40:46 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.200	65	239302	500.00	ug/L	0.00
5) pentafluorobenzene	10.861	168	225720	50.00	ug/L	0.00
59) 1,4-difluorobenzene	11.812	114	324556	50.00	ug/L	0.00
88) chlorobenzene-d5	14.845	117	284198	50.00	ug/L	0.00
104) 1,4-dichlorobenzene-d4	16.863	152	142431	50.00	ug/L	0.00
System Monitoring Compounds						
50) dibromofluoromethane (s)	10.924	113	104135	54.02	ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 108.04%			
51) 1,2-dichloroethane-d4 (s)	11.368	65	123027	52.55	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 105.10%			
80) toluene-d8 (s)	13.423	98	411186	52.91	ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 105.82%			
106) 4-bromofluorobenzene (s)	15.875	174	119037	47.94	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 95.88%			
Target Compounds						Qvalue
2) 1,4-dioxane	12.560	88	62675	1292.75	ug/L	99
3) tertiary butyl alcohol	8.352	59	156664	229.27	ug/L	96
7) chlorodifluoromethane	3.970	51	78279	59.92	ug/L	97
8) dichlorodifluoromethane	3.929	85	149843	57.22	ug/L	99
9) chloromethane	4.368	50	159202	52.02	ug/L	100
10) vinyl chloride	4.640	62	161082	56.46	ug/L	97
13) bromomethane	5.424	94	83969	50.63	ug/L	97
14) chloroethane	5.649	64	84088	54.10	ug/L	99
16) trichlorofluoromethane	6.161	101	160162	58.83	ug/L	98
17) pentane	6.276	43	177882	47.43	ug/L	99
18) ethyl ether	6.720	74	87112	51.06	ug/L	95
19) 2-chloropropane	6.961	43	186681	48.17	ug/L	99
20) acrolein	7.092	56	414510	504.65	ug/L	97
21) 1,1-dichloroethene	7.228	61	187136	54.48	ug/L	97
23) acetone	7.379	58	38727	44.89	ug/L	99
24) allyl chloride	7.928	76	65290	49.91	ug/L	97
25) acetonitrile	7.928	41	169204	476.07	ug/L	99
26) iodomethane	7.583	142	191093	54.72	ug/L	99
27) iso-butyl alcohol	8.571	74	17568	478.20	ug/L	95
28) carbon disulfide	7.698	76	418049	53.26	ug/L	99
29) methylene chloride	8.189	84	133984	51.57	ug/L	99
30) 1-chloropropane	8.210	63	11378	37.42	ug/L	68
31) methyl acetate	7.944	43	152883	46.38	ug/L	99
32) methyl tert butyl ether	8.571	73	411894	48.99	ug/L	97
33) trans-1,2-dichloroethene	8.644	61	182857	52.36	ug/L	99
34) di-isopropyl ether	9.329	45	396361	49.32	ug/L	96
35) ethyl tert-butyl ether	9.889	59	399664	49.57	ug/L	100
36) 2-butanone	10.270	72	38226	53.09	ug/L	97
37) 1,1-dichloroethane	9.392	63	229457	52.20	ug/L	98
38) chloroprene	9.496	53	176499	54.45	ug/L	99
39) acrylonitrile	8.686	53	396366	252.32	ug/L	98
40) vinyl acetate	9.397	86	30897	50.92	ug/L	83
41) ethyl acetate	10.275	45	27785	47.33	ug/L	96

7.6.8 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c193398.D
Acq On : 28 Jul 2014 12:58 pm
Operator : thienn
Sample : icc7054-50
Misc : MS70510,VC7054,5,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jul 29 13:20:43 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Jul 28 13:40:46 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
42) 2,2-dichloropropane	10.239	77	113332	46.37 ug/L		98
43) cis-1,2-dichloroethene	10.270	96	143734	48.59 ug/L		98
44) methyl acrylate	10.359	55	173198	52.61 ug/L		100
45) propionitrile	10.427	54	342648	484.44 ug/L		97
46) bromochloromethane	10.631	128	66442	51.43 ug/L		99
47) tetrahydrofuran	10.662	42	74155	49.06 ug/L		100
48) chloroform	10.699	83	216768	52.10 ug/L		99
49) t-butyl formate	10.709	59	73089	50.32 ug/L	#	99
52) freon 113	7.160	151	73333	54.33 ug/L		97
53) methacrylonitrile	10.600	67	81973	52.54 ug/L		99
54) cyclohexane	10.960	84	191953	51.27 ug/L		98
55) 1,1,1-trichloroethane	10.924	97	165205	51.54 ug/L		100
57) 2,2,4-trimethylpentane	11.352	57	267831	50.03 ug/L		97
58) tert-amyl methyl ether	11.431	73	399386	49.24 ug/L		98
60) epichlorohydrin	13.104	57	123240	241.17 ug/L		99
61) n-butyl alcohol	12.006	56	434826	2397.33 ug/L		99
62) carbon tetrachloride	11.122	119	142966	54.33 ug/L		98
63) 1,1-dichloropropene	11.117	75	176885	52.94 ug/L		100
64) hexane	8.989	57	137731	49.63 ug/L		99
65) benzene	11.405	78	538059	50.71 ug/L		99
66) heptane	11.546	57	64659	49.44 ug/L		97
67) isopropyl acetate	11.363	61	75907	51.94 ug/L		94
68) 1,2-dichloroethane	11.462	62	158709	51.63 ug/L		99
70) trichloroethene	12.137	95	129915	52.71 ug/L		99
71) 2-chloroethyl vinyl ether	12.963	63	477079	265.27 ug/L		98
72) 2-Nitropropane	12.973	41	64993	46.18 ug/L		94
73) methylcyclohexane	12.314	83	184099	50.16 ug/L		100
75) methyl methacrylate	12.435	69	126789	54.64 ug/L		99
76) 1,2-dichloropropane	12.429	63	134022	53.54 ug/L		99
77) dibromomethane	12.597	93	85426	53.93 ug/L		99
78) bromodichloromethane	12.727	83	169813	55.10 ug/L		100
79) cis-1,3-dichloropropene	13.167	75	224851	51.84 ug/L		99
81) 4-methyl-2-pentanone	13.266	58	87966	52.64 ug/L		99
82) toluene	13.491	92	322824	53.40 ug/L		99
83) 3-methyl-1-butanol	13.313	55	271496	920.39 ug/L		98
84) trans-1,3-dichloropropene	13.715	75	207326	50.39 ug/L		99
85) ethyl methacrylate	13.684	69	213344	54.37 ug/L		99
86) 1,1,2-trichloroethane	13.925	83	106439	52.22 ug/L		99
87) 2-hexanone	14.076	58	93595	53.42 ug/L		98
89) cyclohexanone	15.875	98	273123	508.86 ug/L		98
90) tetrachloroethene	14.034	166	130252	55.58 ug/L		99
91) 1,3-dichloropropane	14.092	76	216778	53.14 ug/L		99
92) butyl acetate	14.123	56	118299	46.27 ug/L		99
93) 3,3-dimethyl-1-butanol	14.249	57	317552	444.51 ug/L		100
94) dibromochloromethane	14.338	129	130355	53.45 ug/L		100
95) 1,2-dibromoethane	14.474	107	133199	52.52 ug/L		99
97) chlorobenzene	14.871	112	343831	50.70 ug/L		100
98) 1,1,1,2-tetrachloroethane	14.934	131	122996	50.41 ug/L		98
99) ethylbenzene	14.907	91	602747	50.97 ug/L		99
100) m,p-xylene	15.002	106	457506	103.53 ug/L		98

7.6.8

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c193398.D
Acq On : 28 Jul 2014 12:58 pm
Operator : thienn
Sample : icc7054-50
Misc : MS70510,VC7054,5,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jul 29 13:20:43 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Jul 28 13:40:46 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
101) o-xylene	15.378	106	231908	50.85 ug/L	100
102) styrene	15.394	104	393088	51.06 ug/L	100
103) bromoform	15.666	173	96542	52.11 ug/L	97
105) isopropylbenzene	15.671	105	592258	48.18 ug/L	99
107) bromobenzene	16.047	156	141352	46.18 ug/L	99
108) 1,1,2,2-tetrachloroethane	15.979	83	213168	48.70 ug/L	100
109) trans-1,4-dichloro-2-b...	16.011	53	61563	50.50 ug/L	99
110) 1,2,3-trichloropropane	16.047	110	58823	49.07 ug/L	98
111) n-propylbenzene	16.021	91	682888	50.56 ug/L	98
113) 2-chlorotoluene	16.167	126	139763	46.52 ug/L	99
114) 4-chlorotoluene	16.251	91	436686	48.62 ug/L	99
115) 1,3,5-trimethylbenzene	16.146	105	508496	48.51 ug/L	100
116) tert-butylbenzene	16.450	134	104812	45.31 ug/L	99
117) pentachloroethane	16.549	167	71373	48.93 ug/L	97
118) 1,2,4-trimethylbenzene	16.486	105	509877	49.20 ug/L	99
119) sec-butylbenzene	16.627	105	631390	51.08 ug/L	99
120) 1,3-dichlorobenzene	16.816	146	279330	46.81 ug/L	99
121) p-isopropyltoluene	16.716	119	534358	50.73 ug/L	99
122) 1,4-dichlorobenzene	16.884	146	284314	46.45 ug/L	99
123) benzyl chloride	16.983	91	441795	48.95 ug/L	99
125) 1,2-dichlorobenzene	17.213	146	282807	47.49 ug/L	99
126) n-butylbenzene	17.061	92	270133	49.31 ug/L	100
128) 1,2-dibromo-3-chloropr...	17.856	75	53384	45.49 ug/L	94
129) 1,3,5-trichlorobenzene	17.971	180	226720	46.53 ug/L	99
130) 1,2,4-trichlorobenzene	18.510	180	214759	47.15 ug/L	98
131) hexachlorobutadiene	18.572	225	73264	46.87 ug/L	100
132) naphthalene	18.766	128	762936	47.72 ug/L	100
133) 1,2,3-trichlorobenzene	18.970	180	206357	46.25 ug/L	99
134) hexachloroethane	17.412	119	90382	53.30 ug/L	99

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

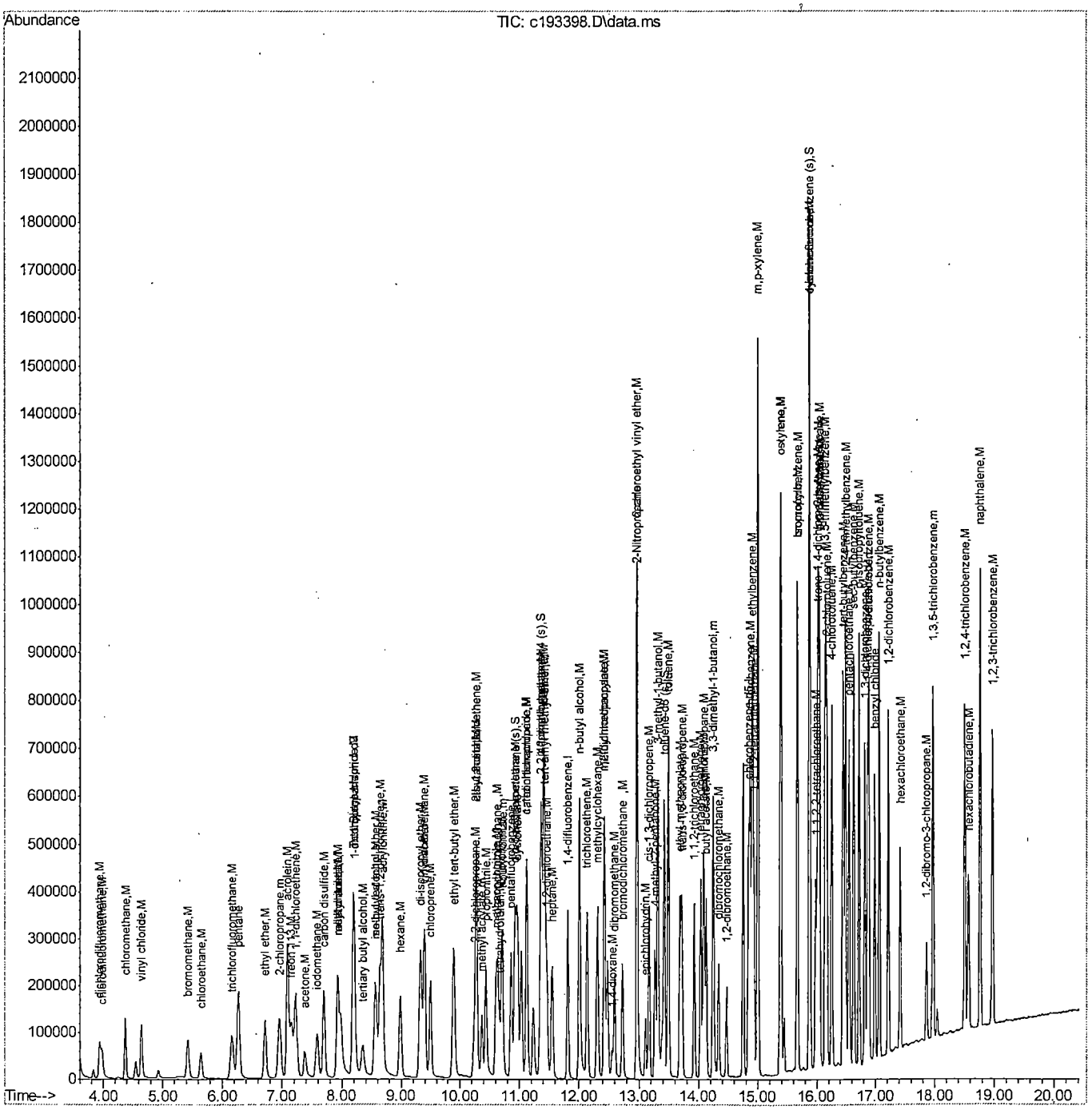
7.6.8

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c193398.D
Acq On : 28 Jul 2014 12:58 pm
Operator : thienn
Sample : icc7054-50
Misc : MS70510,VC7054,5,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jul 29 13:20:43 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Jul 28 13:40:46 2014
Response via : Initial Calibration



7.6.8

7

ACCUTEST LABORATORIES JB73449

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c193399.D
Acq On : 28 Jul 2014 1:25 pm
Operator : thienn
Sample : ic7054-100
Misc : MS70510,VC7054,5,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jul 29 13:20:58 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Jul 28 13:42:49 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.205	65	240783	500.00	ug/L	0.00
5) pentafluorobenzene	10.861	168	224213	50.00	ug/L	0.00
59) 1,4-difluorobenzene	11.812	114	323973	50.00	ug/L	0.00
88) chlorobenzene-d5	14.844	117	288893	50.00	ug/L	0.00
104) 1,4-dichlorobenzene-d4	16.862	152	152386	50.00	ug/L	0.00
System Monitoring Compounds						
50) dibromofluoromethane (s)	10.923	113	213271	110.10	ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 220.20%#			
51) 1,2-dichloroethane-d4 (s)	11.368	65	250206	106.81	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 213.62%#			
80) toluene-d8 (s)	13.422	98	830326	106.15	ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 212.30%#			
106) 4-bromofluorobenzene (s)	15.874	174	248725	94.18	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 188.36%#			
Target Compounds						Qvalue
2) 1,4-dioxane	12.554	88	124975	2544.51	ug/L	98
3) tertiary butyl alcohol	8.351	59	320639	472.88	ug/L	97
7) chlorodifluoromethane	3.970	51	159160	118.72	ug/L	99
8) dichlorodifluoromethane	3.928	85	287314	107.86	ug/L	99
9) chloromethane	4.373	50	312212	102.11	ug/L	99
10) vinyl chloride	4.645	62	322903	111.53	ug/L	99
13) bromomethane	5.418	94	153202	92.80	ug/L	97
14) chloroethane	5.643	64	163112	104.22	ug/L	99
16) trichlorofluoromethane	6.166	101	313731	112.69	ug/L	99
18) ethyl ether	6.720	74	171056	100.58	ug/L	99
19) 2-chloropropane	6.961	43	357780	93.51	ug/L	99
20) acrolein	7.096	56	11553	14.14	ug/L	99
21) 1,1-dichloroethene	7.227	61	361475	104.60	ug/L	100
23) acetone	7.384	58	71529	85.66	ug/L	96
24) allyl chloride	7.928	76	125063	96.28	ug/L	93
25) acetonitrile	7.928	41	326334	931.77	ug/L	98
26) iodomethane	7.588	142	376010	106.96	ug/L	99
27) iso-butyl alcohol	8.566	74	36571	1013.20	ug/L	95
28) carbon disulfide	7.703	76	800631	101.74	ug/L	99
29) methylene chloride	8.194	84	264810	102.16	ug/L	99
30) 1-chloropropane	8.205	63	21627	76.42	ug/L	94
31) methyl acetate	7.943	43	309750	95.58	ug/L	99
32) methyl tert butyl ether	8.566	73	816741	98.09	ug/L	100
33) trans-1,2-dichloroethene	8.644	61	353798	101.30	ug/L	99
34) di-isopropyl ether	9.329	45	796204	99.94	ug/L	98
35) ethyl tert-butyl ether	9.893	59	802634	100.35	ug/L	99
36) 2-butanone	10.270	72	72432	100.24	ug/L	94
37) 1,1-dichloroethane	9.392	63	442798	100.78	ug/L	98
38) chloroprene	9.496	53	348172	106.77	ug/L	99
39) acrylonitrile	8.686	53	775199	496.14	ug/L	99
40) vinyl acetate	9.397	86	63807	105.38	ug/L	93
41) ethyl acetate	10.275	45	55991	96.88	ug/L	91
42) 2,2-dichloropropane	10.238	77	207426	86.33	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c193399.D
Acq On : 28 Jul 2014 1:25 pm
Operator : thienn
Sample : ic7054-100
Misc : MS70510,VC7054,5,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jul 29 13:20:58 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Jul 28 13:42:49 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
43) cis-1,2-dichloroethene	10.270	96	278824	95.28 ug/L	98
44) methyl acrylate	10.359	55	345408	104.72 ug/L	99
45) propionitrile	10.432	54	675218	965.34 ug/L	99
46) bromochloromethane	10.631	128	131017	101.61 ug/L	97
47) tetrahydrofuran	10.657	42	145886	97.42 ug/L	97
48) chloroform	10.699	83	420860	101.23 ug/L	99
49) t-butyl formate	10.714	59	148280	102.66 ug/L	97
52) freon 113	7.159	151	141325	103.91 ug/L	99
53) methacrylonitrile	10.599	67	165839	106.24 ug/L	99
54) cyclohexane	10.965	84	363768	97.41 ug/L	99
55) 1,1,1-trichloroethane	10.923	97	316338	98.92 ug/L	99
57) 2,2,4-trimethylpentane	11.357	57	511321	96.14 ug/L	99
58) tert-amyl methyl ether	11.430	73	798708	99.35 ug/L	99
60) epichlorohydrin	13.103	57	249428	491.88 ug/L	99
61) n-butyl alcohol	12.011	56	897665	4992.19 ug/L	100
62) carbon tetrachloride	11.127	119	275657	103.65 ug/L	99
63) 1,1-dichloropropene	11.117	75	339344	101.00 ug/L	100
64) hexane	8.989	57	261733	94.60 ug/L	98
65) benzene	11.404	78	1045650	98.56 ug/L	100
66) heptane	11.545	57	124030	95.18 ug/L	100
67) isopropyl acetate	11.363	61	154714	105.47 ug/L	99
68) 1,2-dichloroethane	11.462	62	312393	101.33 ug/L	99
70) trichloroethene	12.141	95	252436	101.81 ug/L	98
71) 2-chloroethyl vinyl ether	12.962	63	971165	536.30 ug/L	100
72) 2-Nitropropane	12.973	41	131014	94.46 ug/L	98
73) methylcyclohexane	12.314	83	355459	96.97 ug/L	99
75) methyl methacrylate	12.434	69	258072	109.97 ug/L	100
76) 1,2-dichloropropane	12.429	63	264903	104.96 ug/L	99
77) dibromomethane	12.596	93	171223	107.08 ug/L	98
78) bromodichloromethane	12.727	83	339068	108.83 ug/L	100
79) cis-1,3-dichloropropene	13.166	75	447193	102.82 ug/L	99
81) 4-methyl-2-pentanone	13.265	58	176358	104.93 ug/L	99
82) toluene	13.490	92	634329	104.23 ug/L	99
83) 3-methyl-1-butanol	13.313	55	560040	1923.87 ug/L	99
84) trans-1,3-dichloropropene	13.715	75	414057	100.71 ug/L	99
85) ethyl methacrylate	13.689	69	435726	110.04 ug/L	98
86) 1,1,2-trichloroethane	13.924	83	213239	104.14 ug/L	99
87) 2-hexanone	14.076	58	185228	104.71 ug/L	99
89) cyclohexanone	15.874	98	520932	951.97 ug/L	98
90) tetrachloroethene	14.034	166	243357	100.55 ug/L	99
91) 1,3-dichloropropane	14.092	76	434574	103.99 ug/L	99
92) butyl acetate	14.128	56	245590	95.68 ug/L	98
93) 3,3-dimethyl-1-butanol	14.248	57	663535	928.45 ug/L	100
94) dibromochloromethane	14.337	129	266883	106.60 ug/L	99
95) 1,2-dibromoethane	14.473	107	268328	103.43 ug/L	100
97) chlorobenzene	14.876	112	680851	98.59 ug/L	100
98) 1,1,1,2-tetrachloroethane	14.933	131	243729	98.16 ug/L	99
99) ethylbenzene	14.907	91	1187783	98.58 ug/L	100
100) m,p-xylene	15.001	106	899209	199.29 ug/L	100
101) o-xylene	15.378	106	460452	99.11 ug/L	99

7.6.9

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c193399.D
Acq On : 28 Jul 2014 1:25 pm
Operator : thienn
Sample : ic7054-100
Misc : MS70510,VC7054,5,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jul 29 13:20:58 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Jul 28 13:42:49 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
102) styrene	15.393	104	797064	101.58 ug/L	99
103) bromoform	15.665	173	202853	107.07 ug/L	99
105) isopropylbenzene	15.670	105	1168917	89.29 ug/L	100
107) bromobenzene	16.047	156	288423	89.22 ug/L	99
108) 1,1,2,2-tetrachloroethane	15.979	83	439555	94.27 ug/L	100
109) trans-1,4-dichloro-2-b...	16.010	53	127708	97.75 ug/L	99
110) 1,2,3-trichloropropane	16.047	110	122505	95.82 ug/L	99
111) n-propylbenzene	16.026	91	1369800	94.65 ug/L	98
113) 2-chlorotoluene	16.167	126	283038	89.09 ug/L	100
114) 4-chlorotoluene	16.251	91	902495	94.29 ug/L	100
115) 1,3,5-trimethylbenzene	16.146	105	1041392	93.26 ug/L	100
116) tert-butylbenzene	16.449	134	215250	88.36 ug/L	96
117) pentachloroethane	16.549	167	158055	101.65 ug/L	99
118) 1,2,4-trimethylbenzene	16.486	105	1053059	95.19 ug/L	100
119) sec-butylbenzene	16.627	105	1290843	97.30 ug/L	100
120) 1,3-dichlorobenzene	16.815	146	583471	92.23 ug/L	100
121) p-isopropyltoluene	16.716	119	1104683	97.82 ug/L	99
122) 1,4-dichlorobenzene	16.883	146	595950	91.93 ug/L	99
123) benzyl chloride	16.988	91	946373	98.52 ug/L	100
125) 1,2-dichlorobenzene	17.218	146	591072	93.55 ug/L	99
126) n-butylbenzene	17.061	92	559875	95.72 ug/L	99
128) 1,2-dibromo-3-chloropr...	17.856	75	112065	90.89 ug/L	98
129) 1,3,5-trichlorobenzene	17.971	180	470379	91.13 ug/L	99
130) 1,2,4-trichlorobenzene	18.509	180	439493	91.05 ug/L	99
131) hexachlorobutadiene	18.572	225	145717	88.24 ug/L	98
132) naphthalene	18.765	128	1557273	91.74 ug/L	100
133) 1,2,3-trichlorobenzene	18.969	180	419169	88.92 ug/L	99
134) hexachloroethane	17.411	119	192740	104.86 ug/L	100

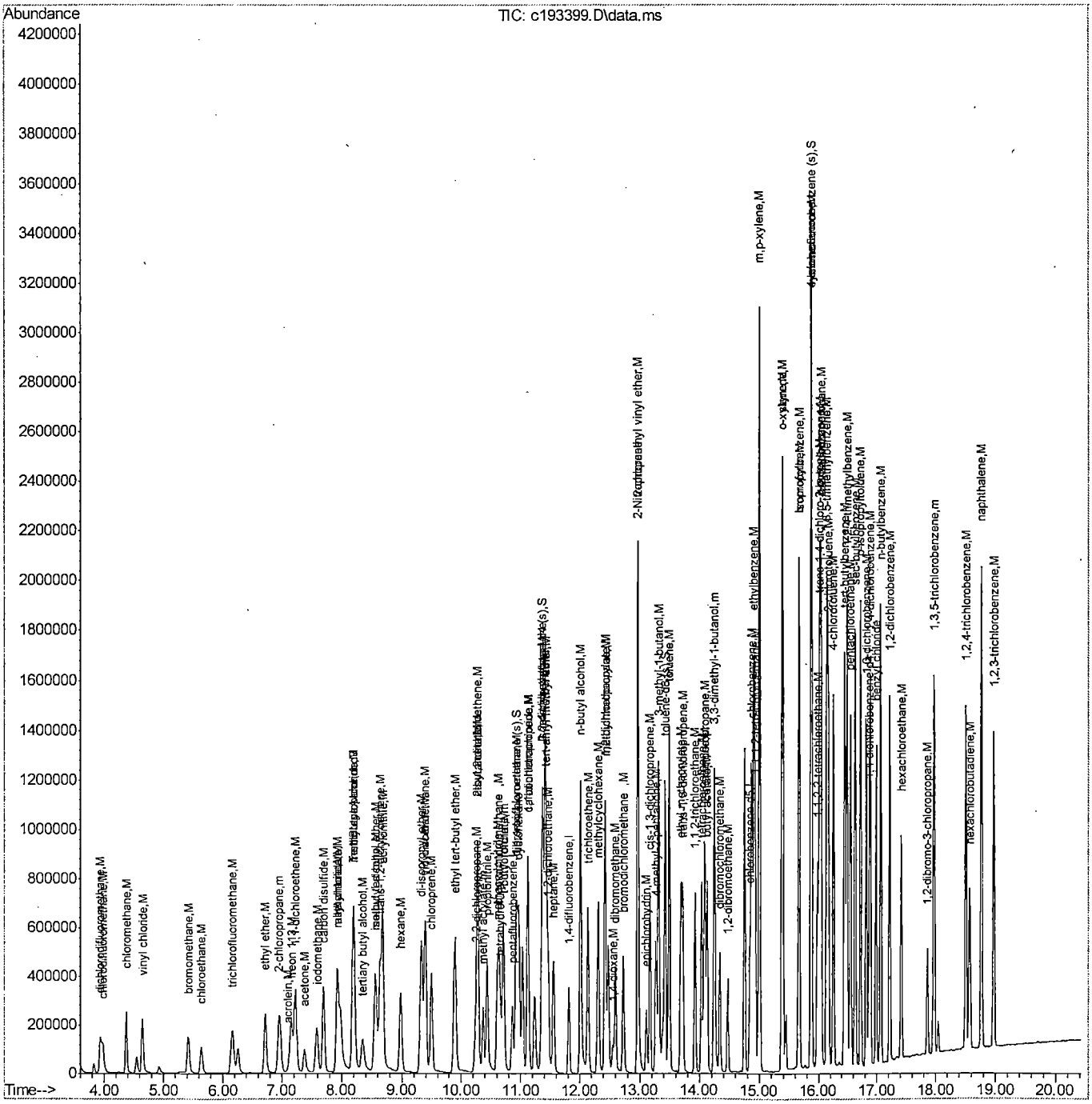
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.6.9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c193399.D
Acq On : 28 Jul 2014 1:25 pm
Operator : thienn
Sample : ic7054-100
Misc : MS70510,VC7054,5,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jul 29 13:20:58 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Jul 28 13:42:49 2014
Response via : Initial Calibration



7.6.9 7

ACCUTEST LABORATORIES JB73449

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c193400.D
Acq On : 28 Jul 2014 1:52 pm
Operator : thienn
Sample : ic7054-400
Misc : MS70510,VC7054,5,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jul 29 13:21:13 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Jul 28 13:49:40 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Tert Butyl Alcohol-d9	8.241	65	272142	500.00	ug/L		0.04
5) pentafluorobenzene	10.860	168	234855	50.00	ug/L		0.00
59) 1,4-difluorobenzene	11.812	114	330962	50.00	ug/L		0.00
88) chlorobenzene-d5	14.844	117	312234	50.00	ug/L		0.00
104) 1,4-dichlorobenzene-d4	16.862	152	171343	50.00	ug/L		0.00
System Monitoring Compounds							
50) dibromofluoromethane (s)	10.923	113	790791	384.90	ug/L		0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 769.80%#				
51) 1,2-dichloroethane-d4 (s)	11.367	65	929783	375.73	ug/L		0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 751.46%#				
80) toluene-d8 (s)	13.422	98	3161474	392.62	ug/L		0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 785.24%#				
106) 4-bromofluorobenzene (s)	15.874	174	1014095	344.01	ug/L		0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 688.02%#				
Target Compounds							Qvalue
2) 1,4-dioxane	12.565	88	496965	8925.86	ug/L		97
3) tertiary butyl alcohol	8.387	59	1188292	1562.67	ug/L		97
7) chlorodifluoromethane	3.970	51	733312	508.62	ug/L		98
8) dichlorodifluoromethane	3.928	85	1114928	395.15	ug/L		99
9) chloromethane	4.372	50	1227248	382.19	ug/L		99
10) vinyl chloride	4.649	62	1283911	416.52	ug/L		100
16) trichlorofluoromethane	6.139	101	1264326	425.84	ug/L		99
18) ethyl ether	6.720	74	660498	370.46	ug/L		99
19) 2-chloropropane	6.950	43	1205385	303.58	ug/L		98
20) acrolein	7.101	56	10534	12.31	ug/L	#	57
21) 1,1-dichloroethene	7.222	61	1467478	403.09	ug/L		99
23) acetone	7.394	58	225782	265.77	ug/L		96
24) allyl chloride	7.922	76	477990	353.19	ug/L		98
25) acetonitrile	7.922	41	1259345	3466.63	ug/L		99
26) iodomethane	7.588	142	1465815	394.64	ug/L		99
27) iso-butyl alcohol	8.570	74	131265	3462.76	ug/L		97
28) carbon disulfide	7.697	76	3115688	377.17	ug/L		99
29) methylene chloride	8.194	84	1034235	379.88	ug/L		100
30) 1-chloropropane	8.199	63	81105	287.14	ug/L		60
31) methyl acetate	7.948	43	1222445	362.13	ug/L		99
32) methyl tert butyl ether	8.570	73	3010811	346.02	ug/L		98
33) trans-1,2-dichloroethene	8.638	61	1349015	368.16	ug/L		99
34) di-isopropyl ether	9.334	45	3065245	367.34	ug/L		99
35) ethyl tert-butyl ether	9.893	59	3053365	364.29	ug/L		98
36) 2-butanone	10.275	72	259505	342.73	ug/L		82
37) 1,1-dichloroethane	9.391	63	1729376	375.40	ug/L		99
38) chloroprene	9.496	53	1393907	404.65	ug/L		99
39) acrylonitrile	8.696	53	2967487	1814.93	ug/L		99
40) vinyl acetate	9.402	86	260590	406.51	ug/L		85
41) ethyl acetate	10.280	45	219931	364.92	ug/L		74
42) 2,2-dichloropropane	10.238	77	669227	270.54	ug/L		99
43) cis-1,2-dichloroethene	10.270	96	1042707	342.18	ug/L		100
44) methyl acrylate	10.364	55	1357317	390.24	ug/L		98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c193400.D
Acq On : 28 Jul 2014 1:52 pm
Operator : thienn
Sample : ic7054-400
Misc : MS70510,VC7054,5,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jul 29 13:21:13 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Jul 28 13:49:40 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
45) propionitrile	10.437	54	2633876	3610.58 ug/L	99
46) bromochloromethane	10.630	128	499095	368.69 ug/L	98
47) tetrahydrofuran	10.662	42	595770	381.06 ug/L	99
48) chloroform	10.698	83	1595133	365.74 ug/L	99
49) t-butyl formate	10.714	59	587202	386.65 ug/L	99
52) freon 113	7.148	151	570200	398.01 ug/L	98
53) methacrylonitrile	10.604	67	656917	398.67 ug/L	97
54) cyclohexane	10.960	84	1425277	365.72 ug/L	98
55) 1,1,1-trichloroethane	10.923	97	1157858	346.13 ug/L	99
57) 2,2,4-trimethylpentane	11.357	57	1954767	352.84 ug/L	93
58) tert-amyl methyl ether	11.430	73	3036797	360.93 ug/L	99
60) epichlorohydrin	13.108	57	1036114	2004.75 ug/L	99
61) n-butyl alcohol	12.052	56	3708834	20194.89 ug/L	99
62) carbon tetrachloride	11.127	119	1071154	392.48 ug/L	99
63) 1,1-dichloropropene	11.117	75	1302535	379.09 ug/L	99
64) hexane	8.978	57	1091691	389.24 ug/L	100
65) benzene	11.404	78	3860941	356.80 ug/L	99
66) heptane	11.545	57	518823	392.44 ug/L	98
67) isopropyl acetate	11.367	61	612130	405.70 ug/L	99
68) 1,2-dichloroethane	11.462	62	1200949	380.69 ug/L	100
70) trichloroethene	12.141	95	969384	381.85 ug/L	99
71) 2-chloroethyl vinyl ether	12.967	63	3636441	1948.03 ug/L	98
72) 2-Nitropropane	12.978	41	504227	358.69 ug/L	99
73) methylcyclohexane	12.314	83	1462187	392.15 ug/L	98
75) methyl methacrylate	12.439	69	1041176	428.94 ug/L	92
76) 1,2-dichloropropane	12.429	63	1008088	388.57 ug/L	99
77) dibromomethane	12.596	93	657241	398.82 ug/L	99
78) bromodichloromethane	12.732	83	1313604	408.73 ug/L	100
79) cis-1,3-dichloropropene	13.171	75	1750986	392.86 ug/L	98
81) 4-methyl-2-pentanone	13.270	58	727003	420.82 ug/L	99
82) toluene	13.490	92	2422839	387.88 ug/L	97
83) 3-methyl-1-butanol	13.338	55	2300664	7773.42 ug/L	98
84) trans-1,3-dichloropropene	13.720	75	1649049	392.32 ug/L	99
85) ethyl methacrylate	13.689	69	1806563	441.68 ug/L	98
86) 1,1,2-trichloroethane	13.924	83	857965	408.06 ug/L	98
87) 2-hexanone	14.076	58	753095	413.97 ug/L	97
89) cyclohexanone	15.884	98	1627375	2770.63 ug/L	91
90) tetrachloroethene	14.034	166	929993	355.28 ug/L	97
91) 1,3-dichloropropane	14.091	76	1731456	381.65 ug/L	100
92) butyl acetate	14.128	56	1062930	385.53 ug/L	99
93) 3,3-dimethyl-1-butanol	14.264	57	2696249	3522.19 ug/L	100
94) dibromochloromethane	14.337	129	1085341	397.82 ug/L	99
95) 1,2-dibromoethane	14.473	107	1086716	386.09 ug/L	99
97) chlorobenzene	14.875	112	2720242	365.01 ug/L	99
98) 1,1,1,2-tetrachloroethane	14.933	131	992703	370.76 ug/L	98
99) ethylbenzene	14.912	91	4661420	358.50 ug/L	99
100) m,p-xylene	15.006	106	3358864	689.04 ug/L	98
101) o-xylene	15.383	106	1765828	352.01 ug/L	96
102) styrene	15.398	104	3135536	369.08 ug/L	98
103) bromoform	15.665	173	857402	415.05 ug/L	98

7.6.10
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c193400.D
Acq On : 28 Jul 2014 1:52 pm
Operator : thienn
Sample : ic7054-400
Misc : MS70510,VC7054,5,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jul 29 13:21:13 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Jul 28 13:49:40 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
105) isopropylbenzene	15.670	105	4633852	318.60 ug/L	98
107) bromobenzene	16.047	156	1183264	330.61 ug/L	97
108) 1,1,2,2-tetrachloroethane	15.984	83	1859536	357.61 ug/L	100
109) trans-1,4-dichloro-2-b...	16.010	53	555617	379.44 ug/L	97
110) 1,2,3-trichloropropane	16.052	110	505291	353.60 ug/L #	88
111) n-propylbenzene	16.026	91	5343504	330.57 ug/L	98
113) 2-chlorotoluene	16.172	126	1179986	335.55 ug/L	95
114) 4-chlorotoluene	16.256	91	3785393	354.27 ug/L	98
115) 1,3,5-trimethylbenzene	16.146	105	4153941	333.65 ug/L	99
116) tert-butylbenzene	16.449	134	871475	323.55 ug/L	94
117) pentachloroethane	16.554	167	694681	396.39 ug/L	100
118) 1,2,4-trimethylbenzene	16.486	105	4232604	342.34 ug/L	99
119) sec-butylbenzene	16.627	105	5111153	343.81 ug/L	97
120) 1,3-dichlorobenzene	16.815	146	2405582	341.51 ug/L	97
121) p-isopropyltoluene	16.721	119	4281179	338.09 ug/L	96
122) 1,4-dichlorobenzene	16.883	146	2437982	337.89 ug/L	97
123) benzyl chloride	16.988	91	3939465	365.83 ug/L	99
125) 1,2-dichlorobenzene	17.218	146	2350757	333.98 ug/L	97
126) n-butylbenzene	17.066	92	2212485	338.22 ug/L	96
128) 1,2-dibromo-3-chloropr...	17.861	75	440121	322.37 ug/L	93
129) 1,3,5-trichlorobenzene	17.970	180	1760015	306.67 ug/L	99
130) 1,2,4-trichlorobenzene	18.514	180	1618784	302.13 ug/L	100
131) hexachlorobutadiene	18.572	225	555146	304.96 ug/L	98
132) naphthalene	18.765	128	5348181	283.56 ug/L	98
133) 1,2,3-trichlorobenzene	18.969	180	1535717	294.40 ug/L	99
134) hexachloroethane	17.411	119	815671	391.48 ug/L	100

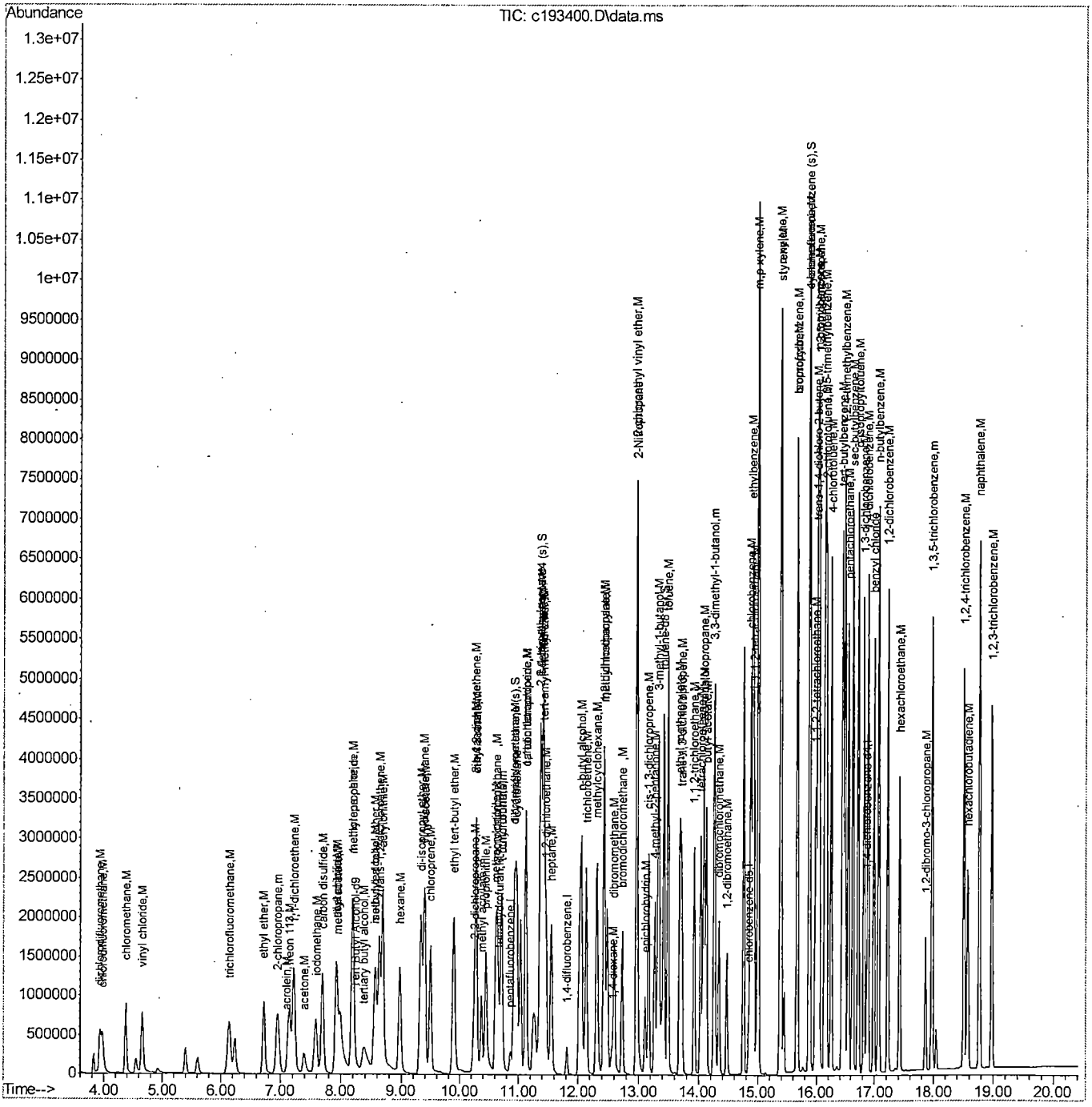
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.6.10 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c193400.D
Acq On : 28 Jul 2014 1:52 pm
Operator : thienn
Sample : ic7054-400
Misc : MS70510,VC7054,5,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jul 29 13:21:13 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Mon Jul 28 13:49:40 2014
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c193403.D
Acq On : 28 Jul 2014 3:43 pm
Operator : thienn
Sample : icv7054-50
Misc : MS70510,VC7054,5,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jul 29 13:16:51 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.191	65	248187	500.00	ug/L	0.00
5) pentafluorobenzene	10.852	168	220514	50.00	ug/L	0.00
59) 1,4-difluorobenzene	11.809	114	320636	50.00	ug/L	0.00
88) chlorobenzene-d5	14.841	117	278148	50.00	ug/L	0.00
104) 1,4-dichlorobenzene-d4	16.859	152	138287	50.00	ug/L	0.00
System Monitoring Compounds						
50) dibromofluoromethane (s)	10.915	113	103840	54.06	ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 108.12%			
51) 1,2-dichloroethane-d4 (s)	11.365	65	122513	53.09	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 106.18%			
80) toluene-d8 (s)	13.414	98	405277	52.06	ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 104.12%			
106) 4-bromofluorobenzene (s)	15.871	174	115134	49.16	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 98.32%			
Target Compounds						Qvalue
2) 1,4-dioxane	12.552	88	67979	1338.52	ug/L	97
3) tertiary butyl alcohol	8.343	59	167262	247.97	ug/L	95
7) chlorodifluoromethane	3.967	51	79770	56.99	ug/L	97
8) dichlorodifluoromethane	3.925	85	144875	54.77	ug/L	100
9) chloromethane	4.365	50	157550	52.51	ug/L	98
10) vinyl chloride	4.636	62	160773	55.86	ug/L	99
13) bromomethane	5.415	94	76509	47.61	ug/L	99
14) chloroethane	5.640	64	82620	53.35	ug/L	98
16) trichlorofluoromethane	6.158	101	159144	56.63	ug/L	98
17) pentane	6.268	43	179041	49.29	ug/L	100
18) ethyl ether	6.712	74	86947	52.42	ug/L	99
19) 2-chloropropane	6.952	43	186209	51.50	ug/L	98
20) acrolein	7.083	56	409937	513.61	ug/L	98
21) 1,1-dichloroethene	7.219	61	181250	52.98	ug/L	99
23) acetone	7.376	58	37879	58.12	ug/L	99
24) allyl chloride	7.920	76	74527	59.52	ug/L	97
25) acetonitrile	7.920	41	203216	605.88	ug/L	100
26) iodomethane	7.580	142	184700	53.04	ug/L	99
27) iso-butyl alcohol	8.557	74	35116	1009.19	ug/L	97
28) carbon disulfide	7.690	76	409364	53.12	ug/L	99
29) methylene chloride	8.186	84	131070	51.56	ug/L	97
30) 1-chloropropane	8.197	63	10631	48.98	ug/L	96
31) methyl acetate	7.935	43	153912	49.08	ug/L	99
32) methyl tert butyl ether	8.557	73	789199	98.07	ug/L	100
33) trans-1,2-dichloroethene	8.636	61	174766	51.25	ug/L	99
34) di-isopropyl ether	9.321	45	403629	51.99	ug/L	98
35) ethyl tert-butyl ether	9.885	59	394447	50.62	ug/L	99
36) 2-butanone	10.262	72	37413	53.58	ug/L	97
37) 1,1-dichloroethane	9.383	63	224013	52.15	ug/L	100
38) chloroprene	9.488	53	188290	58.14	ug/L	99
39) acrylonitrile	8.678	53	391188	257.46	ug/L	100
40) vinyl acetate	9.389	86	33295	55.71	ug/L	91
41) ethyl acetate	10.267	45	28021	50.07	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c193403.D
Acq On : 28 Jul 2014 3:43 pm
Operator : thienn
Sample : icv7054-50
Misc : MS70510,VC7054,5,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jul 29 13:16:51 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
42) 2,2-dichloropropane	10.230	77	103316	46.14	ug/L		99
43) cis-1,2-dichloroethene	10.267	96	137998	49.02	ug/L		100
44) methyl acrylate	10.356	55	167688	51.65	ug/L		99
45) propionitrile	10.424	54	341438	503.94	ug/L		99
46) bromochloromethane	10.622	128	64610	51.33	ug/L		98
47) tetrahydrofuran	10.654	42	74308	50.67	ug/L		100
48) chloroform	10.690	83	212632	52.42	ug/L		98
49) t-butyl formate	10.706	59	80499	56.69	ug/L		99
52) freon 113	7.151	151	79007	58.77	ug/L		99
53) methacrylonitrile	10.596	67	82301	53.21	ug/L		98
54) cyclohexane	10.957	84	184759	51.04	ug/L		97
55) 1,1,1-trichloroethane	10.915	97	162600	52.56	ug/L		97
57) 2,2,4-trimethylpentane	11.349	57	318122	62.07	ug/L		97
58) tert-amyl methyl ether	11.422	73	404975	51.83	ug/L		98
60) epichlorohydrin	13.101	57	122347	244.28	ug/L		99
61) n-butyl alcohol	12.003	56	454899	2553.62	ug/L		99
62) carbon tetrachloride	11.119	119	139242	52.77	ug/L		99
63) 1,1-dichloropropene	11.114	75	163668	49.43	ug/L		99
64) hexane	8.981	57	149938	55.37	ug/L		99
65) benzene	11.401	78	529426	51.05	ug/L		100
66) heptane	11.543	57	70175	54.92	ug/L		97
67) isopropyl acetate	11.360	61	77550	52.97	ug/L	#	77
68) 1,2-dichloroethane	11.459	62	155940	51.30	ug/L		99
70) trichloroethene	12.133	95	127118	51.95	ug/L		100
71) 2-chloroethyl vinyl ether	12.959	63	463240	256.89	ug/L		100
72) 2-Nitropropane	12.970	41	64595	48.05	ug/L		97
73) methylcyclohexane	12.306	83	200620	55.67	ug/L	#	69
75) methyl methacrylate	12.431	69	124860	52.67	ug/L		96
76) 1,2-dichloropropane	12.421	63	133440	53.26	ug/L		99
77) dibromomethane	12.593	93	83673	52.43	ug/L		96
78) bromodichloromethane	12.724	83	169083	54.19	ug/L		99
79) cis-1,3-dichloropropene	13.163	75	214725	49.82	ug/L		98
81) 4-methyl-2-pentanone	13.263	58	86890	51.62	ug/L		97
82) toluene	13.487	92	314001	52.05	ug/L		100
83) 3-methyl-1-butanol	13.310	55	283306	991.17	ug/L		99
84) trans-1,3-dichloropropene	13.712	75	192032	47.25	ug/L		100
85) ethyl methacrylate	13.681	69	201427	50.31	ug/L		99
86) 1,1,2-trichloroethane	13.921	83	102977	50.44	ug/L		98
87) 2-hexanone	14.068	58	88766	50.15	ug/L		100
89) cyclohexanone	15.871	98	261676	520.08	ug/L		99
90) tetrachloroethene	14.026	166	126112	54.76	ug/L		99
91) 1,3-dichloropropane	14.083	76	210101	52.23	ug/L		100
92) butyl acetate	14.120	56	115291	47.15	ug/L		99
93) 3,3-dimethyl-1-butanol	14.245	57	336531	500.13	ug/L		100
94) dibromochloromethane	14.334	129	124741	51.36	ug/L		100
95) 1,2-dibromoethane	14.470	107	127917	51.19	ug/L		100
97) chlorobenzene	14.868	112	333000	50.60	ug/L		99
98) 1,1,1,2-tetrachloroethane	14.930	131	117795	49.79	ug/L		98
99) ethylbenzene	14.904	91	580023	50.60	ug/L		100
100) m,p-xylene	14.998	106	443423	103.55	ug/L		99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c193403.D
Acq On : 28 Jul 2014 3:43 pm
Operator : thienn
Sample : icv7054-50
Misc : MS70510,VC7054,5,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jul 29 13:16:51 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
101) o-xylene	15.375	106	222094	50.30 ug/L	99
102) styrene	15.390	104	375490	50.00 ug/L	99
103) bromoform	15.662	173	92330	49.96 ug/L	99
105) isopropylbenzene	15.667	105	573968	49.91 ug/L	100
107) bromobenzene	16.044	156	134982	47.77 ug/L	98
108) 1,1,2,2-tetrachloroethane	15.976	83	196115	47.36 ug/L	99
109) trans-1,4-dichloro-2-b...	16.007	53	55396	47.18 ug/L	97
110) 1,2,3-trichloropropane	16.044	110	55692	49.00 ug/L	98
111) n-propylbenzene	16.023	91	686433	53.65 ug/L	98
113) 2-chlorotoluene	16.164	126	135640	48.77 ug/L	98
114) 4-chlorotoluene	16.248	91	418256	49.13 ug/L	100
115) 1,3,5-trimethylbenzene	16.143	105	488854	49.56 ug/L	99
116) tert-butylbenzene	16.441	134	101804	47.98 ug/L	93
117) pentachloroethane	16.546	167	71505	50.61 ug/L	98
118) 1,2,4-trimethylbenzene	16.483	105	515482	52.50 ug/L	100
119) sec-butylbenzene	16.624	105	604932	51.22 ug/L	100
120) 1,3-dichlorobenzene	16.812	146	264206	47.24 ug/L	100
121) p-isopropyltoluene	16.713	119	516753	51.45 ug/L	100
122) 1,4-dichlorobenzene	16.880	146	269213	47.04 ug/L	99
123) benzyl chloride	16.980	91	410631	47.47 ug/L	100
125) 1,2-dichlorobenzene	17.215	146	269916	48.52 ug/L	98
126) n-butylbenzene	17.058	92	261882	50.47 ug/L	99
128) 1,2-dibromo-3-chloropr...	17.853	75	50821	47.44 ug/L	99
129) 1,3,5-trichlorobenzene	17.968	180	217734	48.26 ug/L	99
130) 1,2,4-trichlorobenzene	18.506	180	207514	49.50 ug/L	99
131) hexachlorobutadiene	18.569	225	71943	50.69 ug/L	100
132) naphthalene	18.762	128	734979	50.11 ug/L	100
133) 1,2,3-trichlorobenzene	18.966	180	199612	49.03 ug/L	98
134) hexachloroethane	17.408	119	88764	53.04 ug/L	100

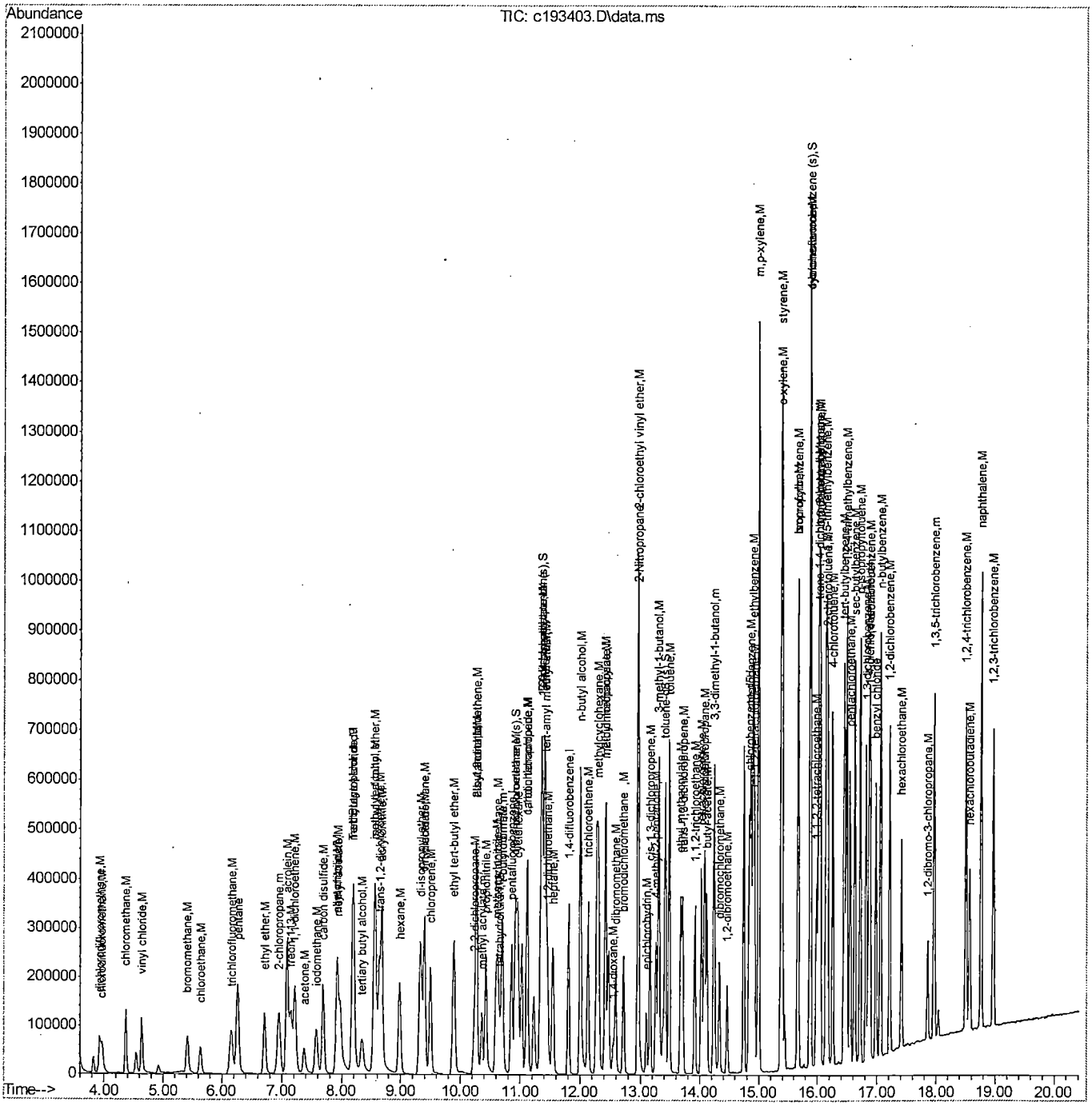
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.6.11 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : c193403.D
Acq On : 28 Jul 2014 3:43 pm
Operator : thienn
Sample : icv7054-50
Misc : MS70510,VC7054,5,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jul 29 13:16:51 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration



MC7054.M Thu Aug 14 11:26:27 2014 C

ACCUTEST LABORATORIES JB73449

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\C-CORE\vc7067\
Data File : c193707.D
Acq On : 9 Aug 2014 8:53 am
Operator : thienn
Sample : cc7054-50
Misc : MS71798,VC7067,5,,,;1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 12 08:09:26 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Tert Butyl Alcohol-d9	8.179	65	150763	500.00	ug/L		-0.02
5) pentafluorobenzene	10.845	168	148119	50.00	ug/L		-0.02
59) 1,4-difluorobenzene	11.802	114	215899	50.00	ug/L		-0.01
88) chlorobenzene-d5	14.839	117	189008	50.00	ug/L		0.00
104) 1,4-dichlorobenzene-d4	16.857	152	95550	50.00	ug/L		0.00
System Monitoring Compounds							
50) dibromofluoromethane (s)	10.908	113	69548	53.90	ug/L		-0.02
Spiked Amount 50.000	Range 79 - 120		Recovery = 107.80%				
51) 1,2-dichloroethane-d4 (s)	11.357	65	81531	52.59	ug/L		-0.01
Spiked Amount 50.000	Range 72 - 123		Recovery = 105.18%				
80) toluene-d8 (s)	13.412	98	268088	51.14	ug/L		-0.01
Spiked Amount 50.000	Range 78 - 119		Recovery = 102.28%				
106) 4-bromofluorobenzene (s)	15.864	174	76673	47.38	ug/L		-0.01
Spiked Amount 50.000	Range 74 - 119		Recovery = 94.76%				
Target Compounds							Qvalue
2) 1,4-dioxane	12.544	88	43825	1420.55	ug/L	#	95
3) tertiary butyl alcohol	8.330	59	122087	297.95	ug/L		98
7) chlorodifluoromethane	3.970	51	46018	48.95	ug/L		94
8) dichlorodifluoromethane	3.918	85	90737	51.07	ug/L		99
9) chloromethane	4.362	50	102130	50.68	ug/L		99
10) vinyl chloride	4.634	62	108145	55.94	ug/L		99
13) bromomethane	5.413	94	58246	53.96	ug/L		97
14) chloroethane	5.638	64	53957	51.88	ug/L		98
16) trichlorofluoromethane	6.150	101	109874	58.21	ug/L		97
18) ethyl ether	6.705	74	59617	53.51	ug/L		98
19) 2-chloropropane	6.945	43	128374	52.86	ug/L	#	87
20) acrolein	7.076	56	228316	425.87	ug/L		99
21) 1,1-dichloroethene	7.212	61	127265	55.38	ug/L		98
23) acetone	7.368	58	13614	24.12	ug/L		97
24) allyl chloride	7.912	76	43641	51.89	ug/L		98
25) acetonitrile	7.917	41	115349	511.99	ug/L		98
26) iodomethane	7.567	142	132000	56.43	ug/L		99
27) iso-butyl alcohol	8.550	74	11248	481.25	ug/L		93
28) carbon disulfide	7.687	76	280946	54.27	ug/L		99
29) methylene chloride	8.179	84	92331	54.08	ug/L		98
30) 1-chloropropane	8.189	63	7918	55.15	ug/L		75
31) methyl acetate	7.928	43	92577	43.95	ug/L		100
32) methyl tert butyl ether	8.550	73	250020	46.25	ug/L		98
33) trans-1,2-dichloroethene	8.628	61	125678	54.87	ug/L		98
34) di-isopropyl ether	9.313	45	255003	48.90	ug/L		99
35) ethyl tert-butyl ether	9.878	59	182500	34.87	ug/L		98
36) 2-butanone	10.254	72	17639	37.61	ug/L		75
37) 1,1-dichloroethane	9.376	63	154953	53.70	ug/L		99
38) chloroprene	9.481	53	113720	52.28	ug/L		97
39) acrylonitrile	8.670	53	250100	245.05	ug/L		99
40) vinyl acetate	9.381	86	20550	51.19	ug/L		92
41) ethyl acetate	10.265	45	16710	44.45	ug/L		75

7.6.12

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\C-CORE\vc7067\
Data File : c193707.D
Acq On : 9 Aug 2014 8:53 am
Operator : thienn
Sample : cc7054-50
Misc : MS71798,VC7067,5,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 12 08:09:26 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
42)	2,2-dichloropropane	10.228	77	81416	54.13	ug/L		99
43)	cis-1,2-dichloroethene	10.260	96	101292	53.57	ug/L		98
44)	methyl acrylate	10.348	55	109738	50.32	ug/L		99
45)	propionitrile	10.411	54	216974	476.76	ug/L		100
46)	bromochloromethane	10.620	128	46705	55.25	ug/L		93
47)	tetrahydrofuran	10.646	42	46032	46.73	ug/L		96
48)	chloroform	10.688	83	153690	56.41	ug/L		99
49)	t-butyl formate	10.699	59	29405	30.83	ug/L		96
52)	freon 113	7.149	151	48237	53.42	ug/L		98
53)	methacrylonitrile	10.589	67	53527	51.53	ug/L		99
54)	cyclohexane	10.950	84	132299	54.41	ug/L		99
55)	1,1,1-trichloroethane	10.913	97	124013	59.67	ug/L		99
57)	2,2,4-trimethylpentane	11.347	57	172189	50.02	ug/L		98
58)	tert-amyl methyl ether	11.415	73	178413	33.99	ug/L		99
60)	epichlorohydrin	13.093	57	72406	214.70	ug/L		98
61)	n-butyl alcohol	11.995	56	293608	2447.77	ug/L		99
62)	carbon tetrachloride	11.112	119	104732	58.95	ug/L		98
63)	1,1-dichloropropene	11.107	75	119153	53.44	ug/L		99
64)	hexane	8.973	57	77677	42.60	ug/L		98
65)	benzene	11.394	78	369018	52.85	ug/L		99
66)	heptane	11.535	57	38087	44.27	ug/L		98
67)	isopropyl acetate	11.352	61	48098	48.79	ug/L		97
68)	1,2-dichloroethane	11.452	62	114306	55.84	ug/L		98
70)	trichloroethene	12.126	95	89719	54.45	ug/L		97
71)	2-chloroethyl vinyl ether	12.952	63	191912	158.05	ug/L		100
72)	2-Nitropropane	12.962	41	39129	43.23	ug/L	#	57
73)	methylcyclohexane	12.304	83	117927	48.60	ug/L		100
75)	methyl methacrylate	12.424	69	80428	50.39	ug/L		96
76)	1,2-dichloropropane	12.419	63	88547	52.49	ug/L		98
77)	dibromomethane	12.586	93	59603	55.46	ug/L		98
78)	bromodichloromethane	12.717	83	120703	57.45	ug/L		100
79)	cis-1,3-dichloropropene	13.156	75	152265	52.46	ug/L		97
81)	4-methyl-2-pentanone	13.255	58	57984	51.16	ug/L		100
82)	toluene	13.480	92	221530	54.53	ug/L		99
83)	3-methyl-1-butanol	13.302	55	183840	955.20	ug/L		98
84)	trans-1,3-dichloropropene	13.705	75	137898	50.39	ug/L		97
85)	ethyl methacrylate	13.679	69	139332	51.68	ug/L		98
86)	1,1,2-trichloroethane	13.914	83	70923	51.59	ug/L		98
87)	2-hexanone	14.066	58	52249	43.84	ug/L		99
89)	cyclohexanone	15.864	98	37418	109.44	ug/L		95
90)	tetrachloroethene	14.024	166	80722	51.58	ug/L		98
91)	1,3-dichloropropane	14.081	76	142488	52.12	ug/L		99
92)	butyl acetate	14.118	56	74276	44.71	ug/L		98
93)	3,3-dimethyl-1-butanol	14.238	57	220059	481.28	ug/L		99
94)	dibromochloromethane	14.327	129	91970	55.72	ug/L		99
95)	1,2-dibromoethane	14.463	107	88423	52.08	ug/L		99
97)	chlorobenzene	14.865	112	230580	51.56	ug/L		99
98)	1,1,1,2-tetrachloroethane	14.923	131	87842	54.64	ug/L		99
99)	ethylbenzene	14.902	91	412128	52.91	ug/L		100
100)	m,p-xylene	14.996	106	313000	107.56	ug/L		99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\C-CORE\vc7067\
Data File : c193707.D
Acq On : 9 Aug 2014 8:53 am
Operator : thienn
Sample : cc7054-50
Misc : MS71798,VC7067,5,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 12 08:09:26 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
101) o-xylene	15.373	106	162259	54.08	ug/L		99
102) styrene	15.388	104	266907	52.30	ug/L		99
103) bromoform	15.655	173	64884	51.67	ug/L		97
105) isopropylbenzene	15.665	105	419849	52.84	ug/L		99
107) bromobenzene	16.042	156	97013	49.68	ug/L		93
108) 1,1,2,2-tetrachloroethane	15.974	83	143038	49.99	ug/L		99
109) trans-1,4-dichloro-2-b...	16.000	53	35356	43.58	ug/L		92
110) 1,2,3-trichloropropane	16.037	110	39799	50.68	ug/L		96
111) n-propylbenzene	16.016	91	467069	52.83	ug/L		100
113) 2-chlorotoluene	16.162	126	96083	50.00	ug/L		99
114) 4-chlorotoluene	16.246	91	299962	50.99	ug/L		100
115) 1,3,5-trimethylbenzene	16.136	105	362230	53.15	ug/L		98
116) tert-butylbenzene	16.439	134	71825	48.99	ug/L	#	83
117) pentachloroethane	16.544	167	60787	62.27	ug/L		99
118) 1,2,4-trimethylbenzene	16.476	105	363316	53.55	ug/L		98
119) sec-butylbenzene	16.617	105	447820	54.87	ug/L		98
120) 1,3-dichlorobenzene	16.805	146	191340	49.52	ug/L		100
121) p-isopropyltoluene	16.711	119	376909	54.31	ug/L		99
122) 1,4-dichlorobenzene	16.878	146	193724	48.99	ug/L		99
123) benzyl chloride	16.978	91	301155	50.39	ug/L		99
125) 1,2-dichlorobenzene	17.208	146	196336	51.07	ug/L		98
126) n-butylbenzene	17.056	92	185929	51.86	ug/L		98
128) 1,2-dibromo-3-chloropr...	17.851	75	36115	48.79	ug/L		97
129) 1,3,5-trichlorobenzene	17.960	180	159070	51.03	ug/L		99
130) 1,2,4-trichlorobenzene	18.504	180	153093	52.86	ug/L		99
131) hexachlorobutadiene	18.562	225	54139	55.20	ug/L		100
132) naphthalene	18.755	128	558486	55.10	ug/L		99
133) 1,2,3-trichlorobenzene	18.964	180	148376	52.75	ug/L		99
134) hexachloroethane	17.401	119	66489	57.50	ug/L		100

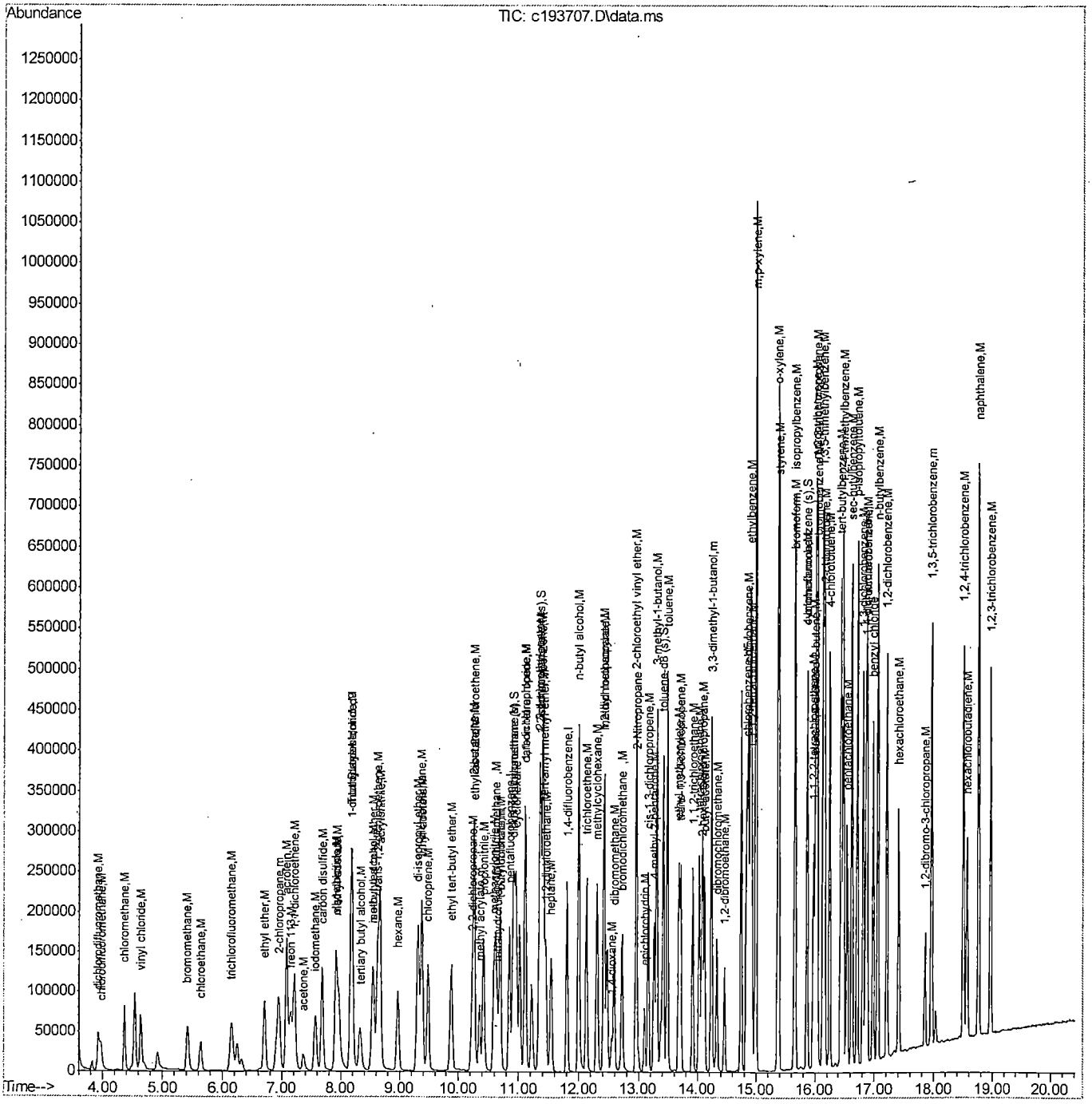
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.6.12 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\C-CORE\vc7067\
Data File : c193707.D
Acq On : 9 Aug 2014 8:53 am
Operator : thienn
Sample : cc7054-50
Misc : MS71798,VC7067,5,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 12 08:09:26 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\C-CORE\vc7067\
Data File : c193732.D
Acq On : 9 Aug 2014 8:11 pm
Operator : thienn
Sample : cc7054-20
Misc : MS71807,VC7067,5,,,,1
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Aug 12 08:37:11 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Tert Butyl Alcohol-d9	8.183	65	149516	500.00	ug/L		-0.02
5) pentafluorobenzene	10.855	168	152676	50.00	ug/L		0.00
59) 1,4-difluorobenzene	11.811	114	217918	50.00	ug/L		0.00
88) chlorobenzene-d5	14.843	117	194701	50.00	ug/L		0.00
104) 1,4-dichlorobenzene-d4	16.856	152	96897	50.00	ug/L		0.00
System Monitoring Compounds							
50) dibromofluoromethane (s)	10.917	113	68440	51.46	ug/L		0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 102.92%				
51) 1,2-dichloroethane-d4 (s)	11.367	65	81578	51.05	ug/L		0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 102.10%				
80) toluene-d8 (s)	13.416	98	277853	52.51	ug/L		0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 105.02%				
106) 4-bromofluorobenzene (s)	15.868	174	80360	48.97	ug/L		0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 97.94%				
Target Compounds							Qvalue
2) 1,4-dioxane	12.554	88	18087	591.16	ug/L		93
3) tertiary butyl alcohol	8.335	59	48883	120.29	ug/L		96
7) chlorodifluoromethane	3.980	51	15191	15.68	ug/L		93
8) dichlorodifluoromethane	3.933	85	33579	18.33	ug/L		97
9) chloromethane	4.372	50	38238	18.41	ug/L		97
10) vinyl chloride	4.644	62	39387	19.76	ug/L		99
13) bromomethane	5.438	94	23622	21.23	ug/L		96
14) chloroethane	5.653	64	20662	19.27	ug/L		99
16) trichlorofluoromethane	6.165	101	39589	20.35	ug/L		95
18) ethyl ether	6.714	74	22963	20.00	ug/L		93
19) 2-chloropropane	6.960	43	49077	19.60	ug/L	#	86
20) acrolein	7.090	56	84921	153.67	ug/L		98
21) 1,1-dichloroethene	7.226	61	47411	20.02	ug/L		99
23) acetone	7.378	58	6127	2.07	ug/L		97
24) allyl chloride	7.922	76	17414	20.09	ug/L		100
25) acetonitrile	7.922	41	41202	177.42	ug/L		98
26) iodomethane	7.582	142	50620	21.00	ug/L		99
27) iso-butyl alcohol	8.559	74	3975	165.00	ug/L	#	91
28) carbon disulfide	7.697	76	105793	19.83	ug/L		98
29) methylene chloride	8.188	84	35332	20.08	ug/L		99
30) 1-chloropropane	8.204	63	3133	16.42	ug/L		74
31) methyl acetate	7.943	43	38240	17.61	ug/L		99
32) methyl tert butyl ether	8.559	73	93323	16.75	ug/L		99
33) trans-1,2-dichloroethene	8.643	61	48123	20.38	ug/L		99
34) di-isopropyl ether	9.323	45	100950	18.78	ug/L		99
35) ethyl tert-butyl ether	9.882	59	67794	12.57	ug/L		99
36) 2-butanone	10.269	72	7447	15.41	ug/L		66
37) 1,1-dichloroethane	9.385	63	59957	20.16	ug/L		99
38) chloroprene	9.495	53	43646	19.47	ug/L		99
39) acrylonitrile	8.680	53	100434	95.47	ug/L		98
40) vinyl acetate	9.391	86	8438	20.39	ug/L		77
41) ethyl acetate	10.274	45	7329	18.91	ug/L		68

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\C-CORE\vc7067\
Data File : c193732.D
Acq On : 9 Aug 2014 8:11 pm
Operator : thienn
Sample : cc7054-20
Misc : MS71807,VC7067,5,,,,1
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Aug 12 08:37:11 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
42)	2,2-dichloropropane	10.232	77	26088	16.83	ug/L		99
43)	cis-1,2-dichloroethene	10.264	96	37491	19.23	ug/L		98
44)	methyl acrylate	10.358	55	45940	20.44	ug/L		99
45)	propionitrile	10.421	54	90621	193.18	ug/L		96
46)	bromochloromethane	10.624	128	18081	20.75	ug/L		91
47)	tetrahydrofuran	10.656	42	19456	19.16	ug/L		99
48)	chloroform	10.698	83	59647	21.24	ug/L		98
49)	t-butyl formate	10.703	59	10749	10.93	ug/L	#	67
52)	freon 113	7.164	151	17842	19.17	ug/L		95
53)	methacrylonitrile	10.598	67	22140	20.68	ug/L		97
54)	cyclohexane	10.959	84	49232	19.64	ug/L		99
55)	1,1,1-trichloroethane	10.917	97	48048	22.43	ug/L		97
57)	2,2,4-trimethylpentane	11.351	57	60064	16.93	ug/L		95
58)	tert-amyl methyl ether	11.424	73	67447	12.47	ug/L		100
60)	epichlorohydrin	13.097	57	30064	88.32	ug/L		96
61)	n-butyl alcohol	11.999	56	123971	1023.95	ug/L		99
62)	carbon tetrachloride	11.121	119	40394	22.53	ug/L		99
63)	1,1-dichloropropene	11.116	75	46535	20.68	ug/L		97
64)	hexane	8.988	57	28628	15.55	ug/L		97
65)	benzene	11.398	78	145966	20.71	ug/L		99
66)	heptane	11.545	57	13313	15.33	ug/L		98
67)	isopropyl acetate	11.362	61	21561	21.67	ug/L		91
68)	1,2-dichloroethane	11.456	62	45124	21.84	ug/L		98
70)	trichloroethene	12.135	95	35569	21.39	ug/L		98
71)	2-chloroethyl vinyl ether	12.956	63	77351	63.11	ug/L		99
72)	2-Nitropropane	12.967	41	16853	18.45	ug/L	#	50
73)	methylcyclohexane	12.313	83	44473	18.16	ug/L		99
75)	methyl methacrylate	12.433	69	34392	21.35	ug/L		95
76)	1,2-dichloropropane	12.423	63	35577	20.89	ug/L		96
77)	dibromomethane	12.595	93	23687	21.84	ug/L		97
78)	bromodichloromethane	12.726	83	46932	22.13	ug/L		97
79)	cis-1,3-dichloropropene	13.160	75	58902	20.11	ug/L		97
81)	4-methyl-2-pentanone	13.259	58	23728	20.74	ug/L		98
82)	toluene	13.484	92	90431	22.05	ug/L		99
83)	3-methyl-1-butanol	13.306	55	77044	396.60	ug/L		98
84)	trans-1,3-dichloropropene	13.714	75	54623	19.77	ug/L		99
85)	ethyl methacrylate	13.683	69	58604	21.54	ug/L		98
86)	1,1,2-trichloroethane	13.918	83	29368	21.17	ug/L		99
87)	2-hexanone	14.070	58	23852	19.83	ug/L		94
89)	cyclohexanone	15.868	98	12509	35.52	ug/L		91
90)	tetrachloroethene	14.028	166	32551	20.19	ug/L		98
91)	1,3-dichloropropane	14.085	76	59792	21.23	ug/L		99
92)	butyl acetate	14.122	56	34028	19.88	ug/L		98
93)	3,3-dimethyl-1-butanol	14.242	57	90299	191.71	ug/L		99
94)	dibromochloromethane	14.331	129	36451	21.44	ug/L		99
95)	1,2-dibromoethane	14.467	107	36897	21.10	ug/L		97
97)	chlorobenzene	14.870	112	93351	20.27	ug/L		99
98)	1,1,1,2-tetrachloroethane	14.927	131	34258	20.69	ug/L		97
99)	ethylbenzene	14.906	91	169250	21.09	ug/L		100
100)	m,p-xylene	14.995	106	128095	42.73	ug/L		99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\C-CORE\vc7067\
Data File : c193732.D
Acq On : 9 Aug 2014 8:11 pm
Operator : thienn
Sample : cc7054-20
Misc : MS71807,VC7067,5,,,,1
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Aug 12 08:37:11 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
101) o-xylene	15.377	106	64660	20.92	ug/L		100
102) styrene	15.392	104	106970	20.35	ug/L		98
103) bromoform	15.659	173	26358	20.38	ug/L		97
105) isopropylbenzene	15.669	105	165496	20.54	ug/L		99
107) bromobenzene	16.041	156	39610	20.00	ug/L		98
108) 1,1,2,2-tetrachloroethane	15.978	83	59330	20.45	ug/L		100
109) trans-1,4-dichloro-2-b...	16.004	53	13544	16.46	ug/L		96
110) 1,2,3-trichloropropane	16.041	110	17014	21.36	ug/L		99
111) n-propylbenzene	16.020	91	188069	20.98	ug/L		99
113) 2-chlorotoluene	16.166	126	37774	19.38	ug/L		99
114) 4-chlorotoluene	16.250	91	121816	20.42	ug/L		100
115) 1,3,5-trimethylbenzene	16.140	105	140685	20.36	ug/L		98
116) tert-butylbenzene	16.443	134	27517	18.51	ug/L	#	85
117) pentachloroethane	16.543	167	23387	23.62	ug/L		97
118) 1,2,4-trimethylbenzene	16.480	105	140931	20.48	ug/L		99
119) sec-butylbenzene	16.621	105	170508	20.60	ug/L		98
120) 1,3-dichlorobenzene	16.809	146	77792	19.85	ug/L		98
121) p-isopropyltoluene	16.715	119	145817	20.72	ug/L		100
122) 1,4-dichlorobenzene	16.877	146	78652	19.61	ug/L		98
123) benzyl chloride	16.982	91	90486	14.93	ug/L		99
125) 1,2-dichlorobenzene	17.212	146	77138	19.79	ug/L		99
126) n-butylbenzene	17.060	92	71024	19.53	ug/L		99
128) 1,2-dibromo-3-chloropr...	17.855	75	14793	19.71	ug/L		95
129) 1,3,5-trichlorobenzene	17.965	180	59706	18.89	ug/L		98
130) 1,2,4-trichlorobenzene	18.503	180	57752	19.66	ug/L		98
131) hexachlorobutadiene	18.566	225	20172	20.28	ug/L		96
132) naphthalene	18.759	128	217540	21.17	ug/L		100
133) 1,2,3-trichlorobenzene	18.963	180	57060	20.00	ug/L		100
134) hexachloroethane	17.405	119	24005	20.47	ug/L		97

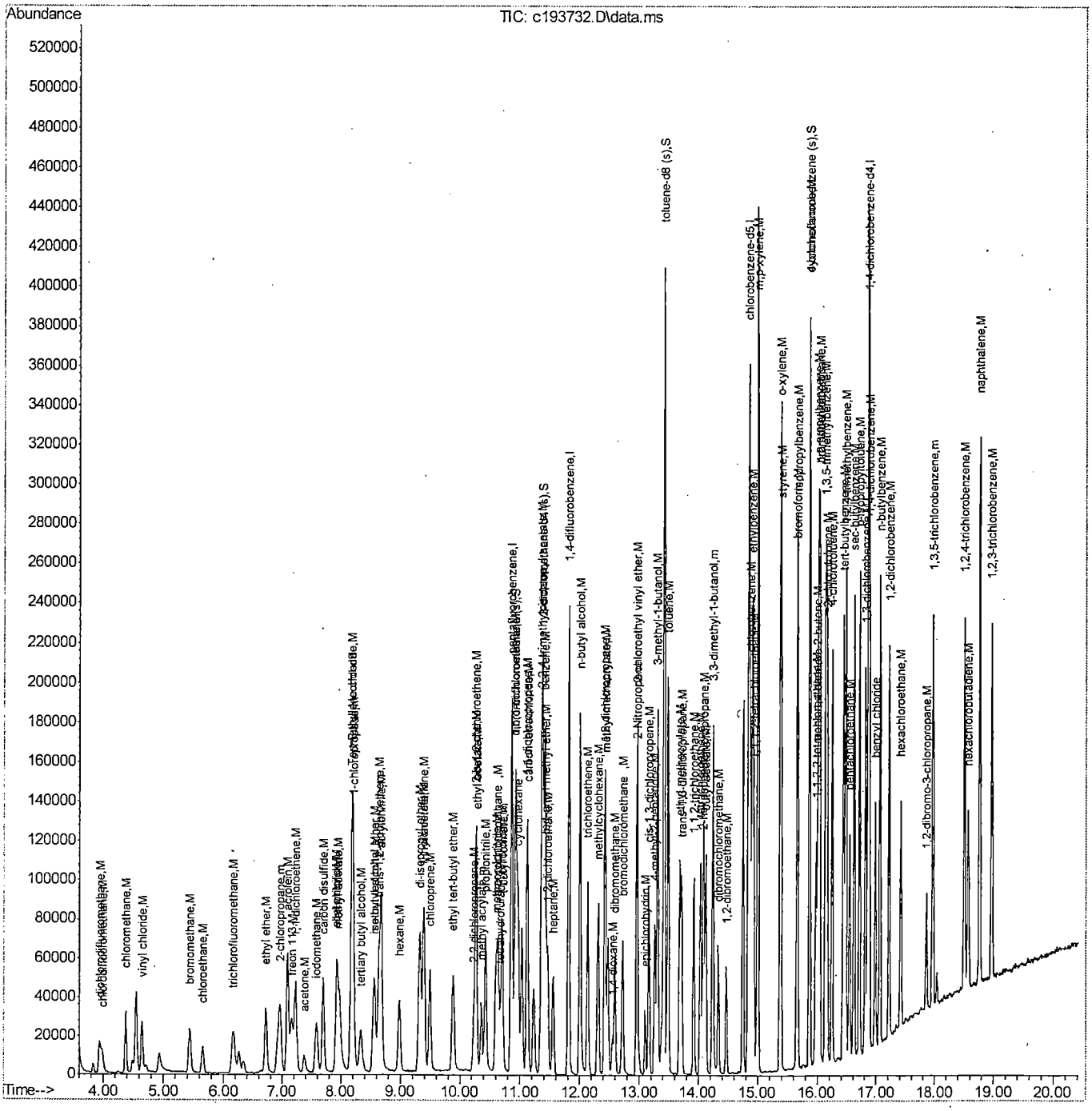
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.6.13 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\C-CORE\vc7067\
Data File : c193732.D
Acq On : 9 Aug 2014 8:11 pm
Operator : thienn
Sample : cc7054-20
Misc : MS71807,VC7067,5,,,,1
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Aug 12 08:37:11 2014
Quant Method : C:\MSDCHEM\1\METHODS\MC7054.M
Quant Title : SW846 8260B,ZB624 60m x 0.25mm x 1.4um
QLast Update : Tue Jul 29 13:15:32 2014
Response via : Initial Calibration



ACCUTEST LABORATORIES JB73449

ACCUTEST

VOLATILE ANALYSIS LOG

Batch ID: VC7054

Print Analyst Name: THIEN

Date: 7/28/14

Analyst Signature: [signature]

Columns: ZB-624 (60m x 0.25mm x 1.4µm)

Method: 8260B

Initial Cal. Method: MC7054

Standard Data

Lot #	Description	Conc.
1014-1861-125	A	100 ppm
134	B	
140	C	
124	Int	250/2500
119	Surr	100
127	Pentane	100

Standard Data

Lot #	Description	Conc.
1014-1861-141	Ext A	100 ppm
137	B	
130	C	
123	Ali	100
138	Hexane	100
135	Ali	1000

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: 7/28/2014

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
	C193390	BFB	8260 Tertiary		–	1							OK	9:16 AM	
	193391	1C7054-0.2			–	2	5						OK	A,B,C, Ali, Surr, pentane 1µl/500ml	
	193392	1C7054-0.5			–	3	5						OK	A,B,C, Ali, Surr, pentane 1µl/200ml	
	193393	1C7054-1			–	4	5						OK	A,B,C, Surr 1µl/100ml Ali, pentane 200µl/100ml	
	193394	1C7054-2			–	5	5						OK	A,B,C, Surr 2µl/100ml Ali, pentane 100µl/100ml	
	193395	1C7054-5			–	6	5						OK	A,B,C, Ali, Surr, pentane. 5µl/100ml	
	193396	1C7054-10			–	7	5						OK	A,B,C, Ali, Surr pentane. 10µl/100ml	
	193397	1C7054-20			–	8	5						OK	A,B,C, Ali, Surr, pentane 20µl/100ml, Surr 50µl/100ml	TDW 7/28/
	193398	1CC7054-50			–	9	5						OK	A,B,C, Ali, pentane, Surr 25µl/50ml	
	193399	1C7054-100			–	10	5						OK	A,B,C, Surr 50µl/50ml Ali, pentane. 1µl/50ml	
	193400	TDW 7/28/14 4 1C7054-200			–	11	5						OK	A,B,C, Surr 200µl/50ml Ali, pentane 0.5µl/50ml	
	193401	IB			–	12	5						clean up		
	193402	IB			–	13	5								
	193403	1CV7054-50			–	14	5						OK	Ext (A,B,C, Ali; Hexane), Surr, pentane 25µl/50ml	
														TL 7/28/2014	

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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7.7.1

7

ACCUTEST

VOLATILE ANALYSIS LOG

Batch ID: VC7067

Print Analyst Name: THIEN

Date: 8/9/14

Analyst Signature: [signature]

Columns: ZB-624 (60m x 0.25mm x 1.4μm).

Method 18260B

Initial Cal. Method MC7054

Standard Data

Lot #	Description	Conc.
1414-1861-125	A	100 ppm
↓-134	B	↓
1918-18	C	↓
1861-132	I/S	250/2500
↓-135	Anli	1000

Standard Data

Lot #	Description	Conc.
1414-1861-141	Ext A	100 ppm
↓ 137	B	↓
1918-21	C	↓
1861-123	Anli	1000
1918-13	Hexane	100

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: 8/12/14

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
	C193706	BFB				1							OK	8:22 am	
	193707	CC7054-50				2	5						OK	A,B,C,Anli 25μl/50ml	
	193708	IB				3	5						clean up		
	193709	MB1				4	5						OK		
	193710	BS				5	5						OK	Ext(A,B,C,Anli, Hexane) 25μl/50ml	
	193711	JB73449-12MS	71807 SL		2	6	5		1x				OK	A,B,C,Anli 25μl/50ml	✓
	193712	JB73449-12MSD			3	7	5		1x				OK	↓	✓
	193713	IB				8	5						clean up		
	193714	JB73449-12			1	9	5		1x				OK	UTCQC	✓
	193715	JB73449-1			1	10	5		1x				OK		✓
	193716	JB73449-2			1	11	5		1x				OK		✓
	193717	JB73449-3			1	12	5		1x				OK		✓
	193718	JB73449-4			1	13	5		1x				OK		✓
	193719	JB73449-5			1	14	5		1x				OK		✓
	193720	JB73449-6			1	15	5		1x				OK		✓
	193721	JB73449-7			1	16	5		1x				OK		✓
	193722	JB73449-8			1	17	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: VC7067

Print Analyst Name: [illegible]

Date: 8/9/14

Analyst Signature: [illegible]

Columns: [illegible]

Method [illegible]

Initial Cal. Method [illegible]

Standard Data			Standard Data		
Lot #	Description	Conc.	Lot #	Description	Conc.

see page 23

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with the criteria of Accutest SOP EQA044.

TDW 8/9/14

Supervisor Signature: [illegible] Date: 8/12/14

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
	C193723	JB73449-9	71807 SL	Gw	1	18	5		1x				OK	UTCGC	✓
	193724	JB73449-10			1	19	5		1x				OK		✓
	193725	JB73449-11			1	20	5		1x				OK		✓
	193726	JB73449-13			1	21	5		1x				OK		✓
	193727	JB73449-14			1	22	5		1x				OK		✓
	193728	JB73449-15			1	23	5		1x				OK		✓
	193729	JB73449-16			1	24	5		1x				OK		✓
	193730	JB73449-17			1	25	5		1x				OK	7:18pm	✓
	193731	BFB2				26							OK	7:44pm	
	193732	TDW 8/8/14 CC7067-5020				27	5						OK	A,B,C,D 10µl/50ml	
	193733	IB				28	5						clean up		
	193734	MB2				29	5						OK		
	193735	JB73449-18	71807 SL	WGB	1	30	5		1x				OK	UTCGC Double checked vials	✓
	193736	JB73449-19		WTB	1	31	5		1x				OK		✓
	193737	JB73438-4	71798 BTXM	Gw	11	32	5		1x				OK	10:23pm	✓
	193738	IB				33	5						clo		

TDW 8/9/14

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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New Jersey
ACCUTEST
LABORATORIES

08/14/14

Technical Report for

United Technologies Corporation

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

60312350

Accutest Job Number: JB73450

Sampling Dates: 08/04/14 - 08/05/14

Report to:

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

ATTN: Peter Hollatz

Total number of pages in report: **203**

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), PA, RI, SC, TN, VA, WV, DoD ELAP (L-A-B L2248)

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Sample Summary

United Technologies Corporation

Job No: JB73450

ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Project No: 60312350

Sample Number	Collected Date	Time By	Received	Matrix Code	Matrix Type	Client Sample ID
JB73450-1	08/04/14	11:15 AH	08/07/14	AQ	Ground Water	HSSER-RAMW08-080414
JB73450-2	08/04/14	12:40 AH	08/07/14	AQ	Ground Water	HSSER-RAMW07-080414
JB73450-3	08/04/14	13:50 AH	08/07/14	AQ	Ground Water	HSSER-RAMW06-080414
JB73450-4	08/04/14	15:05 AH	08/07/14	AQ	Ground Water	HSSER-RAMW05-080414
JB73450-5	08/04/14	16:10 AH	08/07/14	AQ	Ground Water	HSSER-RAMW04-080414
JB73450-6	08/04/14	15:20 AH	08/07/14	AQ	Equipment Blank	HSSER-EBLK02-080414
JB73450-7	08/05/14	10:40 AH	08/07/14	AQ	Ground Water	HSSER-RAMW03-080514
JB73450-8	08/05/14	12:00 AH	08/07/14	AQ	Ground Water	HSSER-RAMW02-080514
JB73450-8D	08/05/14	12:00 AH	08/07/14	AQ	Water Dup/MSD	HSSER-MSD02-080514
JB73450-8S	08/05/14	12:00 AH	08/07/14	AQ	Water Matrix Spike	HSSER-MS02-080514
JB73450-9	08/05/14	13:50 AH	08/07/14	AQ	Ground Water	HSSER-RAMW01-080514
JB73450-10	08/05/14	13:05 AH	08/07/14	AQ	Field Blank Water	HSSER-FBLK02-080514
JB73450-11	08/05/14	00:00 AH	08/07/14	AQ	Ground Water	HSSER-DUP02-080514

Sample Summary
(continued)

United Technologies Corporation

Job No: JB73450

ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Project No: 60312350

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
JB73450-12	08/05/14	13:50	AH	08/07/14	AQ	Trip Blank Water	HSSER-TRIP01-080514

ACCUTEST LABORATORIES

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	United Technologies Corporation	**Job No**	JB73450
Site:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL	**Report Date**	8/14/2014 11:14:00 A

On 08/07/2014, 9 Sample(s), 1 Trip Blank(s) and 1 Field Blank(s) and 1 Equipment Blank(s) were received at Accutest Laboratories at a temperature of 4.1 .C. Samples were intact and chemically preserved, unless noted below. An Accutest Job Number of JB73450 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 8260B

Matrix: AQ **Batch ID:** V2A6362

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JB73450-8MS, JB73450-8MSD were used as the QC samples indicated.

Matrix: AQ **Batch ID:** V2A6363

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JB73528-24MS, JB73528-24MSD 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

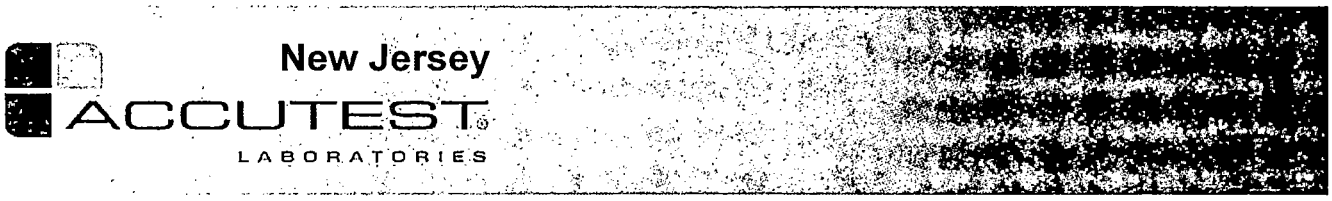
Job Number: JB73450
Account: United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Collected: 08/04/14 thru 08/05/14

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JB73450-1	**HSSER-RAMW08-080414**					
1,1-Dichloroethane		0.00088 J	0.0010	0.00035	mg/l	SW846 8260B
1,1,1-Trichloroethane		0.00048 J	0.0010	0.00032	mg/l	SW846 8260B
JB73450-2	**HSSER-RAMW07-080414**					
1,1-Dichloroethane		0.00082 J	0.0010	0.00035	mg/l	SW846 8260B
1,1-Dichloroethene		0.0010	0.0010	0.00050	mg/l	SW846 8260B
cis-1,2-Dichloroethene		0.0014	0.0010	0.00033	mg/l	SW846 8260B
Tetrachloroethene		0.0012	0.0010	0.00035	mg/l	SW846 8260B
1,1,1-Trichloroethane		0.0469	0.0010	0.00032	mg/l	SW846 8260B
Trichloroethene		0.0023	0.0010	0.00025	mg/l	SW846 8260B
JB73450-3	**HSSER-RAMW06-080414**					
1,1-Dichloroethane		0.00088 J	0.0010	0.00035	mg/l	SW846 8260B
1,1-Dichloroethene		0.00054 J	0.0010	0.00050	mg/l	SW846 8260B
cis-1,2-Dichloroethene		0.0048	0.0010	0.00033	mg/l	SW846 8260B
1,1,1-Trichloroethane		0.0261	0.0010	0.00032	mg/l	SW846 8260B
JB73450-4	**HSSER-RAMW05-080414**					
1,1-Dichloroethane		0.00064 J	0.0010	0.00035	mg/l	SW846 8260B
cis-1,2-Dichloroethene		0.0026	0.0010	0.00033	mg/l	SW846 8260B
1,1,1-Trichloroethane		0.0198	0.0010	0.00032	mg/l	SW846 8260B
Trichloroethene		0.0016	0.0010	0.00025	mg/l	SW846 8260B
JB73450-5	**HSSER-RAMW04-080414**					
Tetrachloroethene		0.00070 J	0.0010	0.00035	mg/l	SW846 8260B
JB73450-6	**HSSER-EBLK02-080414**					
No hits reported in this sample.						
JB73450-7	**HSSER-RAMW03-080514**					
1,1-Dichloroethane		0.00053 J	0.0010	0.00035	mg/l	SW846 8260B
Tetrachloroethene		0.0010	0.0010	0.00035	mg/l	SW846 8260B
Trichloroethene		0.00037 J	0.0010	0.00025	mg/l	SW846 8260B
JB73450-8	**HSSER-RAMW02-080514**					
1,1-Dichloroethane		0.0042	0.0010	0.00035	mg/l	SW846 8260B

Summary of Hits

Job Number: JB73450
Account: United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Collected: 08/04/14 thru 08/05/14

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
cis-1,2-Dichloroethene		0.00069 J	0.0010	0.00033	mg/l	SW846 8260B
Tetrachloroethene		0.0053	0.0010	0.00035	mg/l	SW846 8260B
1,1,1-Trichloroethane		0.0040	0.0010	0.00032	mg/l	SW846 8260B
Trichloroethene		0.0012	0.0010	0.00025	mg/l	SW846 8260B
JB73450-9	**HSSER-RAMW01-080514**					
1,1-Dichloroethane		0.0063	0.0010	0.00035	mg/l	SW846 8260B
cis-1,2-Dichloroethene		0.0017	0.0010	0.00033	mg/l	SW846 8260B
Tetrachloroethene		0.0139	0.0010	0.00035	mg/l	SW846 8260B
1,1,1-Trichloroethane		0.0044	0.0010	0.00032	mg/l	SW846 8260B
1,1,2-Trichloroethane		0.00046 J	0.0010	0.00028	mg/l	SW846 8260B
Trichloroethene		0.0019	0.0010	0.00025	mg/l	SW846 8260B
JB73450-10	**HSSER-FBLK02-080514**					
No hits reported in this sample.						
JB73450-11	**HSSER-DUP02-080514**					
1,1-Dichloroethane		0.00056 J	0.0010	0.00035	mg/l	SW846 8260B
Tetrachloroethene		0.00082 J	0.0010	0.00035	mg/l	SW846 8260B
1,1,1-Trichloroethane		0.00072 J	0.0010	0.00032	mg/l	SW846 8260B
Trichloroethene		0.00040 J	0.0010	0.00025	mg/l	SW846 8260B
JB73450-12	**HSSER-TRIP01-080514**					
No hits reported in this sample.						



Sample Results

Report of Analysis

Accutest Laboratories

Report of Analysis

Client Sample ID:	HSSER-RAMW08-080414		
Lab Sample ID:	JB73450-1	**Date Sampled:**	08/04/14
Matrix:	AQ - Ground Water	**Date Received:**	08/07/14
Method:	SW846 8260B	**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	2A149279.D	1	08/09/14	DS	n/a	n/a	V2A6362
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	0.00088	0.0010	0.00035	mg/l	J
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00030	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00050	mg/l	
156-59-2	cis-1,2-Dichloroethene	ND	0.0010	0.00033	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00051	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00040	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.00081	mg/l	
127-18-4	Tetrachloroethene	ND	0.0010	0.00035	mg/l	
108-88-3	Toluene	ND	0.0010	0.00022	mg/l	
71-55-6	1,1,1-Trichloroethane	0.00048	0.0010	0.00032	mg/l	J
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	ND	0.0010	0.00025	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00017	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%		79-120%
17060-07-0	1,2-Dichloroethane-D4	96%		72-123%
2037-26-5	Toluene-D8	93%		78-119%
460-00-4	4-Bromofluorobenzene	94%		74-119%

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-RAMW07-080414		
Lab Sample ID:	JB73450-2	**Date Sampled:**	08/04/14
Matrix:	AQ - Ground Water	**Date Received:**	08/07/14
Method:	SW846 8260B	**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	2A149280.D	1	08/09/14	DS	n/a	n/a	V2A6362
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	0.00082	0.0010	0.00035	mg/l	J
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00030	mg/l	
75-35-4	1,1-Dichloroethene	0.0010	0.0010	0.00050	mg/l	
156-59-2	cis-1,2-Dichloroethene	0.0014	0.0010	0.00033	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00051	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00040	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.00081	mg/l	
127-18-4	Tetrachloroethene	0.0012	0.0010	0.00035	mg/l	
108-88-3	Toluene	ND	0.0010	0.00022	mg/l	
71-55-6	1,1,1-Trichloroethane	0.0469	0.0010	0.00032	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	0.0023	0.0010	0.00025	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00017	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		79-120%
17060-07-0	1,2-Dichloroethane-D4	96%		72-123%
2037-26-5	Toluene-D8	95%		78-119%
460-00-4	4-Bromofluorobenzene	92%		74-119%

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-RAMW06-080414		
Lab Sample ID:	JB73450-3	**Date Sampled:**	08/04/14
Matrix:	AQ - Ground Water	**Date Received:**	08/07/14
Method:	SW846 8260B	**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	2A149281.D	1	08/09/14	DS	n/a	n/a	V2A6362
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	0.00088	0.0010	0.00035	mg/l	J
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00030	mg/l	
75-35-4	1,1-Dichloroethene	0.00054	0.0010	0.00050	mg/l	J
156-59-2	cis-1,2-Dichloroethene	0.0048	0.0010	0.00033	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00051	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00040	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.00081	mg/l	
127-18-4	Tetrachloroethene	ND	0.0010	0.00035	mg/l	
108-88-3	Toluene	ND	0.0010	0.00022	mg/l	
71-55-6	1,1,1-Trichloroethane	0.0261	0.0010	0.00032	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	ND	0.0010	0.00025	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00017	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%		79-120%
17060-07-0	1,2-Dichloroethane-D4	97%		72-123%
2037-26-5	Toluene-D8	96%		78-119%
460-00-4	4-Bromofluorobenzene	92%		74-119%

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

Raw Data: 2A149289.D

Accutest Laboratories

Report of Analysis

Client Sample ID:	HSSER-RAMW05-080414		
Lab Sample ID:	JB73450-4	**Date Sampled:**	08/04/14
Matrix:	AQ - Ground Water	**Date Received:**	08/07/14
Method:	SW846 8260B	**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	2A149289.D	1	08/09/14	DS	n/a	n/a	V2A6362
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	0.00064	0.0010	0.00035	mg/l	J
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00030	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00050	mg/l	
156-59-2	cis-1,2-Dichloroethene	0.0026	0.0010	0.00033	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00051	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00040	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.00081	mg/l	
127-18-4	Tetrachloroethene	ND	0.0010	0.00035	mg/l	
108-88-3	Toluene	ND	0.0010	0.00022	mg/l	
71-55-6	1,1,1-Trichloroethane	0.0198	0.0010	0.00032	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	0.0016	0.0010	0.00025	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00017	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%		79-120%
17060-07-0	1,2-Dichloroethane-D4	86%		72-123%
2037-26-5	Toluene-D8	96%		78-119%
460-00-4	4-Bromofluorobenzene	92%		74-119%

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-RAMW04-080414		
Lab Sample ID:	JB73450-5	**Date Sampled:**	08/04/14
Matrix:	AQ - Ground Water	**Date Received:**	08/07/14
Method:	SW846 8260B	**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	2A149290.D	1	08/09/14	DS	n/a	n/a	V2A6362
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	0.00035	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00030	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00050	mg/l	
156-59-2	cis-1,2-Dichloroethene	ND	0.0010	0.00033	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00051	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00040	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.00081	mg/l	
127-18-4	Tetrachloroethene	0.00070	0.0010	0.00035	mg/l	J
108-88-3	Toluene	ND	0.0010	0.00022	mg/l	
71-55-6	1,1,1-Trichloroethane	ND	0.0010	0.00032	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	ND	0.0010	0.00025	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00017	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	93%		79-120%
17060-07-0	1,2-Dichloroethane-D4	85%		72-123%
2037-26-5	Toluene-D8	95%		78-119%
460-00-4	4-Bromofluorobenzene	93%		74-119%

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

Raw Data: 2A149291.D

Accutest Laboratories

Report of Analysis

Client Sample ID:	HSSER-EBLK02-080414		
Lab Sample ID:	JB73450-6	**Date Sampled:**	08/04/14
Matrix:	AQ - Equipment Blank	**Date Received:**	08/07/14
Method:	SW846 8260B	**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	2A149291.D	1	08/09/14	DS	n/a	n/a	V2A6362
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	0.00035	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00030	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00050	mg/l	
156-59-2	cis-1,2-Dichloroethene	ND	0.0010	0.00033	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00051	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00040	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.00081	mg/l	
127-18-4	Tetrachloroethene	ND	0.0010	0.00035	mg/l	
108-88-3	Toluene	ND	0.0010	0.00022	mg/l	
71-55-6	1,1,1-Trichloroethane	ND	0.0010	0.00032	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	ND	0.0010	0.00025	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00017	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	93%		79-120%
17060-07-0	1,2-Dichloroethane-D4	90%		72-123%
2037-26-5	Toluene-D8	94%		78-119%
460-00-4	4-Bromofluorobenzene	93%		74-119%

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-RAMW03-080514		
Lab Sample ID:	JB73450-7	**Date Sampled:**	08/05/14
Matrix:	AQ - Ground Water	**Date Received:**	08/07/14
Method:	SW846 8260B	**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	2A149292.D	1	08/09/14	DS	n/a	n/a	V2A6362
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	0.00053	0.0010	0.00035	mg/l	J
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00030	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00050	mg/l	
156-59-2	cis-1,2-Dichloroethene	ND	0.0010	0.00033	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00051	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00040	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.00081	mg/l	
127-18-4	Tetrachloroethene	0.0010	0.0010	0.00035	mg/l	
108-88-3	Toluene	ND	0.0010	0.00022	mg/l	
71-55-6	1,1,1-Trichloroethane	ND	0.0010	0.00032	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	0.00037	0.0010	0.00025	mg/l	J
75-01-4	Vinyl chloride	ND	0.0010	0.00017	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	94%		79-120%
17060-07-0	1,2-Dichloroethane-D4	92%		72-123%
2037-26-5	Toluene-D8	93%		78-119%
460-00-4	4-Bromofluorobenzene	91%		74-119%

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-RAMW02-080514		
Lab Sample ID:	JB73450-8	**Date Sampled:**	08/05/14
Matrix:	AQ - Ground Water	**Date Received:**	08/07/14
Method:	SW846 8260B	**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	2A149278.D	1	08/09/14	DS	n/a	n/a	V2A6362
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	0.0042	0.0010	0.00035	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00030	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00050	mg/l	
156-59-2	cis-1,2-Dichloroethene	0.00069	0.0010	0.00033	mg/l	J
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00051	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00040	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.00081	mg/l	
127-18-4	Tetrachloroethene	0.0053	0.0010	0.00035	mg/l	
108-88-3	Toluene	ND	0.0010	0.00022	mg/l	
71-55-6	1,1,1-Trichloroethane	0.0040	0.0010	0.00032	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	0.0012	0.0010	0.00025	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00017	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%		79-120%
17060-07-0	1,2-Dichloroethane-D4	94%		72-123%
2037-26-5	Toluene-D8	95%		78-119%
460-00-4	4-Bromofluorobenzene	92%		74-119%

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-RAMW01-080514		
Lab Sample ID:	JB73450-9	**Date Sampled:**	08/05/14
Matrix:	AQ - Ground Water	**Date Received:**	08/07/14
Method:	SW846 8260B	**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	2A149293.D	1	08/09/14	DS	n/a	n/a	V2A6362
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	0.0063	0.0010	0.00035	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00030	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00050	mg/l	
156-59-2	cis-1,2-Dichloroethene	0.0017	0.0010	0.00033	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00051	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00040	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.00081	mg/l	
127-18-4	Tetrachloroethene	0.0139	0.0010	0.00035	mg/l	
108-88-3	Toluene	ND	0.0010	0.00022	mg/l	
71-55-6	1,1,1-Trichloroethane	0.0044	0.0010	0.00032	mg/l	
79-00-5	1,1,2-Trichloroethane	0.00046	0.0010	0.00028	mg/l	J
79-01-6	Trichloroethene	0.0019	0.0010	0.00025	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00017	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	94%		79-120%
17060-07-0	1,2-Dichloroethane-D4	94%		72-123%
2037-26-5	Toluene-D8	94%		78-119%
460-00-4	4-Bromofluorobenzene	96%		74-119%

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-FBLK02-080514		
Lab Sample ID:	JB73450-10	**Date Sampled:**	08/05/14
Matrix:	AQ - Field Blank Water	**Date Received:**	08/07/14
Method:	SW846 8260B	**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	2A149312.D	1	08/10/14	DS	n/a	n/a	V2A6363
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	0.00035	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00030	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00050	mg/l	
156-59-2	cis-1,2-Dichloroethene	ND	0.0010	0.00033	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00051	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00040	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.00081	mg/l	
127-18-4	Tetrachloroethene	ND	0.0010	0.00035	mg/l	
108-88-3	Toluene	ND	0.0010	0.00022	mg/l	
71-55-6	1,1,1-Trichloroethane	ND	0.0010	0.00032	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	ND	0.0010	0.00025	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00017	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	92%		79-120%
17060-07-0	1,2-Dichloroethane-D4	84%		72-123%
2037-26-5	Toluene-D8	95%		78-119%
460-00-4	4-Bromofluorobenzene	92%		74-119%

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-DUP02-080514		
Lab Sample ID:	JB73450-11	**Date Sampled:**	08/05/14
Matrix:	AQ - Ground Water	**Date Received:**	08/07/14
Method:	SW846 8260B	**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	2A149294.D	1	08/09/14	DS	n/a	n/a	V2A6362
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	0.00056	0.0010	0.00035	mg/l	J
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00030	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00050	mg/l	
156-59-2	cis-1,2-Dichloroethene	ND	0.0010	0.00033	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00051	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00040	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.00081	mg/l	
127-18-4	Tetrachloroethene	0.00082	0.0010	0.00035	mg/l	J
108-88-3	Toluene	ND	0.0010	0.00022	mg/l	
71-55-6	1,1,1-Trichloroethane	0.00072	0.0010	0.00032	mg/l	J
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	0.00040	0.0010	0.00025	mg/l	J
75-01-4	Vinyl chloride	ND	0.0010	0.00017	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		79-120%
17060-07-0	1,2-Dichloroethane-D4	95%		72-123%
2037-26-5	Toluene-D8	95%		78-119%
460-00-4	4-Bromofluorobenzene	93%		74-119%

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-TRIP01-080514		
Lab Sample ID:	JB73450-12	**Date Sampled:**	08/05/14
Matrix:	AQ - Trip Blank Water	**Date Received:**	08/07/14
Method:	SW846 8260B	**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	2A149313.D	1	08/10/14	DS	n/a	n/a	V2A6363
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	0.00035	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00030	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00050	mg/l	
156-59-2	cis-1,2-Dichloroethene	ND	0.0010	0.00033	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00051	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00040	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.00081	mg/l	
127-18-4	Tetrachloroethene	ND	0.0010	0.00035	mg/l	
108-88-3	Toluene	ND	0.0010	0.00022	mg/l	
71-55-6	1,1,1-Trichloroethane	ND	0.0010	0.00032	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	ND	0.0010	0.00025	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00017	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%		79-120%
17060-07-0	1,2-Dichloroethane-D4	90%		72-123%
2037-26-5	Toluene-D8	95%		78-119%
460-00-4	4-Bromofluorobenzene	96%		74-119%

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
FB
WTB

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 # 6020049427 93
Bottle Order Control #
Accutest Quote #
Accutest Job # JB73450

Client / Reporting Information	Project Information	Requested Analysis (see TEST CODE sheet)	Matrix Codes
Company Name: AECOM	Project Name: VTAS Plants 1/2 Facility	VOC 8260B*	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
Street Address: 27755 Diehl Rd Suite 100	Street	Billing Information (If different from Report to)	
City: Warrenville State: IL Zip: 60555	City: Rockford State: IL	Company Name	
Project Contact: Peter Hollatz E-mail: Peter.Hollatz@aecom.com	Project #: 60312350	Street Address	
Phone #: 630-839-5386 Fax #: 630-836-1711	Client Purchase Order #	City State Zip	
Sampler(s) Name(s): A. Hollatz/ Phone #	Project Manager: Peter Hollatz	Attention:	

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 8260B*	LAB USE ONLY
1	HSSER-RAMW08-080414		8-4-14	1115	A.H.	GW	3	X								X	V181
2	HSSER-RAMW07-080414		↓	1240	AH	GW	3	X								↓	
3	HSSER-RAMW06-080414		↓	1350	A.H.	GW	3	X								↓	
4	HSSER-RAMW05-080414		↓	1505	A.H.	GW	3	X								↓	
5	HSSER-RAMW04-080414		↓	1610	A.H.	GW	3	X								↓	
6	HSSER-EBLK02-080414		↓	1520	A.H.	GW	3	X								↓	
7	HSSER-RAMW03-080514		08-5-14	1040	A.H.	GW	3	X								↓	
8	HSSER-RAMW02-080514		↓	1200	A.H.	GW	3	X								↓	
9	HSSER-RAMW01-080514		↓	1350	A.H.	GW	3	X								↓	
8	HSSER-MS02-080514		↓	1200	A.H.	GW	3	X								↓	
	HSSER-MSD02-080514		↓	1200	A.H.	GW	3	X								↓	
10	HSSER-FBLK02-080514		↓	1305	A.H.	GW	3	X								↓	

Turnaround Time (Business days)

- [x] Std. 10 Business Days
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [ ] 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

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

Comments / Special Instructions

* List 13 VOCs
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]	8-6-14 1800	1 FEDX	2 Fedex	8/7/14 1015	2 Fedex [signature]
3		3	4		4
5		5	Custody Seal # 866 ☑ Intact ☐ Not intact	Preserved where applicable ☐	On Ice ☑ Cooler Temp. 4.1C IP

8/7/14

?B JM

Th.

JB73450: Chain of Custody
Page 1 of 3

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 # 602004942793 | Bottle Order Control #
Accutest Quote # | Accutest Job # JB73450

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 #: 630-839-5556 Fax #: 630-836-1711
Sampler(s) Name(s): A. Hollatz Phone #:

Project Information

Project Name: UTAS Plants 1/2 Facility
Street:
City: Rockford State: IL
Project #: 60312350
Client Purchase Order #:
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	Number of preserved Bottles: HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	LAB USE ONLY
11	HSSER-DUP02-080514		8-5-14	0000	AH	GW	3	X								
12	HSSER-TripBl-080514		8-5-14	—	—	GW	2	X								

Turnaround Time (Business days)

Approved By (Accutest PM): / Date:

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

Emergency & Rush T/A data available VIA Labtink

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

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

Comments / Special Instructions

* List of 13 VOCs
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		8-6-14 1800	FEDX	FEDX	8/7/14 1015	
2	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
3						
4	Relinquished by:	Date Time:	Received By:	Custody Seal #	Intact / Not Intact	Preserved where applicable / On Ice / Cooler Temp.
5						

5.1

ACCUTEST LABORATORIES

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: JB73450 **Client:** _____ **Project:** _____

Date / Time Received: 8/7/2014 **Delivery Method:** _____ **Airbill #'s:** _____

Cooler Temps (Initial/Adjusted): #1: (4.1/4.1); 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:	
3. Cooler media:	Ice (Bag)
4. No. Coolers:	1

Quality Control Preservatio	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

JB73450: Chain of Custody
Page 3 of 3

Internal Sample Tracking Chronicle

United Technologies Corporation

Job No: JB73450

ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Project No: 60312350

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JB73450-1	Collected: 04-AUG-14 11:15 By: AH			Received: 07-AUG-14 By: AS		
	HSSER-RAMW08-080414					
JB73450-1	SW846 8260B	09-AUG-14 12:25	DS			V8260SL
JB73450-2	Collected: 04-AUG-14 12:40 By: AH			Received: 07-AUG-14 By: AS		
	HSSER-RAMW07-080414					
JB73450-2	SW846 8260B	09-AUG-14 12:55	DS			V8260SL
JB73450-3	Collected: 04-AUG-14 13:50 By: AH			Received: 07-AUG-14 By: AS		
	HSSER-RAMW06-080414					
JB73450-3	SW846 8260B	09-AUG-14 13:24	DS			V8260SL
JB73450-4	Collected: 04-AUG-14 15:05 By: AH			Received: 07-AUG-14 By: AS		
	HSSER-RAMW05-080414					
JB73450-4	SW846 8260B	09-AUG-14 17:26	DS			V8260SL
JB73450-5	Collected: 04-AUG-14 16:10 By: AH			Received: 07-AUG-14 By: AS		
	HSSER-RAMW04-080414					
JB73450-5	SW846 8260B	09-AUG-14 17:55	DS			V8260SL
JB73450-6	Collected: 04-AUG-14 15:20 By: AH			Received: 07-AUG-14 By: AS		
	HSSER-EBLK02-080414					
JB73450-6	SW846 8260B	09-AUG-14 18:25	DS			V8260SL
JB73450-7	Collected: 05-AUG-14 10:40 By: AH			Received: 07-AUG-14 By: AS		
	HSSER-RAMW03-080514					
JB73450-7	SW846 8260B	09-AUG-14 18:54	DS			V8260SL
JB73450-8	Collected: 05-AUG-14 12:00 By: AH			Received: 07-AUG-14 By: AS		
	HSSER-RAMW02-080514					
JB73450-8	SW846 8260B	09-AUG-14 11:56	DS			V8260SL

Internal Sample Tracking Chronicle

United Technologies Corporation

Job No: JB73450

ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Project No: 60312350

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JB73450-9 Collected: 05-AUG-14 13:50 By: AH Received: 07-AUG-14 By: AS HSSER-RAMW01-080514						
JB73450-9	SW846 8260B	09-AUG-14 19:24	DS			V8260SL
JB73450-10 Collected: 05-AUG-14 13:05 By: AH Received: 07-AUG-14 By: AS HSSER-FBLK02-080514						
JB73450-10	SW846 8260B	10-AUG-14 16:00	DS			V8260SL
JB73450-11 Collected: 05-AUG-14 00:00 By: AH Received: 07-AUG-14 By: AS HSSER-DUP02-080514						
JB73450-11	SW846 8260B	09-AUG-14 19:53	DS			V8260SL
JB73450-12 Collected: 05-AUG-14 13:50 By: AH Received: 07-AUG-14 By: AS HSSER-TRIP01-080514						
JB73450-12	SW846 8260B	10-AUG-14 16:30	DS			V8260SL

5.2

Accutest Internal Chain of Custody

Job Number: JB73450
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Received: 08/07/14

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB73450-1.1	Secured Storage	Dejana Salaj	08/08/14 15:59	Retrieve from Storage
JB73450-1.1	Dejana Salaj	GCMS2A	08/08/14 15:59	Load on Instrument
JB73450-1.1	GCMS2A	Dejana Salaj	08/10/14 11:05	Unload from Instrument
JB73450-1.1	Dejana Salaj	Secured Storage	08/10/14 11:05	Return to Storage
JB73450-2.1	Secured Storage	Dejana Salaj	08/08/14 15:59	Retrieve from Storage
JB73450-2.1	Dejana Salaj	GCMS2A	08/08/14 15:59	Load on Instrument
JB73450-2.1	GCMS2A	Dejana Salaj	08/10/14 11:05	Unload from Instrument
JB73450-2.1	Dejana Salaj	Secured Storage	08/10/14 11:05	Return to Storage
JB73450-3.1	Secured Storage	Dejana Salaj	08/08/14 15:59	Retrieve from Storage
JB73450-3.1	Dejana Salaj	GCMS2A	08/08/14 15:59	Load on Instrument
JB73450-3.1	GCMS2A	Dejana Salaj	08/10/14 11:05	Unload from Instrument
JB73450-3.1	Dejana Salaj	Secured Storage	08/10/14 11:05	Return to Storage
JB73450-4.1	Secured Storage	Dejana Salaj	08/08/14 15:59	Retrieve from Storage
JB73450-4.1	Dejana Salaj	GCMS2A	08/08/14 15:59	Load on Instrument
JB73450-4.1	GCMS2A	Dejana Salaj	08/10/14 11:05	Unload from Instrument
JB73450-4.1	Dejana Salaj	Secured Storage	08/10/14 11:05	Return to Storage
JB73450-5.2	Secured Storage	Dejana Salaj	08/08/14 15:59	Retrieve from Storage
JB73450-5.2	Dejana Salaj	GCMS2A	08/08/14 15:59	Load on Instrument
JB73450-5.2	GCMS2A	Dejana Salaj	08/10/14 11:05	Unload from Instrument
JB73450-5.2	Dejana Salaj	Secured Storage	08/10/14 11:05	Return to Storage
JB73450-6.1	Secured Storage	Dejana Salaj	08/08/14 15:59	Retrieve from Storage
JB73450-6.1	Dejana Salaj	GCMS2A	08/08/14 15:59	Load on Instrument
JB73450-6.1	GCMS2A	Dejana Salaj	08/10/14 11:05	Unload from Instrument
JB73450-6.1	Dejana Salaj	Secured Storage	08/10/14 11:05	Return to Storage
JB73450-7.2	Secured Storage	Dejana Salaj	08/08/14 15:59	Retrieve from Storage
JB73450-7.2	Dejana Salaj	GCMS2A	08/08/14 15:59	Load on Instrument
JB73450-7.2	GCMS2A	Dejana Salaj	08/10/14 11:05	Unload from Instrument
JB73450-7.2	Dejana Salaj	Secured Storage	08/10/14 11:05	Return to Storage
JB73450-8.2	Secured Storage	Dejana Salaj	08/08/14 15:59	Retrieve from Storage
JB73450-8.2	Dejana Salaj	GCMS2A	08/08/14 15:59	Load on Instrument
JB73450-8.2	GCMS2A	Dejana Salaj	08/10/14 11:05	Unload from Instrument
JB73450-8.2	Dejana Salaj	Secured Storage	08/10/14 11:05	Return to Storage
JB73450-8.3	Secured Storage	Dejana Salaj	08/08/14 15:59	Retrieve from Storage
JB73450-8.3	Dejana Salaj	GCMS2A	08/08/14 15:59	Load on Instrument
JB73450-8.3	GCMS2A	Dejana Salaj	08/10/14 11:05	Unload from Instrument
JB73450-8.3	Dejana Salaj	Secured Storage	08/10/14 11:05	Return to Storage

5.3

Accutest Internal Chain of Custody

Job Number: JB73450
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Received: 08/07/14

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB73450-8.7	Secured Storage	Dejana Salaj	08/08/14 15:59	Retrieve from Storage
JB73450-8.7	Dejana Salaj	GCMS2A	08/08/14 15:59	Load on Instrument
JB73450-8.7	GCMS2A	Dejana Salaj	08/10/14 11:05	Unload from Instrument
JB73450-8.7	Dejana Salaj	Secured Storage	08/10/14 11:05	Return to Storage
JB73450-9.1	Secured Storage	Dejana Salaj	08/08/14 15:59	Retrieve from Storage
JB73450-9.1	Dejana Salaj	GCMS2A	08/08/14 15:59	Load on Instrument
JB73450-9.1	GCMS2A	Dejana Salaj	08/10/14 11:05	Unload from Instrument
JB73450-9.1	Dejana Salaj	Secured Storage	08/10/14 11:05	Return to Storage
JB73450-10.2	Secured Storage	Dejana Salaj	08/08/14 15:59	Retrieve from Storage
JB73450-10.2	Dejana Salaj	GCMS2A	08/08/14 15:59	Load on Instrument
JB73450-10.2	GCMS2A	Dejana Salaj	08/10/14 11:05	Unload from Instrument
JB73450-10.2	Dejana Salaj	Secured Storage	08/10/14 11:05	Return to Storage
JB73450-10.2	Secured Storage	Dejana Salaj	08/10/14 11:07	Retrieve from Storage
JB73450-10.2	Dejana Salaj	GCMS2A	08/10/14 11:07	Load on Instrument
JB73450-10.2	GCMS2A	Dejana Salaj	08/11/14 11:06	Unload from Instrument
JB73450-10.2	Dejana Salaj	Secured Storage	08/11/14 11:06	Return to Storage
JB73450-11.1	Secured Storage	Dejana Salaj	08/08/14 15:59	Retrieve from Storage
JB73450-11.1	Dejana Salaj	GCMS2A	08/08/14 15:59	Load on Instrument
JB73450-11.1	GCMS2A	Dejana Salaj	08/10/14 11:05	Unload from Instrument
JB73450-11.1	Dejana Salaj	Secured Storage	08/10/14 11:05	Return to Storage
JB73450-12.1	Secured Storage	Dejana Salaj	08/08/14 15:59	Retrieve from Storage
JB73450-12.1	Dejana Salaj	GCMS2A	08/08/14 15:59	Load on Instrument
JB73450-12.1	GCMS2A	Dejana Salaj	08/10/14 11:05	Unload from Instrument
JB73450-12.1	Dejana Salaj	Secured Storage	08/10/14 11:05	Return to Storage
JB73450-12.1	Secured Storage	Dejana Salaj	08/10/14 11:07	Retrieve from Storage
JB73450-12.1	Dejana Salaj	GCMS2A	08/10/14 11:07	Load on Instrument
JB73450-12.1	GCMS2A	Dejana Salaj	08/11/14 11:06	Unload from Instrument
JB73450-12.1	Dejana Salaj	Secured Storage	08/11/14 11:06	Return to Storage

5.3

New Jersey ACCUTEST LABORATORIES

GC/MS Volatiles

6

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: JB73450
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
V2A6362-MB	2A149275.D	1	08/09/14	DS	n/a	n/a	V2A6362

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

JB73450-1, JB73450-2, JB73450-3, JB73450-4, JB73450-5, JB73450-6, JB73450-7, JB73450-8, JB73450-9, JB73450-11

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	ND	1.0	0.35	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.30	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.33	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.51	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.40	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.81	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.35	ug/l	
108-88-3	Toluene	ND	1.0	0.22	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.32	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.28	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.25	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.17	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	97%	79-120%
17060-07-0	1,2-Dichloroethane-D4	95%	72-123%
2037-26-5	Toluene-D8	97%	78-119%
460-00-4	4-Bromofluorobenzene	94%	74-119%

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

Method Blank Summary

Job Number: JB73450
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
V2A6363-MB	2A149301.D	1	08/10/14	DS	n/a	n/a	V2A6363

6.1.2

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

JB73450-10, JB73450-12

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	ND	1.0	0.35	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.30	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.33	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.51	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.40	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.81	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.35	ug/l	
108-88-3	Toluene	ND	1.0	0.22	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.32	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.28	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.25	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.17	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	97%	79-120%
17060-07-0	1,2-Dichloroethane-D4	92%	72-123%
2037-26-5	Toluene-D8	94%	78-119%
460-00-4	4-Bromofluorobenzene	90%	74-119%

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

Blank Spike Summary

Job Number: JB73450
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
V2A6362-BS	2A149276.D	1	08/09/14	DS	n/a	n/a	V2A6362

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

JB73450-1, JB73450-2, JB73450-3, JB73450-4, JB73450-5, JB73450-6, JB73450-7, JB73450-8, JB73450-9, JB73450-11

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
75-34-3	1,1-Dichloroethane	50	45.9	92	78-129
107-06-2	1,2-Dichloroethane	50	50.4	101	75-133
75-35-4	1,1-Dichloroethene	50	45.6	91	74-128
156-59-2	cis-1,2-Dichloroethene	50	48.4	97	78-123
156-60-5	trans-1,2-Dichloroethene	50	47.2	94	75-122
100-41-4	Ethylbenzene	50	49.5	99	82-120
75-09-2	Methylene chloride	50	45.7	91	75-121
127-18-4	Tetrachloroethene	50	53.3	107	69-141
108-88-3	Toluene	50	50.4	101	80-122
71-55-6	1,1,1-Trichloroethane	50	51.7	103	80-132
79-00-5	1,1,2-Trichloroethane	50	49.9	100	80-127
79-01-6	Trichloroethene	50	50.8	102	82-126
75-01-4	Vinyl chloride	50	36.7	73	53-135

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	96%	79-120%
17060-07-0	1,2-Dichloroethane-D4	96%	72-123%
2037-26-5	Toluene-D8	96%	78-119%
460-00-4	4-Bromofluorobenzene	86%	74-119%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JB73450
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
V2A6363-BS	2A149302.D	1	08/10/14	DS	n/a	n/a	V2A6363

6.2.2

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

JB73450-10, JB73450-12

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
75-34-3	1,1-Dichloroethane	50	46.6	93	78-129
107-06-2	1,2-Dichloroethane	50	47.9	96	75-133
75-35-4	1,1-Dichloroethene	50	47.7	95	74-128
156-59-2	cis-1,2-Dichloroethene	50	49.0	98	78-123
156-60-5	trans-1,2-Dichloroethene	50	48.3	97	75-122
100-41-4	Ethylbenzene	50	48.6	97	82-120
75-09-2	Methylene chloride	50	47.1	94	75-121
127-18-4	Tetrachloroethene	50	52.8	106	69-141
108-88-3	Toluene	50	49.8	100	80-122
71-55-6	1,1,1-Trichloroethane	50	50.9	102	80-132
79-00-5	1,1,2-Trichloroethane	50	50.6	101	80-127
79-01-6	Trichloroethene	50	50.3	101	82-126
75-01-4	Vinyl chloride	50	36.1	72	53-135

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	98%	79-120%
17060-07-0	1,2-Dichloroethane-D4	95%	72-123%
2037-26-5	Toluene-D8	95%	78-119%
460-00-4	4-Bromofluorobenzene	85%	74-119%

* = Outside of Control Limits.

Raw Data: 2A149282.D 2A149283.D

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB73450
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
JB73450-8MS	2A149282.D	1	08/09/14	DS	n/a	n/a	V2A6362
JB73450-8MSD	2A149283.D	1	08/09/14	DS	n/a	n/a	V2A6362
JB73450-8	2A149278.D	1	08/09/14	DS	n/a	n/a	V2A6362

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

JB73450-1, JB73450-2, JB73450-3, JB73450-4, JB73450-5, JB73450-6, JB73450-7, JB73450-8, JB73450-9, JB73450-11

6.3.1

CAS No.	Compound	JB73450-8 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	4.2		50	53.3	98	50	50.5	93	5	61-134/12
107-06-2	1,2-Dichloroethane	ND		50	54.9	110	50	53.9	108	2	68-137/11
75-35-4	1,1-Dichloroethene	ND		50	50.6	101	50	47.5	95	6	40-143/17
156-59-2	cis-1,2-Dichloroethene	0.69	J	50	54.8	108	50	52.3	103	5	59-133/12
156-60-5	trans-1,2-Dichloroethene	ND		50	53.8	108	50	50.4	101	7	55-132/14
100-41-4	Ethylbenzene	ND		50	53.4	107	50	53.0	106	1	49-137/13
75-09-2	Methylene chloride	ND		50	50.9	102	50	50.2	100	1	64-128/11
127-18-4	Tetrachloroethene	5.3		50	60.9	111	50	60.2	110	1	48-143/15
108-88-3	Toluene	ND		50	52.8	106	50	52.2	104	1	54-137/13
71-55-6	1,1,1-Trichloroethane	4.0		50	59.8	112	50	54.9	102	9	52-145/16
79-00-5	1,1,2-Trichloroethane	ND		50	55.3	111	50	56.2	112	2	73-130/10
79-01-6	Trichloroethene	1.2		50	54.8	107	50	52.8	103	4	54-141/13
75-01-4	Vinyl chloride	ND		50	43.4	87	50	46.3	93	6	36-149/19

CAS No.	Surrogate Recoveries	MS	MSD	JB73450-8	Limits
1868-53-7	Dibromofluoromethane	99%	95%	95%	79-120%
17060-07-0	1,2-Dichloroethane-D4	99%	93%	94%	72-123%
2037-26-5	Toluene-D8	95%	95%	95%	78-119%
460-00-4	4-Bromofluorobenzene	87%	91%	92%	74-119%

* = Outside of Control Limits.

Raw Data: 2A149309.D 2A149310.D

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB73450
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
JB73528-24MS	2A149309.D	1	08/10/14	DS	n/a	n/a	V2A6363
JB73528-24MSD	2A149310.D	1	08/10/14	DS	n/a	n/a	V2A6363
JB73528-24	2A149305.D	1	08/10/14	DS	n/a	n/a	V2A6363

6.3.2

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

JB73450-10, JB73450-12

CAS No.	Compound	JB73528-24 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		50	39.0	78	50	39.5	79	1	61-134/12
107-06-2	1,2-Dichloroethane	ND		50	42.6	85	50	43.0	86	1	68-137/11
75-35-4	1,1-Dichloroethene	ND		50	41.5	83	50	42.8	86	3	40-143/17
156-59-2	cis-1,2-Dichloroethene	ND		50	45.7	91	50	46.3	93	1	59-133/12
156-60-5	trans-1,2-Dichloroethene	ND		50	44.3	89	50	45.5	91	3	55-132/14
100-41-4	Ethylbenzene	ND		50	45.3	91	50	46.2	92	2	49-137/13
75-09-2	Methylene chloride	ND		50	44.4	89	50	45.5	91	2	64-128/11
127-18-4	Tetrachloroethene	ND		50	49.2	98	50	48.9	98	1	48-143/15
108-88-3	Toluene	ND		50	44.2	88	50	45.5	91	3	54-137/13
71-55-6	1,1,1-Trichloroethane	ND		50	42.4	85	50	43.0	86	1	52-145/16
79-00-5	1,1,2-Trichloroethane	ND		50	48.4	97	50	48.6	97	0	73-130/10
79-01-6	Trichloroethene	ND		50	45.0	90	50	45.4	91	1	54-141/13
75-01-4	Vinyl chloride	ND		50	36.5	73	50	37.9	76	4	36-149/19

CAS No.	Surrogate Recoveries	MS	MSD	JB73528-24	Limits
1868-53-7	Dibromofluoromethane	94%	93%	97%	79-120%
17060-07-0	1,2-Dichloroethane-D4	81%	81%	95%	72-123%
2037-26-5	Toluene-D8	92%	94%	97%	78-119%
460-00-4	4-Bromofluorobenzene	91%	88%	92%	74-119%

* = Outside of Control Limits.

Raw Data: 2A148919.D

Instrument Performance Check (BFB)

Job Number: JB73450
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample:	V2A6348-BFB	**Injection Date:**	07/25/14
Lab File ID:	2A148919.D	**Injection Time:**	10:18
Instrument ID:	GCMS2A		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	11744	17.9		Pass
75	30.0 - 60.0% of mass 95	30874	47.1		Pass
95	Base peak, 100% relative abundance	65504	100.0		Pass
96	5.0 - 9.0% of mass 95	4234	6.46		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	68258	104.2		Pass
175	5.0 - 9.0% of mass 174	5775	8.82	(8.46) [a]	Pass
176	95.0 - 101.0% of mass 174	67130	102.5	(98.3) [a]	Pass
177	5.0 - 9.0% of mass 176	4458	6.81	(6.64) [b]	Pass

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

6.4.1

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
V2A6348-IC6348	2A148920.D	07/25/14	10:50	00:32	Initial cal 0.2
V2A6348-IC6348	2A148921.D	07/25/14	11:20	01:02	Initial cal 0.5
V2A6348-IC6348	2A148922.D	07/25/14	11:49	01:31	Initial cal 1.0
V2A6348-IC6348	2A148923.D	07/25/14	12:19	02:01	Initial cal 2.0
V2A6348-IC6348	2A148924.D	07/25/14	12:49	02:31	Initial cal 5.0
V2A6348-IC6348	2A148925.D	07/25/14	13:18	03:00	Initial cal 10
V2A6348-IC6348	2A148926.D	07/25/14	13:48	03:30	Initial cal 20
V2A6348-ICC6348	2A148927.D	07/25/14	14:18	04:00	Initial cal 50
V2A6348-IC6348	2A148928.D	07/25/14	14:48	04:30	Initial cal 100
V2A6348-IC6348	2A148929.D	07/25/14	15:17	04:59	Initial cal 200
V2A6348-ICV6348	2A148932.D	07/25/14	17:04	06:46	Initial cal verification 50

Instrument Performance Check (BFB)

Job Number: JB73450
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample:	V2A6362-BFB	**Injection Date:**	08/09/14
Lab File ID:	2A149272.D	**Injection Time:**	08:32
Instrument ID:	GCMS2A		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	8844	19.1		Pass
75	30.0 - 60.0% of mass 95	24058	52.0		Pass
95	Base peak, 100% relative abundance	46266	100.0		Pass
96	5.0 - 9.0% of mass 95	3093	6.69		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	51138	110.5		Pass
175	5.0 - 9.0% of mass 174	4330	9.36	(8.47) [a]	Pass
176	95.0 - 101.0% of mass 174	49258	106.5	(96.3) [a]	Pass
177	5.0 - 9.0% of mass 176	3576	7.73	(7.26) [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
V2A6362-CC6348	2A149273.D	08/09/14	09:04	00:32	Continuing cal 20
V2A6362-MB	2A149275.D	08/09/14	10:19	01:47	Method Blank
V2A6362-BS	2A149276.D	08/09/14	10:57	02:25	Blank Spike
JB73450-8	2A149278.D	08/09/14	11:56	03:24	HSSER-RAMW02-080514
JB73450-1	2A149279.D	08/09/14	12:25	03:53	HSSER-RAMW08-080414
JB73450-2	2A149280.D	08/09/14	12:55	04:23	HSSER-RAMW07-080414
JB73450-3	2A149281.D	08/09/14	13:24	04:52	HSSER-RAMW06-080414
JB73450-8MS	2A149282.D	08/09/14	13:59	05:27	Matrix Spike
JB73450-8MSD	2A149283.D	08/09/14	14:28	05:56	Matrix Spike Duplicate
ZZZZZZ	2A149285.D	08/09/14	15:28	06:56	(unrelated sample)
ZZZZZZ	2A149286.D	08/09/14	15:57	07:25	(unrelated sample)
ZZZZZZ	2A149288.D	08/09/14	16:56	08:24	(unrelated sample)
JB73450-4	2A149289.D	08/09/14	17:26	08:54	HSSER-RAMW05-080414
JB73450-5	2A149290.D	08/09/14	17:55	09:23	HSSER-RAMW04-080414
JB73450-6	2A149291.D	08/09/14	18:25	09:53	HSSER-EBLK02-080414
JB73450-7	2A149292.D	08/09/14	18:54	10:22	HSSER-RAMW03-080514
JB73450-9	2A149293.D	08/09/14	19:24	10:52	HSSER-RAMW01-080514
JB73450-11	2A149294.D	08/09/14	19:53	11:21	HSSER-DUP02-080514

Raw Data: 2A149298.D

Instrument Performance Check (BFB)

Job Number: JB73450
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample:	V2A6363-BFB	**Injection Date:**	08/10/14
Lab File ID:	2A149298.D	**Injection Time:**	08:53
Instrument ID:	GCMS2A		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	9899	19.0		Pass
75	30.0 - 60.0% of mass 95	26181	50.2		Pass
95	Base peak, 100% relative abundance	52197	100.0		Pass
96	5.0 - 9.0% of mass 95	3738	7.16		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	54914	105.2		Pass
175	5.0 - 9.0% of mass 174	4833	9.26	(8.80) [a]	Pass
176	95.0 - 101.0% of mass 174	54216	103.9	(98.7) [a]	Pass
177	5.0 - 9.0% of mass 176	3944	7.56	(7.27) [b]	Pass

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

6.4.3

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
V2A6363-CC6348	2A149299.D	08/10/14	09:24	00:31	Continuing cal 20
V2A6363-MB	2A149301.D	08/10/14	10:30	01:37	Method Blank
V2A6363-BS	2A149302.D	08/10/14	11:04	02:11	Blank Spike
ZZZZZZ	2A149304.D	08/10/14	12:03	03:10	(unrelated sample)
JB73528-24	2A149305.D	08/10/14	12:33	03:40	(used for QC only; not part of job JB73450)
ZZZZZZ	2A149306.D	08/10/14	13:02	04:09	(unrelated sample)
ZZZZZZ	2A149307.D	08/10/14	13:32	04:39	(unrelated sample)
ZZZZZZ	2A149308.D	08/10/14	14:02	05:09	(unrelated sample)
JB73528-24MS	2A149309.D	08/10/14	14:32	05:39	Matrix Spike
JB73528-24MSD	2A149310.D	08/10/14	15:01	06:08	Matrix Spike Duplicate
ZZZZZZ	2A149311.D	08/10/14	15:31	06:38	(unrelated sample)
JB73450-10	2A149312.D	08/10/14	16:00	07:07	HSSER-FBLK02-080514
JB73450-12	2A149313.D	08/10/14	16:30	07:37	HSSER-TRIP01-080514
ZZZZZZ	2A149314.D	08/10/14	16:59	08:06	(unrelated sample)
ZZZZZZ	2A149315.D	08/10/14	17:29	08:36	(unrelated sample)
ZZZZZZ	2A149316.D	08/10/14	17:59	09:06	(unrelated sample)
ZZZZZZ	2A149317.D	08/10/14	18:28	09:35	(unrelated sample)
ZZZZZZ	2A149318.D	08/10/14	18:58	10:05	(unrelated sample)
ZZZZZZ	2A149319.D	08/10/14	19:27	10:34	(unrelated sample)
ZZZZZZ	2A149320.D	08/10/14	19:57	11:04	(unrelated sample)

Volatile Internal Standard Area Summary

Job Number: JB73450
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Check Std:	V2A6362-CC6348	**Injection Date:**	08/09/14
Lab File ID:	2A149273.D	**Injection Time:**	09:04
Instrument ID:	GCMS2A	**Method:**	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	62943	7.95	189727	10.39	201339	11.33	168076	14.36	100117	16.52
Upper Limit [a]	125886	8.45	379454	10.89	402678	11.83	336152	14.86	200234	17.02
Lower Limit [b]	31472	7.45	94864	9.89	100670	10.83	84038	13.86	50059	16.02

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
V2A6362-MB	62623	7.94	189423	10.39	199420	11.33	168788	14.36	91916	16.52
V2A6362-BS	63809	7.94	187519	10.39	201813	11.33	166433	14.36	104054	16.52
JB73450-8	57582	7.94	193209	10.39	202886	11.33	166406	14.36	93477	16.52
JB73450-1	68915	7.94	189982	10.39	199841	11.33	164657	14.36	91018	16.52
JB73450-2	59554	7.94	188467	10.39	198671	11.33	162186	14.36	92502	16.52
JB73450-3	58766	7.94	184662	10.39	197332	11.33	161827	14.36	90019	16.52
JB73450-8MS	70964	7.94	184766	10.39	201090	11.33	167262	14.36	104565	16.52
JB73450-8MSD	74276	7.94	209200	10.39	223592	11.33	182818	14.36	112767	16.52
ZZZZZZ	64818	7.94	209799	10.39	224756	11.32	182417	14.36	102152	16.52
ZZZZZZ	65719	7.94	202165	10.39	215774	11.33	178567	14.36	100078	16.52
ZZZZZZ	65514	7.94	196690	10.39	208304	11.33	173575	14.36	102592	16.52
JB73450-4	93356	7.94	284706	10.39	296843	11.33	244745	14.36	135262	16.52
JB73450-5	84926	7.93	261037	10.39	272861	11.33	219999	14.36	122646	16.52
JB73450-6	78508	7.94	238499	10.39	251542	11.33	201256	14.36	110043	16.52
JB73450-7	81966	7.93	216131	10.39	230241	11.33	187374	14.36	104230	16.52
JB73450-9	69275	7.94	208417	10.39	223124	11.33	182133	14.36	99715	16.52
JB73450-11	75593	7.94	199488	10.39	214167	11.33	172340	14.36	98326	16.52

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: JB73450
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Check Std:	V2A6363-CC6348	**Injection Date:**	08/10/14
Lab File ID:	2A149299.D	**Injection Time:**	09:24
Instrument ID:	GCMS2A	**Method:**	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	71380	7.94	216478	10.39	230300	11.33	186466	14.36	111856	16.52
Upper Limit [a]	142760	8.44	432956	10.89	460600	11.83	372932	14.86	223712	17.02
Lower Limit [b]	35690	7.44	108239	9.89	115150	10.83	93233	13.86	55928	16.02

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
V2A6363-MB	71043	7.94	218567	10.39	229247	11.33	182419	14.36	103413	16.52
V2A6363-BS	67176	7.94	203520	10.39	219847	11.33	184317	14.36	114934	16.52
ZZZZZZ	67355	7.94	209906	10.39	226047	11.33	177648	14.36	101987	16.52
JB73528-24	66015	7.94	203851	10.39	215684	11.33	182694	14.36	100452	16.52
ZZZZZZ	66706	7.94	202583	10.39	214885	11.33	172671	14.36	99914	16.52
ZZZZZZ	68534	7.94	199140	10.39	210959	11.33	171847	14.36	95819	16.52
ZZZZZZ	66126	7.94	192503	10.39	203993	11.33	168187	14.36	101716	16.52
JB73528-24MS	95815	7.94	291302	10.39	308127	11.33	245958	14.36	144279	16.52
JB73528-24MSD	111450	7.94	311530	10.39	327206	11.33	259376	14.36	153667	16.52
ZZZZZZ	86514	7.94	303453	10.39	318716	11.33	264334	14.36	144012	16.52
JB73450-10	86855	7.94	282417	10.39	294477	11.33	240988	14.36	134211	16.52
JB73450-12	80792	7.93	252896	10.39	270453	11.33	217197	14.36	118225	16.52
ZZZZZZ	72345	7.94	227711	10.39	238900	11.33	194550	14.36	107488	16.52
ZZZZZZ	71721	7.94	217147	10.39	229969	11.33	188778	14.36	105163	16.52
ZZZZZZ	67236	7.94	209400	10.39	221341	11.33	181303	14.36	98390	16.52
ZZZZZZ	65071	7.94	208391	10.39	218885	11.33	177034	14.36	100115	16.52
ZZZZZZ	64529	7.94	197634	10.39	213499	11.33	175179	14.36	96385	16.52
ZZZZZZ	64255	7.94	198130	10.39	206704	11.33	169632	14.36	94545	16.52
ZZZZZZ	61827	7.94	194198	10.39	207303	11.33	167412	14.36	93042	16.52

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.

6.5.2

Volatile Surrogate Recovery Summary

Job Number: JB73450
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Method: SW846 8260B **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4
JB73450-1	2A149279.D	95	96	93	94
JB73450-2	2A149280.D	96	96	95	92
JB73450-3	2A149281.D	95	97	96	92
JB73450-4	2A149289.D	95	86	96	92
JB73450-5	2A149290.D	93	85	95	93
JB73450-6	2A149291.D	93	90	94	93
JB73450-7	2A149292.D	94	92	93	91
JB73450-8	2A149278.D	95	94	95	92
JB73450-9	2A149293.D	94	94	94	96
JB73450-10	2A149312.D	92	84	95	92
JB73450-11	2A149294.D	97	95	95	93
JB73450-12	2A149313.D	95	90	95	96
JB73450-8MS	2A149282.D	99	99	95	87
JB73450-8MSD	2A149283.D	95	93	95	91
JB73528-24MS	2A149309.D	94	81	92	91
JB73528-24MSD	2A149310.D	93	81	94	88
V2A6362-BS	2A149276.D	96	96	96	86
V2A6362-MB	2A149275.D	97	95	97	94
V2A6363-BS	2A149302.D	98	95	95	85
V2A6363-MB	2A149301.D	97	92	94	90

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	79-120%
S2 = 1,2-Dichloroethane-D4	72-123%
S3 = Toluene-D8	78-119%
S4 = 4-Bromofluorobenzene	74-119%

6.6.1

Raw Data: 2A148920.D 2A148921.D 2A148922.D 2A148923.D 2A148924.D 2A148925.D 2A148926.D 2A148927.D 2A148928.D 2A148929.D

Initial Calibration Summary

Job Number: JB73450
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V2A6348-ICC6348
Lab FileID: 2A148927.D

Response Factor Report Instrumen

Method : C:\MSDCHEM\1\METHODS\M2A6348.M (RTE Integrator)
Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
Last Update : Mon Jul 28 10:27:41 2014
Response via : Initial Calibration

Calibration Files
1 =2A148922.D 2 =2A148923.D 100 =2A148928.D 50 =2A148927.D
20 =2A148926.D 200 =2A148929.D 5 =2A148924.D 0.5 =2A148921.D
10 =2A148925.D 0.2 =2A148920.D = =

Compound

Compound	1	2	100	50	20	200	5	0.5	10	0.2	Avg	%RSD
1) I Tert Butyl Alcohol-d9	----------ISTD----------											
2) tertiary butyl alcohol			1.206	1.228	1.287	1.104	1.238		1.085		1.191	6.69
3) Ethanol		0.073	0.091	0.091	0.095	0.080	0.097		0.098		0.089	10.50
4) 1,4-dioxane		0.081	0.081	0.079	0.084	0.082	0.080		0.080		0.081	1.91
5) I pentafluorobenzene	----------ISTD----------											
6) FREON 143A											0.000#	-1.00
7) chlorodifluoromethane		0.313	0.411	0.392	0.371	0.369	0.364	0.367	0.350		0.367	7.82
8) dichlorodifluoromethane		0.478	0.583	0.631	0.608	0.576	0.588	0.571	0.521		0.570	8.55
9) FREON 142B											0.000#	-1.00
10) chloromethane		0.641	0.654	0.619	0.647	0.611	0.552	0.623	0.639	0.564	0.617	5.87
11) vinyl chloride		0.514	0.571	0.552	0.555	0.514	0.535	0.524	0.436	0.496	0.522	7.64
12) bromomethane		0.298	0.304	0.302	0.322	0.307	0.287	0.311	0.258	0.287	0.297	6.19
13) chloroethane		0.229	0.261	0.243	0.257	0.253	0.225	0.259		0.233	0.245	5.83
14) trichlorofluoromethane		0.561	0.691	0.674	0.676	0.640	0.662	0.666		0.610	0.648	6.63
15) PENTANE											0.000#	-1.00
16) ethyl ether		0.138	0.176	0.201	0.196	0.206	0.194	0.177		0.165	0.182	12.43
17) FREON 141B											0.000#	-1.00
18) acrolein		0.072	0.076		0.069	0.072		0.076		0.069	0.072	4.27
19) 1,1-dichloroethene		0.220	0.367	0.351	0.331	0.350	0.339	0.370		0.314	0.330	14.56
20) acetone				0.112	0.116	0.125	0.094	0.144		0.116	0.118	13.86
21) allyl chloride			0.165	0.199	0.188	0.191	0.195	0.178		0.173	0.184	6.69
22) acetonitrile			0.035	0.031	0.031	0.034	0.029	0.036		0.030	0.032	8.36
23) iodomethane												

6.7.1

	0.566	0.636	0.698	0.667	0.676	0.686	0.661	0.664	0.605		0.651	6.45
24)	iso-butyl alcohol											
		0.013	0.008	0.008	0.012	0.008		0.008			0.010#	24.97
	----- Linear regression ----- Coefficient = 0.9934											
	Response Ratio = -0.01589 + 0.01288 *A											
25)	carbon disulfide											
	1.051	1.194	1.265	1.217	1.227	1.212	1.248	1.199	1.119		1.192	5.61
26)	methylene chloride											
	0.353	0.393	0.392	0.383	0.383	0.381	0.410	0.328	0.341		0.374	7.21
27)	methyl acetate											
		0.055	0.052	0.049	0.055	0.039		0.038			0.048	16.17
	----- Linear regression ----- Coefficient = 0.9999											
	Response Ratio = -0.00266 + 0.05584 *A											
28)	methyl tert butyl ether											
	1.008	1.172	1.143	1.132	1.154	1.103	1.131	1.119	1.025		1.110	5.08
29)	trans-1,2-dichloroethene											
	0.282	0.377	0.382	0.364	0.381	0.377	0.360	0.327	0.353		0.356	9.26
30)	di-isopropyl ether											
	1.417	1.446	1.317	1.322	1.356	1.240	1.358	1.351	1.206	1.083	1.310	8.18
31)	2-butanone											
		0.041	0.039	0.042	0.040	0.035		0.035			0.039	8.42
32)	1,1-dichloroethane											
	0.618	0.728	0.728	0.710	0.723	0.696	0.722	0.709	0.663		0.700	5.25
33)	chloroprene											
	0.544	0.650	0.609	0.594	0.591	0.578	0.586	0.526	0.529		0.578	6.94
34)	acrylonitrile											
	0.105	0.134	0.134	0.131	0.138	0.129	0.129		0.120		0.128	8.32
35)	vinyl acetate											
		0.064	0.060	0.060	0.063	0.046		0.048			0.057	14.18
36)	ethyl tert-butyl ether											
	1.276	1.435	1.280	1.268	1.291	1.232	1.297	1.197	1.144		1.269	6.31
37)	ethyl acetate											
		0.052	0.052	0.050	0.048	0.044		0.040			0.048	10.49
38)	2,2-dichloropropane											
	0.534	0.616	0.612	0.600	0.607	0.576	0.628	0.566	0.545		0.587	5.68
39)	cis-1,2-dichloroethene											
	0.347	0.410	0.428	0.406	0.422	0.416	0.394	0.347	0.374		0.394	7.88
40)	methylacrylate											
		0.054	0.050	0.046	0.054	0.037		0.037			0.046	17.00
	----- Linear regression ----- Coefficient = 0.9998											
	Response Ratio = -0.00300 + 0.05477 *A											
41)	propionitrile											
	0.043	0.047	0.051	0.049	0.053	0.049	0.054		0.048		0.049	7.42
42)	bromochloromethane											
	0.178	0.182	0.221	0.211	0.215	0.218	0.202		0.194		0.203	8.13
43)	tetrahydrofuran											
		0.132	0.130	0.127	0.136	0.122	0.135		0.115		0.128	5.94
44)	chloroform											
	0.403	0.475	0.471	0.450	0.458	0.455	0.475	0.517	0.423	0.406	0.453	7.68
45)	t-butyl formate											
	0.208	0.305	0.326	0.320	0.315	0.312	0.276		0.274		0.292	13.38
46)	dibromofluoromethane (s)											
	0.320	0.398	0.369	0.357	0.361	0.365	0.349		0.363		0.360	6.05
47)	1,2-dichloroethane-d4 (s)											
	0.377	0.437	0.440	0.442	0.440	0.423	0.406	0.424	0.425	0.389	0.420	5.39
48)	freon 113											
	0.209	0.281	0.299	0.281	0.282	0.292	0.266		0.246		0.270	10.94

6.7.1

Initial Calibration Summary

Job Number: JB73450 **Sample:** V2A6348-ICC6348
Account: UTC United Technologies Corporation **Lab FileID:** 2A148927.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

49)	methacrylonitrile											
	0.175	0.254	0.243	0.236	0.246	0.229	0.231		0.229		0.230	10.50
50)	1,1,1-trichloroethane											
	0.477	0.625	0.664	0.631	0.643	0.628	0.655	0.544	0.570		0.604	10.16
51)	Cyclohexane											
	0.425	0.584	0.598	0.554	0.567	0.575	0.561	0.428	0.521		0.535	12.14
52)	I 1,4-difluorobenzene	----------ISTD----------										
53)	epichlorohydrin											
		0.035	0.028	0.027	0.028	0.028	0.027		0.023		0.028	12.02
54)	n-butyl alcohol											
			0.007	0.007	0.008	0.007	0.009		0.008		0.008#	9.26
55)	carbon tetrachloride											
	0.409	0.566	0.586	0.564	0.568	0.559	0.575	0.454	0.500		0.531	11.79
56)	1,1-dichloropropene											
	0.353	0.504	0.501	0.479	0.481	0.490	0.490	0.358	0.434		0.454	13.14
57)	hexane											
	0.447	0.496	0.444	0.418	0.432	0.433	0.460	0.344	0.384		0.429	10.22
58)	TERT AMYL ALCOHOL											
											0.000#	-1.00
59)	2,2,4-TRIMETHYLPENTANE											
	1.185	1.241	1.153	1.119	1.133	1.143	1.156	1.202	1.000		1.148	5.84
60)	benzene											
	1.179	1.364	1.391	1.324	1.350	1.355	1.331	1.182	1.222	1.281	1.298	6.01
61)	tert-amyl methyl ether											
	0.234	0.271	0.251	0.249	0.260	0.243	0.250	0.189	0.217		0.241	10.21
62)	heptane											
	0.207	0.253	0.256	0.246	0.253	0.247	0.266	0.217	0.227		0.241	8.15
63)	isopropyl acetate											
	0.728	0.837	0.643	0.645	0.666	0.610	0.736		0.622		0.686	11.15
64)	1,2-dichloroethane											
	0.426	0.528	0.525	0.513	0.522	0.501	0.510		0.473		0.500	6.90
65)	Ethyl Acrylate											
											0.000#	-1.00
66)	trichloroethene											
	0.310	0.346	0.359	0.335	0.346	0.352	0.341	0.287	0.308		0.332	7.36
67)	TERT-AMYL ETHYL ETHER											
											0.000#	-1.00
68)	methyl methacrylate											
	0.466	0.582	0.559	0.540	0.566	0.517	0.540		0.513		0.535	6.84
69)	2-nitropropane											
		0.142	0.142	0.136	0.140	0.131	0.142		0.122		0.137	5.69
70)	2-chloroethyl vinyl ether											
	0.147	0.188	0.202	0.196	0.183	0.200	0.154		0.155		0.178	12.69
71)	1,2-dichloropropane											
	0.314	0.349	0.354	0.341	0.347	0.341	0.344		0.305		0.337	5.27
72)	dibromomethane											
	0.171	0.214	0.223	0.207	0.221	0.215	0.213	0.182	0.190		0.204	9.11
73)	methylcyclohexane											
	0.513	0.612	0.568	0.542	0.528	0.550	0.538	0.499	0.478		0.536	7.34
74)	bromodichloromethane											
	0.437	0.475	0.510	0.480	0.492	0.493	0.491	0.487	0.437	0.379	0.468	8.38
75)	cis-1,3-dichloropropene											
	0.476	0.558	0.587	0.564	0.582	0.571	0.552	0.518	0.498		0.545	7.12
76)	toluene-d8 (s)											
	0.982	1.095	1.118	1.095	1.079	1.110	0.979	1.084	1.041	1.506	1.109	13.35
77)	4-methyl-2-pentanone											
		0.104	0.116	0.114	0.118	0.110	0.122		0.101		0.112	6.87
78)	toluene											
	0.675	0.778	0.814	0.766	0.774	0.797	0.756	0.801	0.690	0.727	0.758	6.17

6.7.1

Initial Calibration Summary

Job Number: JB73450 **Sample:** V2A6348-ICC6348
Account: UTC United Technologies Corporation **Lab FileID:** 2A148927.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

79) 3-methyl-1-butanol
0.017 0.025 0.012 0.012 0.013 0.011 0.015 0.011 0.013 0.014 30.39
----- Linear regression ----- Coefficient = 0.9992
Response Ratio = 0.01005 + 0.01109 *A

80) trans-1,3-dichloropropene
0.488 0.551 0.551 0.532 0.533 0.527 0.519 0.466 0.462 0.514 6.63
81) ethyl methacrylate
0.343 0.398 0.400 0.385 0.406 0.380 0.427 0.288 0.352 0.376 11.14
82) 1,1,2-trichloroethane
0.209 0.245 0.245 0.232 0.237 0.236 0.232 0.199 0.205 0.227 7.79
83) 2-hexanone
0.095 0.107 0.104 0.106 0.099 0.114 0.092 0.103 7.29

84) I chlorobenzene-d5 ----------ISTD----------
85) tetrachloroethene
0.272 0.397 0.401 0.374 0.371 0.391 0.360 0.340 0.363 11.63
86) 1,3-dichloropropane
0.468 0.554 0.579 0.559 0.566 0.562 0.571 0.478 0.512 0.597 0.545 8.02
87) butyl acetate
0.201 0.287 0.227 0.227 0.238 0.218 0.266 0.226 0.236 11.65
88) 3,3-dimethyl-1-butanol
0.052 0.075 0.032 0.034 0.038 0.030 0.042 0.036 0.043 34.74
----- Linear regression ----- Coefficient = 0.9988
Response Ratio = 0.02007 + 0.03031 *A

89) dibromochloromethane
0.389 0.461 0.509 0.485 0.479 0.503 0.482 0.398 0.426 0.459 9.70
90) 1,2-dibromoethane
0.346 0.347 0.379 0.355 0.363 0.368 0.353 0.267 0.321 0.344 9.67
91) chlorobenzene
0.957 1.065 1.127 1.076 1.068 1.112 1.069 1.031 0.966 1.049 1.052 5.23
92) 1,1,1,2-tetrachloroethane
0.400 0.447 0.475 0.440 0.447 0.459 0.479 0.320 0.396 0.429 11.69
93) ethylbenzene
1.548 1.818 1.872 1.762 1.767 1.847 1.722 1.632 1.573 1.567 1.711 7.14
94) m,p-xylene
0.556 0.705 0.737 0.679 0.686 0.710 0.675 0.640 0.604 0.557 0.655 9.72
95) o-xylene
0.604 0.658 0.720 0.682 0.674 0.705 0.685 0.652 0.599 0.411 0.639 13.92
96) styrene
0.893 1.142 1.237 1.158 1.171 1.211 1.152 0.985 1.033 0.824 1.081 12.96
97) bromoform
0.291 0.362 0.382 0.354 0.352 0.365 0.373 0.303 0.348 9.44

98) I 1,4-dichlorobenzene-d ----------ISTD----------
99) isopropylbenzene
2.511 3.132 3.134 2.956 3.044 3.161 3.028 2.604 2.735 2.827 2.913 7.98
100) 4-bromofluorobenzene (s)
0.872 0.984 0.824 0.820 0.820 0.851 0.823 0.885 0.870 0.861 6.13
101) cyclohexanone
0.032 0.038 0.028 0.027 0.033 0.040 0.024 0.030 0.031 16.98
----- Linear regression ----- Coefficient = 0.9984
Response Ratio = 0.00536 + 0.02791 *A

102) bromobenzene
0.813 0.883 0.920 0.895 0.906 0.933 0.926 0.922 0.808 0.691 0.870 8.87
103) 1,1,2,2-tetrachloroethane
0.779 0.896 0.762 0.734 0.781 0.756 0.860 0.768 0.670 0.779 8.50
104) trans-1,4-dichloro-2-butene

6.7.1

Initial Calibration Summary

Job Number: JB73450 **Sample:** V2A6348-ICC6348
Account: UTC United Technologies Corporation **Lab FileID:** 2A148927.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

		0.212	0.234	0.226	0.233	0.222	0.263		0.196		0.227	9.30
105)	1,2,3-trichloropropane												
		0.157	0.202	0.207	0.194	0.219	0.200	0.236		0.184	0.200	11.73
106)	n-propylbenzene												
		0.610	0.776	0.815	0.784	0.800	0.819	0.799	0.652	0.678	0.748	10.57
107)	2-chlorotoluene												
		0.640	0.824	0.793	0.768	0.778	0.793	0.811	0.697	0.694	0.755	8.35
108)	4-chlorotoluene												
		0.659	0.790	0.821	0.791	0.810	0.820	0.851	0.690	0.714	0.772	8.69
109)	1,3,5-trimethylbenzene												
		2.169	2.680	2.703	2.574	2.611	2.729	2.606	2.542	2.317	2.403	2.533	7.19
110)	tert-butylbenzene												
		1.813	2.279	2.336	2.210	2.200	2.356	2.228	1.978	1.932		2.148	8.96
111)	pentachloroethane												
		0.453	0.624	0.626	0.599	0.603	0.633	0.619	0.457	0.540		0.573	12.61
112)	1,2,4-trimethylbenzene												
		2.364	2.575	2.663	2.529	2.577	2.633	2.608	2.411	2.236	2.399	2.499	5.58
113)	sec-butylbenzene												
		2.966	3.356	3.476	3.283	3.269	3.465	3.246	2.829	2.872	2.586	3.135	9.62
114)	1,3-dichlorobenzene												
		1.574	1.637	1.746	1.659	1.705	1.738	1.764	1.623	1.505		1.661	5.20
115)	p-isopropyltoluene												
		2.564	2.955	3.018	2.860	2.905	3.000	2.850	2.489	2.524	2.294	2.746	9.27
116)	1,4-dichlorobenzene												
		1.629	1.791	1.769	1.700	1.723	1.752	1.770	1.540	1.520	1.861	1.706	6.49
117)	1,2-dichlorobenzene												
		1.500	1.769	1.705	1.620	1.625	1.672	1.691	1.589	1.440	1.740	1.635	6.35
118)	benzyl chloride												
				1.621	1.562	1.614	1.612	1.603		1.446		1.576	4.27
119)	n-butylbenzene												
		1.231	1.405	1.471	1.374	1.367	1.435	1.370	1.174	1.236	1.262	1.332	7.47
120)	1,2-dibromo-3-chloropropane												
			0.192	0.160	0.151	0.158	0.153	0.177		0.145		0.162	10.12
121)	1,3,5-TRICHLOROBENZENE												
		1.243	1.534	1.665	1.535	1.536	1.646	1.525	1.163	1.328	1.480	1.465	11.38
122)	1,2,4-trichlorobenzene												
		1.030	1.347	1.495	1.343	1.303	1.450	1.245	1.107	1.130	1.429	1.288	12.19
123)	hexachlorobutadiene												
		0.658	0.736	0.826	0.769	0.734	0.812	0.696	0.541	0.632		0.712	12.76
124)	naphthalene												
		2.101	2.862	2.825	2.516	2.460	2.739	2.488	1.960	2.111		2.451	13.50
125)	1,2,3-trichlorobenzene												
		0.996	1.244	1.350	1.205	1.175	1.305	1.152	1.138	1.025	1.326	1.192	10.06
126)	hexachloroethane												
		0.505	0.597	0.662	0.618	0.611	0.648	0.570	0.558	0.512		0.587	9.39

(#) = Out of Range ### Number of calibration levels exceeded format ###

M2A6348.M Mon Jul 28 10:32:10 2014 MS2A

6.7.1

Initial Calibration Verification

Job Number: JB73450
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V2A6348-ICV6348
Lab FileID: 2A148932.D

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\2A148932.D Vial: 14
Acq On : 25 Jul 2014 5:04 pm Operator: Dejanas
Sample : icv6348-50 Inst : Instrumen
Misc : MS70814,V2A6348,w,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\M2A6348.M (RTE Integrator)
Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
Last Update : Mon Jul 28 10:27:41 2014
Response via : Multiple Level Calibration

Min. RRF : 0.010 Min. Rel. Area : 50% Max. R.T. Dev 0.30min
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	123	-0.01	7.93
2	M	tertiary butyl alcohol	1.191	1.161	2.5	116	0.00	8.07
3	m	Ethanol	0.089	0.086	3.4	117	-0.01	6.54
4	M	1,4-dioxane	0.081	0.074	8.6	115	0.00	12.04
5	I	pentafluorobenzene	1.000	1.000	0.0	115	0.00	10.39
6		FREON 143A		----------NA----------				
7	M	chlorodifluoromethane	0.367	0.363	1.1	113	-0.01	4.21
8	M	dichlorodifluoromethane	0.570	0.457	19.8	87	-0.02	4.19
9		FREON 142B		----------NA----------				
10	M	chloromethane	0.617	0.526	14.7	94	-0.01	4.55
11	M	vinyl chloride	0.522	0.499	4.4	104	-0.01	4.82
12	M	bromomethane	0.297	0.276	7.1	99	-0.01	5.52
13	M	chloroethane	0.245	0.250	-2.0	112	-0.01	5.72
14	M	trichlorofluoromethane	0.648	0.642	0.9	110	0.00	6.25
15		PENTANE		----------NA----------				
16	M	ethyl ether	0.182	0.201	-10.4	119	0.00	6.69
17		FREON 141B		----------NA----------				
18	M	acrolein	0.072	0.070	2.8	116	0.00	6.98
19	M	1,1-dichloroethene	0.330	0.349	-5.8	122	-0.01	7.17
20	M	acetone	0.118	0.108	8.5	107	0.00	7.23
21	M	allyl chloride	0.184	0.221	-20.1#	135	0.00	7.76
22	M	acetonitrile	0.032	0.032	0.0	121	-0.01	7.70
23	M	iodomethane	0.651	0.688	-5.7	119	-0.01	7.46
		----------	True	Calc.	% Drift	----------		
24	M	iso-butyl alcohol	500.000	535.274	-7.1	166	0.00	10.94
		----------	AvgRF	CCRF	% Dev	----------		
25	M	carbon disulfide	1.192	1.283	-7.6	122	-0.02	7.60
26	M	methylene chloride	0.374	0.377	-0.8	114	0.00	7.97
		----------	True	Calc.	% Drift	----------		
27	M	methyl acetate	50.000	48.313	3.4	113	0.00	7.75
		----------	AvgRF	CCRF	% Dev	----------		
28	M	methyl tert butyl ether	1.110	1.094	1.4	111	0.00	8.34
29	M	trans-1,2-dichloroethene	0.356	0.363	-2.0	115	0.00	8.39
30	M	di-isopropyl ether	1.310	1.291	1.5	113	0.00	9.01
31	M	2-butanone	0.039	0.038	2.6	113	0.00	9.79
32	M	1,1-dichloroethane	0.700	0.694	0.9	113	0.00	9.02
33	M	chloroprene	0.578	0.610	-5.5	118	0.00	9.13

6.7.2

Initial Calibration Verification

Job Number: JB73450 **Sample:** V2A6348-ICV6348
Account: UTC United Technologies Corporation **Lab FileID:** 2A148932.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

34	M	acrylonitrile	0.128	0.130	-1.6	115	0.00	8.33
35	M	vinyl acetate	0.057	0.066	-15.8	127	0.00	9.01
36	M	ethyl tert-butyl ether	1.269	1.205	5.0	110	0.00	9.51
37	M	ethyl acetate	0.048	0.049	-2.1	109	0.00	9.81
38	M	2,2-dichloropropane	0.587	0.550	6.3	106	0.00	9.82
39	M	cis-1,2-dichloroethene	0.394	0.397	-0.8	113	0.00	9.82
			True	Calc.	% Drift			
40		methylacrylate	50.000	50.199	-0.4	119	0.00	9.90
			AvgRF	CCRF	% Dev			
41	M	propionitrile	0.049	0.049	0.0	116	0.00	9.88
42	M	bromochloromethane	0.203	0.211	-3.9	115	0.00	10.15
43	M	tetrahydrofuran	0.128	0.125	2.3	114	0.00	10.20
44	M	chloroform	0.453	0.439	3.1	112	0.00	10.22
45		t-butyl formate	0.292	0.349	-19.5	126	0.00	10.26
46	S	dibromofluoromethane (s)	0.360	0.361	-0.3	117	0.00	10.43
47	S	1,2-dichloroethane-d4 (s)	0.420	0.419	0.2	109	0.00	10.87
48	M	freon 113	0.270	0.322	-19.3	132	-0.01	7.14
49	M	methacrylonitrile	0.230	0.231	-0.4	113	0.00	10.08
50	M	1,1,1-trichloroethane	0.604	0.632	-4.6	115	0.00	10.48
51	M	Cyclohexane	0.535	0.579	-8.2	121	0.00	10.56
52	I	1,4-difluorobenzene	1.000	1.000	0.0	114	0.00	11.33
53	M	epichlorohydrin	0.028	0.026	7.1	113	0.00	12.56
54	M	n-butyl alcohol	0.008	0.007#	12.5	116	0.00	11.47
55	M	carbon tetrachloride	0.531	0.561	-5.6	114	0.00	10.69
56	M	1,1-dichloropropene	0.454	0.462	-1.8	110	0.00	10.67
57	M	hexane	0.429	0.484	-12.8	133	-0.01	8.72
58		TERT AMYL ALCOHOL		----------NA----------				
59		2,2,4-TRIMETHYLPENTANE	1.148	1.289	-12.3	132	0.00	10.95
60	M	benzene	1.298	1.328	-2.3	115	0.00	10.94
61	M	tert-amyl methyl ether	0.241	0.239	0.8	110	0.00	10.98
62	M	heptane	0.241	0.272	-12.9	127	0.00	11.12
63	M	isopropyl acetate	0.686	0.656	4.4	116	0.00	10.88
64	M	1,2-dichloroethane	0.500	0.493	1.4	110	0.00	10.96
65	M	Ethyl Acrylate		----------NA----------				
66	M	trichloroethene	0.332	0.338	-1.8	116	0.00	11.67
67		TERT-AMYL ETHYL ETHER		----------NA----------				
68	M	methyl methacrylate	0.535	0.538	-0.6	114	0.00	11.93
69	M	2-nitropropane	0.137	0.133	2.9	112	0.00	12.42
70	M	2-chloroethyl vinyl ether	0.178	0.191	-7.3	112	0.00	12.44
71	M	1,2-dichloropropane	0.337	0.342	-1.5	115	0.00	11.92
72	M	dibromomethane	0.204	0.209	-2.5	115	0.00	12.08
73	M	methylcyclohexane	0.536	0.602	-12.3	127	0.00	11.88
74	M	bromodichloromethane	0.468	0.486	-3.8	116	0.00	12.21
75	M	cis-1,3-dichloropropene	0.545	0.539	1.1	109	0.00	12.65
76	S	toluene-d8 (s)	1.109	1.078	2.8	113	0.00	12.93
77	M	4-methyl-2-pentanone	0.112	0.114	-1.8	114	0.00	12.74
78	M	toluene	0.758	0.766	-1.1	114	0.00	13.00
			True	Calc.	% Drift			
79	M	3-methyl-1-butanol	1000.000	1069.847	-7.0	115	0.00	12.77
			AvgRF	CCRF	% Dev			
80	M	trans-1,3-dichloropropene	0.514	0.496	3.5	107	0.00	13.19
81	M	ethyl methacrylate	0.376	0.375	0.3	112	0.00	13.18
82	M	1,1,2-trichloroethane	0.227	0.230	-1.3	114	0.00	13.39
83	M	2-hexanone	0.103	0.102	1.0	112	0.00	13.56

6.7.2

Initial Calibration Verification

Job Number: JB73450
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V2A6348-ICV6348
Lab FileID: 2A148932.D

84	I	chlorobenzene-d5	1.000	1.000	0.0	112	0.00	14.36
85	M	tetrachloroethene	0.363	0.376	-3.6	113	0.00	13.56
86	M	1,3-dichloropropane	0.545	0.548	-0.6	110	0.00	13.56
87	M	butyl acetate	0.236	0.232	1.7	115	0.00	13.62
			True	Calc.	% Drift			
88		3,3-dimethyl-1-butanol	500.000	539.317	-7.9	114	0.00	13.72
			AvgRF	CCRF	% Dev			
89	M	dibromochloromethane	0.459	0.478	-4.1	111	0.00	13.81
90	M	1,2-dibromoethane	0.344	0.355	-3.2	112	0.00	13.95
91	M	chlorobenzene	1.052	1.073	-2.0	112	0.00	14.39
92	M	1,1,1,2-tetrachloroethane	0.429	0.433	-0.9	110	0.00	14.44
93	M	ethylbenzene	1.711	1.750	-2.3	112	0.00	14.43
94	M	m,p-xylene	0.655	0.682	-4.1	113	0.00	14.53
95	M	o-xylene	0.639	0.673	-5.3	111	0.00	14.93
96	M	styrene	1.081	1.154	-6.8	112	0.00	14.94
97	M	bromoform	0.348	0.353	-1.4	112	0.00	15.19
98	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	110	0.00	16.52
99	M	isopropylbenzene	2.913	3.019	-3.6	113	0.00	15.25
100	S	4-bromofluorobenzene (s)	0.861	0.833	3.3	112	0.00	15.44
			True	Calc.	% Drift			
101		cyclohexanone	500.000	298.175	40.4#	69	0.00	15.40
			AvgRF	CCRF	% Dev			
102	M	bromobenzene	0.870	0.893	-2.6	110	0.00	15.62
103	M	1,1,2,2-tetrachloroethane	0.779	0.730	6.3	110	0.00	15.53
104	M	trans-1,4-dichloro-2-bute	0.227	0.214	5.7	104	0.00	15.57
105	M	1,2,3-trichloropropane	0.200	0.196	2.0	111	0.00	15.60
106	M	n-propylbenzene	0.748	0.812	-8.6	114	0.00	15.63
107	M	2-chlorotoluene	0.755	0.751	0.5	108	0.00	15.76
108	M	4-chlorotoluene	0.772	0.802	-3.9	112	0.00	15.86
109	M	1,3,5-trimethylbenzene	2.533	2.584	-2.0	111	0.00	15.76
110	M	tert-butylbenzene	2.148	2.259	-5.2	113	0.00	16.09
111	M	pentachloroethane	0.573	0.607	-5.9	112	0.00	16.17
112	M	1,2,4-trimethylbenzene	2.499	2.649	-6.0	116	0.00	16.13
113	M	sec-butylbenzene	3.135	3.258	-3.9	109	0.00	16.29
114	M	1,3-dichlorobenzene	1.661	1.652	0.5	110	0.00	16.47
115	M	p-isopropyltoluene	2.746	2.865	-4.3	111	0.00	16.40
116	M	1,4-dichlorobenzene	1.706	1.699	0.4	110	0.00	16.54
117	M	1,2-dichlorobenzene	1.635	1.629	0.4	111	0.00	16.91
118	M	benzyl chloride	1.576	1.445	8.3	102	0.00	16.65
119	M	n-butylbenzene	1.332	1.427	-7.1	115	0.00	16.79
120	M	1,2-dibromo-3-chloropropa	0.162	0.161	0.6	118	0.00	17.66
121		1,3,5-TRICHLOROBENZENE	1.465	1.555	-6.1	112	0.00	17.85
122	M	1,2,4-trichlorobenzene	1.288	1.373	-6.6	113	0.00	18.49
123	M	hexachlorobutadiene	0.712	0.753	-5.8	108	0.00	18.60
124	M	naphthalene	2.451	2.589	-5.6	114	0.00	18.77
125	M	1,2,3-trichlorobenzene	1.192	1.262	-5.9	116	0.00	19.02
126	M	hexachloroethane	0.587	0.622	-6.0	111	0.00	17.16

(#) = Out of Range SPCC's out = 0 CCC's out = 0

2A148927.D M2A6348.M Mon Jul 28 10:33:05 2014 MS2A

6.7.2

Continuing Calibration Summary

Job Number: JB73450 **Sample:** V2A6362-CC6348
Account: UTC United Technologies Corporation **Lab FileID:** 2A149273.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Evaluate Continuing Calibration Report

Data File : C:\MSDChem\1\DATA\2A149273.D Vial: 2
Acq On : 9 Aug 2014 9:04 am Operator: Dejanas
Sample : cc6348-20 Inst : Instrumen
Misc : MS71575,V2A6362,w,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\M2A6348.M (RTE Integrator)
Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
Last Update : Mon Jul 28 10:27:41 2014
Response via : Multiple Level Calibration

Min. RRF : 0.010 Min. Rel. Area : 50% Max. R.T. Dev 0.30min
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	110	0.00	7.95
2	M	tertiary butyl alcohol	1.191	1.163	2.4	99	0.00	8.07
3	m	Ethanol	0.089	0.109	-22.5#	125	0.00	6.54
4	M	1,4-dioxane	0.081	0.104	-28.4#	137	0.00	12.04
5	I	pentafluorobenzene	1.000	1.000	0.0	99	0.00	10.39
6		FREON 143A		----------NA----------				
7	M	chlorodifluoromethane	0.367	0.324	11.7	87	0.00	4.22
8	M	dichlorodifluoromethane	0.570	0.547	4.0	94	-0.01	4.19
9		FREON 142B		----------NA----------				
10	M	chloromethane	0.617	0.536	13.1	87	-0.01	4.55
11	M	vinyl chloride	0.522	0.432	17.2	83	-0.01	4.82
12	M	bromomethane	0.297	0.255	14.1	82	0.00	5.53
13	M	chloroethane	0.245	0.197	19.6	77	0.00	5.73
14	M	trichlorofluoromethane	0.648	0.574	11.4	89	0.00	6.26
15		PENTANE		----------NA----------				
16	M	ethyl ether	0.182	0.165	9.3	80	0.01	6.71
17		FREON 141B		----------NA----------				
18	M	acrolein	0.072	0.055	23.6#	76	0.00	6.98
19	M	1,1-dichloroethene	0.330	0.320	3.0	91	0.00	7.17
20	M	acetone	0.118	0.097	17.8	77	0.00	7.23
21	M	allyl chloride	0.184	0.170	7.6	88	0.00	7.76
22	M	acetonitrile	0.032	0.030	6.3	89	0.00	7.71
23	M	iodomethane	0.651	0.657	-0.9	96	0.00	7.47
		----------	True	Calc.	% Drift	----------		
24	M	iso-butyl alcohol	200.000	167.664	16.2	85	0.00	10.94
		----------	AvgRF	CCRF	% Dev	----------		
25	M	carbon disulfide	1.192	1.123	5.8	91	0.00	7.61
26	M	methylene chloride	0.374	0.350	6.4	91	0.00	7.97
		----------	True	Calc.	% Drift	----------		
27	M	methyl acetate	20.000	17.324	13.4	84	0.00	7.75
		----------	AvgRF	CCRF	% Dev	----------		
28	M	methyl tert butyl ether	1.110	1.010	9.0	87	0.00	8.34
29	M	trans-1,2-dichloroethene	0.356	0.369	-3.7	96	0.00	8.39
30	M	di-isopropyl ether	1.310	1.178	10.1	86	0.00	9.01
31	M	2-butanone	0.039	0.036	7.7	84	0.00	9.79
32	M	1,1-dichloroethane	0.700	0.667	4.7	91	0.00	9.02
33	M	chloroprene	0.578	0.548	5.2	92	0.00	9.14

6.7.3

Continuing Calibration Summary

Job Number: JB73450 **Sample:** V2A6362-CC6348
Account: UTC United Technologies Corporation **Lab FileID:** 2A149273.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

34	M	acrylonitrile	0.128	0.116	9.4	83	0.00	8.34
35	M	vinyl acetate	0.057	0.051	10.5	85	0.00	9.01
36	M	ethyl tert-butyl ether	1.269	1.140	10.2	88	0.00	9.52
37	M	ethyl acetate	0.048	0.040	16.7	79	0.00	9.82
38	M	2,2-dichloropropane	0.587	0.616	-4.9	101	0.00	9.82
39	M	cis-1,2-dichloroethene	0.394	0.394	0.0	93	0.00	9.82
			True	Calc.	% Drift			
40		methylacrylate	20.000	19.036	4.8	96	0.00	9.90
			AvgRF	CCRF	% Dev			
41	M	propionitrile	0.049	0.046	6.1	86	0.00	9.89
42	M	bromochloromethane	0.203	0.208	-2.5	96	0.00	10.15
43	M	tetrahydrofuran	0.128	0.112	12.5	81	0.00	10.20
44	M	chloroform	0.453	0.442	2.4	96	0.00	10.22
45		t-butyl formate	0.292	0.280	4.1	88	0.00	10.26
46	S	dibromofluoromethane (s)	0.360	0.354	1.7	97	0.00	10.43
47	S	1,2-dichloroethane-d4 (s)	0.420	0.408	2.9	92	0.00	10.86
48	M	freon 113	0.270	0.272	-0.7	96	-0.01	7.14
49	M	methacrylonitrile	0.230	0.203	11.7	82	0.00	10.09
50	M	1,1,1-trichloroethane	0.604	0.630	-4.3	97	0.00	10.48
51	M	Cyclohexane	0.535	0.538	-0.6	94	0.00	10.55
52	I	1,4-difluorobenzene	1.000	1.000	0.0	96	0.00	11.33
53	M	epichlorohydrin	0.028	0.027	3.6	93	0.00	12.56
54	M	n-butyl alcohol	0.008	0.010#	-25.0#	115	0.00	11.47
55	M	carbon tetrachloride	0.531	0.618	-16.4	104	0.00	10.69
56	M	1,1-dichloropropene	0.454	0.479	-5.5	95	0.00	10.67
57	M	hexane	0.429	0.372	13.3	82	0.00	8.73
58		TERT AMYL ALCOHOL		----------NA----------				
59		2,2,4-TRIMETHYLPENTANE	1.148	1.007	12.3	85	0.00	10.95
60	M	benzene	1.298	1.331	-2.5	94	0.00	10.94
61	M	tert-amyl methyl ether	0.241	0.241	0.0	89	0.00	10.98
62	M	heptane	0.241	0.220	8.7	84	0.00	11.13
63	M	isopropyl acetate	0.686	0.575	16.2	83	0.00	10.88
64	M	1,2-dichloroethane	0.500	0.508	-1.6	93	0.00	10.96
65	M	Ethyl Acrylate		----------NA----------				
66	M	trichloroethene	0.332	0.342	-3.0	94	0.00	11.67
67		TERT-AMYL ETHYL ETHER		----------NA----------				
68	M	methyl methacrylate	0.535	0.501	6.4	85	0.00	11.93
69	M	2-nitropropane	0.137	0.130	5.1	89	0.00	12.42
70	M	2-chloroethyl vinyl ether	0.178	0.179	-0.6	94	0.00	12.44
71	M	1,2-dichloropropane	0.337	0.327	3.0	90	0.00	11.92
72	M	dibromomethane	0.204	0.214	-4.9	93	0.00	12.08
73	M	methylcyclohexane	0.536	0.546	-1.9	99	0.00	11.88
74	M	bromodichloromethane	0.468	0.496	-6.0	96	0.00	12.21
75	M	cis-1,3-dichloropropene	0.545	0.547	-0.4	90	0.00	12.65
76	S	toluene-d8 (s)	1.109	1.066	3.9	94	0.00	12.92
77	M	4-methyl-2-pentanone	0.112	0.107	4.5	87	0.00	12.74
78	M	toluene	0.758	0.765	-0.9	95	0.00	13.00
			True	Calc.	% Drift			
79	M	3-methyl-1-butanol	400.000	472.346	-18.1	102	0.00	12.77
			AvgRF	CCRF	% Dev			
80	M	trans-1,3-dichloropropene	0.514	0.524	-1.9	94	0.00	13.19
81	M	ethyl methacrylate	0.376	0.366	2.7	86	0.00	13.18
82	M	1,1,2-trichloroethane	0.227	0.229	-0.9	92	0.00	13.39
83	M	2-hexanone	0.103	0.098	4.9	89	0.00	13.56

6.7.3

Continuing Calibration Summary

Job Number: JB73450
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V2A6362-CC6348
Lab FileID: 2A149273.D

84	I	chlorobenzene-d5	1.000	1.000	0.0	97	0.00	14.36
85	M	tetrachloroethene	0.363	0.390	-7.4	101	0.00	13.55
86	M	1,3-dichloropropane	0.545	0.510	6.4	87	0.00	13.57
87	M	butyl acetate	0.236	0.208	11.9	84	0.00	13.63
			True	Calc.	% Drift			
88		3,3-dimethyl-1-butanol	200.000	219.878	-9.9	97	0.00	13.72
			AvgRF	CCRF	% Dev			
89	M	dibromochloromethane	0.459	0.479	-4.4	96	0.00	13.81
90	M	1,2-dibromoethane	0.344	0.341	0.9	91	0.00	13.95
91	M	chlorobenzene	1.052	1.066	-1.3	96	0.00	14.39
92	M	1,1,1,2-tetrachloroethane	0.429	0.449	-4.7	97	0.00	14.44
93	M	ethylbenzene	1.711	1.748	-2.2	95	0.00	14.43
94	M	m,p-xylene	0.655	0.691	-5.5	97	0.00	14.53
95	M	o-xylene	0.639	0.682	-6.7	98	0.00	14.93
96	M	styrene	1.081	1.166	-7.9	96	0.00	14.94
97	M	bromoform	0.348	0.366	-5.2	100	0.00	15.19
98	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	100	0.00	16.52
99	M	isopropylbenzene	2.913	2.931	-0.6	96	0.00	15.25
100	S	4-bromofluorobenzene (s)	0.861	0.766	11.0	93	0.00	15.43
			True	Calc.	% Drift			
101		cyclohexanone	200.000	69.073	65.5#	33	0.00	15.41
			AvgRF	CCRF	% Dev			
102	M	bromobenzene	0.870	0.936	-7.6	103	0.00	15.62
103	M	1,1,2,2-tetrachloroethane	0.779	0.724	7.1	92	0.00	15.53
104	M	trans-1,4-dichloro-2-bute	0.227	0.202	11.0	87	0.00	15.57
105	M	1,2,3-trichloropropane	0.200	0.206	-3.0	94	0.00	15.60
106	M	n-propylbenzene	0.748	0.789	-5.5	98	0.00	15.62
107	M	2-chlorotoluene	0.755	0.780	-3.3	100	0.00	15.76
108	M	4-chlorotoluene	0.772	0.803	-4.0	99	0.00	15.85
109	M	1,3,5-trimethylbenzene	2.533	2.504	1.1	96	0.00	15.76
110	M	tert-butylbenzene	2.148	2.208	-2.8	100	0.00	16.09
111	M	pentachloroethane	0.573	0.635	-10.8	105	0.00	16.17
112	M	1,2,4-trimethylbenzene	2.499	2.525	-1.0	98	0.00	16.13
113	M	sec-butylbenzene	3.135	3.273	-4.4	100	0.00	16.29
114	M	1,3-dichlorobenzene	1.661	1.736	-4.5	102	0.00	16.46
115	M	p-isopropyltoluene	2.746	2.848	-3.7	98	0.00	16.40
116	M	1,4-dichlorobenzene	1.706	1.763	-3.3	102	0.00	16.54
117	M	1,2-dichlorobenzene	1.635	1.657	-1.3	102	0.00	16.91
118	M	benzyl chloride	1.576	1.532	2.8	95	0.00	16.65
119	M	n-butylbenzene	1.332	1.366	-2.6	100	0.00	16.79
120	M	1,2-dibromo-3-chloropropa	0.162	0.151	6.8	95	0.00	17.66
121		1,3,5-TRICHLOROBENZENE	1.465	1.585	-8.2	103	0.00	17.85
122	M	1,2,4-trichlorobenzene	1.288	1.352	-5.0	103	0.00	18.49
123	M	hexachlorobutadiene	0.712	0.796	-11.8	108	0.00	18.60
124	M	naphthalene	2.451	2.370	3.3	96	0.00	18.76
125	M	1,2,3-trichlorobenzene	1.192	1.198	-0.5	102	0.00	19.02
126	M	hexachloroethane	0.587	0.649	-10.6	106	0.00	17.16

(#) = Out of Range SPCC's out = 0 CCC's out = 0

2A148926.D M2A6348.M Tue Aug 12 11:14:35 2014 MS2A

6.7.3

Continuing Calibration Summary

Job Number: JB73450 **Sample:** V2A6363-CC6348
Account: UTC United Technologies Corporation **Lab FileID:** 2A149299.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Evaluate Continuing Calibration Report

Data File : C:\MSDChem\1\DATA\2A149299.D Vial: 2
Acq On : 10 Aug 2014 9:24 am Operator: Dejanas
Sample : cc6348-20 Inst : Instrumen
Misc : MS71749,V2A6363,w,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\M2A6348.M (RTE Integrator)
Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
Last Update : Mon Jul 28 10:27:41 2014
Response via : Multiple Level Calibration

Min. RRF : 0.010 Min. Rel. Area : 50% Max. R.T. Dev 0.30min
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	125	0.00	7.94
2	M	tertiary butyl alcohol	1.191	1.131	5.0	110	0.00	8.07
3	m	Ethanol	0.089	0.108	-21.3#	142	-0.01	6.54
4	M	1,4-dioxane	0.081	0.099	-22.2#	148	0.00	12.03
5	I	pentafluorobenzene	1.000	1.000	0.0	113	0.00	10.39
6		FREON 143A		----------NA----------				
7	M	chlorodifluoromethane	0.367	0.286	22.1#	88	-0.02	4.21
8	M	dichlorodifluoromethane	0.570	0.613	-7.5	120	-0.01	4.19
9		FREON 142B		----------NA----------				
10	M	chloromethane	0.617	0.588	4.7	109	-0.02	4.54
11	M	vinyl chloride	0.522	0.493	5.6	109	-0.02	4.81
12	M	bromomethane	0.297	0.276	7.1	102	-0.02	5.52
13	M	chloroethane	0.245	0.201	18.0	90	-0.01	5.72
14	M	trichlorofluoromethane	0.648	0.630	2.8	111	0.00	6.26
15		PENTANE		----------NA----------				
16	M	ethyl ether	0.182	0.175	3.8	96	0.00	6.70
17		FREON 141B		----------NA----------				
18	M	acrolein	0.072	0.055	23.6#	86	0.00	6.97
19	M	1,1-dichloroethene	0.330	0.331	-0.3	107	-0.02	7.16
20	M	acetone	0.118	0.093	21.2#	85	0.00	7.23
21	M	allyl chloride	0.184	0.177	3.8	105	0.00	7.75
22	M	acetonitrile	0.032	0.028	12.5	92	0.00	7.71
23	M	iodomethane	0.651	0.676	-3.8	113	-0.01	7.46
		----------	True	Calc.	% Drift		----------	
24	M	iso-butyl alcohol	200.000	243.390	-21.7#	167	0.00	10.94
		----------	AvgRF	CCRF	% Dev		----------	
25	M	carbon disulfide	1.192	1.166	2.2	108	-0.02	7.60
26	M	methylene chloride	0.374	0.360	3.7	106	0.00	7.97
		----------	True	Calc.	% Drift		----------	
27	M	methyl acetate	20.000	17.716	11.4	98	0.00	7.75
		----------	AvgRF	CCRF	% Dev		----------	
28	M	methyl tert butyl ether	1.110	1.029	7.3	101	0.00	8.34
29	M	trans-1,2-dichloroethene	0.356	0.362	-1.7	107	0.00	8.39
30	M	di-isopropyl ether	1.310	1.099	16.1	92	-0.01	9.00
31	M	2-butanone	0.039	0.038	2.6	102	0.00	9.80
32	M	1,1-dichloroethane	0.700	0.656	6.3	103	-0.01	9.01
33	M	chloroprene	0.578	0.496	14.2	95	0.00	9.13

6.7.4

Continuing Calibration Summary

Job Number: JB73450 **Sample:** V2A6363-CC6348
Account: UTC United Technologies Corporation **Lab FileID:** 2A149299.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

34	M	acrylonitrile	0.128	0.117	8.6	95	0.00	8.33
35	M	vinyl acetate	0.057	0.049	14.0	93	0.00	9.01
36	M	ethyl tert-butyl ether	1.269	1.070	15.7	94	0.00	9.51
37	M	ethyl acetate	0.048	0.041	14.6	91	0.00	9.82
38	M	2,2-dichloropropane	0.587	0.610	-3.9	114	0.00	9.82
39	M	cis-1,2-dichloroethene	0.394	0.403	-2.3	108	0.00	9.82
		----------	True	Calc.	% Drift	----------		
40		methylacrylate	20.000	19.481	2.6	112	0.00	9.90
		----------	AvgRF	CCRF	% Dev	----------		
41	M	propionitrile	0.049	0.047	4.1	101	0.00	9.88
42	M	bromochloromethane	0.203	0.207	-2.0	109	0.00	10.15
43	M	tetrahydrofuran	0.128	0.121	5.5	101	0.00	10.20
44	M	chloroform	0.453	0.435	4.0	108	0.00	10.22
45		t-butyl formate	0.292	0.265	9.2	95	0.00	10.26
46	S	dibromofluoromethane (s)	0.360	0.342	5.0	107	0.00	10.43
47	S	1,2-dichloroethane-d4 (s)	0.420	0.383	8.8	99	0.00	10.86
48	M	freon 113	0.270	0.268	0.7	107	-0.02	7.13
49	M	methacrylonitrile	0.230	0.207	10.0	95	0.00	10.09
50	M	1,1,1-trichloroethane	0.604	0.639	-5.8	112	0.00	10.48
51	M	Cyclohexane	0.535	0.552	-3.2	110	0.00	10.55
52	I	1,4-difluorobenzene	1.000	1.000	0.0	109	0.00	11.33
53	M	epichlorohydrin	0.028	0.026	7.1	101	0.00	12.56
54	M	n-butyl alcohol	0.008	0.009#	-12.5	119	0.00	11.47
55	M	carbon tetrachloride	0.531	0.599	-12.8	115	0.00	10.69
56	M	1,1-dichloropropene	0.454	0.475	-4.6	108	0.00	10.67
57	M	hexane	0.429	0.361	15.9	92	0.00	8.73
58		TERT AMYL ALCOHOL		----------	NA	----------		
59		2,2,4-TRIMETHYLPENTANE	1.148	0.963	16.1	93	0.00	10.95
60	M	benzene	1.298	1.311	-1.0	106	0.00	10.94
61	M	tert-amyl methyl ether	0.241	0.233	3.3	98	0.00	10.99
62	M	heptane	0.241	0.209	13.3	90	0.00	11.12
63	M	isopropyl acetate	0.686	0.569	17.1	94	0.00	10.88
64	M	1,2-dichloroethane	0.500	0.490	2.0	103	0.00	10.96
65	M	Ethyl Acrylate		----------	NA	----------		
66	M	trichloroethene	0.332	0.341	-2.7	108	0.00	11.67
67		TERT-AMYL ETHYL ETHER		----------	NA	----------		
68	M	methyl methacrylate	0.535	0.484	9.5	94	0.00	11.93
69	M	2-nitropropane	0.137	0.121	11.7	94	0.00	12.42
70	M	2-chloroethyl vinyl ether	0.178	0.179	-0.6	107	0.00	12.44
71	M	1,2-dichloropropane	0.337	0.331	1.8	104	0.00	11.92
72	M	dibromomethane	0.204	0.208	-2.0	103	0.00	12.08
73	M	methylcyclohexane	0.536	0.499	6.9	104	0.00	11.87
74	M	bromodichloromethane	0.468	0.471	-0.6	105	0.00	12.21
75	M	cis-1,3-dichloropropene	0.545	0.546	-0.2	103	0.00	12.65
76	S	toluene-d8 (s)	1.109	1.052	5.1	107	0.00	12.92
77	M	4-methyl-2-pentanone	0.112	0.114	-1.8	106	0.00	12.74
78	M	toluene	0.758	0.771	-1.7	109	0.00	13.00
		----------	True	Calc.	% Drift	----------		
79	M	3-methyl-1-butanol	400.000	445.896	-11.5	111	0.00	12.77
		----------	AvgRF	CCRF	% Dev	----------		
80	M	trans-1,3-dichloropropene	0.514	0.509	1.0	104	0.00	13.19
81	M	ethyl methacrylate	0.376	0.368	2.1	99	0.00	13.18
82	M	1,1,2-trichloroethane	0.227	0.230	-1.3	106	0.00	13.39
83	M	2-hexanone	0.103	0.098	4.9	101	0.00	13.56

6.7.4

Continuing Calibration Summary

Job Number: JB73450
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V2A6363-CC6348
Lab FileID: 2A149299.D

84	I	chlorobenzene-d5	1.000	1.000	0.0	107	0.00	14.36
85	M	tetrachloroethene	0.363	0.387	-6.6	112	0.00	13.55
86	M	1,3-dichloropropane	0.545	0.549	-0.7	104	0.00	13.56
87	M	butyl acetate	0.236	0.218	7.6	98	0.00	13.62
			True	Calc.	% Drift			
88		3,3-dimethyl-1-butanol	200.000	225.007	-12.5	110	0.00	13.72
			AvgRF	CCRF	% Dev			
89	M	dibromochloromethane	0.459	0.502	-9.4	112	0.00	13.81
90	M	1,2-dibromoethane	0.344	0.359	-4.4	106	0.00	13.95
91	M	chlorobenzene	1.052	1.092	-3.8	109	0.00	14.39
92	M	1,1,1,2-tetrachloroethane	0.429	0.455	-6.1	109	0.00	14.44
93	M	ethylbenzene	1.711	1.745	-2.0	106	0.00	14.43
94	M	m,p-xylene	0.655	0.713	-8.9	111	0.00	14.53
95	M	o-xylene	0.639	0.698	-9.2	111	0.00	14.93
96	M	styrene	1.081	1.150	-6.4	105	0.00	14.94
97	M	bromoform	0.348	0.373	-7.2	113	0.00	15.18
98	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	111	0.00	16.52
99	M	isopropylbenzene	2.913	2.967	-1.9	109	0.00	15.24
100	S	4-bromofluorobenzene (s)	0.861	0.770	10.6	105	0.00	15.43
			True	Calc.	% Drift			
101		cyclohexanone	200.000	169.240	15.4	84	0.00	15.40
			AvgRF	CCRF	% Dev			
102	M	bromobenzene	0.870	0.923	-6.1	113	0.00	15.62
103	M	1,1,2,2-tetrachloroethane	0.779	0.754	3.2	108	0.00	15.53
104	M	trans-1,4-dichloro-2-bute	0.227	0.194	14.5	92	0.00	15.56
105	M	1,2,3-trichloropropane	0.200	0.201	-0.5	102	0.00	15.60
106	M	n-propylbenzene	0.748	0.779	-4.1	108	0.00	15.62
107	M	2-chlorotoluene	0.755	0.788	-4.4	113	0.00	15.76
108	M	4-chlorotoluene	0.772	0.822	-6.5	113	0.00	15.85
109	M	1,3,5-trimethylbenzene	2.533	2.547	-0.6	109	0.00	15.76
110	M	tert-butylbenzene	2.148	2.220	-3.4	112	0.00	16.09
111	M	pentachloroethane	0.573	0.646	-12.7	119	0.00	16.17
112	M	1,2,4-trimethylbenzene	2.499	2.491	0.3	108	0.00	16.13
113	M	sec-butylbenzene	3.135	3.181	-1.5	108	0.00	16.29
114	M	1,3-dichlorobenzene	1.661	1.745	-5.1	114	0.00	16.46
115	M	p-isopropyltoluene	2.746	2.879	-4.8	110	0.00	16.40
116	M	1,4-dichlorobenzene	1.706	1.768	-3.6	114	0.00	16.54
117	M	1,2-dichlorobenzene	1.635	1.721	-5.3	118	0.00	16.91
118	M	benzyl chloride	1.576	1.518	3.7	105	0.00	16.65
119	M	n-butylbenzene	1.332	1.361	-2.2	111	0.00	16.78
120	M	1,2-dibromo-3-chloropropa	0.162	0.155	4.3	109	0.00	17.66
121		1,3,5-TRICHLOROBENZENE	1.465	1.558	-6.3	113	0.00	17.85
122	M	1,2,4-trichlorobenzene	1.288	1.387	-7.7	119	0.00	18.49
123	M	hexachlorobutadiene	0.712	0.794	-11.5	121	0.00	18.60
124	M	naphthalene	2.451	2.590	-5.7	117	0.00	18.76
125	M	1,2,3-trichlorobenzene	1.192	1.259	-5.6	119	0.00	19.02
126	M	hexachloroethane	0.587	0.625	-6.5	114	0.00	17.16

(#) = Out of Range SPCC's out = 0 CCC's out = 0

2A148926.D M2A6348.M Mon Aug 11 11:45:16 2014 MS2A

6.7.4

New Jersey
ACCUTEST
LABORATORIES

GC/MS Volatiles

Raw Data

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 2A149279.D
Acq On : 9 Aug 2014 12:25 pm
Operator : Dejanas
Sample : jb73450-1
Misc : MS71808,V2A6362,w,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Aug 12 11:30:35 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 28 10:27:41 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.94	65	68915	500.00	ug/L	0.00
5) pentafluorobenzene	10.39	168	189982	50.00	ug/L	0.00
52) 1,4-difluorobenzene	11.33	114	199841	50.00	ug/L	0.00
84) chlorobenzene-d5	14.36	117	164657	50.00	ug/L	0.00
98) 1,4-dichlorobenzene-d4	16.52	152	91018	50.00	ug/L	0.00
System Monitoring Compounds						
46) dibromofluoromethane (s)	10.43	113	65194	47.63	ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 95.26%			
47) 1,2-dichloroethane-d4 (s)	10.87	65	76701	48.04	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 96.08%			
76) toluene-d8 (s)	12.93	98	206227	46.53	ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 93.06%			
100) 4-bromofluorobenzene (s)	15.43	95	73818	47.09	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 94.18%			
Target Compounds						Qvalue
32) 1,1-dichloroethane	9.02	63	2329	0.88	ug/L #	50
50) 1,1,1-trichloroethane	10.48	97	1098	0.48	ug/L	86

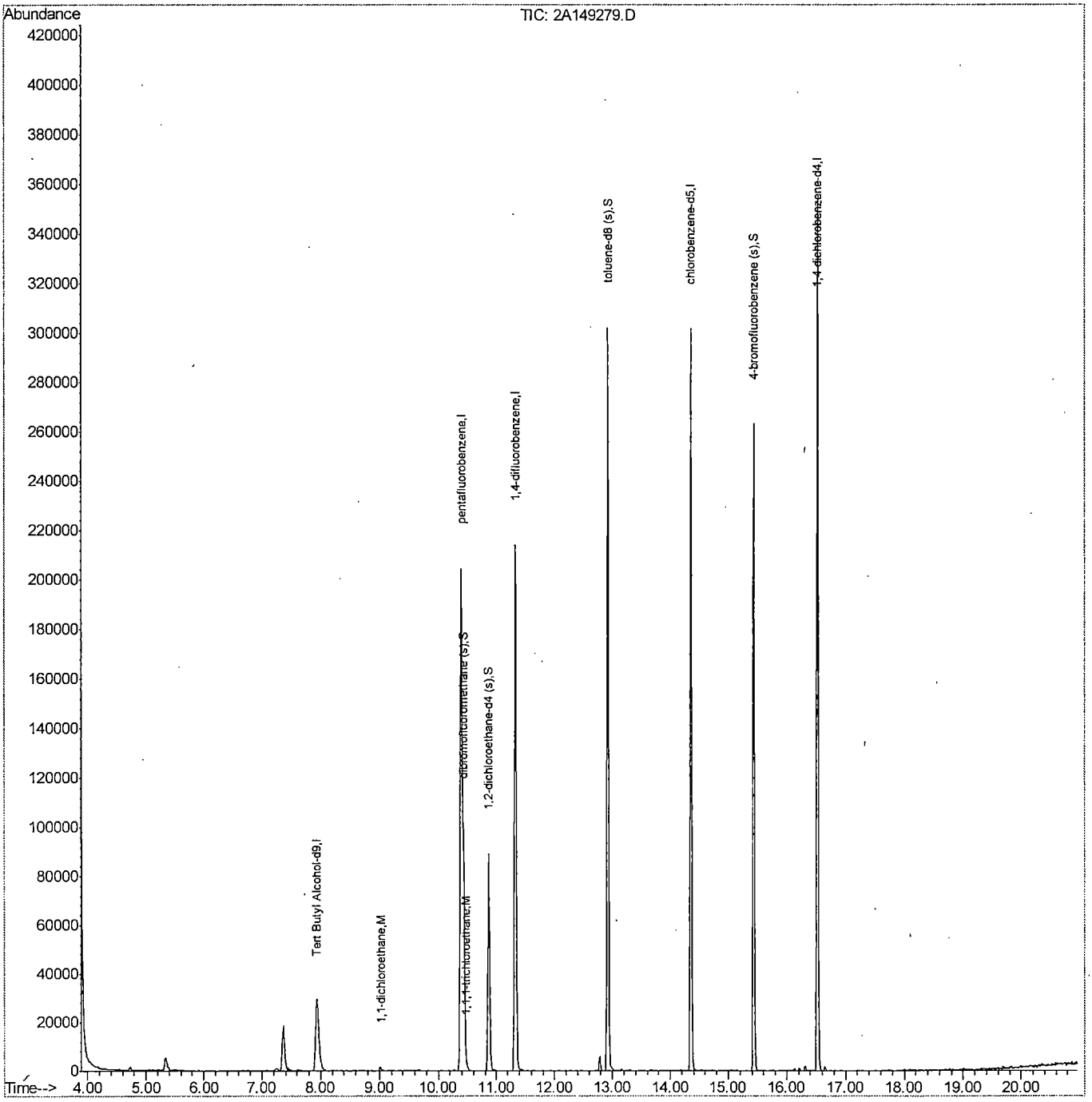
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.1 7

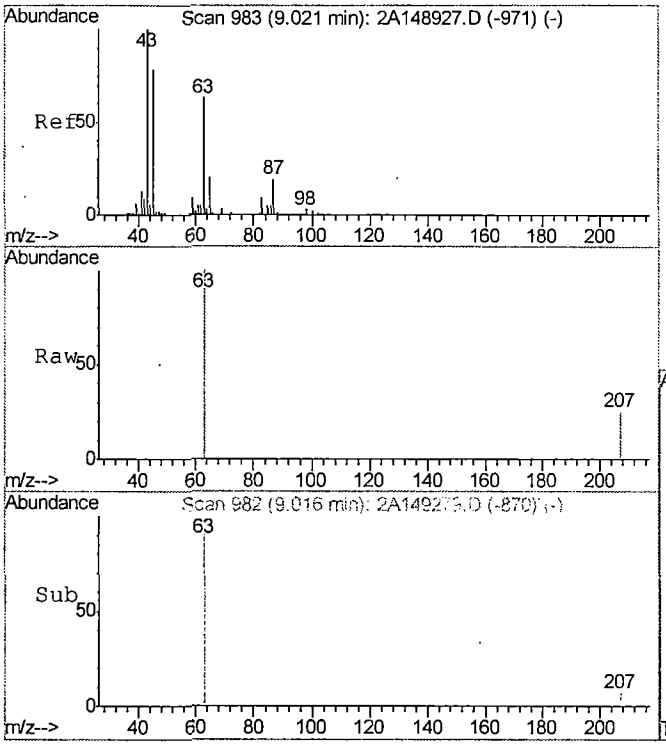
Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 2A149279.D
Acq On : 9 Aug 2014 12:25 pm
Operator : Dejanas
Sample : jb73450-1
Misc : MS71808,V2A6362,w,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Aug 12 11:30:35 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 28 10:27:41 2014
Response via : Initial Calibration



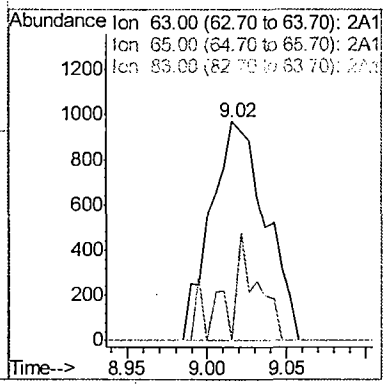
7.1.1 7

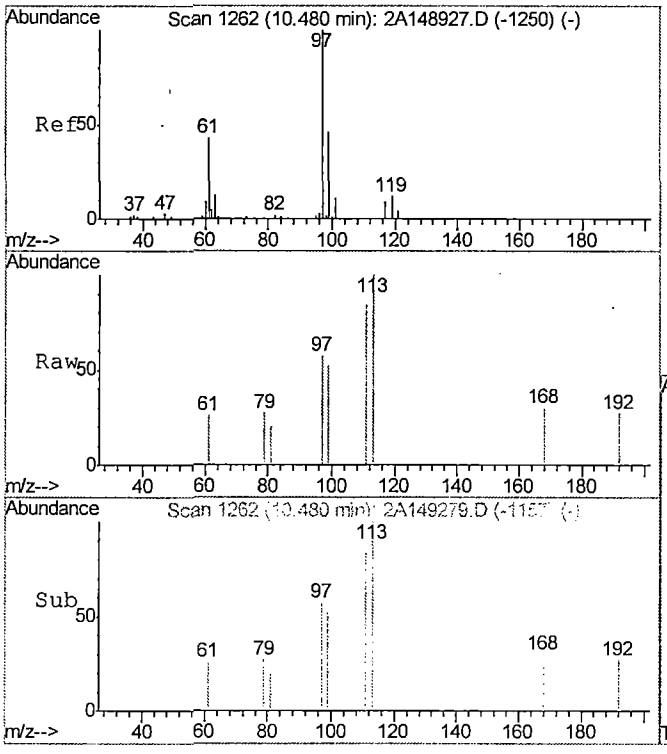


#32
1,1-dichloroethane
Concen: 0.88 ug/L
RT: 9.02 min Scan# 982
Delta R.T. -0.01 min
Lab File: 2A149279.D
Acq: 9 Aug 2014 12:25 pm

Tgt Ion: 63 Resp: 2329

Ion	Ratio	Lower	Upper
63	100		
65	0.0	1.9	61.9#
83	0.0	0.0	43.8

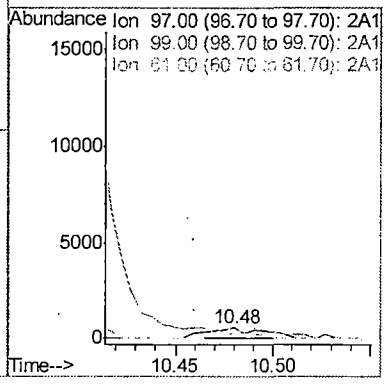




#50
1,1,1-trichloroethane
Concen: 0.48 ug/L
RT: 10.48 min Scan# 1262
Delta R.T. -0.00 min
Lab File: 2A149279.D
Acq: 9 Aug 2014 12:25 pm

Tgt Ion: 97 Resp: 1098

Ion	Ratio	Lower	Upper
97	100		
99	48.6	36.3	96.3
61	45.0	13.6	73.6



Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 2A149280.D
Acq On : 9 Aug 2014 12:55 pm
Operator : Dejanas
Sample : jb73450-2
Misc : MS71808,V2A6362,w,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 12 11:32:29 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 28 10:27:41 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.94	65	59554	500.00 ug/L	0.00
5) pentafluorobenzene	10.39	168	188467	50.00 ug/L	0.00
52) 1,4-difluorobenzene	11.33	114	198671	50.00 ug/L	0.00
84) chlorobenzene-d5	14.36	117	162186	50.00 ug/L	0.00
98) 1,4-dichlorobenzene-d4	16.52	152	92502	50.00 ug/L	0.00
System Monitoring Compounds					
46) dibromofluoromethane (s)	10.43	113	65156	47.99 ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 95.98%		
47) 1,2-dichloroethane-d4 (s)	10.87	65	76314	48.18 ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 96.36%		
76) toluene-d8 (s)	12.92	98	209259	47.49 ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 94.98%		
100) 4-bromofluorobenzene (s)	15.43	95	72995	45.82 ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 91.64%		
Target Compounds					Qvalue
19) 1,1-dichloroethene	7.16	96	1251	1.01 ug/L #	75
32) 1,1-dichloroethane	9.01	63	2155	0.82 ug/L	78
39) cis-1,2-dichloroethene	9.83	96	2070	1.39 ug/L	81
50) 1,1,1-trichloroethane	10.48	97	106714	46.85 ug/L	97
66) trichloroethene	11.67	95	3035	2.30 ug/L	79
73) methylcyclohexane	11.87	83	1124	0.53 ug/L	91
85) tetrachloroethene	13.56	164	1463	1.24 ug/L	82

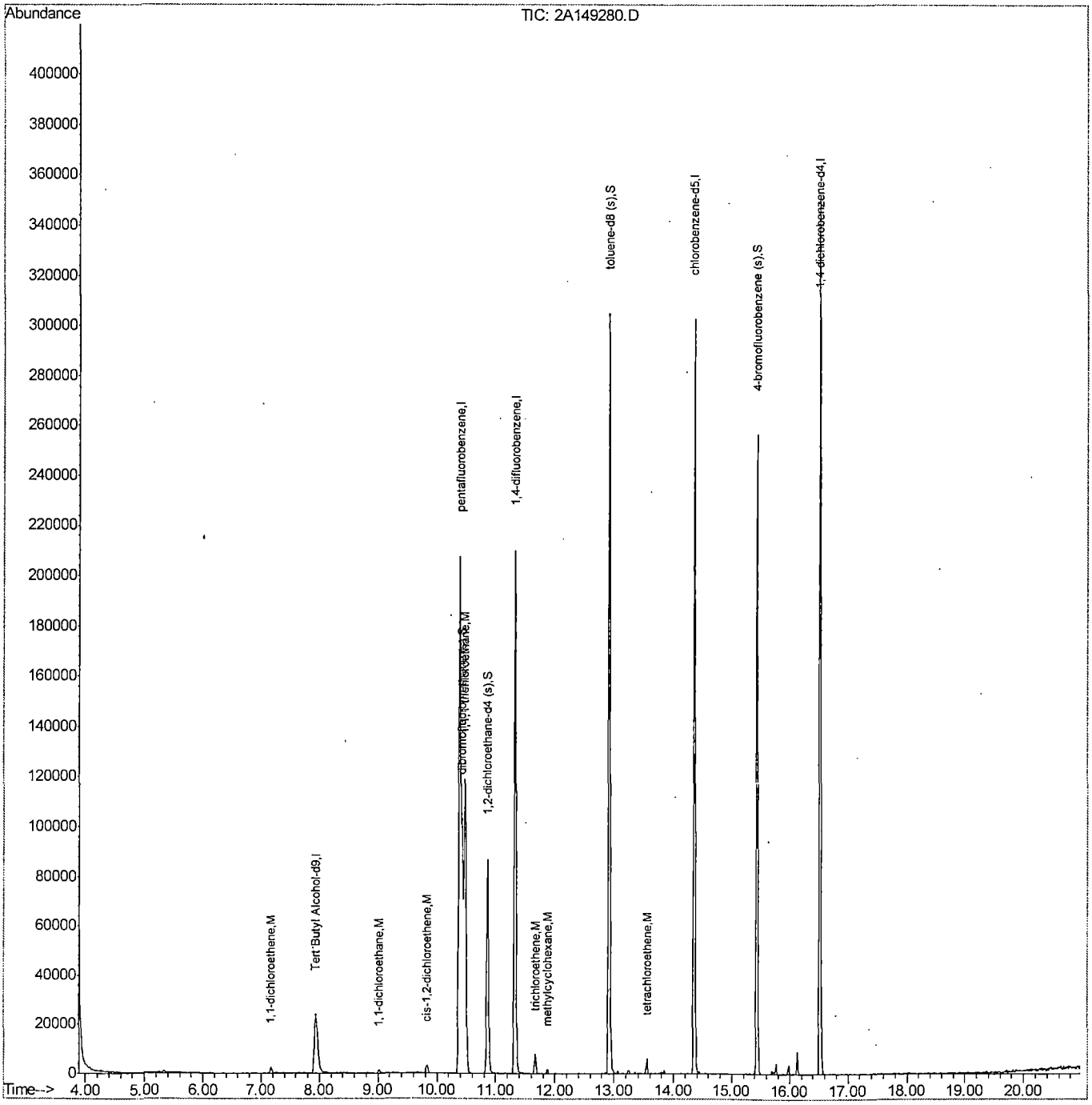
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.2 7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 2A149280.D
Acq On : 9 Aug 2014 12:55 pm
Operator : Dejanas
Sample : jb73450-2
Misc : MS71808,V2A6362,w,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 12 11:32:29 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 28 10:27:41 2014
Response via : Initial Calibration



M2A6348.M Tue Aug 12 11:58:49 2014 MS2A

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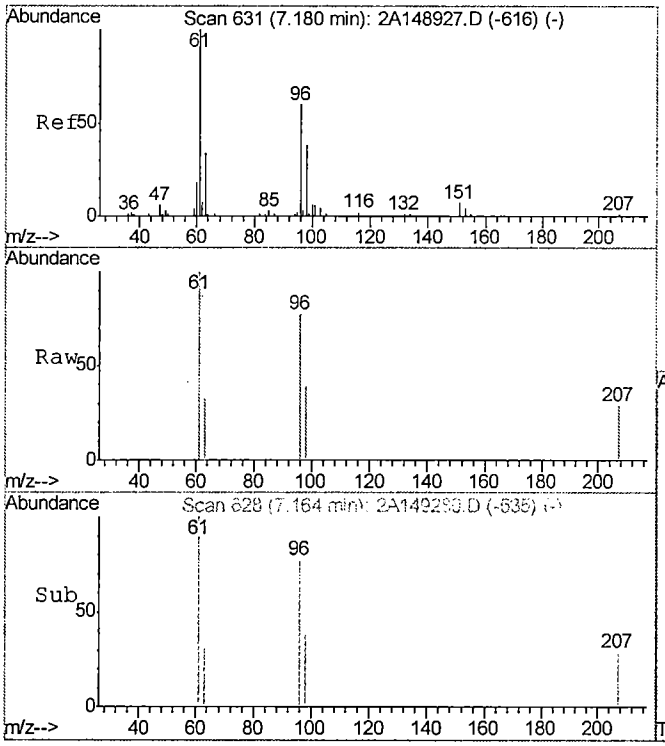
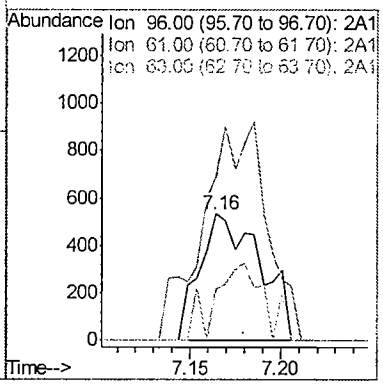
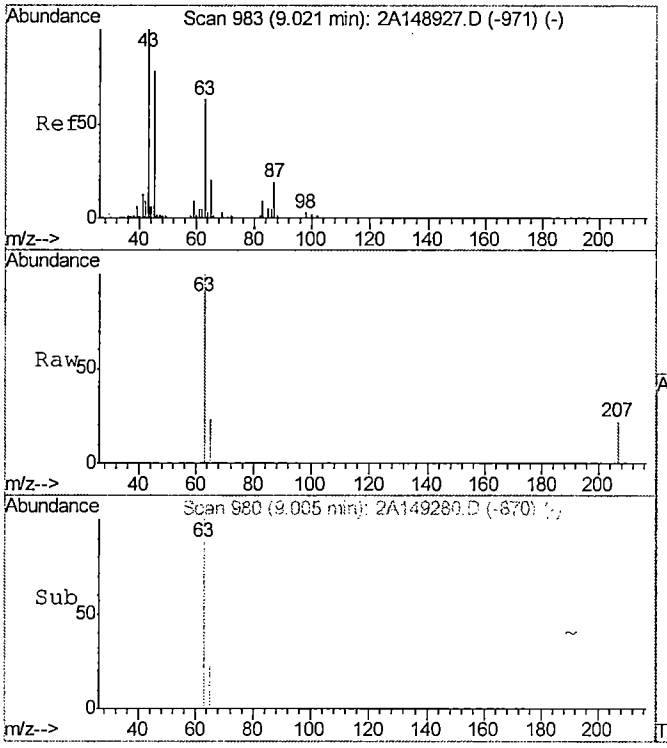


#19
1,1-dichloroethene
Concen: 1.01 ug/L
RT: 7.16 min Scan# 628
Delta R.T. -0.02 min
Lab File: 2A149280.D
Acq: 9 Aug 2014 12:55 pm

Tgt Ion: 96 Resp: 1251

Ion	Ratio	Lower	Upper
96	100		
61	129.6	135.9	195.9#
63	41.6	25.9	85.9

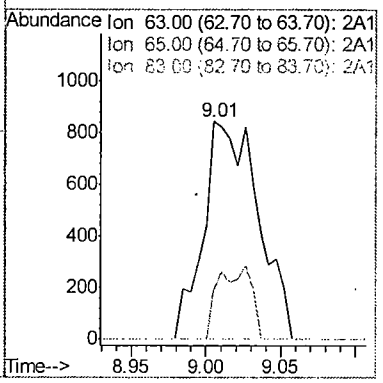


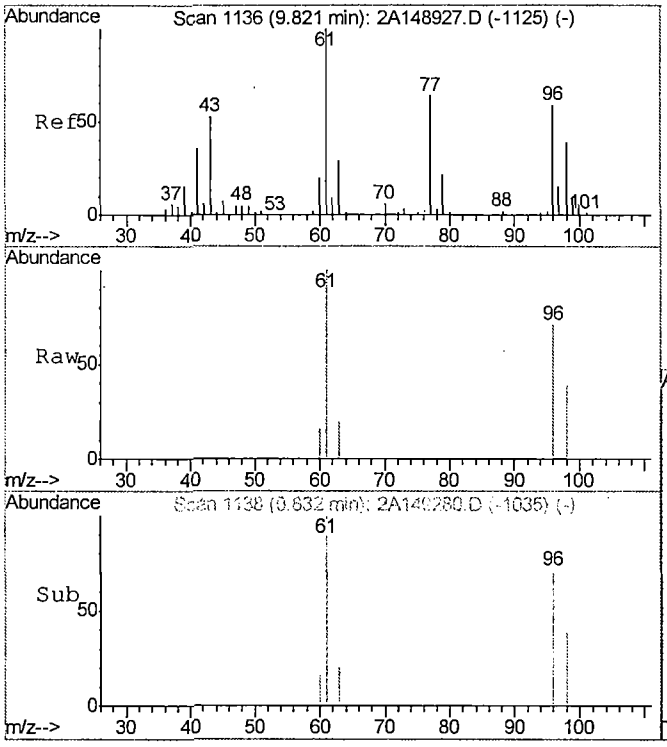


#32
1,1-dichloroethane
Concen: 0.82 ug/L
RT: 9.01 min Scan# 980
Delta R.T. -0.02 min
Lab File: 2A149280.D
Acq: 9 Aug 2014 12:55 pm

Tgt Ion: 63 Resp: 2155

Ion	Ratio	Lower	Upper
63	100		
65	22.5	1.9	61.9
83	0.0	0.0	43.8

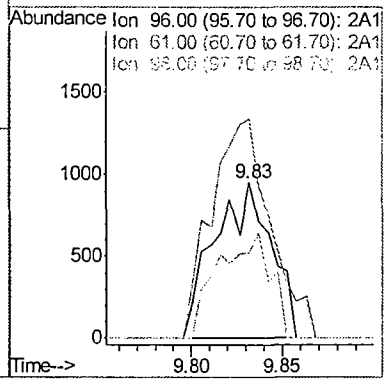


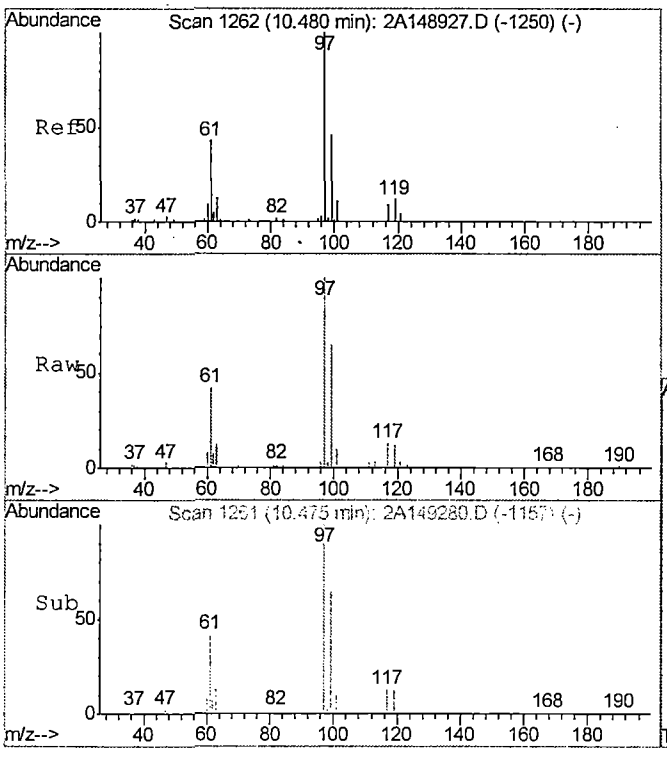


#39
cis-1,2-dichloroethene
Concen: 1.39 ug/L
RT: 9.83 min Scan# 1138
Delta R.T. 0.01 min
Lab File: 2A149280.D
Acq: 9 Aug 2014 12:55 pm

Tgt Ion: 96 Resp: 2070

Ion	Ratio	Lower	Upper
96	100		
61	140.6	138.9	198.9
98	54.7	35.8	95.8

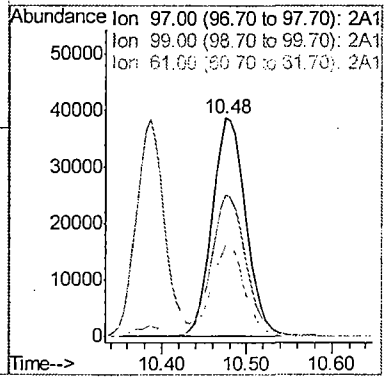


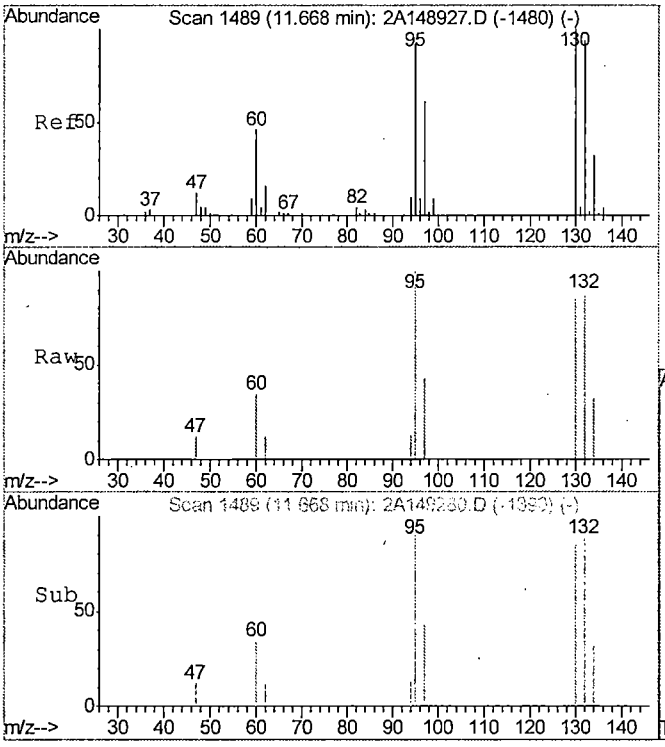


#50
1,1,1-trichloroethane
Concen: 46.85 ug/L
RT: 10.48 min Scan# 1261
Delta R.T. -0.01 min
Lab File: 2A149280.D
Acq: 9 Aug 2014 12:55 pm

Tgt Ion: 97 Resp: 106714

Ion	Ratio	Lower	Upper
97	100		
99	64.1	36.3	96.3
61	41.7	13.6	73.6

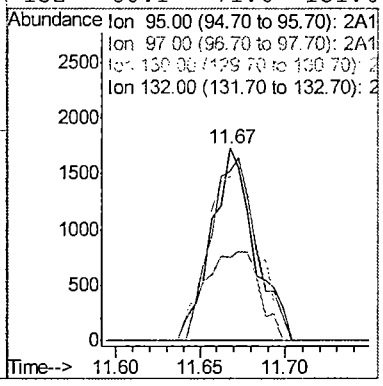


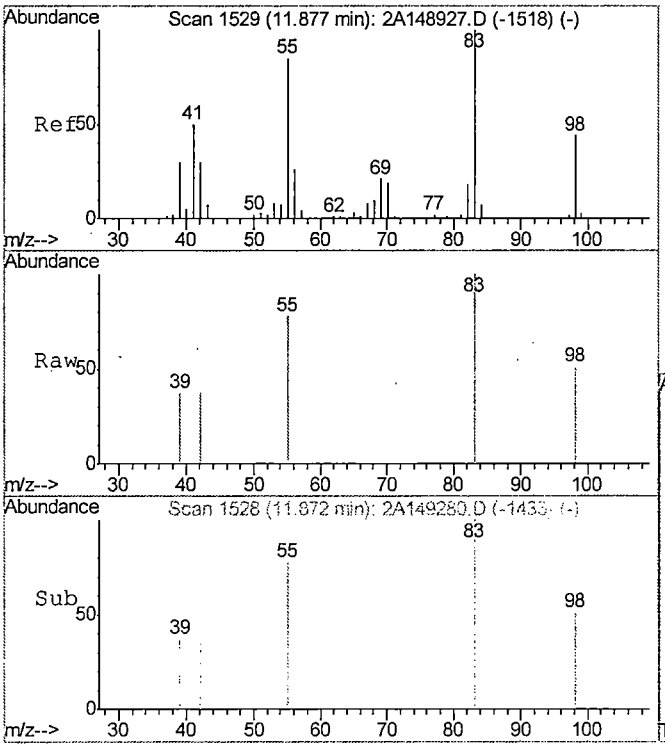


#66
trichloroethene
Concen: 2.30 ug/L
RT: 11.67 min Scan# 1489
Delta R.T. -0.00 min
Lab File: 2A149280.D
Acq: 9 Aug 2014 12:55 pm

Tgt Ion: 95 Resp: 3035

Ion	Ratio	Lower	Upper
95	100		
97	43.2	36.8	96.8
130	85.3	78.7	138.7
132	88.1	71.6	131.6

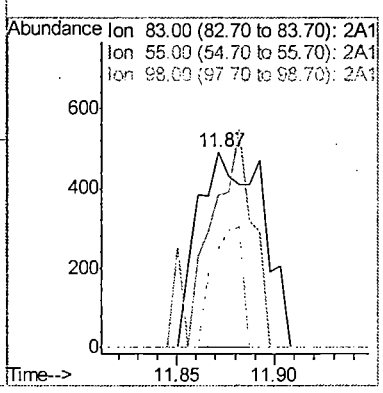


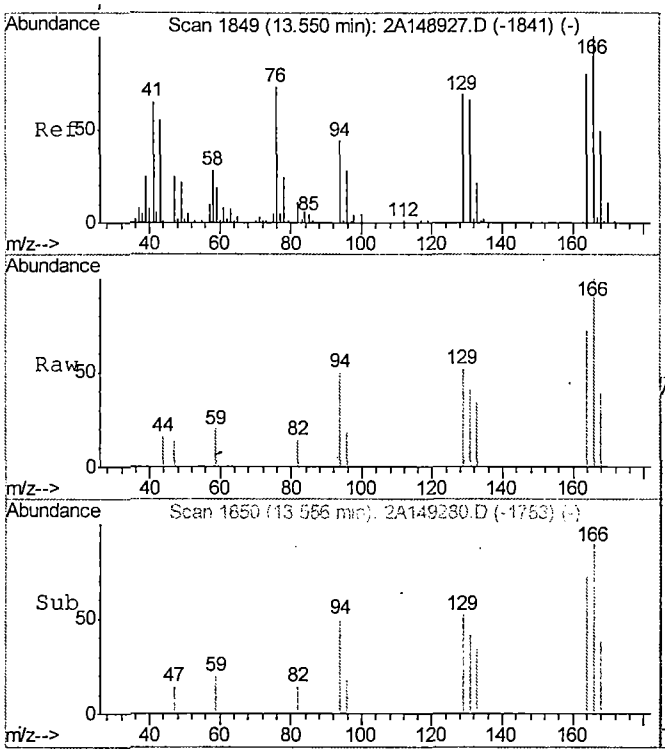


#73
methylcyclohexane
Concen: 0.53 ug/L
RT: 11.87 min Scan# 1528
Delta R.T. -0.01 min
Lab File: 2A149280.D
Acq: 9 Aug 2014 12:55 pm

Tgt Ion: 83 Resp: 1124

Ion	Ratio	Lower	Upper
83	100		
55	78.0	54.8	114.8
98	50.5	13.6	73.6

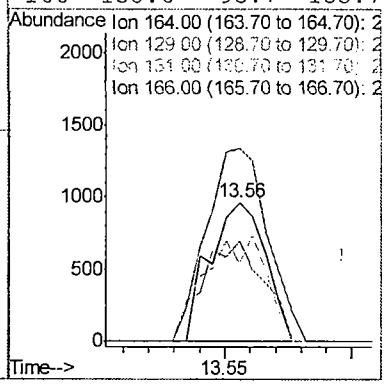




#85
tetrachloroethene
Concen: 1.24 ug/L
RT: 13.56 min Scan# 1850
Delta R.T. 0.01 min
Lab File: 2A149280.D
Acq: 9 Aug 2014 12:55 pm

Tgt Ion:164 Resp: 1463

Ion	Ratio	Lower	Upper
164	100		
129	72.4	57.2	117.2
131	56.5	52.4	112.4
166	138.6	95.7	155.7



Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 2A149281.D
Acq On : 9 Aug 2014 1:24 pm
Operator : Dejanas
Sample : jb73450-3
Misc : MS71808,V2A6362,w,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 12 11:34:04 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 28 10:27:41 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.94	65	58766	500.00	ug/L	0.00
5) pentafluorobenzene	10.39	168	184662	50.00	ug/L	0.00
52) 1,4-difluorobenzene	11.33	114	197332	50.00	ug/L	0.00
84) chlorobenzene-d5	14.36	117	161827	50.00	ug/L	0.00
98) 1,4-dichlorobenzene-d4	16.52	152	90019	50.00	ug/L	0.00
System Monitoring Compounds						
46) dibromofluoromethane (s)	10.43	113	62865	47.25	ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 94.50%			
47) 1,2-dichloroethane-d4 (s)	10.86	65	75597	48.71	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 97.42%			
76) toluene-d8 (s)	12.92	98	209104	47.78	ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 95.56%			
100) 4-bromofluorobenzene (s)	15.43	95	71598	46.18	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 92.36%			
Target Compounds						Qvalue
19) 1,1-dichloroethene	7.17	96	664	0.54	ug/L #	69
32) 1,1-dichloroethane	9.01	63	2273	0.88	ug/L #	50
39) cis-1,2-dichloroethene	9.83	96	7034	4.84	ug/L #	81
50) 1,1,1-trichloroethane	10.48	97	58226	26.09	ug/L	98

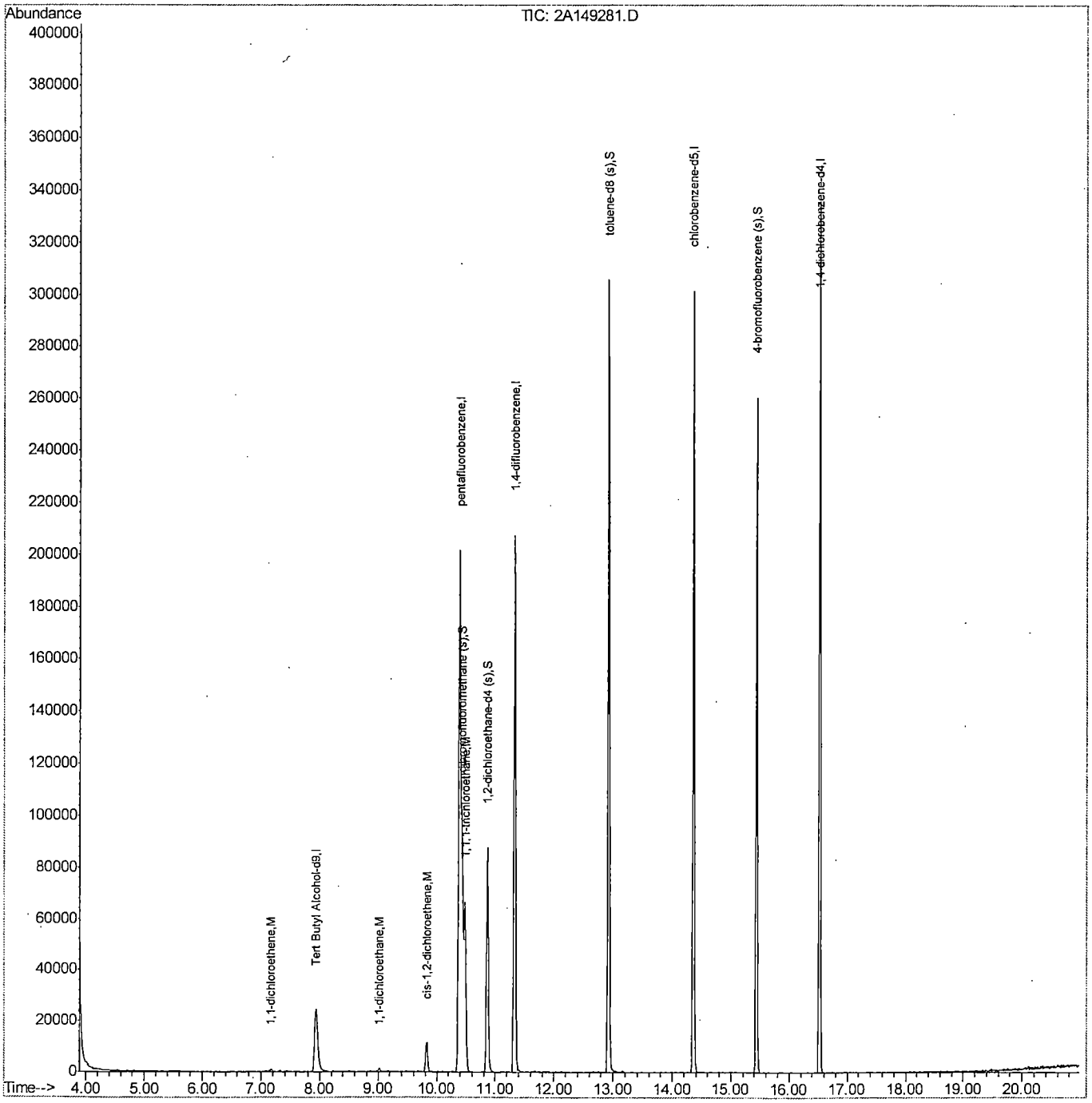
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.3 7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 2A149281.D
Acq On : 9 Aug 2014 1:24 pm
Operator : Dejanas
Sample : jb73450-3
Misc : MS71808,V2A6362,w,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 12 11:34:04 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 28 10:27:41 2014
Response via : Initial Calibration



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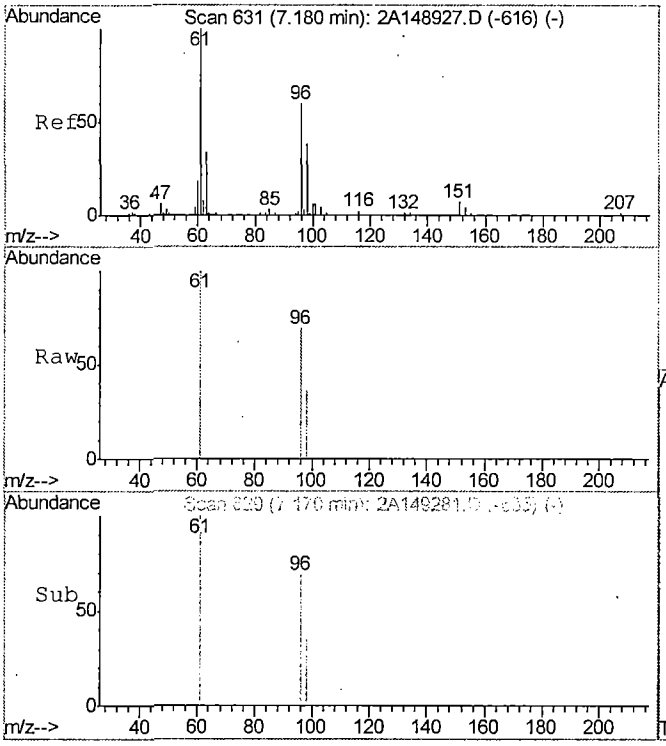
7.1.3

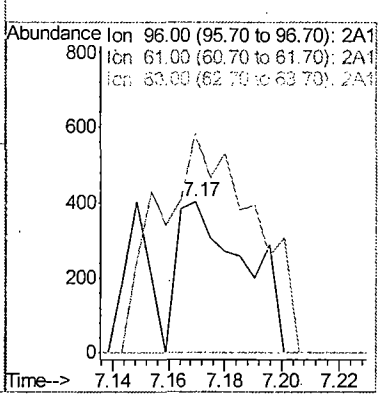
7

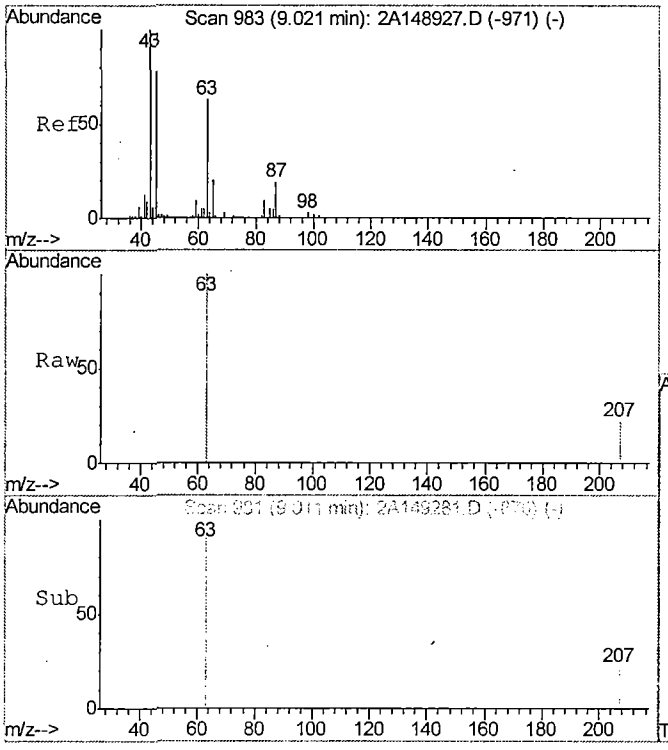


#19
1,1-dichloroethene
Concen: 0.54 ug/L
RT: 7.17 min Scan# 629
Delta R.T. -0.01 min
Lab File: 2A149281.D
Acq: 9 Aug 2014 1:24 pm

Tgt Ion: 96 Resp: 664

Ion	Ratio	Lower	Upper
96	100		
61	144.4	135.9	195.9
63	0.0	25.9	85.9#

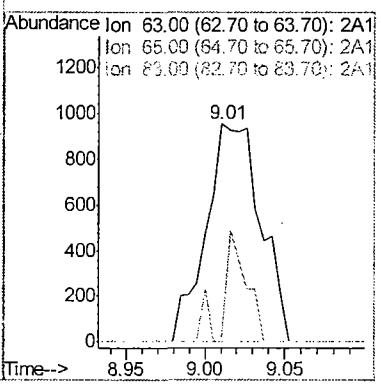


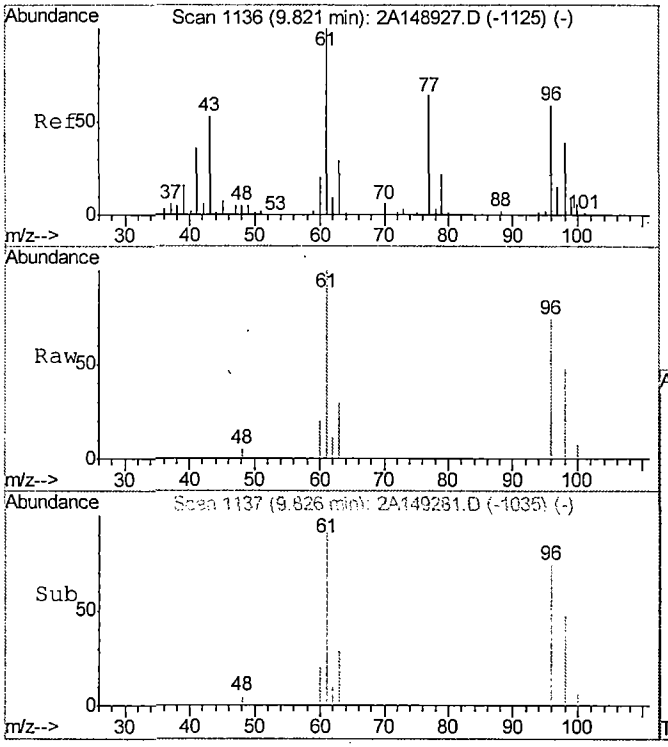


#32
1,1-dichloroethane
Concen: 0.88 ug/L
RT: 9.01 min Scan# 981
Delta R.T. -0.01 min
Lab File: 2A149281.D
Acq: 9 Aug 2014 1:24 pm

Tgt Ion: 63 Resp: 2273

Ion	Ratio	Lower	Upper
63	100		
65	0.0	1.9	61.9#
83	0.0	0.0	43.8

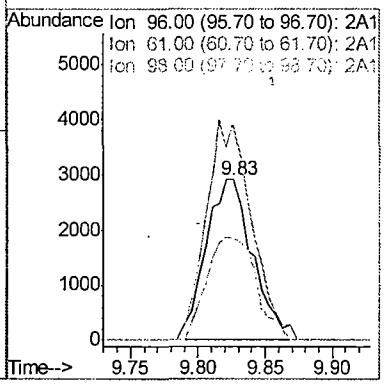


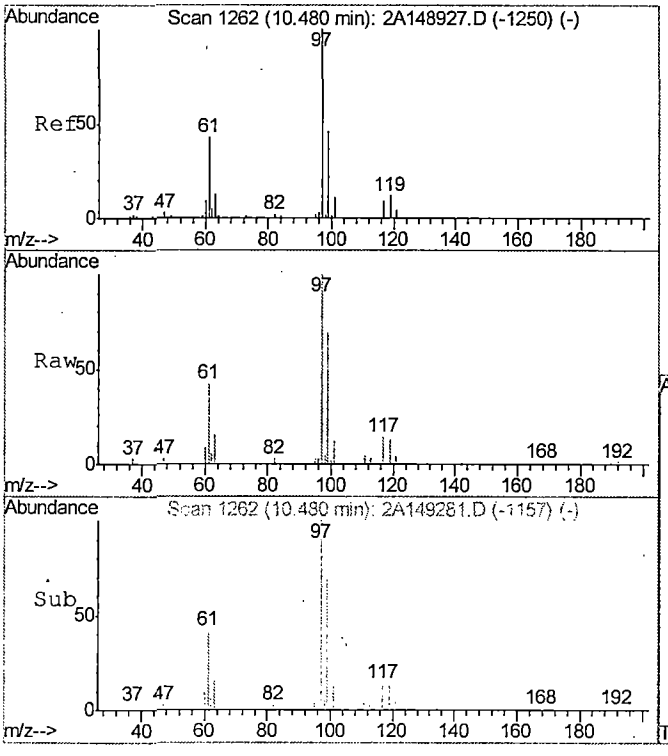


#39
cis-1,2-dichloroethene
Concen: 4.84 ug/L
RT: 9.83 min Scan# 1137
Delta R.T. 0.01 min
Lab File: 2A149281.D
Acq: 9 Aug 2014 1:24 pm

Tgt Ion: 96 Resp: 7034

Ion	Ratio	Lower	Upper
96	100		
61	134.9	138.9	198.9#
98	63.2	35.8	95.8

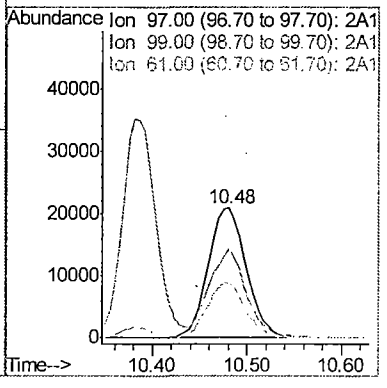




#50
1,1,1-trichloroethane
Concen: 26.09 ug/L
RT: 10.48 min Scan# 1262
Delta R.T. -0.00 min
Lab File: 2A149281.D
Acq: 9 Aug 2014 1:24 pm

Tgt Ion: 97 Resp: 58226

Ion	Ratio	Lower	Upper
97	100		
99	67.3	36.3	96.3
61	41.6	13.6	73.6



Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 2A149289.D
Acq On : 9 Aug 2014 5:26 pm
Operator : Dejanas
Sample : jb73450-4
Misc : MS71808,V2A6362,w,,,,1
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Aug 12 11:41:05 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 28 10:27:41 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.94	65	93356	500.00	ug/L	0.00
5) pentafluorobenzene	10.39	168	284706	50.00	ug/L	0.00
52) 1,4-difluorobenzene	11.33	114	296843	50.00	ug/L	0.00
84) chlorobenzene-d5	14.36	117	244745	50.00	ug/L	0.00
98) 1,4-dichlorobenzene-d4	16.52	152	135262	50.00	ug/L	0.00
System Monitoring Compounds						
46) dibromofluoromethane (s)	10.43	113	97416	47.49	ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery =	94.98%		
47) 1,2-dichloroethane-d4 (s)	10.87	65	102454	42.82	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery =	85.64%		
76) toluene-d8 (s)	12.92	98	315500	47.92	ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery =	95.84%		
100) 4-bromofluorobenzene (s)	15.43	95	107242	46.04	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery =	92.08%		
Target Compounds						Qvalue
32) 1,1-dichloroethane	9.02	63	2570	0.64	ug/L	89
39) cis-1,2-dichloroethene	9.82	96	5904	2.63	ug/L #	70
50) 1,1,1-trichloroethane	10.48	97	68180	19.82	ug/L	93
66) trichloroethene	11.67	95	3225	1.64	ug/L	91

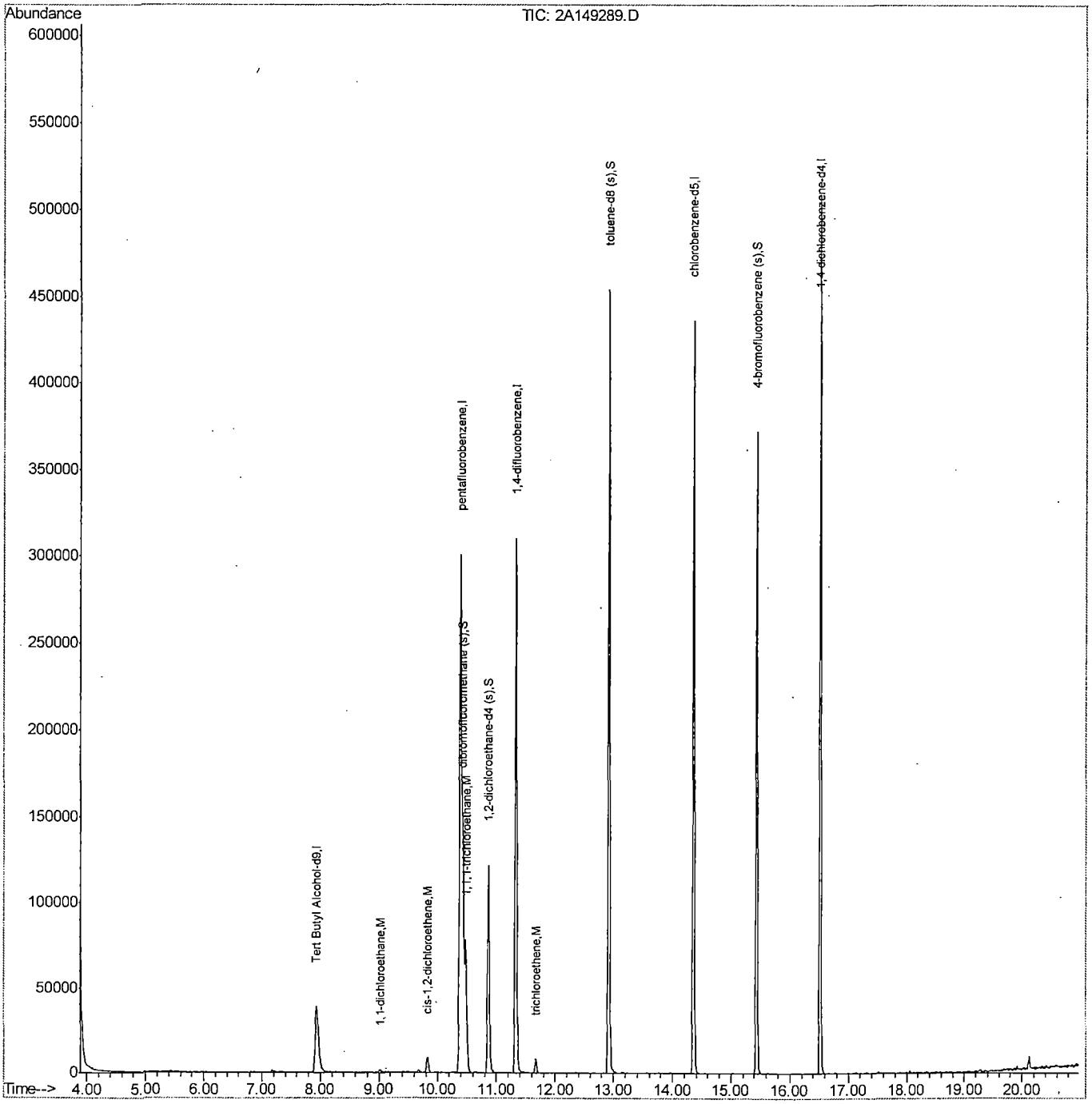
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.4

Quantitation Report (QT Reviewed)

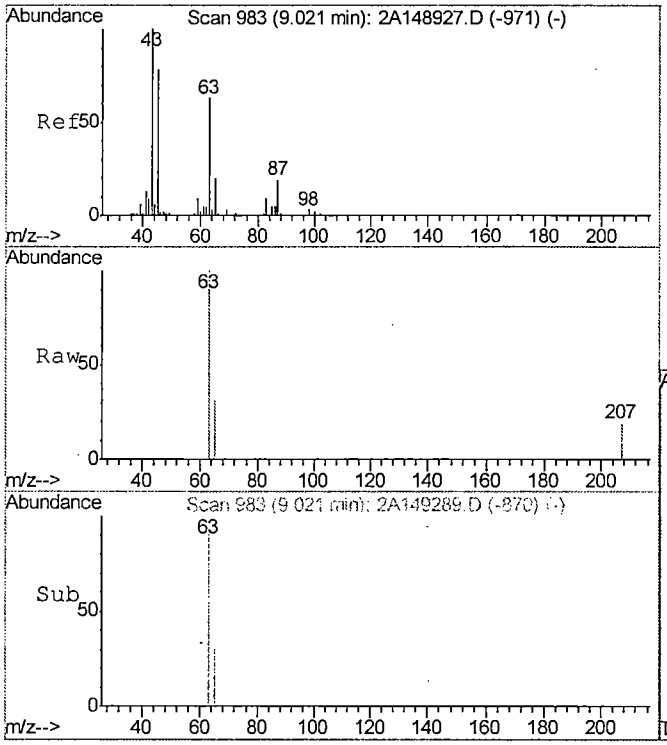
Data Path : C:\MSDCHEM\1\DATA\
Data File : 2A149289.D
Acq On : 9 Aug 2014 5:26 pm
Operator : Dejanas
Sample : jb73450-4
Misc : MS71808,V2A6362,w,,,,1
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Aug 12 11:41:05 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 28 10:27:41 2014
Response via : Initial Calibration



7.1.4

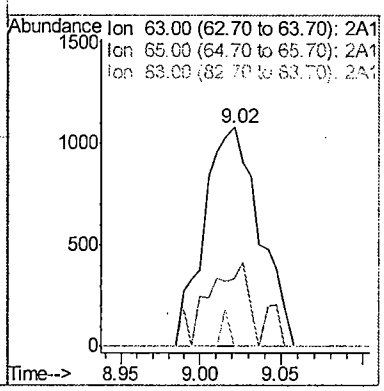
7

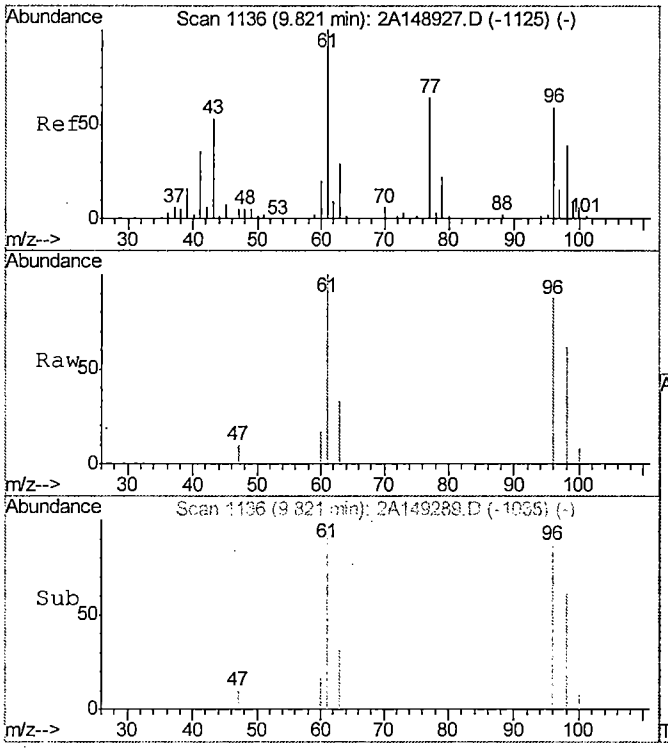


#32
1,1-dichloroethane
Concen: 0.64 ug/L
RT: 9.02 min Scan# 983
Delta R.T. -0.00 min
Lab File: 2A149289.D
Acq: 9 Aug 2014 5:26 pm

Tgt Ion: 63 Resp: 2570

Ion	Ratio	Lower	Upper
63	100		
65	31.4	1.9	61.9
83	0.0	0.0	43.8

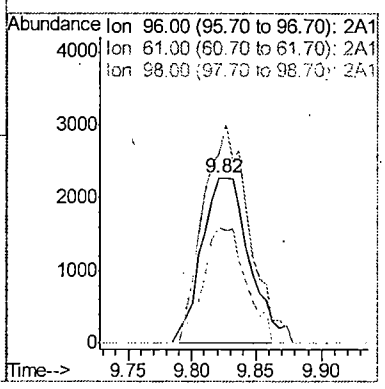


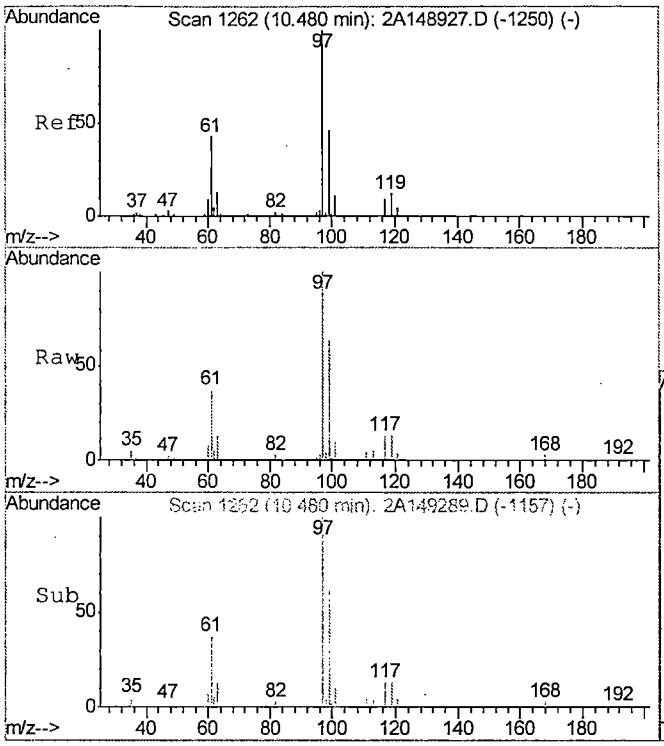


#39
cis-1,2-dichloroethene
Concen: 2.63 ug/L
RT: 9.82 min Scan# 1136
Delta R.T. -0.00 min
Lab File: 2A149289.D
Acq: 9 Aug 2014 5:26 pm

Tgt Ion: 96 Resp: 5904

Ion	Ratio	Lower	Upper
96	100		
61	114.3	138.9	198.9#
98	70.2	35.8	95.8

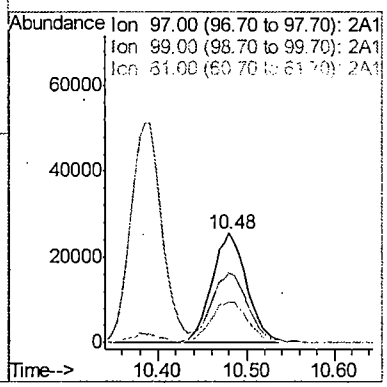


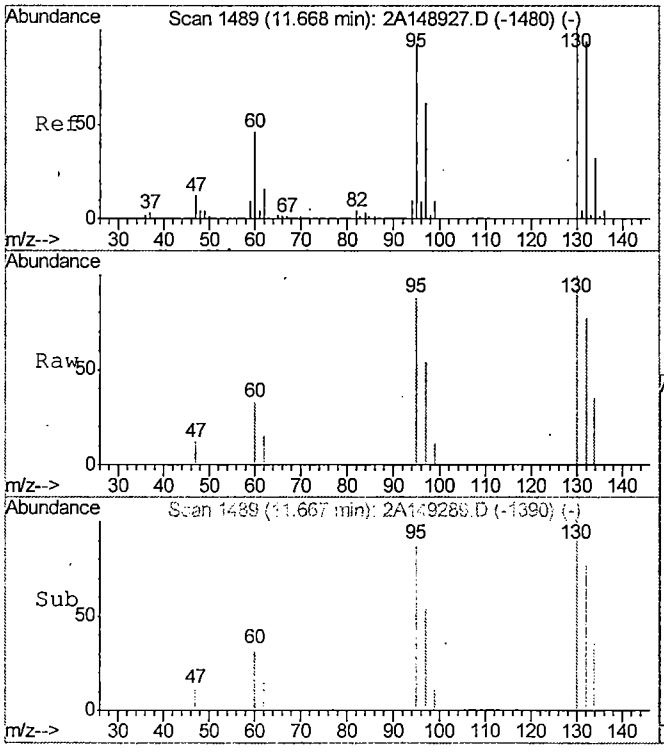


#50
1,1,1-trichloroethane
Concen: 19.82 ug/L
RT: 10.48 min Scan# 1262
Delta R.T. -0.00 min
Lab File: 2A149289.D
Acq: 9 Aug 2014 5:26 pm

Tgt Ion: 97 Resp: 68180

Ion	Ratio	Lower	Upper
97	100		
99	62.4	36.3	96.3
61	36.7	13.6	73.6

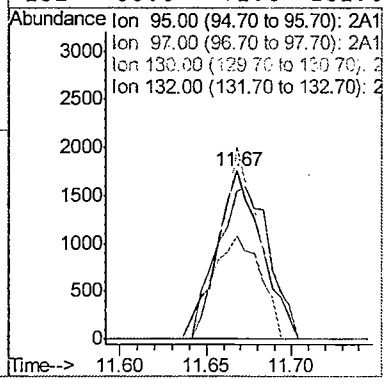




#66
trichloroethene
Concen: 1.64 ug/L
RT: 11.67 min Scan# 1489
Delta R.T. -0.00 min
Lab File: 2A149289.D
Acq: 9 Aug 2014 5:26 pm

Tgt Ion: 95 Resp: 3225

Ion	Ratio	Lower	Upper
95	100		
97	61.0	36.8	96.8
130	113.7	78.7	138.7
132	88.0	71.6	131.6



7.1.4

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 2A149290.D
Acq On : 9 Aug 2014 5:55 pm
Operator : Dejanas
Sample : jb73450-5
Misc : MS71808,V2A6362,w,,,,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Aug 12 11:42:37 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 28 10:27:41 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.93	65	84926	500.00	ug/L	-0.02
5) pentafluorobenzene	10.39	168	261037	50.00	ug/L	0.00
52) 1,4-difluorobenzene	11.33	114	272861	50.00	ug/L	0.00
84) chlorobenzene-d5	14.36	117	219999	50.00	ug/L	0.00
98) 1,4-dichlorobenzene-d4	16.52	152	122646	50.00	ug/L	0.00
System Monitoring Compounds						
46) dibromofluoromethane (s)	10.43	113	87531	46.54	ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 93.08%			
47) 1,2-dichloroethane-d4 (s)	10.86	65	93238	42.50	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 85.00%			
76) toluene-d8 (s)	12.92	98	287574	47.52	ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 95.04%			
100) 4-bromofluorobenzene (s)	15.43	95	98638	46.70	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 93.40%			
Target Compounds						Qvalue
32) 1,1-dichloroethane	9.02	63	1128	0.31	ug/L	65
85) tetrachloroethene	13.56	164	1114	0.70	ug/L #	74

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

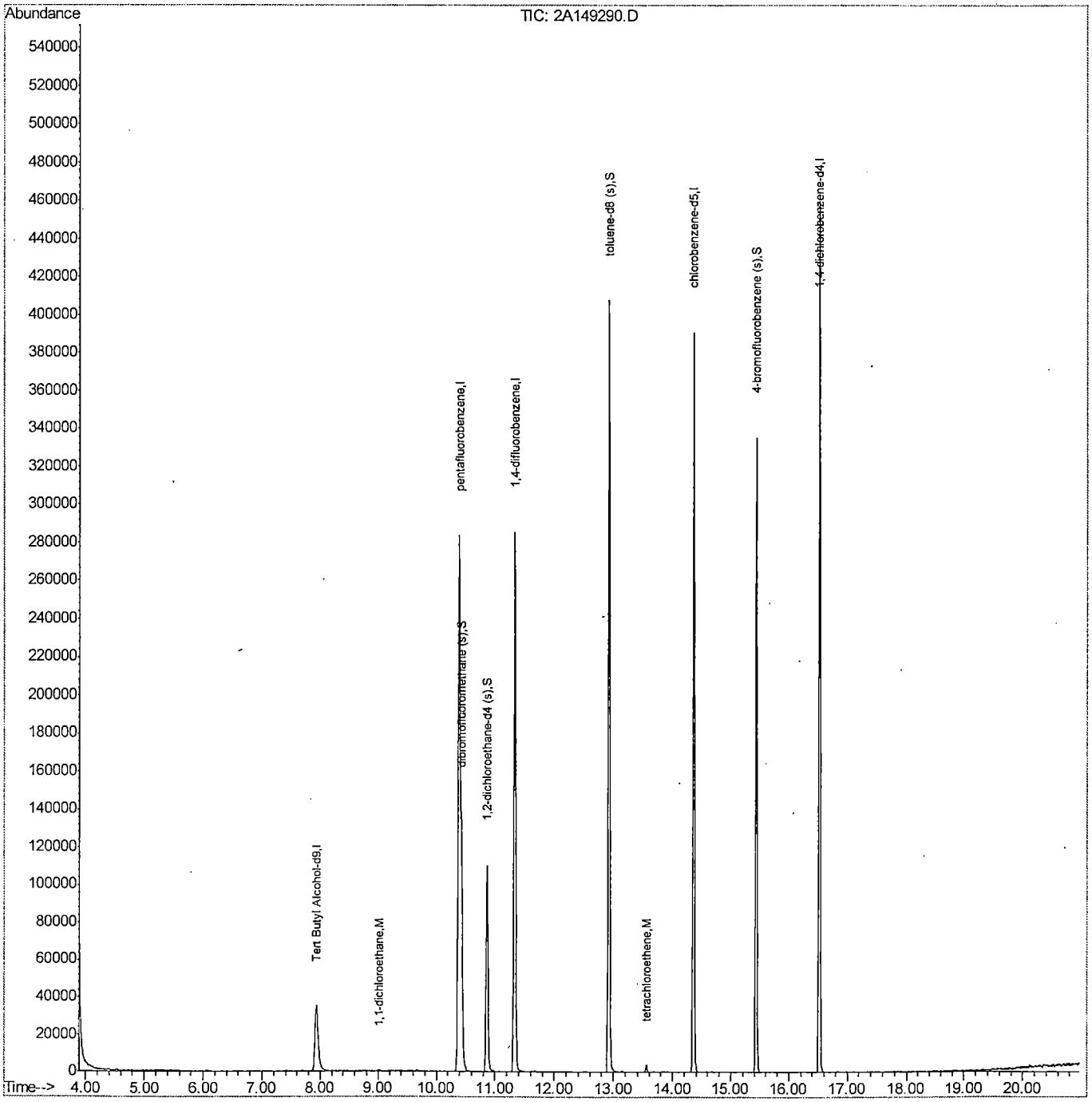
7.1.5

7

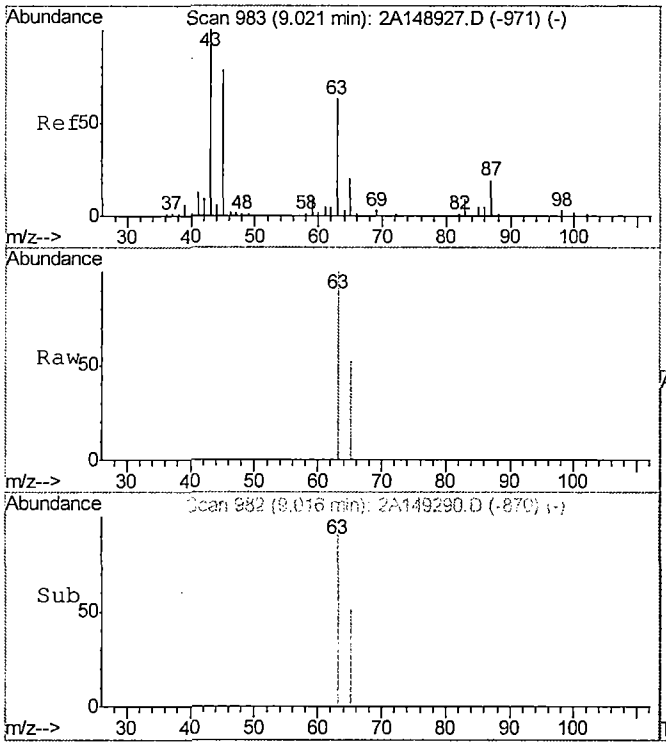
Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 2A149290.D
Acq On : 9 Aug 2014 5:55 pm
Operator : Dejanas
Sample : jb73450-5
Misc : MS71808,V2A6362,w,,,,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Aug 12 11:42:37 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 28 10:27:41 2014
Response via : Initial Calibration



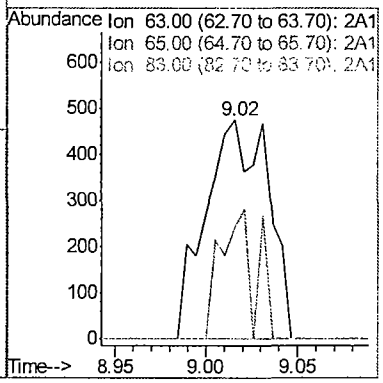
M2A6348.M Tue Aug 12 11:58:52 2014 MS2A

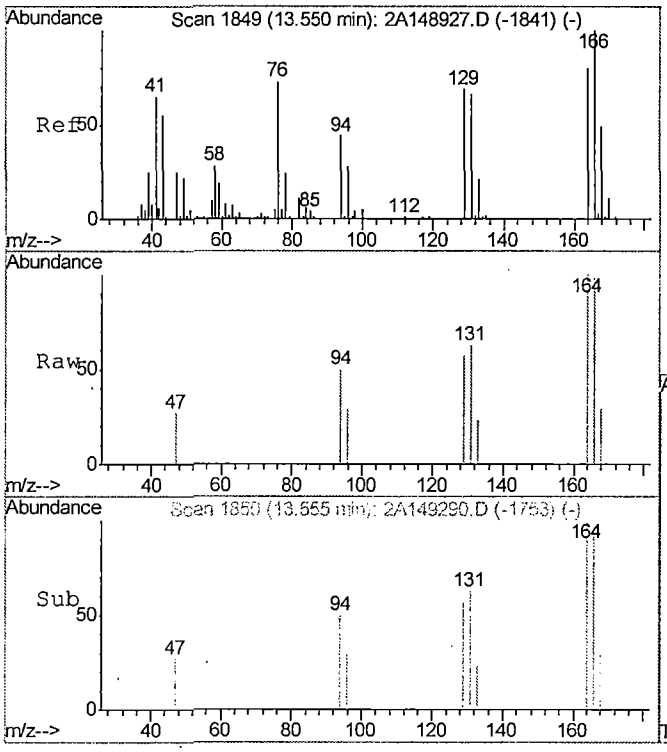


#32
1,1-dichloroethane
Concen: 0.31 ug/L
RT: 9.02 min Scan# 982
Delta R.T. -0.01 min
Lab File: 2A149290.D
Acq: 9 Aug 2014 5:55 pm

Tgt Ion: 63 Resp: 1128

Ion	Ratio	Lower	Upper
63	100		
65	51.8	1.9	61.9
83	0.0	0.0	43.8

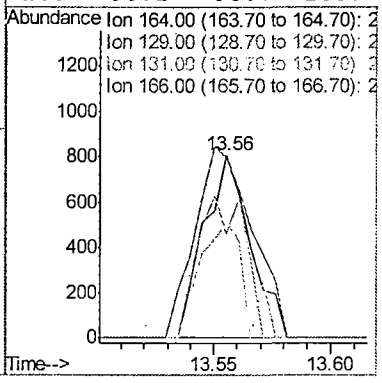




#85
tetrachloroethene
Concen: 0.70 ug/L
RT: 13.56 min Scan# 1850
Delta R.T. 0.01 min
Lab File: 2A149290.D
Acq: 9 Aug 2014 5:55 pm

Tgt Ion:164 Resp: 1114

Ion	Ratio	Lower	Upper
164	100		
129	56.9	57.2	117.2#
131	63.4	52.4	112.4
166	98.1	95.7	155.7



Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 2A149291.D
Acq On : 9 Aug 2014 6:25 pm
Operator : Dejanas
Sample : jb73450-6
Misc : MS71808,V2A6362,w,,,,1
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Aug 12 11:43:29 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 28 10:27:41 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.94	65	78508	500.00	ug/L	0.00
5) pentafluorobenzene	10.39	168	238499	50.00	ug/L	0.00
52) 1,4-difluorobenzene	11.33	114	251542	50.00	ug/L	0.00
84) chlorobenzene-d5	14.36	117	201256	50.00	ug/L	0.00
98) 1,4-dichlorobenzene-d4	16.52	152	110043	50.00	ug/L	0.00
System Monitoring Compounds						
46) dibromofluoromethane (s)	10.43	113	80092	46.61	ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 93.22%			
47) 1,2-dichloroethane-d4 (s)	10.87	65	90518	45.16	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 90.32%			
76) toluene-d8 (s)	12.92	98	262102	46.98	ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 93.96%			
100) 4-bromofluorobenzene (s)	15.43	95	88059	46.46	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 92.92%			

Target Compounds	Qvalue

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

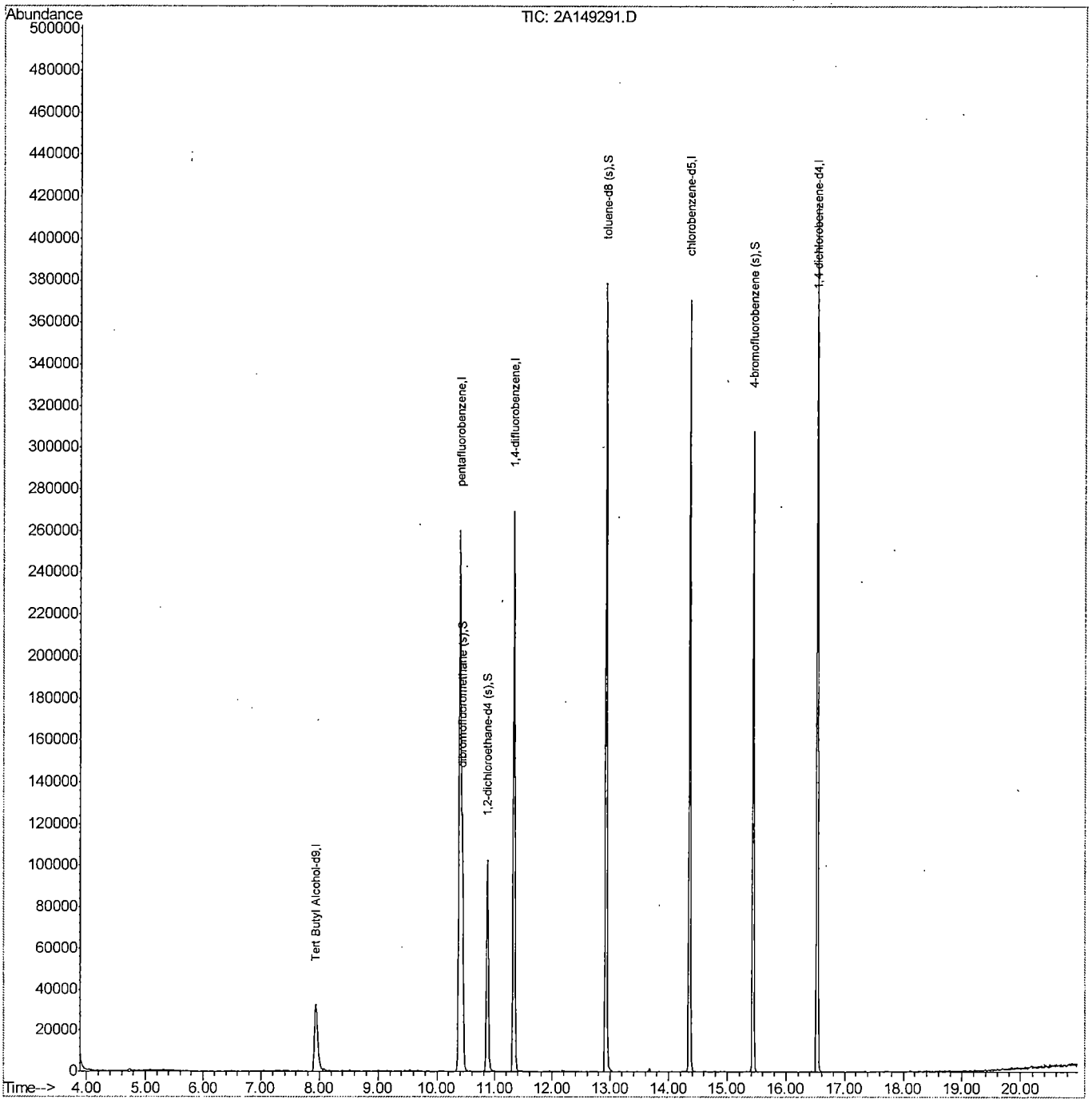
7.1.6

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 2A149291.D
Acq On : 9 Aug 2014 6:25 pm
Operator : Dejanas
Sample : jb73450-6
Misc : MS71808,V2A6362,w,,,,1
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Aug 12 11:43:29 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 28 10:27:41 2014
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 2A149292.D
Acq On : 9 Aug 2014 6:54 pm
Operator : Dejanas
Sample : jb73450-7
Misc : MS71808,V2A6362,w,,,,1
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Aug 12 11:45:03 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 28 10:27:41 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.93	65	81966	500.00	ug/L	-0.01
5) pentafluorobenzene	10.39	168	216131	50.00	ug/L	0.00
52) 1,4-difluorobenzene	11.33	114	230241	50.00	ug/L	0.00
84) chlorobenzene-d5	14.36	117	187374	50.00	ug/L	0.00
98) 1,4-dichlorobenzene-d4	16.52	152	104230	50.00	ug/L	0.00
System Monitoring Compounds						
46) dibromofluoromethane (s)	10.43	113	73430	47.16	ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 94.32%			
47) 1,2-dichloroethane-d4 (s)	10.86	65	83710	46.09	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 92.18%			
76) toluene-d8 (s)	12.92	98	238440	46.69	ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 93.38%			
100) 4-bromofluorobenzene (s)	15.43	95	81806	45.57	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 91.14%			
Target Compounds						Qvalue
32) 1,1-dichloroethane	9.02	63	1600	0.53	ug/L #	50
50) 1,1,1-trichloroethane	10.49	97	817	0.31	ug/L	84
66) trichloroethene	11.67	95	559	0.37	ug/L #	79
85) tetrachloroethene	13.55	164	1410	1.04	ug/L	85

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

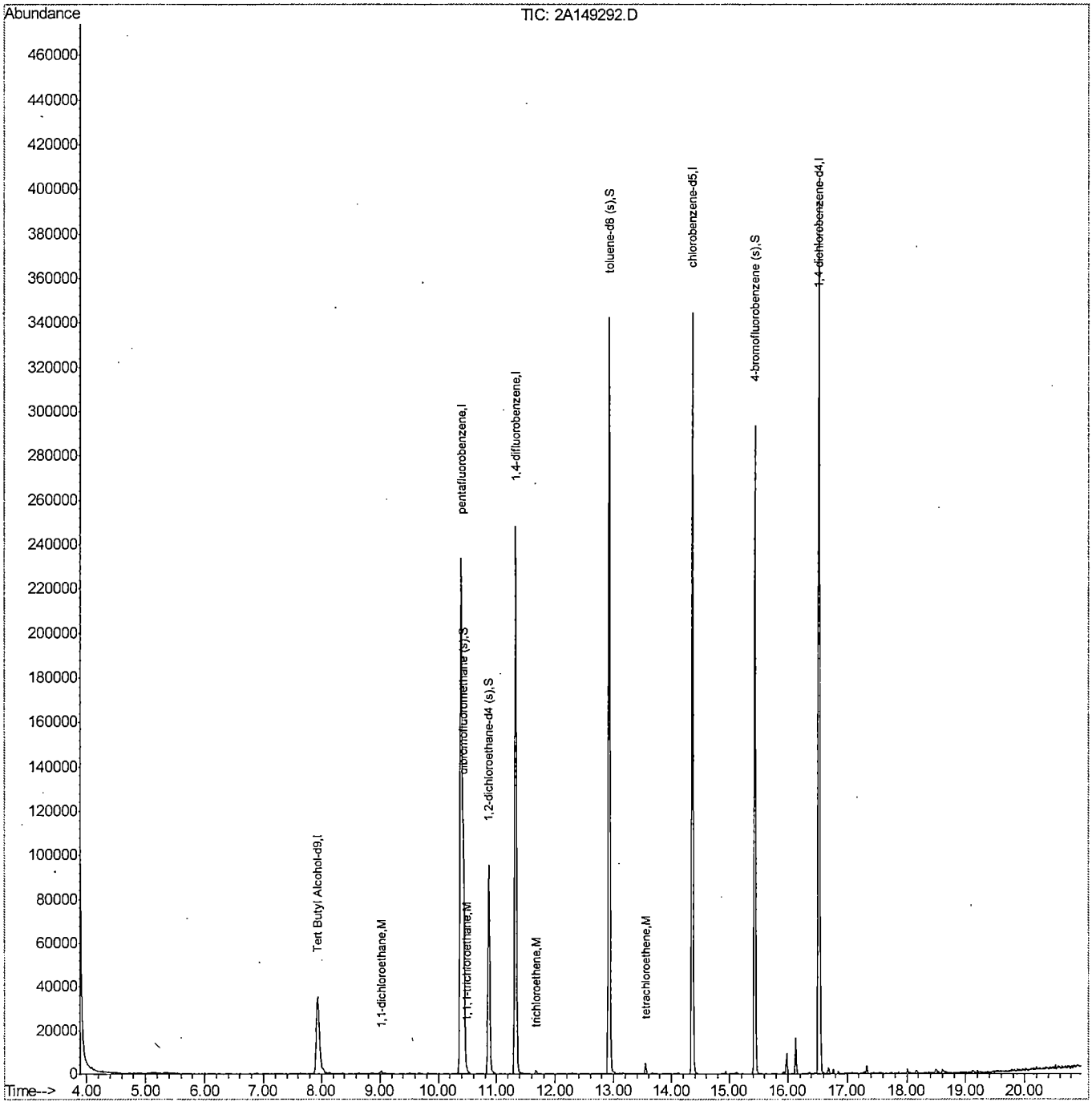
7.1.7

7

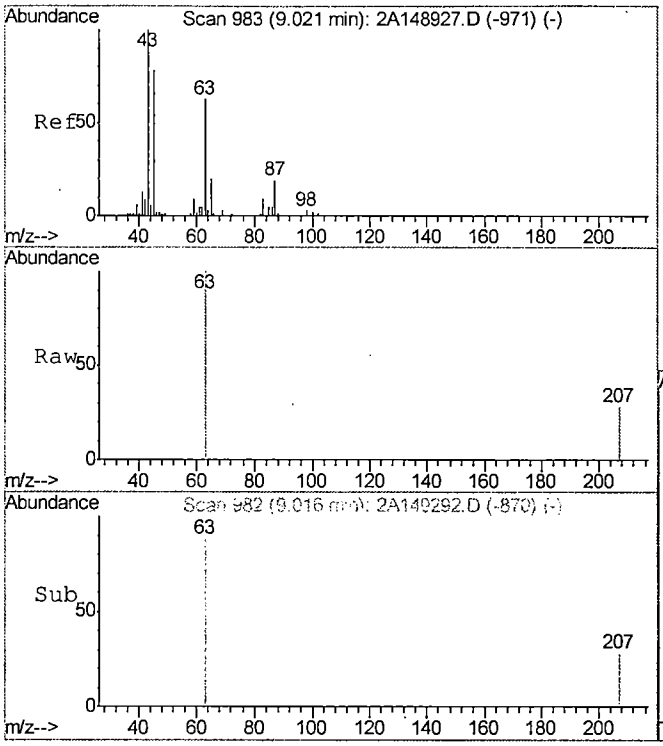
Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 2A149292.D
Acq On : 9 Aug 2014 6:54 pm
Operator : Dejanas
Sample : jb73450-7
Misc : MS71808,V2A6362,w,,,,1
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Aug 12 11:45:03 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 28 10:27:41 2014
Response via : Initial Calibration



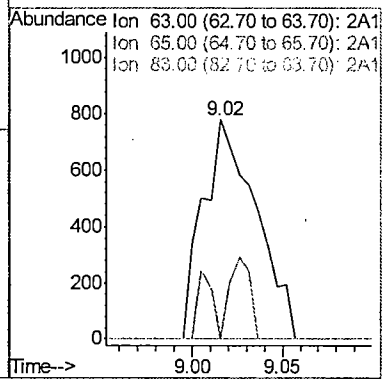
M2A6348.M Tue Aug 12 11:58:54 2014 MS2A Page: 2

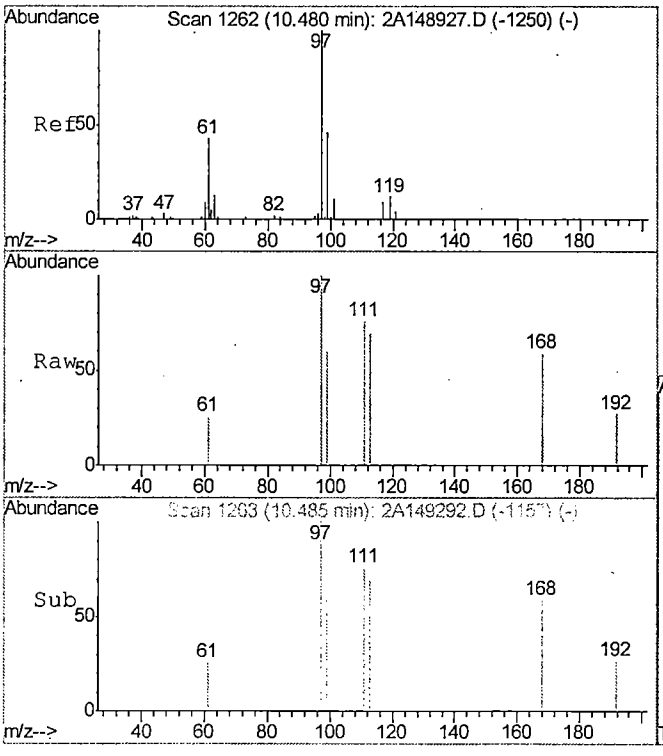


#32
1,1-dichloroethane
Concen: 0.53 ug/L
RT: 9.02 min Scan# 982
Delta R.T. -0.01 min
Lab File: 2A149292.D
Acq: 9 Aug 2014 6:54 pm

Tgt Ion: 63 Resp: 1600

Ion	Ratio	Lower	Upper
63	100		
65	0.0	1.9	61.9#
83	0.0	0.0	43.8

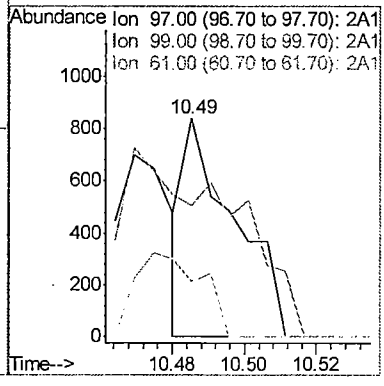


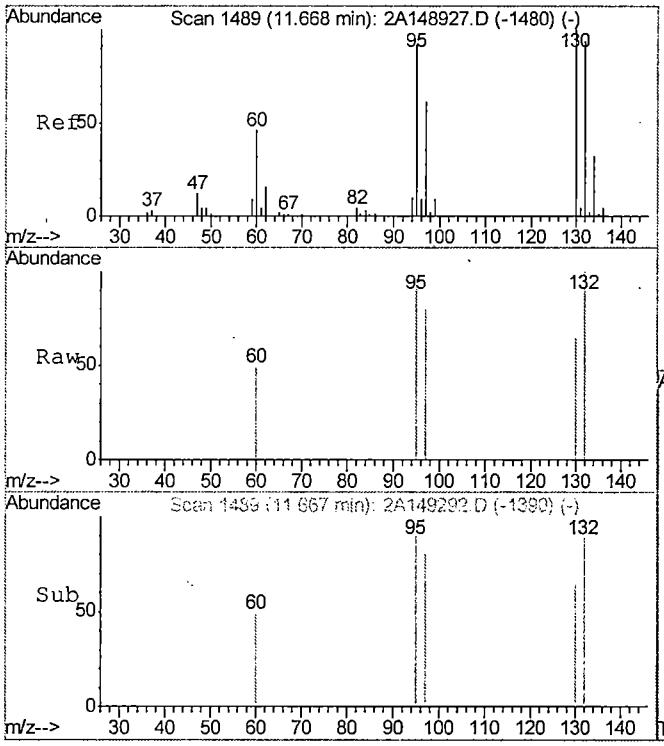


#50
1,1,1-trichloroethane
Concen: 0.31 ug/L
RT: 10.49 min Scan# 1263
Delta R.T. 0.00 min
Lab File: 2A149292.D
Acq: 9 Aug 2014 6:54 pm

Tgt Ion: 97 Resp: 817

Ion	Ratio	Lower	Upper
97	100		
99	60.3	36.3	96.3
61	25.5	13.6	73.6

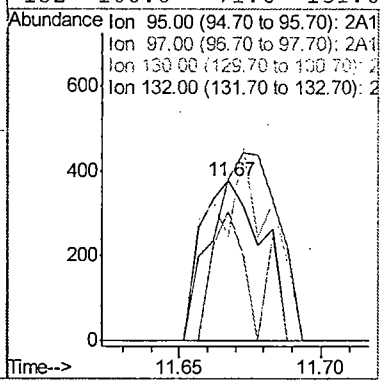


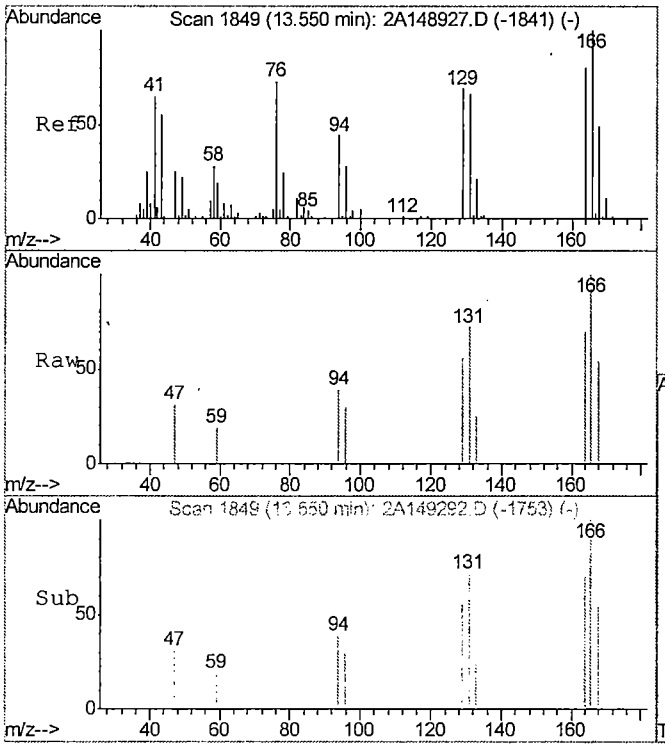


#66
trichloroethene
Concen: 0.37 ug/L
RT: 11.67 min Scan# 1489
Delta R.T. -0.00 min
Lab File: 2A149292.D
Acq: 9 Aug 2014 6:54 pm

Tgt Ion: 95 Resp: 559

Ion	Ratio	Lower	Upper
95	100		
97	80.9	36.8	96.8
130	64.6	78.7	138.7#
132	100.8	71.6	131.6

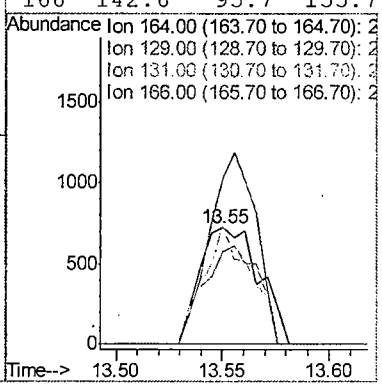




#85
tetrachloroethene
Concen: 1.04 ug/L
RT: 13.55 min Scan# 1849
Delta R.T. 0.00 min
Lab File: 2A149292.D
Acq: 9 Aug 2014 6:54 pm

Tgt Ion:164 Resp: 1410

Ion	Ratio	Lower	Upper
164	100		
129	79.5	57.2	117.2
131	102.6	52.4	112.4
166	142.6	95.7	155.7



Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 2A149278.D
Acq On : 9 Aug 2014 11:56 am
Operator : Dejanas
Sample : jb73450-8
Misc : MS71808,V2A6362,w,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 12 11:28:52 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 28 10:27:41 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.94	65	57582	500.00	ug/L	0.00
5) pentafluorobenzene	10.39	168	193209	50.00	ug/L	0.00
52) 1,4-difluorobenzene	11.33	114	202886	50.00	ug/L	0.00
84) chlorobenzene-d5	14.36	117	166406	50.00	ug/L	0.00
98) 1,4-dichlorobenzene-d4	16.52	152	93477	50.00	ug/L	0.00
System Monitoring Compounds						
46) dibromofluoromethane (s)	10.43	113	66163	47.53	ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 95.06%			
47) 1,2-dichloroethane-d4 (s)	10.86	65	76345	47.02	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 94.04%			
76) toluene-d8 (s)	12.92	98	214450	47.66	ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 95.32%			
100) 4-bromofluorobenzene (s)	15.43	95	74371	46.20	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 92.40%			
Target Compounds						Qvalue
32) 1,1-dichloroethane	9.02	63	11329	4.19	ug/L	93
39) cis-1,2-dichloroethene	9.83	96	1052	0.69	ug/L #	48
50) 1,1,1-trichloroethane	10.48	97	9448	4.05	ug/L	87
66) trichloroethene	11.67	95	1550	1.15	ug/L	91
85) tetrachloroethene	13.55	164	6385	5.28	ug/L	83

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

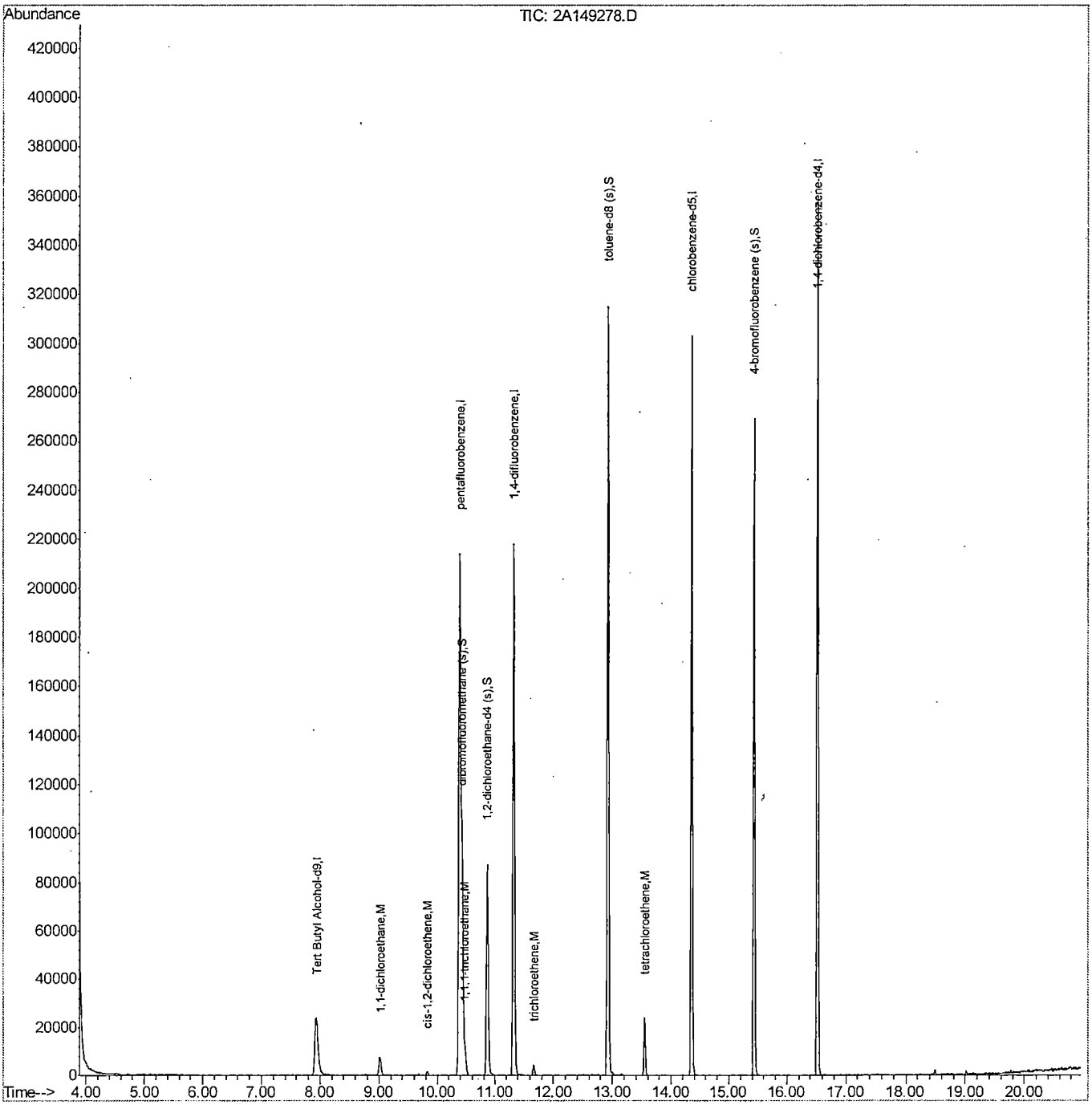
7.1.8

7

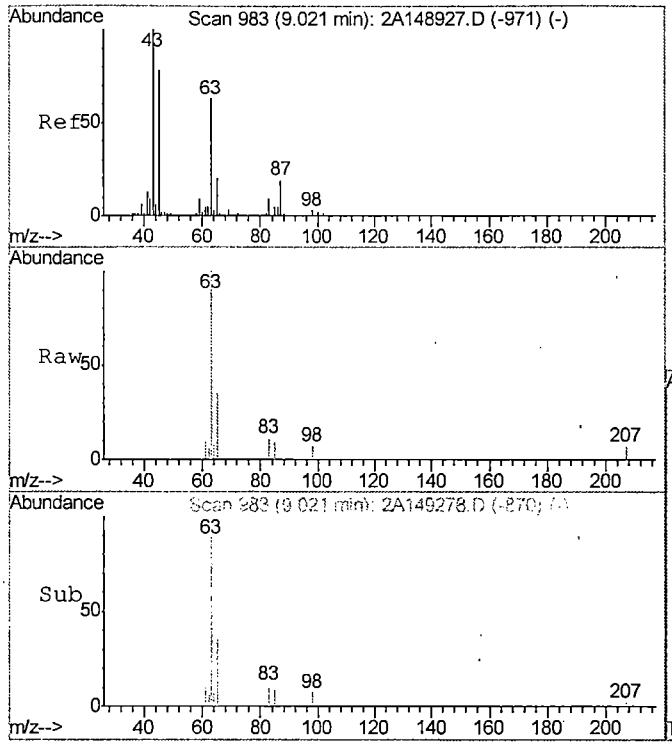
Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 2A149278.D
Acq On : 9 Aug 2014 11:56 am
Operator : Dejanas
Sample : jb73450-8
Misc : MS71808,V2A6362,w,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 12 11:28:52 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 28 10:27:41 2014
Response via : Initial Calibration



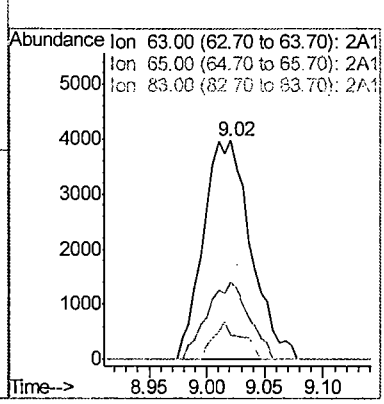
M2A6348.M Tue Aug 12 11:58:47 2014 MS2A Page: 2

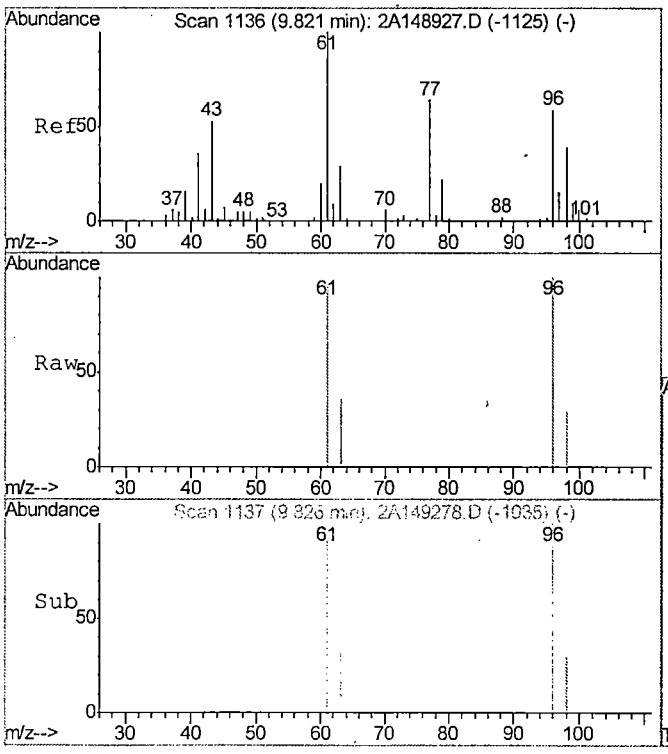


#32
1,1-dichloroethane
Concen: 4.19 ug/L
RT: 9.02 min Scan# 983
Delta R.T. -0.00 min
Lab File: 2A149278.D
Acq: 9 Aug 2014 11:56 am

Tgt Ion: 63 Resp: 11329

Ion	Ratio	Lower	Upper
63	100		
65	35.5	1.9	61.9
83	11.0	0.0	43.8

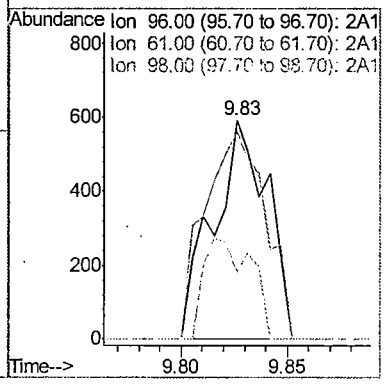


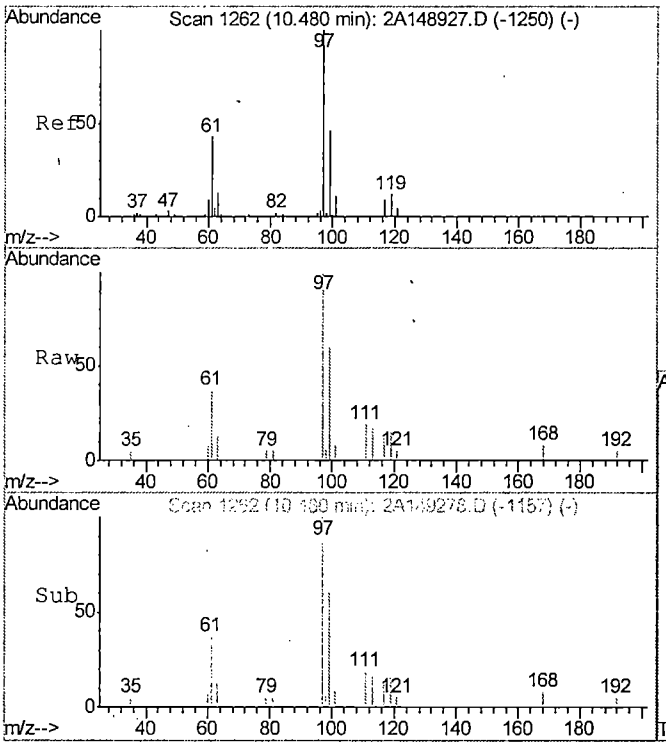


#39
cis-1,2-dichloroethene
Concen: 0.69 ug/L
RT: 9.83 min Scan# 1137
Delta R.T. 0.00 min
Lab File: 2A149278.D
Acq: 9 Aug 2014 11:56 am

Tgt Ion: 96 Resp: 1052

Ion	Ratio	Lower	Upper
96	100		
61	94.8	138.9	198.9#
98	30.5	35.8	95.8#

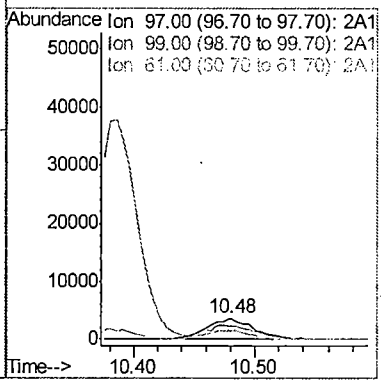


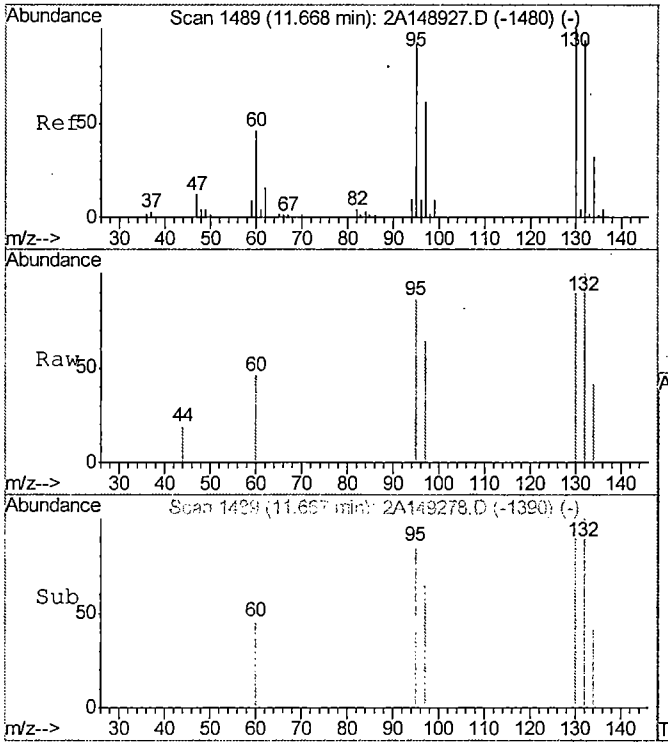


#50
1,1,1-trichloroethane
Concen: 4.05 ug/L
RT: 10.48 min Scan# 1262
Delta R.T. -0.00 min
Lab File: 2A149278.D
Acq: 9 Aug 2014 11:56 am

Tgt Ion: 97 Resp: 9448

Ion	Ratio	Lower	Upper
97	100		
99	54.0	36.3	96.3
61	36.9	13.6	73.6

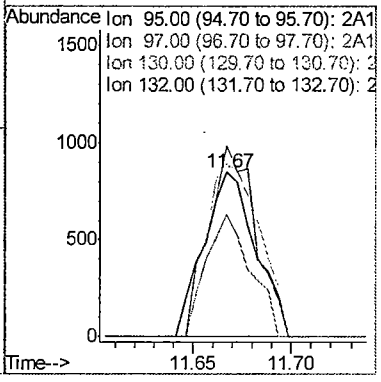


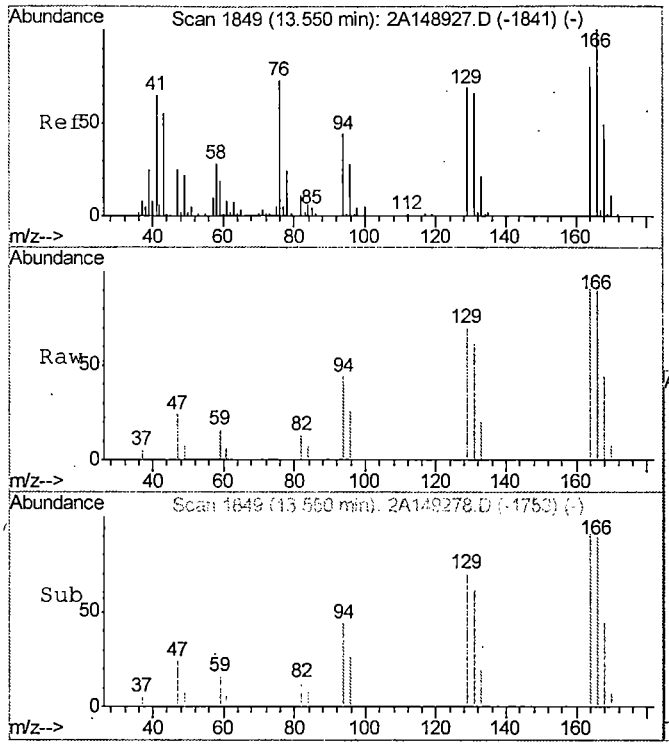


#66
trichloroethene
Concen: 1.15 ug/L
RT: 11.67 min Scan# 1489
Delta R.T. -0.00 min
Lab File: 2A149278.D
Acq: 9 Aug 2014 11:56 am

Tgt Ion: 95 Resp: 1550

Ion	Ratio	Lower	Upper
95	100		
97	74.8	36.8	96.8
130	105.2	78.7	138.7
132	116.3	71.6	131.6

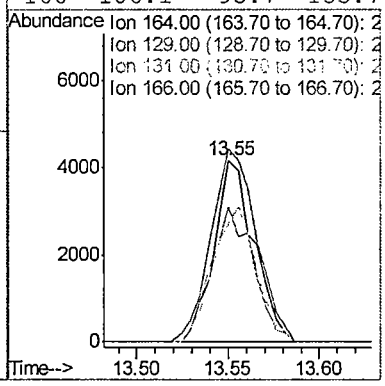




#85
tetrachloroethene
Concen: 5.28 ug/L
RT: 13.55 min Scan# 1849
Delta R.T. 0.00 min
Lab File: 2A149278.D
Acq: 9 Aug 2014 11:56 am

Tgt Ion:164 Resp: 6385

Ion	Ratio	Lower	Upper
164	100		
129	74.7	57.2	117.2
131	64.7	52.4	112.4
166	106.1	95.7	155.7



7.1.8 7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 2A149293.D
Acq On : 9 Aug 2014 7:24 pm
Operator : Dejanas
Sample : jb73450-9
Misc : MS71808,V2A6362,w,,,,1
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Aug 12 11:47:09 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 28 10:27:41 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.94	65	69275	500.00 ug/L	0.00
5) pentafluorobenzene	10.39	168	208417	50.00 ug/L	0.00
52) 1,4-difluorobenzene	11.33	114	223124	50.00 ug/L	0.00
84) chlorobenzene-d5	14.36	117	182133	50.00 ug/L	0.00
98) 1,4-dichlorobenzene-d4	16.52	152	99715	50.00 ug/L	0.00
System Monitoring Compounds					
46) dibromofluoromethane (s)	10.42	113	70762	47.13 ug/L	-0.01
Spiked Amount 50.000	Range 79 - 120		Recovery = 94.26%		
47) 1,2-dichloroethane-d4 (s)	10.87	65	82245	46.96 ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 93.92%		
76) toluene-d8 (s)	12.92	98	232953	47.07 ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 94.14%		
100) 4-bromofluorobenzene (s)	15.43	95	82110	47.81 ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 95.62%		
Target Compounds					Qvalue
32) 1,1-dichloroethane	9.02	63	18246	6.25 ug/L	93
39) cis-1,2-dichloroethene	9.83	96	2849	1.74 ug/L	88
50) 1,1,1-trichloroethane	10.48	97	11142	4.42 ug/L	88
66) trichloroethene	11.67	95	2754	1.86 ug/L	92
82) 1,1,2-trichloroethane	13.39	83	469	0.46 ug/L	91
85) tetrachloroethene	13.56	164	18421	13.92 ug/L	97

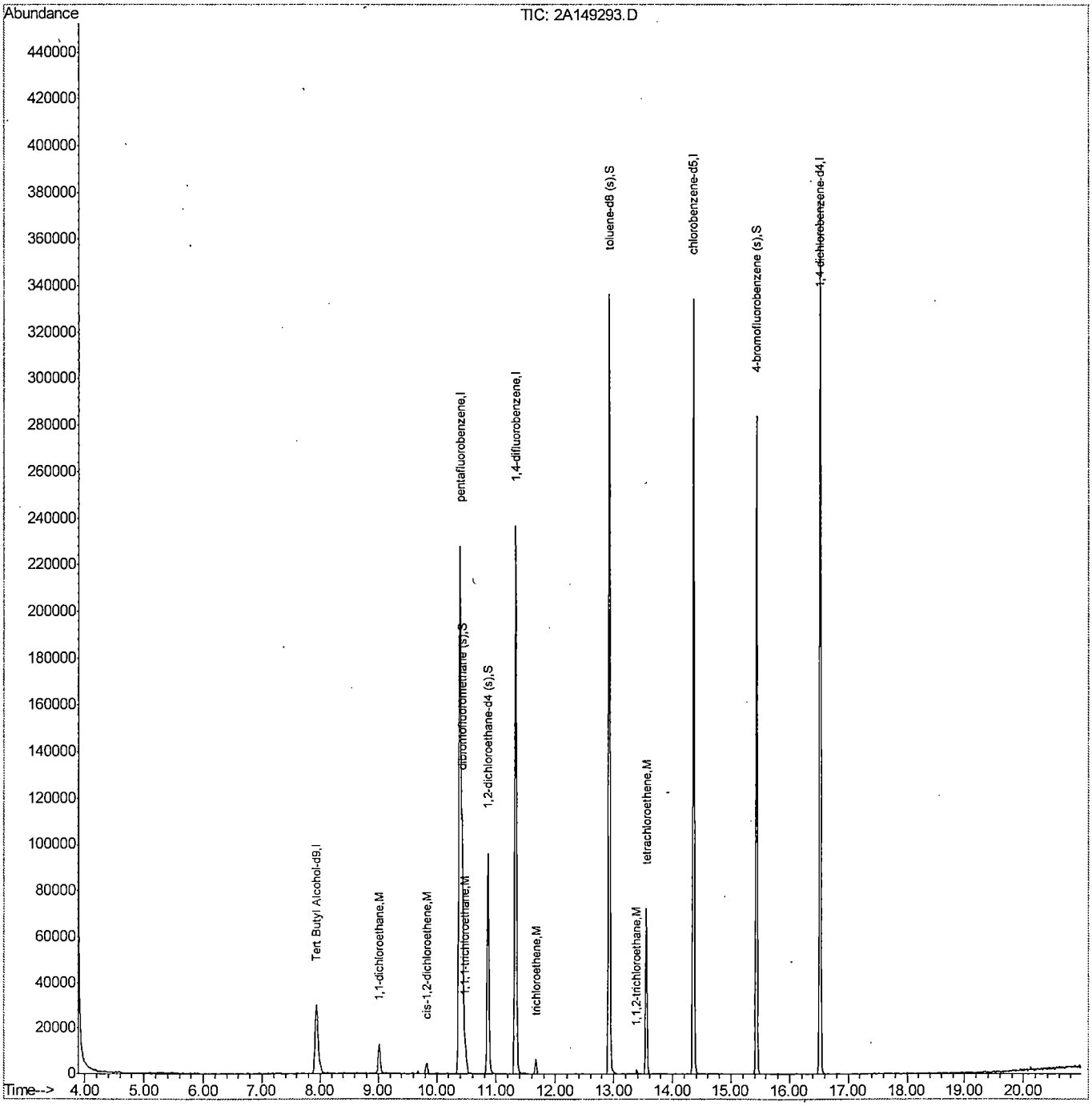
(#) = qualifier out of range (m) = manual integration (+) = signals summed

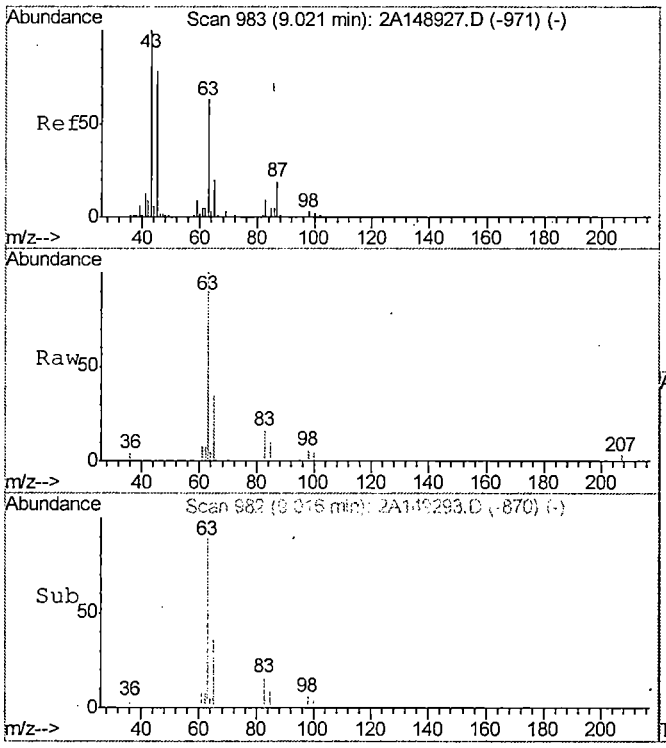
7.1.9

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 2A149293.D
Acq On : 9 Aug 2014 7:24 pm
Operator : Dejanas
Sample : jb73450-9
Misc : MS71808,V2A6362,w,,,,1
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Aug 12 11:47:09 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 28 10:27:41 2014
Response via : Initial Calibration

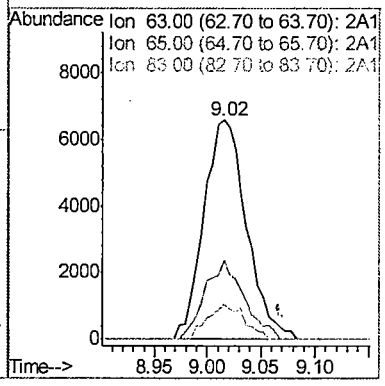


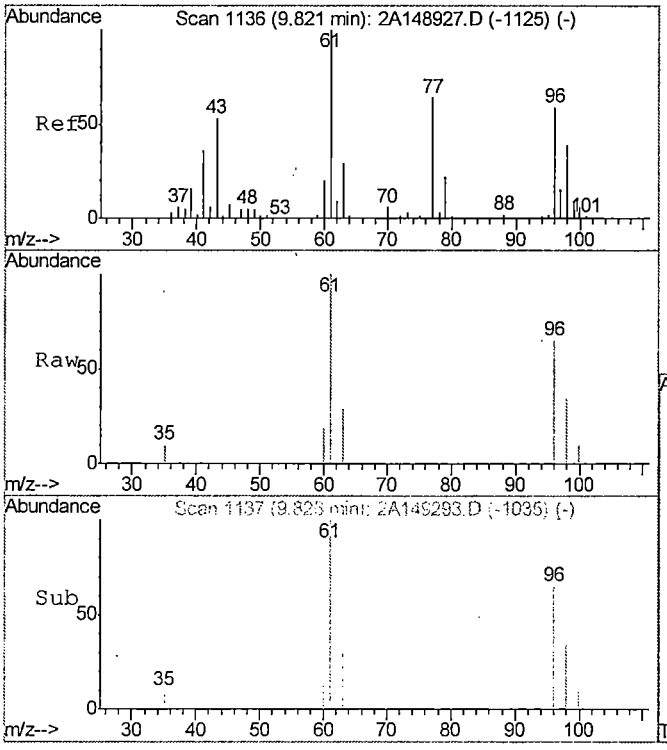


#32
1,1-dichloroethane
Concen: 6.25 ug/L
RT: 9.02 min Scan# 982
Delta R.T. -0.01 min
Lab File: 2A149293.D
Acq: 9 Aug 2014 7:24 pm

Tgt Ion: 63 Resp: 18246

Ion	Ratio	Lower	Upper
63	100		
65	35.8	1.9	61.9
83	16.0	0.0	43.8

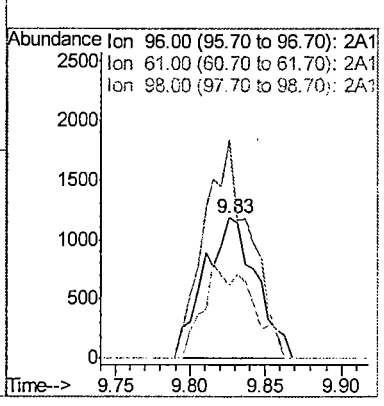




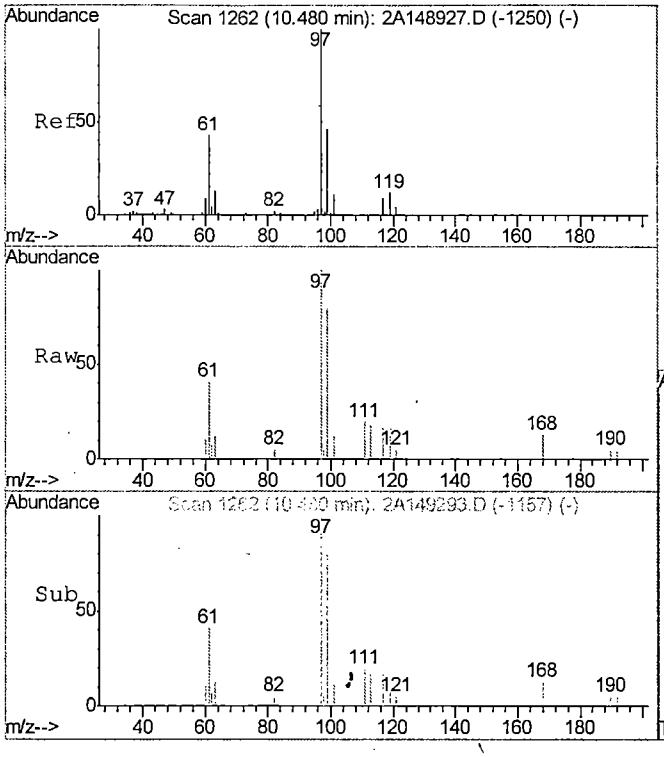
#39
cis-1,2-dichloroethene
Concen: 1.74 ug/L
RT: 9.83 min Scan# 1137
Delta R.T. 0.01 min
Lab File: 2A149293.D
Acq: 9 Aug 2014 7:24 pm

Tgt Ion: 96 Resp: 2849

Ion	Ratio	Lower	Upper
96	100		
61	154.4	138.9	198.9
98	52.3	35.8	95.8



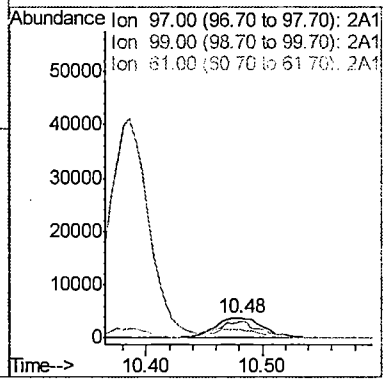
7.1.9

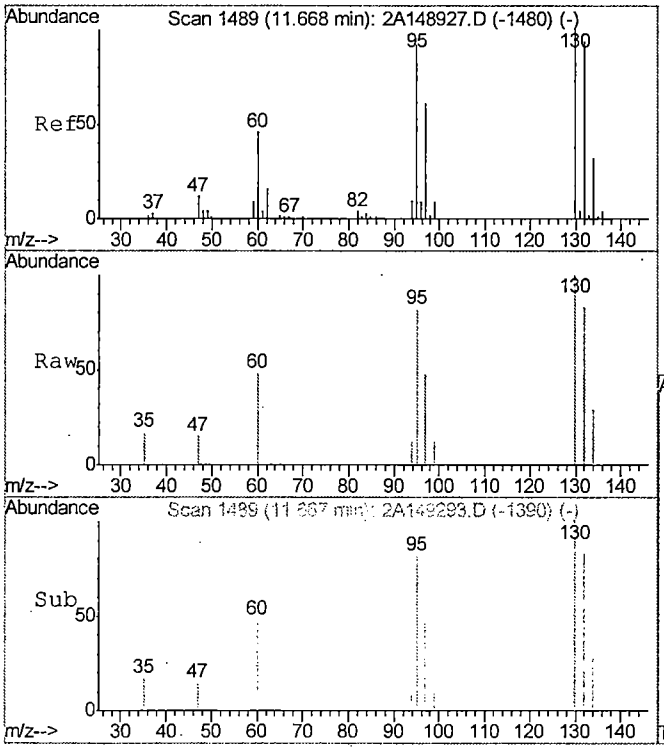


#50
1,1,1-trichloroethane
Concen: 4.42 ug/L
RT: 10.48 min Scan# 1262
Delta R.T. -0.00 min
Lab File: 2A149293.D
Acq: 9 Aug 2014 7:24 pm

Tgt Ion: 97 Resp: 11142

Ion	Ratio	Lower	Upper
97	100		
99	79.8	36.3	96.3
61	41.0	13.6	73.6

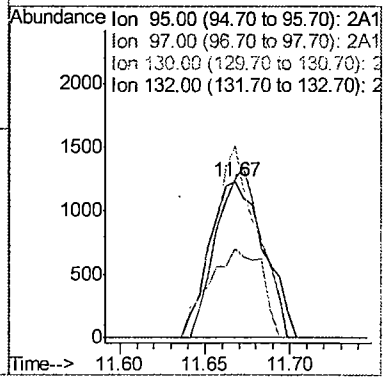




#66
trichloroethene
Concen: 1.86 ug/L
RT: 11.67 min Scan# 1489
Delta R.T. -0.00 min
Lab File: 2A149293.D
Acq: 9 Aug 2014 7:24 pm

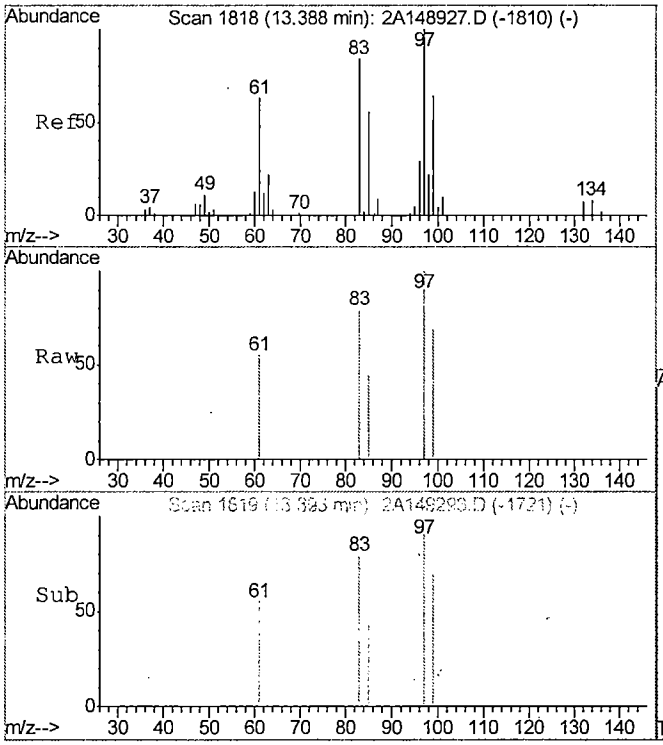
Tgt Ion: 95 Resp: 2754

Ion	Ratio	Lower	Upper
95	100		
97	57.2	36.8	96.8
130	122.6	78.7	138.7
132	101.8	71.6	131.6



7.1.9

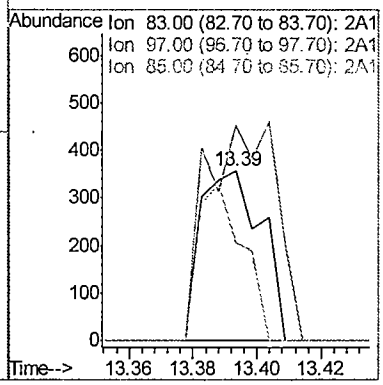
7

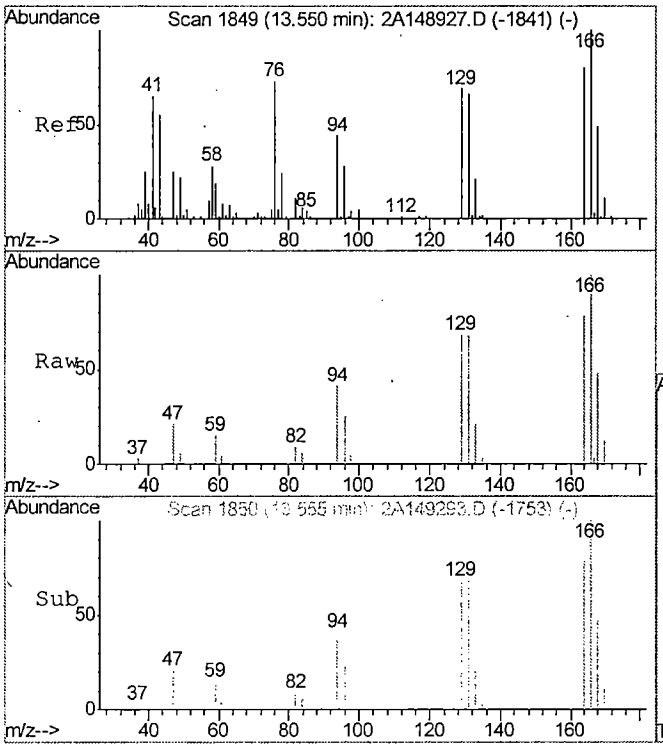


#82
1,1,2-trichloroethane
Concen: 0.46 ug/L
RT: 13.39 min Scan# 1819
Delta R.T. 0.01 min
Lab File: 2A149293.D
Acq: 9 Aug 2014 7:24 pm

Tgt Ion: 83 Resp: 469

Ion	Ratio	Lower	Upper
83	100		
97	127.2	88.8	148.8
85	57.7	36.4	96.4

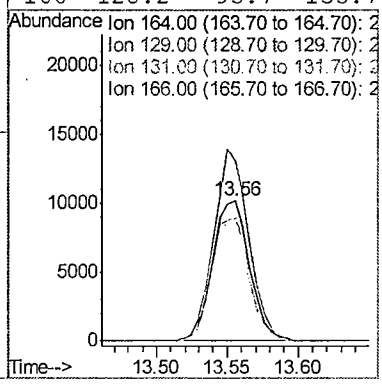




#85
tetrachloroethene
Concen: 13.92 ug/L
RT: 13.56 min Scan# 1850
Delta R.T. 0.01 min
Lab File: 2A149293.D
Acq: 9 Aug 2014 7:24 pm

Tgt Ion:164 Resp: 18421

Ion	Ratio	Lower	Upper
164	100		
129	87.0	57.2	117.2
131	87.3	52.4	112.4
166	128.2	95.7	155.7



Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 2A149312.D
Acq On : 10 Aug 2014 4:00 pm
Operator : Dejanas
Sample : jb73450-10
Misc : MS71808,V2A6363,w,,,,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Aug 11 12:47:46 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 28 10:27:41 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.94	65	86855	500.00	ug/L	0.00
5) pentafluorobenzene	10.39	168	282417	50.00	ug/L	0.00
52) 1,4-difluorobenzene	11.33	114	294477	50.00	ug/L	0.00
84) chlorobenzene-d5	14.36	117	240988	50.00	ug/L	0.00
98) 1,4-dichlorobenzene-d4	16.52	152	134211	50.00	ug/L	0.00
System Monitoring Compounds						
46) dibromofluoromethane (s)	10.43	113	93722	46.06	ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 92.12%			
47) 1,2-dichloroethane-d4 (s)	10.87	65	100115	42.18	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 84.36%			
76) toluene-d8 (s)	12.92	98	309856	47.44	ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 94.88%			
100) 4-bromofluorobenzene (s)	15.43	95	105914	45.82	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 91.64%			
Target Compounds						Qvalue
79) 3-methyl-1-butanol	12.92	55	1019	Below Cal	#	1

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

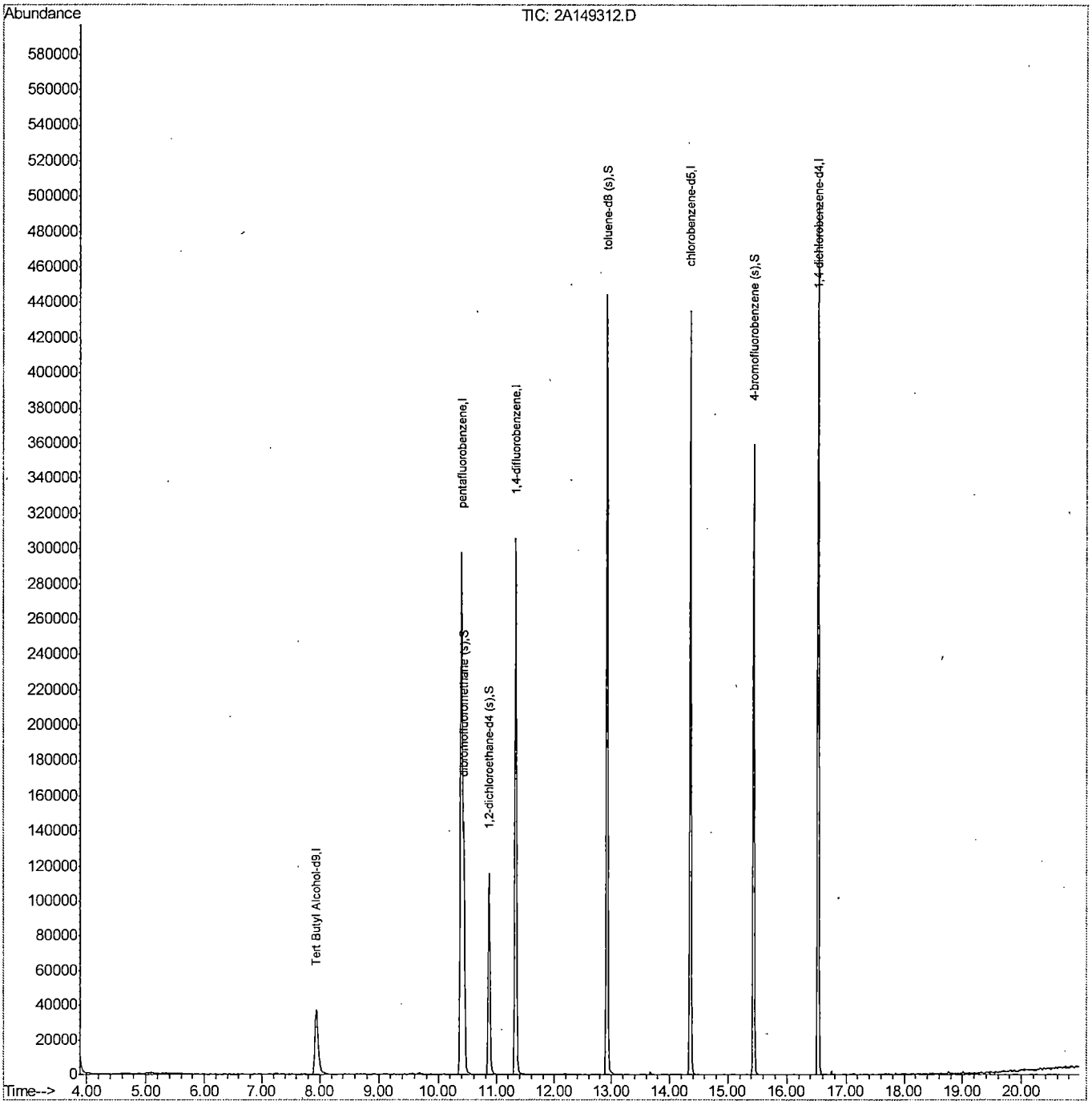
7.1.10

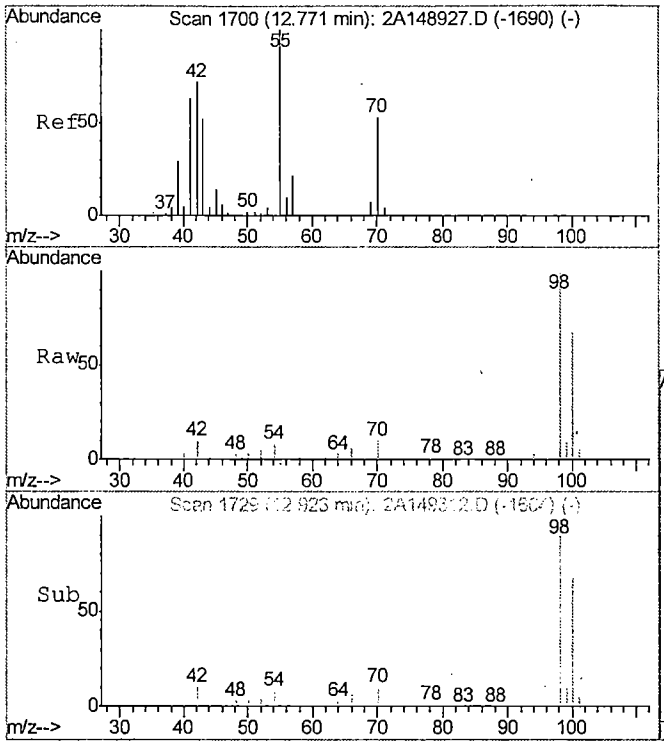
7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 2A149312.D
Acq On : 10 Aug 2014 4:00 pm
Operator : Dejanas
Sample : jb73450-10
Misc : MS71808,V2A6363,w,,,,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Aug 11 12:47:46 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 28 10:27:41 2014
Response via : Initial Calibration

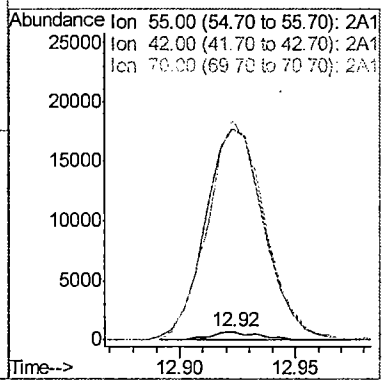




#79
3-methyl-1-butanol
Concen: Below Cal
RT: 12.92 min Scan# 1729
Delta R.T. 0.15 min
Lab File: 2A149312.D
Acq: 10 Aug 2014 4:00 pm

Tgt Ion: 55 Resp: 1019

Ion	Ratio	Lower	Upper
55	100		
42	2333.6	43.7	103.7#
70	2459.8	23.3	83.3#



Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 2A149294.D
Acq On : 9 Aug 2014 7:53 pm
Operator : Dejanas
Sample : jb73450-11
Misc : MS71808,V2A6362,w,,,,1
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Aug 12 11:50:10 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 28 10:27:41 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.94	65	75593	500.00	ug/L	0.00
5) pentafluorobenzene	10.39	168	199488	50.00	ug/L	0.00
52) 1,4-difluorobenzene	11.33	114	214167	50.00	ug/L	0.00
84) chlorobenzene-d5	14.36	117	172340	50.00	ug/L	0.00
98) 1,4-dichlorobenzene-d4	16.52	152	98326	50.00	ug/L	0.00
System Monitoring Compounds						
46) dibromofluoromethane (s)	10.43	113	69990	48.70	ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 97.40%			
47) 1,2-dichloroethane-d4 (s)	10.87	65	79656	47.52	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 95.04%			
76) toluene-d8 (s)	12.92	98	224467	47.26	ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 94.52%			
100) 4-bromofluorobenzene (s)	15.43	95	79073	46.69	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 93.38%			
Target Compounds						Qvalue
32) 1,1-dichloroethane	9.03	63	1554	0.56	ug/L	86
50) 1,1,1-trichloroethane	10.47	97	1737	0.72	ug/L	89
66) trichloroethene	11.67	95	573	0.40	ug/L #	65
85) tetrachloroethene	13.55	164	1023	0.82	ug/L #	53

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

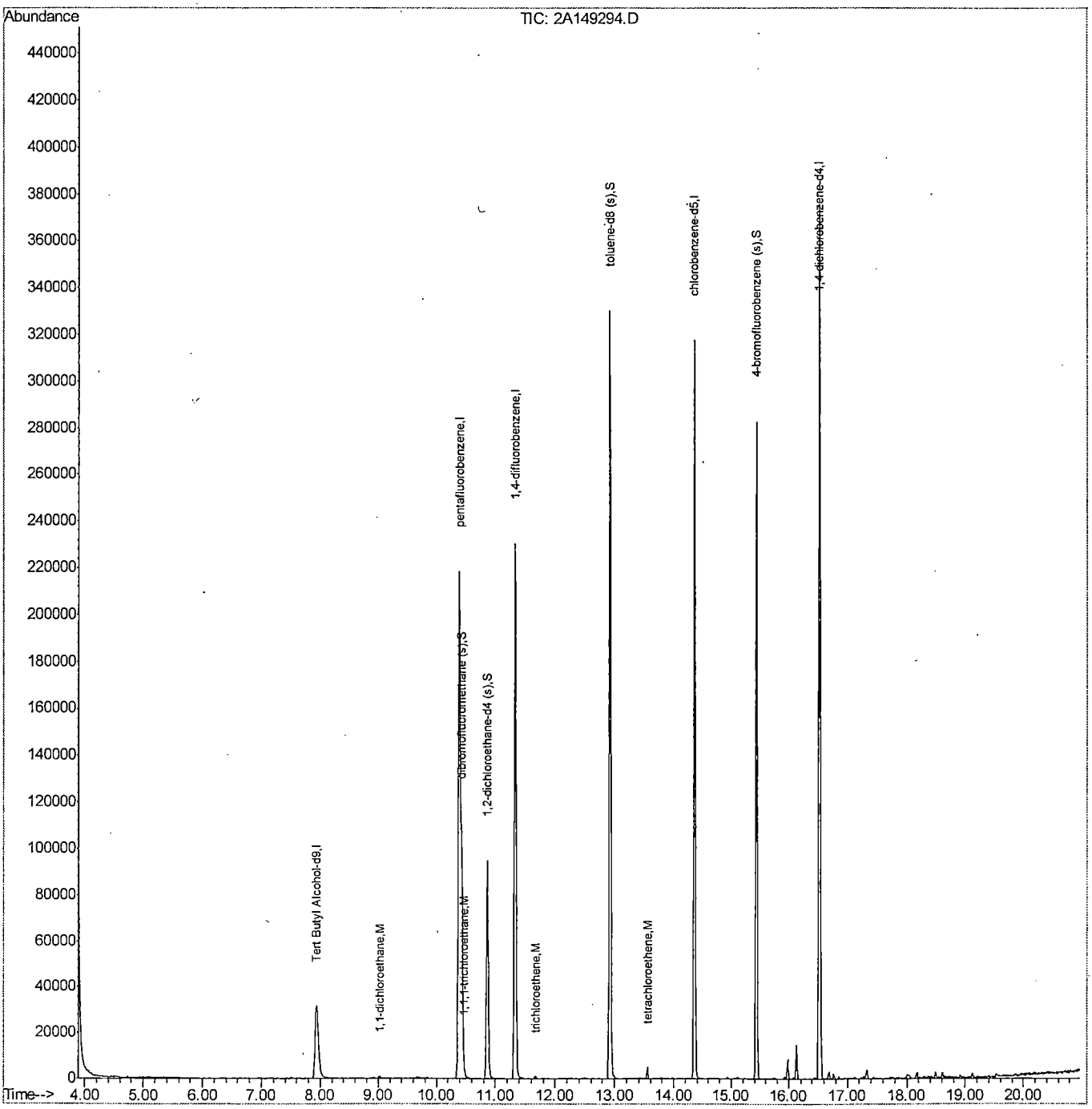
7.1.11

7

Quantitation Report (QT Reviewed)

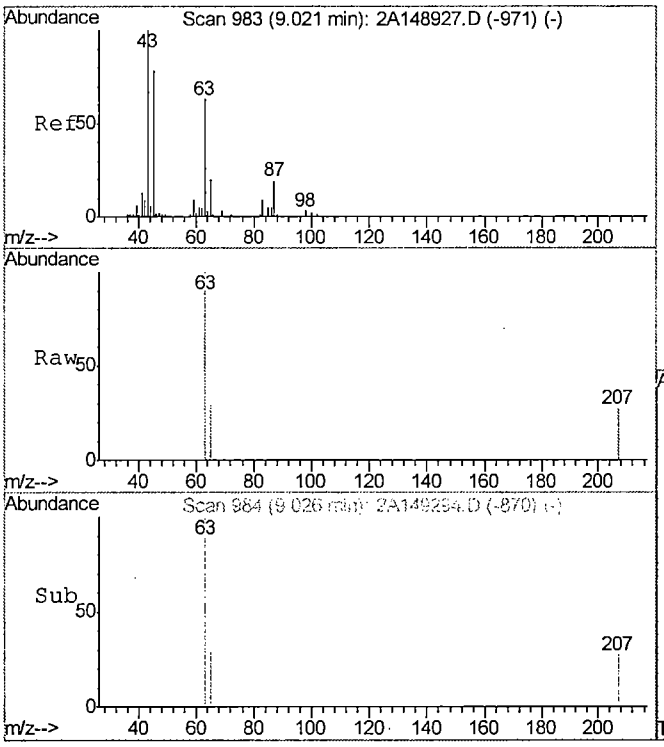
Data Path : C:\MSDCHEM\1\DATA\
Data File : 2A149294.D
Acq On : 9 Aug 2014 7:53 pm
Operator : Dejanas
Sample : jb73450-11
Misc : MS71808,V2A6362,w,,,,1
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Aug 12 11:50:10 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 28 10:27:41 2014
Response via : Initial Calibration



7.1.11

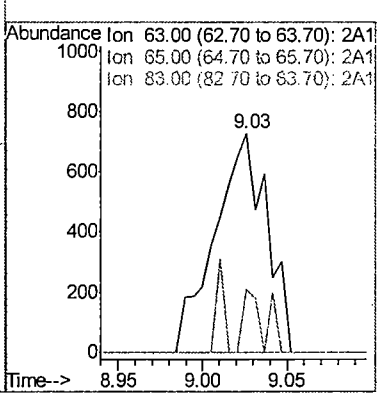
7

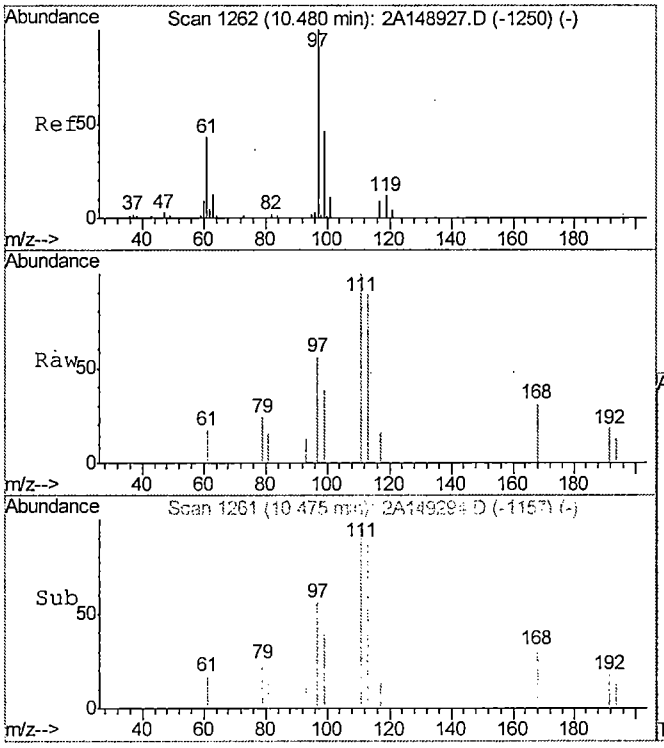


#32
1,1-dichloroethane
Concen: 0.56 ug/L
RT: 9.03 min Scan# 984
Delta R.T. 0.01 min
Lab File: 2A149294.D
Acq: 9 Aug 2014 7:53 pm

Tgt Ion: 63 Resp: 1554

Ion	Ratio	Lower	Upper
63	100		
65	29.1	1.9	61.9
83	0.0	0.0	43.8

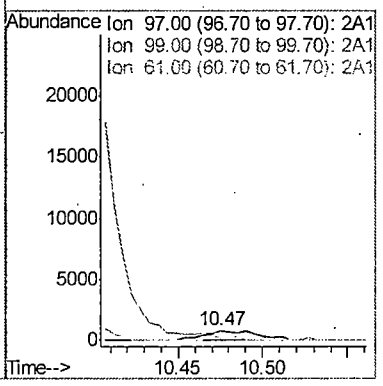




#50
1,1,1-trichloroethane
Concen: 0.72 ug/L
RT: 10.47 min Scan# 1261
Delta R.T. -0.01 min
Lab File: 2A149294.D
Acq: 9 Aug 2014 7:53 pm

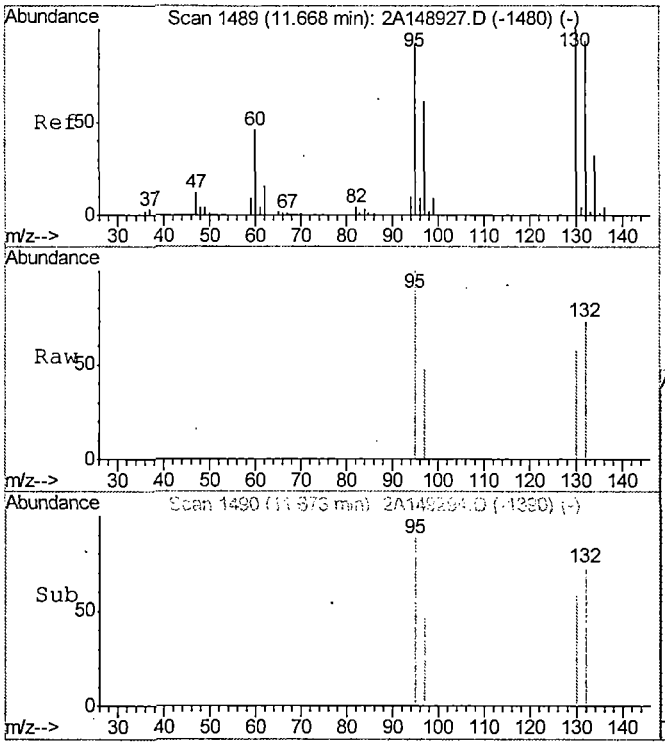
Tgt Ion: 97 Resp: 1737

Ion	Ratio	Lower	Upper
97	100		
99	70.1	36.3	96.3
61	30.3	13.6	73.6



7.1.11

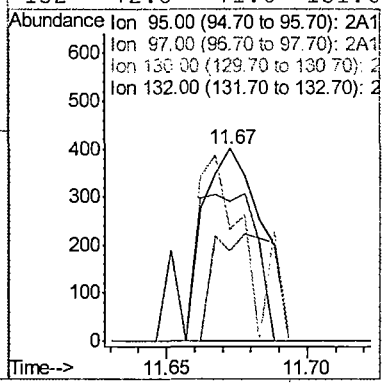
7

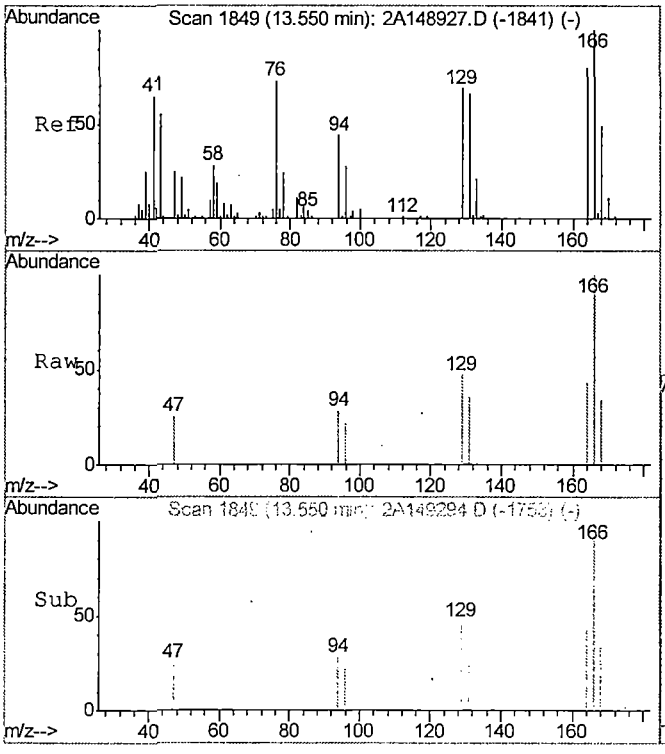


#66
trichloroethene
Concen: 0.40 ug/L
RT: 11.67 min Scan# 1490
Delta R.T. 0.01 min
Lab File: 2A149294.D
Acq: 9 Aug 2014 7:53 pm

Tgt Ion: 95 Resp: 573

Ion	Ratio	Lower	Upper
95	100		
97	46.9	36.8	96.8
130	58.4	78.7	138.7#
132	72.8	71.6	131.6

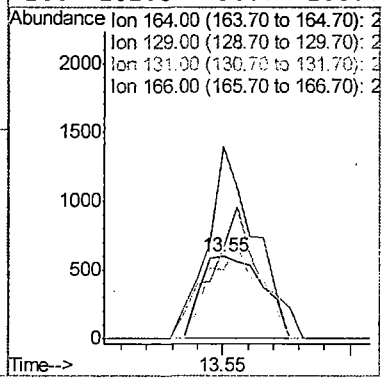




#85
tetrachloroethene
Concen: 0.82 ug/L
RT: 13.55 min Scan# 1849
Delta R.T. 0.00 min
Lab File: 2A149294.D
Acq: 9 Aug 2014 7:53 pm

Tgt Ion:164 Resp: 1023

Ion	Ratio	Lower	Upper
164	100		
129	109.5	57.2	117.2
131	84.0	52.4	112.4
166	232.3	95.7	155.7#



7.1.11

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 2A149313.D
Acq On : 10 Aug 2014 4:30 pm
Operator : Dejanas
Sample : jb73450-12
Misc : MS71808,V2A6363,w,,,,1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Aug 11 12:50:45 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 28 10:27:41 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.93	65	80792	500.00	ug/L	-0.01
5) pentafluorobenzene	10.39	168	252896	50.00	ug/L	0.00
52) 1,4-difluorobenzene	11.33	114	270453	50.00	ug/L	0.00
84) chlorobenzene-d5	14.36	117	217197	50.00	ug/L	0.00
98) 1,4-dichlorobenzene-d4	16.52	152	118225	50.00	ug/L	0.00
System Monitoring Compounds						
46) dibromofluoromethane (s)	10.43	113	86589	47.53	ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 95.06%			
47) 1,2-dichloroethane-d4 (s)	10.87	65	95405	44.89	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 89.78%			
76) toluene-d8 (s)	12.92	98	284868	47.49	ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 94.98%			
100) 4-bromofluorobenzene (s)	15.43	95	97618	47.94	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 95.88%			

Target Compounds	Qvalue

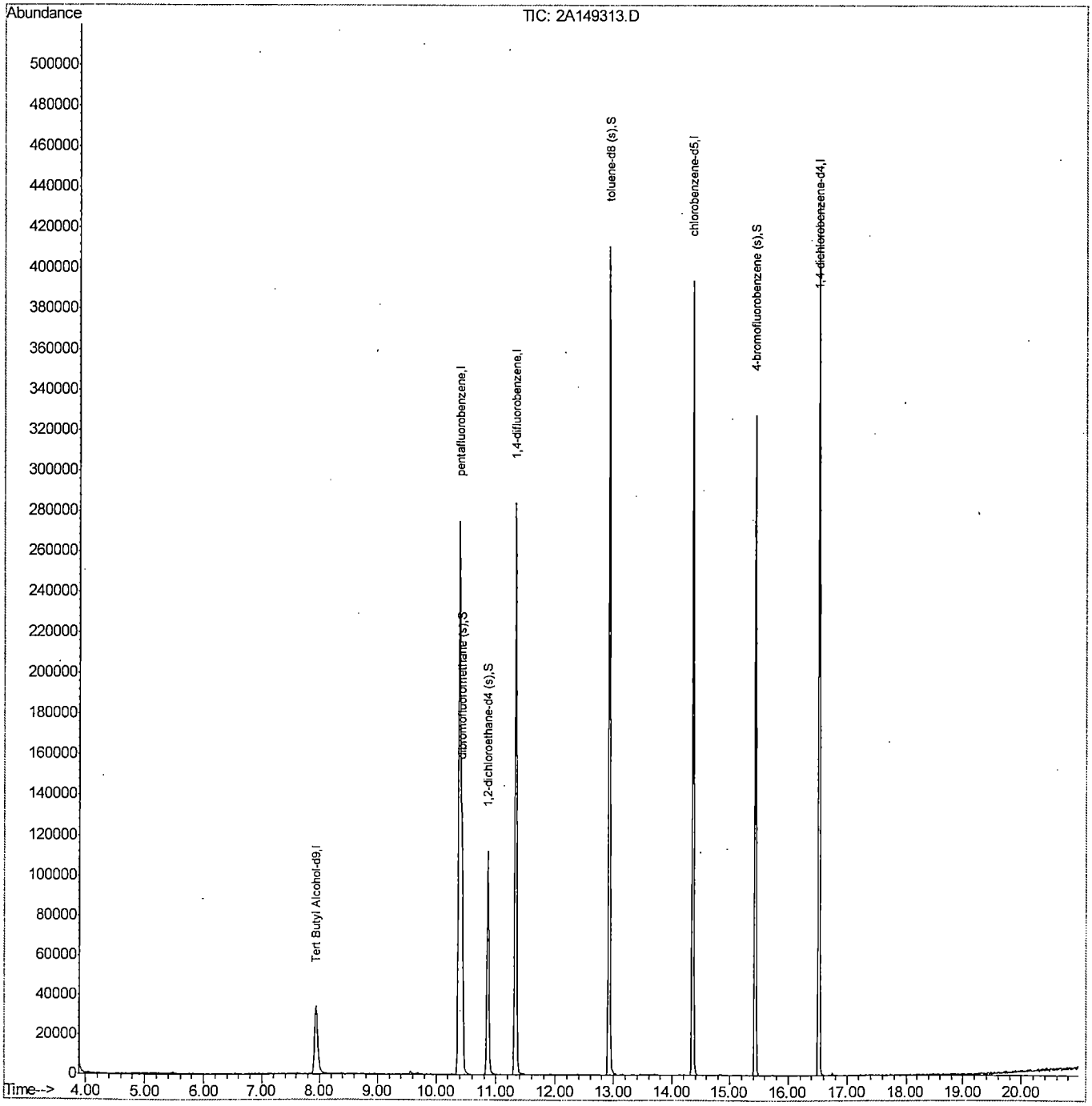
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.12 7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 2A149313.D
Acq On : 10 Aug 2014 4:30 pm
Operator : Dejanas
Sample : jb73450-12
Misc : MS71808,V2A6363,w,,,,1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Aug 11 12:50:45 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 28 10:27:41 2014
Response via : Initial Calibration



M2A6348.M Mon Aug 11 14:41:00 2014 MS2A

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 2A149275.D
Acq On : 9 Aug 2014 10:19 am
Operator : Dejanas
Sample : mb
Misc : MS71835,V2A6362,w,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 12 11:25:03 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 28 10:27:41 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.94	65	62623	500.00	ug/L	0.00
5) pentafluorobenzene	10.39	168	189423	50.00	ug/L	0.00
52) 1,4-difluorobenzene	11.33	114	199420	50.00	ug/L	0.00
84) chlorobenzene-d5	14.36	117	168788	50.00	ug/L	0.00
98) 1,4-dichlorobenzene-d4	16.52	152	91916	50.00	ug/L	0.00
System Monitoring Compounds						
46) dibromofluoromethane (s)	10.43	113	66519	48.74	ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 97.48%			
47) 1,2-dichloroethane-d4 (s)	10.87	65	75336	47.33	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 94.66%			
76) toluene-d8 (s)	12.92	98	213417	48.25	ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 96.50%			
100) 4-bromofluorobenzene (s)	15.43	95	74761	47.23	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 94.46%			

Target Compounds	Qvalue

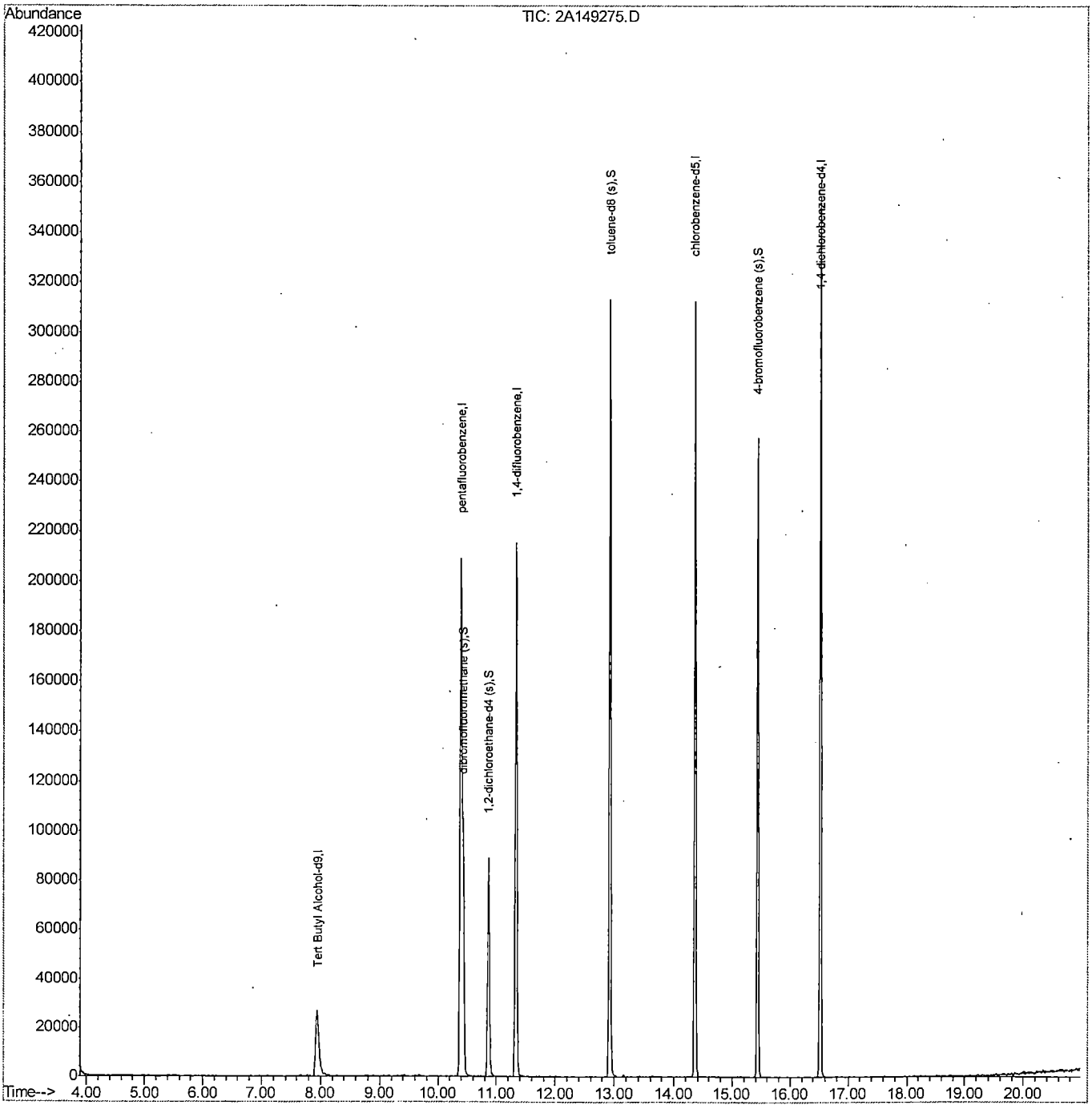
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.2.1
7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 2A149275.D
Acq On : 9 Aug 2014 10:19 am
Operator : Dejanas
Sample : mb
Misc : MS71835,V2A6362,w,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 12 11:25:03 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 28 10:27:41 2014
Response via : Initial Calibration



7.2.1

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 2A149301.D
Acq On : 10 Aug 2014 10:30 am
Operator : Dejanas
Sample : mb
Misc : MS71835,V2A6363,w,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 11 11:45:13 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 28 10:27:41 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.94	65	71043	500.00 ug/L	0.00
5) pentafluorobenzene	10.39	168	218567	50.00 ug/L	0.00
52) 1,4-difluorobenzene	11.33	114	229247	50.00 ug/L	0.00
84) chlorobenzene-d5	14.36	117	182419	50.00 ug/L	0.00
98) 1,4-dichlorobenzene-d4	16.52	152	103413	50.00 ug/L	0.00
System Monitoring Compounds					
46) dibromofluoromethane (s)	10.43	113	76288	48.45 ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 96.90%		
47) 1,2-dichloroethane-d4 (s)	10.86	65	84348	45.92 ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 91.84%		
76) toluene-d8 (s)	12.92	98	238040	46.82 ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 93.64%		
100) 4-bromofluorobenzene (s)	15.43	95	80397	45.14 ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 90.28%		
Target Compounds					Qvalue

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

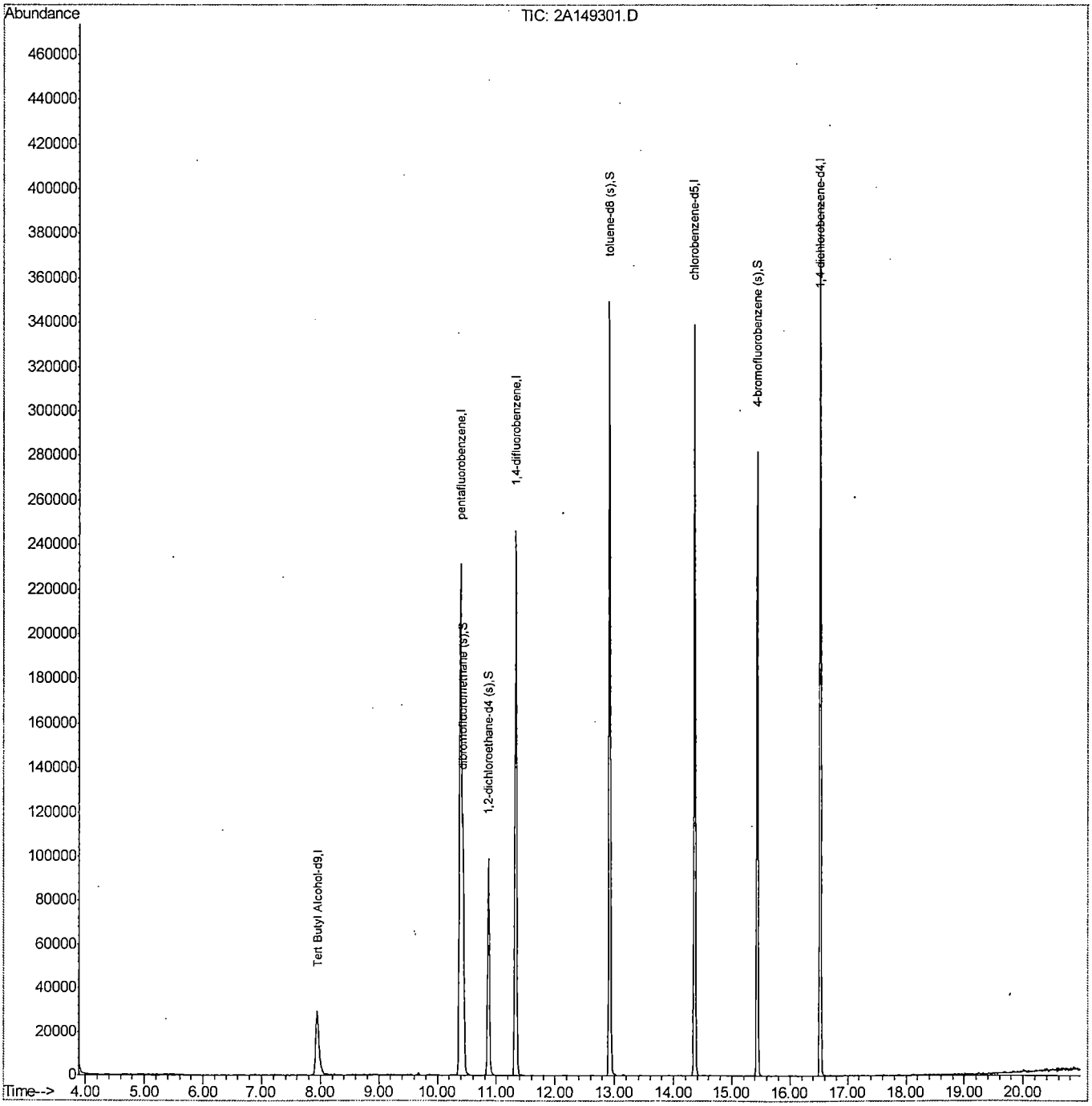
7.2.2

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 2A149301.D
Acq On : 10 Aug 2014 10:30 am
Operator : Dejanas
Sample : mb
Misc : MS71835,V2A6363,w,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 11 11:45:13 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 28 10:27:41 2014
Response via : Initial Calibration



7.2.2

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 2A149276.D
Acq On : 9 Aug 2014 10:57 am
Operator : Dejanas
Sample : bs
Misc : MS71575,V2A6362,w,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 12 11:26:27 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 28 10:27:41 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Tert Butyl Alcohol-d9	7.94	65	63809	500.00	ug/L		0.00
5) pentafluorobenzene	10.39	168	187519	50.00	ug/L		0.00
52) 1,4-difluorobenzene	11.33	114	201813	50.00	ug/L		0.00
84) chlorobenzene-d5	14.36	117	166433	50.00	ug/L		0.00
98) 1,4-dichlorobenzene-d4	16.52	152	104054	50.00	ug/L		0.00
System Monitoring Compounds							
46) dibromofluoromethane (s)	10.43	113	65012	48.12	ug/L		0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 96.24%				
47) 1,2-dichloroethane-d4 (s)	10.86	65	75702	48.04	ug/L		0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 96.08%				
76) toluene-d8 (s)	12.93	98	214108	47.83	ug/L		0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 95.66%				
100) 4-bromofluorobenzene (s)	15.44	95	77498	43.25	ug/L		0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 86.50%				
Target Compounds							Qvalue
2) tertiary butyl alcohol	8.07	59	36268	238.54	ug/L		90
3) Ethanol	6.55	45	60646	5320.83	ug/L		99
4) 1,4-dioxane	12.04	88	14271	1382.40	ug/L		95
7) chlorodifluoromethane	4.21	51	49166	35.71	ug/L		95
8) dichlorodifluoromethane	4.18	85	88701	41.52	ug/L		94
10) chloromethane	4.54	50	87476	37.81	ug/L		96
11) vinyl chloride	4.82	62	71830	36.70	ug/L		98
12) bromomethane	5.52	94	42666	38.26	ug/L		97
13) chloroethane	5.72	64	34187	37.22	ug/L		95
14) trichlorofluoromethane	6.25	101	103672	42.69	ug/L		97
16) ethyl ether	6.69	74	31759	46.61	ug/L		88
18) acrolein	6.97	56	95882	352.86	ug/L		93
19) 1,1-dichloroethene	7.16	96	56447	45.59	ug/L		93
20) acetone	7.22	43	18096	40.99	ug/L		95
21) allyl chloride	7.75	76	36059	52.22	ug/L		92
22) acetonitrile	7.71	40	56130	465.70	ug/L		95
23) iodomethane	7.46	142	116072	47.54	ug/L		96
24) iso-butyl alcohol	10.94	74	20530	486.53	ug/L	#	100
25) carbon disulfide	7.60	76	198855	44.47	ug/L		99
26) methylene chloride	7.96	84	64058	45.71	ug/L		98
27) methyl acetate	7.74	74	8394	42.47	ug/L		93
28) methyl tert butyl ether	8.34	73	365752	87.87	ug/L		96
29) trans-1,2-dichloroethene	8.39	96	62992	47.18	ug/L		92
30) di-isopropyl ether	9.01	45	205045	41.74	ug/L		97
31) 2-butanone	9.78	72	7315	50.41	ug/L	#	68
32) 1,1-dichloroethane	9.01	63	120558	45.93	ug/L		98
33) chloroprene	9.13	53	92836	42.79	ug/L		96
34) acrylonitrile	8.34	53	108036	225.79	ug/L		100
35) vinyl acetate	9.01	86	10603	49.82	ug/L		81
36) ethyl tert-butyl ether	9.51	59	198455	41.70	ug/L		97
37) ethyl acetate	9.81	45	8312	46.65	ug/L		92
38) 2,2-dichloropropane	9.81	77	108899	49.45	ug/L		94
39) cis-1,2-dichloroethene	9.82	96	71458	48.40	ug/L		92

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 2A149276.D
Acq On : 9 Aug 2014 10:57 am
Operator : Dejanas
Sample : bs
Misc : MS71575,V2A6362,w,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 12 11:26:27 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 28 10:27:41 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
40) methylacrylate	9.89	85	9511	49.05	ug/L		86
41) propionitrile	9.88	54	88746	482.39	ug/L		100
42) bromochloromethane	10.15	128	38973	51.27	ug/L		88
43) tetrahydrofuran	10.20	42	22310	46.51	ug/L		94
44) chloroform	10.22	85	81583	47.98	ug/L		97
45) t-butyl formate	10.24	59	59783	54.62	ug/L		99
48) freon 113	7.13	151	46991	46.45	ug/L		99
49) methacrylonitrile	10.08	41	38557	44.67	ug/L		94
50) 1,1,1-trichloroethane	10.48	97	117173	51.71	ug/L		98
51) Cyclohexane	10.55	84	97906	48.81	ug/L		93
53) epichlorohydrin	12.56	57	26345	233.60	ug/L		90
54) n-butyl alcohol	11.47	56	95782	3064.14	ug/L		97
55) carbon tetrachloride	10.69	117	116630	54.38	ug/L		98
56) 1,1-dichloropropene	10.67	75	89967	49.06	ug/L		96
57) hexane	8.72	57	79887	46.18	ug/L		98
59) 2,2,4-TRIMETHYLPENTANE	10.94	57	194142	41.90	ug/L	#	99
60) benzene	10.94	78	256708	49.00	ug/L		100
61) tert-amyl methyl ether	10.98	87	46395	47.77	ug/L		90
62) heptane	11.12	57	36758	37.73	ug/L		95
63) isopropyl acetate	10.88	43	124065	44.82	ug/L		96
64) 1,2-dichloroethane	10.96	62	101604	50.37	ug/L		96
66) trichloroethene	11.66	95	68030	50.84	ug/L		98
68) methyl methacrylate	11.93	41	101329	46.89	ug/L		98
69) 2-nitropropane	12.42	41	25968	47.13	ug/L		99
70) 2-chloroethyl vinyl ether	12.44	63	174755	243.22	ug/L		96
71) 1,2-dichloropropane	11.92	63	65241	47.99	ug/L		98
72) dibromomethane	12.08	93	42663	51.79	ug/L		95
73) methylcyclohexane	11.88	83	91944	42.47	ug/L		93
74) bromodichloromethane	12.21	83	97318	51.50	ug/L		99
75) cis-1,3-dichloropropene	12.65	75	105881	48.13	ug/L		99
77) 4-methyl-2-pentanone	12.74	58	21920	48.45	ug/L		96
78) toluene	13.00	92	154179	50.41	ug/L		97
79) 3-methyl-1-butanol	12.77	55	59506	1283.49	ug/L		96
80) trans-1,3-dichloropropene	13.18	75	98313	47.37	ug/L		93
81) ethyl methacrylate	13.18	69	71655	47.28	ug/L		97
82) 1,1,2-trichloroethane	13.39	83	45659	49.91	ug/L		97
83) 2-hexanone	13.56	58	19722	47.64	ug/L		98
85) tetrachloroethene	13.56	164	64482	53.32	ug/L		96
86) 1,3-dichloropropane	13.56	76	87368	48.19	ug/L		96
87) butyl acetate	13.62	56	34667	44.14	ug/L		99
88) 3,3-dimethyl-1-butanol	13.72	57	65672	617.80	ug/L		97
89) dibromochloromethane	13.81	129	77637	50.80	ug/L		94
90) 1,2-dibromoethane	13.95	107	57517	50.17	ug/L		95
91) chlorobenzene	14.38	112	176910	50.52	ug/L		100
92) 1,1,1,2-tetrachloroethane	14.44	131	74174	51.91	ug/L		99
93) ethylbenzene	14.43	91	282126	49.55	ug/L		99
94) m,p-xylene	14.53	106	227891	104.54	ug/L		94
95) o-xylene	14.93	106	112448	52.86	ug/L		94
96) styrene	14.94	104	187704	52.18	ug/L		96
97) bromoform	15.19	173	58991	50.97	ug/L		99

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 2A149276.D
Acq On : 9 Aug 2014 10:57 am
Operator : Dejanas
Sample : bs
Misc : MS71575,V2A6362,w,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 12 11:26:27 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 28 10:27:41 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
99) isopropylbenzene	15.24	105	298442	49.23 ug/L	98
101) cyclohexanone	15.40	98	8828	142.38 ug/L	96
102) bromobenzene	15.62	156	92416	51.06 ug/L	93
103) 1,1,2,2-tetrachloroethane	15.53	83	68867	42.51 ug/L	96
104) trans-1,4-dichloro-2-buten	15.57	53	19667	41.71 ug/L	95
105) 1,2,3-trichloropropane	15.60	110	19321	46.46 ug/L	96
106) n-propylbenzene	15.63	120	82946	53.27 ug/L	90
107) 2-chlorotoluene	15.76	126	77584	49.35 ug/L	96
108) 4-chlorotoluene	15.86	126	79966	49.78 ug/L	95
109) 1,3,5-trimethylbenzene	15.76	105	254871	48.34 ug/L	95
110) tert-butylbenzene	16.09	119	230136	51.48 ug/L	98
111) pentachloroethane	16.17	167	66096	55.46 ug/L	97
112) 1,2,4-trimethylbenzene	16.13	105	264936	50.94 ug/L	96
113) sec-butylbenzene	16.29	105	325902	49.95 ug/L	98
114) 1,3-dichlorobenzene	16.46	146	172333	49.84 ug/L	99
115) p-isopropyltoluene	16.40	119	293973	51.44 ug/L	99
116) 1,4-dichlorobenzene	16.54	146	173420	48.86 ug/L	98
117) 1,2-dichlorobenzene	16.91	146	171060	50.27 ug/L	99
118) benzyl chloride	16.65	91	156395	47.68 ug/L	100
119) n-butylbenzene	16.79	92	140042	50.50 ug/L	95
120) 1,2-dibromo-3-chloropropan	17.66	75	15731	46.58 ug/L	91
121) 1,3,5-TRICHLOROBENZENE	17.85	180	166006	54.43 ug/L	98
122) 1,2,4-trichlorobenzene	18.49	180	145453	54.27 ug/L	97
123) hexachlorobutadiene	18.60	225	82790	55.90 ug/L	98
124) naphthalene	18.76	128	264531	51.85 ug/L	99
125) 1,2,3-trichlorobenzene	19.02	180	133004	53.64 ug/L	99
126) hexachloroethane	17.16	201	67374	55.16 ug/L	95

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

7.3.1

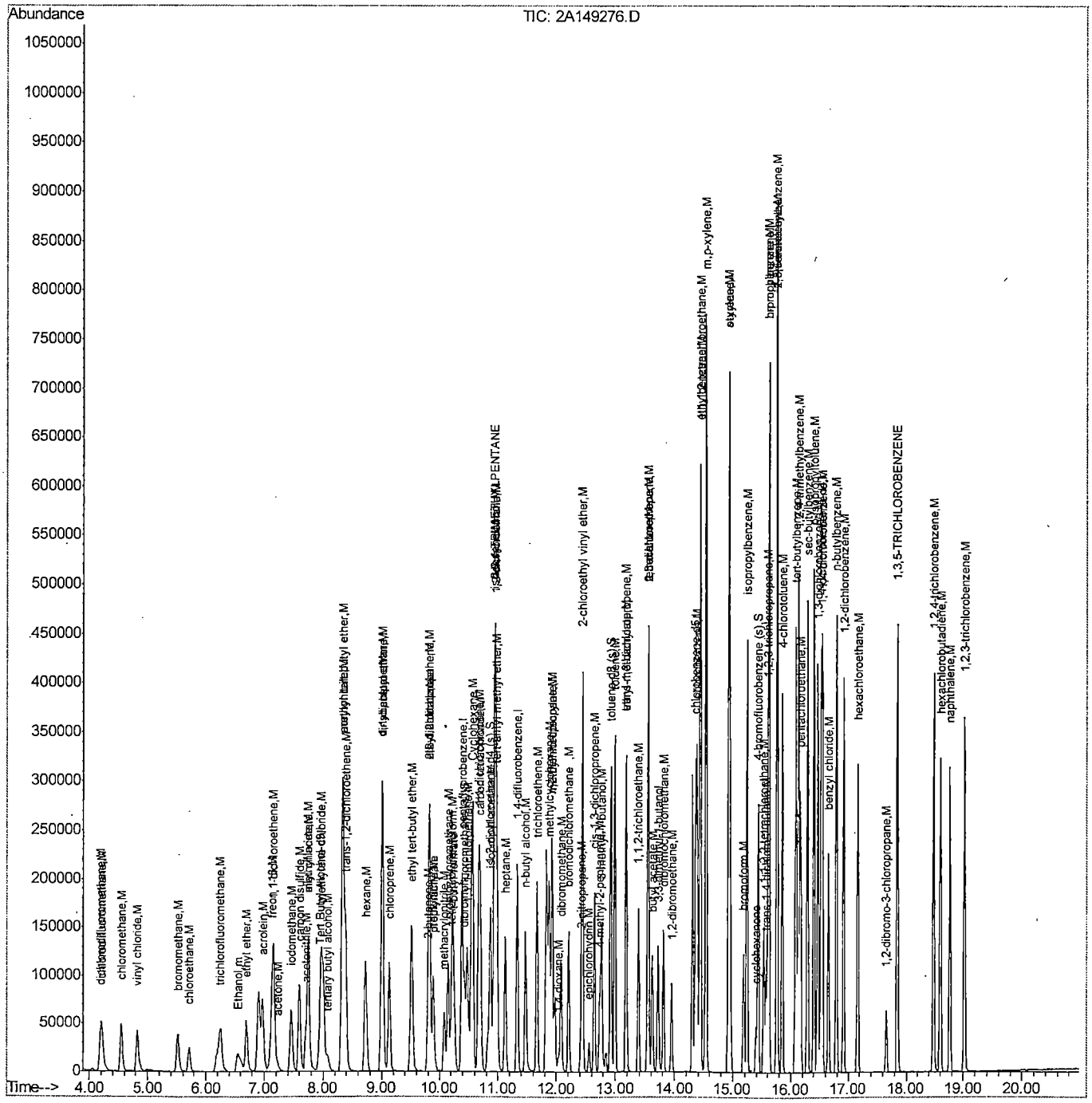
7

ACCUTEST LABORATORIES JB73450

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 2A149276.D
Acq On : 9 Aug 2014 10:57 am
Operator : Dejanas
Sample : bs
Misc : MS71575,V2A6362,w,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 12 11:26:27 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 28 10:27:41 2014
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 2A149302.D
Acq On : 10 Aug 2014 11:04 am
Operator : Dejanas
Sample : bs
Misc : MS71749,V2A6363,w,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 11 11:45:57 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 28 10:27:41 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Tert Butyl Alcohol-d9	7.94	65	67176	500.00	ug/L		0.00
5) pentafluorobenzene	10.39	168	203520	50.00	ug/L		0.00
52) 1,4-difluorobenzene	11.33	114	219847	50.00	ug/L		0.00
84) chlorobenzene-d5	14.36	117	184317	50.00	ug/L		0.00
98) 1,4-dichlorobenzene-d4	16.52	152	114934	50.00	ug/L		0.00
System Monitoring Compounds							
46) dibromofluoromethane (s)	10.43	113	71808	48.98	ug/L		0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 97.96%				
47) 1,2-dichloroethane-d4 (s)	10.87	65	81043	47.38	ug/L		0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 94.76%				
76) toluene-d8 (s)	12.92	98	232574	47.70	ug/L		0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 95.40%				
100) 4-bromofluorobenzene (s)	15.43	95	84557	42.72	ug/L		0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 85.44%				
Target Compounds							Qvalue
2) tertiary butyl alcohol	8.07	59	39990	249.84	ug/L		91
3) Ethanol	6.55	45	67940	5662.01	ug/L		98
4) 1,4-dioxane	12.04	88	16019	1473.94	ug/L		91
7) chlorodifluoromethane	4.22	51	60452	40.45	ug/L		95
8) dichlorodifluoromethane	4.20	85	94254	40.65	ug/L		97
10) chloromethane	4.56	50	89162	35.51	ug/L		99
11) vinyl chloride	4.83	62	76695	36.10	ug/L		96
12) bromomethane	5.53	94	45714	37.77	ug/L		95
13) chloroethane	5.73	64	36568	36.68	ug/L		94
14) trichlorofluoromethane	6.26	101	84827	32.18	ug/L		98
16) ethyl ether	6.70	74	36738	49.68	ug/L		90
18) acrolein	6.98	56	115450	391.46	ug/L		93
19) 1,1-dichloroethene	7.16	96	64097	47.70	ug/L		96
20) acetone	7.23	43	20059	41.87	ug/L		96
21) allyl chloride	7.76	76	38544	51.43	ug/L		96
22) acetonitrile	7.71	40	60217	460.32	ug/L		92
23) iodomethane	7.47	142	130456	49.23	ug/L		99
24) iso-butyl alcohol	10.95	74	23207	504.17	ug/L	#	45
25) carbon disulfide	7.60	76	216297	44.56	ug/L		99
26) methylene chloride	7.97	84	71598	47.07	ug/L		98
27) methyl acetate	7.76	74	9411	43.79	ug/L		99
28) methyl tert butyl ether	8.34	73	406426	89.97	ug/L		97
29) trans-1,2-dichloroethene	8.39	96	69987	48.29	ug/L		96
30) di-isopropyl ether	9.01	45	231945	43.51	ug/L		99
31) 2-butanone	9.79	72	7753	49.23	ug/L		92
32) 1,1-dichloroethane	9.02	63	132702	46.59	ug/L		99
33) chloroprene	9.14	53	107432	45.62	ug/L		93
34) acrylonitrile	8.34	53	120356	231.77	ug/L		99
35) vinyl acetate	9.02	86	11641	50.40	ug/L		49
36) ethyl tert-butyl ether	9.51	59	221981	42.98	ug/L		97
37) ethyl acetate	9.81	45	8670	44.83	ug/L		85
38) 2,2-dichloropropane	9.82	77	115223	48.20	ug/L		97
39) cis-1,2-dichloroethene	9.82	96	78562	49.02	ug/L		89

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 2A149302.D
Acq On : 10 Aug 2014 11:04 am
Operator : Dejanas
Sample : bs
Misc : MS71749,V2A6363,w,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 11 11:45:57 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 28 10:27:41 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
40) methylacrylate	9.89	85	9996	47.58	ug/L		93
41) propionitrile	9.89	54	97495	488.28	ug/L		98
42) bromochloromethane	10.15	128	41931	50.83	ug/L		89
43) tetrahydrofuran	10.20	42	23535	45.20	ug/L		88
44) chloroform	10.22	85	87422	47.37	ug/L		99
45) t-butyl formate	10.25	59	65904	55.48	ug/L	#	89
48) freon 113	7.14	151	56648	51.60	ug/L		96
49) methacrylonitrile	10.09	41	41188	43.96	ug/L		97
50) 1,1,1-trichloroethane	10.48	97	125275	50.93	ug/L		97
51) Cyclohexane	10.56	84	104681	48.09	ug/L		93
53) epichlorohydrin	12.56	57	30259	246.29	ug/L		93
54) n-butyl alcohol	11.47	56	102521	3010.69	ug/L		98
55) carbon tetrachloride	10.69	117	124953	53.49	ug/L		99
56) 1,1-dichloropropene	10.67	75	95732	47.92	ug/L		97
57) hexane	8.72	57	77395	41.07	ug/L		96
59) 2,2,4-TRIMETHYLPENTANE	10.95	57	234908	46.54	ug/L	#	98
60) benzene	10.94	78	275861	48.34	ug/L		98
61) tert-amyl methyl ether	10.98	87	51187	48.38	ug/L		98
62) heptane	11.13	57	45764	43.12	ug/L		93
63) isopropyl acetate	10.88	43	137452	45.58	ug/L		97
64) 1,2-dichloroethane	10.96	62	105255	47.90	ug/L		98
66) trichloroethene	11.66	95	73339	50.31	ug/L		98
68) methyl methacrylate	11.93	41	111280	47.27	ug/L		98
69) 2-nitropropane	12.42	41	28076	46.77	ug/L		93
70) 2-chloroethyl vinyl ether	12.44	63	199288	254.61	ug/L		96
71) 1,2-dichloropropane	11.92	63	70065	47.31	ug/L		98
72) dibromomethane	12.08	93	46308	51.61	ug/L		96
73) methylcyclohexane	11.88	83	110194	46.72	ug/L		97
74) bromodichloromethane	12.21	83	105385	51.19	ug/L		99
75) cis-1,3-dichloropropene	12.65	75	112337	46.88	ug/L		94
77) 4-methyl-2-pentanone	12.74	58	25328	51.39	ug/L		95
78) toluene	13.00	92	165831	49.77	ug/L		97
79) 3-methyl-1-butanol	12.77	55	63151	1249.21	ug/L		92
80) trans-1,3-dichloropropene	13.19	75	104961	46.42	ug/L		97
81) ethyl methacrylate	13.18	69	78177	47.35	ug/L		95
82) 1,1,2-trichloroethane	13.39	83	50444	50.61	ug/L		99
83) 2-hexanone	13.56	58	22316	49.48	ug/L		95
85) tetrachloroethene	13.56	164	70687	52.78	ug/L		97
86) 1,3-dichloropropane	13.56	76	95096	47.36	ug/L		98
87) butyl acetate	13.62	56	38923	44.75	ug/L		93
88) 3,3-dimethyl-1-butanol	13.72	57	72019	611.45	ug/L		97
89) dibromochloromethane	13.81	129	85400	50.46	ug/L		100
90) 1,2-dibromoethane	13.95	107	64637	50.91	ug/L		99
91) chlorobenzene	14.39	112	191910	49.49	ug/L		98
92) 1,1,1,2-tetrachloroethane	14.44	131	80847	51.09	ug/L		97
93) ethylbenzene	14.43	91	306666	48.63	ug/L		99
94) m,p-xylene	14.53	106	245253	101.59	ug/L		95
95) o-xylene	14.93	106	121854	51.73	ug/L		92
96) styrene	14.94	104	206819	51.91	ug/L		97
97) bromoform	15.19	173	64606	50.41	ug/L		99

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 2A149302.D
Acq On : 10 Aug 2014 11:04 am
Operator : Dejanas
Sample : bs
Misc : MS71749,V2A6363,w,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 11 11:45:57 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 28 10:27:41 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
99) isopropylbenzene	15.24	105	314190	46.92 ug/L	97
101) cyclohexanone	15.40	98	9835	143.69 ug/L	90
102) bromobenzene	15.62	156	101806	50.92 ug/L	94
103) 1,1,2,2-tetrachloroethane	15.53	83	78485	43.86 ug/L	98
104) trans-1,4-dichloro-2-buten	15.57	53	19706	37.84 ug/L	93
105) 1,2,3-trichloropropane	15.60	110	21600	47.02 ug/L	94
106) n-propylbenzene	15.62	120	87905	51.11 ug/L	94
107) 2-chlorotoluene	15.76	126	83173	47.90 ug/L	96
108) 4-chlorotoluene	15.85	126	87986	49.58 ug/L	99
109) 1,3,5-trimethylbenzene	15.76	105	272711	46.83 ug/L	98
110) tert-butylbenzene	16.09	119	234884	47.57 ug/L	100
111) pentachloroethane	16.17	167	67569	51.33 ug/L	97
112) 1,2,4-trimethylbenzene	16.13	105	283351	49.32 ug/L	98
113) sec-butylbenzene	16.29	105	340163	47.20 ug/L	99
114) 1,3-dichlorobenzene	16.46	146	184865	48.41 ug/L	98
115) p-isopropyltoluene	16.40	119	308204	48.83 ug/L	99
116) 1,4-dichlorobenzene	16.54	146	190023	48.47 ug/L	99
117) 1,2-dichlorobenzene	16.91	146	183427	48.80 ug/L	99
118) benzyl chloride	16.65	91	174817	48.25 ug/L	99
119) n-butylbenzene	16.78	92	148599	48.52 ug/L	96
120) 1,2-dibromo-3-chloropropan	17.66	75	16952	45.45 ug/L	96
121) 1,3,5-TRICHLOROBENZENE	17.85	180	171521	50.92 ug/L	98
122) 1,2,4-trichlorobenzene	18.49	180	155074	52.38 ug/L	98
123) hexachlorobutadiene	18.60	225	84594	51.71 ug/L	97
124) naphthalene	18.76	128	282030	50.05 ug/L	99
125) 1,2,3-trichlorobenzene	19.02	180	136052	49.67 ug/L	98
126) hexachloroethane	17.16	201	68538	50.81 ug/L	96

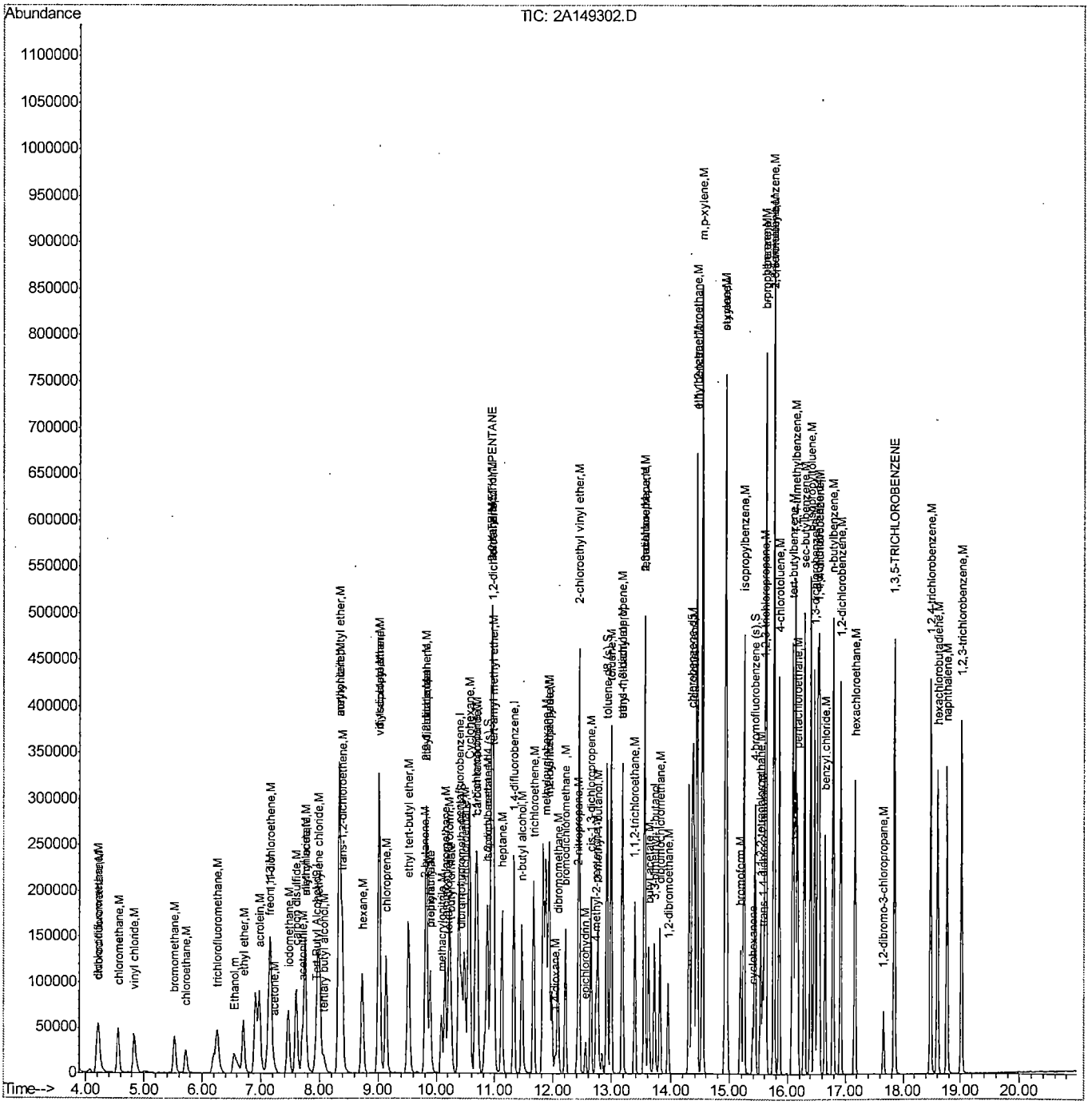
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.3.2 7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 2A149302.D
Acq On : 10 Aug 2014 11:04 am
Operator : Dejanas
Sample : bs
Misc : MS71749,V2A6363,w,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 11 11:45:57 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 28 10:27:41 2014
Response via : Initial Calibration



M2A6348.M Mon Aug 11 11:46:01 2014 MS2A

7.3.2

7

ACCUTEST LABORATORIES
JB73450

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 2A149282.D
Acq On : 9 Aug 2014 1:59 pm
Operator : Dejanas
Sample : jb73450-8ms
Misc : MS71808,V2A6362,w,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Aug 10 07:42:18 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 28 10:27:41 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Tert Butyl Alcohol-d9	7.94	65	70964	500.00	ug/L		0.00
5) pentafluorobenzene	10.39	168	184766	50.00	ug/L		0.00
52) 1,4-difluorobenzene	11.33	114	201090	50.00	ug/L		0.00
84) chlorobenzene-d5	14.36	117	167262	50.00	ug/L		0.00
98) 1,4-dichlorobenzene-d4	16.52	152	104565	50.00	ug/L		0.00
System Monitoring Compounds							
46) dibromofluoromethane (s)	10.43	113	66079	49.64	ug/L		0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 99.28%				
47) 1,2-dichloroethane-d4 (s)	10.87	65	77013	49.60	ug/L		0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 99.20%				
76) toluene-d8 (s)	12.93	98	212441	47.63	ug/L		0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 95.26%				
100) 4-bromofluorobenzene (s)	15.44	95	77941	43.28	ug/L		0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 86.56%				
Target Compounds							Qvalue
2) tertiary butyl alcohol	8.08	59	47372	280.16	ug/L		95
3) Ethanol	6.70	45	40430	3189.51	ug/L	#	39
4) 1,4-dioxane	12.03	88	20531	1788.26	ug/L		93
7) chlorodifluoromethane	4.23	51	54223	39.97	ug/L		98
8) dichlorodifluoromethane	4.20	85	102195	48.55	ug/L		99
10) chloromethane	4.56	50	100615	44.14	ug/L		96
11) vinyl chloride	4.84	62	83738	43.42	ug/L		98
12) bromomethane	5.53	94	47152	42.91	ug/L		93
13) chloroethane	5.72	64	39935	44.13	ug/L		97
14) trichlorofluoromethane	6.26	101	115993	48.48	ug/L		99
16) ethyl ether	6.70	74	34850	51.91	ug/L		89
18) acrolein	6.98	56	118112	441.14	ug/L		98
19) 1,1-dichloroethene	7.16	96	61749	50.62	ug/L		92
20) acetone	7.23	43	20297	46.66	ug/L		94
21) allyl chloride	7.76	76	32518	47.79	ug/L		98
22) acetonitrile	7.71	40	62614	527.23	ug/L		97
23) iodomethane	7.47	142	127831	53.14	ug/L		99
24) iso-butyl alcohol	10.95	74	23368	552.46	ug/L	#	73
25) carbon disulfide	7.60	76	198151	44.97	ug/L		99
26) methylene chloride	7.97	84	70332	50.93	ug/L		98
27) methyl acetate	7.74	74	10353	52.56	ug/L		99
28) methyl tert butyl ether	8.34	73	216070	52.69	ug/L		96
29) trans-1,2-dichloroethene	8.39	96	70730	53.76	ug/L		90
30) di-isopropyl ether	9.01	45	231696	47.87	ug/L		99
31) 2-butanone	9.79	72	8468	59.23	ug/L	#	69
32) 1,1-dichloroethane	9.02	63	137944	53.34	ug/L		99
33) chloroprene	9.14	53	103139	48.25	ug/L		98
34) acrylonitrile	8.34	53	125794	266.83	ug/L		98
35) vinyl acetate	9.02	86	11457	54.64	ug/L		83
36) ethyl tert-butyl ether	9.51	59	233863	49.87	ug/L		99
37) ethyl acetate	9.81	45	9420	53.65	ug/L		94
38) 2,2-dichloropropane	9.82	77	121437	55.96	ug/L		94
39) cis-1,2-dichloroethene	9.82	96	79699	54.78	ug/L		95

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 2A149282.D
Acq On : 9 Aug 2014 1:59 pm
Operator : Dejanas
Sample : jb73450-8ms
Misc : MS71808,V2A6362,w,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Aug 10 07:42:18 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 28 10:27:41 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
40) methylacrylate	9.89	85	10267	53.47	ug/L		91
41) propionitrile	9.88	54	103752	572.36	ug/L		92
42) bromochloromethane	10.15	128	43221	57.71	ug/L		88
43) tetrahydrofuran	10.20	42	24774	52.41	ug/L		94
44) chloroform	10.22	85	86274	51.50	ug/L		96
45) t-butyl formate	10.25	59	44896	41.63	ug/L	#	84
48) freon 113	7.14	151	46460	46.61	ug/L		97
49) methacrylonitrile	10.09	41	43994	51.72	ug/L		93
50) 1,1,1-trichloroethane	10.48	97	133495	59.79	ug/L		98
51) Cyclohexane	10.55	84	100049	50.62	ug/L		85
53) epichlorohydrin	12.56	57	30546	271.82	ug/L		94
54) n-butyl alcohol	11.47	56	121750	3908.88	ug/L		98
55) carbon tetrachloride	10.69	117	123512	57.80	ug/L		97
56) 1,1-dichloropropene	10.67	75	97609	53.41	ug/L		98
57) hexane	8.73	57	58017	33.66	ug/L		99
59) 2,2,4-TRIMETHYLPENTANE	10.95	57	140274	30.38	ug/L	#	94
60) benzene	10.94	78	272355	52.18	ug/L		96
61) tert-amyl methyl ether	10.98	87	54823	56.65	ug/L		89
62) heptane	11.12	57	34452	35.49	ug/L		98
63) isopropyl acetate	10.88	43	136190	49.37	ug/L		96
64) 1,2-dichloroethane	10.96	62	110310	54.88	ug/L		98
66) trichloroethene	11.66	95	73067	54.80	ug/L		99
68) methyl methacrylate	11.93	41	112090	52.05	ug/L		97
69) 2-nitropropane	12.42	41	20205	36.80	ug/L		89
70) 2-chloroethyl vinyl ether	12.56	63	1197	1.67	ug/L	#	47
71) 1,2-dichloropropane	11.92	63	70558	52.08	ug/L		97
72) dibromomethane	12.08	93	47945	58.41	ug/L		92
73) methylcyclohexane	11.88	83	96079	44.54	ug/L		96
74) bromodichloromethane	12.21	83	104943	55.73	ug/L		98
75) cis-1,3-dichloropropene	12.65	75	115627	52.75	ug/L		98
77) 4-methyl-2-pentanone	12.74	58	25027	55.52	ug/L		91
78) toluene	13.00	92	160968	52.81	ug/L		98
79) 3-methyl-1-butanol	12.77	55	70870	1542.95	ug/L		96
80) trans-1,3-dichloropropene	13.19	75	111092	53.71	ug/L		99
81) ethyl methacrylate	13.18	69	82480	54.61	ug/L		97
82) 1,1,2-trichloroethane	13.39	83	50438	55.33	ug/L		96
83) 2-hexanone	13.55	58	22738	55.12	ug/L		90
85) tetrachloroethene	13.55	164	74034	60.91	ug/L		97
86) 1,3-dichloropropane	13.56	76	95063	52.17	ug/L		98
87) butyl acetate	13.62	56	41362	52.41	ug/L		97
88) 3,3-dimethyl-1-butanol	13.72	57	80270	758.55	ug/L		98
89) dibromochloromethane	13.81	129	87511	56.98	ug/L		99
90) 1,2-dibromoethane	13.95	107	65858	57.16	ug/L		100
91) chlorobenzene	14.39	112	185990	52.85	ug/L		98
92) 1,1,1,2-tetrachloroethane	14.44	131	81715	56.90	ug/L		96
93) ethylbenzene	14.43	91	305499	53.38	ug/L		99
94) m,p-xylene	14.53	106	241773	110.36	ug/L		99
95) o-xylene	14.93	106	122605	57.35	ug/L		90
96) styrene	14.94	104	206984	57.25	ug/L		95
97) bromoform	15.19	173	65738	56.52	ug/L		94

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 2A149282.D
Acq On : 9 Aug 2014 1:59 pm
Operator : Dejanas
Sample : jb73450-8ms
Misc : MS71808,V2A6362,w,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Aug 10 07:42:18 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 28 10:27:41 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
99) isopropylbenzene	15.24	105	316536	51.96 ug/L	97
101) cyclohexanone	15.40	98	11856	193.51 ug/L	92
102) bromobenzene	15.62	156	100559	55.29 ug/L	95
103) 1,1,2,2-tetrachloroethane	15.53	83	82066	50.41 ug/L	99
104) trans-1,4-dichloro-2-buten	15.57	53	22528	47.55 ug/L	96
105) 1,2,3-trichloropropane	15.60	110	23010	55.06 ug/L	97
106) n-propylbenzene	15.62	120	84842	54.22 ug/L	95
107) 2-chlorotoluene	15.76	126	85122	53.88 ug/L	92
108) 4-chlorotoluene	15.85	126	88280	54.68 ug/L	98
109) 1,3,5-trimethylbenzene	15.76	105	274135	51.74 ug/L	97
110) tert-butylbenzene	16.09	119	238930	53.18 ug/L	98
111) pentachloroethane	16.17	167	71573	59.77 ug/L	99
112) 1,2,4-trimethylbenzene	16.13	105	272610	52.15 ug/L	94
113) sec-butylbenzene	16.29	105	351018	53.54 ug/L	98
114) 1,3-dichlorobenzene	16.47	146	192203	55.32 ug/L	97
115) p-isopropyltoluene	16.40	119	310747	54.11 ug/L	99
116) 1,4-dichlorobenzene	16.54	146	193105	54.14 ug/L	99
117) 1,2-dichlorobenzene	16.91	146	187497	54.83 ug/L	98
118) benzyl chloride	16.65	91	194274	58.94 ug/L	99
119) n-butylbenzene	16.78	92	149539	53.66 ug/L	99
120) 1,2-dibromo-3-chloropropan	17.66	75	18237	53.74 ug/L	92
121) 1,3,5-TRICHLOROBENZENE	17.85	180	180781	58.99 ug/L	99
122) 1,2,4-trichlorobenzene	18.49	180	158170	58.73 ug/L	97
123) hexachlorobutadiene	18.60	225	86020	57.80 ug/L	97
124) naphthalene	18.76	128	304001	59.30 ug/L	99
125) 1,2,3-trichlorobenzene	19.02	180	143593	57.62 ug/L	98
126) hexachloroethane	17.16	201	71932	58.61 ug/L	98

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

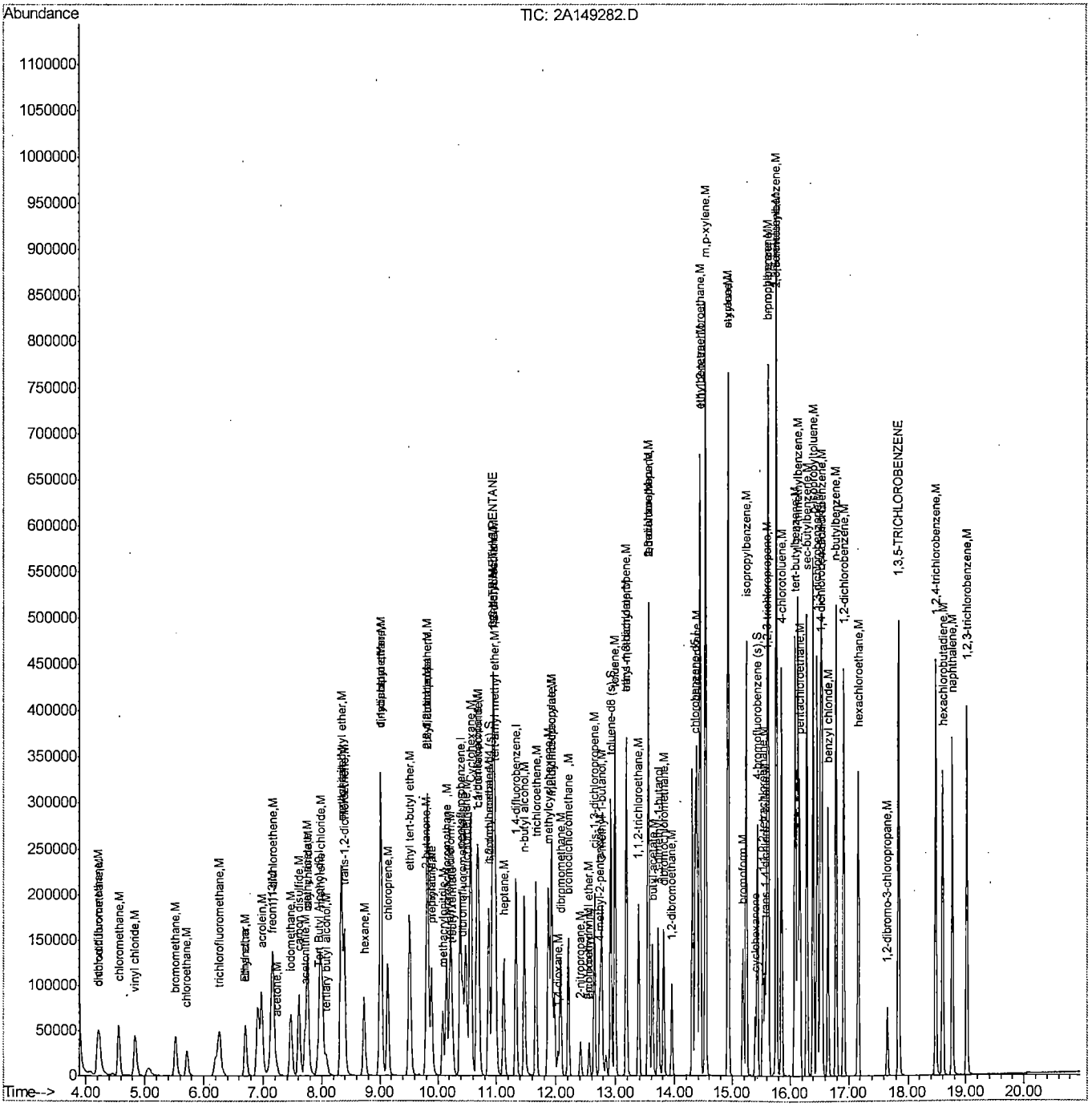
7.4.1

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 2A149282.D
Acq On : 9 Aug 2014 1:59 pm
Operator : Dejanas
Sample : jb73450-8ms
Misc : MS71808,V2A6362,w,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Aug 10 07:42:18 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 28 10:27:41 2014
Response via : Initial Calibration



7.4.1

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 2A149283.D
Acq On : 9 Aug 2014 2:28 pm
Operator : Dejanas
Sample : jb73450-8msd
Misc : MS71808,V2A6362,w,,,,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Aug 10 07:42:20 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 28 10:27:41 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Tert Butyl Alcohol-d9	7.94	65	74276	500.00	ug/L		0.00
5) pentafluorobenzene	10.39	168	209200	50.00	ug/L		0.00
52) 1,4-difluorobenzene	11.33	114	223592	50.00	ug/L		0.00
84) chlorobenzene-d5	14.36	117	182818	50.00	ug/L		0.00
98) 1,4-dichlorobenzene-d4	16.52	152	112767	50.00	ug/L		0.00
System Monitoring Compounds							
46) dibromofluoromethane (s)	10.43	113	71327	47.33	ug/L		0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 94.66%				
47) 1,2-dichloroethane-d4 (s)	10.87	65	81641	46.44	ug/L		0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 92.88%				
76) toluene-d8 (s)	12.92	98	236016	47.59	ug/L		0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 95.18%				
100) 4-bromofluorobenzene (s)	15.43	95	88499	45.57	ug/L		0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 91.14%				
Target Compounds							Qvalue
2) tertiary butyl alcohol	8.07	59	51803	292.70	ug/L		87
3) Ethanol	6.70	45	46134	3477.21	ug/L	#	38
4) 1,4-dioxane	12.03	88	22250	1851.57	ug/L		85
7) chlorodifluoromethane	4.22	51	57823	37.64	ug/L		95
8) dichlorodifluoromethane	4.20	85	109575	45.98	ug/L		89
10) chloromethane	4.56	50	115604	44.79	ug/L		100
11) vinyl chloride	4.84	62	101175	46.33	ug/L		100
12) bromomethane	5.53	94	56353	45.30	ug/L		94
13) chloroethane	5.73	64	44140	43.08	ug/L		93
14) trichlorofluoromethane	6.26	101	123891	45.73	ug/L		98
16) ethyl ether	6.70	74	41745	54.92	ug/L		94
18) acrolein	6.98	56	130020	428.90	ug/L		97
19) 1,1-dichloroethene	7.17	96	65622	47.51	ug/L		94
20) acetone	7.23	43	21685	44.03	ug/L		95
21) allyl chloride	7.76	76	36354	47.19	ug/L		96
22) acetonitrile	7.71	40	66571	495.08	ug/L		97
23) iodomethane	7.47	142	139786	51.32	ug/L		99
24) iso-butyl alcohol	10.95	74	16014	358.73	ug/L	#	43
25) carbon disulfide	7.61	76	213011	42.70	ug/L		99
26) methylene chloride	7.97	84	78502	50.21	ug/L		94
27) methyl acetate	7.75	74	11338	50.91	ug/L		99
28) methyl tert butyl ether	8.35	73	239714	51.62	ug/L		98
29) trans-1,2-dichloroethene	8.39	96	75099	50.41	ug/L		97
30) di-isopropyl ether	9.01	45	254325	46.41	ug/L		98
31) 2-butanone	9.78	72	8983	55.49	ug/L	#	33
32) 1,1-dichloroethane	9.02	63	147857	50.50	ug/L		98
33) chloroprene	9.14	53	107158	44.27	ug/L		94
34) acrylonitrile	8.33	53	138526	259.51	ug/L		100
35) vinyl acetate	9.01	86	13353	56.24	ug/L		69
36) ethyl tert-butyl ether	9.51	59	255422	48.11	ug/L		98
37) ethyl acetate	9.81	45	10381	52.22	ug/L		87
38) 2,2-dichloropropane	9.82	77	126077	51.31	ug/L		99
39) cis-1,2-dichloroethene	9.82	96	86087	52.26	ug/L		87

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 2A149283.D
Acq On : 9 Aug 2014 2:28 pm
Operator : Dejanas
Sample : jb73450-8msd
Misc : MS71808,V2A6362,w,,,,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Aug 10 07:42:20 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 28 10:27:41 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
40) methylacrylate	9.90	85	11299	52.05	ug/L		93
41) propionitrile	9.88	54	112420	547.74	ug/L		94
42) bromochloromethane	10.15	128	47799	56.37	ug/L		86
43) tetrahydrofuran	10.20	42	25412	47.48	ug/L		87
44) chloroform	10.22	85	94755	49.95	ug/L		98
45) t-butyl formate	10.25	59	33378	27.34	ug/L	#	81
48) freon 113	7.15	151	50017	44.32	ug/L		92
49) methacrylonitrile	10.09	41	48638	50.50	ug/L		98
50) 1,1,1-trichloroethane	10.48	97	138868	54.93	ug/L		98
51) Cyclohexane	10.55	84	103662	46.32	ug/L		85
53) epichlorohydrin	12.56	57	31579	252.73	ug/L		97
54) n-butyl alcohol	11.47	56	131518	3797.55	ug/L		96
55) carbon tetrachloride	10.69	117	128290	53.99	ug/L		97
56) 1,1-dichloropropene	10.67	75	105701	52.02	ug/L		97
57) hexane	8.73	57	61746	32.22	ug/L		93
59) 2,2,4-TRIMETHYLPENTANE	10.95	57	150838	29.38	ug/L	#	95
60) benzene	10.94	78	299449	51.59	ug/L		100
61) tert-amyl methyl ether	10.98	87	59864	55.63	ug/L		95
62) heptane	11.13	57	35802	33.17	ug/L		89
63) isopropyl acetate	10.87	43	148868	48.54	ug/L		97
64) 1,2-dichloroethane	10.96	62	120408	53.87	ug/L		98
66) trichloroethene	11.66	95	78318	52.83	ug/L		97
68) methyl methacrylate	11.93	41	120616	50.37	ug/L		95
69) 2-nitropropane	12.42	41	21716	35.57	ug/L		99
70) 2-chloroethyl vinyl ether	12.56	63	1315	1.65	ug/L	#	47
71) 1,2-dichloropropane	11.92	63	76486	50.78	ug/L		97
72) dibromomethane	12.08	93	51541	56.48	ug/L		98
73) methylcyclohexane	11.88	83	103276	43.06	ug/L		95
74) bromodichloromethane	12.21	83	113022	53.98	ug/L		99
75) cis-1,3-dichloropropene	12.65	75	129989	53.34	ug/L		97
77) 4-methyl-2-pentanone	12.74	58	28298	56.45	ug/L		93
78) toluene	13.00	92	176862	52.19	ug/L		95
79) 3-methyl-1-butanol	12.77	55	77779	1522.36	ug/L		95
80) trans-1,3-dichloropropene	13.18	75	123004	53.49	ug/L		97
81) ethyl methacrylate	13.18	69	91401	54.43	ug/L		99
82) 1,1,2-trichloroethane	13.39	83	56949	56.18	ug/L		94
83) 2-hexanone	13.55	58	24925	54.34	ug/L		98
85) tetrachloroethene	13.56	164	79980	60.20	ug/L		97
86) 1,3-dichloropropane	13.56	76	106330	53.39	ug/L		96
87) butyl acetate	13.62	56	45528	52.78	ug/L		97
88) 3,3-dimethyl-1-butanol	13.72	57	84893	732.90	ug/L		98
89) dibromochloromethane	13.81	129	97677	58.19	ug/L		97
90) 1,2-dibromoethane	13.95	107	72940	57.92	ug/L		100
91) chlorobenzene	14.39	112	207666	53.99	ug/L		98
92) 1,1,1,2-tetrachloroethane	14.44	131	89122	56.78	ug/L		95
93) ethylbenzene	14.43	91	331680	53.03	ug/L		99
94) m,p-xylene	14.53	106	262433	109.60	ug/L		96
95) o-xylene	14.93	106	130876	56.01	ug/L		95
96) styrene	14.94	104	223624	56.59	ug/L		94
97) bromoform	15.19	173	72895	57.34	ug/L		96

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 2A149283.D
Acq On : 9 Aug 2014 2:28 pm
Operator : Dejanas
Sample : jb73450-8msd
Misc : MS71808,V2A6362,w,,,,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Aug 10 07:42:20 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 28 10:27:41 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
99) isopropylbenzene	15.24	105	338961	51.59 ug/L		99
101) cyclohexanone	15.40	98	13343	202.36 ug/L		85
102) bromobenzene	15.62	156	108669	55.40 ug/L		94
103) 1,1,2,2-tetrachloroethane	15.53	83	89662	51.07 ug/L		97
104) trans-1,4-dichloro-2-buten	15.56	53	23280	45.56 ug/L		99
105) 1,2,3-trichloropropane	15.60	110	24521	54.41 ug/L		100
106) n-propylbenzene	15.63	120	88311	52.33 ug/L	#	87
107) 2-chlorotoluene	15.76	126	89867	52.75 ug/L		93
108) 4-chlorotoluene	15.85	126	93984	53.98 ug/L		99
109) 1,3,5-trimethylbenzene	15.76	105	289822	50.72 ug/L		97
110) tert-butylbenzene	16.09	119	251851	51.98 ug/L		99
111) pentachloroethane	16.17	167	75089	58.14 ug/L		93
112) 1,2,4-trimethylbenzene	16.13	105	283512	50.30 ug/L		96
113) sec-butylbenzene	16.29	105	364996	51.62 ug/L		97
114) 1,3-dichlorobenzene	16.46	146	205452	54.83 ug/L		99
115) p-isopropyltoluene	16.40	119	325811	52.61 ug/L		98
116) 1,4-dichlorobenzene	16.54	146	205176	53.34 ug/L		99
117) 1,2-dichlorobenzene	16.91	146	202219	54.83 ug/L		98
118) benzyl chloride	16.65	91	207150	58.27 ug/L		100
119) n-butylbenzene	16.78	92	155506	51.75 ug/L		95
120) 1,2-dibromo-3-chloropropan	17.66	75	19200	52.46 ug/L		96
121) 1,3,5-TRICHLOROBENZENE	17.84	180	191725	58.01 ug/L		99
122) 1,2,4-trichlorobenzene	18.48	180	169244	58.27 ug/L		98
123) hexachlorobutadiene	18.60	225	91252	56.86 ug/L		98
124) naphthalene	18.76	128	329664	59.63 ug/L		99
125) 1,2,3-trichlorobenzene	19.02	180	157227	58.51 ug/L		99
126) hexachloroethane	17.16	201	73261	55.35 ug/L		97

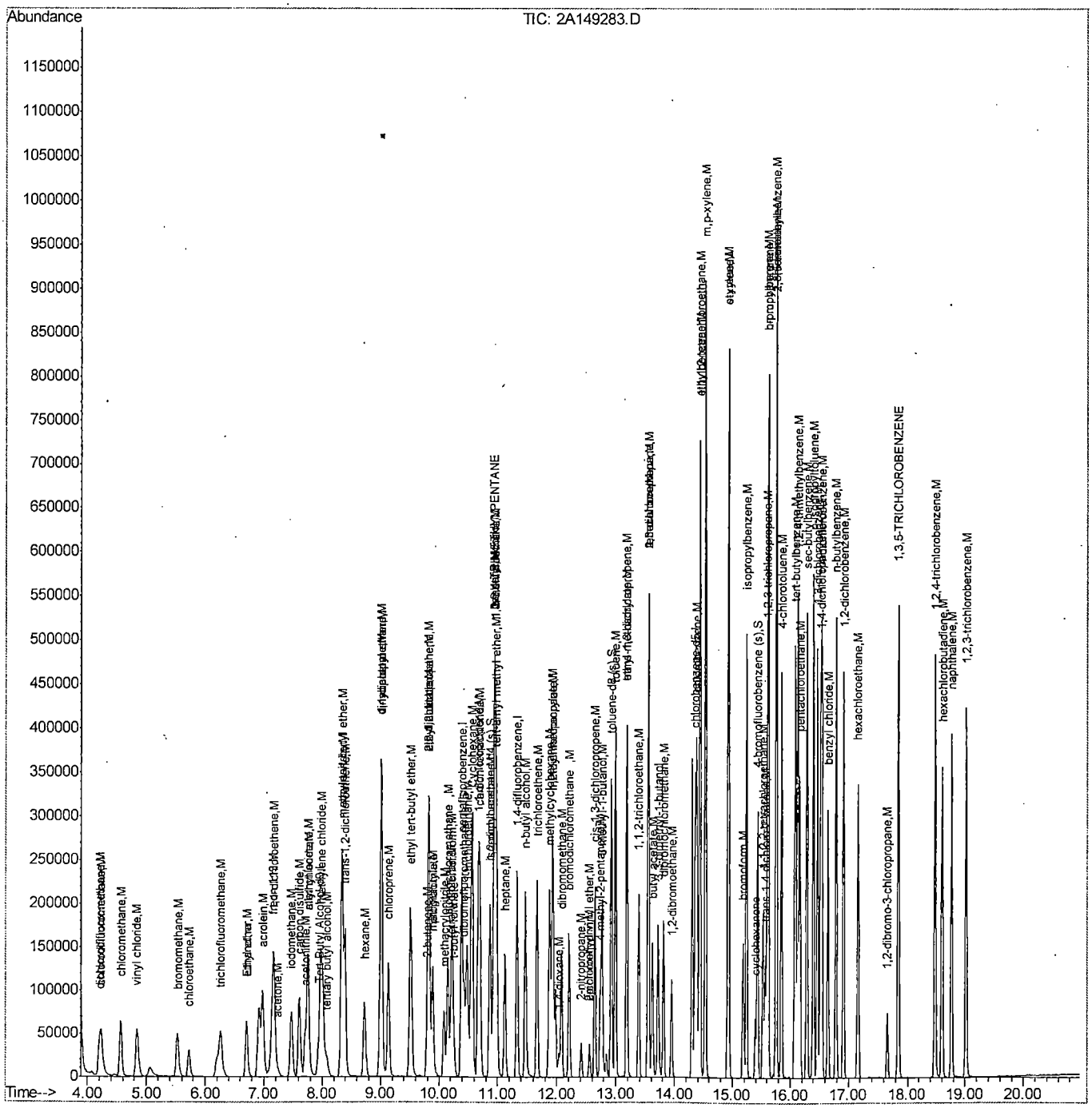
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.4.2 7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 2A149283.D
Acq On : 9 Aug 2014 2:28 pm
Operator : Dejanas
Sample : jb73450-8msd
Misc : MS71808,V2A6362,w,,,,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Aug 10 07:42:20 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 28 10:27:41 2014
Response via : Initial Calibration



7.4.2

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 2A149309.D
Acq On : 10 Aug 2014 2:32 pm
Operator : Dejanas
Sample : jb73528-24ms
Misc : MS71835,V2A6363,w,,,,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Aug 11 12:43:32 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 28 10:27:41 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.94	65	95815	500.00	ug/L	0.00
5) pentafluorobenzene	10.39	168	291302	50.00	ug/L	0.00
52) 1,4-difluorobenzene	11.33	114	308127	50.00	ug/L	0.00
84) chlorobenzene-d5	14.36	117	245958	50.00	ug/L	0.00
98) 1,4-dichlorobenzene-d4	16.52	152	144279	50.00	ug/L	0.00
System Monitoring Compounds						
46) dibromofluoromethane (s)	10.43	113	98681	47.02	ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 94.04%			
47) 1,2-dichloroethane-d4 (s)	10.87	65	99478	40.64	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 81.28%			
76) toluene-d8 (s)	12.92	98	314347	46.00	ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 92.00%			
100) 4-bromofluorobenzene (s)	15.43	95	112564	45.30	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 90.60%			
Target Compounds						Qvalue
2) tertiary butyl alcohol	8.07	59	57632	252.44	ug/L	90
3) Ethanol	6.55	45	93252	5448.58	ug/L	100
4) 1,4-dioxane	12.03	88	24600	1586.94	ug/L	83
7) chlorodifluoromethane	4.22	51	51606	24.13	ug/L	98
8) dichlorodifluoromethane	4.20	85	121546	36.62	ug/L	98
10) chloromethane	4.55	50	121640	33.85	ug/L	97
11) vinyl chloride	4.83	62	110920	36.48	ug/L	99
12) bromomethane	5.52	94	76553	44.19	ug/L	97
13) chloroethane	5.72	64	53549	37.53	ug/L	99
14) trichlorofluoromethane	6.26	101	143660	38.08	ug/L	95
16) ethyl ether	6.70	74	51078	48.26	ug/L	81
18) acrolein	6.98	56	145927	345.70	ug/L	100
19) 1,1-dichloroethene	7.16	96	79753	41.47	ug/L	98
20) acetone	7.23	43	26044	37.98	ug/L	91
21) allyl chloride	7.76	76	43654	40.69	ug/L #	80
22) acetonitrile	7.70	40	69515	371.27	ug/L	97
23) iodomethane	7.47	142	181684	47.91	ug/L	93
24) iso-butyl alcohol	10.94	74	28929	447.05	ug/L #	62
25) carbon disulfide	7.61	76	266113	38.31	ug/L	95
26) methylene chloride	7.97	84	96682	44.41	ug/L	90
27) methyl acetate	7.75	74	14657	47.44	ug/L #	85
28) methyl tert butyl ether	8.34	73	286795	44.36	ug/L	96
29) trans-1,2-dichloroethene	8.39	96	91812	44.26	ug/L	89
30) di-isopropyl ether	9.01	45	266257	34.89	ug/L	96
31) 2-butanone	9.78	72	11682	51.83	ug/L #	33
32) 1,1-dichloroethane	9.02	63	159163	39.04	ug/L	100
33) chloroprene	9.13	53	104393	30.97	ug/L	95
34) acrylonitrile	8.33	53	159922	215.16	ug/L	98
35) vinyl acetate	9.01	86	16247	49.14	ug/L	62
36) ethyl tert-butyl ether	9.51	59	289721	39.19	ug/L	96
37) ethyl acetate	9.81	45	11559	41.76	ug/L	98
38) 2,2-dichloropropane	9.82	77	143561	41.96	ug/L	91
39) cis-1,2-dichloroethene	9.82	96	104877	45.72	ug/L	86

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 2A149309.D
Acq On : 10 Aug 2014 2:32 pm
Operator : Dejanas
Sample : jb73528-24ms
Misc : MS71835,V2A6363,w,,,,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Aug 11 12:43:32 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 28 10:27:41 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
40) methylacrylate	9.89	85	14370	47.78	ug/L		81
41) propionitrile	9.88	54	132154	462.41	ug/L		95
42) bromochloromethane	10.15	128	59368	50.28	ug/L		83
43) tetrahydrofuran	10.20	42	29283	39.29	ug/L		83
44) chloroform	10.22	85	110932	42.00	ug/L		98
45) t-butyl formate	10.25	59	62144	36.55	ug/L	#	79
48) freon 113	7.14	151	60713	38.64	ug/L		92
49) methacrylonitrile	10.08	41	51495	38.40	ug/L		91
50) 1,1,1-trichloroethane	10.48	97	149348	42.42	ug/L		96
51) Cyclohexane	10.56	84	126615	40.63	ug/L		87
53) epichlorohydrin	12.56	57	41907	243.37	ug/L		97
54) n-butyl alcohol	11.47	56	140798	2950.13	ug/L		93
55) carbon tetrachloride	10.69	117	145529	44.45	ug/L		98
56) 1,1-dichloropropene	10.67	75	120335	42.97	ug/L		92
57) hexane	8.73	57	79044	29.93	ug/L		96
59) 2,2,4-TRIMETHYLPENTANE	10.95	57	207637	29.35	ug/L	#	99
60) benzene	10.94	78	356079	44.52	ug/L		99
61) tert-amyl methyl ether	10.99	87	69598	46.94	ug/L		88
62) heptane	11.12	57	46606	31.33	ug/L		92
63) isopropyl acetate	10.88	43	160273	37.92	ug/L		91
64) 1,2-dichloroethane	10.96	62	131138	42.58	ug/L		98
66) trichloroethene	11.66	95	91854	44.96	ug/L		98
68) methyl methacrylate	11.93	41	127036	38.50	ug/L		87
69) 2-nitropropane	12.42	41	23444	27.87	ug/L		95
70) 2-chloroethyl vinyl ether	12.45	63	3321	3.03	ug/L		86
71) 1,2-dichloropropane	11.92	63	88129	42.46	ug/L		95
72) dibromomethane	12.08	93	61913	49.23	ug/L		96
73) methylcyclohexane	11.88	83	117461	35.54	ug/L		90
74) bromodichloromethane	12.21	83	130556	45.25	ug/L		100
75) cis-1,3-dichloropropene	12.65	75	151588	45.13	ug/L		91
77) 4-methyl-2-pentanone	12.74	58	35020	50.70	ug/L		93
78) toluene	13.00	92	206390	44.19	ug/L		98
79) 3-methyl-1-butanol	12.77	55	93789	1326.43	ug/L		92
80) trans-1,3-dichloropropene	13.18	75	144747	45.68	ug/L		97
81) ethyl methacrylate	13.18	69	108096	46.71	ug/L		90
82) 1,1,2-trichloroethane	13.39	83	67598	48.39	ug/L		98
83) 2-hexanone	13.55	58	31664	50.09	ug/L		98
85) tetrachloroethene	13.55	164	87901	49.18	ug/L		97
86) 1,3-dichloropropane	13.56	76	126077	47.06	ug/L		91
87) butyl acetate	13.62	56	55644	47.94	ug/L		86
88) 3,3-dimethyl-1-butanol	13.72	57	119151	766.02	ug/L		94
89) dibromochloromethane	13.81	129	111339	49.30	ug/L		97
90) 1,2-dibromoethane	13.95	107	89783	52.99	ug/L		99
91) chlorobenzene	14.38	112	248693	48.06	ug/L		98
92) 1,1,1,2-tetrachloroethane	14.44	131	105303	49.87	ug/L		99
93) ethylbenzene	14.43	91	381540	45.34	ug/L		99
94) m,p-xylene	14.53	106	300615	93.31	ug/L		95
95) o-xylene	14.93	106	150594	47.90	ug/L		94
96) styrene	14.94	104	231960	43.63	ug/L		92
97) bromoform	15.19	173	81656	47.74	ug/L		98

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 2A149309.D
Acq On : 10 Aug 2014 2:32 pm
Operator : Dejanas
Sample : jb73528-24ms
Misc : MS71835,V2A6363,w,,,,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Aug 11 12:43:32 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 28 10:27:41 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
99) isopropylbenzene	15.24	105	383762	45.65 ug/L	97
101) cyclohexanone	15.40	98	14790	174.03 ug/L	77
102) bromobenzene	15.62	156	128275	51.11 ug/L	89
103) 1,1,2,2-tetrachloroethane	15.53	83	109797	48.88 ug/L	99
104) trans-1,4-dichloro-2-buten	15.57	53	27333	41.81 ug/L	90
105) 1,2,3-trichloropropane	15.60	110	30263	52.48 ug/L	97
106) n-propylbenzene	15.62	120	100467	46.53 ug/L	93
107) 2-chlorotoluene	15.76	126	101748	46.68 ug/L	92
108) 4-chlorotoluene	15.85	126	107800	48.39 ug/L	97
109) 1,3,5-trimethylbenzene	15.76	105	316244	43.26 ug/L	96
110) tert-butylbenzene	16.09	119	280002	45.17 ug/L	98
111) pentachloroethane	16.17	167	87669	53.06 ug/L	94
112) 1,2,4-trimethylbenzene	16.13	105	306812	42.54 ug/L	97
113) sec-butylbenzene	16.29	105	392337	43.37 ug/L	99
114) 1,3-dichlorobenzene	16.46	146	228313	47.62 ug/L	98
115) p-isopropyltoluene	16.40	119	355411	44.86 ug/L	98
116) 1,4-dichlorobenzene	16.54	146	238547	48.47 ug/L	98
117) 1,2-dichlorobenzene	16.91	146	230581	48.87 ug/L	97
118) benzyl chloride	16.65	91	241231	53.04 ug/L	99
119) n-butylbenzene	16.78	92	164835	42.87 ug/L	96
120) 1,2-dibromo-3-chloropropan	17.66	75	22346	47.72 ug/L	95
121) 1,3,5-TRICHLOROBENZENE	17.84	180	208739	49.36 ug/L	98
122) 1,2,4-trichlorobenzene	18.48	180	190317	51.21 ug/L	99
123) hexachlorobutadiene	18.60	225	90357	44.00 ug/L	99
124) naphthalene	18.76	128	402098	56.85 ug/L	99
125) 1,2,3-trichlorobenzene	19.02	180	176631	51.37 ug/L	99
126) hexachloroethane	17.16	201	79616	47.01 ug/L	96

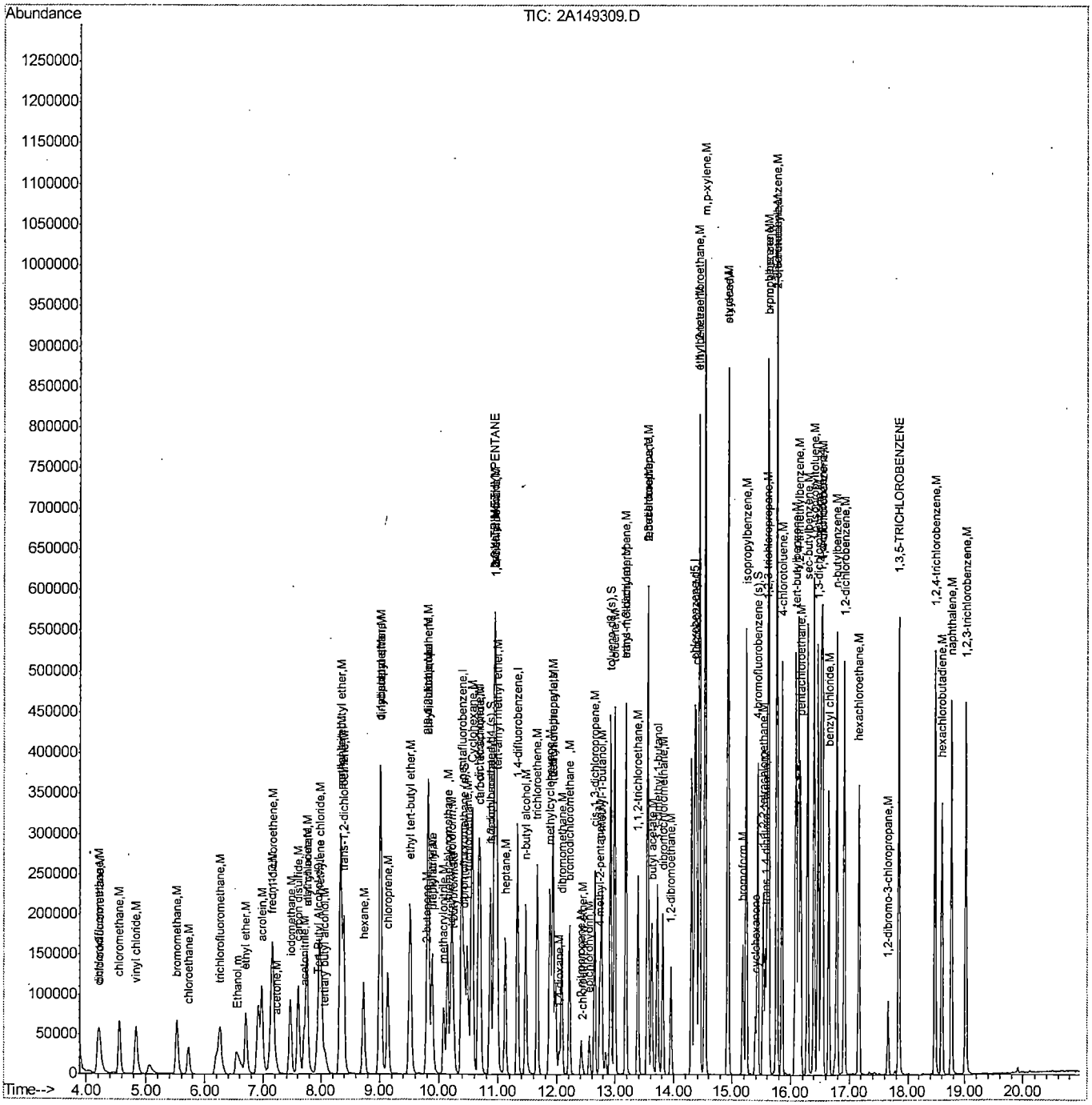
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.4.3

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 2A149309.D
Acq On : 10 Aug 2014 2:32 pm
Operator : Dejanas
Sample : jb73528-24ms
Misc : MS71835,V2A6363,w,,,,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Aug 11 12:43:32 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 28 10:27:41 2014
Response via : Initial Calibration



7.4.3

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 2A149310.D
Acq On : 10 Aug 2014 3:01 pm
Operator : Dejanas
Sample : jb73528-24msd
Misc : MS71835,V2A6363,w,,,,1
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Aug 11 12:44:04 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 28 10:27:41 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Tert Butyl Alcohol-d9	7.94	65	111450	500.00	ug/L		0.00
5) pentafluorobenzene	10.39	168	311530	50.00	ug/L		0.00
52) 1,4-difluorobenzene	11.33	114	327206	50.00	ug/L		0.00
84) chlorobenzene-d5	14.36	117	259376	50.00	ug/L		0.00
98) 1,4-dichlorobenzene-d4	16.52	152	153667	50.00	ug/L		0.00
System Monitoring Compounds							
46) dibromofluoromethane (s)	10.43	113	104698	46.65	ug/L		0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 93.30%				
47) 1,2-dichloroethane-d4 (s)	10.87	65	106057	40.51	ug/L		0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 81.02%				
76) toluene-d8 (s)	12.92	98	339905	46.84	ug/L		0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 93.68%				
100) 4-bromofluorobenzene (s)	15.43	95	117051	44.23	ug/L		0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 88.46%				
Target Compounds							Qvalue
2) tertiary butyl alcohol	8.07	59	69362	261.19	ug/L		88
3) Ethanol	6.55	45	109543	5502.54	ug/L		97
4) 1,4-dioxane	12.04	88	29738	1649.27	ug/L		85
7) chlorodifluoromethane	4.22	51	55361	24.20	ug/L		95
8) dichlorodifluoromethane	4.19	85	132660	37.38	ug/L		92
10) chloromethane	4.56	50	131978	34.34	ug/L		97
11) vinyl chloride	4.84	62	123287	37.91	ug/L		98
12) bromomethane	5.53	94	84671	45.70	ug/L		97
13) chloroethane	5.72	64	57949	37.98	ug/L		97
14) trichlorofluoromethane	6.26	101	156651	38.83	ug/L		99
16) ethyl ether	6.70	74	55183	48.75	ug/L		82
18) acrolein	6.98	56	171994	380.99	ug/L		98
19) 1,1-dichloroethene	7.16	96	88042	42.81	ug/L		92
20) acetone	7.23	43	28453	38.80	ug/L		96
21) allyl chloride	7.76	76	46771	40.77	ug/L	#	86
22) acetonitrile	7.71	40	76943	384.26	ug/L		93
23) iodomethane	7.47	142	199389	49.16	ug/L		95
24) iso-butyl alcohol	10.94	74	32354	464.69	ug/L	#	61
25) carbon disulfide	7.61	76	289434	38.96	ug/L		96
26) methylene chloride	7.97	84	105976	45.52	ug/L		87
27) methyl acetate	7.75	74	16861	50.85	ug/L		89
28) methyl tert butyl ether	8.34	73	314858	45.53	ug/L		97
29) trans-1,2-dichloroethene	8.39	96	100939	45.50	ug/L		90
30) di-isopropyl ether	9.01	45	288152	35.31	ug/L		94
31) 2-butanone	9.80	72	12301	51.03	ug/L	#	75
32) 1,1-dichloroethane	9.02	63	172237	39.50	ug/L		98
33) chloroprene	9.14	53	113500	31.49	ug/L		92
34) acrylonitrile	8.34	53	180091	226.56	ug/L		99
35) vinyl acetate	9.01	86	16332	46.19	ug/L		63
36) ethyl tert-butyl ether	9.51	59	310428	39.26	ug/L		95
37) ethyl acetate	9.81	45	12225	41.30	ug/L		88
38) 2,2-dichloropropane	9.82	77	151739	41.47	ug/L		91
39) cis-1,2-dichloroethene	9.82	96	113517	46.28	ug/L		85

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 2A149310.D
Acq On : 10 Aug 2014 3:01 pm
Operator : Dejanas
Sample : jb73528-24msd
Misc : MS71835,V2A6363,w,,,,1
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Aug 11 12:44:04 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 28 10:27:41 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
40) methylacrylate	9.90	85	15836	49.15	ug/L		84
41) propionitrile	9.89	54	149939	490.58	ug/L		99
42) bromochloromethane	10.15	128	65397	51.79	ug/L		80
43) tetrahydrofuran	10.20	42	30860	38.72	ug/L		82
44) chloroform	10.22	85	120188	42.55	ug/L		96
45) t-butyl formate	10.25	59	44082	24.24	ug/L	#	83
48) freon 113	7.15	151	67541	40.19	ug/L		98
49) methacrylonitrile	10.09	41	56295	39.25	ug/L		91
50) 1,1,1-trichloroethane	10.48	97	161704	42.95	ug/L		95
51) Cyclohexane	10.55	84	138519	41.57	ug/L	#	71
53) epichlorohydrin	12.56	57	42261	231.12	ug/L		98
54) n-butyl alcohol	11.47	56	177720	3506.63	ug/L		92
55) carbon tetrachloride	10.69	117	155820	44.81	ug/L		98
56) 1,1-dichloropropene	10.67	75	128592	43.25	ug/L		92
57) hexane	8.73	57	84915	30.27	ug/L		94
59) 2,2,4-TRIMETHYLPENTANE	10.95	57	223053	29.69	ug/L	#	98
60) benzene	10.94	78	380193	44.76	ug/L		99
61) tert-amyl methyl ether	10.98	87	74748	47.47	ug/L		95
62) heptane	11.13	57	48749	30.86	ug/L		93
63) isopropyl acetate	10.88	43	168076	37.45	ug/L		89
64) 1,2-dichloroethane	10.96	62	140687	43.01	ug/L		98
66) trichloroethene	11.67	95	98453	45.38	ug/L		97
68) methyl methacrylate	11.93	41	136916	39.07	ug/L		86
69) 2-nitropropane	12.42	41	25551	28.60	ug/L		95
71) 1,2-dichloropropane	11.92	63	93668	42.49	ug/L		96
72) dibromomethane	12.08	93	67844	50.80	ug/L		92
73) methylcyclohexane	11.88	83	126207	35.96	ug/L		89
74) bromodichloromethane	12.21	83	140455	45.84	ug/L		100
75) cis-1,3-dichloropropene	12.65	75	163949	45.97	ug/L		88
77) 4-methyl-2-pentanone	12.74	58	38023	51.83	ug/L		95
78) toluene	13.00	92	225869	45.54	ug/L		97
79) 3-methyl-1-butanol	12.77	55	111448	1489.66	ug/L		88
80) trans-1,3-dichloropropene	13.19	75	152694	45.37	ug/L		88
81) ethyl methacrylate	13.18	69	116857	47.55	ug/L		91
82) 1,1,2-trichloroethane	13.39	83	72154	48.64	ug/L		99
83) 2-hexanone	13.56	58	33597	50.05	ug/L		87
85) tetrachloroethene	13.55	164	92191	48.91	ug/L		99
86) 1,3-dichloropropane	13.56	76	136362	48.26	ug/L		89
87) butyl acetate	13.62	56	57747	47.18	ug/L	#	81
88) 3,3-dimethyl-1-butanol	13.72	57	132942	812.39	ug/L		93
89) dibromochloromethane	13.81	129	124098	52.11	ug/L		98
90) 1,2-dibromoethane	13.95	107	97218	54.41	ug/L		99
91) chlorobenzene	14.39	112	266547	48.84	ug/L		96
92) 1,1,1,2-tetrachloroethane	14.44	131	112310	50.43	ug/L		96
93) ethylbenzene	14.43	91	409741	46.17	ug/L		98
94) m,p-xylene	14.53	106	324795	95.61	ug/L		98
95) o-xylene	14.93	106	167392	50.49	ug/L		91
96) styrene	14.94	104	271399	48.41	ug/L		92
97) bromoform	15.19	173	93326	51.74	ug/L		96
99) isopropylbenzene	15.24	105	415389	46.40	ug/L		99

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 2A149310.D
Acq On : 10 Aug 2014 3:01 pm
Operator : Dejanas
Sample : jb73528-24msd
Misc : MS71835,V2A6363,w,,,,1
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Aug 11 12:44:04 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 28 10:27:41 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
101) cyclohexanone	15.40	98	18032	200.61 ug/L	78
102) bromobenzene	15.62	156	136004	50.88 ug/L	91
103) 1,1,2,2-tetrachloroethane	15.53	83	116012	48.49 ug/L	99
104) trans-1,4-dichloro-2-buten	15.56	53	27489	39.48 ug/L	82
105) 1,2,3-trichloropropane	15.60	110	31972	52.06 ug/L	99
106) n-propylbenzene	15.62	120	107306	46.66 ug/L	90
107) 2-chlorotoluene	15.76	126	110261	47.49 ug/L	93
108) 4-chlorotoluene	15.85	126	114576	48.29 ug/L	99
109) 1,3,5-trimethylbenzene	15.76	105	350547	45.02 ug/L	98
110) tert-butylbenzene	16.09	119	304871	46.18 ug/L	94
111) pentachloroethane	16.17	167	94620	53.77 ug/L	95
112) 1,2,4-trimethylbenzene	16.13	105	345578	44.99 ug/L	98
113) sec-butylbenzene	16.29	105	431921	44.83 ug/L	99
114) 1,3-dichlorobenzene	16.46	146	251000	49.16 ug/L	99
115) p-isopropyltoluene	16.40	119	383211	45.41 ug/L	97
116) 1,4-dichlorobenzene	16.54	146	254964	48.64 ug/L	99
117) 1,2-dichlorobenzene	16.91	146	244941	48.74 ug/L	99
118) benzyl chloride	16.65	91	256030	52.85 ug/L	98
119) n-butylbenzene	16.78	92	178645	43.62 ug/L	96
120) 1,2-dibromo-3-chloropropan	17.66	75	23681	47.49 ug/L	96
121) 1,3,5-TRICHLOROBENZENE	17.84	180	223144	49.54 ug/L	100
122) 1,2,4-trichlorobenzene	18.48	180	204675	51.71 ug/L	98
123) hexachlorobutadiene	18.60	225	97352	44.51 ug/L	96
124) naphthalene	18.76	128	418816	55.59 ug/L	99
125) 1,2,3-trichlorobenzene	19.02	180	187881	51.30 ug/L	96
126) hexachloroethane	17.16	201	85308	47.30 ug/L	99

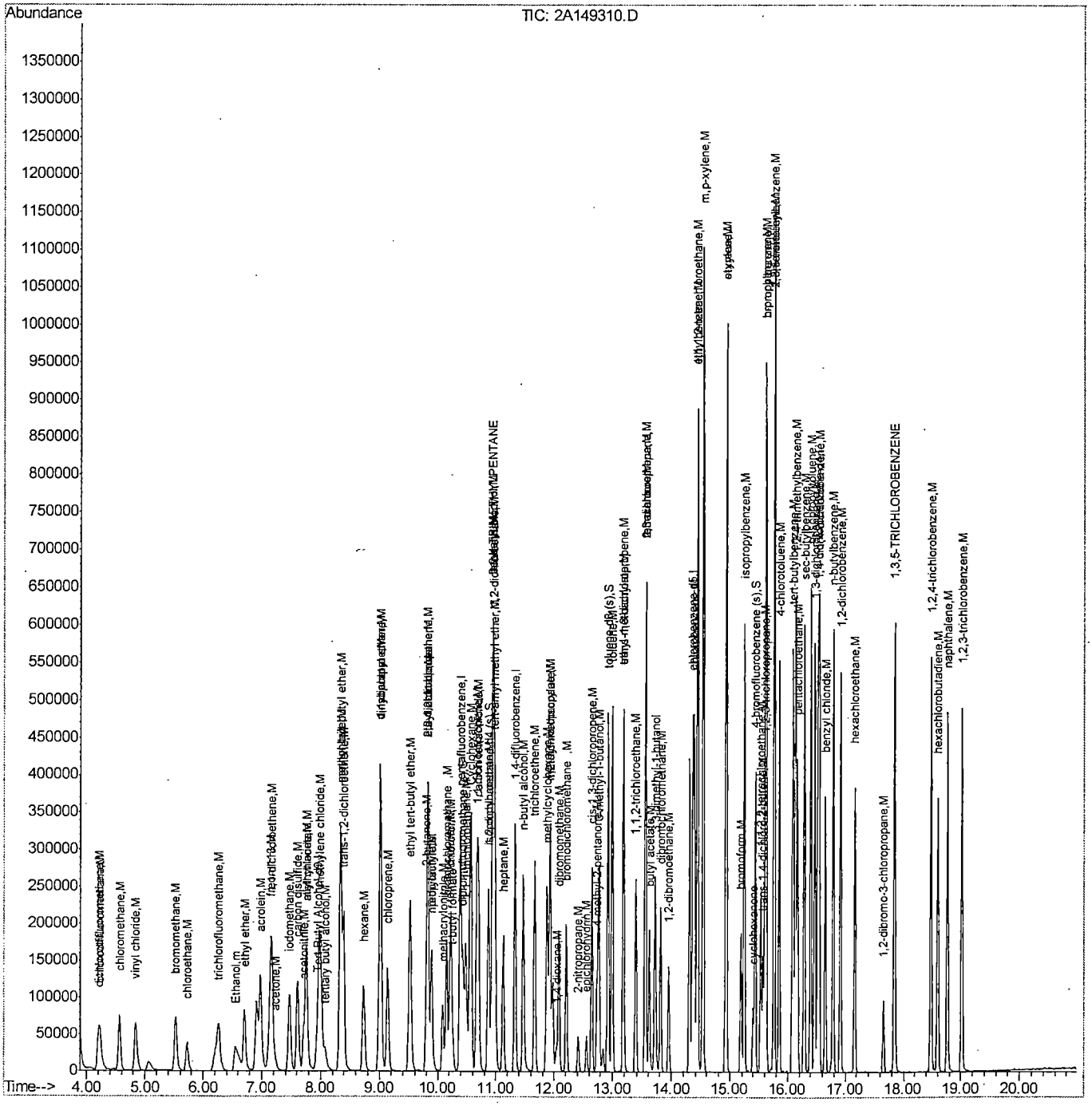
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.4.4

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 2A149310.D
Acq On : 10 Aug 2014 3:01 pm
Operator : Dejanas
Sample : jb73528-24msd
Misc : MS71835,V2A6363,w,,,,1
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Aug 11 12:44:04 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 28 10:27:41 2014
Response via : Initial Calibration

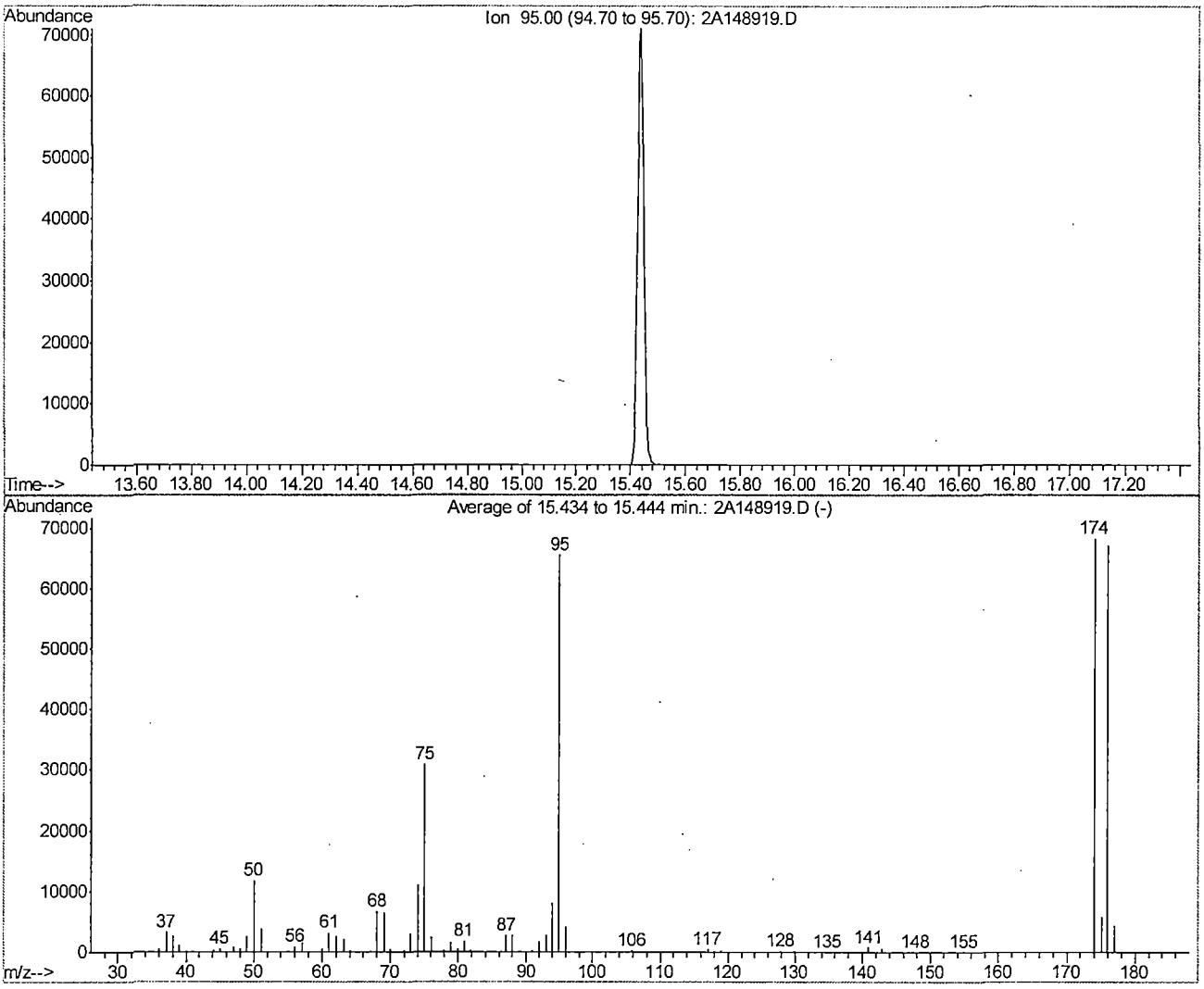


M2A6348.M Mon Aug 11 12:44:07 2014 MS2A Page: 4

SW-846 Method 8260

Data File : C:\MSDCHEM\1\DATA\2A148919.D Vial: 1
Acq On : 25 Jul 2014 10:18 am Operator: Dejanas
Sample : bfb Inst : Instrumen
Misc : MS70814,V2A6348,w,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\M2A6348.M (RTE Integrator)
Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um



AutoFind: Scans 2209, 2210, 2211; Background Corrected with Scan 2201

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.9	11744	PASS
75	95	30	60	47.1	30874	PASS
95	95	100	100	100.0	65504	PASS
96	95	5	9	6.5	4234	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	104.2	68258	PASS
175	174	5	9	8.5	5775	PASS
176	174	95	101	98.3	67130	PASS
177	176	5	9	6.6	4458	PASS

2A148919.D M2A6348.M Fri Jul 25 17:38:32 2014 MS2A

Average of 15.434 to 15.444 min.: 2A148919.D
bfb
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.05	503	51.10	3906	68.00	6657	78.95	1631
37.10	3317	52.20	66	69.00	6508	79.95	501
38.10	2678	55.05	143	70.00	592	80.90	1838
39.05	1088	56.00	953	72.00	279	81.90	358
40.10	102	57.00	1507	73.00	3005	87.00	2789
44.05	342	60.00	585	74.05	10948	87.95	2758
45.05	564	61.00	3165	75.00	30874	90.95	268
47.05	838	62.00	2607	76.05	2530	92.00	1784
48.00	466	63.10	2104	76.95	222	93.00	2723
49.00	2611	64.05	282	77.20	72	94.00	7976
50.00	11744	67.00	139	77.95	341	95.00	65504

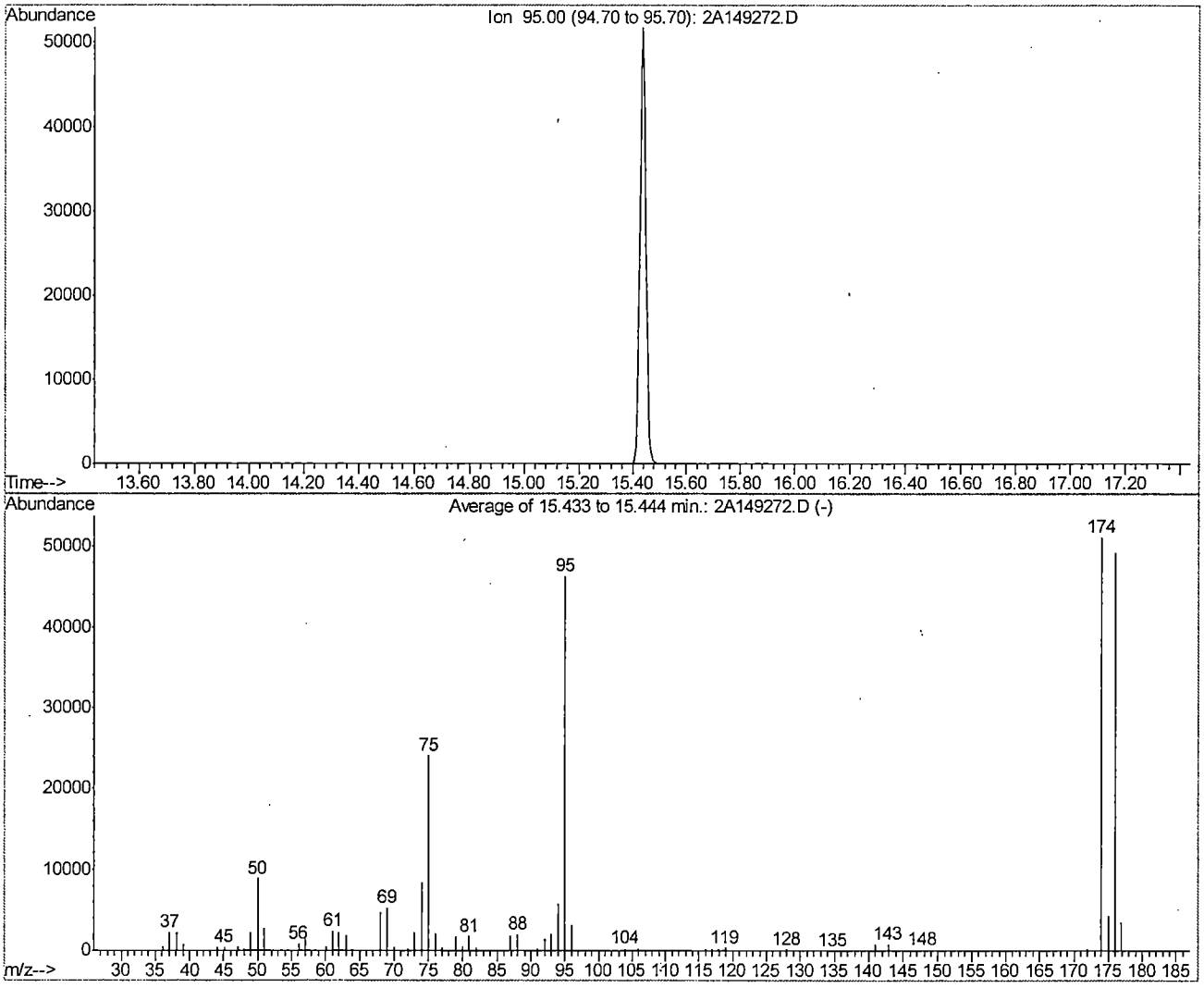
Average of 15.434 to 15.444 min.: 2A148919.D
bfb
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
96.05	4234	129.00	66	171.80	74		
97.00	61	129.80	163	172.30	89		
103.95	253	130.00	179	173.90	68258		
104.90	64	135.00	62	175.00	5775		
105.90	330	136.90	60	175.90	67130		
115.95	265	140.95	832	176.95	4458		
117.00	475	142.90	751	178.00	78		
117.80	68	147.90	68				
118.00	112	155.00	142				
118.95	429	156.90	64				
127.90	264	171.10	63				

SW-846 Method 8260

Data File : C:\MSDChem\1\DATA\2A149272.D Vial: 1
Acq On : 9 Aug 2014 8:32 am Operator: Dejanas
Sample : bfb Inst : Instrumen
Misc : MS71575,V2A6362,w,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\M2A6348.M (RTE Integrator)
Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um



AutoFind: Scans 2209, 2210, 2211; Background Corrected with Scan 2201

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.1	8844	PASS
75	95	30	60	52.0	24058	PASS
95	95	100	100	100.0	46266	PASS
96	95	5	9	6.7	3093	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	110.5	51138	PASS
175	174	5	9	8.5	4330	PASS
176	174	95	101	96.3	49258	PASS
177	176	5	9	7.3	3576	PASS

2A149272.D M2A6348.M Tue Aug 12 11:13:29 2014 MS2A

Average of 15.433 to 15.444 min.: 2A149272.D
bfb
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.05	494	52.10	64	72.10	301	81.90	359
37.10	2279	56.05	836	73.00	2239	86.90	1790
38.10	2184	57.05	1431	74.00	8392	88.00	1974
39.05	736	60.05	538	75.00	24058	90.90	232
44.05	412	61.05	2402	76.10	2136	92.00	1462
45.05	429	62.05	2283	77.05	350	93.00	2078
47.05	532	63.05	1822	77.70	82	94.00	5765
48.05	261	64.00	86	78.00	156	95.00	46266
49.00	2184	68.00	4725	78.95	1729	96.00	3093
50.05	8844	69.00	5252	79.95	513	103.95	307
51.00	2769	70.05	375	80.90	1808	104.80	63

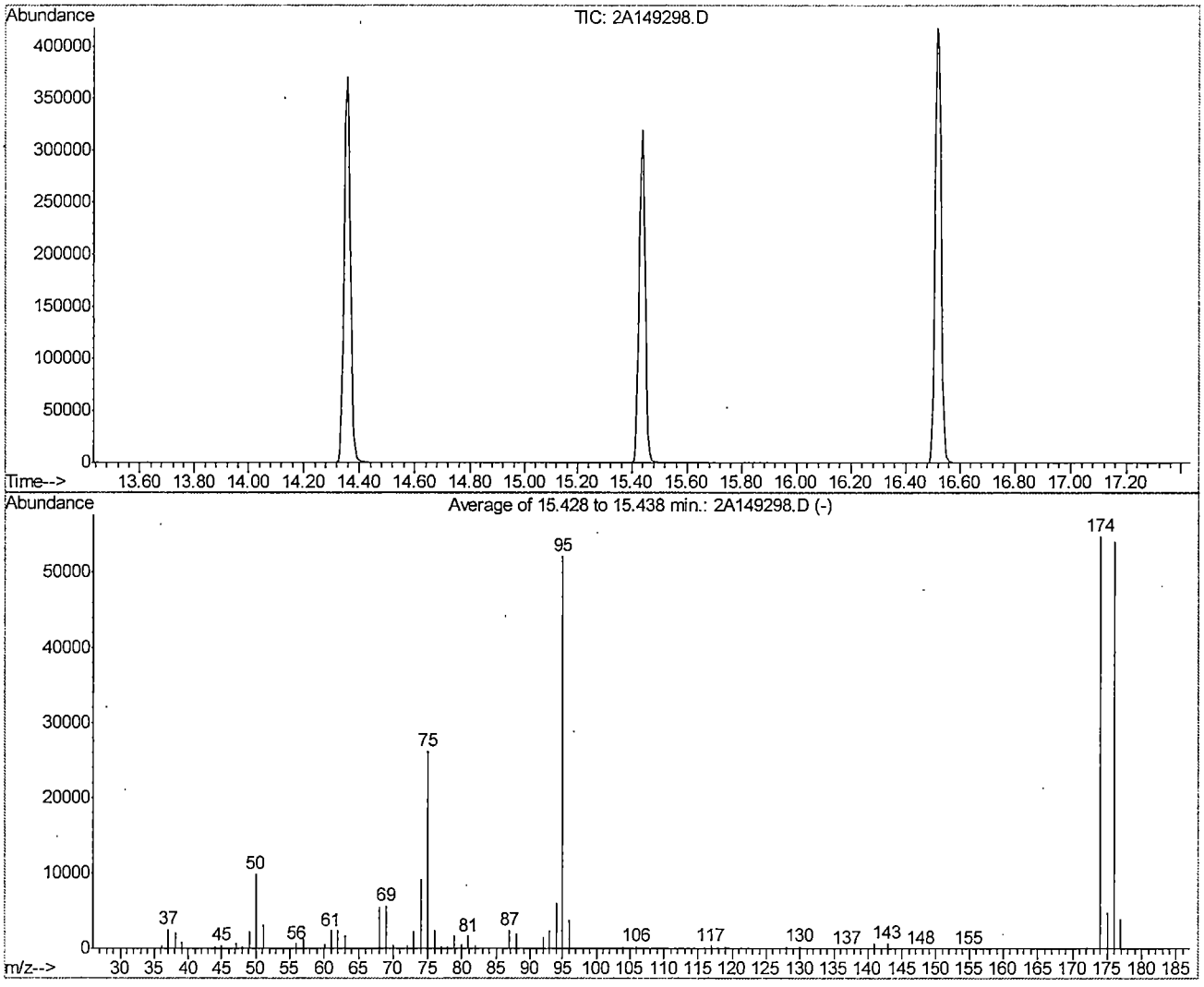
Average of 15.433 to 15.444 min.: 2A149272.D
bfb
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
105.90	262	147.85	167				
115.95	260	172.00	210				
116.95	308	173.95	51138				
117.90	246	175.00	4330				
118.95	348	175.90	49258				
127.95	225	176.95	3576				
129.90	84						
134.90	63						
136.80	63						
140.95	749						
142.95	811						

SW-846 Method 8260

Data File : C:\MSDCHEM\1\DATA\2A149298.D Vial: 1
Acq On : 10 Aug 2014 8:53 am Operator: Dejanas
Sample : bfb Inst : Instrumen
Misc : MS71749,V2A6363,w,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\M2A6348.M (RTE Integrator)
Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um



AutoFind: Scans 2208, 2209, 2210; Background Corrected with Scan 2201

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.0	9899	PASS
75	95	30	60	50.2	26181	PASS
95	95	100	100	100.0	52197	PASS
96	95	5	9	7.2	3738	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	105.2	54914	PASS
175	174	5	9	8.8	4833	PASS
176	174	95	101	98.7	54216	PASS
177	176	5	9	7.3	3944	PASS

2A149298.D M2A6348.M Mon Aug 11 11:44:23 2014 MS2A

Average of 15.428 to 15.438 min.: 2A149298.D
bfb
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.05	440	56.00	702	72.10	382	86.95	2438
37.10	2588	57.05	1315	73.00	2274	88.00	1937
38.05	2077	60.05	550	74.05	9146	90.90	168
39.10	873	61.00	2362	75.00	26181	92.00	1499
44.05	326	62.00	2348	76.05	2388	93.00	2336
45.00	431	63.05	1725	76.95	271	94.05	6105
47.05	641	64.10	95	78.00	256	95.00	52197
48.05	321	66.95	173	78.90	1703	96.00	3738
49.05	2220	68.00	5430	79.95	521	104.00	272
50.05	9899	69.00	5642	80.90	1639	105.80	64
51.10	3124	70.00	404	81.90	393	106.00	288

Average of 15.428 to 15.438 min.: 2A149298.D
bfb
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
115.90	173	155.00	61				
116.90	379	170.10	65				
117.95	204	172.10	103				
118.95	307	173.95	54914				
127.90	294	175.00	4833				
128.80	61	175.95	54216				
130.00	299	176.95	3944				
137.00	61						
140.95	680						
142.90	737						
147.90	66						

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 2A148920.D
Acq On : 25 Jul 2014 10:50 am
Operator : Dejanas
Sample : ic6348-0.2
Misc : MS70814,V2A6348,w,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 28 10:24:49 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Thu Jul 24 16:32:45 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.94	65	79271	500.00	ug/L	0.00
5) pentafluorobenzene	10.39	168	223418	50.00	ug/L	0.00
52) 1,4-difluorobenzene	11.33	114	247162	50.00	ug/L	0.00
84) chlorobenzene-d5	14.36	117	199275	50.00	ug/L	0.00
98) 1,4-dichlorobenzene-d4	16.52	152	109322	50.00	ug/L	0.00
System Monitoring Compounds						
46) dibromofluoromethane (s)	0.00	113	0d	0.00	ug/L	
Spiked Amount 50.000	Range 79 - 120		Recovery =	0.00%#		
47) 1,2-dichloroethane-d4 (s)	10.87	65	348	0.18	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery =	0.36%#		
76) toluene-d8 (s)	12.94	98	1489	0.27	ug/L	0.01
Spiked Amount 50.000	Range 78 - 119		Recovery =	0.54%#		
100) 4-bromofluorobenzene (s)	15.44	95	1074	0.56	ug/L	0.01
Spiked Amount 50.000	Range 74 - 119		Recovery =	1.12%#		
Target Compounds						Qvalue
30) di-isopropyl ether	9.01	45	968	0.17	ug/L #	67
44) chloroform	10.23	85	363	0.18	ug/L #	83
60) benzene	10.95	78	1266	0.20	ug/L	51
74) bromodichloromethane	12.22	83	375	0.17	ug/L	87
78) toluene	13.01	92	719	0.20	ug/L #	37
86) 1,3-dichloropropane	13.57	76	476	0.23	ug/L #	22
91) chlorobenzene	14.38	112	836	0.20	ug/L #	67
93) ethylbenzene	14.44	91	1249	0.19	ug/L	90
94) m,p-xylene	14.53	106	888	0.35	ug/L #	61
95) o-xylene	14.93	106	328	0.13	ug/L	99
96) styrene	14.94	104	657	0.15	ug/L #	68
99) isopropylbenzene	15.25	105	1236	0.19	ug/L	76
102) bromobenzene	15.61	156	302	0.15	ug/L #	32
109) 1,3,5-trimethylbenzene	15.76	105	1051	0.19	ug/L	78
112) 1,2,4-trimethylbenzene	16.14	105	1049	0.19	ug/L	87
113) sec-butylbenzene	16.29	105	1131	0.16	ug/L	71
115) p-isopropyltoluene	16.40	119	1003	0.16	ug/L	51
116) 1,4-dichlorobenzene	16.55	146	814	0.23	ug/L	96
117) 1,2-dichlorobenzene	16.92	146	761	0.22	ug/L	86
119) n-butylbenzene	16.79	92	552	0.19	ug/L #	44
121) 1,3,5-TRICHLOROBENZENE	17.85	180	647	0.20	ug/L #	85
122) 1,2,4-trichlorobenzene	18.49	180	625	0.22	ug/L	80
125) 1,2,3-trichlorobenzene	19.03	180	580	0.23	ug/L	80

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

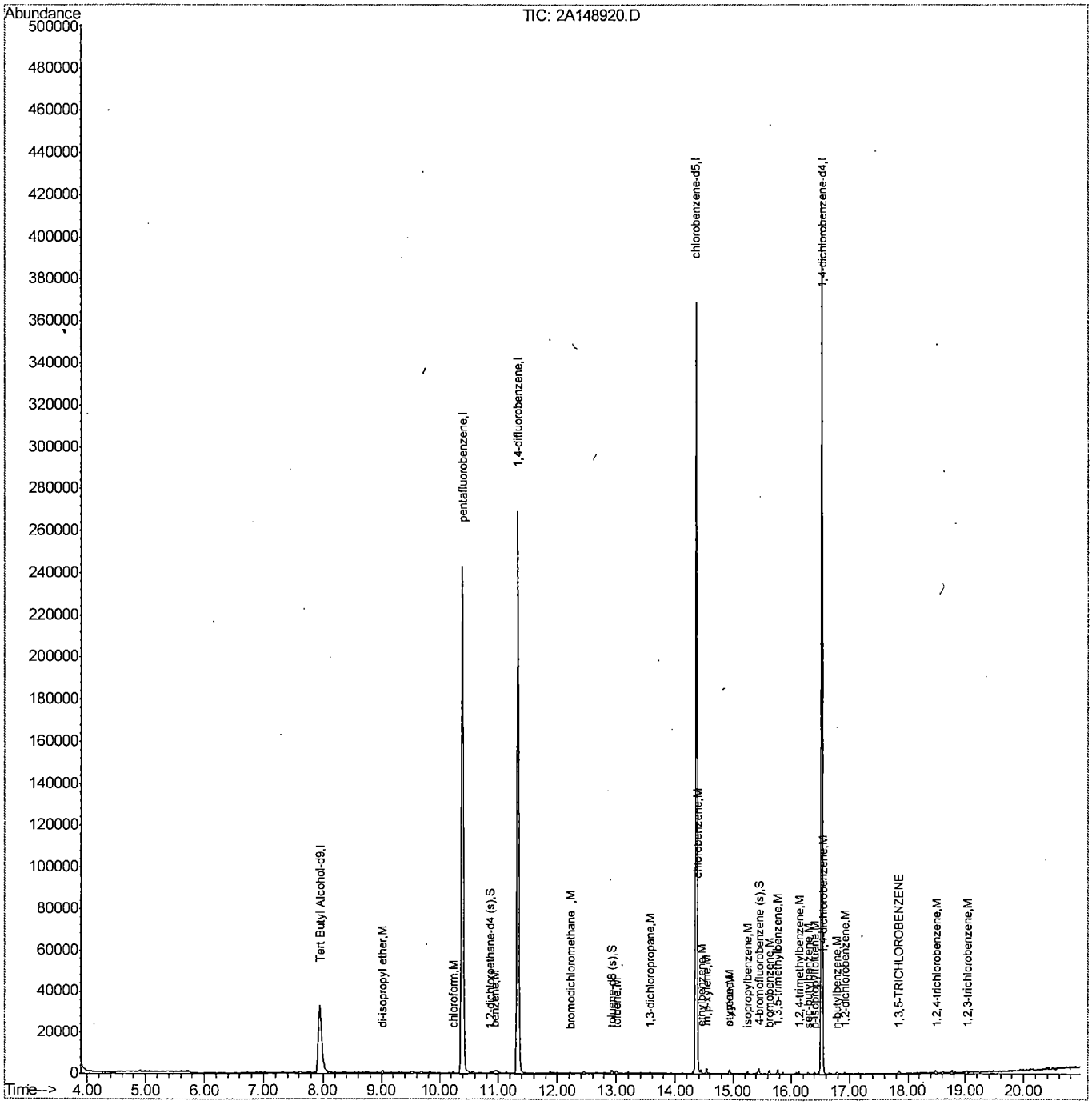
7.6.1

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 2A148920.D
Acq On : 25 Jul 2014 10:50 am
Operator : Dejanas
Sample : ic6348-0.2
Misc : MS70814,V2A6348,w,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 28 10:24:49 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Thu Jul 24 16:32:45 2014
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 2A148921.D
Acq On : 25 Jul 2014 11:20 am
Operator : Dejanas
Sample : ic6348-0.5
Misc : MS70814,V2A6348,w,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 25 17:30:51 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 25 16:38:08 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Tert Butyl Alcohol-d9	7.94	65	71749	500.00	ug/L		0.00
5) pentafluorobenzene	10.39	168	209936	50.00	ug/L		0.00
52) 1,4-difluorobenzene	11.33	114	234679	50.00	ug/L		0.00
84) chlorobenzene-d5	14.36	117	194662	50.00	ug/L		0.00
98) 1,4-dichlorobenzene-d4	16.52	152	105494	50.00	ug/L		0.00
System Monitoring Compounds							
46) dibromofluoromethane (s)	0.00	113	0d	0.00	ug/L		
Spiked Amount 50.000	Range 79 - 120		Recovery =	0.00%#			
47) 1,2-dichloroethane-d4 (s)	10.87	65	890	0.48	ug/L		0.00
Spiked Amount 50.000	Range 72 - 123		Recovery =	0.96%#			
76) toluene-d8 (s)	12.93	98	2545	0.48	ug/L		0.00
Spiked Amount 50.000	Range 78 - 119		Recovery =	0.96%#			
100) 4-bromofluorobenzene (s)	15.44	95	934	0.51	ug/L		0.00
Spiked Amount 50.000	Range 74 - 119		Recovery =	1.02%#			
Target Compounds							Qvalue
10) chloromethane	4.54	50	1342	0.56	ug/L		83
11) vinyl chloride	4.81	62	916	0.45	ug/L	#	48
12) bromomethane	5.52	94	542	0.43	ug/L		80
23) iodomethane	7.47	142	1395	0.50	ug/L		92
25) carbon disulfide	7.61	76	2518	0.51	ug/L		86
26) methylene chloride	7.98	84	689	0.44	ug/L		85
28) methyl tert butyl ether	8.36	73	2349	0.51	ug/L		85
29) trans-1,2-dichloroethene	8.40	96	686	0.45	ug/L	#	60
30) di-isopropyl ether	9.01	45	2837	0.54	ug/L	#	47
32) 1,1-dichloroethane	9.03	63	1489	0.54	ug/L	#	44
33) chloroprene	9.14	53	1105	0.50	ug/L		67
36) ethyl tert-butyl ether	9.52	59	2513	0.50	ug/L		85
38) 2,2-dichloropropane	9.83	77	1188	0.51	ug/L		70
39) cis-1,2-dichloroethene	9.84	96	728	0.44	ug/L	#	46
44) chloroform	10.24	85	1085	0.57	ug/L	#	55
50) 1,1,1-trichloroethane	10.47	97	1143	0.45	ug/L	#	38
51) Cyclohexane	10.57	84	899	0.39	ug/L		91
55) carbon tetrachloride	10.71	117	1065	0.43	ug/L		80
56) 1,1-dichloropropene	10.66	75	840	0.39	ug/L	#	40
57) hexane	8.75	57	807	0.41	ug/L	#	59
59) 2,2,4-TRIMETHYLPENTANE	10.95	57	2821	0.56	ug/L	#	79
60) benzene	10.95	78	2773	0.46	ug/L		84
61) tert-amyl methyl ether	10.99	87	444	0.41	ug/L	#	9
62) heptane	11.13	57	510	0.47	ug/L	#	67
66) trichloroethene	11.67	95	673	0.45	ug/L		87
70) 2-chloroethyl vinyl ether	12.46	63	1359	1.63	ug/L		82
72) dibromomethane	12.09	93	426	0.46	ug/L		96
73) methylcyclohexane	11.89	83	1170	0.49	ug/L		90
74) bromodichloromethane	12.21	83	1144	0.53	ug/L		78
75) cis-1,3-dichloropropene	12.66	75	1216	0.49	ug/L		85
78) toluene	13.00	92	1879	0.54	ug/L	#	71
79) 3-methyl-1-butanol	12.79	55	529	9.64	ug/L	#	15
80) trans-1,3-dichloropropene	13.19	75	1093	0.46	ug/L	#	75

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 2A148921.D
Acq On : 25 Jul 2014 11:20 am
Operator : Dejanas
Sample : ic6348-0.5
Misc : MS70814,V2A6348,w,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 25 17:30:51 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 25 16:38:08 2014
Response via : Initial Calibration

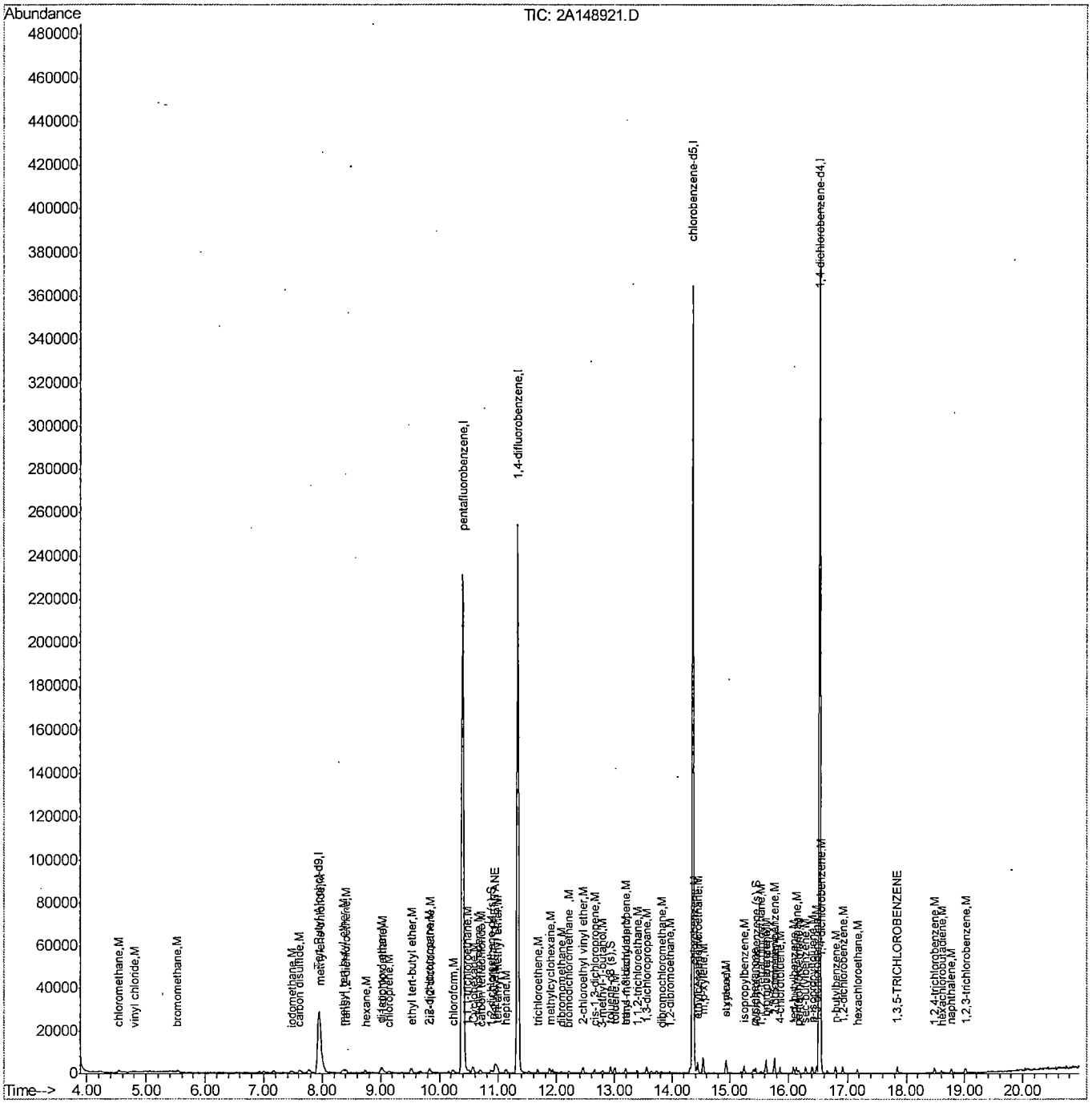
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
81) ethyl methacrylate	13.20	69	677	0.40 ug/L	79
82) 1,1,2-trichloroethane	13.39	83	467	0.44 ug/L	87
86) 1,3-dichloropropane	13.57	76	930	0.46 ug/L	96
89) dibromochloromethane	13.82	129	774	0.43 ug/L	85
90) 1,2-dibromoethane	13.96	107	519	0.39 ug/L	72
91) chlorobenzene	14.39	112	2007	0.49 ug/L	95
92) 1,1,1,2-tetrachloroethane	14.44	131	623	0.38 ug/L	87
93) ethylbenzene	14.44	91	3176	0.48 ug/L	86
94) m,p-xylene	14.54	106	2493	0.99 ug/L	84
95) o-xylene	14.94	106	1269	0.50 ug/L #	67
96) styrene	14.94	104	1918	0.45 ug/L	97
99) isopropylbenzene	15.25	105	2747	0.44 ug/L	87
101) cyclohexanone	15.41	98	253	4.70 ug/L #	28
102) bromobenzene	15.62	156	973	0.51 ug/L	97
103) 1,1,2,2-tetrachloroethane	15.54	83	810	0.46 ug/L	93
106) n-propylbenzene	15.63	120	688	0.43 ug/L #	82
107) 2-chlorotoluene	15.76	126	735	0.46 ug/L	74
108) 4-chlorotoluene	15.86	126	728	0.45 ug/L	89
109) 1,3,5-trimethylbenzene	15.77	105	2682	0.50 ug/L	94
110) tert-butylbenzene	16.09	119	2087	0.44 ug/L	90
111) pentachloroethane	16.16	167	482	0.39 ug/L #	72
112) 1,2,4-trimethylbenzene	16.13	105	2543	0.49 ug/L	91
113) sec-butylbenzene	16.28	105	2984	0.44 ug/L	94
114) 1,3-dichlorobenzene	16.46	146	1712	0.49 ug/L	94
115) p-isopropyltoluene	16.40	119	2626	0.45 ug/L	91
116) 1,4-dichlorobenzene	16.55	146	1625	0.47 ug/L	91
117) 1,2-dichlorobenzene	16.91	146	1676	0.50 ug/L	89
119) n-butylbenzene	16.78	92	1238	0.44 ug/L	83
121) 1,3,5-TRICHLOROBENZENE	17.84	180	1227	0.39 ug/L	94
122) 1,2,4-trichlorobenzene	18.49	180	1168	0.42 ug/L	84
123) hexachlorobutadiene	18.60	225	571	0.37 ug/L	97
124) naphthalene	18.78	128	2068	0.41 ug/L	69
125) 1,2,3-trichlorobenzene	19.02	180	1200	0.49 ug/L	67
126) hexachloroethane	17.16	201	589	0.46 ug/L	94

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 2A148921.D
Acq On : 25 Jul 2014 11:20 am
Operator : Dejanas
Sample : ic6348-0.5
Misc : MS70814,V2A6348,w,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 25 17:30:51 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 25 16:38:08 2014
Response via : Initial Calibration



Manual Integrations APPROVED (compounds with "m" flag)
Jessica Reitan-Chu
07/28/14 11:27

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 2A148922.D
Acq On : 25 Jul 2014 11:49 am
Operator : Dejanas
Sample : ic6348-1.0
Misc : MS70814,V2A6348,w,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jul 25 17:31:32 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 25 16:38:08 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Tert Butyl Alcohol-d9	7.94	65	64798	500.00	ug/L		0.00
5) pentafluorobenzene	10.39	168	208210	50.00	ug/L		0.00
52) 1,4-difluorobenzene	11.33	114	229027	50.00	ug/L		0.00
84) chlorobenzene-d5	14.36	117	187762	50.00	ug/L		0.00
98) 1,4-dichlorobenzene-d4	16.52	152	102875	50.00	ug/L		0.00
System Monitoring Compounds							
46) dibromofluoromethane (s)	10.43	113	1331	0.84	ug/L		0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 1.68%#				
47) 1,2-dichloroethane-d4 (s)	10.87	65	1568	0.85	ug/L		0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 1.70%#				
76) toluene-d8 (s)	12.92	98	4498	0.87	ug/L		0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 1.74%#				
100) 4-bromofluorobenzene (s)	15.44	95	1795	1.00	ug/L		0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 2.00%#				
Target Compounds							Qvalue
2) tertiary butyl alcohol	8.10	59	449	3.16	ug/L		55
4) 1,4-dioxane	12.07	88	179	19.51	ug/L	#	32
7) chlorodifluoromethane	4.23	51	1304	1.04	ug/L		62
8) dichlorodifluoromethane	4.19	85	1991	0.89	ug/L		93
10) chloromethane	4.54	50	2668	1.12	ug/L		86
11) vinyl chloride	4.80	62	2141	1.07	ug/L		87
12) bromomethane	5.53	94	1241	1.00	ug/L		77
13) chloroethane	5.73	64	952	1.05	ug/L	#	46
14) trichlorofluoromethane	6.27	101	2337m	0.98	ug/L		
16) ethyl ether	6.70	74	575	0.74	ug/L	#	67
18) acrolein	6.97	56	300788	1027.72	ug/L		99
19) 1,1-dichloroethene	7.17	96	917	0.66	ug/L		82
23) iodomethane	7.47	142	2358	0.85	ug/L		91
25) carbon disulfide	7.61	76	4376	0.90	ug/L		77
26) methylene chloride	7.98	84	1470	0.95	ug/L		96
28) methyl tert butyl ether	8.35	73	4198	0.92	ug/L		96
29) trans-1,2-dichloroethene	8.39	96	1174	0.77	ug/L		94
30) di-isopropyl ether	9.01	45	5900	1.14	ug/L	#	57
32) 1,1-dichloroethane	9.02	63	2575	0.94	ug/L		89
33) chloroprene	9.15	53	2266	1.03	ug/L		65
34) acrylonitrile	8.36	53	2180	4.23	ug/L		79
36) ethyl tert-butyl ether	9.51	59	5315	1.06	ug/L		92
38) 2,2-dichloropropane	9.82	77	2222	0.97	ug/L		84
39) cis-1,2-dichloroethene	9.82	96	1443	0.88	ug/L	#	65
41) propionitrile	9.92	54	1770	9.33	ug/L		65
42) bromochloromethane	10.16	128	742	0.86	ug/L		85
44) chloroform	10.22	85	1680	0.89	ug/L		92
45) t-butyl formate	10.26	59	865	0.75	ug/L	#	85
48) freon 113	7.13	151	869	0.77	ug/L	#	57
49) methacrylonitrile	10.12	41	727	0.80	ug/L	#	64
50) 1,1,1-trichloroethane	10.48	97	1988	0.79	ug/L		85
51) Cyclohexane	10.55	84	1771	0.77	ug/L	#	54
54) n-butyl alcohol	11.50	56	2217	74.82	ug/L		97

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 2A148922.D
Acq On : 25 Jul 2014 11:49 am
Operator : Dejanas
Sample : ic6348-1.0
Misc : MS70814,V2A6348,w,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jul 25 17:31:32 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 25 16:38:08 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
55) carbon tetrachloride	10.70	117	1872	0.78 ug/L	97
56) 1,1-dichloropropene	10.67	75	1616	0.76 ug/L	84
57) hexane	8.73	57	2047	1.08 ug/L	80
59) 2,2,4-TRIMETHYLPENTANE	10.95	57	5429	1.10 ug/L #	97
60) benzene	10.95	78	5399	0.92 ug/L	93
61) tert-amyl methyl ether	10.99	87	1071	1.01 ug/L #	77
62) heptane	11.13	57	950	0.90 ug/L	93
63) isopropyl acetate	10.89	43	3336	1.18 ug/L	80
64) 1,2-dichloroethane	10.96	62	1953	0.91 ug/L	94
66) trichloroethene	11.67	95	1419	0.97 ug/L	91
68) methyl methacrylate	11.94	41	2134	0.91 ug/L #	87
70) 2-chloroethyl vinyl ether	12.44	63	3365	4.13 ug/L	84
71) 1,2-dichloropropane	11.92	63	1437	0.98 ug/L #	49
72) dibromomethane	12.08	93	784	0.87 ug/L	81
73) methylcyclohexane	11.88	83	2352	1.02 ug/L	85
74) bromodichloromethane	12.22	83	2002	0.95 ug/L	93
75) cis-1,3-dichloropropene	12.65	75	2179	0.90 ug/L	91
77) 4-methyl-2-pentanone	12.75	58	120	0.25 ug/L #	80
78) toluene	13.00	92	3092	0.92 ug/L #	74
79) 3-methyl-1-butanol	12.79	55	1600	29.88 ug/L	87
80) trans-1,3-dichloropropene	13.19	75	2237	0.97 ug/L	90
81) ethyl methacrylate	13.19	69	1572	0.94 ug/L	83
82) 1,1,2-trichloroethane	13.39	83	957	0.92 ug/L	89
85) tetrachloroethene	13.55	164	1020	0.79 ug/L	82
86) 1,3-dichloropropane	13.56	76	1757	0.90 ug/L	93
87) butyl acetate	13.63	56	754	0.93 ug/L #	71
88) 3,3-dimethyl-1-butanol	13.72	57	1952	15.88 ug/L	93
89) dibromochloromethane	13.82	129	1460	0.85 ug/L	85
90) 1,2-dibromoethane	13.96	107	1301	1.00 ug/L	100
91) chlorobenzene	14.39	112	3595	0.92 ug/L	93
92) 1,1,1,2-tetrachloroethane	14.45	131	1501	0.95 ug/L	87
93) ethylbenzene	14.43	91	5812	0.92 ug/L	98
94) m,p-xylene	14.54	106	4173	1.72 ug/L	93
95) o-xylene	14.93	106	2268	0.93 ug/L #	71
96) styrene	14.94	104	3355	0.81 ug/L	93
97) bromoform	15.18	173	1094	0.90 ug/L	80
99) isopropylbenzene	15.25	105	5167	0.85 ug/L	89
101) cyclohexanone	15.41	98	650	12.37 ug/L	96
102) bromobenzene	15.62	156	1673	0.89 ug/L	86
103) 1,1,2,2-tetrachloroethane	15.53	83	1603	0.94 ug/L	92
104) trans-1,4-dichloro-2-buten	15.57	53	305	0.73 ug/L	91
105) 1,2,3-trichloropropane	15.60	110	323	0.81 ug/L #	35
106) n-propylbenzene	15.63	120	1256	0.81 ug/L	92
107) 2-chlorotoluene	15.76	126	1317	0.85 ug/L	91
108) 4-chlorotoluene	15.86	126	1356	0.85 ug/L	92
109) 1,3,5-trimethylbenzene	15.76	105	4462	0.85 ug/L	79
110) tert-butylbenzene	16.09	119	3731	0.82 ug/L	93
111) pentachloroethane	16.17	167	932	0.78 ug/L	94
112) 1,2,4-trimethylbenzene	16.13	105	4863	0.95 ug/L	97
113) sec-butylbenzene	16.29	105	6103	0.92 ug/L	95

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 2A148922.D
Acq On : 25 Jul 2014 11:49 am
Operator : Dejanas
Sample : ic6348-1.0
Misc : MS70814,V2A6348,w,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jul 25 17:31:32 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 25 16:38:08 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
114) 1,3-dichlorobenzene	16.47	146	3239	0.94 ug/L	88
115) p-isopropyltoluene	16.40	119	5276	0.92 ug/L	95
116) 1,4-dichlorobenzene	16.54	146	3351	0.99 ug/L	99
117) 1,2-dichlorobenzene	16.91	146	3086	0.95 ug/L	97
119) n-butylbenzene	16.79	92	2533	0.92 ug/L	92
121) 1,3,5-TRICHLOROBENZENE	17.85	180	2557	0.83 ug/L	97
122) 1,2,4-trichlorobenzene	18.49	180	2119	0.78 ug/L	82
123) hexachlorobutadiene	18.60	225	1354	0.89 ug/L	93
124) naphthalene	18.77	128	4322	0.87 ug/L	93
125) 1,2,3-trichlorobenzene	19.01	180	2050	0.87 ug/L	95
126) hexachloroethane	17.16	201	1040	0.84 ug/L	85

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

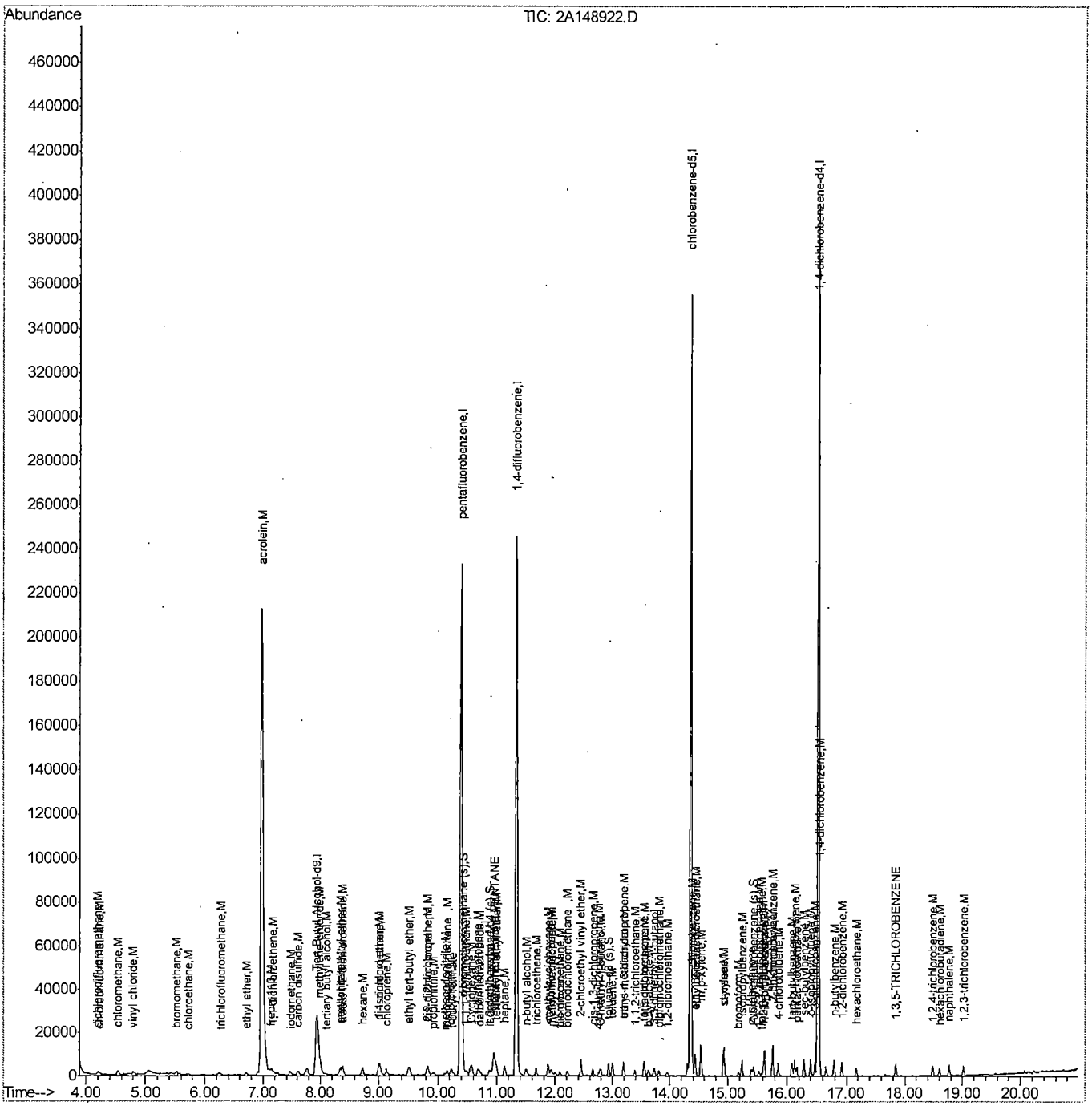
7.6.3

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 2A148922.D
Acq On : 25 Jul 2014 11:49 am
Operator : Dejanas
Sample : ic6348-1.0
Misc : MS70814,V2A6348,w,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jul 25 17:31:32 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 25 16:38:08 2014
Response via : Initial Calibration



Manual Integration Approval Summary

Sample Number:	V2A6348-IC6348	**Method:**	SW846 8260B
Lab FileID:	2A148922.D	**Analyst approved:**	07/25/14 17:49 Ying Li
Injection Time:	07/25/14 11:49	**Supervisor approved:**	07/28/14 11:27 Jessica Reitan-Chu

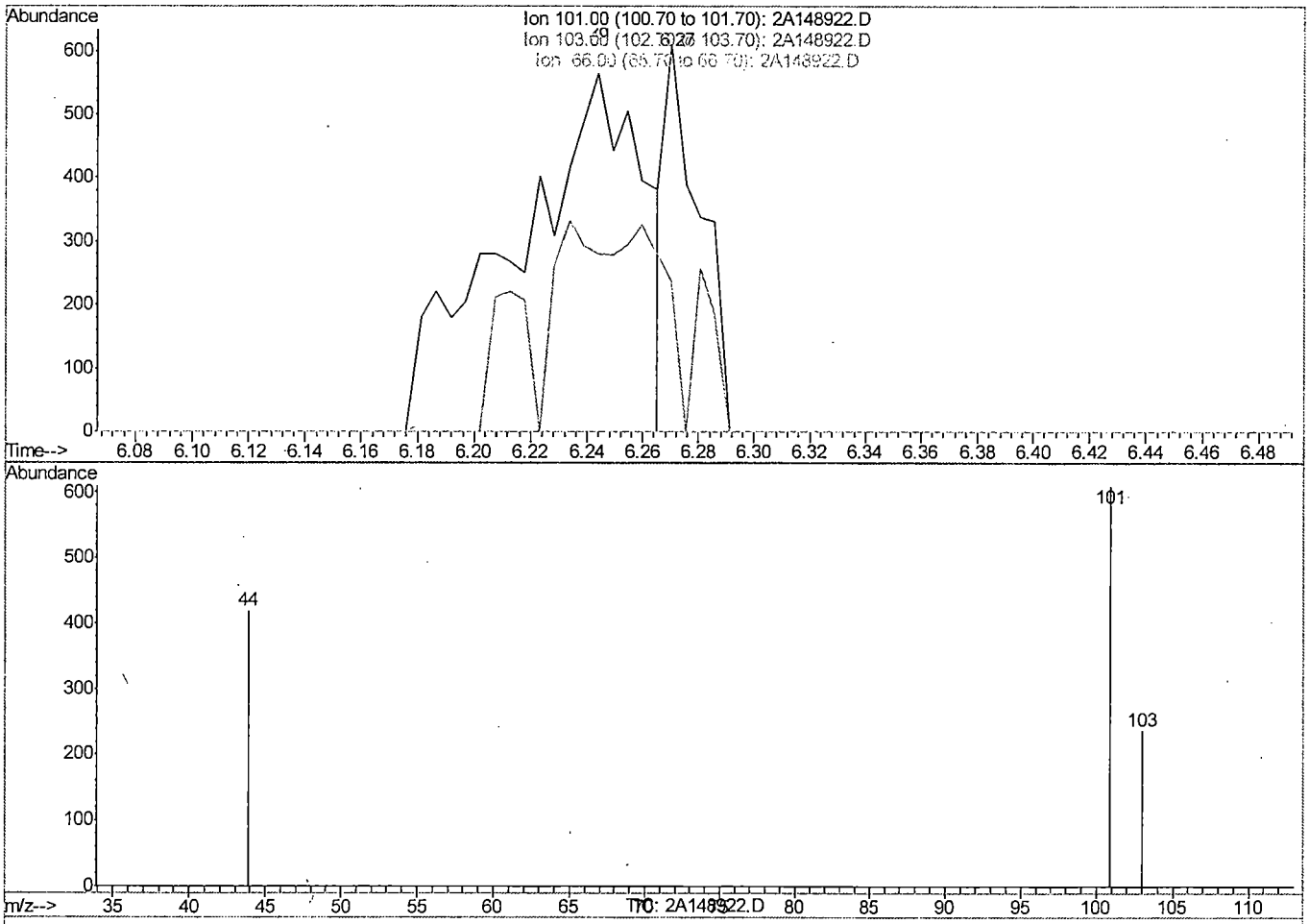
Parameter	CAS	Sig#	R.T. (min.)	Reason
Trichlorofluoromethane	75-69-4		6.27	Split peak

Quantitation Report (Qedit)

Data File : C:\MSDChem\1\DATA\2A148922.D Vial: 4
Acq On : 25 Jul 2014 11:49 am Operator: Dejanas
Sample : ic6348-1.0 Inst : Instrumen
Misc : MS70814,V2A6348,w,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Quant Time: Jul 25 16:49:23 2014 Results File: M2A6348.RES

Method : C:\MSDCHEM\1\METHODS\M2A6348.M (RTE Integrator)
Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
Last Update : Fri Jul 25 16:59:04 2014
Response via : Multiple Level Calibration



(14) trichlorofluoromethane (M)

6.27min 0.22ug/L

response 523

Ion	Exp%	Act%
101.00	100	100
103.00	61.90	38.92
66.00	12.20	0.00
0.00	0.00	0.00

2A148922.D M2A6348.M Fri Jul 25 17:02:14 2014 MS2A

7.6.3.2 7

ACCUTEST LABORATORIES JB73450

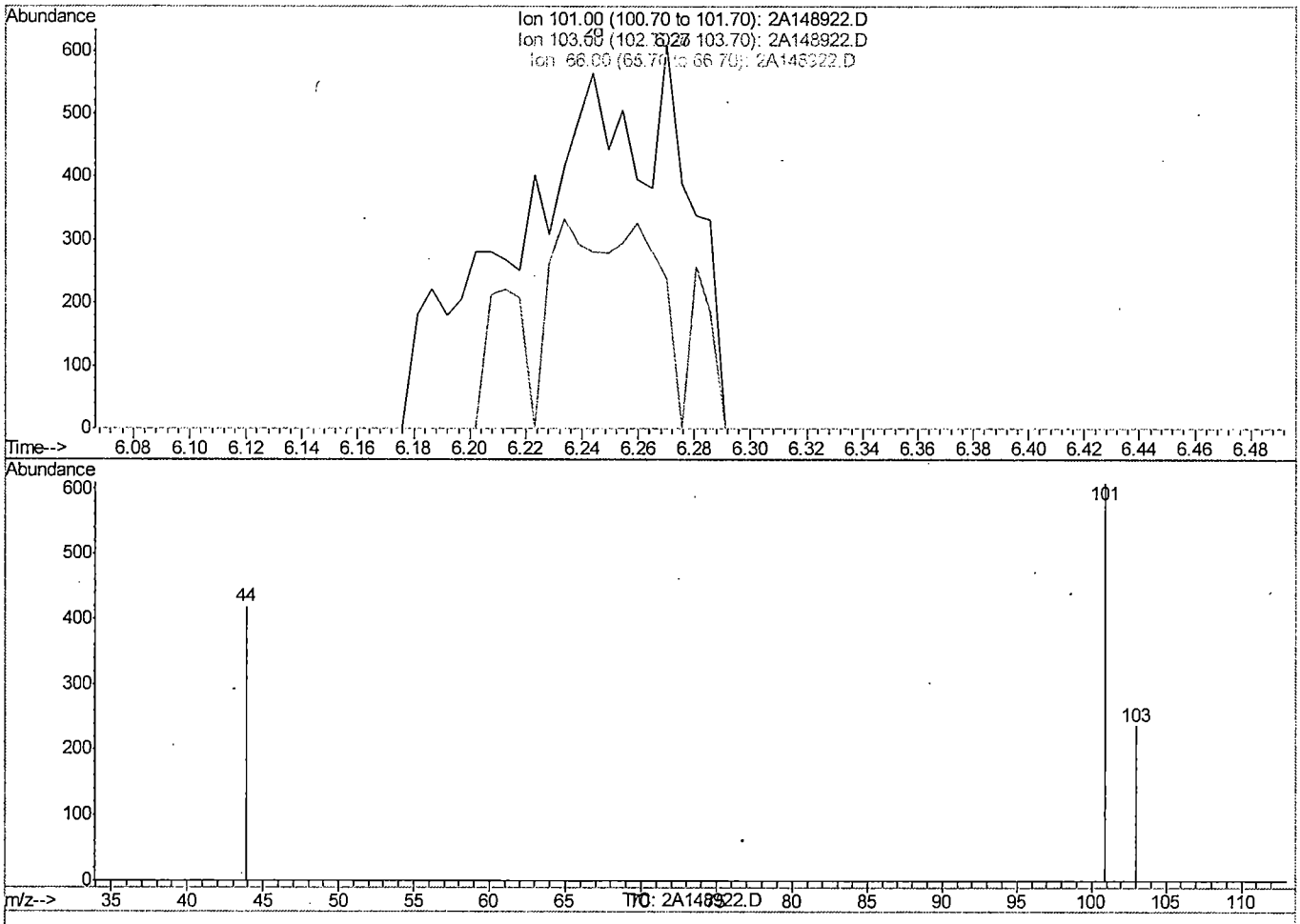
2A148922.D edits: trichlorofluoromethane

Quantitation Report (Qedit)

Data File : C:\MSDChem\1\DATA\2A148922.D Vial: 4
Acq On : 25 Jul 2014 11:49 am Operator: Dejanas
Sample : ic6348-1.0 Inst : Instrumen
Misc : MS70814,V2A6348,w,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Quant Time: Jul 25 16:49:23 2014 Results File: M2A6348.RES

Method : C:\MSDCHEM\1\METHODS\M2A6348.M (RTE Integrator)
Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
Last Update : Fri Jul 25 16:59:04 2014
Response via : Multiple Level Calibration



(14) trichlorofluoromethane (M)

6.27min 0.98ug/L m

response 2337

Ion	Exp%	Act%
101.00	100	100
103.00	61.90	38.92
66.00	12.20	0.00
0.00	0.00	0.00

2A148922.D M2A6348.M Fri Jul 25 17:02:20 2014 MS2A

7.6.3.3 7

2A148922.D edits: trichlorofluoromethane

Manual Integrations APPROVED (Compounds with "m" flag)
Jessica Reitan-Chu
07/28/14 11:27

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 2A148923.D
Acq On : 25 Jul 2014 12:19 pm
Operator : Dejanas
Sample : ic6348-2.0
Misc : MS70814,V2A6348,w,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 25 17:31:46 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 25 16:38:08 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Tert Butyl Alcohol-d9	7.95	65	60527	500.00	ug/L		0.01
5) pentafluorobenzene	10.39	168	196277	50.00	ug/L		0.00
52) 1,4-difluorobenzene	11.33	114	215758	50.00	ug/L		0.00
84) chlorobenzene-d5	14.36	117	176480	50.00	ug/L		0.00
98) 1,4-dichlorobenzene-d4	16.52	152	98341	50.00	ug/L		0.00
System Monitoring Compounds							
46) dibromofluoromethane (s)	10.44	113	3124	2.10	ug/L		0.01
Spiked Amount 50.000	Range 79 - 120		Recovery =	4.20%#			
47) 1,2-dichloroethane-d4 (s)	10.87	65	3433	1.97	ug/L		0.00
Spiked Amount 50.000	Range 72 - 123		Recovery =	3.94%#			
76) toluene-d8 (s)	12.93	98	9447	1.94	ug/L		0.00
Spiked Amount 50.000	Range 78 - 119		Recovery =	3.88%#			
100) 4-bromofluorobenzene (s)	15.44	95	3872	2.26	ug/L		0.00
Spiked Amount 50.000	Range 74 - 119		Recovery =	4.52%#			
Target Compounds							Qvalue
2) tertiary butyl alcohol	8.10	59	2063	15.53	ug/L		55
3) Ethanol	6.59	45	1775m	182.54	ug/L		
4) 1,4-dioxane	12.06	88	489	57.05	ug/L	#	32
7) chlorodifluoromethane	4.21	51	3225	2.73	ug/L		70
8) dichlorodifluoromethane	4.20	85	4578	2.17	ug/L		88
10) chloromethane	4.53	50	5138	2.29	ug/L		94
11) vinyl chloride	4.81	62	4485	2.38	ug/L		92
12) bromomethane	5.52	94	2384	2.04	ug/L		79
13) chloroethane	5.73	64	2047	2.39	ug/L		92
14) trichlorofluoromethane	6.24	101	5422	2.40	ug/L		85
16) ethyl ether	6.71	74	1380	1.89	ug/L		85
18) acrolein	6.97	56	598177	2168.09	ug/L		100
19) 1,1-dichloroethene	7.17	96	2879	2.21	ug/L		81
21) allyl chloride	7.76	76	1299	1.81	ug/L	#	49
22) acetonitrile	7.75	40	2718	24.51	ug/L	#	1
23) iodomethane	7.47	142	4992	1.91	ug/L		95
25) carbon disulfide	7.61	76	9372	2.04	ug/L		90
26) methylene chloride	7.98	84	3082	2.11	ug/L		88
28) methyl tert butyl ether	8.35	73	9200	2.14	ug/L		92
29) trans-1,2-dichloroethene	8.39	96	2963	2.07	ug/L		89
30) di-isopropyl ether	9.01	45	11351	2.33	ug/L	#	51
32) 1,1-dichloroethane	9.02	63	5713	2.20	ug/L		97
33) chloroprene	9.14	53	5106	2.46	ug/L		86
34) acrylonitrile	8.35	53	5270	10.84	ug/L		88
36) ethyl tert-butyl ether	9.52	59	11267	2.39	ug/L		94
38) 2,2-dichloropropane	9.82	77	4840	2.24	ug/L		96
39) cis-1,2-dichloroethene	9.83	96	3217	2.08	ug/L		78
41) propionitrile	9.91	54	3678	20.57	ug/L		79
42) bromochloromethane	10.15	128	1429	1.76	ug/L	#	78
43) tetrahydrofuran	10.22	42	1035	2.15	ug/L	#	65
44) chloroform	10.23	85	3728	2.10	ug/L		79
45) t-butyl formate	10.25	59	2393	2.20	ug/L	#	80
48) freon 113	7.13	151	2209	2.08	ug/L		84

7.6.4

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 2A148923.D
Acq On : 25 Jul 2014 12:19 pm
Operator : Dejanas
Sample : ic6348-2.0
Misc : MS70814,V2A6348,w,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 25 17:31:46 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 25 16:38:08 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) methacrylonitrile	10.10	41	1992	2.31	ug/L		79
50) 1,1,1-trichloroethane	10.49	97	4909	2.06	ug/L		92
51) Cyclohexane	10.55	84	4586	2.13	ug/L	#	64
53) epichlorohydrin	12.57	57	1494	13.99	ug/L		92
54) n-butyl alcohol	11.48	56	5984	214.38	ug/L		97
55) carbon tetrachloride	10.70	117	4882	2.15	ug/L		95
56) 1,1-dichloropropene	10.67	75	4351	2.18	ug/L		97
57) hexane	8.73	57	4278	2.39	ug/L		95
59) 2,2,4-TRIMETHYLPENTANE	10.95	57	10707	2.31	ug/L	#	94
60) benzene	10.95	78	11775	2.13	ug/L		94
61) tert-amyl methyl ether	10.99	87	2341	2.35	ug/L	#	64
62) heptane	11.13	57	2182	2.18	ug/L		82
63) isopropyl acetate	10.89	43	7226	2.70	ug/L		95
64) 1,2-dichloroethane	10.97	62	4557	2.26	ug/L		94
66) trichloroethene	11.67	95	2985	2.17	ug/L		86
68) methyl methacrylate	11.93	41	5025	2.28	ug/L		88
69) 2-nitropropane	12.43	41	1229	2.27	ug/L		90
70) 2-chloroethyl vinyl ether	12.45	63	8119	10.58	ug/L		96
71) 1,2-dichloropropane	11.92	63	3014	2.18	ug/L		79
72) dibromomethane	12.08	93	1847	2.18	ug/L		94
73) methylcyclohexane	11.88	83	5285	2.43	ug/L		79
74) bromodichloromethane	12.21	83	4100	2.07	ug/L		88
75) cis-1,3-dichloropropene	12.66	75	4815	2.11	ug/L		93
77) 4-methyl-2-pentanone	12.75	58	895	2.00	ug/L	#	79
78) toluene	13.00	92	6712	2.11	ug/L		97
79) 3-methyl-1-butanol	12.78	55	4276	84.76	ug/L		96
80) trans-1,3-dichloropropene	13.19	75	4753	2.20	ug/L		86
81) ethyl methacrylate	13.19	69	3434	2.18	ug/L		99
82) 1,1,2-trichloroethane	13.39	83	2117	2.16	ug/L		81
83) 2-hexanone	13.57	58	822	1.96	ug/L	#	71
85) tetrachloroethene	13.56	164	2804	2.30	ug/L		83
86) 1,3-dichloropropane	13.57	76	3913	2.14	ug/L		93
87) butyl acetate	13.63	56	2023	2.64	ug/L	#	73
88) 3,3-dimethyl-1-butanol	13.72	57	5300	45.88	ug/L		97
89) dibromochloromethane	13.81	129	3255	2.02	ug/L		91
90) 1,2-dibromoethane	13.95	107	2449	2.01	ug/L		87
91) chlorobenzene	14.39	112	7515	2.04	ug/L		93
92) 1,1,1,2-tetrachloroethane	14.44	131	3156	2.12	ug/L		93
93) ethylbenzene	14.44	91	12831	2.15	ug/L		97
94) m,p-xylene	14.54	106	9953	4.37	ug/L		84
95) o-xylene	14.93	106	4643	2.03	ug/L		91
96) styrene	14.94	104	8064	2.08	ug/L		98
97) bromoform	15.19	173	2557	2.24	ug/L		88
99) isopropylbenzene	15.25	105	12321	2.11	ug/L		98
101) cyclohexanone	15.41	98	1482	29.50	ug/L		76
102) bromobenzene	15.62	156	3472	1.94	ug/L		95
103) 1,1,2,2-tetrachloroethane	15.53	83	3524	2.16	ug/L		80
104) trans-1,4-dichloro-2-buten	15.57	53	832	2.07	ug/L	#	68
105) 1,2,3-trichloropropane	15.60	110	795	2.07	ug/L		95
106) n-propylbenzene	15.63	120	3053	2.06	ug/L	#	85

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 2A148923.D
Acq On : 25 Jul 2014 12:19 pm
Operator : Dejanas
Sample : ic6348-2.0
Misc : MS70814,V2A6348,w,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 25 17:31:46 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 25 16:38:08 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
107) 2-chlorotoluene	15.76	126	3242m	2.18 ug/L	
108) 4-chlorotoluene	15.86	126	3109	2.05 ug/L	94
109) 1,3,5-trimethylbenzene	15.76	105	10544	2.09 ug/L	96
110) tert-butylbenzene	16.08	119	8964	2.05 ug/L	99
111) pentachloroethane	16.17	167	2455	2.14 ug/L	92
112) 1,2,4-trimethylbenzene	16.13	105	10129	2.08 ug/L	94
113) sec-butylbenzene	16.29	105	13200	2.09 ug/L	97
114) 1,3-dichlorobenzene	16.47	146	6441	1.96 ug/L	98
115) p-isopropyltoluene	16.40	119	11623	2.12 ug/L	97
116) 1,4-dichlorobenzene	16.55	146	7044	2.18 ug/L	91
117) 1,2-dichlorobenzene	16.92	146	6959	2.24 ug/L	95
119) n-butylbenzene	16.78	92	5526	2.10 ug/L	97
120) 1,2-dibromo-3-chloropropan	17.66	75	754	2.62 ug/L #	71
121) 1,3,5-TRICHLOROBENZENE	17.85	180	6035	2.06 ug/L	99
122) 1,2,4-trichlorobenzene	18.49	180	5297	2.05 ug/L	92
123) hexachlorobutadiene	18.60	225	2897	1.99 ug/L	92
124) naphthalene	18.77	128	11260	2.38 ug/L	94
125) 1,2,3-trichlorobenzene	19.02	180	4892	2.16 ug/L	96
126) hexachloroethane	17.15	201	2349	1.99 ug/L	78

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

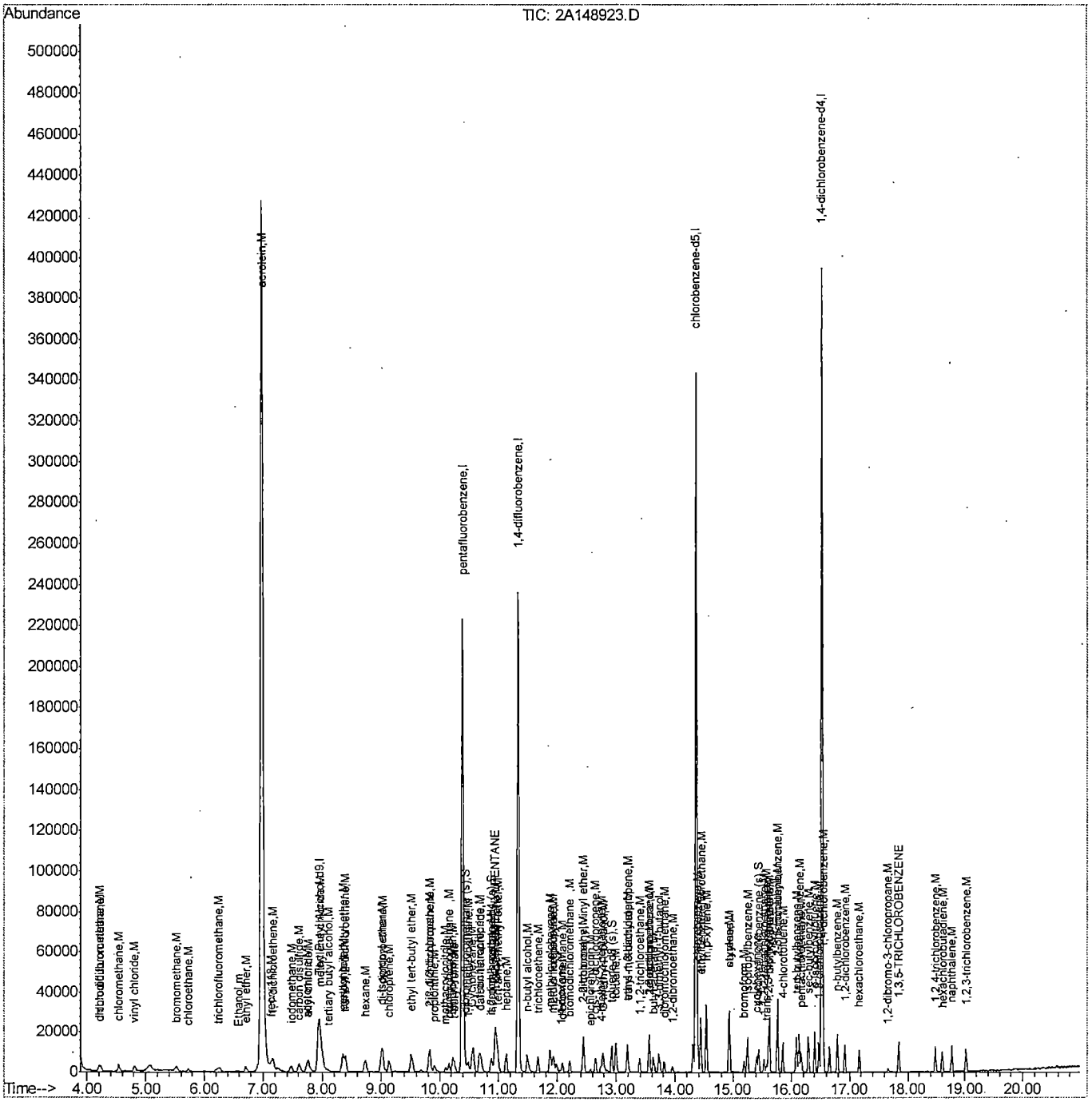
7.6.4

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 2A148923.D
Acq On : 25 Jul 2014 12:19 pm
Operator : Dejanas
Sample : ic6348-2.0
Misc : MS70814,V2A6348,w,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 25 17:31:46 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 25 16:38:08 2014
Response via : Initial Calibration



7.6.4

7

Manual Integration Approval Summary

Sample Number:	V2A6348-IC6348	**Method:**	SW846 8260B
Lab FileID:	2A148923.D	**Analyst approved:**	07/25/14 17:49 Ying Li
Injection Time:	07/25/14 12:19	**Supervisor approved:**	07/28/14 11:27 Jessica Reitan-Chu

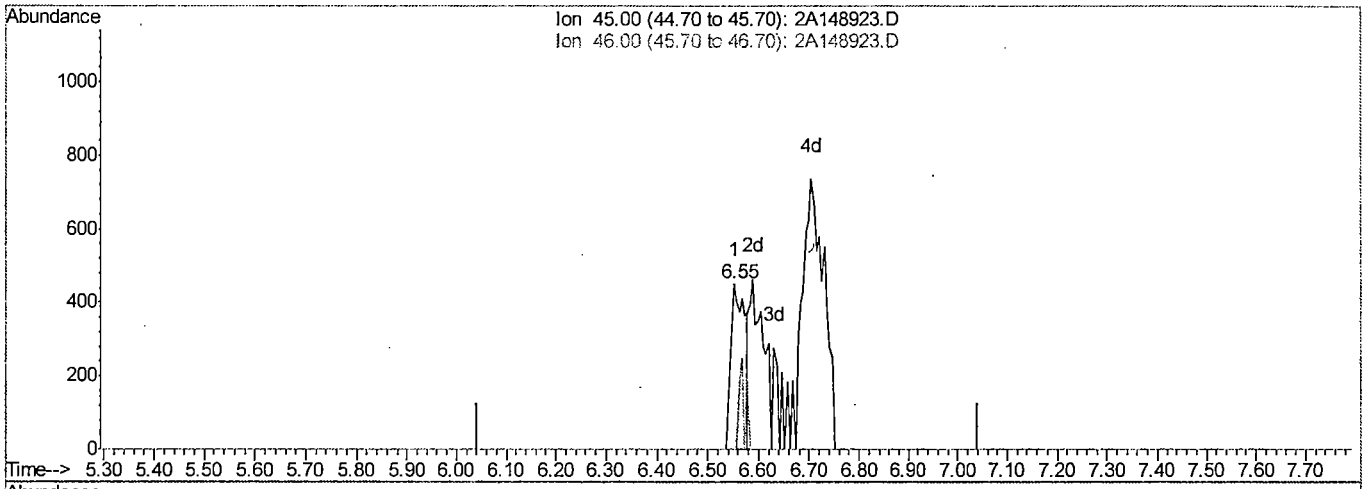
Parameter	CAS	Sig#	R.T. (min.)	Reason
Ethanol	64-17-5		6.59	Split peak
o-Chlorotoluene	95-49-8		15.76	Poor instrument integration

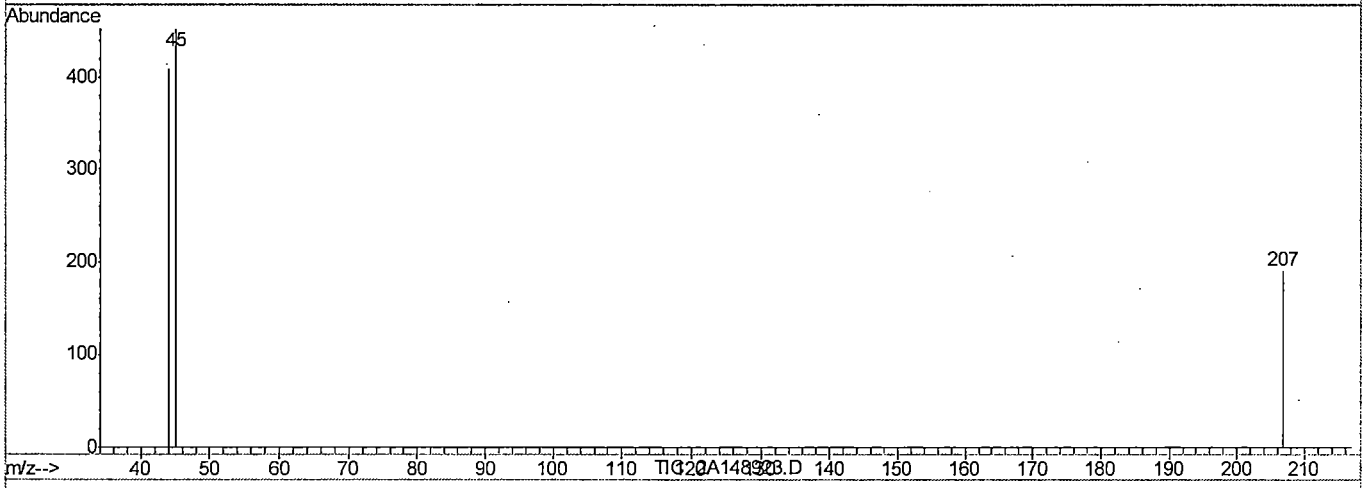
Quantitation Report (Qedit)

Data File : C:\MSDChem\1\DATA\2A148923.D Vial: 5
Acq On : 25 Jul 2014 12:19 pm Operator: Dejanas
Sample : ic6348-2.0 Inst : Instrumen
Misc : MS70814,V2A6348,w,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Quant Time: Jul 25 16:40:12 2014 Results File: M2A6348.RES

Method : C:\MSDCHEM\1\METHODS\M2A6348.M (RTE Integrator)
Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
Last Update : Fri Jul 25 16:38:08 2014
Response via : Multiple Level Calibration





(3) Ethanol (m)

6.55min 93.69ug/L

response 911

Ion	Exp%	Act%
45.00	100	100
46.00	40.20	21.73#
0.00	0.00	0.00
0.00	0.00	0.00

2A148923.D M2A6348.M Fri Jul 25 16:46:58 2014 MS2A

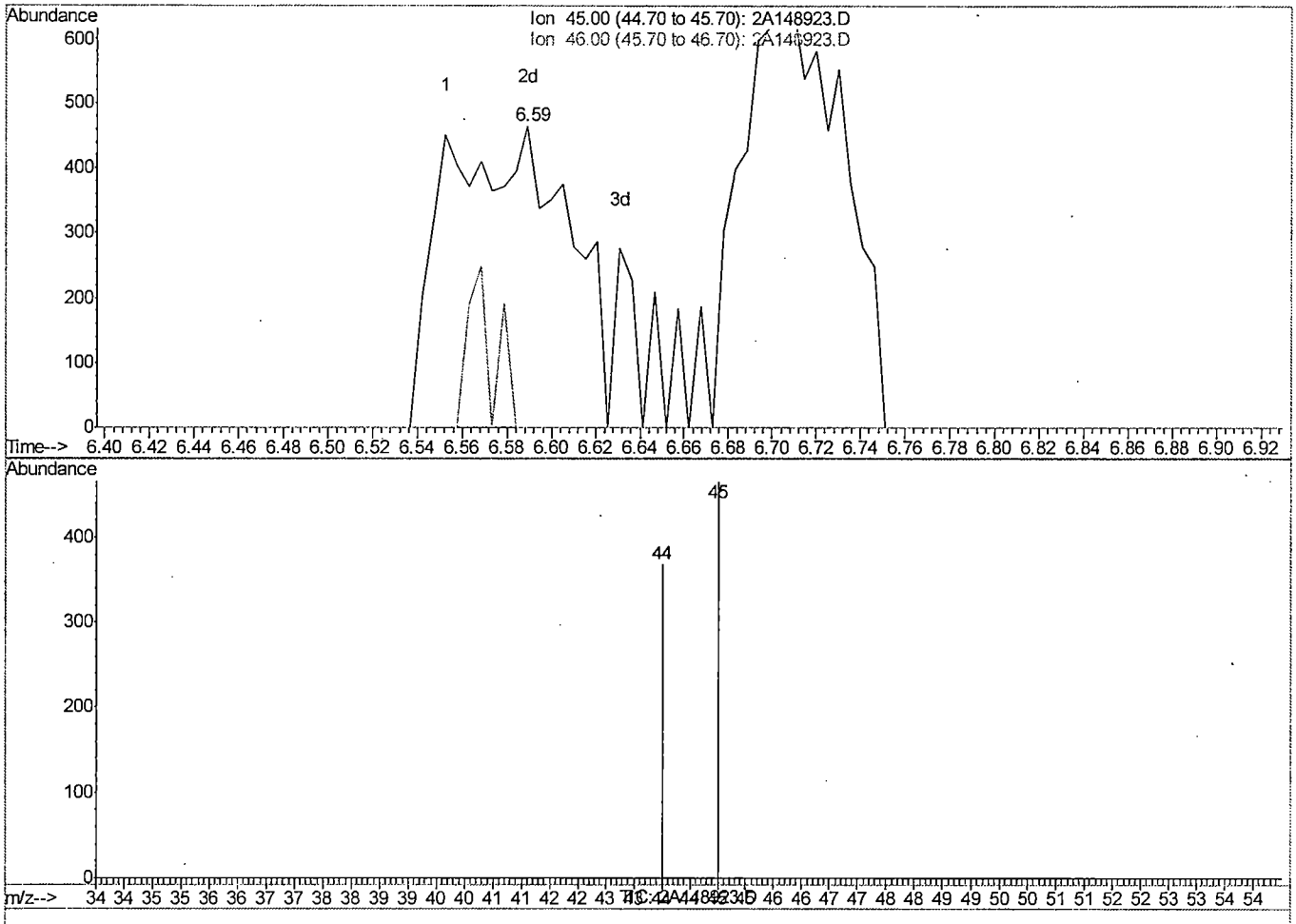
2A148923.D edits: Ethanol

Quantitation Report (Qedit)

Data File : C:\MSDChem\1\DATA\2A148923.D Vial: 5
Acq On : 25 Jul 2014 12:19 pm Operator: Dejanas
Sample : ic6348-2.0 Inst : Instrumen
Misc : MS70814,V2A6348,w,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Quant Time: Jul 25 16:40:12 2014 Results File: M2A6348.RES

Method : C:\MSDCHEM\1\METHODS\M2A6348.M (RTE Integrator)
Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
Last Update : Fri Jul 25 16:38:08 2014
Response via : Multiple Level Calibration



(3) Ethanol (m)

6.59min 182.54ug/L m

response 1775

Ion	Exp%	Act%
45.00	100	100
46.00	40.20	11.15#
0.00	0.00	0.00
0.00	0.00	0.00

2A148923.D M2A6348.M Fri Jul 25 16:47:06 2014 MS2A

7.6.4.3

7

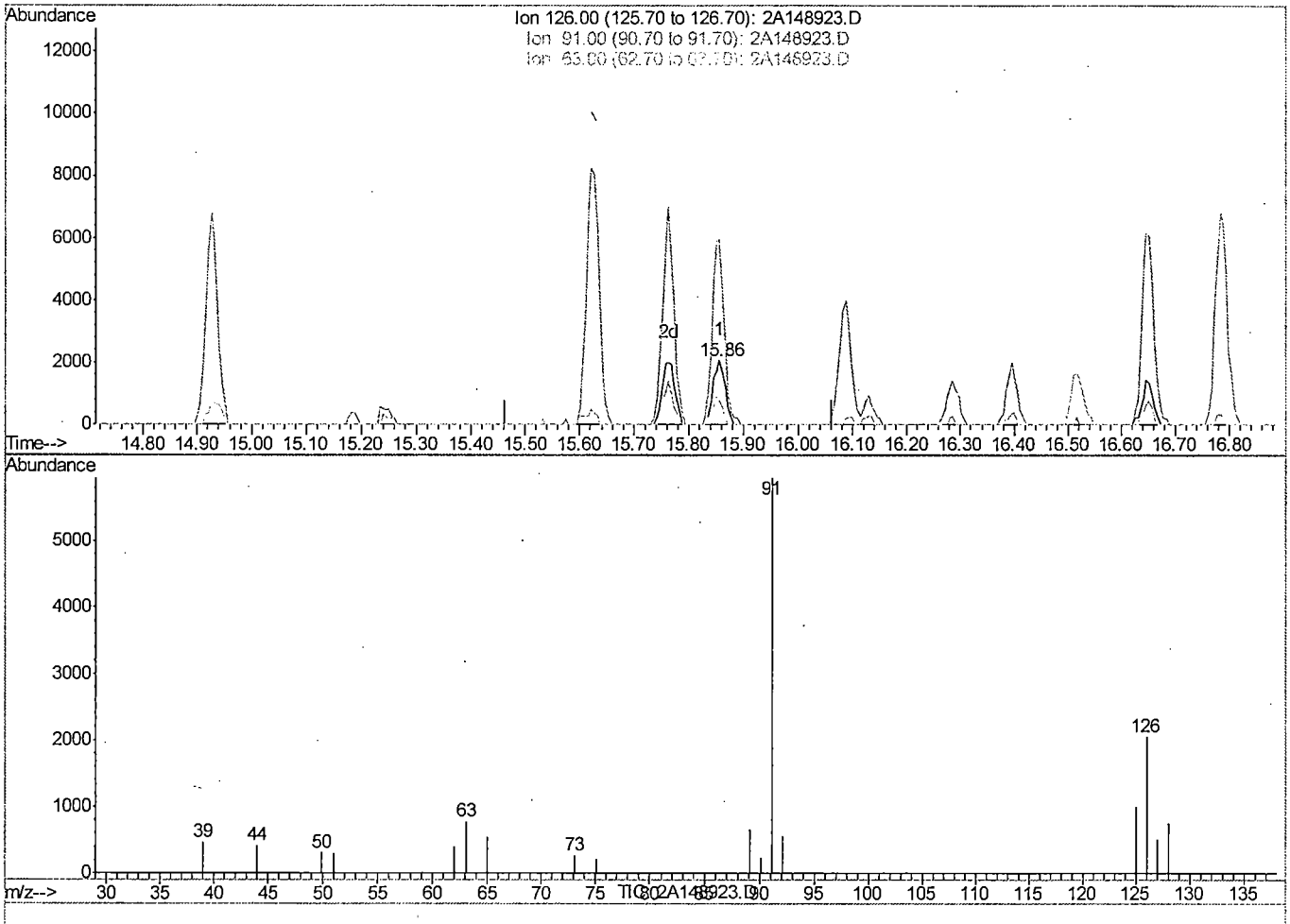
2A148923.D edits: Ethanol

Quantitation Report (Qedit)

Data File : C:\MSDChem\1\DATA\2A148923.D Vial: 5
Acq On : 25 Jul 2014 12:19 pm Operator: Dejanas
Sample : ic6348-2.0 Inst : Instrumen
Misc : MS70814,V2A6348,w,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Quant Time: Jul 25 16:40:12 2014 Results File: M2A6348.RES

Method : C:\MSDCHEM\1\METHODS\M2A6348.M (RTE Integrator)
Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
Last Update : Fri Jul 25 16:38:08 2014
Response via : Multiple Level Calibration



(107) 2-chlorotoluene (M)

15.86min 2.09ug/L

response 3109

Ion	Exp%	Act%
126.00	100	100
91.00	308.60	290.01
63.00	52.60	37.72
0.00	0.00	0.00

2A148923.D M2A6348.M Fri Jul 25 16:48:32 2014 MS2A

7.6.4.4

7

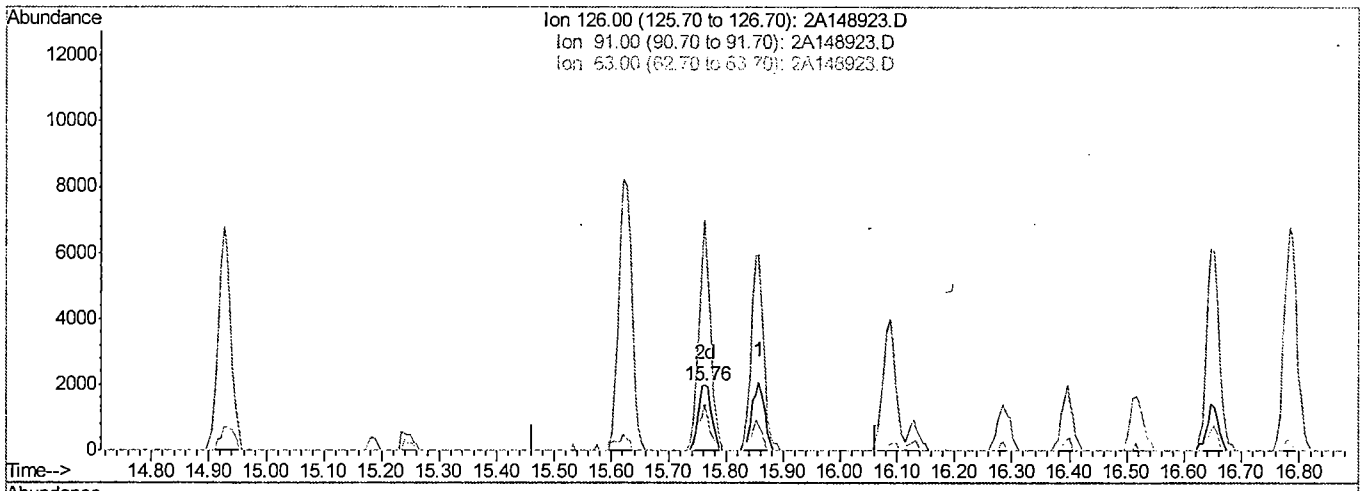
2A148923.D edits: 2-chlorotoluene

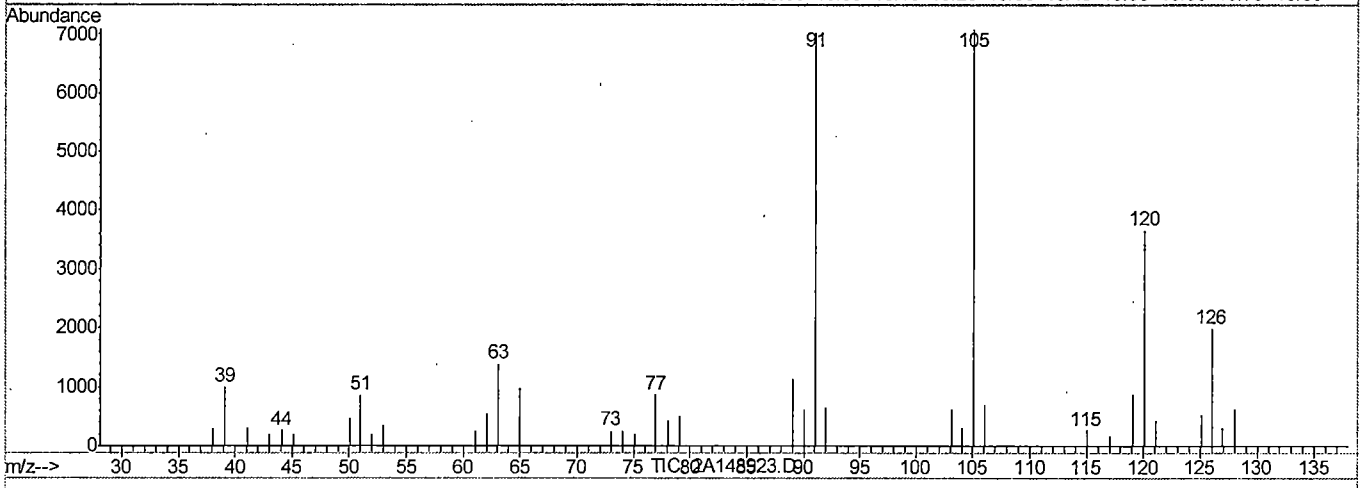
Quantitation Report (Qedit)

Data File : C:\MSDChem\1\DATA\2A148923.D Vial: 5
Acq On : 25 Jul 2014 12:19 pm Operator: Dejanas
Sample : ic6348-2.0 Inst : Instrumen
Misc : MS70814,V2A6348,w,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Quant Time: Jul 25 16:40:12 2014 Results File: M2A6348.RES

Method : C:\MSDCHEM\1\METHODS\M2A6348.M (RTE Integrator)
Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
Last Update : Fri Jul 25 16:38:08 2014
Response via : Multiple Level Calibration





(107) 2-chlorotoluene (M)

15.76min 2.18ug/L m

response 3242

Ion	Exp%	Act%
126.00	100	100
91.00	308.60	352.21
63.00	52.60	69.73#
0.00	0.00	0.00

2A148923.D M2A6348.M Fri Jul 25 16:48:37 2014 MS2A

7.6.4.5 7

ACCUTEST LABORATORIES JB73450

2A148923.D edits: 2-chlorotoluene

Manual Integrations APPROVED (compounds with "m" flag)
Jessica Reitan-Chu
07/28/14 11:27

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 2A148924.D
Acq On : 25 Jul 2014 12:49 pm
Operator : Dejanas
Sample : ic6348-5.0
Misc : MS70814,V2A6348,w,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jul 25 17:05:06 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 25 16:38:08 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Tert Butyl Alcohol-d9	7.94	65	64816	500.00	ug/L		0.00
5) pentafluorobenzene	10.39	168	195797	50.00	ug/L		0.00
52) 1,4-difluorobenzene	11.33	114	215047	50.00	ug/L		0.00
84) chlorobenzene-d5	14.36	117	175435	50.00	ug/L		0.00
98) 1,4-dichlorobenzene-d4	16.52	152	100018	50.00	ug/L		0.00
System Monitoring Compounds							
46) dibromofluoromethane (s)	10.43	113	6830	4.61	ug/L		0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 9.22%#				
47) 1,2-dichloroethane-d4 (s)	10.87	65	7945	4.57	ug/L		0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 9.14%#				
76) toluene-d8 (s)	12.93	98	21056	4.34	ug/L		0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 8.68%#				
100) 4-bromofluorobenzene (s)	15.44	95	8228	4.73	ug/L		0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 9.46%#				
Target Compounds							Qvalue
2) tertiary butyl alcohol	8.07	59	4013	28.20	ug/L		94
3) Ethanol	6.56	45	6298	604.82	ug/L	#	68
4) 1,4-dioxane	12.05	88	1295	141.10	ug/L	#	78
7) chlorodifluoromethane	4.21	51	7188	6.09	ug/L		95
8) dichlorodifluoromethane	4.20	85	11171	5.32	ug/L		95
10) chloromethane	4.53	50	12207	5.44	ug/L		97
11) vinyl chloride	4.80	62	10260	5.45	ug/L		94
12) bromomethane	5.52	94	6084	5.22	ug/L		83
13) chloroethane	5.73	64	5066	5.93	ug/L		89
14) trichlorofluoromethane	6.25	101	13048	5.80	ug/L		90
16) ethyl ether	6.70	74	3472	4.77	ug/L		86
18) acrolein	6.98	56	14862	54.00	ug/L		98
19) 1,1-dichloroethene	7.16	96	7237	5.57	ug/L		89
20) acetone	7.24	43	2810	6.82	ug/L		59
21) allyl chloride	7.76	76	3477	4.87	ug/L	#	85
22) acetonitrile	7.73	40	7062	63.84	ug/L	#	54
23) iodomethane	7.46	142	12948	4.97	ug/L		90
24) iso-butyl alcohol	10.94	74	1571	33.88	ug/L	#	1
25) carbon disulfide	7.60	76	24426	5.33	ug/L		95
26) methylene chloride	7.98	84	8027	5.52	ug/L		84
27) methyl acetate	7.76	74	761m	4.32	ug/L		
28) methyl tert butyl ether	8.35	73	22147	5.18	ug/L		96
29) trans-1,2-dichloroethene	8.40	96	7045	4.94	ug/L		97
30) di-isopropyl ether	9.01	45	26599	5.47	ug/L	#	68
31) 2-butanone	9.83	72	679	4.63	ug/L	#	7
32) 1,1-dichloroethane	9.03	63	14143	5.47	ug/L		99
33) chloroprene	9.14	53	11468	5.54	ug/L		96
34) acrylonitrile	8.35	53	12660	26.11	ug/L		100
35) vinyl acetate	9.03	86	892	4.19	ug/L	#	1
36) ethyl tert-butyl ether	9.52	59	25396	5.40	ug/L		96
37) ethyl acetate	9.84	45	855	4.65	ug/L	#	36
38) 2,2-dichloropropane	9.82	77	12293	5.70	ug/L		93
39) cis-1,2-dichloroethene	9.83	96	7706	5.00	ug/L		98

7.6.5 7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 2A148924.D
Acq On : 25 Jul 2014 12:49 pm
Operator : Dejanas
Sample : ic6348-5.0
Misc : MS70814,V2A6348,w,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jul 25 17:05:06 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 25 16:38:08 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
40) methylacrylate	9.91	85	716	3.97 ug/L	#	1
41) propionitrile	9.90	54	10630	59.59 ug/L		89
42) bromochloromethane	10.16	128	3964	4.88 ug/L		95
43) tetrahydrofuran	10.21	42	2634	5.49 ug/L		89
44) chloroform	10.22	85	9295	5.25 ug/L		91
45) t-butyl formate	10.26	59	5413	4.98 ug/L	#	78
48) freon 113	7.14	151	5211	4.92 ug/L		97
49) methacrylonitrile	10.10	41	4521	5.26 ug/L		95
50) 1,1,1-trichloroethane	10.48	97	12831	5.41 ug/L		91
51) Cyclohexane	10.55	84	10992	5.11 ug/L	#	79
53) epichlorohydrin	12.56	57	2944	27.66 ug/L		93
54) n-butyl alcohol	11.48	56	9553	343.37 ug/L		95
55) carbon tetrachloride	10.69	117	12374	5.46 ug/L		96
56) 1,1-dichloropropene	10.67	75	10536	5.30 ug/L		89
57) hexane	8.74	57	9890	5.55 ug/L		96
59) 2,2,4-TRIMETHYLPENTANE	10.96	57	24867	5.39 ug/L	#	98
60) benzene	10.94	78	28622	5.19 ug/L		96
61) tert-amyl methyl ether	10.98	87	5377	5.42 ug/L		95
62) heptane	11.13	57	5728	5.75 ug/L		92
63) isopropyl acetate	10.88	43	15819	5.93 ug/L		94
64) 1,2-dichloroethane	10.96	62	10971	5.45 ug/L		98
66) trichloroethene	11.67	95	7339	5.35 ug/L		92
68) methyl methacrylate	11.94	41	11615	5.28 ug/L		98
69) 2-nitropropane	12.42	41	3060	5.68 ug/L		96
70) 2-chloroethyl vinyl ether	12.45	63	16519	21.60 ug/L		96
71) 1,2-dichloropropane	11.92	63	7389	5.37 ug/L		99
72) dibromomethane	12.08	93	4583	5.42 ug/L		84
73) methylcyclohexane	11.88	83	11562	5.32 ug/L		93
74) bromodichloromethane	12.22	83	10553	5.36 ug/L		94
75) cis-1,3-dichloropropene	12.65	75	11862	5.21 ug/L		94
77) 4-methyl-2-pentanone	12.75	58	2617	5.87 ug/L		91
78) toluene	13.00	92	16262	5.13 ug/L		99
79) 3-methyl-1-butanol	12.78	55	6295	125.19 ug/L		89
80) trans-1,3-dichloropropene	13.19	75	11169	5.18 ug/L		87
81) ethyl methacrylate	13.18	69	9181	5.85 ug/L		97
82) 1,1,2-trichloroethane	13.39	83	4992	5.12 ug/L		97
83) 2-hexanone	13.57	58	2454	5.87 ug/L	#	61
85) tetrachloroethene	13.55	164	6323	5.21 ug/L		94
86) 1,3-dichloropropane	13.57	76	10023	5.52 ug/L		84
87) butyl acetate	13.63	56	4658	6.12 ug/L		92
88) 3,3-dimethyl-1-butanol	13.72	57	7375	64.23 ug/L		90
89) dibromochloromethane	13.81	129	8456	5.27 ug/L		97
90) 1,2-dibromoethane	13.96	107	6194	5.11 ug/L		92
91) chlorobenzene	14.39	112	18755	5.13 ug/L		98
92) 1,1,1,2-tetrachloroethane	14.44	131	8410	5.69 ug/L		94
93) ethylbenzene	14.43	91	30203	5.09 ug/L		98
94) m,p-xylene	14.53	106	23700	10.48 ug/L		96
95) o-xylene	14.93	106	12022	5.28 ug/L		89
96) styrene	14.94	104	20205	5.25 ug/L		98
97) bromoform	15.18	173	6537	5.75 ug/L		98

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 2A148924.D
Acq On : 25 Jul 2014 12:49 pm
Operator : Dejanas
Sample : ic6348-5.0
Misc : MS70814,V2A6348,w,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jul 25 17:05:06 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 25 16:38:08 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
99) isopropylbenzene	15.25	105	30283	5.10 ug/L	95
101) cyclohexanone	15.40	98	4006	78.41 ug/L	95
102) bromobenzene	15.62	156	9263	5.09 ug/L	92
103) 1,1,2,2-tetrachloroethane	15.53	83	8602	5.18 ug/L	96
104) trans-1,4-dichloro-2-buten	15.57	53	2633	6.45 ug/L	86
105) 1,2,3-trichloropropane	15.60	110	2361	6.05 ug/L	94
106) n-propylbenzene	15.62	120	7987	5.29 ug/L	94
107) 2-chlorotoluene	15.76	126	8115	5.37 ug/L	96
108) 4-chlorotoluene	15.86	126	8516	5.51 ug/L	85
109) 1,3,5-trimethylbenzene	15.76	105	26065	5.09 ug/L	96
110) tert-butylbenzene	16.09	119	22288	5.01 ug/L	95
111) pentachloroethane	16.17	167	6187	5.31 ug/L	94
112) 1,2,4-trimethylbenzene	16.13	105	26084	5.26 ug/L	93
113) sec-butylbenzene	16.29	105	32470	5.06 ug/L	97
114) 1,3-dichlorobenzene	16.47	146	17648	5.29 ug/L	98
115) p-isopropyltoluene	16.40	119	28503	5.11 ug/L	98
116) 1,4-dichlorobenzene	16.54	146	17705	5.38 ug/L	89
117) 1,2-dichlorobenzene	16.91	146	16911	5.36 ug/L	97
118) benzyl chloride	16.65	91	16031	4.99 ug/L	99
119) n-butylbenzene	16.79	92	13698	5.13 ug/L	98
120) 1,2-dibromo-3-chloropropan	17.66	75	1769	6.06 ug/L	80
121) 1,3,5-TRICHLOROBENZENE	17.85	180	15253	5.12 ug/L	99
122) 1,2,4-trichlorobenzene	18.49	180	12448	4.74 ug/L	95
123) hexachlorobutadiene	18.60	225	6961	4.71 ug/L	92
124) naphthalene	18.77	128	24885	5.17 ug/L	97
125) 1,2,3-trichlorobenzene	19.02	180	11525	5.01 ug/L	97
126) hexachloroethane	17.16	201	5706	4.74 ug/L	98

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

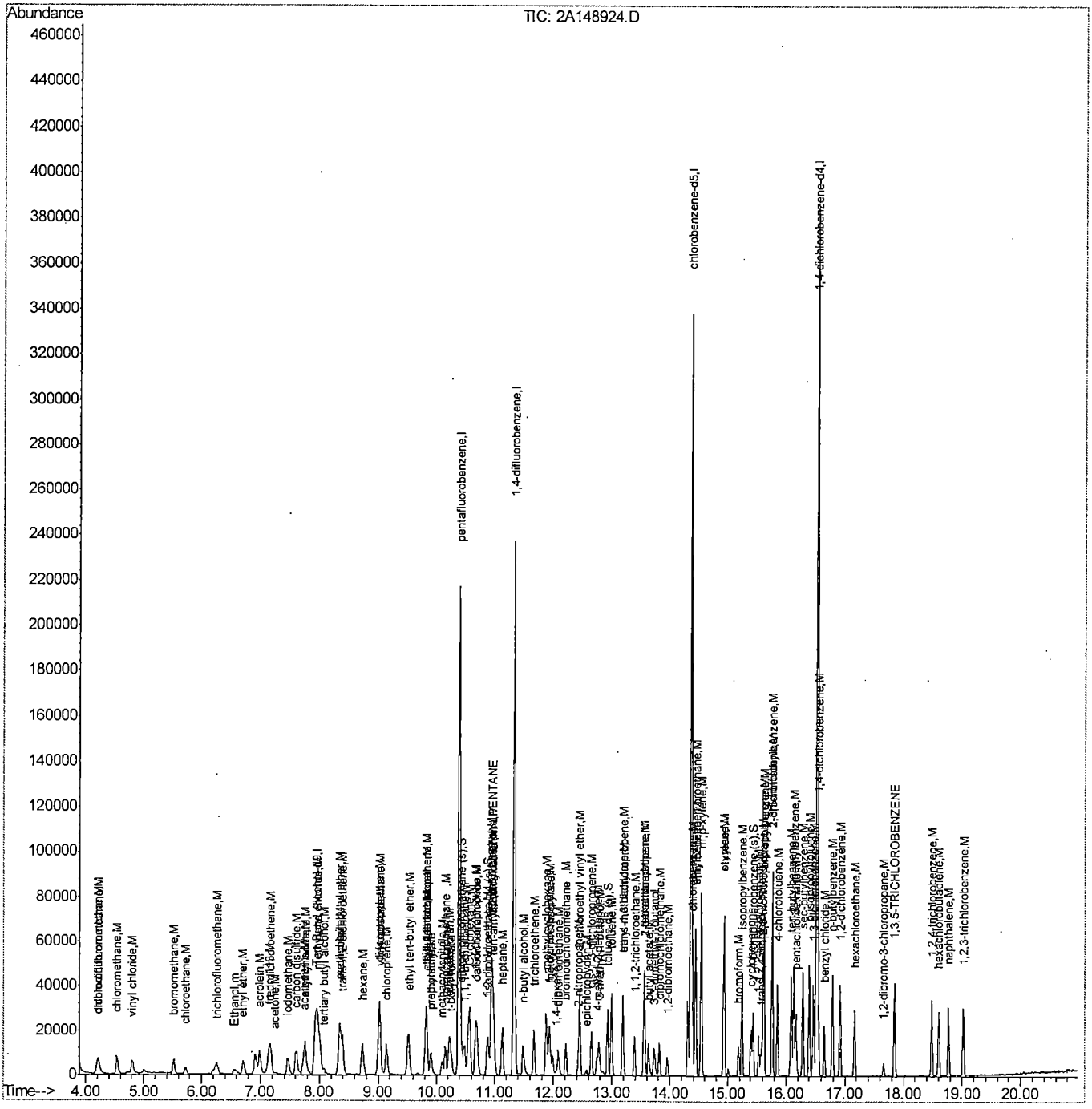
7.6.5

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 2A148924.D
Acq On : 25 Jul 2014 12:49 pm
Operator : Dejanas
Sample : ic6348-5.0
Misc : MS70814,V2A6348,w,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jul 25 17:05:06 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 25 16:38:08 2014
Response via : Initial Calibration



Manual Integration Approval Summary

Sample Number: V2A6348-IC6348
Lab FileID: 2A148924.D
Injection Time: 07/25/14 12:49

Method: SW846 8260B
Analyst approved: 07/25/14 17:49 Ying Li
Supervisor approved: 07/28/14 11:27 Jessica Reitan-Chu

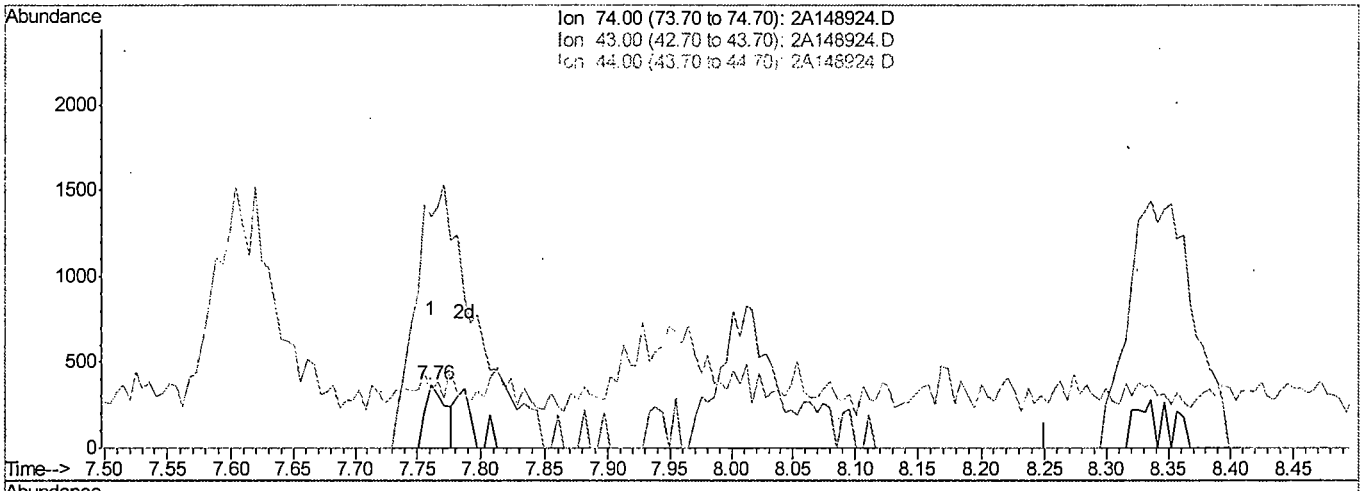
Parameter	CAS	Sig#	R.T. (min.)	Reason
Methyl Acetate	79-20-9		7.76	Split peak

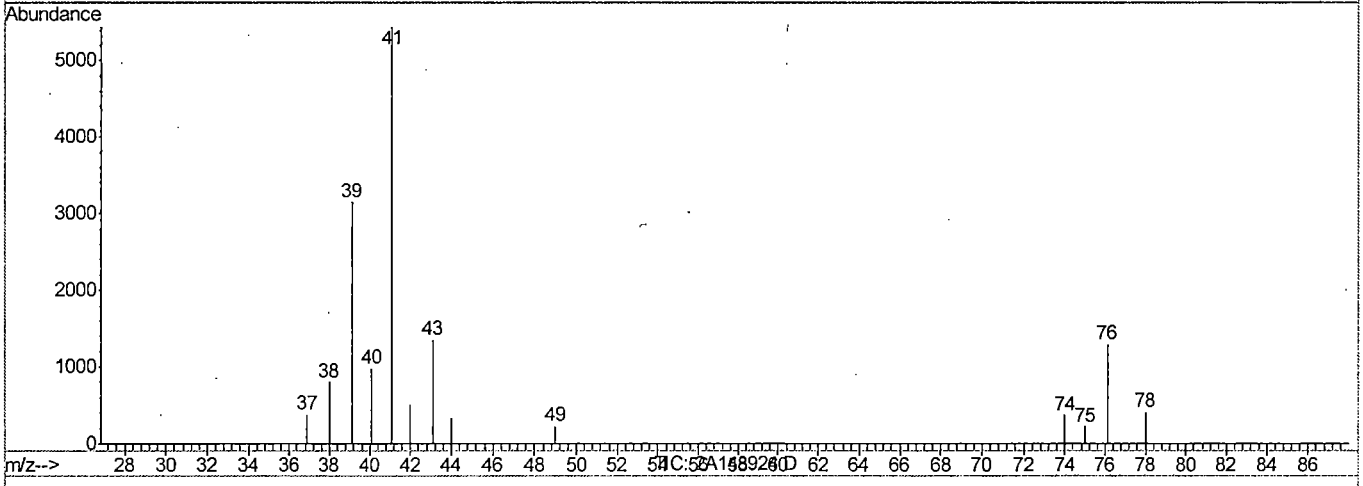
Quantitation Report (Qedit)

Data File : C:\MSDChem\1\DATA\2A148924.D Vial: 6
Acq On : 25 Jul 2014 12:49 pm Operator: Dejanas
Sample : ic6348-5.0 Inst : Instrumen
Misc : MS70814,V2A6348,w,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Quant Time: Jul 25 16:51:05 2014 Results File: M2A6348.RES

Method : C:\MSDCHEM\1\METHODS\M2A6348.M (RTE Integrator)
Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
Last Update : Fri Jul 25 16:59:04 2014
Response via : Multiple Level Calibration





(27) methyl acetate (M)

7.76min 2.45ug/L

response 432

Ion	Exp%	Act%
74.00	100	100
43.00	447.20	166.85#
44.00	17.90	0.00
0.00	0.00	0.00

2A148924.D M2A6348.M Fri Jul 25 17:04:56 2014 MS2A

7.6.5.2 7

ACCUTEST LABORATORIES JB73450

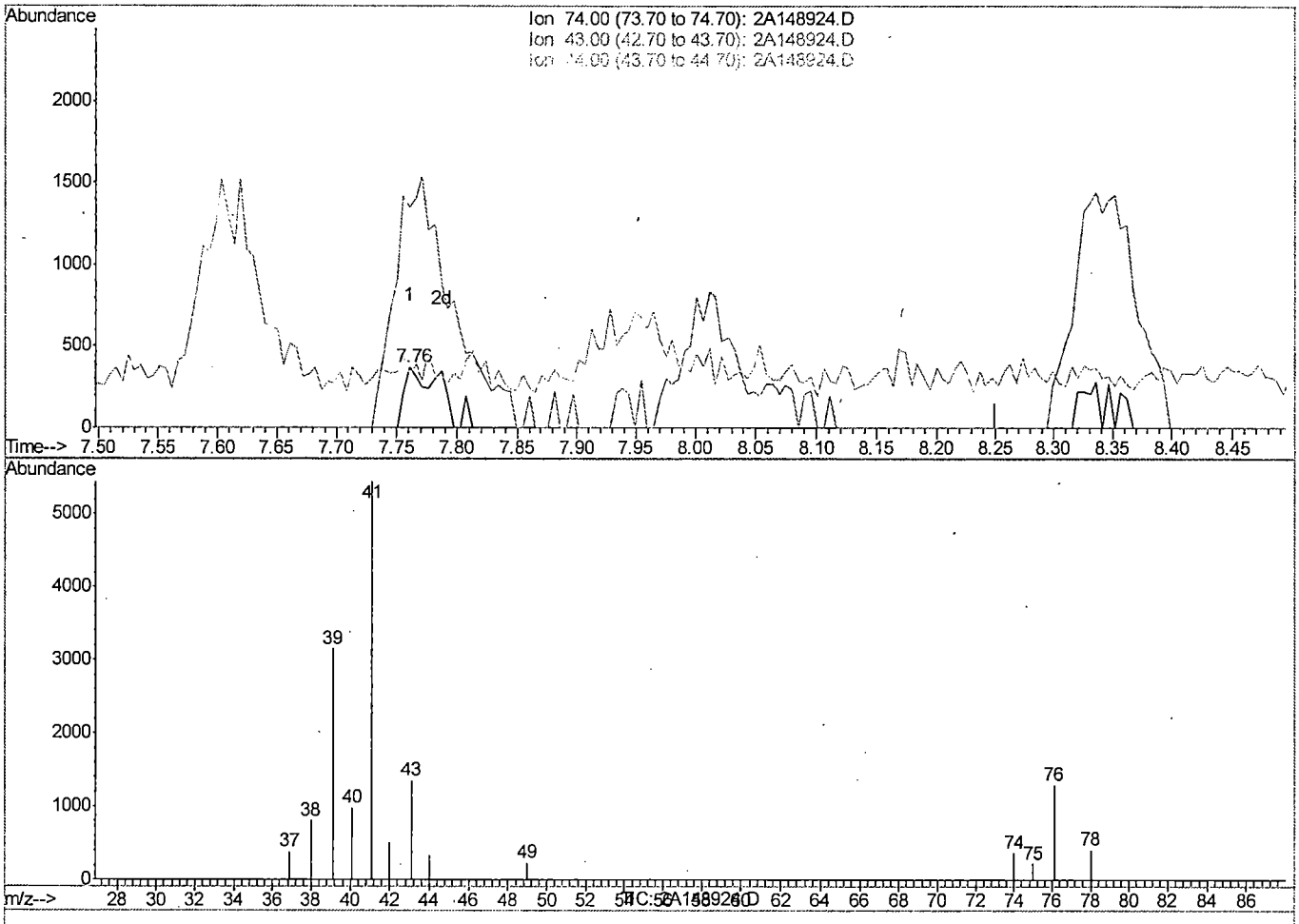
2A148924.D edits: methyl acetate

Quantitation Report (Qedit)

Data File : C:\MSDChem\1\DATA\2A148924.D Vial: 6
Acq On : 25 Jul 2014 12:49 pm Operator: Dejanas
Sample : ic6348-5.0 Inst : Instrumen
Misc : MS70814,V2A6348,w,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Quant Time: Jul 25 16:51:05 2014 Results File: M2A6348.RES

Method : C:\MSDCHEM\1\METHODS\M2A6348.M (RTE Integrator)
Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
Last Update : Fri Jul 25 16:59:04 2014
Response via : Multiple Level Calibration



(27) methyl acetate (M)

7.76min 4.32ug/L m

response 761

Ion	Exp%	Act%
74.00	100	100
43.00	447.20	363.07#
44.00	17.90	89.22#
0.00	0.00	0.00

2A148924.D M2A6348.M Fri Jul 25 17:05:09 2014 MS2A

2A148924.D edits: methyl acetate

Manual Integrations APPROVED (compounds with "m" flag)
Jessica Reitan-Chu
07/28/14 11:27

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 2A148925.D
Acq On : 25 Jul 2014 1:18 pm
Operator : Dejanas
Sample : ic6348-10
Misc : MS70814,V2A6348,w,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jul 25 17:07:30 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 25 16:38:08 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Tert Butyl Alcohol-d9	7.95	65	60566	500.00	ug/L		0.01
5) pentafluorobenzene	10.39	168	191884	50.00	ug/L		0.00
52) 1,4-difluorobenzene	11.33	114	211731	50.00	ug/L		0.00
84) chlorobenzene-d5	14.36	117	171294	50.00	ug/L		0.00
98) 1,4-dichlorobenzene-d4	16.52	152	99483	50.00	ug/L		0.00
System Monitoring Compounds							
46) dibromofluoromethane (s)	10.44	113	13935	9.59	ug/L		0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 19.18%#				
47) 1,2-dichloroethane-d4 (s)	10.87	65	16303	9.57	ug/L		0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 19.14%#				
76) toluene-d8 (s)	12.93	98	44071	9.23	ug/L		0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 18.46%#				
100) 4-bromofluorobenzene (s)	15.43	95	17311	10.00	ug/L		0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 20.00%#				
Target Compounds							Qvalue
2) tertiary butyl alcohol	8.08	59	6572	49.43	ug/L		88
3) Ethanol	6.56	45	11910	1224.02	ug/L	#	75
4) 1,4-dioxane	12.05	88	2426	282.87	ug/L		93
7) chlorodifluoromethane	4.23	51	13428	11.61	ug/L		93
8) dichlorodifluoromethane	4.20	85	20001	9.71	ug/L		97
10) chloromethane	4.55	50	21632	9.84	ug/L		96
11) vinyl chloride	4.82	62	19045	10.33	ug/L		97
12) bromomethane	5.53	94	11012	9.65	ug/L		94
13) chloroethane	5.73	64	8957	10.70	ug/L		86
14) trichlorofluoromethane	6.26	101	23394	10.61	ug/L		97
16) ethyl ether	6.71	74	6326	8.88	ug/L		89
18) acrolein	6.99	56	26574	98.52	ug/L		93
19) 1,1-dichloroethene	7.17	96	12032	9.45	ug/L		93
20) acetone	7.25	43	4450	11.02	ug/L		83
21) allyl chloride	7.76	76	6634	9.47	ug/L		90
22) acetonitrile	7.72	40	11611	107.11	ug/L		95
23) iodomethane	7.47	142	23207	9.09	ug/L		99
24) iso-butyl alcohol	10.94	74	3008	66.19	ug/L	#	1
25) carbon disulfide	7.61	76	42960	9.57	ug/L		100
26) methylene chloride	7.98	84	13075	9.18	ug/L		95
27) methyl acetate	7.77	74	1460	8.45	ug/L		99
28) methyl tert butyl ether	8.34	73	39354	9.38	ug/L		99
29) trans-1,2-dichloroethene	8.40	96	13537	9.68	ug/L		97
30) di-isopropyl ether	9.01	45	46281	9.70	ug/L	#	73
31) 2-butanone	9.81	72	1332	9.26	ug/L	#	52
32) 1,1-dichloroethane	9.02	63	25456	10.04	ug/L		95
33) chloroprene	9.14	53	20291	10.00	ug/L		98
34) acrylonitrile	8.35	53	23114	48.64	ug/L		96
35) vinyl acetate	9.02	86	1830	8.76	ug/L		88
36) ethyl tert-butyl ether	9.52	59	43888	9.52	ug/L		96
37) ethyl acetate	9.83	45	1521	8.44	ug/L	#	77
38) 2,2-dichloropropane	9.83	77	20933	9.90	ug/L		93
39) cis-1,2-dichloroethene	9.83	96	14365	9.51	ug/L		92

ACCUTEST LABORATORIES JB73450

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 2A148925.D
Acq On : 25 Jul 2014 1:18 pm
Operator : Dejanas
Sample : ic6348-10
Misc : MS70814,V2A6348,w,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jul 25 17:07:30 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 25 16:38:08 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
40) methylacrylate	9.91	85	1428	8.08	ug/L	#	18
41) propionitrile	9.90	54	18281	104.57	ug/L		94
42) bromochloromethane	10.17	128	7431	9.34	ug/L		86
43) tetrahydrofuran	10.22	42	4398m	9.35	ug/L		
44) chloroform	10.22	85	16245	9.36	ug/L		99
45) t-butyl formate	10.26	59	10499	9.85	ug/L	#	82
48) freon 113	7.15	151	9457	9.10	ug/L		91
49) methacrylonitrile	10.10	41	8789	10.44	ug/L		96
50) 1,1,1-trichloroethane	10.48	97	21887	9.42	ug/L		97
51) Cyclohexane	10.56	84	19976	9.48	ug/L		93
53) epichlorohydrin	12.56	57	4943	47.16	ug/L		96
54) n-butyl alcohol	11.48	56	16764	612.00	ug/L		92
55) carbon tetrachloride	10.69	117	21189	9.50	ug/L		97
56) 1,1-dichloropropene	10.67	75	18370	9.39	ug/L		100
57) hexane	8.73	57	16278	9.28	ug/L		97
59) 2,2,4-TRIMETHYLPENTANE	10.95	57	42345	9.32	ug/L	#	98
60) benzene	10.95	78	51740	9.53	ug/L		99
61) tert-amyl methyl ether	10.98	87	9207	9.43	ug/L	#	82
62) heptane	11.13	57	9610	9.80	ug/L		95
63) isopropyl acetate	10.89	43	26351	10.04	ug/L		97
64) 1,2-dichloroethane	10.97	62	20021	10.11	ug/L		98
66) trichloroethene	11.67	95	13023	9.64	ug/L		91
68) methyl methacrylate	11.93	41	21741	10.04	ug/L		96
69) 2-nitropropane	12.42	41	5162	9.73	ug/L		94
70) 2-chloroethyl vinyl ether	12.44	63	32868	43.64	ug/L		96
71) 1,2-dichloropropane	11.92	63	12909	9.53	ug/L		98
72) dibromomethane	12.08	93	8047	9.67	ug/L		95
73) methylcyclohexane	11.88	83	20247	9.47	ug/L		93
74) bromodichloromethane	12.21	83	18514	9.55	ug/L		99
75) cis-1,3-dichloropropene	12.65	75	21100	9.42	ug/L		98
77) 4-methyl-2-pentanone	12.75	58	4259	9.71	ug/L		89
78) toluene	13.00	92	29224	9.36	ug/L		96
79) 3-methyl-1-butanol	12.78	55	11039	222.98	ug/L		93
80) trans-1,3-dichloropropene	13.19	75	19548	9.20	ug/L		92
81) ethyl methacrylate	13.18	69	14897	9.64	ug/L		99
82) 1,1,2-trichloroethane	13.39	83	8667	9.03	ug/L		97
83) 2-hexanone	13.56	58	3909	9.49	ug/L		90
85) tetrachloroethene	13.56	164	11651	9.83	ug/L		93
86) 1,3-dichloropropane	13.56	76	17535	9.89	ug/L		93
87) butyl acetate	13.62	56	7727	10.40	ug/L		87
88) 3,3-dimethyl-1-butanol	13.72	57	12423	110.80	ug/L		95
89) dibromochloromethane	13.81	129	14584	9.31	ug/L		95
90) 1,2-dibromoethane	13.95	107	11011	9.30	ug/L		99
91) chlorobenzene	14.39	112	33107	9.27	ug/L		94
92) 1,1,1,2-tetrachloroethane	14.44	131	13572	9.40	ug/L		98
93) ethylbenzene	14.43	91	53896	9.30	ug/L		99
94) m,p-xylene	14.53	106	41356	18.73	ug/L		97
95) o-xylene	14.93	106	20535	9.24	ug/L		99
96) styrene	14.94	104	35401	9.42	ug/L		99
97) bromoform	15.19	173	10375	9.35	ug/L		96

7.6.9 7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 2A148925.D
Acq On : 25 Jul 2014 1:18 pm
Operator : Dejanas
Sample : ic6348-10
Misc : MS70814,V2A6348,w,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jul 25 17:07:30 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 25 16:38:08 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
99) isopropylbenzene	15.25	105	54422	9.21	ug/L	99
101) cyclohexanone	15.40	98	5923	116.56	ug/L	93
102) bromobenzene	15.62	156	16084	8.88	ug/L	99
103) 1,1,2,2-tetrachloroethane	15.53	83	13333	8.08	ug/L	95
104) trans-1,4-dichloro-2-buten	15.57	53	3891	9.58	ug/L	91
105) 1,2,3-trichloropropane	15.60	110	3658	9.43	ug/L	98
106) n-propylbenzene	15.63	120	13485	8.98	ug/L	96
107) 2-chlorotoluene	15.76	126	13811	9.19	ug/L	99
108) 4-chlorotoluene	15.85	126	14214	9.25	ug/L	98
109) 1,3,5-trimethylbenzene	15.76	105	46095	9.05	ug/L	98
110) tert-butylbenzene	16.09	119	38444	8.68	ug/L	98
111) pentachloroethane	16.17	167	10738	9.26	ug/L	96
112) 1,2,4-trimethylbenzene	16.13	105	44482	9.02	ug/L	96
113) sec-butylbenzene	16.29	105	57148	8.95	ug/L	98
114) 1,3-dichlorobenzene	16.46	146	29947	9.03	ug/L	98
115) p-isopropyltoluene	16.40	119	50225	9.05	ug/L	98
116) 1,4-dichlorobenzene	16.54	146	30236	9.23	ug/L	97
117) 1,2-dichlorobenzene	16.91	146	28657	9.14	ug/L	98
118) benzyl chloride	16.65	91	28767	9.01	ug/L	99
119) n-butylbenzene	16.78	92	24584	9.25	ug/L	98
120) 1,2-dibromo-3-chloropropan	17.66	75	2881	9.91	ug/L	99
121) 1,3,5-TRICHLOROBENZENE	17.85	180	26426	8.92	ug/L	99
122) 1,2,4-trichlorobenzene	18.49	180	22490	8.61	ug/L	97
123) hexachlorobutadiene	18.60	225	12582	8.55	ug/L	95
124) naphthalene	18.77	128	42008	8.78	ug/L	98
125) 1,2,3-trichlorobenzene	19.02	180	20402	8.91	ug/L	97
126) hexachloroethane	17.16	201	10190	8.52	ug/L	93

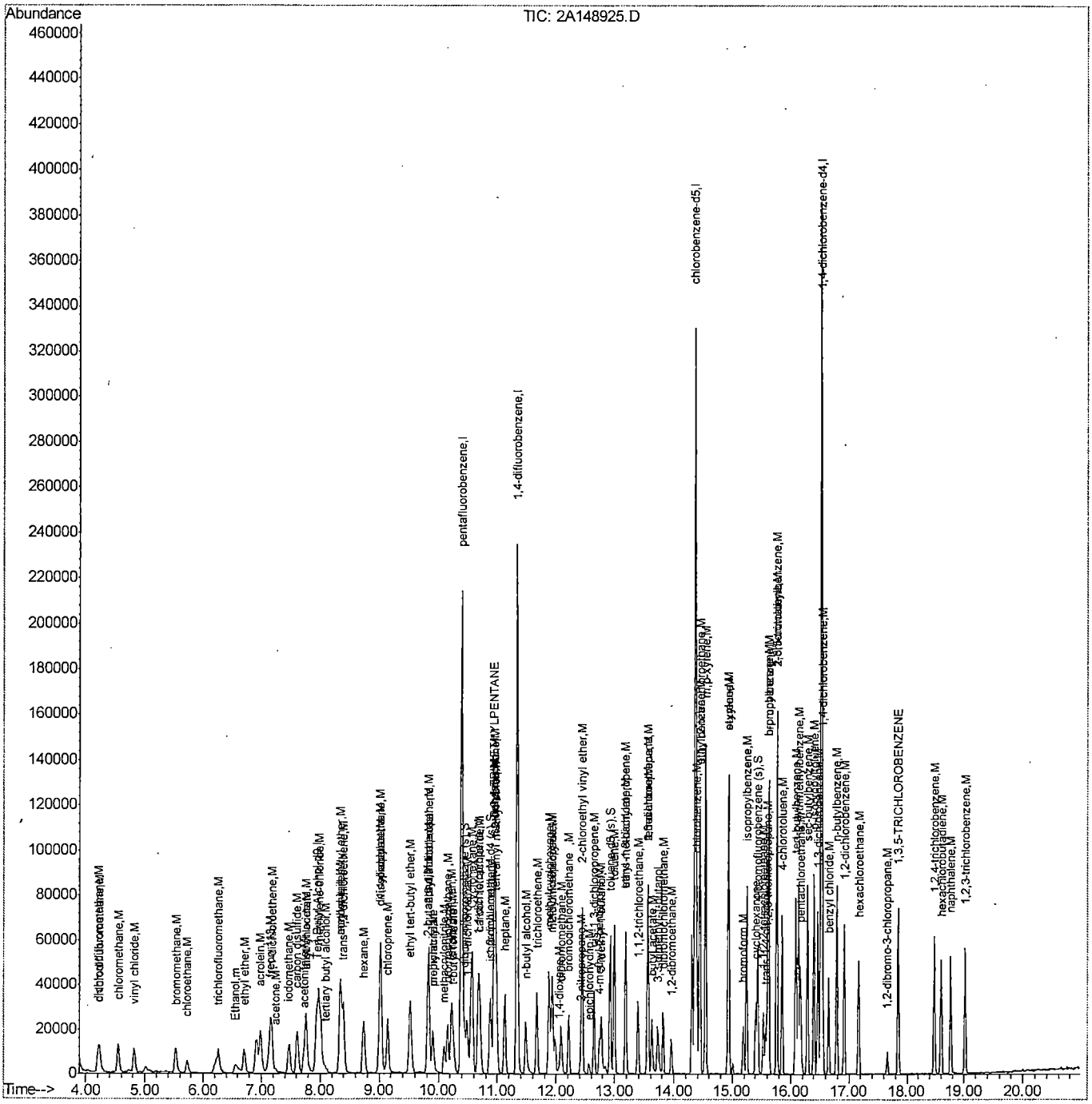
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.6.6 7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 2A148925.D
Acq On : 25 Jul 2014 1:18 pm
Operator : Dejanas
Sample : ic6348-10
Misc : MS70814,V2A6348,w,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jul 25 17:07:30 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 25 16:38:08 2014
Response via : Initial Calibration



7.6.6

7

Manual Integration Approval Summary

Sample Number: V2A6348-IC6348
Lab FileID: 2A148925.D
Injection Time: 07/25/14 13:18

Method: SW846 8260B
Analyst approved: 07/25/14 17:49 Ying Li
Supervisor approved: 07/28/14 11:27 Jessica Reitan-Chu

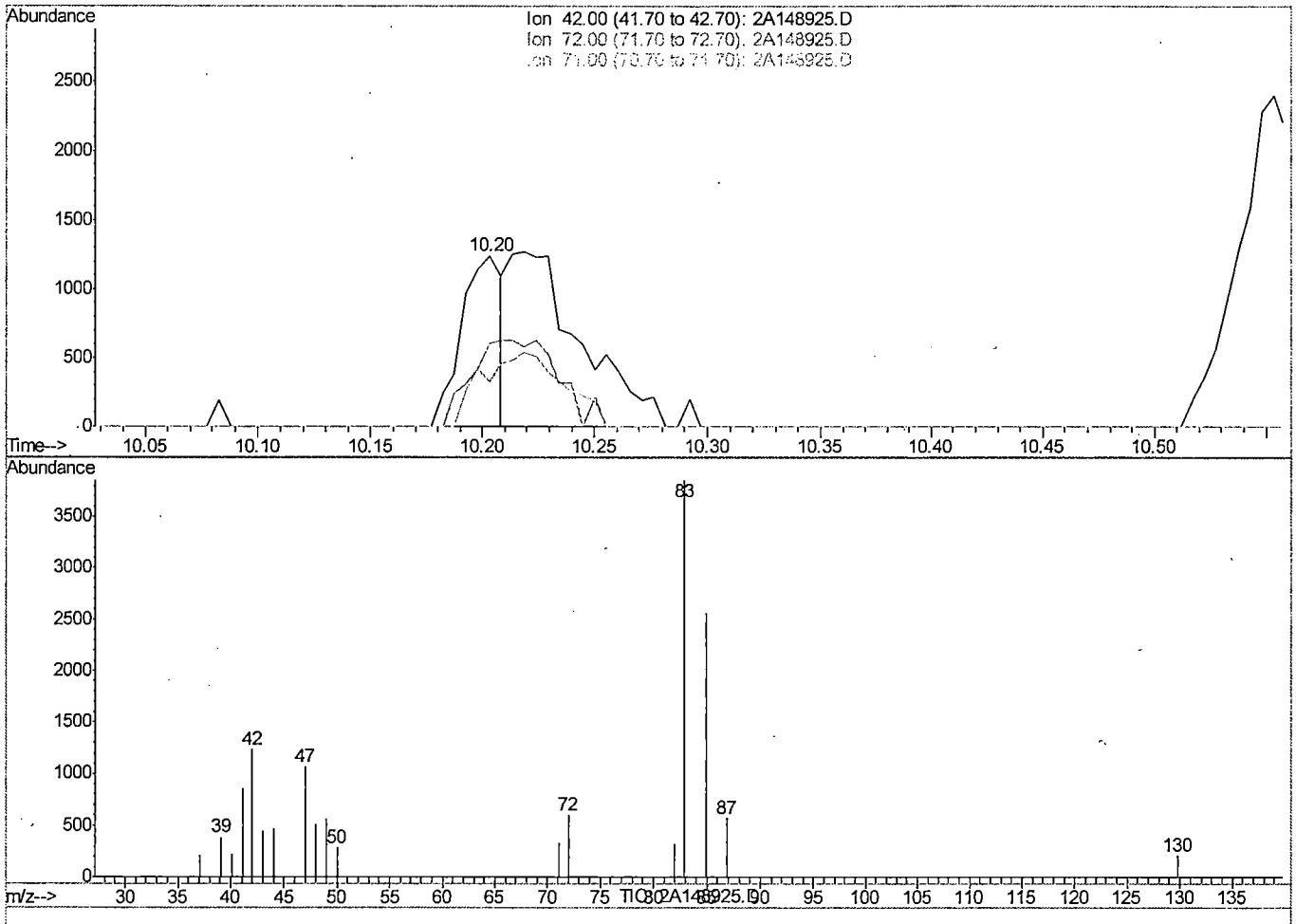
Parameter	CAS	Sig#	R.T. (min.)	Reason
Tetrahydrofuran	109-99-9		10.22	Split peak

Quantitation Report (Qedit)

Data File : C:\MSDChem\1\DATA\2A148925.D Vial: 7
Acq On : 25 Jul 2014 1:18 pm Operator: Dejanas
Sample : ic6348-10 Inst : Instrumen
Misc : MS70814,V2A6348,w,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Quant Time: Jul 25 16:52:08 2014 Results File: M2A6348.RES

Method : C:\MSDCHEM\1\METHODS\M2A6348.M (RTE Integrator)
Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
Last Update : Fri Jul 25 17:06:12 2014
Response via : Multiple Level Calibration



(43) tetrahydrofuran (M)

10.20min 3.38ug/L

response 1589

Ion	Exp%	Act%
42.00	100	100
72.00	44.10	48.50
71.00	40.60	26.52
0.00	0.00	0.00

2A148925.D M2A6348.M Fri Jul 25 17:07:27 2014 MS2A

7.6.2 7

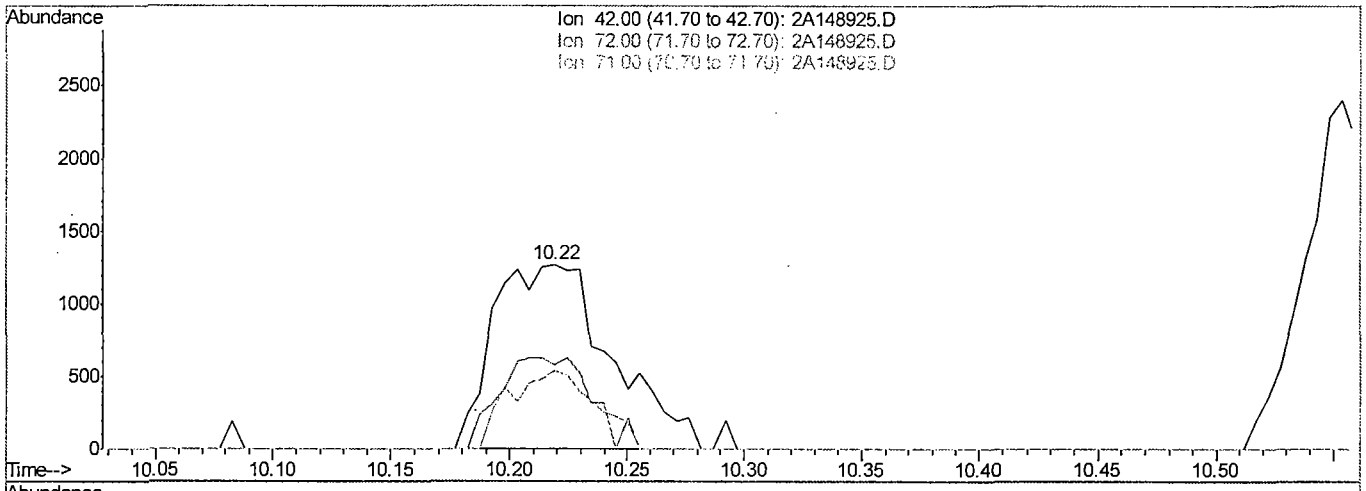
2A148925.D edits: tetrahydrofuran

Quantitation Report (Qedit)

Data File : C:\MSDChem\1\DATA\2A148925.D Vial: 7
Acq On : 25 Jul 2014 1:18 pm Operator: Dejanas
Sample : ic6348-10 Inst : Instrumen
Misc : MS70814,V2A6348,w,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Quant Time: Jul 25 16:52:08 2014 Results File: M2A6348.RES

Method : C:\MSDCHEM\1\METHODS\M2A6348.M (RTE Integrator)
Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
Last Update : Fri Jul 25 17:06:12 2014
Response via : Multiple Level Calibration



(43) tetrahydrofuran (M)

10.22min 9.35ug/L m

response 4398

Ion	Exp%	Act%
42.00	100	100
72.00	44.10	45.50
71.00	40.60	42.27
0.00	0.00	0.00

2A148925.D M2A6348.M Fri Jul 25 17:07:33 2014 MS2A

7.6.6.3

7

ACCUTEST LABORATORIES JB73450

2A148925.D edits: tetrahydrofuran

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 2A148926.D
Acq On : 25 Jul 2014 1:48 pm
Operator : Dejanas
Sample : ic6348-20
Misc : MS70814,V2A6348,w,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jul 25 16:52:58 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 25 16:38:08 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Tert Butyl Alcohol-d9	7.94	65	57293	500.00	ug/L		0.00
5) pentafluorobenzene	10.39	168	191372	50.00	ug/L		0.00
52) 1,4-difluorobenzene	11.33	114	210392	50.00	ug/L		0.00
84) chlorobenzene-d5	14.36	117	174135	50.00	ug/L		0.00
98) 1,4-dichlorobenzene-d4	16.52	152	100398	50.00	ug/L		0.00
System Monitoring Compounds							
46) dibromofluoromethane (s)	10.43	113	69104	47.68	ug/L		0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 95.36%				
47) 1,2-dichloroethane-d4 (s)	10.87	65	84132	49.54	ug/L		0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 99.08%				
76) toluene-d8 (s)	12.93	98	227109	47.86	ug/L		0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 95.72%				
100) 4-bromofluorobenzene (s)	15.43	95	82307	47.13	ug/L		0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 94.26%				
Target Compounds							Qvalue
2) tertiary butyl alcohol	8.08	59	14744	117.23	ug/L		93
3) Ethanol	6.55	45	21803	2368.75	ug/L		99
4) 1,4-dioxane	12.04	88	4788	590.18	ug/L		92
7) chlorodifluoromethane	4.23	51	28252	24.50	ug/L		99
8) dichlorodifluoromethane	4.20	85	44111	21.48	ug/L		97
10) chloromethane	4.55	50	46796	21.35	ug/L		99
11) vinyl chloride	4.82	62	39310	21.38	ug/L		97
12) bromomethane	5.53	94	23512	20.65	ug/L		96
13) chloroethane	5.73	64	19342	23.17	ug/L		98
14) trichlorofluoromethane	6.26	101	49004	22.29	ug/L		91
16) ethyl ether	6.70	74	15760	22.17	ug/L		96
18) acrolein	6.98	56	55189	205.16	ug/L		99
19) 1,1-dichloroethene	7.18	96	26804	21.11	ug/L		97
20) acetone	7.24	43	9538	23.68	ug/L		95
21) allyl chloride	7.76	76	14621	20.93	ug/L		99
22) acetonitrile	7.71	40	25886	239.43	ug/L		90
23) iodomethane	7.47	142	51710	20.31	ug/L		98
24) iso-butyl alcohol	10.95	74	6081	134.17	ug/L	#	21
25) carbon disulfide	7.61	76	93919	20.99	ug/L		99
26) methylene chloride	7.98	84	29294	20.61	ug/L		98
27) methyl acetate	7.76	74	3767	21.86	ug/L	#	84
28) methyl tert butyl ether	8.35	73	88324	21.12	ug/L		99
29) trans-1,2-dichloroethene	8.39	96	29194	20.94	ug/L		97
30) di-isopropyl ether	9.01	45	103791	21.82	ug/L		98
31) 2-butanone	9.80	72	3226	22.49	ug/L	#	27
32) 1,1-dichloroethane	9.02	63	55378	21.90	ug/L		96
33) chloroprene	9.14	53	45218	22.34	ug/L		98
34) acrylonitrile	8.34	53	52978	111.78	ug/L		97
35) vinyl acetate	9.02	86	4600	22.09	ug/L		94
36) ethyl tert-butyl ether	9.52	59	98841	21.50	ug/L		99
37) ethyl acetate	9.82	45	3859	21.46	ug/L		98
38) 2,2-dichloropropane	9.82	77	46484	22.05	ug/L		98
39) cis-1,2-dichloroethene	9.83	96	32281	21.43	ug/L		97

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 2A148926.D
Acq On : 25 Jul 2014 1:48 pm
Operator : Dejanas
Sample : ic6348-20
Misc : MS70814,V2A6348,w,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jul 25 16:52:58 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 25 16:38:08 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
40) methylacrylate	9.89	85	3544	20.12 ug/L		48
41) propionitrile	9.89	54	40326	231.28 ug/L		87
42) bromochloromethane	10.16	128	16441	20.72 ug/L		95
43) tetrahydrofuran	10.21	42	10396	22.16 ug/L		89
44) chloroform	10.22	85	35024	20.23 ug/L		97
45) t-butyl formate	10.25	59	24076	22.65 ug/L	#	85
48) freon 113	7.14	151	21590	20.84 ug/L		97
49) methacrylonitrile	10.09	41	18818	22.40 ug/L		98
50) 1,1,1-trichloroethane	10.49	97	49215	21.23 ug/L		99
51) Cyclohexane	10.56	84	43401	20.65 ug/L		95
53) epichlorohydrin	12.56	57	11614	111.52 ug/L		98
54) n-butyl alcohol	11.47	56	34442	1265.37 ug/L		98
55) carbon tetrachloride	10.70	117	47839	21.58 ug/L		98
56) 1,1-dichloropropene	10.67	75	40480	20.83 ug/L		99
57) hexane	8.73	57	36360	20.85 ug/L		98
59) 2,2,4-TRIMETHYLPENTANE	10.95	57	95311	21.10 ug/L	#	98
60) benzene	10.94	78	113602	21.05 ug/L		100
61) tert-amyl methyl ether	10.98	87	21899	22.56 ug/L		91
62) heptane	11.12	57	21254	21.81 ug/L		91
63) isopropyl acetate	10.88	43	56014	21.48 ug/L		98
64) 1,2-dichloroethane	10.96	62	43945	22.33 ug/L		97
66) trichloroethene	11.67	95	29157	21.71 ug/L		98
68) methyl methacrylate	11.93	41	47622	22.13 ug/L		98
69) 2-nitropropane	12.42	41	11786	22.36 ug/L		98
70) 2-chloroethyl vinyl ether	12.44	63	76841	102.68 ug/L		98
71) 1,2-dichloropropane	11.92	63	29229	21.70 ug/L		98
72) dibromomethane	12.08	93	18624	22.51 ug/L		88
73) methylcyclohexane	11.88	83	44419	20.91 ug/L		96
74) bromodichloromethane	12.21	83	41382	21.48 ug/L		97
75) cis-1,3-dichloropropene	12.65	75	48964	22.00 ug/L		98
77) 4-methyl-2-pentanone	12.74	58	9909	22.73 ug/L		98
78) toluene	13.00	92	65124	20.99 ug/L		99
79) 3-methyl-1-butanol	12.77	55	22644	460.30 ug/L		93
80) trans-1,3-dichloropropene	13.19	75	44866	21.26 ug/L		91
81) ethyl methacrylate	13.18	69	34177	22.26 ug/L		93
82) 1,1,2-trichloroethane	13.39	83	19973	20.94 ug/L		99
83) 2-hexanone	13.56	58	8952	21.87 ug/L		91
85) tetrachloroethene	13.56	164	25853	21.46 ug/L		94
86) 1,3-dichloropropane	13.56	76	39453	21.90 ug/L		93
87) butyl acetate	13.62	56	16578	21.94 ug/L		95
88) 3,3-dimethyl-1-butanol	13.72	57	26567	233.09 ug/L		98
89) dibromochloromethane	13.81	129	33395	20.97 ug/L		98
90) 1,2-dibromoethane	13.95	107	25283	21.01 ug/L		95
91) chlorobenzene	14.39	112	74415	20.49 ug/L		99
92) 1,1,1,2-tetrachloroethane	14.45	131	31108	21.19 ug/L		98
93) ethylbenzene	14.43	91	123089	20.90 ug/L		99
94) m,p-xylene	14.53	106	95527	42.55 ug/L		97
95) o-xylene	14.93	106	46955	20.78 ug/L		99
96) styrene	14.94	104	81573	21.35 ug/L		98
97) bromoform	15.19	173	24497	21.73 ug/L		96

7.6.7

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 2A148926.D
Acq On : 25 Jul 2014 1:48 pm
Operator : Dejanas
Sample : ic6348-20
Misc : MS70814,V2A6348,w,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jul 25 16:52:58 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 25 16:38:08 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
99) isopropylbenzene	15.25	105	122227	20.50 ug/L	98
101) cyclohexanone	15.40	98	13232	258.02 ug/L	89
102) bromobenzene	15.62	156	36385	19.91 ug/L	95
103) 1,1,2,2-tetrachloroethane	15.53	83	31382	18.84 ug/L	97
104) trans-1,4-dichloro-2-buten	15.57	53	9370	22.87 ug/L	97
105) 1,2,3-trichloropropane	15.60	110	8787	22.44 ug/L	94
106) n-propylbenzene	15.62	120	32139	21.21 ug/L	97
107) 2-chlorotoluene	15.76	126	31248	20.61 ug/L	95
108) 4-chlorotoluene	15.86	126	32547	20.99 ug/L	88
109) 1,3,5-trimethylbenzene	15.76	105	104857	20.40 ug/L	99
110) tert-butylbenzene	16.09	119	88361	19.78 ug/L	100
111) pentachloroethane	16.17	167	24225	20.70 ug/L	96
112) 1,2,4-trimethylbenzene	16.13	105	103491	20.78 ug/L	99
113) sec-butylbenzene	16.29	105	131299	20.37 ug/L	99
114) 1,3-dichlorobenzene	16.46	146	68453	20.45 ug/L	98
115) p-isopropyltoluene	16.40	119	116645	20.83 ug/L	99
116) 1,4-dichlorobenzene	16.54	146	69207	20.94 ug/L	98
117) 1,2-dichlorobenzene	16.91	146	65268	20.62 ug/L	97
118) benzyl chloride	16.65	91	64818	20.11 ug/L	99
119) n-butylbenzene	16.78	92	54917	20.48 ug/L	97
120) 1,2-dibromo-3-chloropropan	17.66	75	6355	21.67 ug/L	94
121) 1,3,5-TRICHLOROBENZENE	17.85	180	61687	20.63 ug/L	98
122) 1,2,4-trichlorobenzene	18.48	180	52320	19.85 ug/L	99
123) hexachlorobutadiene	18.60	225	29457	19.84 ug/L	98
124) naphthalene	18.77	128	98786	20.45 ug/L	98
125) 1,2,3-trichlorobenzene	19.02	180	47180	20.42 ug/L	98
126) hexachloroethane	17.16	201	24524	20.32 ug/L	99

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

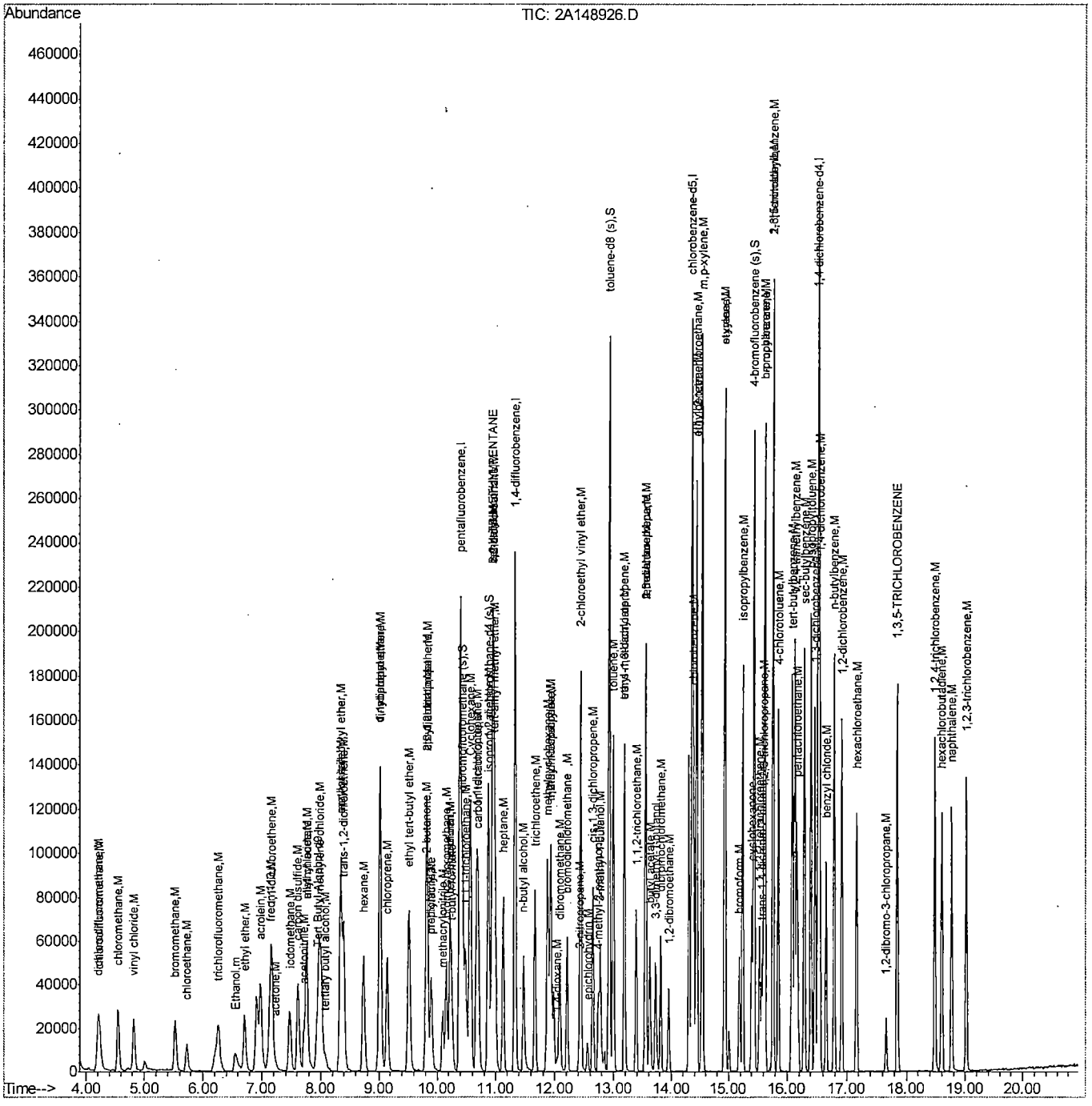
7.6.7

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 2A148926.D
Acq On : 25 Jul 2014 1:48 pm
Operator : Dejanas
Sample : ic6348-20
Misc : MS70814,V2A6348,w,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jul 25 16:52:58 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 25 16:38:08 2014
Response via : Initial Calibration



7.6.7

ACCUTEST LABORATORIES JB73450

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 2A148927.D
Acq On : 25 Jul 2014 2:18 pm
Operator : Dejanas
Sample : icc6348-50
Misc : MS70814,V2A6348,w,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jul 25 16:53:30 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 25 16:38:08 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Tert Butyl Alcohol-d9	7.94	65	55172	500.00	ug/L		0.00
5) pentafluorobenzene	10.39	168	197503	50.00	ug/L		0.00
52) 1,4-difluorobenzene	11.33	114	218257	50.00	ug/L		0.00
84) chlorobenzene-d5	14.36	117	179823	50.00	ug/L		0.00
98) 1,4-dichlorobenzene-d4	16.52	152	106762	50.00	ug/L		0.00
System Monitoring Compounds							
46) dibromofluoromethane (s)	10.43	113	70498	47.13	ug/L		0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 94.26%				
47) 1,2-dichloroethane-d4 (s)	10.87	65	87208	49.76	ug/L		0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 99.52%				
76) toluene-d8 (s)	12.93	98	239044	48.56	ug/L		0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 97.12%				
100) 4-bromofluorobenzene (s)	15.43	95	87549	47.14	ug/L		0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 94.28%				
Target Compounds							Qvalue
2) tertiary butyl alcohol	8.07	59	33878	279.72	ug/L		92
3) Ethanol	6.55	45	49937	5633.89	ug/L		98
4) 1,4-dioxane	12.04	88	10865	1390.73	ug/L		84
7) chlorodifluoromethane	4.22	51	73317	61.59	ug/L		99
8) dichlorodifluoromethane	4.20	85	120157	56.69	ug/L		97
10) chloromethane	4.56	50	127845	56.52	ug/L		97
11) vinyl chloride	4.83	62	109622	57.76	ug/L		97
12) bromomethane	5.53	94	63638	54.16	ug/L		97
13) chloroethane	5.73	64	50674	58.83	ug/L		98
14) trichlorofluoromethane	6.26	101	133600	58.87	ug/L		100
16) ethyl ether	6.70	74	38617	52.65	ug/L		94
18) acrolein	6.98	56	136391	491.28	ug/L		97
19) 1,1-dichloroethene	7.18	96	65321	49.85	ug/L		94
20) acetone	7.23	43	22987	55.31	ug/L		92
21) allyl chloride	7.76	76	37228	51.64	ug/L		98
22) acetonitrile	7.71	40	60432	541.60	ug/L		95
23) iodomethane	7.47	142	131756	50.13	ug/L		98
24) iso-butyl alcohol	10.95	74	16738	357.84	ug/L	#	15
25) carbon disulfide	7.61	76	240454	52.06	ug/L		99
26) methylene chloride	7.97	84	75611	51.56	ug/L		98
27) methyl acetate	7.75	74	10354	58.21	ug/L		93
28) methyl tert butyl ether	8.34	73	223614	51.81	ug/L		98
29) trans-1,2-dichloroethene	8.39	96	71969	50.02	ug/L		95
30) di-isopropyl ether	9.01	45	261183	53.20	ug/L		94
31) 2-butanone	9.80	72	7750	52.35	ug/L	#	36
32) 1,1-dichloroethane	9.02	63	140236	53.73	ug/L		99
33) chloroprene	9.14	53	117275	56.13	ug/L		97
34) acrylonitrile	8.34	53	129255	264.26	ug/L		98
35) vinyl acetate	9.01	86	11816	54.97	ug/L		78
36) ethyl tert-butyl ether	9.52	59	250460	52.78	ug/L		99
37) ethyl acetate	9.82	45	10204	54.99	ug/L		88
38) 2,2-dichloropropane	9.82	77	118545	54.49	ug/L		98
39) cis-1,2-dichloroethene	9.82	96	80283	51.65	ug/L		97

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 2A148927.D
Acq On : 25 Jul 2014 2:18 pm
Operator : Dejanas
Sample : icc6348-50
Misc : MS70814,V2A6348,w,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jul 25 16:53:30 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 25 16:38:08 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
40) methylacrylate	9.90	85	9954	54.75 ug/L		83
41) propionitrile	9.89	54	96535	536.46 ug/L		96
42) bromochloromethane	10.15	128	41710	50.94 ug/L		93
43) tetrahydrofuran	10.20	42	25030	51.70 ug/L		90
44) chloroform	10.22	85	88912	49.76 ug/L		98
45) t-butyl formate	10.25	59	63208	57.62 ug/L	#	88
48) freon 113	7.15	151	55597	51.99 ug/L		96
49) methacrylonitrile	10.09	41	46551	53.70 ug/L		97
50) 1,1,1-trichloroethane	10.48	97	124673	52.11 ug/L		96
51) Cyclohexane	10.56	84	109376	50.42 ug/L		95
53) epichlorohydrin	12.56	57	29179	270.09 ug/L		97
54) n-butyl alcohol	11.47	56	79510	2815.86 ug/L		98
55) carbon tetrachloride	10.69	117	123128	53.55 ug/L		99
56) 1,1-dichloropropene	10.67	75	104493	51.82 ug/L		96
57) hexane	8.73	57	91138	50.38 ug/L		100
59) 2,2,4-TRIMETHYLPENTANE	10.95	57	244320	52.15 ug/L	#	99
60) benzene	10.94	78	289053	51.62 ug/L		98
61) tert-amyl methyl ether	10.98	87	54346	53.98 ug/L		93
62) heptane	11.13	57	53676	53.09 ug/L		95
63) isopropyl acetate	10.88	43	140699	52.01 ug/L		96
64) 1,2-dichloroethane	10.96	62	111913	54.81 ug/L		99
66) trichloroethene	11.67	95	73071	52.45 ug/L		97
68) methyl methacrylate	11.93	41	117783	52.77 ug/L		99
69) 2-nitropropane	12.42	41	29638	54.20 ug/L		94
70) 2-chloroethyl vinyl ether	12.44	63	213368	274.84 ug/L		98
71) 1,2-dichloropropane	11.92	63	74320	53.20 ug/L		97
72) dibromomethane	12.08	93	45242	52.72 ug/L		99
73) methylcyclohexane	11.88	83	118264	53.66 ug/L		97
74) bromodichloromethane	12.21	83	104750	52.40 ug/L		99
75) cis-1,3-dichloropropene	12.65	75	123060	53.29 ug/L		99
77) 4-methyl-2-pentanone	12.74	58	24968	55.21 ug/L		93
78) toluene	13.00	92	167123	51.91 ug/L		100
79) 3-methyl-1-butanol	12.77	55	53556	1049.44 ug/L		94
80) trans-1,3-dichloropropene	13.19	75	116011	52.99 ug/L		96
81) ethyl methacrylate	13.18	69	83966	52.71 ug/L		97
82) 1,1,2-trichloroethane	13.39	83	50576	51.11 ug/L		97
83) 2-hexanone	13.56	58	22660	53.37 ug/L		96
85) tetrachloroethene	13.55	164	67247	54.05 ug/L		97
86) 1,3-dichloropropane	13.56	76	100476	54.01 ug/L		97
87) butyl acetate	13.62	56	40796	52.29 ug/L		97
88) 3,3-dimethyl-1-butanol	13.72	57	61217	520.10 ug/L		96
89) dibromochloromethane	13.81	129	87287	53.08 ug/L		96
90) 1,2-dibromoethane	13.95	107	63914	51.44 ug/L		98
91) chlorobenzene	14.39	112	193501	51.59 ug/L		99
92) 1,1,1,2-tetrachloroethane	14.44	131	79190	52.24 ug/L		97
93) ethylbenzene	14.43	91	316761	52.09 ug/L		99
94) m,p-xylene	14.53	106	244333	105.38 ug/L		98
95) o-xylene	14.93	106	122632	52.56 ug/L		98
96) styrene	14.94	104	208256	52.77 ug/L		97
97) bromoform	15.18	173	63570	54.59 ug/L		98

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 2A148927.D
Acq On : 25 Jul 2014 2:18 pm
Operator : Dejanas
Sample : icc6348-50
Misc : MS70814,V2A6348,w,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jul 25 16:53:30 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 25 16:38:08 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
99) isopropylbenzene	15.25	105	315586	49.76 ug/L	99
101) cyclohexanone	15.40	98	29289	537.08 ug/L	97
102) bromobenzene	15.62	156	95605	49.21 ug/L	99
103) 1,1,2,2-tetrachloroethane	15.53	83	78345	44.23 ug/L	95
104) trans-1,4-dichloro-2-buten	15.57	53	24132	55.38 ug/L	92
105) 1,2,3-trichloropropane	15.60	110	20724	49.77 ug/L	98
106) n-propylbenzene	15.62	120	83749	51.98 ug/L	96
107) 2-chlorotoluene	15.76	126	81951	50.83 ug/L	97
108) 4-chlorotoluene	15.86	126	84449	51.22 ug/L	95
109) 1,3,5-trimethylbenzene	15.76	105	274820	50.29 ug/L	100
110) tert-butylbenzene	16.09	119	235921	49.66 ug/L	99
111) pentachloroethane	16.17	167	63925	51.36 ug/L	98
112) 1,2,4-trimethylbenzene	16.13	105	270015	50.99 ug/L	99
113) sec-butylbenzene	16.29	105	350490	51.14 ug/L	99
114) 1,3-dichlorobenzene	16.46	146	177151	49.77 ug/L	98
115) p-isopropyltoluene	16.40	119	305381	51.28 ug/L	99
116) 1,4-dichlorobenzene	16.54	146	181494	51.64 ug/L	97
117) 1,2-dichlorobenzene	16.91	146	173007	51.39 ug/L	99
118) benzyl chloride	16.65	91	166720	48.64 ug/L	99
119) n-butylbenzene	16.78	92	146738	51.46 ug/L	97
120) 1,2-dibromo-3-chloropropan	17.66	75	16090	51.60 ug/L	91
121) 1,3,5-TRICHLOROBENZENE	17.84	180	163901	51.54 ug/L	99
122) 1,2,4-trichlorobenzene	18.48	180	143432	51.17 ug/L	100
123) hexachlorobutadiene	18.60	225	82057	51.96 ug/L	100
124) naphthalene	18.77	128	268594	52.28 ug/L	99
125) 1,2,3-trichlorobenzene	19.02	180	128601	52.35 ug/L	96
126) hexachloroethane	17.16	201	65930	51.36 ug/L	94

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

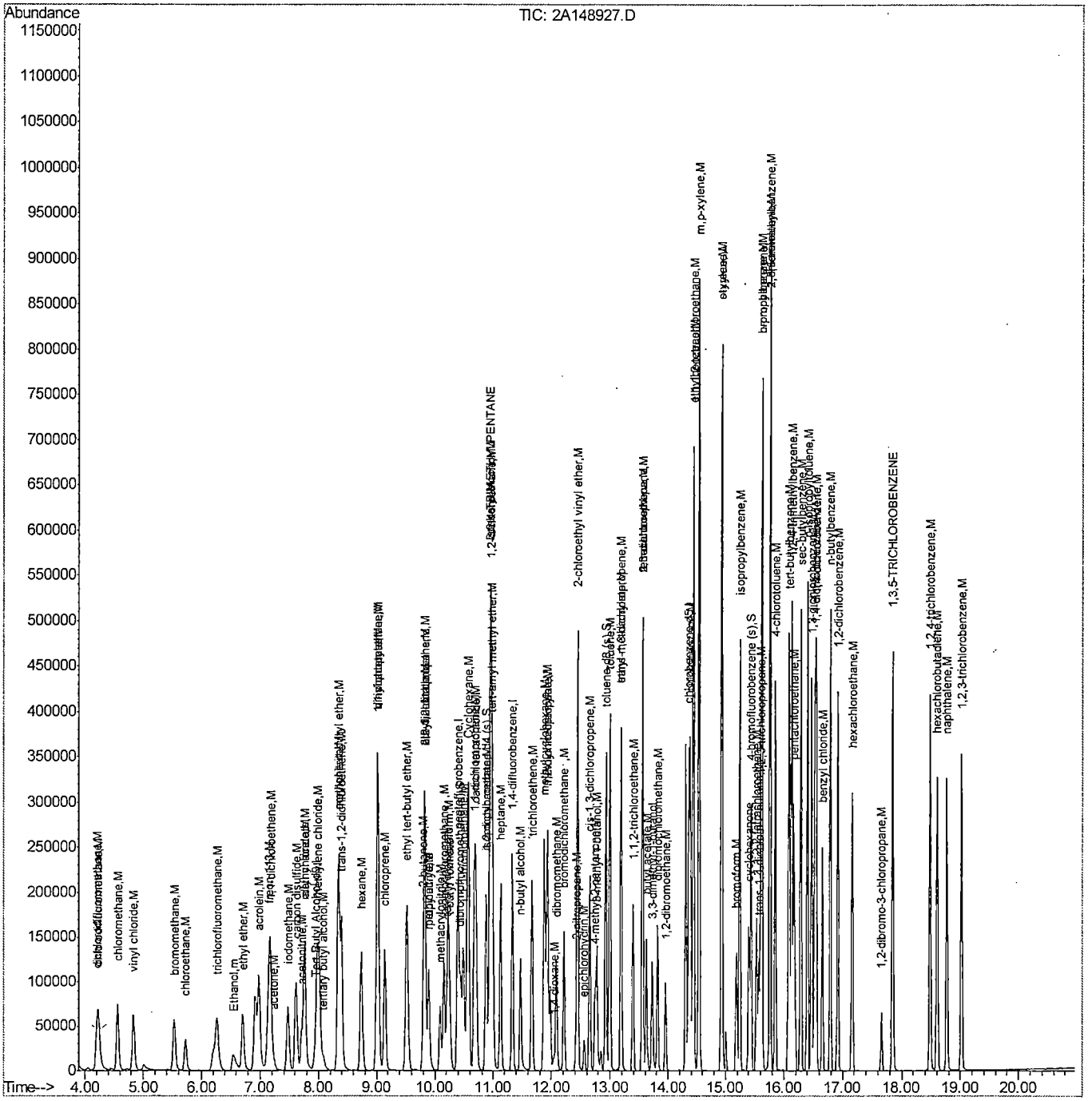
7.6.8

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 2A148927.D
Acq On : 25 Jul 2014 2:18 pm
Operator : Dejanas
Sample : icc6348-50
Misc : MS70814,V2A6348,w,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jul 25 16:53:30 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 25 16:38:08 2014
Response via : Initial Calibration



7.6.8

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 2A148928.D
Acq On : 25 Jul 2014 2:48 pm
Operator : Dejanas
Sample : ic6348-100
Misc : MS70814,V2A6348,w,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jul 25 16:54:22 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 25 16:38:08 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.94	65	58726	500.00	ug/L	0.00
5) pentafluorobenzene	10.39	168	209509	50.00	ug/L	0.00
52) 1,4-difluorobenzene	11.33	114	231435	50.00	ug/L	0.00
84) chlorobenzene-d5	14.36	117	189198	50.00	ug/L	0.00
98) 1,4-dichlorobenzene-d4	16.52	152	114628	50.00	ug/L	0.00
System Monitoring Compounds						
46) dibromofluoromethane (s)	10.43	113	154730	97.52	ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 195.04%#			
47) 1,2-dichloroethane-d4 (s)	10.87	65	184260	99.11	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 198.22%#			
76) toluene-d8 (s)	12.93	98	517405	99.12	ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 198.24%#			
100) 4-bromofluorobenzene (s)	15.43	95	188996	94.79	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 189.58%#			
Target Compounds						Qvalue
2) tertiary butyl alcohol	8.07	59	70814	549.31	ug/L	96
3) Ethanol	6.55	45	106797	11319.65	ug/L	99
4) 1,4-dioxane	12.04	88	23830	2865.67	ug/L	93
7) chlorodifluoromethane	4.23	51	164312	130.13	ug/L	99
8) dichlorodifluoromethane	4.20	85	264505	117.64	ug/L	100
10) chloromethane	4.57	50	259541	108.17	ug/L	99
11) vinyl chloride	4.84	62	231359	114.92	ug/L	96
12) bromomethane	5.52	94	126729	101.67	ug/L	96
13) chloroethane	5.72	64	101981	111.60	ug/L	95
14) trichlorofluoromethane	6.26	101	282465	117.34	ug/L	97
16) ethyl ether	6.70	74	84410	108.48	ug/L	98
18) acrolein	6.99	56	6125	20.80	ug/L	80
19) 1,1-dichloroethene	7.17	96	147118	105.84	ug/L	96
20) acetone	7.22	43	47008	106.62	ug/L	93
21) allyl chloride	7.76	76	83226	108.84	ug/L	99
22) acetonitrile	7.70	40	129123	1090.90	ug/L	95
23) iodomethane	7.47	142	292365	104.87	ug/L	99
24) iso-butyl alcohol	10.94	74	54167	1091.67	ug/L #	74
25) carbon disulfide	7.60	76	529852	108.15	ug/L	99
26) methylene chloride	7.97	84	164210	105.55	ug/L	97
27) methyl acetate	7.75	74	23037	122.09	ug/L	90
28) methyl tert butyl ether	8.34	73	479132	104.64	ug/L	98
29) trans-1,2-dichloroethene	8.39	96	160234	104.98	ug/L	97
30) di-isopropyl ether	9.01	45	551853	105.97	ug/L	94
31) 2-butanone	9.78	72	17338	110.41	ug/L #	89
32) 1,1-dichloroethane	9.02	63	305070	110.19	ug/L	100
33) chloroprene	9.14	53	255133	115.11	ug/L	99
34) acrylonitrile	8.33	53	279928	539.52	ug/L	99
35) vinyl acetate	9.01	86	26762	117.37	ug/L	78
36) ethyl tert-butyl ether	9.52	59	536473	106.57	ug/L	98
37) ethyl acetate	9.82	45	21856	111.03	ug/L	70
38) 2,2-dichloropropane	9.82	77	256531	111.15	ug/L	98
39) cis-1,2-dichloroethene	9.82	96	179523	108.88	ug/L	97

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 2A148928.D
Acq On : 25 Jul 2014 2:48 pm
Operator : Dejanas
Sample : ic6348-100
Misc : MS70814,V2A6348,w,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jul 25 16:54:22 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 25 16:38:08 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
40) methylacrylate	9.89	85	22611	117.24 ug/L		92
41) propionitrile	9.88	54	211971	1110.45 ug/L		98
42) bromochloromethane	10.15	128	92524	106.52 ug/L		96
43) tetrahydrofuran	10.20	42	54615	106.34 ug/L		90
44) chloroform	10.22	85	197486	104.20 ug/L		99
45) t-butyl formate	10.25	59	136470	117.28 ug/L	#	97
48) freon 113	7.14	151	125466	110.60 ug/L		98
49) methacrylonitrile	10.08	41	101806	110.71 ug/L		97
50) 1,1,1-trichloroethane	10.48	97	278062	109.57 ug/L		99
51) Cyclohexane	10.56	84	250646	108.91 ug/L		90
53) epichlorohydrin	12.56	57	64800	565.66 ug/L		99
54) n-butyl alcohol	11.47	56	164719	5501.39 ug/L		100
55) carbon tetrachloride	10.69	117	271405	111.32 ug/L		98
56) 1,1-dichloropropene	10.67	75	231741	108.39 ug/L		97
57) hexane	8.73	57	205698	107.23 ug/L		99
59) 2,2,4-TRIMETHYLPENTANE	10.95	57	533909	107.47 ug/L	#	100
60) benzene	10.94	78	644070	108.48 ug/L		99
61) tert-amyl methyl ether	10.98	87	116265	108.91 ug/L		91
62) heptane	11.12	57	118669	110.68 ug/L		98
63) isopropyl acetate	10.88	43	297552	103.72 ug/L		97
64) 1,2-dichloroethane	10.96	62	242909	112.18 ug/L		98
66) trichloroethene	11.67	95	166101	112.43 ug/L		99
68) methyl methacrylate	11.93	41	258835	109.36 ug/L		100
69) 2-nitropropane	12.42	41	65892	113.63 ug/L		98
70) 2-chloroethyl vinyl ether	12.44	63	467646	568.08 ug/L		98
71) 1,2-dichloropropane	11.92	63	164076	110.76 ug/L		99
72) dibromomethane	12.08	93	103346	113.58 ug/L		99
73) methylcyclohexane	11.88	83	262716	112.42 ug/L		93
74) bromodichloromethane	12.21	83	236197	111.43 ug/L		99
75) cis-1,3-dichloropropene	12.65	75	271658	110.95 ug/L		97
77) 4-methyl-2-pentanone	12.74	58	53908	112.43 ug/L		96
78) toluene	13.00	92	376924	110.42 ug/L		100
79) 3-methyl-1-butanol	12.77	55	106728	1972.26 ug/L		98
80) trans-1,3-dichloropropene	13.19	75	255039	109.87 ug/L		98
81) ethyl methacrylate	13.18	69	185364	109.74 ug/L		97
82) 1,1,2-trichloroethane	13.39	83	113203	107.88 ug/L		95
83) 2-hexanone	13.55	58	49414	109.76 ug/L		98
85) tetrachloroethene	13.55	164	151901	116.04 ug/L		95
86) 1,3-dichloropropane	13.56	76	219159	111.96 ug/L		99
87) butyl acetate	13.62	56	85715	104.41 ug/L		99
88) 3,3-dimethyl-1-butanol	13.72	57	122503	989.21 ug/L		100
89) dibromochloromethane	13.81	129	192565	111.30 ug/L		98
90) 1,2-dibromoethane	13.95	107	143266	109.59 ug/L		99
91) chlorobenzene	14.38	112	426325	108.03 ug/L		98
92) 1,1,1,2-tetrachloroethane	14.44	131	179852	112.77 ug/L		98
93) ethylbenzene	14.43	91	708505	110.73 ug/L		99
94) m,p-xylene	14.53	106	557574	228.57 ug/L		100
95) o-xylene	14.93	106	272524	111.02 ug/L		100
96) styrene	14.94	104	467912	112.70 ug/L		99
97) bromoform	15.19	173	144460	117.91 ug/L		95

7.6.9 7

ACCUTEST LABORATORIES JB73450

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 2A148928.D
Acq On : 25 Jul 2014 2:48 pm
Operator : Dejanas
Sample : ic6348-100
Misc : MS70814,V2A6348,w,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jul 25 16:54:22 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 25 16:38:08 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
99) isopropylbenzene	15.25	105	718454	105.52 ug/L	99
101) cyclohexanone	15.40	98	64836	1107.34 ug/L	100
102) bromobenzene	15.62	156	210872	101.09 ug/L	98
103) 1,1,2,2-tetrachloroethane	15.53	83	174695	91.86 ug/L	95
104) trans-1,4-dichloro-2-buten	15.56	53	53715	114.82 ug/L	90
105) 1,2,3-trichloropropane	15.60	110	47369	105.96 ug/L	95
106) n-propylbenzene	15.62	120	186816	108.00 ug/L	97
107) 2-chlorotoluene	15.76	126	181869	105.07 ug/L	96
108) 4-chlorotoluene	15.85	126	188155	106.29 ug/L	99
109) 1,3,5-trimethylbenzene	15.76	105	619588	105.60 ug/L	100
110) tert-butylbenzene	16.09	119	535582	105.00 ug/L	99
111) pentachloroethane	16.17	167	143628	107.48 ug/L	99
112) 1,2,4-trimethylbenzene	16.13	105	610458	107.37 ug/L	99
113) sec-butylbenzene	16.29	105	796951	108.31 ug/L	99
114) 1,3-dichlorobenzene	16.46	146	400369	104.76 ug/L	98
115) p-isopropyltoluene	16.40	119	691899	108.21 ug/L	99
116) 1,4-dichlorobenzene	16.54	146	405658	107.50 ug/L	99
117) 1,2-dichlorobenzene	16.91	146	390951	108.17 ug/L	99
118) benzyl chloride	16.65	91	371717	101.01 ug/L	100
119) n-butylbenzene	16.78	92	337297	110.16 ug/L	99
120) 1,2-dibromo-3-chloropropan	17.66	75	36740	109.73 ug/L	89
121) 1,3,5-TRICHLOROBENZENE	17.85	180	381757	111.81 ug/L	98
122) 1,2,4-trichlorobenzene	18.49	180	342663	113.85 ug/L	99
123) hexachlorobutadiene	18.60	225	189417	111.72 ug/L	99
124) naphthalene	18.77	128	647692	117.42 ug/L	100
125) 1,2,3-trichlorobenzene	19.02	180	309482	117.34 ug/L	98
126) hexachloroethane	17.16	201	151854	110.18 ug/L	98

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

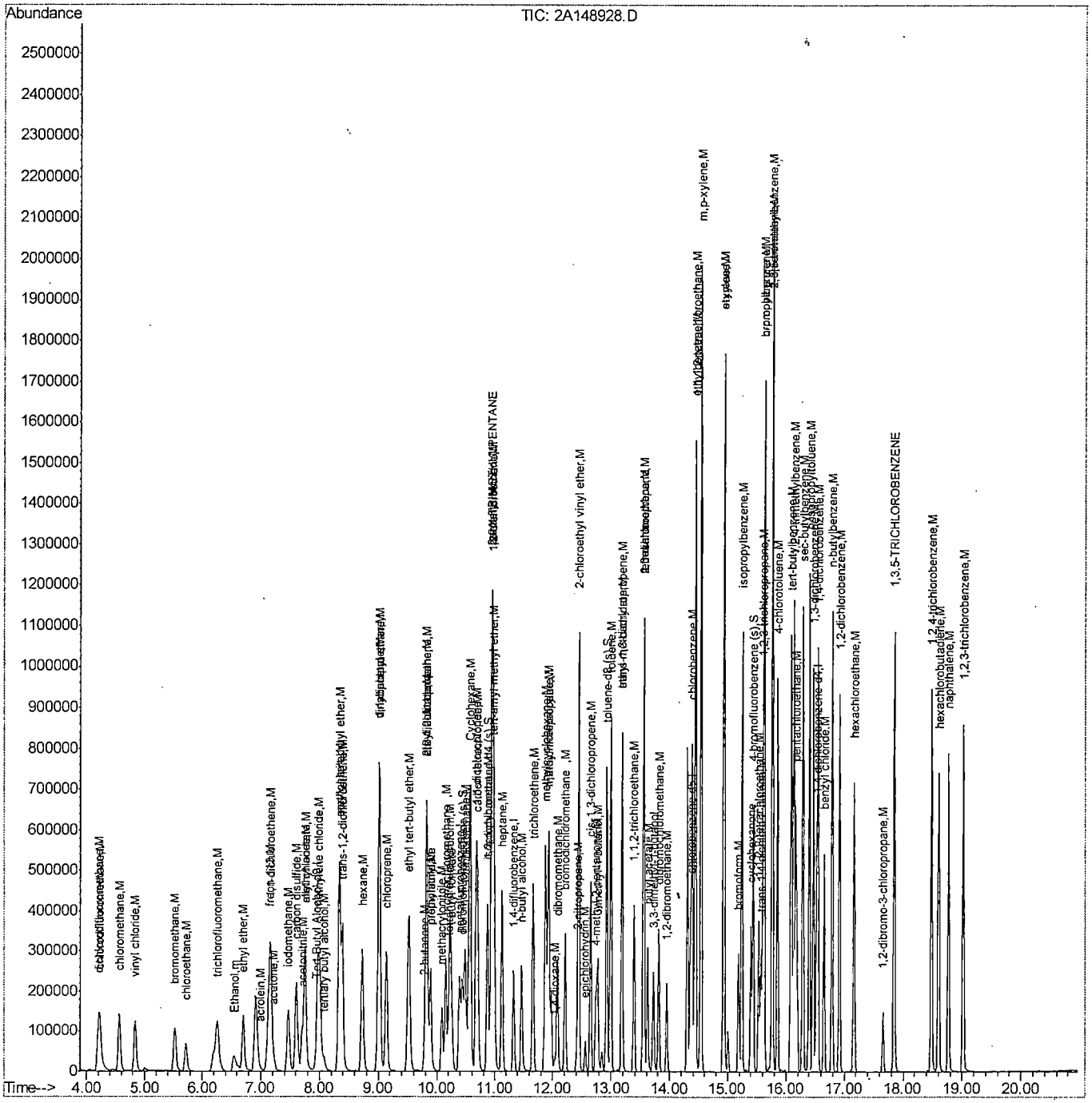
7.6.9

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 2A148928.D
Acq On : 25 Jul 2014 2:48 pm
Operator : Dejanas
Sample : ic6348-100
Misc : MS70814,V2A6348,w,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jul 25 16:54:22 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 25 16:38:08 2014
Response via : Initial Calibration



7.6.9

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 2A148929.D
Acq On : 25 Jul 2014 3:17 pm
Operator : Dejanas
Sample : ic6348-200
Misc : MS70814,V2A6348,w,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jul 25 17:35:03 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 25 16:38:08 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.94	65	70924	500.00	ug/L	0.00
5) pentafluorobenzene	10.39	168	238731	50.00	ug/L	0.00
52) 1,4-difluorobenzene	11.33	114	264951	50.00	ug/L	0.00
84) chlorobenzene-d5	14.36	117	217292	50.00	ug/L	0.00
98) 1,4-dichlorobenzene-d4	16.52	152	126628	50.00	ug/L	0.00
System Monitoring Compounds						
46) dibromofluoromethane (s)	10.43	113	348471	192.74	ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 385.48%#			
47) 1,2-dichloroethane-d4 (s)	10.87	65	404115	190.76	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 381.52%#			
76) toluene-d8 (s)	12.93	98	1176436	196.87	ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 393.74%#			
100) 4-bromofluorobenzene (s)	15.43	95	431061	195.70	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 391.40%#			
Target Compounds						Qvalue
2) tertiary butyl alcohol	8.07	59	156633	1006.04	ug/L	96
3) Ethanol	6.55	45	226400	19869.54	ug/L #	83
4) 1,4-dioxane	12.03	88	58109	5786.06	ug/L #	90
7) chlorodifluoromethane	4.22	51	347329	241.40	ug/L	99
8) dichlorodifluoromethane	4.19	85	561693	219.24	ug/L	98
10) chloromethane	4.56	50	527442	192.91	ug/L	99
11) vinyl chloride	4.84	62	510462	222.53	ug/L	97
12) bromomethane	5.52	94	273876	192.83	ug/L	98
13) chloroethane	5.71	64	215010	206.50	ug/L	98
14) trichlorofluoromethane	6.26	101	631849	230.36	ug/L	97
16) ethyl ether	6.70	74	185687	209.43	ug/L	99
18) acrolein	6.98	56	15288	45.56	ug/L	99
19) 1,1-dichloroethene	7.17	96	323542	204.28	ug/L	97
20) acetone	7.23	43	89384	177.91	ug/L	91
21) allyl chloride	7.76	76	186122	213.61	ug/L	94
22) acetonitrile	7.70	40	274951	2038.60	ug/L	98
23) iodomethane	7.47	142	654799	206.13	ug/L	97
24) iso-butyl alcohol	10.94	74	118887	2102.73	ug/L #	74
25) carbon disulfide	7.60	76	1157348	207.32	ug/L	98
26) methylene chloride	7.97	84	364052	205.37	ug/L	98
27) methyl acetate	7.74	74	52621	244.75	ug/L	90
28) methyl tert butyl ether	8.34	73	1053701	201.96	ug/L	99
29) trans-1,2-dichloroethene	8.39	96	360443	207.24	ug/L	100
30) di-isopropyl ether	9.01	45	1184139	199.55	ug/L	93
31) 2-butanone	9.79	72	38183	213.38	ug/L #	42
32) 1,1-dichloroethane	9.02	63	664591	210.66	ug/L	99
33) chloroprene	9.13	53	551709	218.45	ug/L	99
34) acrylonitrile	8.33	53	615884	1041.73	ug/L	100
35) vinyl acetate	9.01	86	60595	233.22	ug/L	72
36) ethyl tert-butyl ether	9.51	59	1176636	205.13	ug/L	98
37) ethyl acetate	9.81	45	45400	202.40	ug/L	82
38) 2,2-dichloropropane	9.82	77	550191	209.21	ug/L	96
39) cis-1,2-dichloroethene	9.82	96	396980	211.29	ug/L	97

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 2A148929.D
Acq On : 25 Jul 2014 3:17 pm
Operator : Dejanas
Sample : ic6348-200
Misc : MS70814,V2A6348,w,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jul 25 17:35:03 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 25 16:38:08 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
40) methylacrylate	9.89	85	51506	234.37 ug/L		98
41) propionitrile	9.88	54	467999	2151.60 ug/L		99
42) bromochloromethane	10.15	128	208491	210.65 ug/L		96
43) tetrahydrofuran	10.19	42	116063	198.32 ug/L		94
44) chloroform	10.22	85	434917	201.39 ug/L		99
45) t-butyl formate	10.25	59	297855	224.64 ug/L	#	99
48) freon 113	7.14	151	279053	215.89 ug/L		97
49) methacrylonitrile	10.08	41	218343	208.37 ug/L		97
50) 1,1,1-trichloroethane	10.48	97	599412	207.28 ug/L		98
51) Cyclohexane	10.55	84	549068	209.38 ug/L		87
53) epichlorohydrin	12.56	57	147873	1127.53 ug/L		98
54) n-butyl alcohol	11.47	56	374995	10940.01 ug/L		99
55) carbon tetrachloride	10.69	117	592472	212.27 ug/L		99
56) 1,1-dichloropropene	10.67	75	519685	212.31 ug/L		98
57) hexane	8.73	57	458503	208.78 ug/L		99
59) 2,2,4-TRIMETHYLPENTANE	10.95	57	1210959	212.93 ug/L	#	98
60) benzene	10.94	78	1436189	211.29 ug/L		98
61) tert-amyl methyl ether	10.98	87	258026	211.12 ug/L		94
62) heptane	11.13	57	261643	213.17 ug/L		100
63) isopropyl acetate	10.88	43	646787	196.94 ug/L		98
64) 1,2-dichloroethane	10.96	62	531294	214.33 ug/L		99
66) trichloroethene	11.66	95	373437	220.79 ug/L		99
68) methyl methacrylate	11.93	41	548152	202.31 ug/L		98
69) 2-nitropropane	12.42	41	138628	208.82 ug/L		99
70) 2-chloroethyl vinyl ether	12.44	63	1059584	1124.32 ug/L		99
71) 1,2-dichloropropane	11.92	63	361436	213.12 ug/L		99
72) dibromomethane	12.08	93	227883	218.76 ug/L		98
73) methylcyclohexane	11.88	83	582762	217.84 ug/L		95
74) bromodichloromethane	12.21	83	522583	215.36 ug/L		98
75) cis-1,3-dichloropropene	12.65	75	605031	215.84 ug/L		96
77) 4-methyl-2-pentanone	12.74	58	116645	212.49 ug/L		99
78) toluene	13.00	92	845062	216.24 ug/L		99
79) 3-methyl-1-butanol	12.77	55	235804	3806.29 ug/L		98
80) trans-1,3-dichloropropene	13.18	75	558216	210.05 ug/L		94
81) ethyl methacrylate	13.18	69	402813	208.30 ug/L		100
82) 1,1,2-trichloroethane	13.39	83	250526	208.55 ug/L		97
83) 2-hexanone	13.55	58	105342	204.38 ug/L		94
85) tetrachloroethene	13.55	164	339694	225.95 ug/L		96
86) 1,3-dichloropropane	13.56	76	488535	217.31 ug/L		98
87) butyl acetate	13.62	56	189194	200.66 ug/L		95
88) 3,3-dimethyl-1-butanol	13.72	57	264479	1859.55 ug/L		98
89) dibromochloromethane	13.81	129	437112	219.98 ug/L		98
90) 1,2-dibromoethane	13.95	107	320266	213.30 ug/L		99
91) chlorobenzene	14.39	112	966391	213.23 ug/L		100
92) 1,1,1,2-tetrachloroethane	14.44	131	398767	217.71 ug/L		96
93) ethylbenzene	14.43	91	1605348	218.46 ug/L		99
94) m,p-xylene	14.53	106	1234314	440.57 ug/L		96
95) o-xylene	14.93	106	612338	217.21 ug/L		100
96) styrene	14.94	104	1052865	220.80 ug/L		98
97) bromoform	15.19	173	317654	225.76 ug/L		98

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 2A148929.D
Acq On : 25 Jul 2014 3:17 pm
Operator : Dejanas
Sample : ic6348-200
Misc : MS70814,V2A6348,w,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jul 25 17:35:03 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 25 16:38:08 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
99) isopropylbenzene	15.25	105	1601174	212.88 ug/L	99
102) bromobenzene	15.62	156	472408	205.00 ug/L	99
103) 1,1,2,2-tetrachloroethane	15.53	83	383131	182.37 ug/L	98
104) trans-1,4-dichloro-2-buten	15.57	53	112410	217.51 ug/L	96
105) 1,2,3-trichloropropane	15.60	110	101346	205.22 ug/L	94
106) n-propylbenzene	15.63	120	414957	217.16 ug/L	99
107) 2-chlorotoluene	15.76	126	401647	210.05 ug/L	98
108) 4-chlorotoluene	15.86	126	415435	212.44 ug/L	94
109) 1,3,5-trimethylbenzene	15.76	105	1382056	213.22 ug/L	99
110) tert-butylbenzene	16.09	119	1193535	211.82 ug/L	99
111) pentachloroethane	16.17	167	320569	217.15 ug/L	98
112) 1,2,4-trimethylbenzene	16.13	105	1333859	212.38 ug/L	99
113) sec-butylbenzene	16.29	105	1754864	215.89 ug/L	99
114) 1,3-dichlorobenzene	16.47	146	880528	208.56 ug/L	97
115) p-isopropyltoluene	16.40	119	1519325	215.10 ug/L	100
116) 1,4-dichlorobenzene	16.54	146	887616	212.93 ug/L	99
117) 1,2-dichlorobenzene	16.91	146	846994	212.14 ug/L	99
118) benzyl chloride	16.65	91	816407	200.82 ug/L	100
119) n-butylbenzene	16.78	92	726680	214.84 ug/L	99
120) 1,2-dibromo-3-chloropropan	17.66	75	77647	209.93 ug/L	91
121) 1,3,5-TRICHLOROBENZENE	17.85	180	833503	220.98 ug/L	99
122) 1,2,4-trichlorobenzene	18.49	180	734410	220.89 ug/L	98
123) hexachlorobutadiene	18.60	225	411403	219.65 ug/L	100
124) naphthalene	18.77	128	1387107	227.65 ug/L	100
125) 1,2,3-trichlorobenzene	19.02	180	660859	226.82 ug/L	96
126) hexachloroethane	17.16	201	328041	215.45 ug/L	98

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

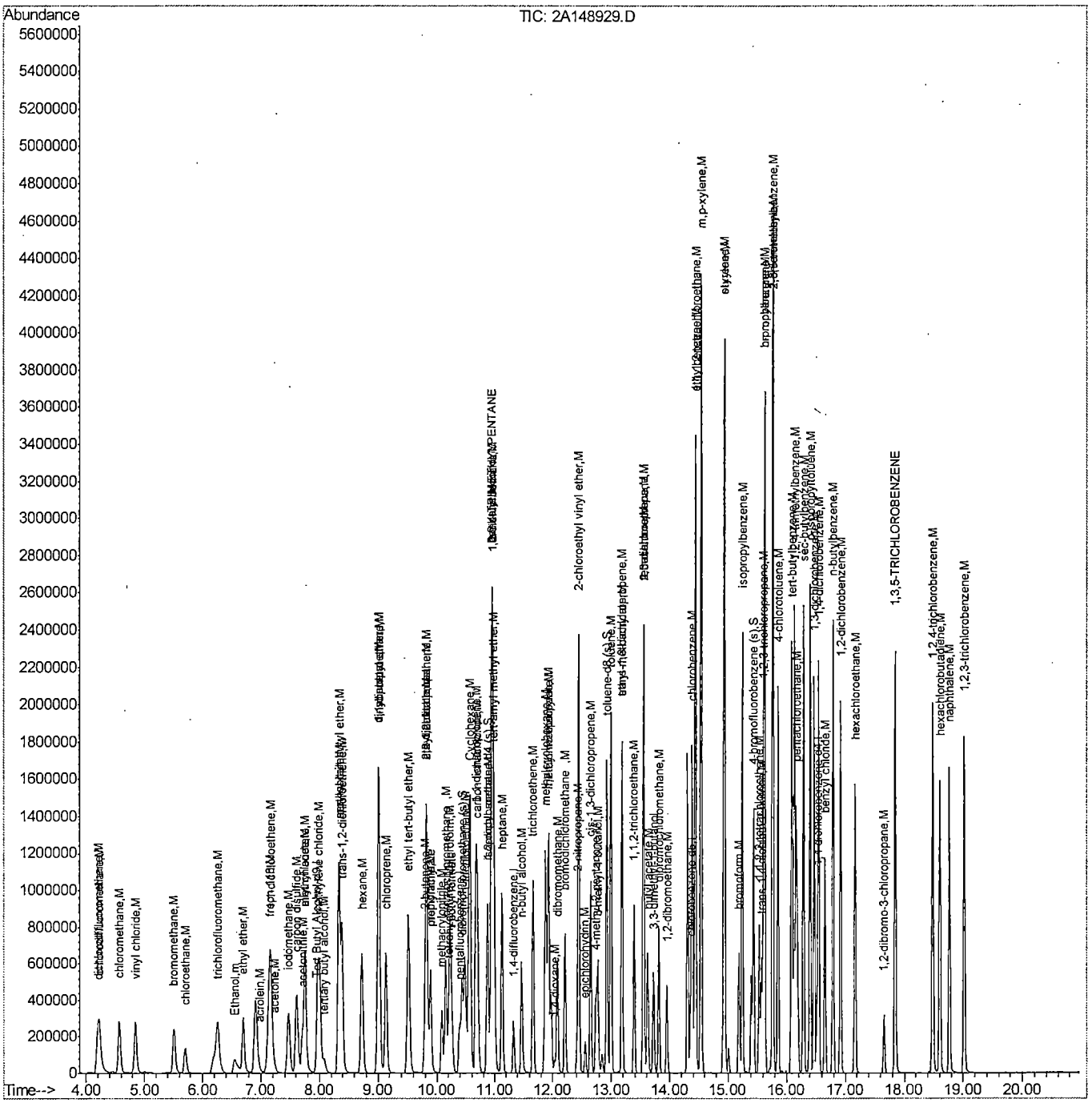
7.6.10

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 2A148929.D
Acq On : 25 Jul 2014 3:17 pm
Operator : Dejanas
Sample : ic6348-200
Misc : MS70814,V2A6348,w,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jul 25 17:35:03 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 25 16:38:08 2014
Response via : Initial Calibration



7.6.10

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 2A148932.D
Acq On : 25 Jul 2014 5:04 pm
Operator : Dejanas
Sample : icv6348-50
Misc : MS70814,V2A6348,w,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jul 28 10:29:44 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 28 10:27:41 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.93	65	67860	500.00	ug/L	-0.01
5) pentafluorobenzene	10.39	168	227771	50.00	ug/L	0.00
52) 1,4-difluorobenzene	11.33	114	249683	50.00	ug/L	0.00
84) chlorobenzene-d5	14.36	117	201953	50.00	ug/L	0.00
98) 1,4-dichlorobenzene-d4	16.52	152	117794	50.00	ug/L	0.00
System Monitoring Compounds						
46) dibromofluoromethane (s)	10.43	113	82252	50.13	ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 100.26%			
47) 1,2-dichloroethane-d4 (s)	10.87	65	95416	49.85	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 99.70%			
76) toluene-d8 (s)	12.93	98	269045	48.58	ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 97.16%			
100) 4-bromofluorobenzene (s)	15.44	95	98145	48.38	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 96.76%			
Target Compounds						Qvalue
2) tertiary butyl alcohol	8.07	59	39378	243.54	ug/L	92
3) Ethanol	6.54	45	58359	4814.52	ug/L	98
4) 1,4-dioxane	12.04	88	12513	1139.74	ug/L	84
7) chlorodifluoromethane	4.21	51	82762	49.49	ug/L	98
8) dichlorodifluoromethane	4.19	85	104136	40.13	ug/L	98
10) chloromethane	4.55	50	119881	42.66	ug/L	99
11) vinyl chloride	4.82	62	113757	47.85	ug/L	97
12) bromomethane	5.52	94	62765	46.34	ug/L	93
13) chloroethane	5.72	64	56844	50.95	ug/L	95
14) trichlorofluoromethane	6.25	101	146310	49.60	ug/L	98
16) ethyl ether	6.69	74	45798	55.34	ug/L	94
18) acrolein	6.98	56	158472	480.13	ug/L	99
19) 1,1-dichloroethene	7.17	96	79441	52.83	ug/L	97
20) acetone	7.23	43	24655	45.98	ug/L	95
21) allyl chloride	7.76	76	50395	60.08	ug/L	97
22) acetonitrile	7.70	40	73059	499.03	ug/L	93
23) iodomethane	7.46	142	156675	52.83	ug/L	98
24) iso-butyl alcohol	10.94	74	27798	535.27	ug/L #	38
25) carbon disulfide	7.60	76	292153	53.78	ug/L	98
26) methylene chloride	7.97	84	85839	50.43	ug/L	96
27) methyl acetate	7.75	74	11683	48.31	ug/L #	74
28) methyl tert butyl ether	8.34	73	498253	98.55	ug/L	99
29) trans-1,2-dichloroethene	8.39	96	82686	50.98	ug/L	98
30) di-isopropyl ether	9.01	45	293939	49.27	ug/L	98
31) 2-butanone	9.79	72	8740	49.59	ug/L #	71
32) 1,1-dichloroethane	9.02	63	158090	49.59	ug/L	98
33) chloroprene	9.13	53	138963	52.73	ug/L	98
34) acrylonitrile	8.33	53	148536	255.58	ug/L	97
35) vinyl acetate	9.01	86	14959	57.87	ug/L	90
36) ethyl tert-butyl ether	9.51	59	274575	47.50	ug/L	98
37) ethyl acetate	9.81	45	11153	51.53	ug/L	97
38) 2,2-dichloropropane	9.82	77	125162	46.79	ug/L	96
39) cis-1,2-dichloroethene	9.82	96	90483	50.45	ug/L	93

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 2A148932.D
Acq On : 25 Jul 2014 5:04 pm
Operator : Dejanas
Sample : icv6348-50
Misc : MS70814,V2A6348,w,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jul 28 10:29:44 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 28 10:27:41 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
40) methylacrylate	9.90	85	11840	50.20	ug/L		91
41) propionitrile	9.88	54	111661	499.69	ug/L		95
42) bromochloromethane	10.15	128	47957	51.94	ug/L		89
43) tetrahydrofuran	10.20	42	28531	48.96	ug/L		93
44) chloroform	10.22	85	99974	48.41	ug/L		98
45) t-butyl formate	10.26	59	79392	59.72	ug/L	#	89
48) freon 113	7.14	151	73360	59.70	ug/L		98
49) methacrylonitrile	10.08	41	52543	50.11	ug/L		99
50) 1,1,1-trichloroethane	10.48	97	143905	52.28	ug/L		97
51) Cyclohexane	10.56	84	131831	54.11	ug/L		96
53) epichlorohydrin	12.56	57	32989	236.43	ug/L		99
54) n-butyl alcohol	11.47	56	92132	2382.30	ug/L		96
55) carbon tetrachloride	10.69	117	139972	52.75	ug/L		98
56) 1,1-dichloropropene	10.67	75	115337	50.83	ug/L		94
57) hexane	8.72	57	120930	56.50	ug/L		100
59) 2,2,4-TRIMETHYLPENTANE	10.95	57	321879	56.15	ug/L	#	97
60) benzene	10.94	78	331625	51.17	ug/L		99
61) tert-amyl methyl ether	10.98	87	59733	49.71	ug/L		96
62) heptane	11.12	57	68011	56.42	ug/L		96
63) isopropyl acetate	10.88	43	163905	47.86	ug/L		96
64) 1,2-dichloroethane	10.96	62	123065	49.31	ug/L		98
66) trichloroethene	11.67	95	84453	51.01	ug/L		98
68) methyl methacrylate	11.93	41	134256	50.21	ug/L		100
69) 2-nitropropane	12.42	41	33303	48.85	ug/L		98
70) 2-chloroethyl vinyl ether	12.44	63	238729	268.56	ug/L		98
71) 1,2-dichloropropane	11.92	63	85498	50.83	ug/L		99
72) dibromomethane	12.08	93	52066	51.09	ug/L		95
73) methylcyclohexane	11.88	83	150417	56.16	ug/L		94
74) bromodichloromethane	12.21	83	121267	51.87	ug/L		98
75) cis-1,3-dichloropropene	12.65	75	134460	49.40	ug/L		97
77) 4-methyl-2-pentanone	12.74	58	28496	50.91	ug/L		92
78) toluene	13.00	92	191149	50.51	ug/L		97
79) 3-methyl-1-butanol	12.77	55	61784	1069.85	ug/L		95
80) trans-1,3-dichloropropene	13.19	75	123852	48.23	ug/L		98
81) ethyl methacrylate	13.18	69	93649	49.94	ug/L		99
82) 1,1,2-trichloroethane	13.39	83	57510	50.81	ug/L		97
83) 2-hexanone	13.56	58	25377	49.54	ug/L		94
85) tetrachloroethene	13.56	164	75862	51.69	ug/L		97
86) 1,3-dichloropropane	13.56	76	110715	50.33	ug/L		98
87) butyl acetate	13.62	56	46903	49.22	ug/L		95
88) 3,3-dimethyl-1-butanol	13.72	57	70079	539.32	ug/L		98
89) dibromochloromethane	13.81	129	96497	52.04	ug/L		97
90) 1,2-dibromoethane	13.95	107	71766	51.59	ug/L		98
91) chlorobenzene	14.39	112	216684	50.99	ug/L		100
92) 1,1,1,2-tetrachloroethane	14.44	131	87405	50.41	ug/L		97
93) ethylbenzene	14.43	91	353437	51.15	ug/L		98
94) m,p-xylene	14.53	106	275361	104.10	ug/L		98
95) o-xylene	14.93	106	135844	52.63	ug/L		97
96) styrene	14.94	104	233061	53.39	ug/L		97
97) bromoform	15.19	173	71307	50.78	ug/L		99

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 2A148932.D
Acq On : 25 Jul 2014 5:04 pm
Operator : Dejanas
Sample : icv6348-50
Misc : MS70814,V2A6348,w,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jul 28 10:29:44 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 28 10:27:41 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
99) isopropylbenzene	15.25	105	355643	51.82	ug/L	98
101) cyclohexanone	15.40	98	20238	298.17	ug/L	95
102) bromobenzene	15.62	156	105246	51.37	ug/L	96
103) 1,1,2,2-tetrachloroethane	15.53	83	85952	46.86	ug/L	96
104) trans-1,4-dichloro-2-buten	15.57	53	25152	47.12	ug/L	97
105) 1,2,3-trichloropropane	15.60	110	23042	48.95	ug/L	97
106) n-propylbenzene	15.63	120	95651	54.26	ug/L	94
107) 2-chlorotoluene	15.76	126	88500	49.73	ug/L	95
108) 4-chlorotoluene	15.86	126	94500	51.96	ug/L	99
109) 1,3,5-trimethylbenzene	15.76	105	304426	51.01	ug/L	99
110) tert-butylbenzene	16.09	119	266095	52.58	ug/L	99
111) pentachloroethane	16.17	167	71500	53.00	ug/L	99
112) 1,2,4-trimethylbenzene	16.13	105	311995	52.99	ug/L	100
113) sec-butylbenzene	16.29	105	383738	51.96	ug/L	98
114) 1,3-dichlorobenzene	16.47	146	194619	49.72	ug/L	99
115) p-isopropyltoluene	16.40	119	337531	52.18	ug/L	100
116) 1,4-dichlorobenzene	16.54	146	200170	49.82	ug/L	99
117) 1,2-dichlorobenzene	16.91	146	191893	49.81	ug/L	99
118) benzyl chloride	16.65	91	170194	45.83	ug/L	99
119) n-butylbenzene	16.79	92	168123	53.56	ug/L	94
120) 1,2-dibromo-3-chloropropan	17.66	75	19000	49.70	ug/L	96
121) 1,3,5-TRICHLOROBENZENE	17.85	180	183123	53.04	ug/L	99
122) 1,2,4-trichlorobenzene	18.49	180	161705	53.30	ug/L	97
123) hexachlorobutadiene	18.60	225	88651	52.88	ug/L	99
124) naphthalene	18.77	128	304984	52.81	ug/L	99
125) 1,2,3-trichlorobenzene	19.02	180	148664	52.96	ug/L	98
126) hexachloroethane	17.16	201	73286	53.01	ug/L	94

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

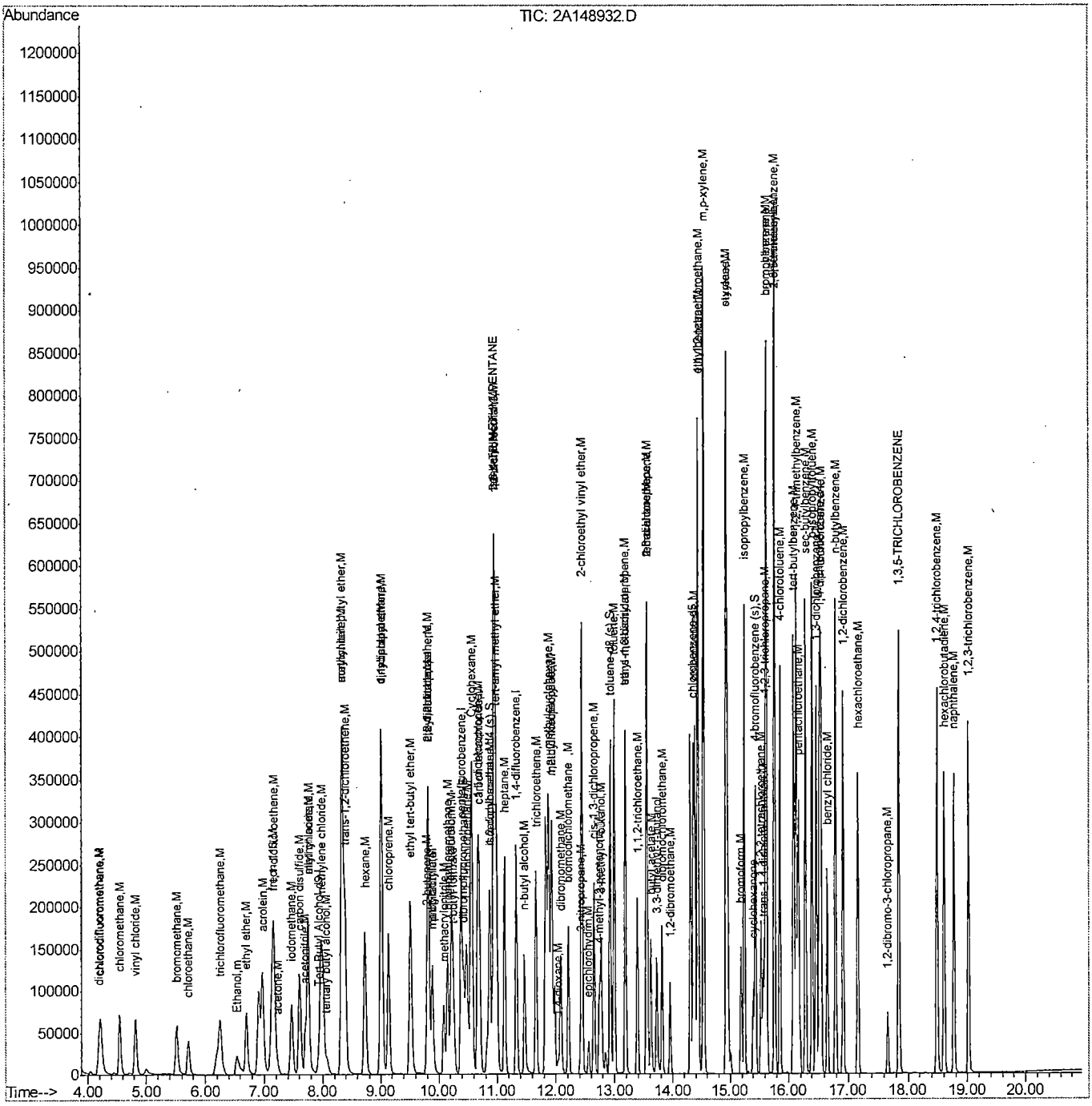
7.6.11

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 2A148932.D
Acq On : 25 Jul 2014 5:04 pm
Operator : Dejanas
Sample : icv6348-50
Misc : MS70814,V2A6348,w,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jul 28 10:29:44 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 28 10:27:41 2014
Response via : Initial Calibration



7.6.11

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 2A149273.D
Acq On : 9 Aug 2014 9:04 am
Operator : Dejanas
Sample : cc6348-20
Misc : MS71575,V2A6362,w,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 12 11:14:10 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 28 10:27:41 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Tert Butyl Alcohol-d9	7.95	65	62943	500.00	ug/L		0.00
5) pentafluorobenzene	10.39	168	189727	50.00	ug/L		0.00
52) 1,4-difluorobenzene	11.33	114	201339	50.00	ug/L		0.00
84) chlorobenzene-d5	14.36	117	168076	50.00	ug/L		0.00
98) 1,4-dichlorobenzene-d4	16.52	152	100117	50.00	ug/L		0.00
System Monitoring Compounds							
46) dibromofluoromethane (s)	10.43	113	67106	49.10	ug/L		0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 98.20%				
47) 1,2-dichloroethane-d4 (s)	10.86	65	77359	48.52	ug/L		0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 97.04%				
76) toluene-d8 (s)	12.92	98	214601	48.06	ug/L		0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 96.12%				
100) 4-bromofluorobenzene (s)	15.43	95	76692	44.48	ug/L		0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 88.96%				
Target Compounds							Qvalue
2) tertiary butyl alcohol	8.07	59	14642	97.63	ug/L		97
3) Ethanol	6.54	45	27353	2432.86	ug/L		97
4) 1,4-dioxane	12.04	88	6572	645.37	ug/L		87
7) chlorodifluoromethane	4.22	51	24604	17.66	ug/L		98
8) dichlorodifluoromethane	4.19	85	41493	19.20	ug/L		96
10) chloromethane	4.55	50	40695	17.39	ug/L		97
11) vinyl chloride	4.82	62	32812	16.57	ug/L		99
12) bromomethane	5.53	94	19315	17.12	ug/L		95
13) chloroethane	5.73	64	14953	16.09	ug/L		92
14) trichlorofluoromethane	6.26	101	43590	17.74	ug/L		95
16) ethyl ether	6.71	74	12540	18.19	ug/L		94
18) acrolein	6.98	56	41901	152.41	ug/L		97
19) 1,1-dichloroethene	7.17	96	24297	19.40	ug/L		95
20) acetone	7.23	43	7389	16.54	ug/L		93
21) allyl chloride	7.76	76	12889	18.45	ug/L		95
22) acetonitrile	7.71	40	23060	189.10	ug/L		97
23) iodomethane	7.47	142	49859	20.18	ug/L		98
24) iso-butyl alcohol	10.94	74	5182	167.66	ug/L	#	73
25) carbon disulfide	7.61	76	85255	18.84	ug/L		97
26) methylene chloride	7.97	84	26560	18.73	ug/L		96
27) methyl acetate	7.75	74	3166	17.32	ug/L		97
28) methyl tert butyl ether	8.34	73	76631	18.20	ug/L		99
29) trans-1,2-dichloroethene	8.39	96	27990	20.72	ug/L		95
30) di-isopropyl ether	9.01	45	89428	17.99	ug/L		90
31) 2-butanone	9.79	72	2710	18.46	ug/L	#	10
32) 1,1-dichloroethane	9.02	63	50625	19.06	ug/L		99
33) chloroprene	9.14	53	41594	18.95	ug/L		95
34) acrylonitrile	8.34	53	43985	90.86	ug/L		98
35) vinyl acetate	9.01	86	3899	18.11	ug/L		74
36) ethyl tert-butyl ether	9.52	59	86500	17.96	ug/L		96
37) ethyl acetate	9.82	45	3044	16.88	ug/L	#	42
38) 2,2-dichloropropane	9.82	77	46769	20.99	ug/L		97
39) cis-1,2-dichloroethene	9.82	96	29898	20.01	ug/L		89

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 2A149273.D
Acq On : 9 Aug 2014 9:04 am
Operator : Dejanas
Sample : cc6348-20
Misc : MS71575,V2A6362,w,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 12 11:14:10 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 28 10:27:41 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
40) methylacrylate	9.90	85	3386	19.04 ug/L		90
41) propionitrile	9.89	54	34836	187.15 ug/L		98
42) bromochloromethane	10.15	128	15822	20.57 ug/L		92
43) tetrahydrofuran	10.20	42	8465	17.44 ug/L		93
44) chloroform	10.22	85	33578	19.52 ug/L		94
45) t-butyl formate	10.26	59	21261	19.20 ug/L	#	88
48) freon 113	7.14	151	20656	20.18 ug/L		90
49) methacrylonitrile	10.09	41	15395	17.63 ug/L		92
50) 1,1,1-trichloroethane	10.48	97	47784	20.84 ug/L		97
51) Cyclohexane	10.55	84	40816	20.11 ug/L	#	80
53) epichlorohydrin	12.56	57	10795	95.94 ug/L		93
54) n-butyl alcohol	11.47	56	39468	1265.59 ug/L		98
55) carbon tetrachloride	10.69	117	49756	23.26 ug/L		98
56) 1,1-dichloropropene	10.67	75	38541	21.06 ug/L		99
57) hexane	8.73	57	29991	17.38 ug/L		99
59) 2,2,4-TRIMETHYLPENTANE	10.95	57	81082	17.54 ug/L	#	99
60) benzene	10.94	78	107222	20.52 ug/L		98
61) tert-amyl methyl ether	10.98	87	19395	20.02 ug/L	#	83
62) heptane	11.13	57	17753	18.26 ug/L		93
63) isopropyl acetate	10.88	43	46321	16.77 ug/L		92
64) 1,2-dichloroethane	10.96	62	40915	20.33 ug/L		99
66) trichloroethene	11.67	95	27551	20.64 ug/L		97
68) methyl methacrylate	11.93	41	40370	18.72 ug/L		99
69) 2-nitropropane	12.42	41	10480	19.06 ug/L		90
70) 2-chloroethyl vinyl ether	12.44	63	71908	100.32 ug/L		92
71) 1,2-dichloropropane	11.92	63	26340	19.42 ug/L		99
72) dibromomethane	12.08	93	17270	21.02 ug/L		99
73) methylcyclohexane	11.88	83	43946	20.35 ug/L		88
74) bromodichloromethane	12.21	83	39916	21.17 ug/L		98
75) cis-1,3-dichloropropene	12.65	75	44023	20.06 ug/L		96
77) 4-methyl-2-pentanone	12.74	58	8582	19.01 ug/L		96
78) toluene	13.00	92	61572	20.18 ug/L		99
79) 3-methyl-1-butanol	12.77	55	23127	472.35 ug/L		92
80) trans-1,3-dichloropropene	13.19	75	42203	20.38 ug/L		97
81) ethyl methacrylate	13.18	69	29513	19.52 ug/L		98
82) 1,1,2-trichloroethane	13.39	83	18437	20.20 ug/L		96
83) 2-hexanone	13.56	58	7932	19.20 ug/L		94
85) tetrachloroethene	13.55	164	26225	21.47 ug/L		94
86) 1,3-dichloropropane	13.57	76	34300	18.73 ug/L		95
87) butyl acetate	13.63	56	13982	17.63 ug/L		95
88) 3,3-dimethyl-1-butanol	13.72	57	25776	219.88 ug/L		98
89) dibromochloromethane	13.81	129	32191	20.86 ug/L		98
90) 1,2-dibromoethane	13.95	107	22913	19.79 ug/L		92
91) chlorobenzene	14.39	112	71658	20.26 ug/L		95
92) 1,1,1,2-tetrachloroethane	14.44	131	30166	20.90 ug/L		96
93) ethylbenzene	14.43	91	117543	20.44 ug/L		99
94) m,p-xylene	14.53	106	92894	42.20 ug/L		96
95) o-xylene	14.93	106	45857	21.35 ug/L		90
96) styrene	14.94	104	78414	21.58 ug/L		95
97) bromoform	15.19	173	24593	21.04 ug/L		99

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 2A149273.D
Acq On : 9 Aug 2014 9:04 am
Operator : Dejanas
Sample : cc6348-20
Misc : MS71575,V2A6362,w,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 12 11:14:10 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 28 10:27:41 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
99) isopropylbenzene	15.25	105	117383	20.12 ug/L	97
101) cyclohexanone	15.41	98	4397	69.07 ug/L	99
102) bromobenzene	15.62	156	37484	21.52 ug/L	94
103) 1,1,2,2-tetrachloroethane	15.53	83	28974	18.59 ug/L	97
104) trans-1,4-dichloro-2-buten	15.57	53	8107	17.87 ug/L	95
105) 1,2,3-trichloropropane	15.60	110	8254	20.63 ug/L	96
106) n-propylbenzene	15.62	120	31585	21.08 ug/L	96
107) 2-chlorotoluene	15.76	126	31246	20.66 ug/L	91
108) 4-chlorotoluene	15.85	126	32149	20.80 ug/L	96
109) 1,3,5-trimethylbenzene	15.76	105	100274	19.77 ug/L	98
110) tert-butylbenzene	16.09	119	88412	20.55 ug/L	98
111) pentachloroethane	16.17	167	25418	22.17 ug/L	94
112) 1,2,4-trimethylbenzene	16.13	105	101132	20.21 ug/L	93
113) sec-butylbenzene	16.29	105	131072	20.88 ug/L	98
114) 1,3-dichlorobenzene	16.46	146	69536	20.90 ug/L	99
115) p-isopropyltoluene	16.40	119	114040	20.74 ug/L	99
116) 1,4-dichlorobenzene	16.54	146	70606	20.67 ug/L	97
117) 1,2-dichlorobenzene	16.91	146	66369	20.27 ug/L	99
118) benzyl chloride	16.65	91	61341	19.44 ug/L	99
119) n-butylbenzene	16.79	92	54708	20.50 ug/L	97
120) 1,2-dibromo-3-chloropropan	17.66	75	6061	18.65 ug/L	97
121) 1,3,5-TRICHLOROBENZENE	17.85	180	63492	21.64 ug/L	100
122) 1,2,4-trichlorobenzene	18.49	180	54139	20.99 ug/L	94
123) hexachlorobutadiene	18.60	225	31864	22.36 ug/L	93
124) naphthalene	18.76	128	94897	19.33 ug/L	99
125) 1,2,3-trichlorobenzene	19.02	180	47972	20.11 ug/L	97
126) hexachloroethane	17.16	201	25997	22.12 ug/L	94

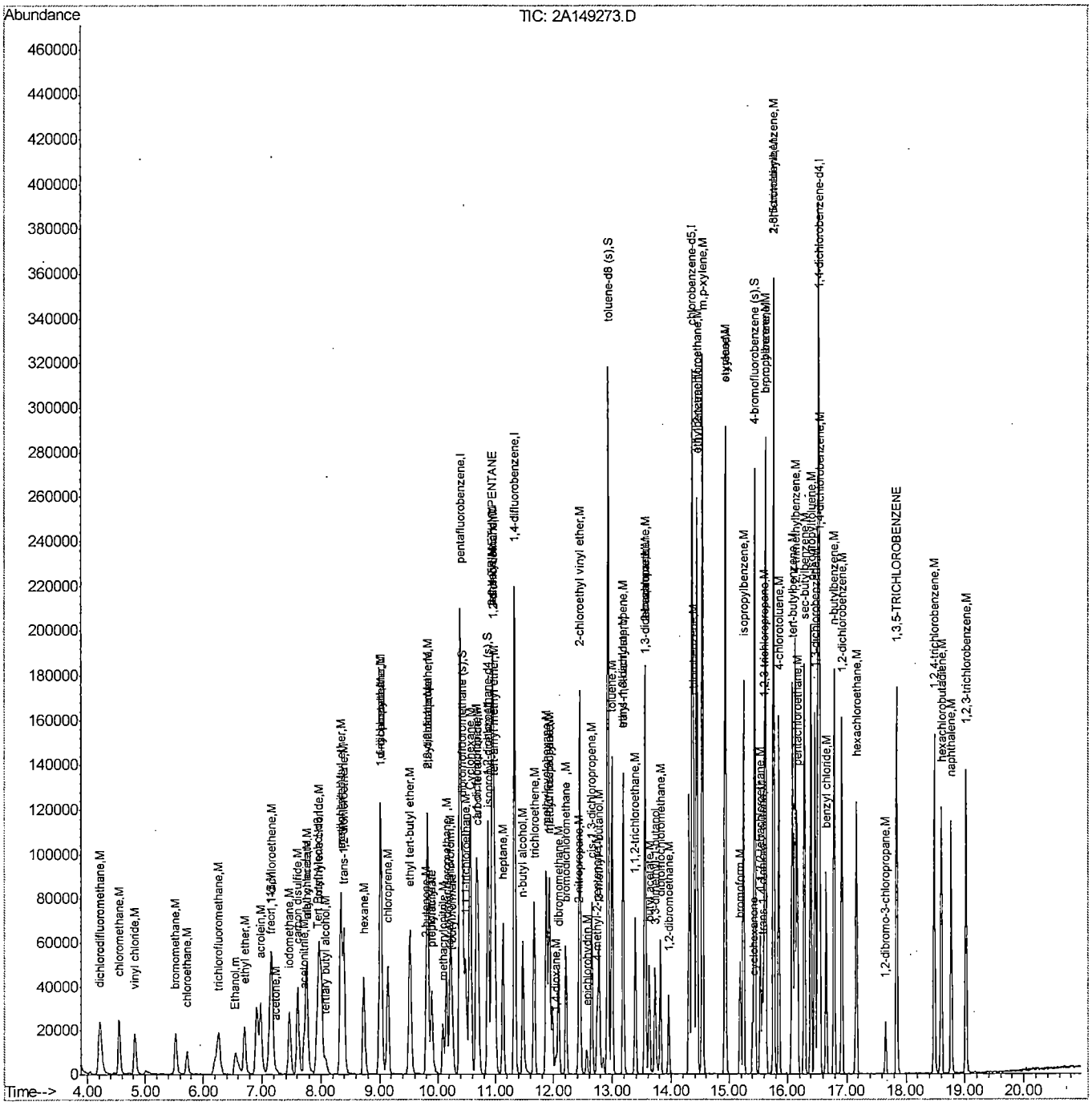
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.6.12 7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 2A149273.D
Acq On : 9 Aug 2014 9:04 am
Operator : Dejanas
Sample : cc6348-20
Misc : MS71575,V2A6362,w,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 12 11:14:10 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 28 10:27:41 2014
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 2A149299.D
Acq On : 10 Aug 2014 9:24 am
Operator : Dejanas
Sample : cc6348-20
Misc : MS71749,V2A6363,w,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 11 11:44:43 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 28 10:27:41 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Tert Butyl Alcohol-d9	7.94	65	71380	500.00	ug/L		0.00
5) pentafluorobenzene	10.39	168	216478	50.00	ug/L		0.00
52) 1,4-difluorobenzene	11.33	114	230300	50.00	ug/L		0.00
84) chlorobenzene-d5	14.36	117	186466	50.00	ug/L		0.00
98) 1,4-dichlorobenzene-d4	16.52	152	111856	50.00	ug/L		0.00
System Monitoring Compounds							
46) dibromofluoromethane (s)	10.43	113	74061	47.49	ug/L		0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 94.98%				
47) 1,2-dichloroethane-d4 (s)	10.86	65	82947	45.59	ug/L		0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 91.18%				
76) toluene-d8 (s)	12.92	98	242305	47.44	ug/L		0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 94.88%				
100) 4-bromofluorobenzene (s)	15.43	95	86129	44.71	ug/L		0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 89.42%				
Target Compounds							Qvalue
2) tertiary butyl alcohol	8.07	59	16148	94.94	ug/L		89
3) Ethanol	6.54	45	30966	2428.66	ug/L		99
4) 1,4-dioxane	12.03	88	7081	613.17	ug/L		81
7) chlorodifluoromethane	4.21	51	24793	15.60	ug/L		97
8) dichlorodifluoromethane	4.19	85	53058	21.51	ug/L		96
10) chloromethane	4.54	50	50880	19.05	ug/L		98
11) vinyl chloride	4.81	62	42666	18.88	ug/L		99
12) bromomethane	5.52	94	23923	18.58	ug/L		98
13) chloroethane	5.72	64	17383	16.39	ug/L		94
14) trichlorofluoromethane	6.26	101	54548	19.46	ug/L		98
16) ethyl ether	6.70	74	15122	19.23	ug/L		86
18) acrolein	6.97	56	47444	151.24	ug/L		100
19) 1,1-dichloroethene	7.16	96	28672	20.06	ug/L		97
20) acetone	7.23	43	8067	15.83	ug/L		93
21) allyl chloride	7.75	76	15335	19.24	ug/L		90
22) acetonitrile	7.71	40	23897	171.74	ug/L		88
23) iodomethane	7.46	142	58549	20.77	ug/L		99
24) iso-butyl alcohol	10.94	74	10137	243.39	ug/L	#	75
25) carbon disulfide	7.60	76	100983	19.56	ug/L		99
26) methylene chloride	7.97	84	31132	19.24	ug/L		98
27) methyl acetate	7.75	74	3707	17.72	ug/L	#	86
28) methyl tert butyl ether	8.34	73	89063	18.54	ug/L		96
29) trans-1,2-dichloroethene	8.39	96	31353	20.34	ug/L		91
30) di-isopropyl ether	9.00	45	95171	16.78	ug/L		85
31) 2-butanone	9.80	72	3282	19.59	ug/L	#	82
32) 1,1-dichloroethane	9.01	63	56784	18.74	ug/L		97
33) chloroprene	9.13	53	42990	17.16	ug/L		92
34) acrylonitrile	8.33	53	50588	91.58	ug/L		97
35) vinyl acetate	9.01	86	4272	17.39	ug/L		68
36) ethyl tert-butyl ether	9.51	59	92631	16.86	ug/L		98
37) ethyl acetate	9.82	45	3508	17.05	ug/L		57
38) 2,2-dichloropropane	9.82	77	52841	20.78	ug/L		94
39) cis-1,2-dichloroethene,	9.82	96	34884	20.47	ug/L		93

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 2A149299.D
Acq On : 10 Aug 2014 9:24 am
Operator : Dejanas
Sample : cc6348-20
Misc : MS71749,V2A6363,w,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 11 11:44:43 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 28 10:27:41 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
40) methylacrylate	9.90	85	3969	19.48 ug/L		90
41) propionitrile	9.88	54	40762	191.93 ug/L		91
42) bromochloromethane	10.15	128	17887	20.38 ug/L		90
43) tetrahydrofuran	10.20	42	10467	18.90 ug/L		97
44) chloroform	10.22	85	37692	19.20 ug/L		94
45) t-butyl formate	10.26	59	22939	18.15 ug/L	#	88
48) freon 113	7.13	151	23166	19.84 ug/L		97
49) methacrylonitrile	10.09	41	17939	18.00 ug/L		96
50) 1,1,1-trichloroethane	10.48	97	55318	21.14 ug/L		95
51) Cyclohexane	10.55	84	47788	20.64 ug/L		88
53) epichlorohydrin	12.56	57	11757	91.35 ug/L		92
54) n-butyl alcohol	11.47	56	40969	1148.51 ug/L		97
55) carbon tetrachloride	10.69	117	55174	22.54 ug/L		96
56) 1,1-dichloropropene	10.67	75	43782	20.92 ug/L		95
57) hexane	8.73	57	33273	16.85 ug/L		97
59) 2,2,4-TRIMETHYLPENTANE	10.95	57	88751	16.78 ug/L	#	97
60) benzene	10.94	78	120746	20.20 ug/L		99
61) tert-amyl methyl ether	10.99	87	21443	19.35 ug/L		89
62) heptane	11.12	57	19230	17.30 ug/L		89
63) isopropyl acetate	10.88	43	52403	16.59 ug/L		91
64) 1,2-dichloroethane	10.96	62	45168	19.62 ug/L		96
66) trichloroethene	11.67	95	31397	20.56 ug/L		98
68) methyl methacrylate	11.93	41	44576	18.07 ug/L		98
69) 2-nitropropane	12.42	41	11123	17.69 ug/L		88
70) 2-chloroethyl vinyl ether	12.44	63	82601	100.74 ug/L		95
71) 1,2-dichloropropane	11.92	63	30475	19.64 ug/L		97
72) dibromomethane	12.08	93	19205	20.43 ug/L		95
73) methylcyclohexane	11.87	83	46012	18.62 ug/L		92
74) bromodichloromethane	12.21	83	43406	20.13 ug/L		96
75) cis-1,3-dichloropropene	12.65	75	50285	20.03 ug/L		93
77) 4-methyl-2-pentanone	12.74	58	10488	20.31 ug/L		93
78) toluene	13.00	92	71027	20.35 ug/L		97
79) 3-methyl-1-butanol	12.77	55	25102	445.90 ug/L		89
80) trans-1,3-dichloropropene	13.19	75	46873	19.79 ug/L		96
81) ethyl methacrylate	13.18	69	33932	19.62 ug/L		99
82) 1,1,2-trichloroethane	13.39	83	21229	20.33 ug/L		96
83) 2-hexanone	13.56	58	9012	19.07 ug/L		99
85) tetrachloroethene	13.55	164	28831	21.28 ug/L		95
86) 1,3-dichloropropane	13.56	76	40942	20.16 ug/L		96
87) butyl acetate	13.62	56	16268	18.49 ug/L		95
88) 3,3-dimethyl-1-butanol	13.72	57	29176	225.01 ug/L		95
89) dibromochloromethane	13.81	129	37464	21.88 ug/L		99
90) 1,2-dibromoethane	13.95	107	26753	20.83 ug/L		99
91) chlorobenzene	14.39	112	81436	20.76 ug/L		96
92) 1,1,1,2-tetrachloroethane	14.44	131	33927	21.19 ug/L		95
93) ethylbenzene	14.43	91	130139	20.40 ug/L		99
94) m,p-xylene	14.53	106	106330	43.54 ug/L		94
95) o-xylene	14.93	106	52033	21.83 ug/L		96
96) styrene	14.94	104	85776	21.28 ug/L		96
97) bromoform	15.18	173	27790	21.43 ug/L		99

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Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 2A149299.D
Acq On : 10 Aug 2014 9:24 am
Operator : Dejanas
Sample : cc6348-20
Misc : MS71749,V2A6363,w,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 11 11:44:43 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 28 10:27:41 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
99) isopropylbenzene	15.24	105	132746	20.37 ug/L	96
101) cyclohexanone	15.40	98	11167	169.24 ug/L	92
102) bromobenzene	15.62	156	41283	21.22 ug/L	91
103) 1,1,2,2-tetrachloroethane	15.53	83	33739	19.37 ug/L	96
104) trans-1,4-dichloro-2-buten	15.56	53	8665	17.10 ug/L	93
105) 1,2,3-trichloropropane	15.60	110	8977	20.08 ug/L	95
106) n-propylbenzene	15.62	120	34842	20.82 ug/L	96
107) 2-chlorotoluene	15.76	126	35235	20.85 ug/L	98
108) 4-chlorotoluene	15.85	126	36761	21.29 ug/L	97
109) 1,3,5-trimethylbenzene	15.76	105	113941	20.10 ug/L	99
110) tert-butylbenzene	16.09	119	99327	20.67 ug/L	99
111) pentachloroethane	16.17	167	28904	22.56 ug/L	95
112) 1,2,4-trimethylbenzene	16.13	105	111462	19.93 ug/L	98
113) sec-butylbenzene	16.29	105	142319	20.29 ug/L	99
114) 1,3-dichlorobenzene	16.46	146	78062	21.00 ug/L	94
115) p-isopropyltoluene	16.40	119	128820	20.97 ug/L	98
116) 1,4-dichlorobenzene	16.54	146	79105	20.73 ug/L	97
117) 1,2-dichlorobenzene	16.91	146	76992	21.05 ug/L	94
118) benzyl chloride	16.65	91	67906	19.26 ug/L	99
119) n-butylbenzene	16.78	92	60887	20.43 ug/L	98
120) 1,2-dibromo-3-chloropropan	17.66	75	6955	19.16 ug/L	90
121) 1,3,5-TRICHLOROBENZENE	17.85	180	69704	21.26 ug/L	96
122) 1,2,4-trichlorobenzene	18.49	180	62039	21.53 ug/L	96
123) hexachlorobutadiene	18.60	225	35542	22.33 ug/L	99
124) naphthalene	18.76	128	115902	21.13 ug/L	100
125) 1,2,3-trichlorobenzene	19.02	180	56329	21.13 ug/L	93
126) hexachloroethane	17.16	201	27983	21.31 ug/L	91

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

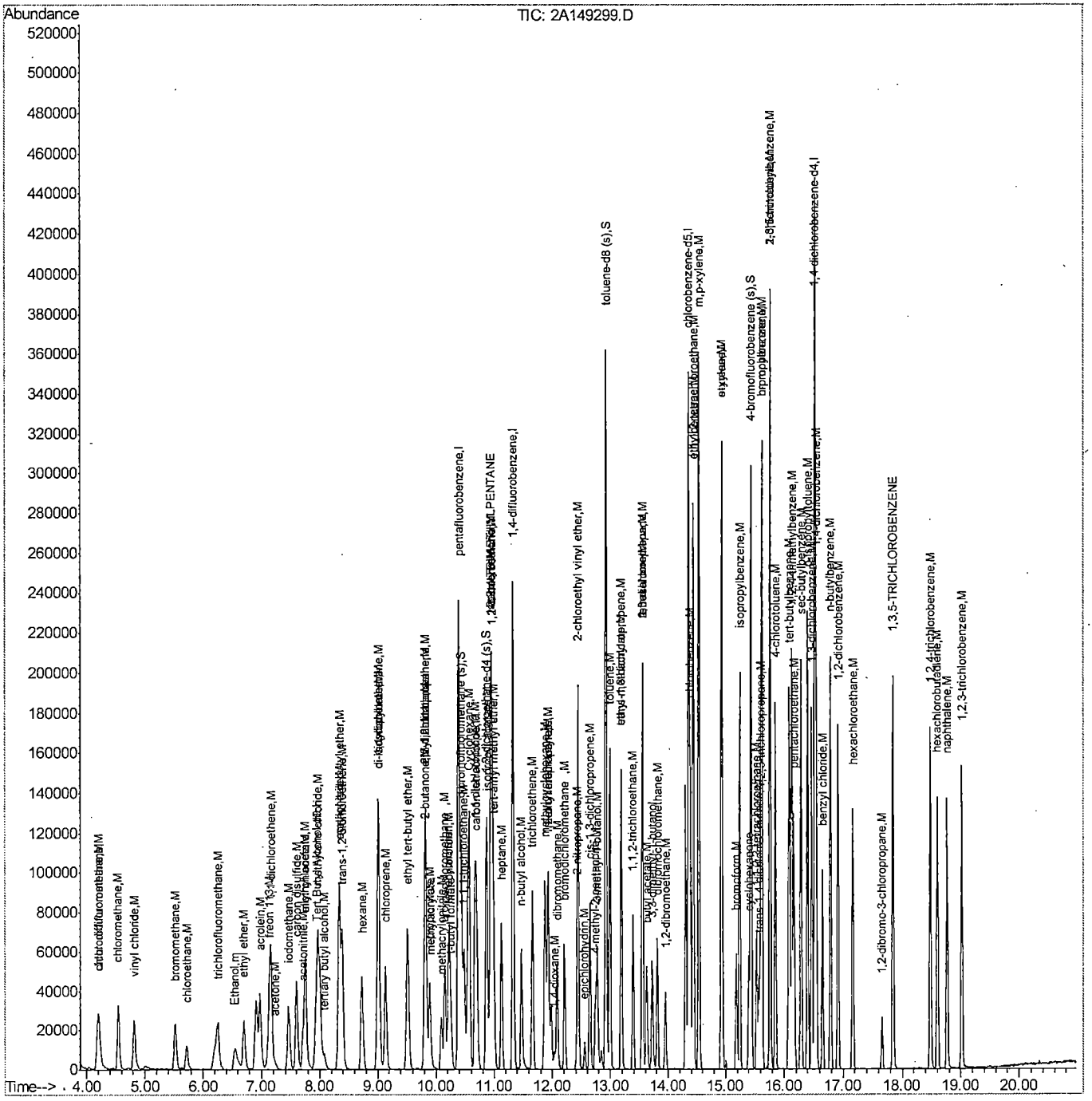
7.6.13

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 2A149299.D
Acq On : 10 Aug 2014 9:24 am
Operator : Dejanas
Sample : cc6348-20
Misc : MS71749,V2A6363,w,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 11 11:44:43 2014
Quant Method : C:\MSDCHEM\1\METHODS\M2A6348.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 28 10:27:41 2014
Response via : Initial Calibration



7.6.13

M2A6348.M Mon Aug 11 11:44:57 2014 MS2A

ACCUTEST LABORATORIES JB73450

ACCUTEST.

VOLATILE ANALYSIS LOG

Batch ID: V2A6348

Print Analyst Name: Dejana Sulaj

Date: 07/25/2014(FR1)

Analyst Signature: DSulaj

Columns: ZB624(60mx.25mmx1.4um)

Method V8260B

Initial Cal. Method M2A6348

Standard Data

Lot #	Description	Conc.
1014-186112S	STD A	100
134	B	100
136	C	100
135	acrolein	1000
131	INT ONLY	250/125/10
129	SURR	100
138	HEXANE	100

Standard Data

Lot #	Description	Conc.
1014-186110	EXT A	100
127	B	100
130	C	100
123	EXT acrolein	1000
118	EtOH	10000
99	EXT FTCH	10000

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with the criteria of Accutest SOP EQA044.

Supervisor Signature: _____ **Date:** 7/25/2014

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
	2A148919	BFB				1							ok		
	148920	IC6348-0.2	V8260 METHOD	W		2	5						ok	STD A B C ACRO EtOH SURR 1.0mL/50mL	
	148921	IC6348-0.5				3	5						ok	2.5mL/50mL (100uL ACRO)	
	148922	IC6348-1.0				4	5						ok	1.0mL/100mL (200uL ACRO)	
	148923	IC6348-2.0				5	5						ok	2.0mL/100mL	
	148924	IC6348-5.0				6	5						ok	5.0mL/100mL	
	148925	IC6348-10				7	5						ok	5.0mL/50mL (25uL SURR)	
	148926	IC6348-20				8	5						ok	10mL/50mL	
	148927	IC6348-50				9	5						ok	25mL/50mL (1.0mL ACRO)	
	148928	IC6348-100				10	5						ok	50mL/50mL (2.0mL ACRO)	
	148929	IC6348-200				11	5						ok	100mL/50mL	
	148930	IB				12							clp		
	148931	IB				13							↓		
	148932	ICV6348-50				14	5						ok		
														DL 7/25/2014	

MTX = Matrix Designate W for water, S for soil, O for oil. L+ =Library Search. IS = Internal Standard Area. SU = Surrogate. Sample Amt = Volume (ML) or Weight (g); MOH amt.= volume (ul) extract injected * IF pH > 2, comment on sample result. All strike outs must be initialed, dated and reason code applied as follows: 1 = reviewer correction error; 2 = transcription error; 3 = computer miscalculation; 4 = analyst's correction error

Form: OR001-9
Rev. Date: 2/14/2007

ACCUTEST

VOLATILE ANALYSIS LOG

Batch ID: V2A6362

Print Analyst Name: Dejana Salaj

Date: 08/09/2014 (SAT)

Analyst Signature: D Salaj

Columns: 7B624 (60mx.25mmx1.4µm)

Method V8260B

Initial Cal. Method M2A6348

Standard Data

Lot #	Description	Conc.
1014-1861-125	STD A	100 ppm
134	B	100
1918-19	C	100
1861-135	acrolein	1000
132	8200 IS	250/2500
212713	PH PAPER	EXP 2016

Standard Data

Lot #	Description	Conc.
1014-1861-141	EXT A	100 ppm
137	B	100
1918-21	C	100
1861-123	EXT acrolein	1000
139	Eteri	10000
1918-11	EXT Eteri	10000
13	Hexane	100

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: 8/10/2014

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
	2A149272	BFB				1							ok	(8:32AM)	
	149273	CC6348-20				2							ok	STD A.B.C.acro.Eteri 10µl / 50mL	
	149274	IB				3							✓		
	149275	MB				4							ok		
	149276	BS				5							ok	EXT A.B.C.acro.Eteri 25µl / 50mL	
	149277	IB				6							✓		
	149278	JB73450-8	71808 SL	G W	7	7	5		1x				ok		✓
	149279	73450-1			1	8	5		1x				ok		✓
	149280	73450-2			1	9	5		1x				ok		✓
	149281	73450-3			1	10	5		1x				ok		✓
	149282	73450-8MS			2/3 17	11	5		1x				ok	STD A.B.C.acro.Eteri 25µl / 50mL	✓
	149283	73450-8MSD			2/3 17	12	5		1x				ok		✓
	149284	IB				13							✓		
R	149285	JB73450-10	71574 71808 SL TU11-10	W F B	2	14	5		1x				ok/ok	JB73045-40	✓
	149286	73450-12		W T B	2	15	5/50		10x 1x				ok	JB73045-41	✓
	149287	JB73332-4	71749 TBA NJPTCL111	G W	1	16	5		1x				ok	W T B CF for 1A	✓
	149288	73332-1		G W	3	17	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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ACCUTEST LABORATORIES
JB73450

ACCUTEST

VOLATILE ANALYSIS LOG

Batch ID: V2A6362

Print Analyst Name: Dejana Salaj

Date: 08/09/2014 (F.R.I)

Analyst Signature: DJalaj

Columns: ZB624 (60mx.25mmx1.9µm)

Method V8260B

Initial Cal. Method M2A6348

Standard Data		
Lot #	Description	Conc.

Standard Data		
Lot #	Description	Conc.
	refer to page 79	

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: 8/10/2014

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
	2A149289	JB73450-4	71808 SL	GW	1	18	5		1x		/		ok		✓
	149290	73450-5			2	19	5		1x		/		ok		✓
	149291	73450-6			1	20	5		1x		/		ok		✓
	149292	73450-7			2	21	5		1x		/		ok		✓
	149293	73450-9			1	22	5		1x		/		ok		✓
	149294	73450-11			1	23	5		1x		/		ok		✓
	149295	JB73332-3	71749 TBA NTPTCLIH	GW	4	24	10/50		5x		/		RR /DL	RD 1x OID (8-23PM)	✓

DS8/10

MTX = Matrix Designate W for water, S for soil, O for oil. L+ = Library Search. IS = Internal Standard Area. SU = Surrogate.
Sample Amt = Volume (ML) or Weight (g); MOH amt. = volume (ul) extract injected * IF pH > 2, comment on sample result.
All strike outs must be initialed, dated and reason code applied as follows: 1 = reviewer correction error; 2 = transcription error; 3 = computer miscalculation; 4 = analyst's correction error

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7.7.2

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ACCUTEST

VOLATILE ANALYSIS LOG

Batch ID: V2A6363

Print Analyst Name: Dejana Salaj

Analyst Signature: D Salaj

Columns: ZB624 (60mx.25mmx1.4µm)

Method V8260B

Initial Cal. Method M2A6348

Date: 08/10/2014 (SUN)

Standard Data

Lot #	Description	Conc.
V014-1861-125	STD A	100 ppm
134	B	100
1918-19	C	100
1861-135	acrolein	1000
132	8260 IS	250/2500V
V2127-13	PH PAPER	EXT 2016

Standard Data

Lot #	Description	Conc.
V014-1861-41	EXT A	100 ppm
137	B	100
1918-21	C	100
1861-123	EXT acrolein	1000
134	Etoh	10000
1918-11	EXT Etoh	10000
13	Hexane	100

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: 8/11/14

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
	2A149298	BFB				1							OK	(8:53AM)	
	149299	CC6348-20				2							ok	STD A·B·C·acro·Etoh 10µl / 50ml	
	149300	IB				3							—		
	149301	MB				4					/		ok		
	149302	BS				5					/		ok	EXT A·B·C acro·Etoh 25µl / 50ml	
	149303	IB				6							—		
	149304	JB73053-7	71575 TCL42	GW	3	7	5		1x		/		ok		✓
	149305	JB73528-24	71835 PPTCL42+	GW	1	8	5		1x		/		ok	MPXYL·OXYL·NAP·TBA	✓
	149306	73528-29			2	9	5		1x		/		ok		✓
	149307	73528-30			1	10	5		1x		/		ok		✓
	149308	JB73429-1	71768 TCL20+	WW	13	11	5		1x		/		ok		✓
	149309	JB73528-24 MS	71835 PPTCL42+	GW	1/2	12	5		1x		/		ok	STD A·B·C·acro·Etoh 25µl / 50ml	✓
	149310	73528-24MSD			1/2	13	5		1x		/		ok		✓
DL	149311	JB73045-40	71574 TCL11+10	GW	2	14	2.5/50		20x		/		ok		✓
	149312	JB73450-10	71808 SL	WFB	2	15	5		1x		/		ok		✓
	149313	73450-12		WTB	1 Z	16	5		1x		/		ok		✓
	149314	JB73508-23	71838 PPL	WFB	1	17	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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ACCUTEST LABORATORIES
JB73450

ACCUTEST.

VOLATILE ANALYSIS LOG

Batch ID: V2A6363

Print Analyst Name: Dejana Saley

Date: 08/10/2014 (SUN)

Analyst Signature: D Saley

Columns: 7B624 (60mx.25mmx1.4µm)

Method V8260B

Initial Cal. Method M2A6348

Standard Data

Lot #	Description	Conc.

Standard Data

Lot #	Description	Conc.
	REF. TO	
	PAGE 83	

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with the criteria of Accutest SOP EQA044.

Supervisor Signature: _____ Date: 8/11/14

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
	2A149315	JB73508-24	71838 PDL	WTB	1	18	5		1x				ok		✓
	149316	73508-25		WTB	1	19	5		1x				ok		✓
	149317	73508-4		WTB	3	20	5		1x				ok		✓
	149318	73508-5			3	21	5		1x				ok		✓
	149319	73508-7			1	22	5		1x				ok/DL	RR 10x (7:57PM)	✓
	149320	73508-8	↓	↓	1	23	5		1x				ok		✓
		BT													
														DS 8/10	

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

Appendix B

Third Quarter 2014 Effluent Air Laboratory Analytical Reports

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8/5/2014
Mr. Peter Hollatz
AECOM Environment
27755 Diehl Road
Suite 100
Warrenville IL 60555

Project Name: UTC SER 9110
Project #: 60312350
Workorder #: 1407438

Dear Mr. Peter Hollatz

The following report includes the data for the above referenced project for sample(s) received on 7/24/2014 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

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WORK ORDER #: 1407438

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. #**	51992
FAX:	630-836-1711	**PROJECT #**	60312350 UTC SER 9110
DATE RECEIVED:	07/24/2014	**CONTACT:**	Ausha Scott
DATE COMPLETED:	08/05/2014		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	P2SVE-EFFC5-072314	Modified TO-14A	3.3 "Hg	14.7 psi
02A	P2SVE-EFFC4-072314	Modified TO-14A	6.5 "Hg	15 psi
02AA	P2SVE-EFFC4-072314 Lab Duplicate	Modified TO-14A	6.5 "Hg	15 psi
03A	P1SVE-EFFC3-072314	Modified TO-14A	8.4 "Hg	14.8 psi
04A	P1SVE-EFFC2-072314	Modified TO-14A	3.5 "Hg	15.2 psi
05A	P1SVE-EFFC1-072314	Modified TO-14A	4.5 "Hg	14.7 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: 08/05/14

Technical Director

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
TX NELAP - T104704434-13-6, UT NELAP CA009332014-5, VA NELAP - 460197, WA NELAP - C935
Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2013, Expiration date: 10/17/2014.
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# 1407438

Five 1 Liter Summa Canister samples were received on July 24, 2014. 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

Dilution was performed on sample P2SVE-EFFC5-072314 due to the presence of high level target species.

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: P2SVE-EFFC5-072314

Lab ID#: 1407438-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	2.2	9.6	8.9	38
1,1-Dichloroethane	2.2	19	9.1	76
cis-1,2-Dichloroethene	2.2	12	8.9	48
1,1,1-Trichloroethane	2.2	670	12	3700
Trichloroethene	2.2	14	12	74
Tetrachloroethene	2.2	47	15	320

Client Sample ID: P2SVE-EFFC4-072314

Lab ID#: 1407438-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
cis-1,2-Dichloroethene	1.3	1.6	5.1	6.2
1,1,1-Trichloroethane	1.3	14	7.0	78
Trichloroethene	1.3	2.4	6.9	13
Tetrachloroethene	1.3	15	8.8	100

Client Sample ID: P2SVE-EFFC4-072314 Lab Duplicate

Lab ID#: 1407438-02AA

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	1.3	14	7.0	77
Trichloroethene	1.3	2.7	6.9	15
Tetrachloroethene	1.3	15	8.8	100

Client Sample ID: P1SVE-EFFC3-072314

Lab ID#: 1407438-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	1.4	1.4	5.5	5.7
1,1-Dichloroethane	1.4	5.0	5.6	20
cis-1,2-Dichloroethene	1.4	10	5.5	40
1,1,1-Trichloroethane	1.4	130	7.6	730

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

Client Sample ID: P1SVE-EFFC3-072314

Lab ID#: 1407438-03A

Trichloroethene	1.4	9.0	7.5	48
Tetrachloroethene	1.4	10	9.5	68

Client Sample ID: P1SVE-EFFC2-072314

Lab ID#: 1407438-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	1.2	1.8	4.6	7.2
1,1-Dichloroethane	1.2	20	4.6	79
cis-1,2-Dichloroethene	1.2	3.7	4.6	15
1,1,1-Trichloroethane	1.2	89	6.3	480
Trichloroethene	1.2	19	6.2	100
Tetrachloroethene	1.2	11	7.8	75

Client Sample ID: P1SVE-EFFC1-072314

Lab ID#: 1407438-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	1.2	3.6	4.6	14
1,1-Dichloroethane	1.2	41	4.8	170
cis-1,2-Dichloroethene	1.2	9.3	4.6	37
1,1,1-Trichloroethane	1.2	160	6.4	860
Trichloroethene	1.2	18	6.3	97
Tetrachloroethene	1.2	170	8.0	1200

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Client Sample ID: P2SVE-EFFC5-072314

Lab ID#: 1407438-01A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	**p072906**	**Date of Collection: 7/23/14 9:35:00 AM**	
Dil. Factor:	**4.49**	**Date of Analysis: 7/29/14 03:11 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	2.2	Not Detected	5.7	Not Detected
Chloroethane	9.0	Not Detected	24	Not Detected
1,1-Dichloroethene	2.2	9.6	8.9	38
Acetone	22	Not Detected	53	Not Detected
Methylene Chloride	22	Not Detected	78	Not Detected
trans-1,2-Dichloroethene	2.2	Not Detected	8.9	Not Detected
1,1-Dichloroethane	2.2	19	9.1	76
2-Butanone (Methyl Ethyl Ketone)	9.0	Not Detected	26	Not Detected
cis-1,2-Dichloroethene	2.2	12	8.9	48
Chloroform	2.2	Not Detected	11	Not Detected
1,1,1-Trichloroethane	2.2	670	12	3700
Carbon Tetrachloride	2.2	Not Detected	14	Not Detected
Benzene	2.2	Not Detected	7.2	Not Detected
1,2-Dichloroethane	2.2	Not Detected	9.1	Not Detected
Trichloroethene	2.2	14	12	74
Toluene	2.2	Not Detected	8.4	Not Detected
1,1,2-Trichloroethane	2.2	Not Detected	12	Not Detected
Tetrachloroethene	2.2	47	15	320
Ethyl Benzene	2.2	Not Detected	9.7	Not Detected
m,p-Xylene	2.2	Not Detected	9.7	Not Detected
o-Xylene	2.2	Not Detected	9.7	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: P2SVE-EFFC4-072314

Lab ID#: 1407438-02A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	**p072910**	**Date of Collection: 7/23/14 10:20:00 AM**	
Dil. Factor:	**2.58**	**Date of Analysis: 7/29/14 05:54 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.3	Not Detected	3.3	Not Detected
Chloroethane	5.2	Not Detected	14	Not Detected
1,1-Dichloroethene	1.3	Not Detected	5.1	Not Detected
Acetone	13	Not Detected	31	Not Detected
Methylene Chloride	13	Not Detected	45	Not Detected
trans-1,2-Dichloroethene	1.3	Not Detected	5.1	Not Detected
1,1-Dichloroethane	1.3	Not Detected	5.2	Not Detected
2-Butanone (Methyl Ethyl Ketone)	5.2	Not Detected	15	Not Detected
cis-1,2-Dichloroethene	1.3	1.6	5.1	6.2
Chloroform	1.3	Not Detected	6.3	Not Detected
1,1,1-Trichloroethane	1.3	14	7.0	78
Carbon Tetrachloride	1.3	Not Detected	8.1	Not Detected
Benzene	1.3	Not Detected	4.1	Not Detected
1,2-Dichloroethane	1.3	Not Detected	5.2	Not Detected
Trichloroethene	1.3	2.4	6.9	13
Toluene	1.3	Not Detected	4.9	Not Detected
1,1,2-Trichloroethane	1.3	Not Detected	7.0	Not Detected
Tetrachloroethene	1.3	15	8.8	100
Ethyl Benzene	1.3	Not Detected	5.6	Not Detected
m,p-Xylene	1.3	Not Detected	5.6	Not Detected
o-Xylene	1.3	Not Detected	5.6	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: P2SVE-EFFC4-072314 Lab Duplicate

Lab ID#: 1407438-02AA

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	**p072911**	**Date of Collection: 7/23/14 10:20:00 AM**	
Dil. Factor:	**2.58**	**Date of Analysis: 7/29/14 06:22 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.3	Not Detected	3.3	Not Detected
Chloroethane	5.2	Not Detected	14	Not Detected
1,1-Dichloroethene	1.3	Not Detected	5.1	Not Detected
Acetone	13	Not Detected	31	Not Detected
Methylene Chloride	13	Not Detected	45	Not Detected
trans-1,2-Dichloroethene	1.3	Not Detected	5.1	Not Detected
1,1-Dichloroethane	1.3	Not Detected	5.2	Not Detected
2-Butanone (Methyl Ethyl Ketone)	5.2	Not Detected	15	Not Detected
cis-1,2-Dichloroethene	1.3	Not Detected	5.1	Not Detected
Chloroform	1.3	Not Detected	6.3	Not Detected
1,1,1-Trichloroethane	1.3	14	7.0	77
Carbon Tetrachloride	1.3	Not Detected	8.1	Not Detected
Benzene	1.3	Not Detected	4.1	Not Detected
1,2-Dichloroethane	1.3	Not Detected	5.2	Not Detected
Trichloroethene	1.3	2.7	6.9	15
Toluene	1.3	Not Detected	4.9	Not Detected
1,1,2-Trichloroethane	1.3	Not Detected	7.0	Not Detected
Tetrachloroethene	1.3	15	8.8	100
Ethyl Benzene	1.3	Not Detected	5.6	Not Detected
m,p-Xylene	1.3	Not Detected	5.6	Not Detected
o-Xylene	1.3	Not Detected	5.6	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: P1SVE-EFFC3-072314

Lab ID#: 1407438-03A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	**p072908**	**Date of Collection: 7/23/14 10:50:00 AM**	
Dil. Factor:	**2.79**	**Date of Analysis: 7/29/14 04:59 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.4	Not Detected	3.6	Not Detected
Chloroethane	5.6	Not Detected	15	Not Detected
1,1-Dichloroethene	1.4	1.4	5.5	5.7
Acetone	14	Not Detected	33	Not Detected
Methylene Chloride	14	Not Detected	48	Not Detected
trans-1,2-Dichloroethene	1.4	Not Detected	5.5	Not Detected
1,1-Dichloroethane	1.4	5.0	5.6	20
2-Butanone (Methyl Ethyl Ketone)	5.6	Not Detected	16	Not Detected
cis-1,2-Dichloroethene	1.4	10	5.5	40
Chloroform	1.4	Not Detected	6.8	Not Detected
1,1,1-Trichloroethane	1.4	130	7.6	730
Carbon Tetrachloride	1.4	Not Detected	8.8	Not Detected
Benzene	1.4	Not Detected	4.4	Not Detected
1,2-Dichloroethane	1.4	Not Detected	5.6	Not Detected
Trichloroethene	1.4	9.0	7.5	48
Toluene	1.4	Not Detected	5.2	Not Detected
1,1,2-Trichloroethane	1.4	Not Detected	7.6	Not Detected
Tetrachloroethene	1.4	10	9.5	68
Ethyl Benzene	1.4	Not Detected	6.0	Not Detected
m,p-Xylene	1.4	Not Detected	6.0	Not Detected
o-Xylene	1.4	Not Detected	6.0	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: P1SVE-EFFC2-072314

Lab ID#: 1407438-04A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	**p072907**	**Date of Collection: 7/23/14 11:00:00 AM**	
Dil. Factor:	**2.30**	**Date of Analysis: 7/29/14 03:39 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	Not Detected	12	Not Detected
1,1-Dichloroethene	1.2	1.8	4.6	7.2
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	20	4.6	79
2-Butanone (Methyl Ethyl Ketone)	4.6	Not Detected	14	Not Detected
cis-1,2-Dichloroethene	1.2	3.7	4.6	15
Chloroform	1.2	Not Detected	5.6	Not Detected
1,1,1-Trichloroethane	1.2	89	6.3	480
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	19	6.2	100
Toluene	1.2	Not Detected	4.3	Not Detected
1,1,2-Trichloroethane	1.2	Not Detected	6.3	Not Detected
Tetrachloroethene	1.2	11	7.8	75
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	105	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: P1SVE-EFFC1-072314

Lab ID#: 1407438-05A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	**p072909**	**Date of Collection:**	**7/23/14 11:15:00 AM**
Dil. Factor:	**2.35**	**Date of Analysis:**	**7/29/14 05:26 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	3.6	4.6	14
Acetone	12	Not Detected	28	Not Detected
Methylene Chloride	12	Not Detected	41	Not Detected
trans-1,2-Dichloroethene	1.2	Not Detected	4.6	Not Detected
1,1-Dichloroethane	1.2	41	4.8	170
2-Butanone (Methyl Ethyl Ketone)	4.7	Not Detected	14	Not Detected
cis-1,2-Dichloroethene	1.2	9.3	4.6	37
Chloroform	1.2	Not Detected	5.7	Not Detected
1,1,1-Trichloroethane	1.2	160	6.4	860
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	18	6.3	97
Toluene	1.2	Not Detected	4.4	Not Detected
1,1,2-Trichloroethane	1.2	Not Detected	6.4	Not Detected
Tetrachloroethene	1.2	170	8.0	1200
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	101	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1407438-06A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	**p072905**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/29/14 01:34 PM**	

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	98	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: CCV

Lab ID#: 1407438-07A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	**p072902**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/29/14 10:07 AM**	

Compound	%Recovery
Vinyl Chloride	102
Chloroethane	105
1,1-Dichloroethene	95
Acetone	104
Methylene Chloride	105
trans-1,2-Dichloroethene	96
1,1-Dichloroethane	98
2-Butanone (Methyl Ethyl Ketone)	102
cis-1,2-Dichloroethene	88
Chloroform	99
1,1,1-Trichloroethane	101
Carbon Tetrachloride	103
Benzene	98
1,2-Dichloroethane	106
Trichloroethene	97
Toluene	99
1,1,2-Trichloroethane	96
Tetrachloroethene	99
Ethyl Benzene	95
m,p-Xylene	96
o-Xylene	94

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: LCS

Lab ID#: 1407438-08A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	**p072903**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/29/14 10:32 AM**	

Compound	%Recovery	Method Limits
Vinyl Chloride	96	70-130
Chloroethane	101	70-130
1,1-Dichloroethene	101	70-130
Acetone	97	70-130
Methylene Chloride	111	70-130
trans-1,2-Dichloroethene	80	70-130
1,1-Dichloroethane	97	70-130
2-Butanone (Methyl Ethyl Ketone)	99	70-130
cis-1,2-Dichloroethene	98	70-130
Chloroform	96	70-130
1,1,1-Trichloroethane	97	70-130
Carbon Tetrachloride	99	70-130
Benzene	95	70-130
1,2-Dichloroethane	102	70-130
Trichloroethene	94	70-130
Toluene	94	70-130
1,1,2-Trichloroethane	90	70-130
Tetrachloroethene	96	70-130
Ethyl Benzene	90	70-130
m,p-Xylene	93	70-130
o-Xylene	89	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: LCSD

Lab ID#: 1407438-08AA

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	**p072904**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/29/14 10:57 AM**	

Compound	%Recovery	Method Limits
Vinyl Chloride	98	70-130
Chloroethane	102	70-130
1,1-Dichloroethene	102	70-130
Acetone	100	70-130
Methylene Chloride	112	70-130
trans-1,2-Dichloroethene	82	70-130
1,1-Dichloroethane	100	70-130
2-Butanone (Methyl Ethyl Ketone)	101	70-130
cis-1,2-Dichloroethene	99	70-130
Chloroform	98	70-130
1,1,1-Trichloroethane	98	70-130
Carbon Tetrachloride	102	70-130
Benzene	93	70-130
1,2-Dichloroethane	98	70-130
Trichloroethene	92	70-130
Toluene	91	70-130
1,1,2-Trichloroethane	87	70-130
Tetrachloroethene	92	70-130
Ethyl Benzene	88	70-130
m,p-Xylene	89	70-130
o-Xylene	86	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	102	70-130

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10/2/2014
Mr. Peter Hollatz
AECOM Environment
27755 Diehl Road
Suite 100
Warrenville IL 60555

Project Name: UTC SER 9/10
Project #: 60312350
Workorder #: 1409309

Dear Mr. Peter Hollatz

The following report includes the data for the above referenced project for sample(s) received on 9/18/2014 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

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WORK ORDER #: 1409309

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. #**	51992
FAX:	630-836-1711	**PROJECT #**	60312350 UTC SER 9/10
DATE RECEIVED:	09/18/2014	**CONTACT:**	Ausha Scott
DATE COMPLETED:	10/02/2014		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	P1SVE-EFFC2-091614	Modified TO-14A	0.8 "Hg	14.9 psi
02A	P2SVE-EFFC5-091614	Modified TO-14A	4.1 "Hg	15 psi
03A	P1SVE-EFFC3-091614	Modified TO-14A	4.3 "Hg	15.2 psi
04A	P2SVE-EFFC4-091614	Modified TO-14A	5.3 "Hg	14.9 psi
05A	P1SVE-EFFC1-091614	Modified TO-14A	2.8 "Hg	15.3 psi
06A	Lab Blank	Modified TO-14A	NA	NA
06B	Lab Blank	Modified TO-14A	NA	NA
07A	CCV	Modified TO-14A	NA	NA
07B	CCV	Modified TO-14A	NA	NA
08A	LCS	Modified TO-14A	NA	NA
08AA	LCSD	Modified TO-14A	NA	NA
08B	LCS	Modified TO-14A	NA	NA
08BB	LCSD	Modified TO-14A	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 10/02/14

Technical Director

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
TX NELAP - T104704434-13-6, UT NELAP CA009332014-5, VA NELAP - 460197, WA NELAP - C935
Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2013, Expiration date: 10/17/2014.
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# 1409309

Five 1 Liter Summa Canister samples were received on September 18, 2014. 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

The Continuing Calibration Verification (CCV) analyzed on September 26, 2014 was outside the laboratory acceptance criteria of 30% D for compounds Acetone.

Dilution was performed on samples P1SVE-EFFC2-091614, P2SVE-EFFC5-091614, P1SVE-EFFC3-091614 and P1SVE-EFFC1-091614 due to the presence of high level target species.

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-EFFC2-091614

Lab ID#: 1409309-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	2.1	3.9	8.2	15
1,1-Dichloroethane	2.1	120	8.4	510
cis-1,2-Dichloroethene	2.1	6.0	8.2	24
1,1,1-Trichloroethane	2.1	310	11	1700
Benzene	2.1	3.5	6.6	11
Trichloroethene	2.1	26	11	140
Tetrachloroethene	2.1	19	14	130

Client Sample ID: P2SVE-EFFC5-091614

Lab ID#: 1409309-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	2.3	4.8	9.3	19
Acetone	23	32 J	56	75 J
1,1-Dichloroethane	2.3	10	9.5	42
cis-1,2-Dichloroethene	2.3	6.9	9.3	28
1,1,1-Trichloroethane	2.3	470	13	2600
Benzene	2.3	6.4	7.5	20
Trichloroethene	2.3	22	12	120
Tetrachloroethene	2.3	79	16	530

Client Sample ID: P1SVE-EFFC3-091614

Lab ID#: 1409309-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	2.4	3.0	9.4	12
1,1-Dichloroethane	2.4	15	9.6	60
cis-1,2-Dichloroethene	2.4	8.4	9.4	33
1,1,1-Trichloroethane	2.4	390	13	2100
Benzene	2.4	3.0	7.6	9.4
Trichloroethene	2.4	14	13	75
Tetrachloroethene	2.4	17	16	120

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

Client Sample ID: P2SVE-EFFC4-091614

Lab ID#: 1409309-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	1.2	1.7	4.8	6.6
Acetone	12	21 J	29	50 J
1,1-Dichloroethane	1.2	9.0	4.9	36
cis-1,2-Dichloroethene	1.2	15	4.8	58
1,1,1-Trichloroethane	1.2	150	6.6	810
Benzene	1.2	2.0	3.9	6.3
Trichloroethene	1.2	39	6.6	210
Tetrachloroethene	1.2	200	8.3	1400

Client Sample ID: P1SVE-EFFC1-091614

Lab ID#: 1409309-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	2.2	4.0	8.9	16
1,1-Dichloroethane	2.2	11	9.1	43
cis-1,2-Dichloroethene	2.2	8.7	8.9	35
1,1,1-Trichloroethane	2.2	480	12	2600
Trichloroethene	2.2	13	12	68
Tetrachloroethene	2.2	14	15	98

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Client Sample ID: P1SVE-EFFC2-091614

Lab ID#: 1409309-01A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	**17092621**	**Date of Collection:**	**9/16/14 9:55:00 AM**
Dil. Factor:	**4.14**	**Date of Analysis:**	**9/27/14 12:00 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	2.1	Not Detected	5.3	Not Detected
Chloroethane	8.3	Not Detected	22	Not Detected
1,1-Dichloroethene	2.1	3.9	8.2	15
Acetone	21	Not Detected	49	Not Detected
Methylene Chloride	21	Not Detected	72	Not Detected
trans-1,2-Dichloroethene	2.1	Not Detected	8.2	Not Detected
1,1-Dichloroethane	2.1	120	8.4	510
2-Butanone (Methyl Ethyl Ketone)	8.3	Not Detected	24	Not Detected
cis-1,2-Dichloroethene	2.1	6.0	8.2	24
Chloroform	2.1	Not Detected	10	Not Detected
1,1,1-Trichloroethane	2.1	310	11	1700
Carbon Tetrachloride	2.1	Not Detected	13	Not Detected
Benzene	2.1	3.5	6.6	11
1,2-Dichloroethane	2.1	Not Detected	8.4	Not Detected
Trichloroethene	2.1	26	11	140
Toluene	2.1	Not Detected	7.8	Not Detected
1,1,2-Trichloroethane	2.1	Not Detected	11	Not Detected
Tetrachloroethene	2.1	19	14	130
Ethyl Benzene	2.1	Not Detected	9.0	Not Detected
m,p-Xylene	2.1	Not Detected	9.0	Not Detected
o-Xylene	2.1	Not Detected	9.0	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	87	70-130

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Client Sample ID: P2SVE-EFFC5-091614

Lab ID#: 1409309-02A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	**17092622**	**Date of Collection: 9/16/14 10:05:00 AM**	
Dil. Factor:	**4.68**	**Date of Analysis: 9/27/14 12:23 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	2.3	Not Detected	6.0	Not Detected
Chloroethane	9.4	Not Detected	25	Not Detected
1,1-Dichloroethene	2.3	4.8	9.3	19
Acetone	23	32 J	56	75 J
Methylene Chloride	23	Not Detected	81	Not Detected
trans-1,2-Dichloroethene	2.3	Not Detected	9.3	Not Detected
1,1-Dichloroethane	2.3	10	9.5	42
2-Butanone (Methyl Ethyl Ketone)	9.4	Not Detected	28	Not Detected
cis-1,2-Dichloroethene	2.3	6.9	9.3	28
Chloroform	2.3	Not Detected	11	Not Detected
1,1,1-Trichloroethane	2.3	470	13	2600
Carbon Tetrachloride	2.3	Not Detected	15	Not Detected
Benzene	2.3	6.4	7.5	20
1,2-Dichloroethane	2.3	Not Detected	9.5	Not Detected
Trichloroethene	2.3	22	12	120
Toluene	2.3	Not Detected	8.8	Not Detected
1,1,2-Trichloroethane	2.3	Not Detected	13	Not Detected
Tetrachloroethene	2.3	79	16	530
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

J = Estimated value due to bias in the CCV.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	90	70-130

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Client Sample ID: P1SVE-EFFC3-091614

Lab ID#: 1409309-03A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	**17092623**	**Date of Collection:**	**9/16/14 10:10:00 AM**
Dil. Factor:	**4.75**	**Date of Analysis:**	**9/27/14 12:46 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	2.4	Not Detected	6.1	Not Detected
Chloroethane	9.5	Not Detected	25	Not Detected
1,1-Dichloroethene	2.4	3.0	9.4	12
Acetone	24	Not Detected	56	Not Detected
Methylene Chloride	24	Not Detected	82	Not Detected
trans-1,2-Dichloroethene	2.4	Not Detected	9.4	Not Detected
1,1-Dichloroethane	2.4	15	9.6	60
2-Butanone (Methyl Ethyl Ketone)	9.5	Not Detected	28	Not Detected
cis-1,2-Dichloroethene	2.4	8.4	9.4	33
Chloroform	2.4	Not Detected	12	Not Detected
1,1,1-Trichloroethane	2.4	390	13	2100
Carbon Tetrachloride	2.4	Not Detected	15	Not Detected
Benzene	2.4	3.0	7.6	9.4
1,2-Dichloroethane	2.4	Not Detected	9.6	Not Detected
Trichloroethene	2.4	14	13	75
Toluene	2.4	Not Detected	8.9	Not Detected
1,1,2-Trichloroethane	2.4	Not Detected	13	Not Detected
Tetrachloroethene	2.4	17	16	120
Ethyl Benzene	2.4	Not Detected	10	Not Detected
m,p-Xylene	2.4	Not Detected	10	Not Detected
o-Xylene	2.4	Not Detected	10	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	87	70-130

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Client Sample ID: P2SVE-EFFC4-091614

Lab ID#: 1409309-04A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	**17092617**	**Date of Collection: 9/16/14 10:15:00 AM**	
Dil. Factor:	**2.44**	**Date of Analysis: 9/26/14 10:27 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.1	Not Detected
Chloroethane	4.9	Not Detected	13	Not Detected
1,1-Dichloroethene	1.2	1.7	4.8	6.6
Acetone	12	21 J	29	50 J
Methylene Chloride	12	Not Detected	42	Not Detected
trans-1,2-Dichloroethene	1.2	Not Detected	4.8	Not Detected
1,1-Dichloroethane	1.2	9.0	4.9	36
2-Butanone (Methyl Ethyl Ketone)	4.9	Not Detected	14	Not Detected
cis-1,2-Dichloroethene	1.2	15	4.8	58
Chloroform	1.2	Not Detected	6.0	Not Detected
1,1,1-Trichloroethane	1.2	150	6.6	810
Carbon Tetrachloride	1.2	Not Detected	7.7	Not Detected
Benzene	1.2	2.0	3.9	6.3
1,2-Dichloroethane	1.2	Not Detected	4.9	Not Detected
Trichloroethene	1.2	39	6.6	210
Toluene	1.2	Not Detected	4.6	Not Detected
1,1,2-Trichloroethane	1.2	Not Detected	6.6	Not Detected
Tetrachloroethene	1.2	200	8.3	1400
Ethyl Benzene	1.2	Not Detected	5.3	Not Detected
m,p-Xylene	1.2	Not Detected	5.3	Not Detected
o-Xylene	1.2	Not Detected	5.3	Not Detected

J = Estimated value due to bias in the CCV.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	88	70-130

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Client Sample ID: P1SVE-EFFC1-091614

Lab ID#: 1409309-05A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	**17092912**	**Date of Collection:**	**9/16/14 10:20:00 AM**
Dil. Factor:	**4.50**	**Date of Analysis:**	**9/29/14 03:22 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	2.2	Not Detected	5.8	Not Detected
Chloroethane	9.0	Not Detected	24	Not Detected
1,1-Dichloroethene	2.2	4.0	8.9	16
Acetone	22	Not Detected	53	Not Detected
Methylene Chloride	22	Not Detected	78	Not Detected
trans-1,2-Dichloroethene	2.2	Not Detected	8.9	Not Detected
1,1-Dichloroethane	2.2	11	9.1	43
2-Butanone (Methyl Ethyl Ketone)	9.0	Not Detected	26	Not Detected
cis-1,2-Dichloroethene	2.2	8.7	8.9	35
Chloroform	2.2	Not Detected	11	Not Detected
1,1,1-Trichloroethane	2.2	480	12	2600
Carbon Tetrachloride	2.2	Not Detected	14	Not Detected
Benzene	2.2	Not Detected	7.2	Not Detected
1,2-Dichloroethane	2.2	Not Detected	9.1	Not Detected
Trichloroethene	2.2	13	12	68
Toluene	2.2	Not Detected	8.5	Not Detected
1,1,2-Trichloroethane	2.2	Not Detected	12	Not Detected
Tetrachloroethene	2.2	14	15	98
Ethyl Benzene	2.2	Not Detected	9.8	Not Detected
m,p-Xylene	2.2	Not Detected	9.8	Not Detected
o-Xylene	2.2	Not Detected	9.8	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	86	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1409309-06A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	**17092608**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/26/14 12:38 PM**	

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	103	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	90	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1409309-06B

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	**17092911**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/29/14 02:37 PM**	

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	103	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	86	70-130

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Client Sample ID: CCV

Lab ID#: 1409309-07A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	**17092602**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/26/14 08:37 AM**	

Compound	%Recovery
Vinyl Chloride	119
Chloroethane	126
1,1-Dichloroethene	108
Acetone	131 Q
Methylene Chloride	126
trans-1,2-Dichloroethene	97
1,1-Dichloroethane	125
2-Butanone (Methyl Ethyl Ketone)	123
cis-1,2-Dichloroethene	119
Chloroform	118
1,1,1-Trichloroethane	110
Carbon Tetrachloride	105
Benzene	122
1,2-Dichloroethane	114
Trichloroethene	115
Toluene	113
1,1,2-Trichloroethane	110
Tetrachloroethene	102
Ethyl Benzene	110
m,p-Xylene	107
o-Xylene	109

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	92	70-130

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Client Sample ID: CCV

Lab ID#: 1409309-07B

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	**17092905**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/29/14 11:10 AM**	

Compound	%Recovery
Vinyl Chloride	108
Chloroethane	112
1,1-Dichloroethene	92
Acetone	114
Methylene Chloride	106
trans-1,2-Dichloroethene	96
1,1-Dichloroethane	106
2-Butanone (Methyl Ethyl Ketone)	109
cis-1,2-Dichloroethene	95
Chloroform	103
1,1,1-Trichloroethane	98
Carbon Tetrachloride	94
Benzene	108
1,2-Dichloroethane	102
Trichloroethene	102
Toluene	102
1,1,2-Trichloroethane	100
Tetrachloroethene	94
Ethyl Benzene	99
m,p-Xylene	97
o-Xylene	100

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	92	70-130

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Client Sample ID: LCS

Lab ID#: 1409309-08A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	**17092603**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/26/14 09:00 AM**	

Compound	%Recovery	Method Limits
Vinyl Chloride	115	70-130
Chloroethane	120	70-130
1,1-Dichloroethene	108	70-130
Acetone	127	70-130
Methylene Chloride	126	70-130
trans-1,2-Dichloroethene	86	70-130
1,1-Dichloroethane	117	70-130
2-Butanone (Methyl Ethyl Ketone)	113	70-130
cis-1,2-Dichloroethene	113	70-130
Chloroform	110	70-130
1,1,1-Trichloroethane	104	70-130
Carbon Tetrachloride	99	70-130
Benzene	113	70-130
1,2-Dichloroethane	105	70-130
Trichloroethene	105	70-130
Toluene	103	70-130
1,1,2-Trichloroethane	98	70-130
Tetrachloroethene	93	70-130
Ethyl Benzene	98	70-130
m,p-Xylene	98	70-130
o-Xylene	98	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	90	70-130

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Client Sample ID: LCSD

Lab ID#: 1409309-08AA

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	**17092604**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/26/14 09:24 AM**	

Compound	%Recovery	Method Limits
Vinyl Chloride	114	70-130
Chloroethane	120	70-130
1,1-Dichloroethene	107	70-130
Acetone	123	70-130
Methylene Chloride	123	70-130
trans-1,2-Dichloroethene	85	70-130
1,1-Dichloroethane	114	70-130
2-Butanone (Methyl Ethyl Ketone)	110	70-130
cis-1,2-Dichloroethene	111	70-130
Chloroform	110	70-130
1,1,1-Trichloroethane	103	70-130
Carbon Tetrachloride	98	70-130
Benzene	112	70-130
1,2-Dichloroethane	104	70-130
Trichloroethene	104	70-130
Toluene	102	70-130
1,1,2-Trichloroethane	99	70-130
Tetrachloroethene	92	70-130
Ethyl Benzene	97	70-130
m,p-Xylene	96	70-130
o-Xylene	96	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	90	70-130

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Client Sample ID: LCS

Lab ID#: 1409309-08B

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	**17092903**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/29/14 10:08 AM**	

Compound	%Recovery	Method Limits
Vinyl Chloride	112	70-130
Chloroethane	117	70-130
1,1-Dichloroethene	102	70-130
Acetone	123	70-130
Methylene Chloride	122	70-130
trans-1,2-Dichloroethene	83	70-130
1,1-Dichloroethane	112	70-130
2-Butanone (Methyl Ethyl Ketone)	109	70-130
cis-1,2-Dichloroethene	106	70-130
Chloroform	104	70-130
1,1,1-Trichloroethane	97	70-130
Carbon Tetrachloride	92	70-130
Benzene	112	70-130
1,2-Dichloroethane	103	70-130
Trichloroethene	103	70-130
Toluene	100	70-130
1,1,2-Trichloroethane	98	70-130
Tetrachloroethene	89	70-130
Ethyl Benzene	97	70-130
m,p-Xylene	93	70-130
o-Xylene	95	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	107	70-130
4-Bromofluorobenzene	90	70-130

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1409309-08BB

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	**17092904**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/29/14 10:31 AM**	

Compound	%Recovery	Method Limits
Vinyl Chloride	112	70-130
Chloroethane	114	70-130
1,1-Dichloroethene	101	70-130
Acetone	123	70-130
Methylene Chloride	121	70-130
trans-1,2-Dichloroethene	84	70-130
1,1-Dichloroethane	111	70-130
2-Butanone (Methyl Ethyl Ketone)	111	70-130
cis-1,2-Dichloroethene	106	70-130
Chloroform	105	70-130
1,1,1-Trichloroethane	98	70-130
Carbon Tetrachloride	94	70-130
Benzene	110	70-130
1,2-Dichloroethane	101	70-130
Trichloroethene	101	70-130
Toluene	99	70-130
1,1,2-Trichloroethane	95	70-130
Tetrachloroethene	89	70-130
Ethyl Benzene	94	70-130
m,p-Xylene	92	70-130
o-Xylene	93	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	89	70-130

Appendix C

Third Quarter 2014 Systems Moisture Separator Tank Analytical Reports

New Jersey
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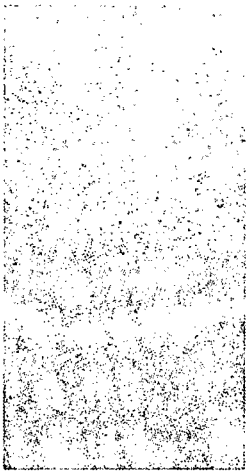
LABORATORIES

08/05/14



Technical Report for

United Technologies Corporation

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

60312350

Accutest Job Number: JB72431

Sampling Date: 07/23/14

Report to:

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

ATTN: Peter Hollatz

Total number of pages in report: **143**

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 L. Cole
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), PA, RI, SC, TN, VA, WV, DoD ELAP (L-A-B L2248)

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Sample Summary

United Technologies Corporation

Job No: JB72431

ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Project No: 60312350

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
JB72431-1	07/23/14	11:35		07/24/14	AQ	Ground Water	HS SER-MSCELL4-072314
JB72431-2	07/23/14	11:35		07/24/14	AQ	Trip Blank Water	TRIP BLANK-01

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CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	United Technologies Corporation	**Job No**	JB72431
Site:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL	**Report Date**	8/1/2014 2:27:35 PM

On 07/24/2014, 1 Sample(s), 1 Trip Blank(s) and 0 Field Blank(s) were received at Accutest Laboratories at a temperature of 3.2 C. Samples were intact and chemically preserved, unless noted below. An Accutest Job Number of JB72431 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 8260B

Matrix: AQ **Batch ID:** V4B1890

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JB72643-4MS, JB72643-4MSD were used as the QC samples indicated.
- RPD(s) for MSD for 1,1,2-Trichloroethane, Toluene are outside control limits for sample JB72643-4MSD. Outside control limits due to matrix interference.

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.

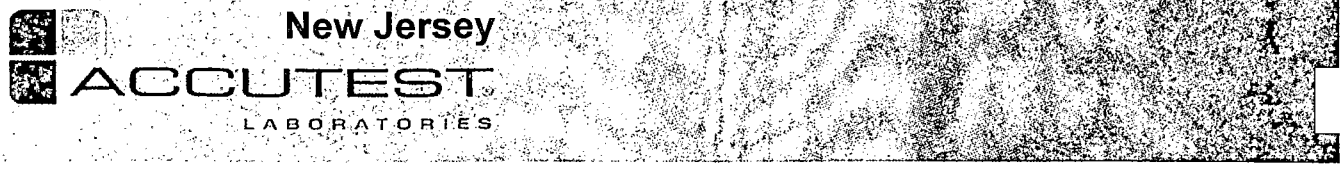
Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

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: JB72431
Account: United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Collected: 07/23/14

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JB72431-1	**HS SER-MSCELL4-072314**					
cis-1,2-Dichloroethene		0.00072 J	0.0010	0.00033	mg/l	SW846 8260B
Tetrachloroethene		0.0032	0.0010	0.00035	mg/l	SW846 8260B
1,1,1-Trichloroethane		0.0022	0.0010	0.00032	mg/l	SW846 8260B
Trichloroethene		0.00070 J	0.0010	0.00025	mg/l	SW846 8260B
JB72431-2	**TRIP BLANK-01**					
No hits reported in this sample.						



Sample Results

Report of Analysis

Accutest Laboratories

Report of Analysis

Client Sample ID:	HS SER-MSCELL4-072314		
Lab Sample ID:	JB72431-1	**Date Sampled:**	07/23/14
Matrix:	AQ - Ground Water	**Date Received:**	07/24/14
Method:	SW846 8260B	**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	4B43933.D	1	07/29/14	TP	n/a	n/a	V4B1890
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	0.00035	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00030	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00050	mg/l	
156-59-2	cis-1,2-Dichloroethene	0.00072	0.0010	0.00033	mg/l	J
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00051	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00040	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.00081	mg/l	
127-18-4	Tetrachloroethene	0.0032	0.0010	0.00035	mg/l	
108-88-3	Toluene	ND	0.0010	0.00022	mg/l	
71-55-6	1,1,1-Trichloroethane	0.0022	0.0010	0.00032	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	0.00070	0.0010	0.00025	mg/l	J
75-01-4	Vinyl chloride	ND	0.0010	0.00017	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		79-120%
17060-07-0	1,2-Dichloroethane-D4	100%		72-123%
2037-26-5	Toluene-D8	105%		78-119%
460-00-4	4-Bromofluorobenzene	93%		74-119%

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:	TRIP BLANK-01		
Lab Sample ID:	JB72431-2	**Date Sampled:**	07/23/14
Matrix:	AQ - Trip Blank Water	**Date Received:**	07/24/14
Method:	SW846 8260B	**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	4B43932.D	1	07/29/14	TP	n/a	n/a	V4B1890
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	0.00035	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00030	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00050	mg/l	
156-59-2	cis-1,2-Dichloroethene	ND	0.0010	0.00033	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00051	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00040	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.00081	mg/l	
127-18-4	Tetrachloroethene	ND	0.0010	0.00035	mg/l	
108-88-3	Toluene	ND	0.0010	0.00022	mg/l	
71-55-6	1,1,1-Trichloroethane	ND	0.0010	0.00032	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	ND	0.0010	0.00025	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00017	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		79-120%
17060-07-0	1,2-Dichloroethane-D4	101%		72-123%
2037-26-5	Toluene-D8	98%		78-119%
460-00-4	4-Bromofluorobenzene	91%		74-119%

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

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Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

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

GW UTB

ACCUTEST LABORATORIES

CHAIN OF CUSTODY

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

PAGE 1 OF 1

FED-EX Tracking # 6020 0494 0014
Bottle Order Control #
Accutest Quote #
Accutest Job # JB72431

Client / Reporting Information

Company Name: AECOM
Street Address: 27755 DIEHL RD SUITE* 100
City / State / Zip: WARRENVILLE IL 60555
Project Contact / E-mail: PETER HOLLATZ / peter.hollatz@aecom.com
Phone # / Fax #: 630.839.5386 / 630.836.7811
Sampler(s) Name(s) / Phone #: N. PINS

Project Information

Project Name: UTC-HS- PLANT 1
Street
City / State
Project #: 60312350
Client Purchase Order #
Project Manager

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	VOCs 8260 B *	LAB USE ONLY
1	HS SER-MSCELL4-072314		7/23/14	1135	NP	GW	3	X								X	V28
2	TRIBBLANK-01		7/23/14	—	—		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)

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

Approved By (Accutest PM): / Date:

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"
- [ ] 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 VOCs

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	Nick F (AECOM)	7/23 1700	Fedex	Fedex	7/24/14 10:30	Dh
3						
5	~~Fedex~~	~~7/24/14 10:00~~		Custody Seal # N/A	☐ Intact ☐ Not intact	Preserved where applicable ☐ On Ice ☑ Cooler Temp. 3.2°C IP

TB JM ② JM 7/24/14 TCO DI

5.1

JB72431: Chain of Custody
Page 1 of 2

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Accutest Laboratories Sample Receipt Summary

Accutest Job Number: JB72431 **Client:** _____ **Project:** _____

Date / Time Received: 7/24/2014 **Delivery Method:** _____ **Airbill #'s:** _____

Cooler Temps (Initial/Adjusted): #1: (3.2/3.2); 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 Preservatio	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

JB72431: Chain of Custody
Page 2 of 2

Internal Sample Tracking Chronicle

United Technologies Corporation

Job No: JB72431

ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Project No: 60312350

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JB72431-1	Collected: 23-JUL-14 11:35 By:			Received: 24-JUL-14	By: DDH	
HS SER-MSCELL4-072314						
JB72431-1	SW846 8260B	29-JUL-14 17:46	TP			V8260SL
JB72431-2	Collected: 23-JUL-14 11:35 By:			Received: 24-JUL-14	By: DDH	
TRIP BLANK-01						
JB72431-2	SW846 8260B	29-JUL-14 17:18	TP			V8260SL

Accutest Internal Chain of Custody

Job Number: JB72431
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Received: 07/24/14

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JB72431-1.1	Secured Storage	Toan Pham	07/29/14 12:25	Retrieve from Storage
JB72431-1.1	Toan Pham	GCMS4B	07/29/14 12:25	Load on Instrument
JB72431-1.1	GCMS4B	Toan Pham	07/30/14 08:58	Unload from Instrument
JB72431-1.1	Toan Pham	Secured Storage	07/30/14 08:58	Return to Storage
JB72431-1.2	Secured Storage	Toan Pham	07/28/14 11:42	Retrieve from Storage
JB72431-1.2	Toan Pham	GCMS4B	07/28/14 11:42	Load on Instrument
JB72431-1.2	GCMS4B	Toan Pham	07/30/14 08:58	Unload from Instrument
JB72431-1.2	Toan Pham	Secured Storage	07/30/14 08:58	Return to Storage
JB72431-2.1	Secured Storage	Toan Pham	07/28/14 11:42	Retrieve from Storage
JB72431-2.1	Toan Pham	GCMS4B	07/28/14 11:42	Load on Instrument
JB72431-2.1	GCMS4B	Toan Pham	07/30/14 08:58	Unload from Instrument
JB72431-2.1	Toan Pham	Secured Storage	07/30/14 08:58	Return to Storage
JB72431-2.2	Secured Storage	Toan Pham	07/29/14 12:25	Retrieve from Storage
JB72431-2.2	Toan Pham	GCMS4B	07/29/14 12:25	Load on Instrument
JB72431-2.2	GCMS4B	Toan Pham	07/30/14 08:58	Unload from Instrument
JB72431-2.2	Toan Pham	Secured Storage	07/30/14 08:58	Return to Storage

5.3

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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: 4B43919.D

Method Blank Summary

Job Number: JB72431
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
V4B1890-MB	4B43919.D	1	07/29/14	TP	n/a	n/a	V4B1890

6.1.1

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

JB72431-1, JB72431-2

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	ND	1.0	0.35	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.30	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.33	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.51	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.40	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.81	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.35	ug/l	
108-88-3	Toluene	ND	1.0	0.22	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.32	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.28	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.25	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.17	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	106%	79-120%
17060-07-0	1,2-Dichloroethane-D4	100%	72-123%
2037-26-5	Toluene-D8	85%	78-119%
460-00-4	4-Bromofluorobenzene	86%	74-119%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
124-38-9	Carbon dioxide	3.44	17	ug/l	JN
	Total TIC, Volatile		0	ug/l	

Raw Data: 4B43920.D

Blank Spike Summary

Job Number: JB72431
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
V4B1890-BS	4B43920.D	1	07/29/14	TP	n/a	n/a	V4B1890

6.2.1

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

JB72431-1, JB72431-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
75-34-3	1,1-Dichloroethane	50	56.9	114	78-129
107-06-2	1,2-Dichloroethane	50	53.8	108	75-133
75-35-4	1,1-Dichloroethene	50	50.9	102	74-128
156-59-2	cis-1,2-Dichloroethene	50	55.8	112	78-123
156-60-5	trans-1,2-Dichloroethene	50	50.6	101	75-122
100-41-4	Ethylbenzene	50	48.5	97	82-120
75-09-2	Methylene chloride	50	57.8	116	75-121
127-18-4	Tetrachloroethene	50	55.5	111	69-141
108-88-3	Toluene	50	47.8	96	80-122
71-55-6	1,1,1-Trichloroethane	50	51.5	103	80-132
79-00-5	1,1,2-Trichloroethane	50	48.0	96	80-127
79-01-6	Trichloroethene	50	52.9	106	82-126
75-01-4	Vinyl chloride	50	49.3	99	53-135

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	109%	79-120%
17060-07-0	1,2-Dichloroethane-D4	101%	72-123%
2037-26-5	Toluene-D8	91%	78-119%
460-00-4	4-Bromofluorobenzene	88%	74-119%

* = Outside of Control Limits.

Raw Data: 4B43929.D 4B43930.D

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB72431
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
JB72643-4MS	4B43929.D	1	07/29/14	TP	n/a	n/a	V4B1890
JB72643-4MSD	4B43930.D	1	07/29/14	TP	n/a	n/a	V4B1890
JB72643-4	4B43925.D	1	07/29/14	TP	n/a	n/a	V4B1890

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

JB72431-1, JB72431-2

CAS No.	Compound	JB72643-4 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		50	47.9	96	50	49.8	100	4	61-134/12
107-06-2	1,2-Dichloroethane	ND		50	48.6	97	50	48.7	97	0	68-137/11
75-35-4	1,1-Dichloroethene	ND		50	37.6	75	50	41.2	82	9	40-143/17
156-59-2	cis-1,2-Dichloroethene	ND		50	48.2	96	50	50.4	101	4	59-133/12
156-60-5	trans-1,2-Dichloroethene	ND		50	41.3	83	50	44.2	88	7	55-132/14
100-41-4	Ethylbenzene	ND		50	40.6	81	50	41.2	82	1	49-137/13
75-09-2	Methylene chloride	ND		50	51.1	102	50	53.0	106	4	64-128/11
127-18-4	Tetrachloroethene	ND		50	43.6	87	50	44.3	89	2	48-143/15
08-88-3	Toluene	ND		50	36.9	74	50	45.1	90	20* [a]	54-137/13
1-55-6	1,1,1-Trichloroethane	ND		50	40.4	81	50	43.7	87	8	52-145/16
9-00-5	1,1,2-Trichloroethane	ND		50	40.4	81	50	48.9	98	19* [a]	73-130/10
79-01-6	Trichloroethene	ND		50	42.7	85	50	44.2	88	3	54-141/13
75-01-4	Vinyl chloride	ND		50	44.1	88	50	47.3	95	7	36-149/19

CAS No.	Surrogate Recoveries	MS	MSD	JB72643-4	Limits
1868-53-7	Dibromofluoromethane	108%	105%	108%	79-120%
17060-07-0	1,2-Dichloroethane-D4	103%	100%	102%	72-123%
2037-26-5	Toluene-D8	86%	98%	85%	78-119%
460-00-4	4-Bromofluorobenzene	85%	90%	86%	74-119%

(a) Outside control limits due to matrix interference.

* = Outside of Control Limits.

6.3.1

Instrument Performance Check (BFB)

Job Number: JB72431
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample:	V4B1867-BFB	**Injection Date:**	07/10/14
Lab File ID:	4B43357.D	**Injection Time:**	15:39
Instrument ID:	GCMS4B		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	14.99 - 40.0% of mass 95	18518	18.0		Pass
75	30.0 - 60.0% of mass 95	47970	46.5		Pass
95	Base peak, 100% relative abundance	103101	100.0		Pass
96	5.0 - 9.0% of mass 95	6827	6.62		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	91066	88.3		Pass
175	5.0 - 9.0% of mass 174	7393	7.17	(8.12) [a]	Pass
176	95.0 - 101.0% of mass 174	88544	85.9	(97.2) [a]	Pass
177	5.0 - 9.0% of mass 176	5819	5.64	(6.57) [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
V4B1867-IC1867	4B43358.D	07/10/14	16:17	00:38	Initial cal 0.2
V4B1867-IC1867	4B43359.D	07/10/14	16:44	01:05	Initial cal 0.5
V4B1867-IC1867	4B43360.D	07/10/14	17:12	01:33	Initial cal 1
V4B1867-IC1867	4B43361.D	07/10/14	17:39	02:00	Initial cal 2
V4B1867-IC1867	4B43362.D	07/10/14	18:07	02:28	Initial cal 5
V4B1867-IC1867	4B43363.D	07/10/14	18:35	02:56	Initial cal 10
V4B1867-IC1867	4B43364.D	07/10/14	19:02	03:23	Initial cal 20
V4B1867-ICC1867	4B43365.D	07/10/14	19:30	03:51	Initial cal 50
V4B1867-IC1867	4B43366.D	07/10/14	19:57	04:18	Initial cal 100
V4B1867-IC1867	4B43367.D	07/10/14	20:25	04:46	Initial cal 200
V4B1867-ICV1867	4B43370.D	07/10/14	21:48	06:09	Initial cal verification 50

Raw Data: 4B43916.D

Instrument Performance Check (BFB)

Job Number: JB72431
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample:	V4B1890-BFB	**Injection Date:**	07/29/14
Lab File ID:	4B43916.D	**Injection Time:**	09:38
Instrument ID:	GCMS4B		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	14.99 - 40.0% of mass 95	17192	17.0		Pass
75	30.0 - 60.0% of mass 95	45832	45.4		Pass
95	Base peak, 100% relative abundance	100909	100.0		Pass
96	5.0 - 9.0% of mass 95	6730	6.67		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	92285	91.5		Pass
175	5.0 - 9.0% of mass 174	7868	7.80	(8.53) [a]	Pass
176	95.0 - 101.0% of mass 174	90088	89.3	(97.6) [a]	Pass
177	5.0 - 9.0% of mass 176	6115	6.06	(6.79) [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
V4B1890-CC1867	4B43917.D	07/29/14	10:08	00:30	Continuing cal 50
V4B1890-MB	4B43919.D	07/29/14	11:12	01:34	Method Blank
V4B1890-BS	4B43920.D	07/29/14	11:46	02:08	Blank Spike
ZZZZZZ	4B43922.D	07/29/14	12:41	03:03	(unrelated sample)
ZZZZZZ	4B43923.D	07/29/14	13:09	03:31	(unrelated sample)
ZZZZZZ	4B43924.D	07/29/14	13:36	03:58	(unrelated sample)
JB72643-4	4B43925.D	07/29/14	14:04	04:26	(used for QC only; not part of job JB72431)
ZZZZZZ	4B43926.D	07/29/14	14:32	04:54	(unrelated sample)
ZZZZZZ	4B43927.D	07/29/14	15:00	05:22	(unrelated sample)
ZZZZZZ	4B43928.D	07/29/14	15:27	05:49	(unrelated sample)
JB72643-4MS	4B43929.D	07/29/14	15:55	06:17	Matrix Spike
JB72643-4MSD	4B43930.D	07/29/14	16:23	06:45	Matrix Spike Duplicate
JB72431-2	4B43932.D	07/29/14	17:18	07:40	TRIP BLANK-01
JB72431-1	4B43933.D	07/29/14	17:46	08:08	HS SER-MSCELL4-072314
ZZZZZZ	4B43934.D	07/29/14	18:13	08:35	(unrelated sample)
ZZZZZZ	4B43935.D	07/29/14	18:41	09:03	(unrelated sample)
ZZZZZZ	4B43936.D	07/29/14	19:08	09:30	(unrelated sample)
ZZZZZZ	4B43937.D	07/29/14	19:36	09:58	(unrelated sample)
ZZZZZZ	4B43938.D	07/29/14	20:03	10:25	(unrelated sample)
ZZZZZZ	4B43939.D	07/29/14	20:31	10:53	(unrelated sample)
ZZZZZZ	4B43940.D	07/29/14	20:59	11:21	(unrelated sample)
ZZZZZZ	4B43941.D	07/29/14	21:26	11:48	(unrelated sample)

Volatile Internal Standard Area Summary

Job Number: JB72431
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Check Std:	V4B1890-CC1867	**Injection Date:**	07/29/14
Lab File ID:	4B43917.D	**Injection Time:**	10:08
Instrument ID:	GCMS4B	**Method:**	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	220254	6.88	277640	8.84	362074	9.70	305519	12.88	190088	15.43
Upper Limit [a]	440508	7.38	555280	9.34	724148	10.20	611038	13.38	380176	15.93
Lower Limit [b]	110127	6.38	138820	8.34	181037	9.20	152760	12.38	95044	14.93

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
V4B1890-MB	191385	6.89	286429	8.83	367846	9.70	315636	12.88	198317	15.42
V4B1890-BS	220910	6.89	272675	8.83	352666	9.69	331616	12.88	199637	15.42
ZZZZZZ	211512	6.89	291779	8.83	374041	9.70	384421	12.88	219810	15.42
ZZZZZZ	193542	6.89	283001	8.84	363545	9.70	382042	12.88	215374	15.43
ZZZZZZ	195498	6.89	281771	8.83	372043	9.70	355235	12.88	212678	15.42
JB72643-4	193415	6.88	274836	8.83	354309	9.70	301664	12.88	191777	15.42
ZZZZZZ	195345	6.89	278425	8.84	373083	9.70	392743	12.88	218266	15.43
ZZZZZZ	191686	6.89	277199	8.83	365461	9.70	387078	12.88	215421	15.42
ZZZZZZ	188150	6.89	271463	8.83	355893	9.70	308342	12.88	189692	15.42
JB72643-4MS	189169	6.89	267888	8.83	355863	9.70	303739	12.88	196831	15.43
JB72643-4MSD	193888	6.89	270817	8.84	359957	9.70	366526	12.88	200396	15.43
JB72431-2	197776	6.89	287991	8.83	369217	9.70	385837	12.88	218259	15.42
JB72431-1	202337	6.89	288380	8.83	376151	9.70	416505	12.89	223405	15.42
ZZZZZZ	193316	6.88	284918	8.83	380134	9.70	381381	12.88	214008	15.43
ZZZZZZ	205435	6.89	282693	8.83	372265	9.70	322682	12.88	202320	15.42
ZZZZZZ	196840	6.89	275316	8.83	371864	9.70	378084	12.88	211682	15.42
ZZZZZZ	199371	6.88	279860	8.83	369312	9.70	348483	12.88	205312	15.42
ZZZZZZ	195599	6.89	276487	8.84	363974	9.70	420067	12.88	220879	15.43
ZZZZZZ	196220	6.89	276464	8.83	369110	9.70	397302	12.88	223605	15.42
ZZZZZZ	199502	6.89	272449	8.83	362914	9.70	329603	12.88	197935	15.43
ZZZZZZ	198560	6.89	274540	8.83	372404	9.70	396778	12.88	214284	15.42

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 Surrogate Recovery Summary

Job Number: JB72431
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Method: SW846 8260B **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4
JB72431-1	4B43933.D	104	100	105	93
JB72431-2	4B43932.D	105	101	98	91
JB72643-4MS	4B43929.D	108	103	86	85
JB72643-4MSD	4B43930.D	105	100	98	90
V4B1890-BS	4B43920.D	109	101	91	88
V4B1890-MB	4B43919.D	106	100	85	86

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	79-120%
S2 = 1,2-Dichloroethane-D4	72-123%
S3 = Toluene-D8	78-119%
S4 = 4-Bromofluorobenzene	74-119%

6.6.1

Initial Calibration Summary

Job Number: JB72431
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V4B1867-ICC1867
Lab FileID: 4B43365.D

Response Factor Report MS4B

Method : C:\MSDCHEM\1\METHODS\M4B1867.M (RTE Integrator)
Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
Last Update : Mon Jul 14 10:33:25 2014
Response via : Initial Calibration

Calibration Files
1 =4B43360.D 0.5 =4B43359.D 100 =4B43366.D 50 =4B43365.D
20 =4B43364.D 200 =4B43367.D 5 =4B43362.D 2 =4B43361.D
10 =4B43363.D 0.2 =4B43358.D = =

Compound	1	0.5	100	50	20	200	5	2	10	0.2	Avg	%RSD
1) tert butyl alcohol-d9	ISTD											
2) tertiary butyl alcohol		1.468	1.414	1.368	1.367	1.339		1.434			1.398	3.47
3) 1,4-dioxane		0.120	0.114	0.112	0.112	0.106	0.147	0.117			0.118	11.38
4) Ethanol											0.000#	-1.00
5) I pentafluorobenzene	ISTD											
6) CHLOROTRIFLUOROETHENE											0.000#	-1.00
7) chlorodifluoromethane	0.444	0.547	0.536	0.524	0.546	0.492	0.463	0.545			0.512	7.95
8) dichlorodifluoromethane		0.607	0.621	0.597	0.604	0.412		0.574			0.569	13.81
9) Freon 114											0.000#	-1.00
10) chloromethane	0.188	0.252	0.251	0.231	0.248	0.190	0.188	0.238			0.223	13.18
11) vinyl chloride	0.522	0.779	0.776	0.740	0.754	0.559	0.501	0.769			0.675	18.36
----- Linear regression ----- Coefficient = 0.9996												
Response Ratio = -0.00160 + 0.76055 *A												
12) bromomethane	0.338	0.395	0.438	0.439		0.369	0.306	0.477			0.394	15.49
----- Linear regression ----- Coefficient = 0.9967												
Response Ratio = 0.00739 + 0.39955 *A												
13) chloroethane	0.187	0.278	0.305	0.308	0.214	0.255	0.209	0.335			0.261	20.66
----- Quadratic regression ----- Coefficient = 0.9999												
Response Ratio = -0.00544 + 0.34451 *A + -0.03230 *A^2												
14) vinyl bromide	0.242	0.447	0.438	0.422	0.439	0.339	0.309	0.435			0.384	20.12
----- Linear regression ----- Coefficient = 0.9999												
Response Ratio = -0.00431 + 0.44221 *A												
15) trichlorofluoromethane		0.806	0.813	0.766	0.803	0.542		0.791			0.754	13.90
16) 1,3-butadiene		0.403	0.398	0.381	0.389	0.321		0.402			0.382	8.10
17) Pentane												

6.7.1

Initial Calibration Summary

Job Number: JB72431 **Sample:** V4B1867-ICC1867
Account: UTC United Technologies Corporation **Lab FileID:** 4B43365.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

		0.570	0.586	0.552	0.564	0.517		0.621			0.568	6.11
18)	freon 123a											
											0.000#	-1.00
19)	ethyl ether											
		0.248	0.247	0.241	0.241	0.233	0.189	0.240			0.234	8.66
20)	2-chloropropane											
	0.895	0.783	0.782	0.771	0.772	0.821	0.672	0.777			0.784	7.84
21)	acrolein											
	0.108		0.111	0.111		0.107	0.108	0.108			0.109	1.46
22)	1,1-dichloroethene											
	0.534	0.501	0.444	0.435	0.428	0.437	0.451	0.352	0.459		0.449	11.20
23)	acetone											
		0.046	0.048	0.053	0.044	0.046		0.049			0.048	6.07
24)	allyl chloride											
		0.328	0.350	0.292	0.302	0.295		0.276			0.307	8.80
25)	acetonitrile											
		0.048	0.048	0.052	0.045	0.056		0.053			0.050	8.20
26)	iodomethane											
	0.673	0.971	0.948	0.921	0.956	0.844	0.583	0.922			0.852	17.06
	----- Linear regression ----- Coefficient = 0.9999											
	Response Ratio = -0.00893 + 0.96105 *A											
27)	carbon disulfide											
	1.322	1.447	1.740	1.692	1.674	1.696	1.533	1.097	1.727	1.392	1.532	14.00
28)	methylene chloride											
	0.437	0.501	0.542	0.537	0.527	0.529	0.495	0.390	0.539		0.500	10.57
29)	methyl acetate											
		0.083	0.081	0.083	0.079	0.063	0.063	0.078			0.076	11.55
30)	1-chloropropane											
		0.828	0.812	0.912	0.801	1.203		1.049			0.934	17.27
	----- Linear regression ----- Coefficient = 0.9996											
	Response Ratio = 0.04422 + 0.79215 *A											
31)	methyl tert butyl ether											
	1.216	1.472	1.367	1.368	1.366	1.310	1.287	1.095	1.379		1.318	8.30
32)	trans-1,2-dichloroethene											
	0.463	0.574	0.467	0.467	0.456	0.456	0.454	0.365	0.480		0.464	11.39
33)	di-isopropyl ether											
	1.546	1.880	1.631	1.602	1.584	1.550	1.546	1.608	1.648	1.438	1.603	7.10
34)	2-butanone											
		0.061	0.061	0.061	0.058	0.052		0.058			0.059	5.78
35)	1,1-dichloroethane											
	0.705	0.773	0.875	0.864	0.845	0.860	0.807	0.584	0.880		0.799	12.38
36)	chloroprene											
	0.525	0.575	0.651	0.633	0.614	0.643	0.583	0.522	0.640		0.598	8.36
37)	acrylonitrile											
	0.156	0.191	0.186	0.188	0.196	0.177	0.176	0.153	0.184		0.179	8.42
38)	vinyl acetate											
		0.073	0.074	0.069	0.072	0.057	0.059	0.068			0.067	10.35
39)	ethyl tert-butyl ether											
	1.433	1.738	1.467	1.448	1.448	1.391	1.384	1.501	1.495	1.192	1.450	9.27
40)	ethyl acetate											
		0.076	0.074	0.083	0.070	0.069	0.075	0.075			0.075	5.96
41)	2,2-dichloropropane											
	0.502	0.645	0.600	0.609	0.613	0.583	0.593	0.432	0.639		0.580	11.91
42)	cis-1,2-dichloroethene											
	0.422	0.496	0.504	0.499	0.488	0.496	0.473	0.362	0.506	0.396	0.464	11.15
43)	methylacrylate											
		0.078	0.075	0.075	0.075	0.061		0.072			0.073	8.17
44)	propionitrile											

6.7.1

Initial Calibration Summary

Job Number: JB72431 **Sample:** V4B1867-ICC1867
Account: UTC United Technologies Corporation **Lab FileID:** 4B43365.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

	0.080	0.078	0.078	0.082	0.075	0.074	0.068	0.076			0.077	5.55
45)	bromochloromethane											
	0.188	0.256	0.251	0.244	0.254	0.230	0.168	0.251			0.230	14.57
46)	tetrahydrofuran											
	0.193	0.230	0.180	0.185	0.198	0.171	0.183	0.185	0.189		0.190	8.83
47)	chloroform											
	0.442	0.446	0.524	0.518	0.504	0.518	0.476	0.365	0.520		0.479	11.17
48)	T-BUTYL FORMATE											
	0.414	0.468	0.404	0.401	0.412	0.381	0.386	0.435	0.412		0.413	6.30
49)	dibromofluoromethane (s)											
	0.376	0.353	0.438	0.433	0.418	0.440	0.381	0.384	0.417		0.404	7.76
50)	1,2-dichloroethane-d4 (s)											
	0.453	0.482	0.479	0.483	0.467	0.476	0.428	0.453	0.472		0.466	3.88
51)	freon 113											
		0.344	0.338	0.326	0.342	0.226		0.318			0.316	14.18
52)	methacrylonitrile											
		0.310	0.310	0.318	0.301	0.302	0.296	0.313			0.307	2.56
53)	1,1,1-trichloroethane											
	0.520	0.695	0.690	0.670	0.688	0.607	0.443	0.684			0.625	15.20
	----- Linear regression ----- Coefficient = 1.0000											
	Response Ratio = -0.00448 + 0.69118 *A											
54)	cyclohexane											
		0.589	0.596	0.592	0.577	0.553		0.613			0.587	3.46
55)	iso-butyl alcohol											
		0.027	0.027	0.029	0.025	0.026		0.026			0.027	5.16
56)	I 1,4-difluorobenzene	----------ISTD----------										
57)	epichlorohydrin											
		0.044	0.044	0.046	0.041	0.042		0.044			0.044	4.08
58)	n-butyl alcohol											
		0.015	0.015	0.016	0.014	0.014		0.014			0.015	5.41
59)	carbon tetrachloride											
	0.369	0.502	0.504	0.486	0.485	0.453	0.296	0.499			0.449	16.96
	----- Linear regression ----- Coefficient = 0.9997											
	Response Ratio = 0.00198 + 0.48864 *A											
60)	1,1-dichloropropene											
	0.356	0.469	0.465	0.460	0.457	0.437	0.308	0.476			0.428	14.47
61)	hexane											
	0.340	0.316	0.404	0.403	0.401	0.386	0.375	0.346	0.423		0.377	9.51
62)	Tert Amyl alcohol											
											0.000#	-1.00
63)	benzene											
	1.173	1.304	1.376	1.364	1.340	1.323	1.306	1.012	1.399	1.340	1.294	9.01
64)	iso-octane											
	0.803	0.721	0.707	0.766	0.836	0.637	0.825	0.790	0.920		0.778	10.62
65)	tert-amyl methyl ether											
	0.270	0.311	0.254	0.257	0.259	0.231	0.258	0.287	0.269		0.266	8.41
66)	heptane											
	0.237	0.253	0.255	0.249	0.253	0.234	0.212	0.261			0.244	6.49
67)	isopropyl acetate											
	0.218	0.216	0.183	0.179	0.196	0.169	0.161	0.211	0.180		0.190	10.94
68)	1,2-dichloroethane											
	0.374	0.410	0.467	0.464	0.460	0.451	0.437	0.349	0.474	0.408	0.429	9.99
69)	trichloroethene											
	0.291	0.316	0.358	0.348	0.339	0.349	0.327	0.241	0.354		0.325	11.71
70)	Tert-amyl Ethyl Ether											
											0.000#	-1.00
71)	ethyl acrylate											

6.7.1

Initial Calibration Summary

Job Number: JB72431 **Sample:** V4B1867-ICC1867
Account: UTC United Technologies Corporation **Lab FileID:** 4B43365.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

		0.528	0.535	0.567	0.492	0.462		0.563			0.524	7.78
72)	2-nitropropane											
		0.156	0.160	0.170	0.146	0.169	0.197	0.167			0.166	9.47
73)	2-chloroethyl vinyl ether											
		0.245	0.248	0.263	0.221	0.241	0.313	0.266			0.257	11.36
74)	methyl methacrylate											
	0.080	0.097	0.110	0.110	0.111	0.103	0.100	0.077	0.110		0.100	13.07
75)	1,2-dichloropropane											
	0.315	0.360	0.370	0.367	0.368	0.354	0.347	0.266	0.382		0.348	10.32
76)	dibromomethane											
	0.193	0.214	0.242	0.238	0.236	0.233	0.222	0.178	0.241		0.222	10.33
77)	methylcyclohexane											
	0.472	0.456	0.591	0.602	0.597	0.549	0.546	0.486	0.615		0.546	11.14
78)	bromodichloromethane											
	0.408	0.510	0.504	0.486	0.477	0.495	0.445	0.362	0.485		0.463	10.69
79)	cis-1,3-dichloropropene											
	0.534	0.649	0.619	0.613	0.614	0.604	0.582	0.472	0.637	0.582	0.591	8.94
80)	toluene-d8 (s)											
	1.229	1.245	1.242	1.255	1.261	1.210	1.183	1.282	1.285	1.380	1.257	4.22
81)	4-methyl-2-pentanone											
	0.226		0.192	0.189	0.203	0.178	0.179	0.175	0.193		0.192	8.63
82)	toluene											
	0.751	0.907	0.866	0.869	0.863	0.840	0.827	0.646	0.918	0.897	0.838	9.88
83)	3-methyl-1-butanol											
		0.024	0.024	0.026	0.022	0.023	0.041	0.024			0.026	25.06
	----- Linear regression ----- Coefficient = 0.9962											
	Response Ratio = 0.01155 + 0.02260 *A											
84)	trans-1,3-dichloropropene											
	0.596	0.744	0.592	0.602	0.605	0.559	0.581	0.492	0.631	0.671	0.607	10.98
85)	ethyl methacrylate											
	0.640		0.595	0.600	0.595	0.546	0.541	0.502	0.598		0.577	7.58
86)	1,1,2-trichloroethane											
	0.319		0.294	0.295	0.302	0.280	0.283	0.249	0.312		0.292	7.47
87)	2-hexanone											
		0.199	0.198	0.209	0.180	0.182	0.176	0.196			0.191	6.35
88)	I chlorobenzene-d5	----------				ISTD						
89)	tetrachloroethene											
	0.231	0.228	0.314	0.299	0.284	0.316	0.273	0.212	0.300		0.273	14.53
90)	1,3-dichloropropane											
	0.563	0.717	0.576	0.563	0.563	0.556	0.521	0.463	0.571	0.546	0.564	11.26
91)	butyl acetate											
		0.343	0.330	0.318	0.317	0.288		0.315			0.319	5.75
92)	3,3-DIMETHYL-1-BUTANOL											
		0.061	0.056	0.056	0.057	0.047	0.089	0.049			0.059	23.47
	----- Linear regression ----- Coefficient = 0.9988											
	Response Ratio = -0.00147 + 0.05765 *A											
93)	dibromochloromethane											
	0.423		0.442	0.417	0.405	0.438	0.356	0.314	0.403		0.400	10.96
94)	1,2-dibromoethane											
	0.352	0.472	0.399	0.382	0.377	0.387	0.344	0.290	0.379	0.364	0.375	12.30
95)	n-butyl ether											
											0.000#	-1.00
96)	chlorobenzene											
	1.023	1.284	1.086	1.050	1.016	1.054	0.979	0.776	1.061	1.004	1.033	11.96
97)	1,1,1,2-tetrachloroethane											
	0.407		0.427	0.398	0.387	0.427	0.346	0.298	0.383		0.384	11.29
98)	ethylbenzene											

6.7.1

Initial Calibration Summary

Job Number: JB72431 **Sample:** V4B1867-ICC1867
Account: UTC United Technologies Corporation **Lab FileID:** 4B43365.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

	1.645	2.065	1.828	1.799	1.749	1.756	1.655	1.283	1.847	1.777	1.740	11.41
99)	m,p-xylene											
	0.598	0.743	0.685	0.675	0.657	0.664	0.623	0.483	0.693	0.617	0.644	10.93
100)	o-xylene											
	0.660	0.830	0.719	0.700	0.679	0.708	0.633	0.501	0.696	0.645	0.677	12.19
101)	styrene											
	1.212		1.290	1.271	1.209	1.225	1.102	0.901	1.246		1.182	10.73
102)	bromoform											
	0.404		0.375	0.353	0.342	0.366	0.286	0.272	0.327		0.341	13.06
103)	I 1,4-dichlorobenzene-d ----------ISTD----------											
104)	isopropylbenzene											
	2.984		3.030	3.042	3.004	3.011	2.850	2.276	3.174		2.922	9.42
105)	4-bromofluorobenzene (s)											
	1.219		0.929	0.956	0.930	0.901	0.884	1.005	0.960		0.973	10.91
106)	cyclohexanone											
			0.057	0.072	0.074	0.051	0.089	0.079	0.068		0.070	18.06
	----- Linear regression ----- Coefficient = 0.9907											
	Response Ratio = 0.07549 + 0.05099 *A											
107)	bromobenzene											
	0.994		0.866	0.869	0.847	0.832	0.819	0.707	0.900		0.854	9.45
108)	1,1,2,2-tetrachloroethane											
	1.480		0.947	0.947	1.001	0.916	0.890	0.956	0.981		1.015	18.84
	----- Linear regression ----- Coefficient = 0.9997											
	Response Ratio = 0.01697 + 0.91794 *A											
109)	trans-1,4-dichloro-2-butene											
			0.274	0.265	0.272	0.267	0.227	0.238	0.250		0.256	7.11
110)	1,2,3-trichloropropane											
			0.222	0.225	0.237	0.209	0.210	0.213	0.234		0.222	5.04
111)	n-propylbenzene											
	3.774		3.652	3.728	3.659	3.455	3.522	2.799	3.950		3.567	9.68
112)	4-ETHYLTOLUENE											
											0.000#	-1.00
113)	2-chlorotoluene											
	0.846		0.769	0.768	0.768	0.745	0.743	0.607	0.821		0.758	9.37
114)	4-chlorotoluene											
	2.704		2.395	2.400	2.342	2.322	2.231	1.944	2.518		2.357	9.31
115)	1,3,5-trimethylbenzene											
	2.788		2.696	2.691	2.653	2.642	2.545	2.083	2.820		2.615	8.85
116)	tert-butylbenzene											
	2.304		2.278	2.206	2.111	2.311	2.009	1.634	2.224		2.135	10.63
117)	pentachloroethane											
			0.536	0.510	0.498	0.545	0.438	0.402	0.498		0.490	10.56
118)	1,2,4-trimethylbenzene											
	2.922		2.754	2.764	2.721	2.656	2.583	2.112	2.876		2.673	9.41
119)	sec-butylbenzene											
	3.637		3.559	3.557	3.463	3.513	3.334	2.687	3.702		3.431	9.34
120)	1,3-dichlorobenzene											
	1.980		1.751	1.712	1.680	1.720	1.567	1.342	1.754		1.688	10.74
121)	p-isopropyltoluene											
	3.260		3.116	3.094	3.078	3.065	2.867	2.365	3.216		3.008	9.46
122)	1,4-dichlorobenzene											
	2.019		1.783	1.714	1.711	1.743	1.570	1.406	1.747		1.711	10.25
123)	benzyl chloride											
			1.925	1.863	1.886	1.806	1.769		1.866		1.852	3.03
124)	1,2-dichlorobenzene											
	2.113		1.741	1.705	1.690	1.697	1.557	1.436	1.710		1.706	11.34
125)	1,4-DIETHYLBENZENE											

6.7.1

Initial Calibration Summary

Job Number: JB72431
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V4B1867-ICC1867
Lab FileID: 4B43365.D

										0.000#	-1.00
126)	n-butylbenzene										
	1.649	1.637	1.632	1.598	1.599	1.475	1.206	1.677		1.559	9.93
127)	1,2,4,5-TETRAMETHYLBENZENE										
										0.000#	-1.00
128)	1,2-dibromo-3-chloropropane										
		0.192	0.190	0.210	0.189	0.177	0.218	0.190		0.195	7.16
129)	1,3,5-TRICHLOROBENZENE										
	1.729	1.583	1.548	1.541	1.561	1.348	1.234	1.547		1.511	10.07
130)	1,2,4-trichlorobenzene										
	1.600	1.415	1.386	1.366	1.370	1.153	1.094	1.336		1.340	11.71
131)	hexachlorobutadiene										
	0.647	0.644	0.658	0.642	0.629	0.588	0.501	0.671		0.622	8.80
132)	naphthalene										
		3.026	3.006	3.169	2.852	2.464	2.663	2.835		2.859	8.33
133)	1,2,3-trichlorobenzene										
		1.241	1.233	1.238	1.169	1.014	0.996	1.164		1.151	9.09
134)	hexachloroethane										
	0.452	0.584	0.554	0.519	0.469	0.579	0.402	0.317	0.456	0.481	18.25

----- Linear regression ----- Coefficient = 0.9991
Response Ratio = -0.02306 + 0.57862 *A

(#) = Out of Range ### Number of calibration levels exceeded format ###

M4B1867.M Mon Jul 14 10:37:23 2014 GCMS4B

6.7.1

Initial Calibration Verification

Job Number: JB72431
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V4B1867-ICV1867
Lab FileID: 4B43370.D

Evaluate Continuing Calibration Report

Data File : C:\MSDChem\1\DATA\4B43370.D Vial: 14
Acq On : 10 Jul 2014 9:48 pm Operator: TOANP
Sample : icv1867-50 Inst : MS4B
Misc : MS69789,V4B1867,w,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M4B1867.M (RTE Integrator)
Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
Last Update : Mon Jul 14 10:33:25 2014
Response via : Multiple Level Calibration

Min. RRF : 0.010 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	tert butyl alcohol-d9	1.000	1.000	0.0	96	0.00	6.89
2 M	tertiary butyl alcohol	1.398	1.488	-6.4	101	0.00	7.00
3 M	1,4-dioxane	0.118	0.117	0.8	98	0.00	10.42
4	Ethanol		----------NA----------				
5 I	pentafluorobenzene	1.000	1.000	0.0	100	0.00	8.84
6	CHLOROTRIFLUOROETHENE		----------NA----------				
7 M	chlorodifluoromethane	0.512	0.618	-20.7#	115	0.00	3.89
8 M	dichlorodifluoromethane	0.569	0.555	2.5	89	0.00	3.87
9	Freon 114		----------NA----------				
10 M	chloromethane	0.223	0.238	-6.7	94	-0.02	4.17
	----------	True	Calc.	% Drift	----------		
11 M	vinyl chloride	50.000	49.160	1.7	96	0.00	4.42
12 M	bromomethane	50.000	49.864	0.3	92	0.00	5.00
13 M	chloroethane	50.000	57.966	-15.9	114	0.00	5.14
14	vinyl bromide	50.000	51.461	-2.9	103	0.00	5.47
	----------	AvgRF	CCRF	% Dev	----------		
15 M	trichlorofluoromethane	0.754	0.803	-6.5	98	0.00	5.56
16	1,3-butadiene	0.382	0.409	-7.1	102	0.00	4.43
17	Pentane	0.568	0.563	0.9	96	0.00	5.58
18	freon 123a		----------NA----------				
19 M	ethyl ether	0.234	0.249	-6.4	100	0.00	5.87
20	2-chloropropane	0.784	0.797	-1.7	101	0.00	6.08
21 M	acrolein	0.109	0.102	6.4	92	0.00	6.16
22 M	1,1-dichloroethene	0.449	0.451	-0.4	103	0.00	6.28
23 M	acetone	0.048	0.049	-2.1	100	0.00	6.36
24 M	allyl chloride	0.307	0.378	-23.1#	108	0.01	6.74
25 M	acetonitrile	0.050	0.049	2.0	101	-0.01	6.76
	----------	True	Calc.	% Drift	----------		
26 M	iodomethane	50.000	51.509	-3.0	103	0.00	6.55
	----------	AvgRF	CCRF	% Dev	----------		
27 M	carbon disulfide	1.532	1.785	-16.5	105	0.00	6.66
28 M	methylene chloride	0.500	0.537	-7.4	100	0.00	6.93
29 M	methyl acetate	0.076	0.073	3.9	90	0.00	6.72
	----------	True	Calc.	% Drift	----------		
30	1-chloropropane	50.000	47.419	5.2	98	0.00	6.94

6.7.2

Initial Calibration Verification

Job Number: JB72431
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V4B1867-ICV1867
Lab FileID: 4B43370.D

			AvgRF	CCRF	% Dev			
31	M	methyl tert butyl ether	1.318	1.307	0.8	95	0.00	7.17
32	M	trans-1,2-dichloroethene	0.464	0.456	1.7	97	0.00	7.23
33	M	di-isopropyl ether	1.603	1.570	2.1	98	0.00	7.67
34	M	2-butanone	0.059	0.059	0.0	96	0.00	8.38
35	M	1,1-dichloroethane	0.799	0.867	-8.5	100	0.00	7.75
36	M	chloroprene	0.598	0.577	3.5	91	0.00	7.82
37	M	acrylonitrile	0.179	0.181	-1.1	96	0.00	7.23
38	M	vinyl acetate	0.067	0.077	-14.9	104	0.00	7.71
39	M	ethyl tert-butyl ether	1.450	1.392	4.0	96	0.00	8.09
40	M	ethyl acetate	0.075	0.071	5.3	96	-0.01	8.36
41	M	2,2-dichloropropane	0.580	0.589	-1.6	96	0.00	8.40
42	M	cis-1,2-dichloroethene	0.464	0.492	-6.0	98	0.00	8.41
43		methylacrylate	0.073	0.076	-4.1	100	0.00	8.45
44	M	propionitrile	0.077	0.077	0.0	99	0.00	8.51
45	M	bromochloromethane	0.230	0.252	-9.6	100	0.00	8.70
46	M	tetrahydrofuran	0.190	0.179	5.8	96	0.00	8.72
47	M	chloroform	0.479	0.516	-7.7	99	0.00	8.74
48	M	T-BUTYL FORMATE	0.413	0.402	2.7	100	0.00	8.75
49	S	dibromofluoromethane (s)	0.404	0.417	-3.2	96	0.00	8.93
50	S	1,2-dichloroethane-d4 (s)	0.466	0.460	1.3	95	0.00	9.32
51	M	freon 113	0.316	0.350	-10.8	103	0.00	6.24
52	M	methacrylonitrile	0.307	0.297	3.3	95	0.00	8.65
			True	Calc.	% Drift			
53	M	1,1,1-trichloroethane	50.000	51.089	-2.2	101	0.00	8.96
			AvgRF	CCRF	% Dev			
54	M	cyclohexane	0.587	0.603	-2.7	101	0.00	9.00
55		iso-butyl alcohol	0.027	0.027	0.0	102	0.00	9.13
56	I	1,4-difluorobenzene	1.000	1.000	0.0	99	0.00	9.70
57	M	epichlorohydrin	0.044	0.042	4.5	96	0.00	10.95
58	M	n-butyl alcohol	0.015	0.015	0.0	97	0.00	9.83
			True	Calc.	% Drift			
59	M	carbon tetrachloride	50.000	52.091	-4.2	101	0.00	9.13
			AvgRF	CCRF	% Dev			
60	M	1,1-dichloropropene	0.428	0.448	-4.7	96	0.00	9.11
61	M	hexane	0.377	0.462	-22.5#	114	0.00	7.44
62		Tert Amyl alcohol		----------NA----------				
63	M	benzene	1.294	1.375	-6.3	100	0.00	9.36
64	m	iso-octane	0.778	0.692	11.1	90	0.00	9.31
65	M	tert-amyl methyl ether	0.266	0.250	6.0	97	0.00	9.35
66	M	heptane	0.244	0.230	5.7	90	0.00	9.45
67	M	isopropyl acetate	0.190	0.176	7.4	98	0.00	9.26
68	M	1,2-dichloroethane	0.429	0.458	-6.8	98	0.00	9.40
69	M	trichloroethene	0.325	0.352	-8.3	101	0.00	10.02
70		Tert-amyl Ethyl Ether		----------NA----------				
71		ethyl acrylate	0.524	0.539	-2.9	100	0.00	10.01
72	M	2-nitropropane	0.166	0.162	2.4	101	0.00	10.81
73	M	2-chloroethyl vinyl ether	0.257	0.247	3.9	99	0.00	10.79
74	M	methyl methacrylate	0.100	0.110	-10.0	99	0.00	10.26
75	M	1,2-dichloropropane	0.348	0.369	-6.0	100	0.00	10.29
76	M	dibromomethane	0.222	0.234	-5.4	98	0.00	10.46
77	M	methylcyclohexane	0.546	0.564	-3.3	93	0.00	10.21
78	M	bromodichloromethane	0.463	0.488	-5.4	100	0.00	10.58
79	M	cis-1,3-dichloropropene	0.591	0.600	-1.5	97	0.00	11.02
80	S	toluene-d8 (s)	1.257	1.228	2.3	97	0.00	11.29

6.7.2

Initial Calibration Verification

Job Number: JB72431
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V4B1867-ICV1867
Lab FileID: 4B43370.D

81	M	4-methyl-2-pentanone	0.192	0.192	0.0	101	0.00	11.11
82	M	toluene	0.838	0.869	-3.7	100	0.00	11.37
			True	Calc.	% Drift			
83	M	3-methyl-1-butanol	1000.000	1023.425	-2.3	97	0.00	11.13
			AvgRF	CCRF	% Dev			
84	M	trans-1,3-dichloropropene	0.607	0.578	4.8	96	0.00	11.59
85	M	ethyl methacrylate	0.577	0.595	-3.1	99	0.00	11.54
86	M	1,1,2-trichloroethane	0.292	0.298	-2.1	100	0.00	11.82
87	M	2-hexanone	0.191	0.197	-3.1	99	0.00	11.98
88	I	chlorobenzene-d5	1.000	1.000	0.0	103	0.00	12.89
89	M	tetrachloroethene	0.273	0.289	-5.9	100	0.00	11.96
90	M	1,3-dichloropropane	0.564	0.548	2.8	100	0.00	12.01
91	M	butyl acetate	0.319	0.317	0.6	99	0.00	12.03
			True	Calc.	% Drift			
92	M	3,3-DIMETHYL-1-BUTANOL	500.000	457.438	8.5	98	0.00	12.16
			AvgRF	CCRF	% Dev			
93	M	dibromochloromethane	0.400	0.400	0.0	99	0.00	12.29
94	M	1,2-dibromoethane	0.375	0.378	-0.8	102	0.00	12.45
95		n-butyl ether		----------NA----------				
96	M	chlorobenzene	1.033	1.041	-0.8	102	0.00	12.92
97	M	1,1,1,2-tetrachloroethane	0.384	0.380	1.0	99	0.00	12.99
98	M	ethylbenzene	1.740	1.761	-1.2	101	0.00	12.96
99	M	m,p-xylene	0.644	0.664	-3.1	101	0.00	13.07
100	M	o-xylene	0.677	0.676	0.1	100	0.00	13.53
101	M	styrene	1.182	1.235	-4.5	100	0.00	13.55
102	M	bromoform	0.341	0.344	-0.9	100	0.00	13.87
103	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	103	0.00	15.43
104	M	isopropylbenzene	2.922	2.926	-0.1	99	0.00	13.90
105	S	4-bromofluorobenzene (s)	0.973	0.910	6.5	98	0.00	14.14
			True	Calc.	% Drift			
106		cyclohexanone	500.000	431.712	13.7	74	0.00	14.14
			AvgRF	CCRF	% Dev			
107	M	bromobenzene	0.854	0.852	0.2	101	0.00	14.36
			True	Calc.	% Drift			
108	M	1,1,2,2-tetrachloroethane	50.000	47.394	5.2	96	0.00	14.27
			AvgRF	CCRF	% Dev			
109	M	trans-1,4-dichloro-2-bute	0.256	0.248	3.1	96	0.00	14.32
110	M	1,2,3-trichloropropane	0.222	0.214	3.6	98	0.00	14.36
111	M	n-propylbenzene	3.567	3.803	-6.6	105	0.00	14.35
112		4-ETHYLTOLUENE		----------NA----------				
113	M	2-chlorotoluene	0.758	0.752	0.8	101	0.00	14.53
114	M	4-chlorotoluene	2.357	2.347	0.4	101	0.00	14.64
115	M	1,3,5-trimethylbenzene	2.615	2.599	0.6	99	0.00	14.50
116	M	tert-butylbenzene	2.135	2.123	0.6	99	0.00	14.89
117	M	pentachloroethane	0.490	0.491	-0.2	99	0.00	15.01
118	M	1,2,4-trimethylbenzene	2.673	2.816	-5.3	105	0.00	14.95
119	M	sec-butylbenzene	3.431	3.385	1.3	98	0.00	15.13
120	M	1,3-dichlorobenzene	1.688	1.653	2.1	99	0.00	15.36
121	M	p-isopropyltoluene	3.008	3.019	-0.4	100	0.00	15.26
122	M	1,4-dichlorobenzene	1.711	1.674	2.2	101	0.00	15.46

6.7.2 (c)

Initial Calibration Verification

Job Number: JB72431
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V4B1867-ICV1867
Lab FileID: 4B43370.D

123		benzyl chloride	1.852	1.828	1.3	101	0.00	15.59
124	M	1,2-dichlorobenzene	1.706	1.652	3.2	100	0.00	15.90
125		1,4-DIETHYLBENZENE		----------NA----------				
126	M	n-butylbenzene	1.559	1.601	-2.7	101	0.00	15.72
127		1,2,4,5-TETRAMETHYLBENZEN		----------NA----------				
128	M	1,2-dibromo-3-chloropropa	0.195	0.182	6.7	98	0.00	16.76
129		1,3,5-TRICHLOROBENZENE	1.511	1.512	-0.1	101	0.00	16.93
130	M	1,2,4-trichlorobenzene	1.340	1.339	0.1	99	0.00	17.61
131	M	hexachlorobutadiene	0.622	0.637	-2.4	100	0.00	17.70
132	M	naphthalene	2.859	2.816	1.5	96	0.00	17.91
133	M	1,2,3-trichlorobenzene	1.151	1.179	-2.4	98	0.00	18.17
			True	Calc.	% Drift			
134	m	hexachloroethane	50.000	45.316	9.4	100	0.00	16.16

(#) = Out of Range SPCC's out = 0 CCC's out = 0
4B43365.D M4B1867.M Mon Jul 14 10:36:45 2014 GCMS4B

6.7.2

Continuing Calibration Summary

Job Number: JB72431 **Sample:** V4B1890-CC1867
Account: UTC United Technologies Corporation **Lab FileID:** 4B43917.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Evaluate Continuing Calibration Report

Data File : C:\MSDChem\1\DATA\4B43917.D Vial: 2
Acq On : 29 Jul 2014 10:08 am Operator: TOANP
Sample : CC1867-50 Inst : MS4B
Misc : MS71276,V4B1890,w,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M4B1867.M (RTE Integrator)
Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
Last Update : Mon Jul 14 10:33:25 2014
Response via : Multiple Level Calibration

Min. RRF : 0.010 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		tert butyl alcohol-d9	1.000	1.000	0.0	157	-0.01	6.88
2	M	tertiary butyl alcohol	1.398	1.154	17.5	128	0.00	6.99
3	M	1,4-dioxane	0.118	0.084	28.8#	116	-0.01	10.40
4		Ethanol		----------NA----------				
5	I	pentafluorobenzene	1.000	1.000	0.0	113	0.00	8.84
6		CHLOROTRIFLUOROETHENE		----------NA----------				
7	M	chlorodifluoromethane	0.512	0.548	-7.0	116	0.00	3.88
8	M	dichlorodifluoromethane	0.569	0.593	-4.2	108	0.00	3.87
9		Freon 114		----------NA----------				
10	M	chloromethane	0.223	0.247	-10.8	111	-0.01	4.17
		----------	True	Calc.	% Drift	----------		
11	M	vinyl chloride	50.000	49.021	2.0	108	0.00	4.42
12	M	bromomethane	50.000	53.546	-7.1	113	0.00	5.00
13	M	chloroethane	50.000	56.972	-13.9	128	0.00	5.14
14		vinyl bromide		----------NA----------				
		----------	AvgRF	CCRF	% Dev	----------		
15	M	trichlorofluoromethane	0.754	0.724	4.0	101	0.00	5.56
16		1,3-butadiene		----------NA----------				
17		Pentane		----------NA----------				
18		freon 123a		----------NA----------				
19	M	ethyl ether	0.234	0.256	-9.4	117	0.00	5.87
20		2-chloropropane	0.784	0.746	4.8	108	0.00	6.08
21	M	acrolein	0.109	0.111	-1.8	113	-0.01	6.15
22	M	1,1-dichloroethene	0.449	0.419	6.7	109	-0.01	6.28
23	M	acetone	0.048	0.100	-108.3#	235#	-0.01	6.34
24	M	allyl chloride	0.307	1.695	-452.1#	548#	-0.08	6.65
25	M	acetonitrile	0.050	0.057	-14.0	134	-0.01	6.76
		----------	True	Calc.	% Drift	----------		
26	M	iodomethane	50.000	50.556	-1.1	115	0.00	6.55
		----------	AvgRF	CCRF	% Dev	----------		
27	M	carbon disulfide	1.532	1.606	-4.8	107	0.00	6.65
28	M	methylene chloride	0.500	0.550	-10.0	116	0.00	6.93
29	M	methyl acetate	0.076	0.096	-26.3#	134	0.00	6.72
		----------	True	Calc.	% Drift	----------		
30		1-chloropropane	50.000	47.633	4.7	111	0.00	6.93

6.7.3

Continuing Calibration Summary

Job Number: JB72431
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V4B1890-CC1867
Lab FileID: 4B43917.D

			AvgRF	CCRF	% Dev			
31	M	methyl tert butyl ether	1.318	1.514	-14.9	125	-0.01	7.16
32	M	trans-1,2-dichloroethene	0.464	0.456	1.7	110	0.00	7.23
33	M	di-isopropyl ether	1.603	1.502	6.3	106	0.00	7.66
34	M	2-butanone	0.059	0.087	-47.5#	161	-0.02	8.37
35	M	1,1-dichloroethane	0.799	0.850	-6.4	111	0.00	7.74
36	M	chloroprene	0.598	0.576	3.7	103	0.00	7.82
37	M	acrylonitrile	0.179	0.230	-28.5#	139	0.00	7.23
38	M	vinyl acetate	0.067	0.080	-19.4	123	0.00	7.70
39	M	ethyl tert-butyl ether	1.450	1.468	-1.2	115	0.00	8.08
40	M	ethyl acetate	0.075	0.085	-13.3	129	-0.02	8.35
41	M	2,2-dichloropropane	0.580	0.624	-7.6	116	0.00	8.40
42	M	cis-1,2-dichloroethene	0.464	0.504	-8.6	114	0.00	8.41
43		methylacrylate	0.073	0.085	-16.4	127	0.00	8.44
44	M	propionitrile	0.077	0.095	-23.4#	138	0.00	8.51
45	M	bromochloromethane	0.230	0.260	-13.0	117	0.00	8.70
46	M	tetrahydrofuran	0.190	0.209	-10.0	128	0.00	8.71
47	M	chloroform	0.479	0.512	-6.9	112	0.00	8.74
48	M	T-BUTYL FORMATE	0.413	0.408	1.2	115	0.00	8.75
49	S	dibromofluoromethane (s)	0.404	0.432	-6.9	113	0.00	8.92
50	S	1,2-dichloroethane-d4 (s)	0.466	0.469	-0.6	110	0.00	9.32
51	M	freon 113	0.316	0.310	1.9	104	-0.01	6.23
52	M	methacrylonitrile	0.307	0.336	-9.4	123	-0.01	8.65
			True	Calc.	% Drift			
53	M	1,1,1-trichloroethane	50.000	47.127	5.7	106	0.00	8.96
			AvgRF	CCRF	% Dev			
54	M	cyclohexane	0.587	0.564	3.9	107	0.00	9.00
55		iso-butyl alcohol	0.027	0.032	-18.5	135	0.00	9.13
56	I	1,4-difluorobenzene	1.000	1.000	0.0	118	0.00	9.70
57	M	epichlorohydrin	0.044	0.047	-6.8	126	0.00	10.94
58	M	n-butyl alcohol	0.015	0.017	-13.3	132	-0.01	9.82
			True	Calc.	% Drift			
59	M	carbon tetrachloride	50.000	46.946	6.1	108	0.00	9.13
			AvgRF	CCRF	% Dev			
60	M	1,1-dichloropropene	0.428	0.436	-1.9	111	0.00	9.11
61	M	hexane	0.377	0.348	7.7	102	0.00	7.44
62		Tert Amyl alcohol		----------NA----------				
63	M	benzene	1.294	1.303	-0.7	113	0.00	9.36
64	m	iso-octane	0.778	0.590	24.2#	91	0.00	9.31
65	M	tert-amyl methyl ether	0.266	0.245	7.9	112	0.00	9.35
66	M	heptane	0.244	0.211	13.5	98	0.00	9.45
67	M	isopropyl acetate	0.190	0.170	10.5	112	-0.01	9.25
68	M	1,2-dichloroethane	0.429	0.444	-3.5	113	0.00	9.40
69	M	trichloroethene	0.325	0.330	-1.5	112	0.00	10.02
70		Tert-amyl Ethyl Ether		----------NA----------				
71		ethyl acrylate		----------NA----------				
72	M	2-nitropropane	0.166	0.150	9.6	110	0.00	10.81
73	M	2-chloroethyl vinyl ether	0.257	0.224	12.8	107	0.00	10.79
74	M	methyl methacrylate	0.100	0.100	0.0	108	-0.01	10.26
75	M	1,2-dichloropropane	0.348	0.343	1.4	110	0.00	10.29
76	M	dibromomethane	0.222	0.238	-7.2	118	0.00	10.46
77	M	methylcyclohexane	0.546	0.511	6.4	100	0.00	10.20
78	M	bromodichloromethane	0.463	0.473	-2.2	115	0.00	10.57
79	M	cis-1,3-dichloropropene	0.591	0.548	7.3	105	0.00	11.01
80	S	toluene-d8 (s)	1.257	1.087	13.5	102	0.00	11.29

6.7.3

Continuing Calibration Summary

Job Number: JB72431 **Sample:** V4B1890-CC1867
Account: UTC United Technologies Corporation **Lab FileID:** 4B43917.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

81	M	4-methyl-2-pentanone	0.192	0.187	2.6	117	0.00	11.10
82	M	toluene	0.838	0.737	12.1	100	0.00	11.36
			True	Calc.	% Drift			
83	M	3-methyl-1-butanol	1000.000	1135.184	-13.5	127	-0.01	11.12
			AvgRF	CCRF	% Dev			
84	M	trans-1,3-dichloropropene	0.607	0.489	19.4	96	0.00	11.59
85	M	ethyl methacrylate	0.577	0.460	20.3#	90	0.00	11.54
86	M	1,1,2-trichloroethane	0.292	0.254	13.0	101	0.00	11.82
87	M	2-hexanone	0.191	0.198	-3.7	118	0.00	11.97
88	I	chlorobenzene-d5	1.000	1.000	0.0	96	0.00	12.88
89	M	tetrachloroethene	0.273	0.302	-10.6	97	0.00	11.96
90	M	1,3-dichloropropane	0.564	0.573	-1.6	98	0.00	12.00
91	M	butyl acetate	0.319	0.326	-2.2	95	0.00	12.03
			True	Calc.	% Drift			
92	M	3,3-DIMETHYL-1-BUTANOL	500.000	652.734	-30.5#	130	0.00	12.15
			AvgRF	CCRF	% Dev			
93	M	dibromochloromethane	0.400	0.425	-6.2	98	0.00	12.29
94	M	1,2-dibromoethane	0.375	0.389	-3.7	98	0.00	12.45
95		n-butyl ether		----------NA----------				
96	M	chlorobenzene	1.033	0.986	4.5	91	0.00	12.91
97	M	1,1,1,2-tetrachloroethane	0.384	0.445	-15.9	108	0.00	12.98
98	M	ethylbenzene	1.740	1.645	5.5	88	0.00	12.96
99	M	m,p-xylene	0.644	0.624	3.1	89	0.00	13.07
100	M	o-xylene	0.677	0.682	-0.7	94	0.00	13.53
101	M	styrene	1.182	1.133	4.1	86	0.00	13.55
102	M	bromoform	0.341	0.363	-6.5	99	0.00	13.87
103	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	97	0.00	15.43
104	M	isopropylbenzene	2.922	2.936	-0.5	94	0.00	13.89
105	S	4-bromofluorobenzene (s)	0.973	0.810	16.8	83	0.00	14.14
			True	Calc.	% Drift			
106		cyclohexanone	500.000	2184.036	-336.8#	313	0.00	14.13
			AvgRF	CCRF	% Dev			
107	M	bromobenzene	0.854	0.794	7.0	89	0.00	14.36
			True	Calc.	% Drift			
108	M	1,1,2,2-tetrachloroethane	50.000	53.618	-7.2	103	0.00	14.27
			AvgRF	CCRF	% Dev			
109	M	trans-1,4-dichloro-2-bute	0.256	0.296	-15.6	109	0.00	14.32
110	M	1,2,3-trichloropropane	0.222	0.245	-10.4	106	0.00	14.36
111	M	n-propylbenzene	3.567	3.357	5.9	88	0.00	14.34
112		4-ETHYLTOLUENE		----------NA----------				
113	M	2-chlorotoluene	0.758	0.711	6.2	90	0.00	14.52
114	M	4-chlorotoluene	2.357	2.133	9.5	87	0.00	14.63
115	M	1,3,5-trimethylbenzene	2.615	2.517	3.7	91	0.00	14.50
116	M	tert-butylbenzene	2.135	2.218	-3.9	98	0.00	14.89
117	M	pentachloroethane	0.490	0.541	-10.4	103	0.00	15.01
118	M	1,2,4-trimethylbenzene	2.673	2.555	4.4	90	0.00	14.94
119	M	sec-butylbenzene	3.431	3.385	1.3	93	0.00	15.13
120	M	1,3-dichlorobenzene	1.688	1.607	4.8	91	0.00	15.36
121	M	p-isopropyltoluene	3.008	2.921	2.9	92	0.00	15.26
122	M	1,4-dichlorobenzene	1.711	1.629	4.8	93	0.00	15.45

6.7.3

Continuing Calibration Summary

Job Number: JB72431 **Sample:** V4B1890-CC1867
Account: UTC United Technologies Corporation **Lab FileID:** 4B43917.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

123		benzyl chloride	1.852	2.257	-21.9#	118	0.00	15.59
124	M	1,2-dichlorobenzene	1.706	1.655	3.0	95	0.00	15.89
125		1,4-DIETHYLBENZENE		----------NA----------				
126	M	n-butylbenzene	1.559	1.562	-0.2	93	0.00	15.71
127		1,2,4,5-TETRAMETHYLBENZEN		----------NA----------				
128	M	1,2-dibromo-3-chloropropa	0.195	0.239	-22.6#	122	0.00	16.76
129		1,3,5-TRICHLOROBENZENE	1.511	1.619	-7.1	102	0.00	16.92
130	M	1,2,4-trichlorobenzene	1.340	1.496	-11.6	105	0.00	17.60
131	M	hexachlorobutadiene	0.622	0.621	0.2	92	0.00	17.70
132	M	naphthalene	2.859	3.784	-32.4#	123	0.00	17.91
133	M	1,2,3-trichlorobenzene	1.151	1.445	-25.5#	114	0.00	18.17
		----------	True	Calc.	% Drift	----------		
134	m	hexachloroethane	50.000	49.076	1.8	102	0.00	16.16

(#) = Out of Range SPCC's out = 0 CCC's out = 0
4B43365.D M4B1867.M Wed Jul 30 10:08:15 2014 GCMS4B

6.7.3 6

GC/MS Volatiles

Raw Data

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B43933.D
Acq On : 29 Jul 2014 5:46 pm
Operator : TOANP
Sample : jb72431-1
Misc : MS71175,V4B1890,w,,,,1
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Jul 30 10:18:22 2014
Quant Method : C:\MSDCHEM\1\METHODS\M4B1867.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 14 10:33:25 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	6.89	65	202337	500.00	ug/L	0.00
5) pentafluorobenzene	8.83	168	288380	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.70	114	376151	50.00	ug/L	0.00
88) chlorobenzene-d5	12.89	117	416505	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.42	152	223405	50.00	ug/L	0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.92	113	121122	51.95	ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 103.90%			
50) 1,2-dichloroethane-d4 (s)	9.32	65	134518	50.05	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 100.10%			
80) toluene-d8 (s)	11.29	98	496199	52.46	ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 104.92%			
105) 4-bromofluorobenzene (s)	14.14	95	201812	46.41	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 92.82%			
Target Compounds						Qvalue
35) 1,1-dichloroethane	7.74	63	1379	0.30	ug/L	83
42) cis-1,2-dichloroethene	8.41	96	1939	0.72	ug/L	82
53) 1,1,1-trichloroethane	8.96	97	7402	2.18	ug/L	99
69) trichloroethene	10.02	95	1709	0.70	ug/L	95
89) tetrachloroethene	11.96	164	7173	3.16	ug/L	97

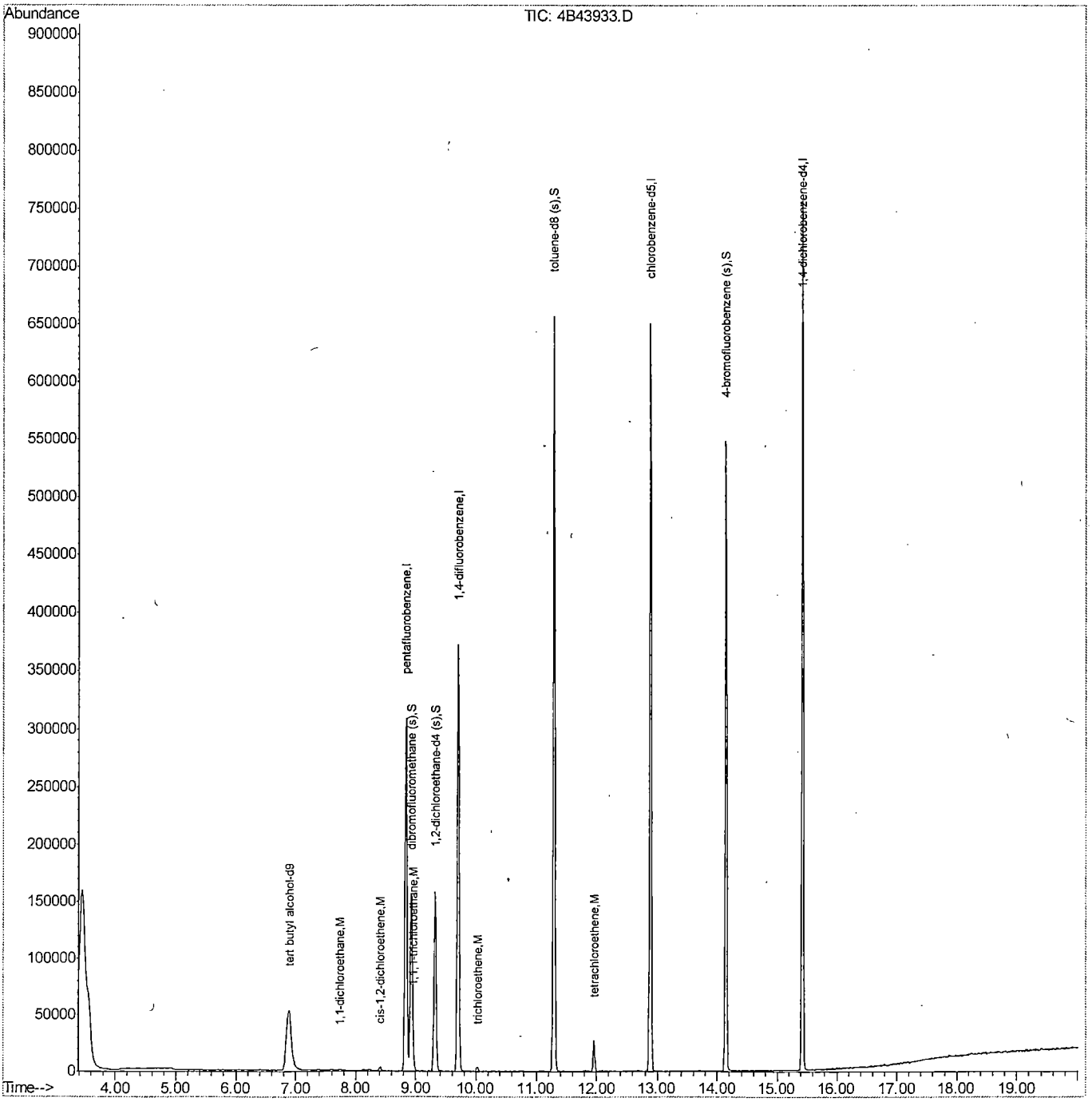
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.1

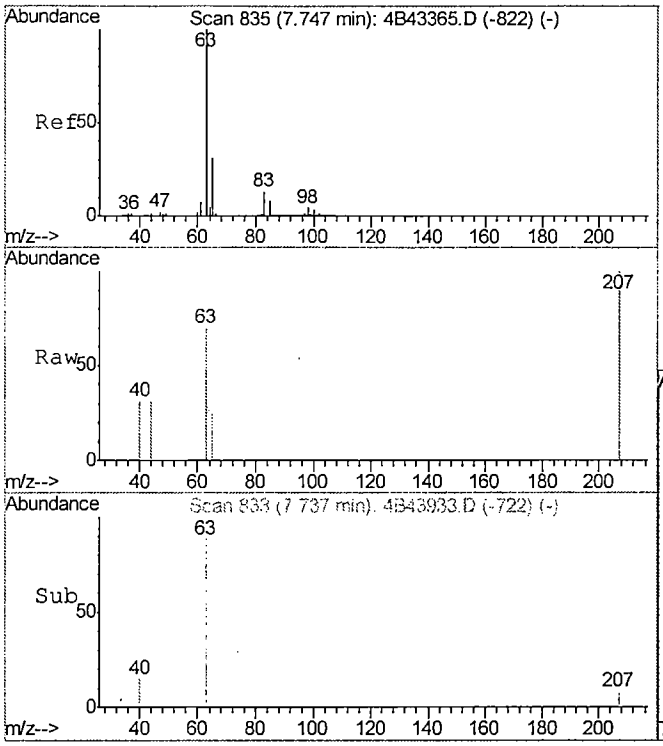
Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B43933.D
Acq On : 29 Jul 2014 5:46 pm
Operator : TOANP
Sample : jb72431-1
Misc : MS71175,V4B1890,w,,,,1
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Jul 30 10:18:22 2014
Quant Method : C:\MSDCHEM\1\METHODS\M4B1867.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 14 10:33:25 2014
Response via : Initial Calibration



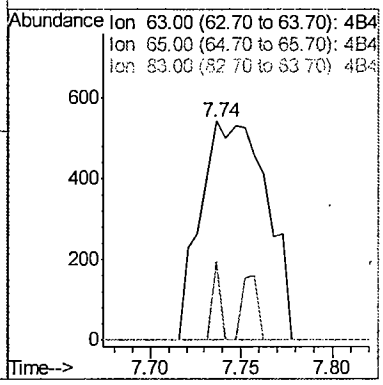
7.1.1

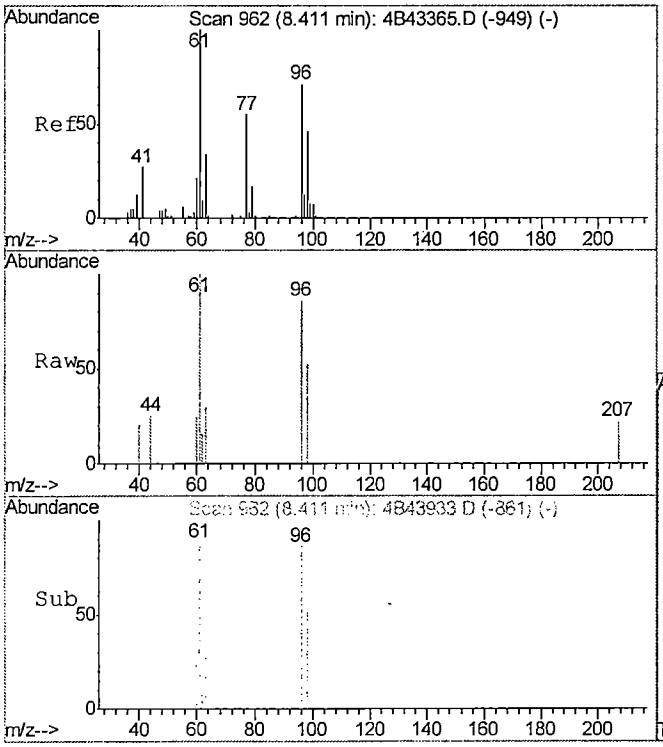


#35
1,1-dichloroethane
Concen: 0.30 ug/L
RT: 7.74 min Scan# 833
Delta R.T. -0.01 min
Lab File: 4B43933.D
Acq: 29 Jul 2014 5:46 pm

Tgt Ion: 63 Resp: 1379

Ion	Ratio	Lower	Upper
63	100		
65	36.1	0.5	60.5
83	0.0	0.0	43.0

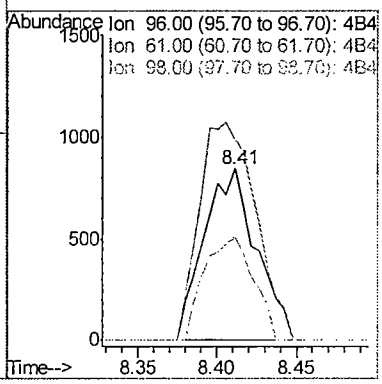


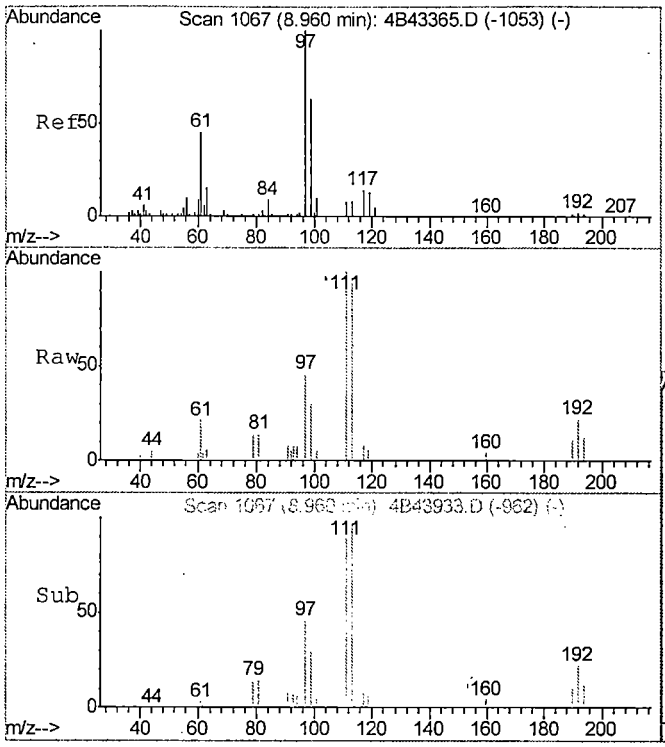


#42
cis-1,2-dichloroethene
Concen: 0.72 ug/L
RT: 8.41 min Scan# 962
Delta R.T. -0.00 min
Lab File: 4B43933.D
Acq: 29 Jul 2014 5:46 pm

Tgt Ion: 96 Resp: 1939

Ion	Ratio	Lower	Upper
96	100		
61	116.9	116.9	176.9
98	60.3	35.2	95.2

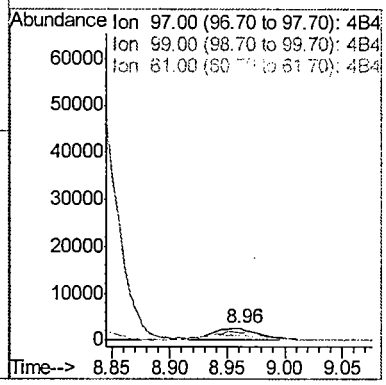


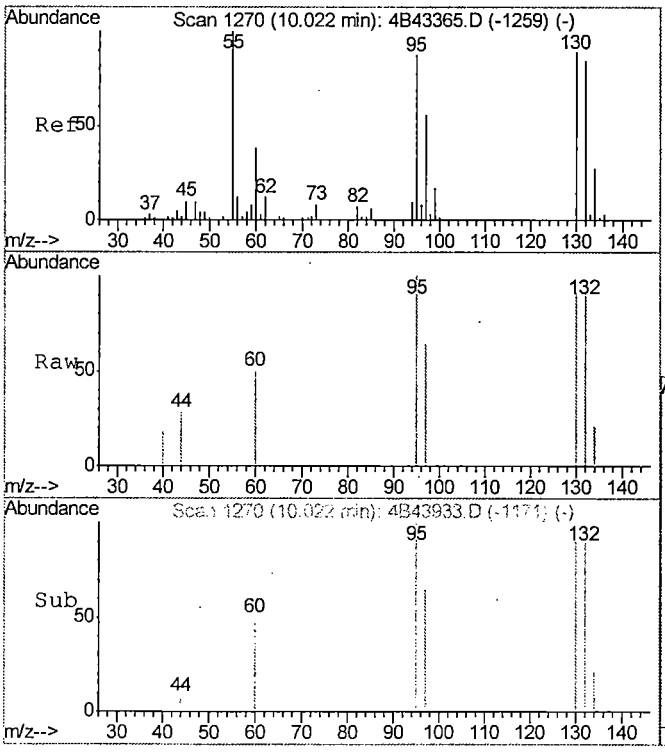


#53
1,1,1-trichloroethane
Concen: 2.18 ug/L
RT: 8.96 min Scan# 1067
Delta R.T. -0.00 min
Lab File: 4B43933.D
Acq: 29 Jul 2014 5:46 pm

Tgt Ion: 97 Resp: 7402

Ion	Ratio	Lower	Upper
97	100		
99	65.3	34.8	94.8
61	45.7	14.8	74.8

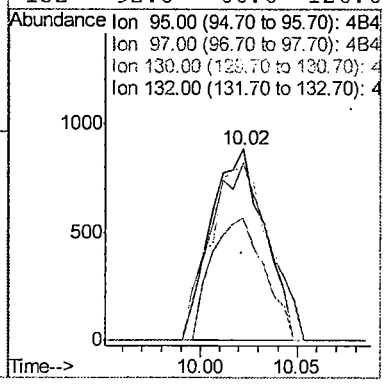




#69
trichloroethene
Concen: 0.70 ug/L
RT: 10.02 min Scan# 1270
Delta R.T. -0.00 min
Lab File: 4B43933.D
Acq: 29 Jul 2014 5:46 pm

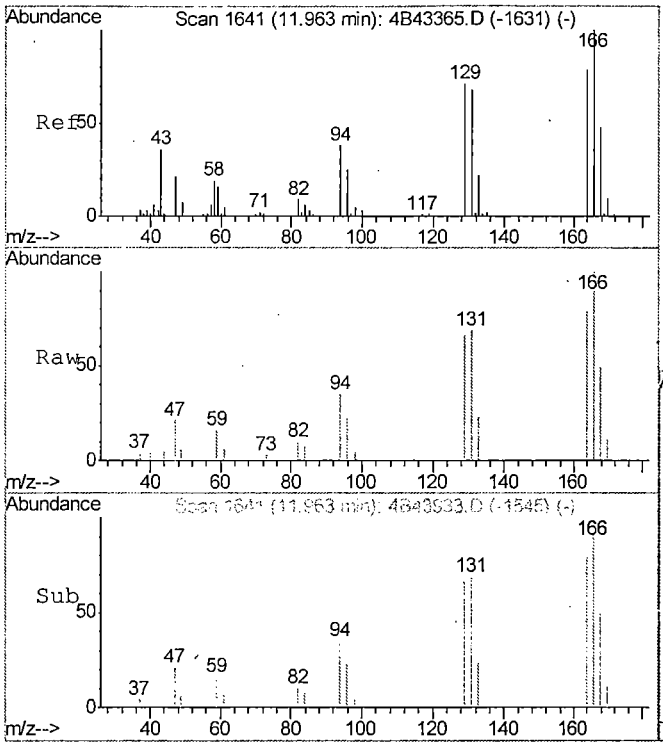
Tgt Ion: 95 Resp: 1709

Ion	Ratio	Lower	Upper
95	100		
97	64.0	33.9	93.9
130	91.3	71.7	131.7
132	92.8	66.6	126.6



7.1.1

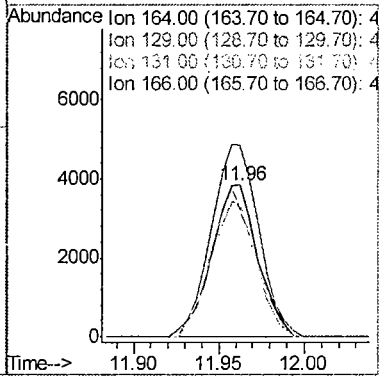
7



#89
tetrachloroethene
Concen: 3.16 ug/L
RT: 11.96 min Scan# 1641
Delta R.T. -0.00 min
Lab File: 4B43933.D
Acq: 29 Jul 2014 5:46 pm

Tgt Ion:164 Resp: 7173

Ion	Ratio	Lower	Upper
164	100		
129	83.6	60.7	120.7
131	87.7	56.7	116.7
166	126.3	97.2	157.2



7.1.1

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B43932.D
Acq On : 29 Jul 2014 5:18 pm
Operator : TOANP
Sample : jb72431-2
Misc : MS71175,V4B1890,w,,,,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Jul 30 10:17:37 2014
Quant Method : C:\MSDCHEM\1\METHODS\M4B1867.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 14 10:33:25 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	6.89	65	197776	500.00	ug/L	0.00
5) pentafluorobenzene	8.83	168	287991	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.70	114	369217	50.00	ug/L	0.00
88) chlorobenzene-d5	12.88	117	385837	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.42	152	218259	50.00	ug/L	0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.92	113	122738	52.71	ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 105.42%			
50) 1,2-dichloroethane-d4 (s)	9.32	65	135596	50.52	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 101.04%			
80) toluene-d8 (s)	11.29	98	452758	48.76	ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 97.52%			
105) 4-bromofluorobenzene (s)	14.14	95	193106	45.46	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 90.92%			

Target Compounds	Qvalue

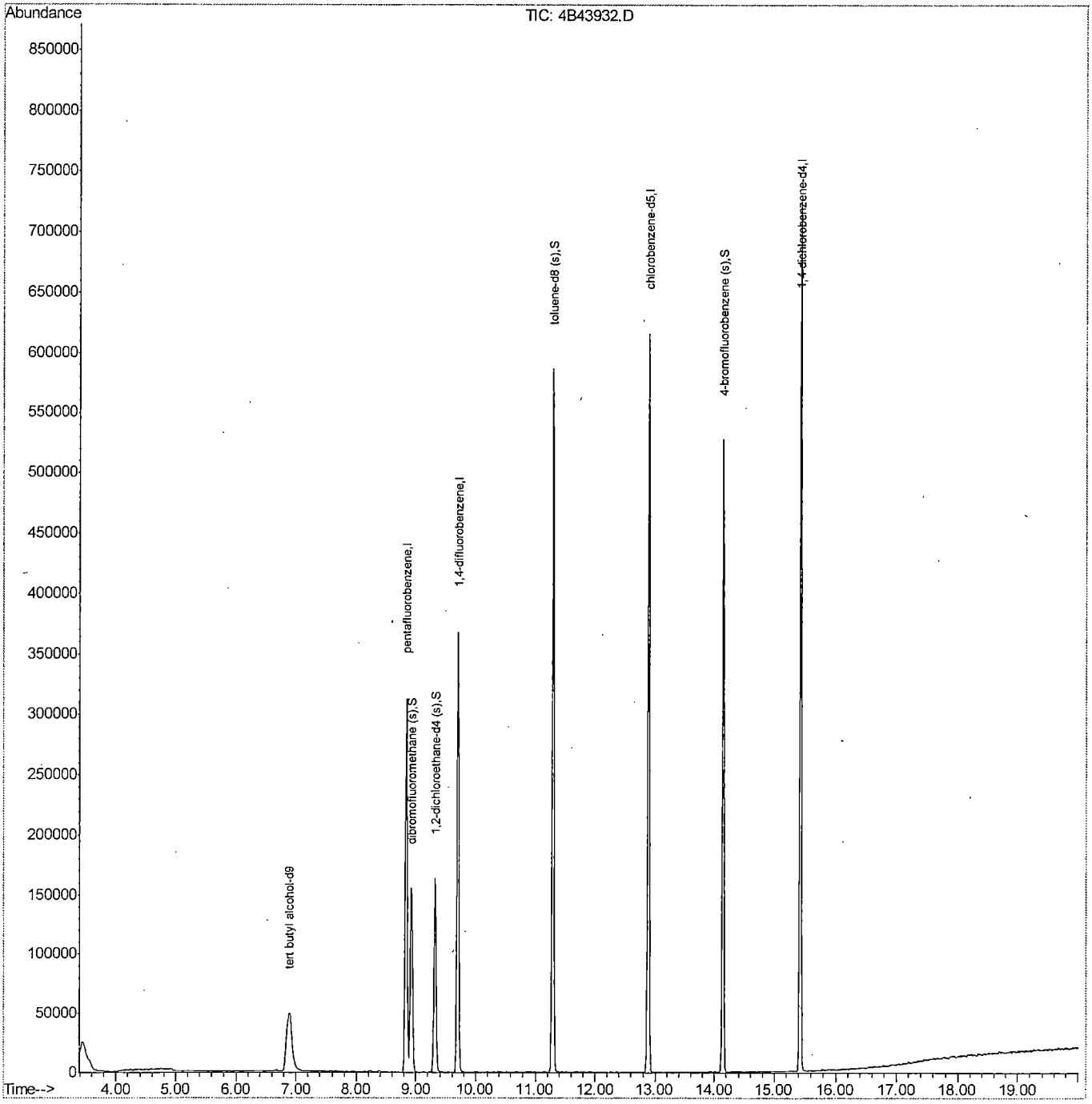
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.2

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B43932.D
Acq On : 29 Jul 2014 5:18 pm
Operator : TOANP
Sample : jb72431-2
Misc : MS71175,V4B1890,w,,,,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Jul 30 10:17:37 2014
Quant Method : C:\MSDCHEM\1\METHODS\M4B1867.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 14 10:33:25 2014
Response via : Initial Calibration



7.1.2

M4B1867.M Wed Jul 30 13:03:51 2014 GCMS4B

Quantitation Report (QT/LSC Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B43919.D
Acq On : 29 Jul 2014 11:12 am
Operator : TOANP
Sample : MB
Misc : MS71235,V4B1890,w,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jul 30 10:09:49 2014
Quant Method : C:\MSDCHEM\1\METHODS\M4B1867.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 14 10:33:25 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	6.89	65	191385	500.00	ug/L	0.00
5) pentafluorobenzene	8.83	168	286429	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.70	114	367846	50.00	ug/L	0.00
88) chlorobenzene-d5	12.88	117	315636	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.42	152	198317	50.00	ug/L	0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.92	113	122604	52.94	ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 105.88%			
50) 1,2-dichloroethane-d4 (s)	9.32	65	133521	50.02	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 100.04%			
80) toluene-d8 (s)	11.29	98	391797	42.36	ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 84.72%			
105) 4-bromofluorobenzene (s)	14.14	95	166485	43.13	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 86.26%			

Target Compounds	Qvalue

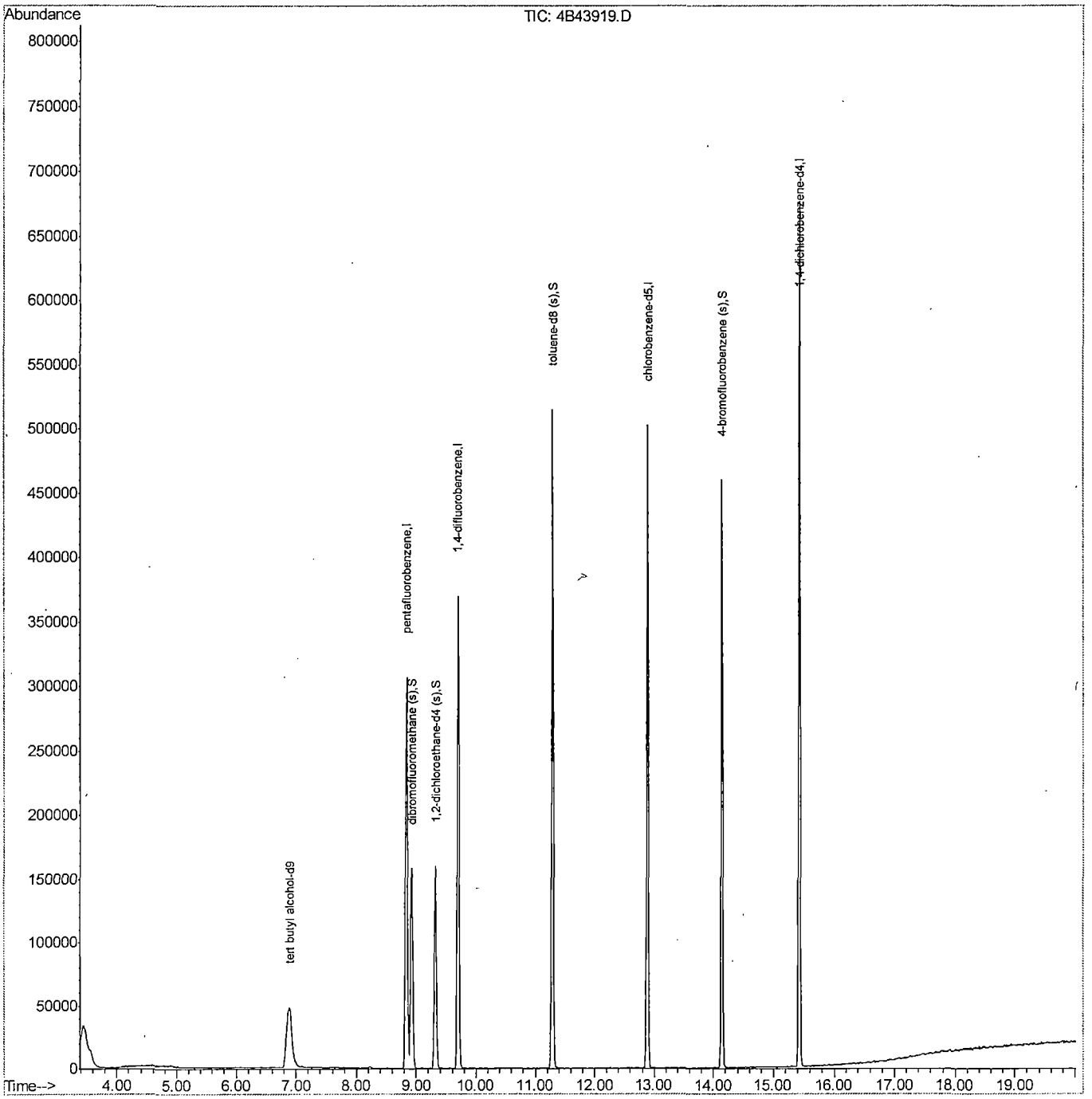
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.2.1

Quantitation Report (QT/LSC Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B43919.D
Acq On : 29 Jul 2014 11:12 am
Operator : TOANP
Sample : MB
Misc : MS71235,V4B1890,w,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jul 30 10:09:49 2014
Quant Method : C:\MSDCHEM\1\METHODS\M4B1867.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 14 10:33:25 2014
Response via : Initial Calibration



Manual Integrations APPROVED (Compounds with 'm' flag)
Kanya Veerawat
07/30/14 17:49

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 4B43920.D
Acq On : 29 Jul 2014 11:46 am
Operator : TOANP
Sample : BS
Misc : MS71276,V4B1890,w,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 30 10:10:16 2014
Quant Method : C:\MSDCHEM\1\METHODS\M4B1867.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 14 10:33:25 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) tert butyl alcohol-d9	6.89	65	220910	500.00	ug/L		0.00
5) pentafluorobenzene	8.83	168	272675	50.00	ug/L		-0.01
56) 1,4-difluorobenzene	9.69	114	352666	50.00	ug/L		0.00
88) chlorobenzene-d5	12.88	117	331616	50.00	ug/L		0.00
103) 1,4-dichlorobenzene-d4	15.42	152	199637	50.00	ug/L		0.00
System Monitoring Compounds							
49) dibromofluoromethane (s)	8.92	113	119976	54.42	ug/L		0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 108.84%				
50) 1,2-dichloroethane-d4 (s)	9.32	65	128035	50.38	ug/L		0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 100.76%				
80) toluene-d8 (s)	11.29	98	404046	45.56	ug/L		0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 91.12%				
105) 4-bromofluorobenzene (s)	14.14	95	170395	43.85	ug/L		0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 87.70%				
Target Compounds							Qvalue
2) tertiary butyl alcohol	6.99	59	135010	218.52	ug/L		97
3) 1,4-dioxane	10.41	88	46425	888.54	ug/L		97
7) chlorodifluoromethane	3.89	51	148549	53.18	ug/L		99
8) dichlorodifluoromethane	3.87	85	132419	42.68	ug/L		99
10) chloromethane	4.17	52	63480	52.16	ug/L		98
11) vinyl chloride	4.42	62	203871	49.26	ug/L		93
12) bromomethane	5.00	94	117815	53.14	ug/L		99
13) chloroethane	5.14	64	107256	66.06	ug/L		98
15) trichlorofluoromethane	5.56	101	211399	51.43	ug/L		97
19) ethyl ether	5.87	74	75180	58.92	ug/L		99
20) 2-chloropropane	6.08	43	253363	59.25	ug/L		92
21) acrolein	6.15	56	342241	577.77	ug/L		98
22) 1,1-dichloroethene	6.28	96	124581	50.88	ug/L		99
23) acetone	6.35	58	17829	68.57	ug/L	#	82
24) allyl chloride	6.73	76	111878m	66.80	ug/L		
25) acetonitrile	6.76	40	172416	630.10	ug/L	#	68
26) iodomethane	6.55	142	270131	52.01	ug/L		99
27) carbon disulfide	6.65	76	475510	56.91	ug/L		99
28) methylene chloride	6.93	84	157532	57.82	ug/L		98
29) methyl acetate	6.72	74	26276	63.60	ug/L		90
30) 1-chloropropane	6.94	42	241197	53.04	ug/L		99
31) methyl tert butyl ether	7.16	73	834526	116.12	ug/L		99
32) trans-1,2-dichloroethene	7.22	96	128284	50.64	ug/L		99
33) di-isopropyl ether	7.66	45	445725	50.98	ug/L		96
34) 2-butanone	8.37	72	19771	61.93	ug/L	#	84
35) 1,1-dichloroethane	7.74	63	248151	56.94	ug/L		97
36) chloroprene	7.82	53	180371	55.27	ug/L		97
37) acrylonitrile	7.23	53	324797	333.57	ug/L		98
38) vinyl acetate	7.70	86	23416	63.65	ug/L		96
39) ethyl tert-butyl ether	8.08	59	414442	52.42	ug/L		98
40) ethyl acetate	8.35	45	21556	53.00	ug/L		92
41) 2,2-dichloropropane	8.40	77	176958	55.98	ug/L		97
42) cis-1,2-dichloroethene	8.40	96	141413	55.85	ug/L		98

7.3.1

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 4B43920.D
Acq On : 29 Jul 2014 11:46 am
Operator : TOANP
Sample : BS
Misc : MS71276,V4B1890,w,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 30 10:10:16 2014
Quant Method : C:\MSDCHEM\1\METHODS\M4B1867.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 14 10:33:25 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
43) methylacrylate	8.43	85	23226	58.49 ug/L	94
44) propionitrile	8.51	54	271154	649.14 ug/L	98
45) bromochloromethane	8.70	128	73872	58.83 ug/L	99
46) tetrahydrofuran	8.71	42	60106	57.88 ug/L	94
47) chloroform	8.74	85	146729	56.14 ug/L	99
48) T-BUTYL FORMATE	8.75	59	132308	58.80 ug/L	99
51) freon 113	6.22	151	98622	57.28 ug/L	92
52) methacrylonitrile	8.65	41	95754	57.18 ug/L	97
53) 1,1,1-trichloroethane	8.96	97	192896	51.50 ug/L	97
54) cyclohexane	9.00	84	171771	53.69 ug/L	99
55) iso-butyl alcohol	9.12	43	93026	637.66 ug/L	98
57) epichlorohydrin	10.94	57	91356	296.97 ug/L	97
58) n-butyl alcohol	9.82	56	316820	3064.77 ug/L	97
59) carbon tetrachloride	9.13	117	181489	52.46 ug/L	98
60) 1,1-dichloropropene	9.11	75	158285	52.39 ug/L	98
61) hexane	7.44	57	618	0.23 ug/L #	63
63) benzene	9.36	78	476901	52.27 ug/L	99
64) iso-octane	9.30	57	269163	49.03 ug/L	95
65) tert-amyl methyl ether	9.35	87	92104	49.05 ug/L	97
66) heptane	9.45	57	90755	52.66 ug/L	97
67) isopropyl acetate	9.25	61	64827	48.29 ug/L	97
68) 1,2-dichloroethane	9.40	62	162915	53.78 ug/L	98
69) trichloroethene	10.02	95	121235	52.92 ug/L	98
72) 2-nitropropane	10.81	41	57767	49.25 ug/L #	76
73) 2-chloroethyl vinyl ether	10.79	63	451946	249.71 ug/L	100
74) methyl methacrylate	10.26	100	39210	55.73 ug/L	89
75) 1,2-dichloropropane	10.29	63	127444	51.96 ug/L	100
76) dibromomethane	10.46	93	86053	55.02 ug/L	99
77) methylcyclohexane	10.20	83	210971	54.78 ug/L	99
78) bromodichloromethane	10.57	83	172729	52.84 ug/L	98
79) cis-1,3-dichloropropene	11.01	75	197772	47.48 ug/L	96
81) 4-methyl-2-pentanone	11.10	58	73207	54.06 ug/L	98
82) toluene	11.36	92	282816	47.83 ug/L	98
83) 3-methyl-1-butanol	11.12	55	205767	1265.10 ug/L	98
84) trans-1,3-dichloropropene	11.59	75	183794	42.91 ug/L	99
85) ethyl methacrylate	11.54	69	182392	44.79 ug/L	99
86) 1,1,2-trichloroethane	11.82	83	98786	48.03 ug/L	98
87) 2-hexanone	11.97	58	70818	52.48 ug/L	92
89) tetrachloroethene	11.96	164	100440	55.49 ug/L	98
90) 1,3-dichloropropane	12.00	76	190418	50.91 ug/L	97
91) butyl acetate	12.03	56	111133	52.60 ug/L	100
92) 3,3-DIMETHYL-1-BUTANOL	12.15	57	241734	633.51 ug/L	99
93) dibromochloromethane	12.29	129	139338	52.56 ug/L	98
94) 1,2-dibromoethane	12.45	107	129862	52.26 ug/L	97
96) chlorobenzene	12.91	112	332551	48.53 ug/L	99
97) 1,1,1,2-tetrachloroethane	12.98	131	139939	54.92 ug/L	100
98) ethylbenzene	12.96	91	559288	48.45 ug/L	100
99) m,p-xylene	13.07	106	425823	99.72 ug/L	96
100) o-xylene	13.53	106	225166	50.15 ug/L	95
101) styrene	13.55	104	380489	48.53 ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 4B43920.D
Acq On : 29 Jul 2014 11:46 am
Operator : TOANP
Sample : BS
Misc : MS71276,V4B1890,w,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 30 10:10:16 2014
Quant Method : C:\MSDCHEM\1\METHODS\M4B1867.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 14 10:33:25 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
102) bromoform	13.87	173	120718	53.42 ug/L	100
104) isopropylbenzene	13.89	105	615134	52.73 ug/L	100
106) cyclohexanone	14.13	55	74861	293.70 ug/L	99
107) bromobenzene	14.36	156	163737	48.00 ug/L	94
108) 1,1,2,2-tetrachloroethane	14.27	83	205099	55.04 ug/L	99
109) trans-1,4-dichloro-2-buten	14.32	53	60016	58.72 ug/L	99
110) 1,2,3-trichloropropane	14.36	110	50326	56.88 ug/L	96
111) n-propylbenzene	14.34	91	748520	52.55 ug/L	100
113) 2-chlorotoluene	14.52	126	148592	49.07 ug/L	99
114) 4-chlorotoluene	14.63	91	443361	47.11 ug/L	99
115) 1,3,5-trimethylbenzene	14.50	105	526977	50.47 ug/L	99
116) tert-butylbenzene	14.89	119	449361	52.72 ug/L	96
117) pentachloroethane	15.01	167	107270	54.88 ug/L	99
118) 1,2,4-trimethylbenzene	14.94	105	554050	51.90 ug/L	99
119) sec-butylbenzene	15.13	105	713300	52.06 ug/L	100
120) 1,3-dichlorobenzene	15.36	146	323723	48.02 ug/L	99
121) p-isopropyltoluene	15.26	119	617905	51.45 ug/L	98
122) 1,4-dichlorobenzene	15.45	146	328356	48.05 ug/L	99
123) benzyl chloride	15.59	91	436874	59.07 ug/L	99
124) 1,2-dichlorobenzene	15.89	146	330017	48.44 ug/L	99
126) n-butylbenzene	15.71	92	337536	54.22 ug/L	97
128) 1,2-dibromo-3-chloropropan	16.76	75	47553	60.98 ug/L	96
129) 1,3,5-TRICHLOROBENZENE	16.92	180	321104	53.21 ug/L	99
130) 1,2,4-trichlorobenzene	17.60	180	297301	55.56 ug/L	99
131) hexachlorobutadiene	17.70	225	133936	53.90 ug/L	99
132) naphthalene	17.91	128	733449	64.25 ug/L	99
133) 1,2,3-trichlorobenzene	18.17	180	285455	62.12 ug/L	99
134) hexachloroethane	16.16	201	110736	49.92 ug/L	99

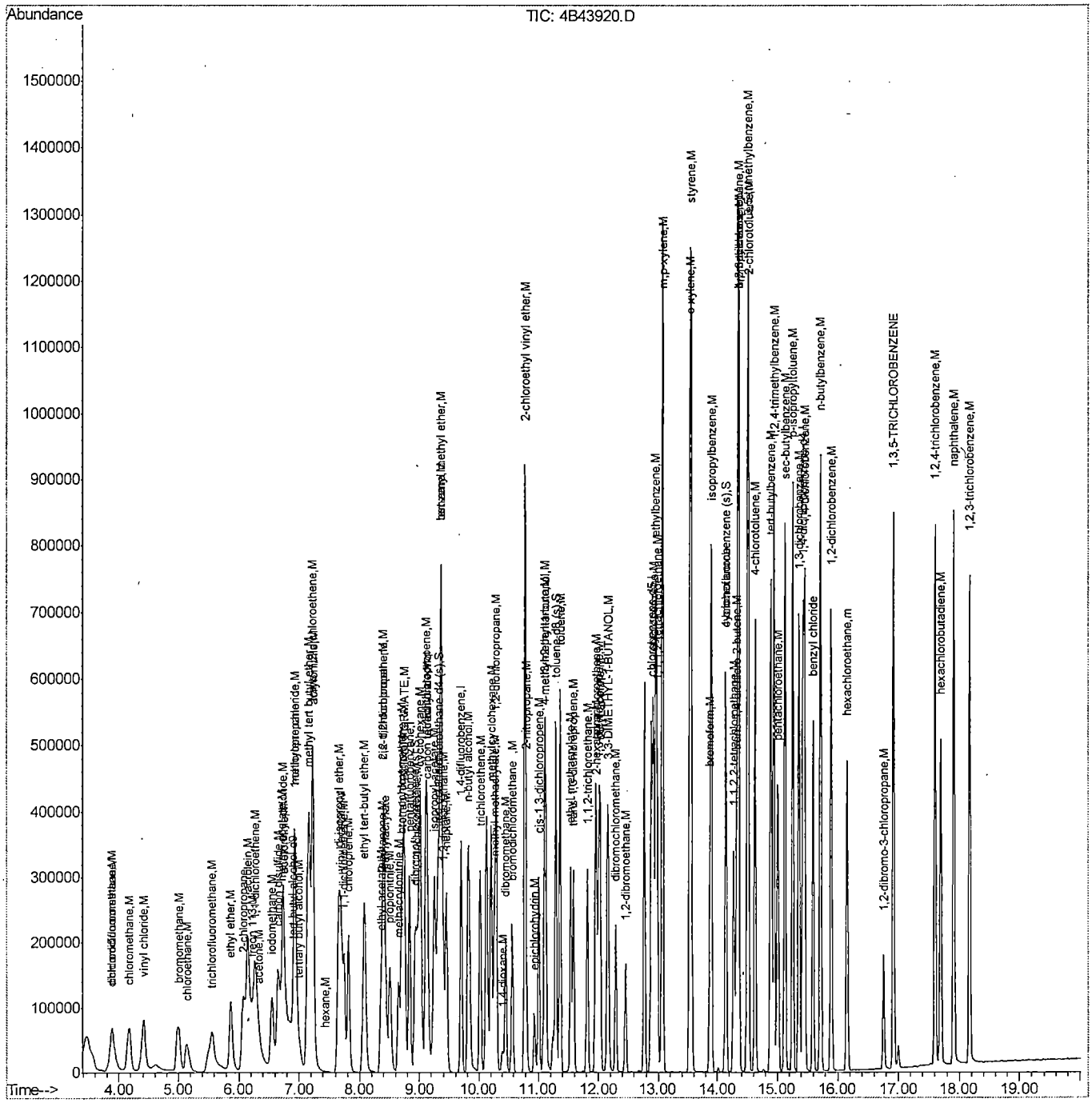
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.3.1

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 4B43920.D
Acq On : 29 Jul 2014 11:46 am
Operator : TOANP
Sample : BS
Misc : MS71276,V4B1890,w,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 30 10:10:16 2014
Quant Method : C:\MSDCHEM\1\METHODS\M4B1867.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 14 10:33:25 2014
Response via : Initial Calibration



Manual Integration Approval Summary

Sample Number:	V4B1890-BS	**Method:**	SW846 8260B
Lab FileID:	4B43920.D	**Analyst approved:**	07/30/14 12:07 Dong, Mei
Injection Time:	07/29/14 11:46	**Supervisor approved:**	07/30/14 17:49 Kanya Veerawat

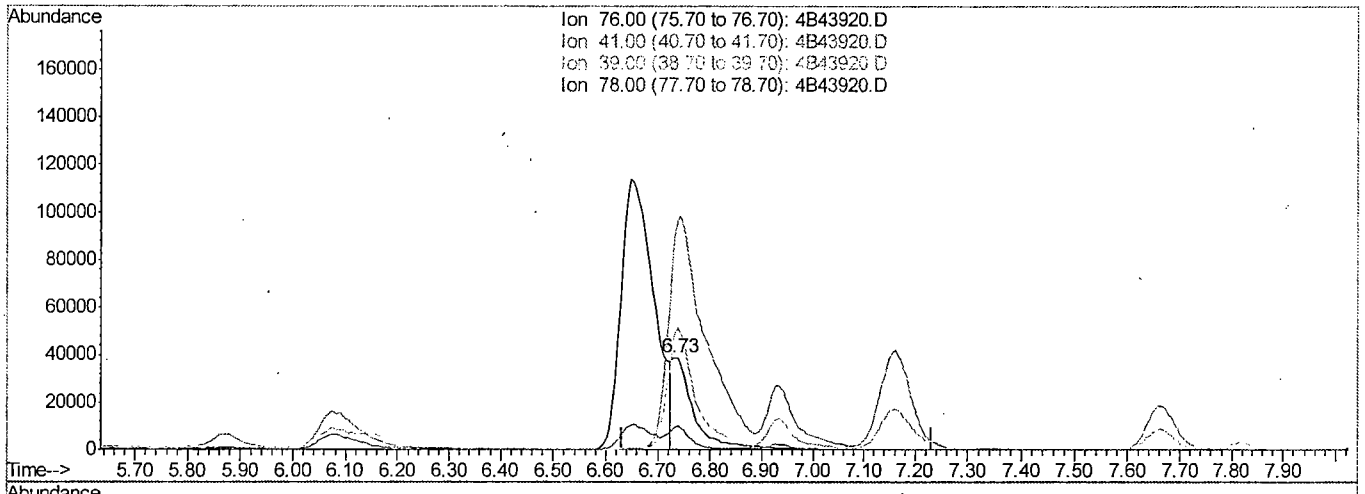
Parameter	CAS	Sig#	R.T. (min.)	Reason
Allyl chloride	107-05-1		6.73	Poor instrument integration

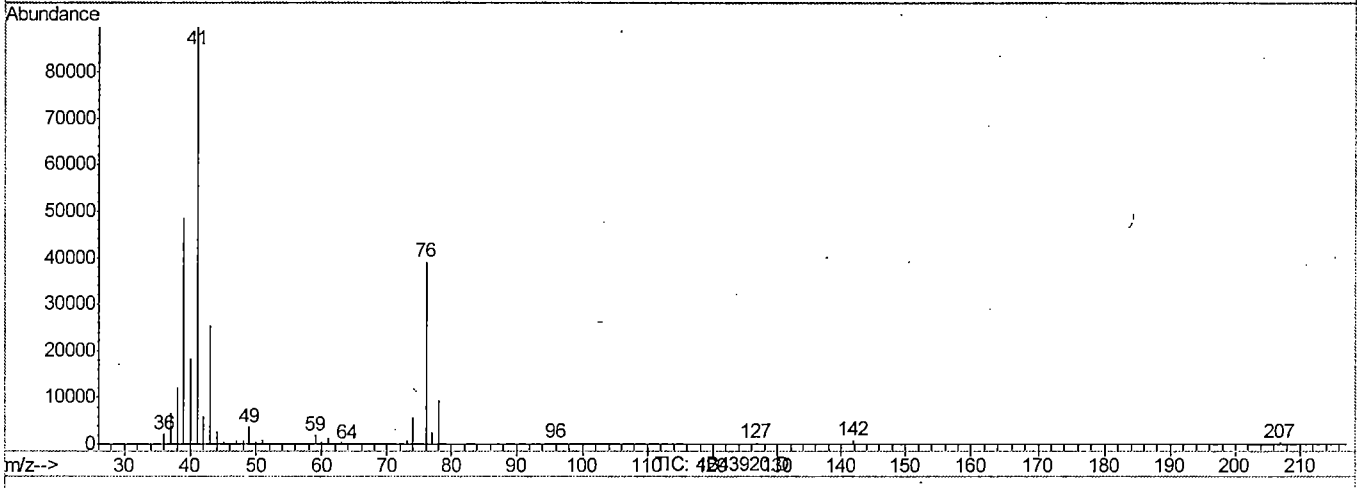
Quantitation Report (Qedit)

Data File : C:\MSDChem\1\DATA\4B43920.D Vial: 5
Acq On : 29 Jul 2014 11:46 am Operator: TOANP
Sample : BS Inst : MS4B
Misc : MS71276,V4B1890,w,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Jul 29 12:07:46 2014 Results File: M4B1867.RES

Method : C:\MSDCHEM\1\METHODS\M4B1867.M (RTE Integrator)
Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
Last Update : Mon Jul 14 10:33:25 2014
Response via : Multiple Level Calibration





(24) allyl chloride (M)

6.73min 66.80ug/L m

response 111878

Ion	Exp%	Act%
76.00	100	100
41.00	191.40	229.77#
39.00	108.10	124.07
78.00	22.70	23.80

4B43920.D M4B1867.M Wed Jul 30 10:10:07 2014 GCMS4B

4B43920.D edits: allyl chloride

Manual Integrations APPROVED (compounds with 'm' flag)
Kanya Veerawat
07/30/14 17:51

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B43929.D
Acq On : 29 Jul 2014 3:55 pm
Operator : TOANP
Sample : jb72643-4ms
Misc : MS71276,V4B1890,w,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jul 30 10:16:19 2014
Quant Method : C:\MSDCHEM\1\METHODS\M4B1867.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 14 10:33:25 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) tert butyl alcohol-d9	6.89	65	189169	500.00	ug/L		0.00
5) pentafluorobenzene	8.83	168	267888	50.00	ug/L		0.00
56) 1,4-difluorobenzene	9.70	114	355863	50.00	ug/L		0.00
88) chlorobenzene-d5	12.88	117	303739	50.00	ug/L		0.00
103) 1,4-dichlorobenzene-d4	15.43	152	196831	50.00	ug/L		0.00
System Monitoring Compounds							
49) dibromofluoromethane (s)	8.92	113	116931	53.98	ug/L		0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 107.96%				
50) 1,2-dichloroethane-d4 (s)	9.32	65	128379	51.42	ug/L		0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 102.84%				
80) toluene-d8 (s)	11.29	98	386437	43.18	ug/L		0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 86.36%				
105) 4-bromofluorobenzene (s)	14.14	95	163352	42.64	ug/L		0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 85.28%				
Target Compounds							Qvalue
2) tertiary butyl alcohol	6.99	59	118036	223.10	ug/L		98
3) 1,4-dioxane	10.40	88	48239	1078.17	ug/L		98
7) chlorodifluoromethane	3.89	51	136330	49.68	ug/L		98
8) dichlorodifluoromethane	3.87	85	144323	47.34	ug/L		96
10) chloromethane	4.17	52	61339	51.30	ug/L		97
11) vinyl chloride	4.42	62	179083	44.05	ug/L		92
12) bromomethane	5.00	94	113551	52.12	ug/L		98
13) chloroethane	5.14	64	84075	51.27	ug/L		97
15) trichlorofluoromethane	5.56	101	172736	42.78	ug/L		100
19) ethyl ether	5.87	74	65996	52.65	ug/L	#	72
20) 2-chloropropane	6.08	43	138074	32.87	ug/L	#	74
21) acrolein	6.15	56	359557	617.85	ug/L		97
22) 1,1-dichloroethene	6.28	96	90328	37.55	ug/L		98
23) acetone	6.35	58	14754	57.75	ug/L	#	85
24) allyl chloride	6.73	76	83979m	51.04	ug/L		
25) acetonitrile	6.77	40	143548	533.97	ug/L		96
26) iodomethane	6.55	142	217926	42.79	ug/L		100
27) carbon disulfide	6.65	76	329148	40.10	ug/L		100
28) methylene chloride	6.93	84	136847	51.13	ug/L		98
29) methyl acetate	6.72	74	26303	64.81	ug/L		92
30) 1-chloropropane	6.93	42	166531	36.45	ug/L		90
31) methyl tert butyl ether	7.16	73	396291	56.13	ug/L		100
32) trans-1,2-dichloroethene	7.22	96	102840	41.32	ug/L		96
33) di-isopropyl ether	7.66	45	410814	47.83	ug/L		98
34) 2-butanone	8.37	72	16928	53.97	ug/L	#	49
35) 1,1-dichloroethane	7.75	63	204983	47.87	ug/L		97
36) chloroprene	7.82	53	136104	42.45	ug/L		99
37) acrylonitrile	7.23	53	258803	270.54	ug/L		98
38) vinyl acetate	7.70	86	18973	52.49	ug/L		100
39) ethyl tert-butyl ether	8.08	59	321197	41.35	ug/L		99
40) ethyl acetate	8.36	45	19073	47.73	ug/L		94
41) 2,2-dichloropropane	8.40	77	144238	46.44	ug/L		99
42) cis-1,2-dichloroethene	8.41	96	119945	48.22	ug/L		100

7.4.1
7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B43929.D
Acq On : 29 Jul 2014 3:55 pm
Operator : TOANP
Sample : jb72643-4ms
Misc : MS71276,V4B1890,w,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jul 30 10:16:19 2014
Quant Method : C:\MSDCHEM\1\METHODS\M4B1867.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 14 10:33:25 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
43) methylacrylate	8.44	85	20443	52.40 ug/L #	55
44) propionitrile	8.51	54	213600	520.50 ug/L	99
45) bromochloromethane	8.70	128	64214	52.05 ug/L	95
46) tetrahydrofuran	8.71	42	46971	46.04 ug/L	97
47) chloroform	8.74	85	125210	48.77 ug/L	99
48) T-BUTYL FORMATE	8.75	59	3643	1.65 ug/L #	50
51) freon 113	6.23	151	74814	44.23 ug/L	89
52) methacrylonitrile	8.65	41	87376	53.11 ug/L	98
53) 1,1,1-trichloroethane	8.96	97	148448	40.41 ug/L	99
54) cyclohexane	9.00	84	113704	36.18 ug/L	80
55) iso-butyl alcohol	9.12	43	79465	554.44 ug/L	98
57) epichlorohydrin	10.94	57	58207	187.51 ug/L	98
58) n-butyl alcohol	9.82	56	269163	2580.36 ug/L	97
59) carbon tetrachloride	9.13	117	136491	39.04 ug/L	98
60) 1,1-dichloropropene	9.11	75	126943	41.64 ug/L	99
61) hexane	7.44	57	119188	44.39 ug/L	99
63) benzene	9.36	78	400443	43.50 ug/L	99
64) iso-octane	9.30	57	209240	37.77 ug/L	99
65) tert-amyl methyl ether	9.36	87	70328	37.12 ug/L	96
66) heptane	9.45	57	68278	39.26 ug/L	97
67) isopropyl acetate	9.25	61	57167	42.20 ug/L	96
68) 1,2-dichloroethane	9.40	62	148626	48.63 ug/L	99
69) trichloroethene	10.02	95	98710	42.70 ug/L	99
72) 2-nitropropane	10.81	41	33957	28.69 ug/L #	14
74) methyl methacrylate	10.26	100	31952	45.01 ug/L	92
75) 1,2-dichloropropane	10.29	63	112987	45.65 ug/L	99
76) dibromomethane	10.46	93	79025	50.07 ug/L	98
77) methylcyclohexane	10.20	83	163553	42.09 ug/L	99
78) bromodichloromethane	10.58	83	157299	47.69 ug/L	99
79) cis-1,3-dichloropropene	11.01	75	181221	43.11 ug/L	97
81) 4-methyl-2-pentanone	11.10	58	62493	45.74 ug/L	99
82) toluene	11.36	92	220154	36.90 ug/L	99
83) 3-methyl-1-butanol	11.12	55	162720	985.92 ug/L	98
84) trans-1,3-dichloropropene	11.59	75	161025	37.26 ug/L	99
85) ethyl methacrylate	11.54	69	155228	37.78 ug/L	99
86) 1,1,2-trichloroethane	11.82	83	83898	40.42 ug/L	100
87) 2-hexanone	11.97	58	59055	43.37 ug/L	96
89) tetrachloroethene	11.96	164	72225	43.57 ug/L	95
90) 1,3-dichloropropane	12.00	76	161283	47.08 ug/L	97
91) butyl acetate	12.03	56	97268	50.26 ug/L	99
92) 3,3-DIMETHYL-1-BUTANOL	12.16	57	190862	546.27 ug/L	99
93) dibromochloromethane	12.29	129	118162	48.66 ug/L	98
94) 1,2-dibromoethane	12.45	107	108606	47.71 ug/L	97
96) chlorobenzene	12.92	112	265173	42.25 ug/L	99
97) 1,1,1,2-tetrachloroethane	12.98	131	120037	51.44 ug/L	100
98) ethylbenzene	12.96	91	429601	40.63 ug/L	100
99) m,p-xylene	13.07	106	323150	82.62 ug/L	94
100) o-xylene	13.53	106	177043	43.05 ug/L	96
101) styrene	13.55	104	318332	44.33 ug/L	100
102) bromoform	13.87	173	102291	49.42 ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B43929.D
Acq On : 29 Jul 2014 3:55 pm
Operator : TOANP
Sample : jb72643-4ms
Misc : MS71276,V4B1890,w,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jul 30 10:16:19 2014
Quant Method : C:\MSDCHEM\1\METHODS\M4B1867.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 14 10:33:25 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
104) isopropylbenzene	13.89	105	461899	40.16 ug/L	99
106) cyclohexanone	14.13	55	61746	233.60 ug/L	100
107) bromobenzene	14.36	156	139796	41.57 ug/L	92
108) 1,1,2,2-tetrachloroethane	14.27	83	180009	48.89 ug/L	100
109) trans-1,4-dichloro-2-buten	14.32	53	52723	52.32 ug/L	98
110) 1,2,3-trichloropropane	14.36	110	44363	50.85 ug/L	99
111) n-propylbenzene	14.34	91	554830	39.51 ug/L	100
113) 2-chlorotoluene	14.52	126	120110	40.23 ug/L	100
114) 4-chlorotoluene	14.63	91	372141	40.11 ug/L	100
115) 1,3,5-trimethylbenzene	14.50	105	402973	39.15 ug/L	98
116) tert-butylbenzene	14.89	119	352722	41.98 ug/L	97
117) pentachloroethane	15.01	167	92284	47.88 ug/L	99
118) 1,2,4-trimethylbenzene	14.94	105	423298	40.22 ug/L	99
119) sec-butylbenzene	15.13	105	528857	39.15 ug/L	100
120) 1,3-dichlorobenzene	15.36	146	278439	41.89 ug/L	99
121) p-isopropyltoluene	15.26	119	470850	39.77 ug/L	99
122) 1,4-dichlorobenzene	15.45	146	286638	42.54 ug/L	100
123) benzyl chloride	15.59	91	365802	50.17 ug/L	100
124) 1,2-dichlorobenzene	15.89	146	292508	43.55 ug/L	100
126) n-butylbenzene	15.72	92	254919	41.54 ug/L	99
128) 1,2-dibromo-3-chloropropan	16.76	75	41665	54.19 ug/L	97
129) 1,3,5-TRICHLOROBENZENE	16.92	180	264971	44.53 ug/L	99
130) 1,2,4-trichlorobenzene	17.60	180	255158	48.37 ug/L	98
131) hexachlorobutadiene	17.69	225	96445	39.37 ug/L	100
132) naphthalene	17.91	128	646730	57.46 ug/L	100
133) 1,2,3-trichlorobenzene	18.17	180	243747	53.80 ug/L	99
134) hexachloroethane	16.16	201	84329	39.01 ug/L	99

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

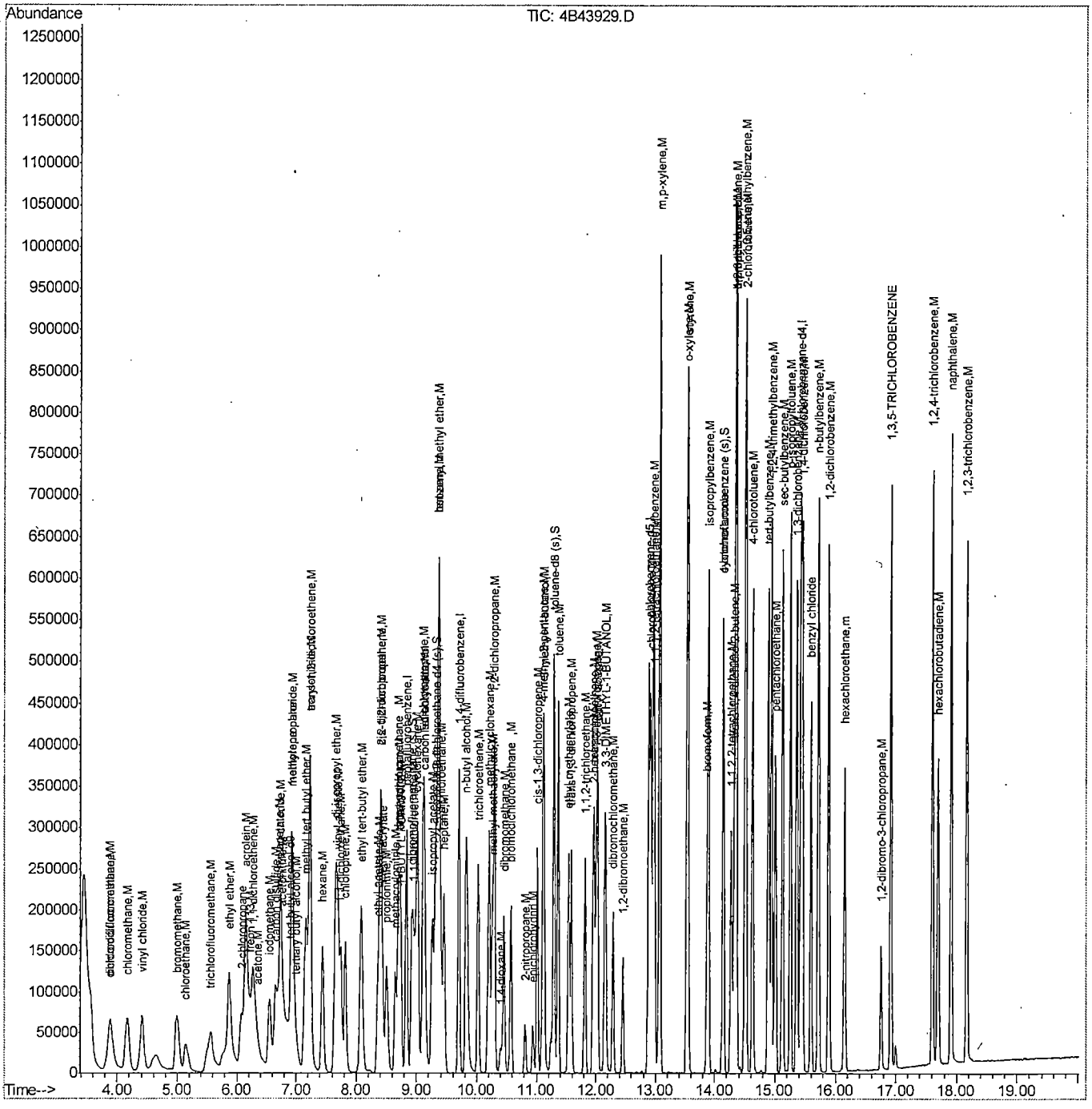
7.4.1

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B43929.D
Acq On : 29 Jul 2014 3:55 pm
Operator : TOANP
Sample : jb72643-4ms
Misc : MS71276,V4B1890,w,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jul 30 10:16:19 2014
Quant Method : C:\MSDCHEM\1\METHODS\M4B1867.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 14 10:33:25 2014
Response via : Initial Calibration



Manual Integration Approval Summary

Sample Number:	JB72643-4MS	**Method:**	SW846 8260B
Lab FileID:	4B43929.D	**Analyst approved:**	07/30/14 14:50 Dong, Mei
Injection Time:	07/29/14 15:55	**Supervisor approved:**	07/30/14 17:51 Kanya Veerawat

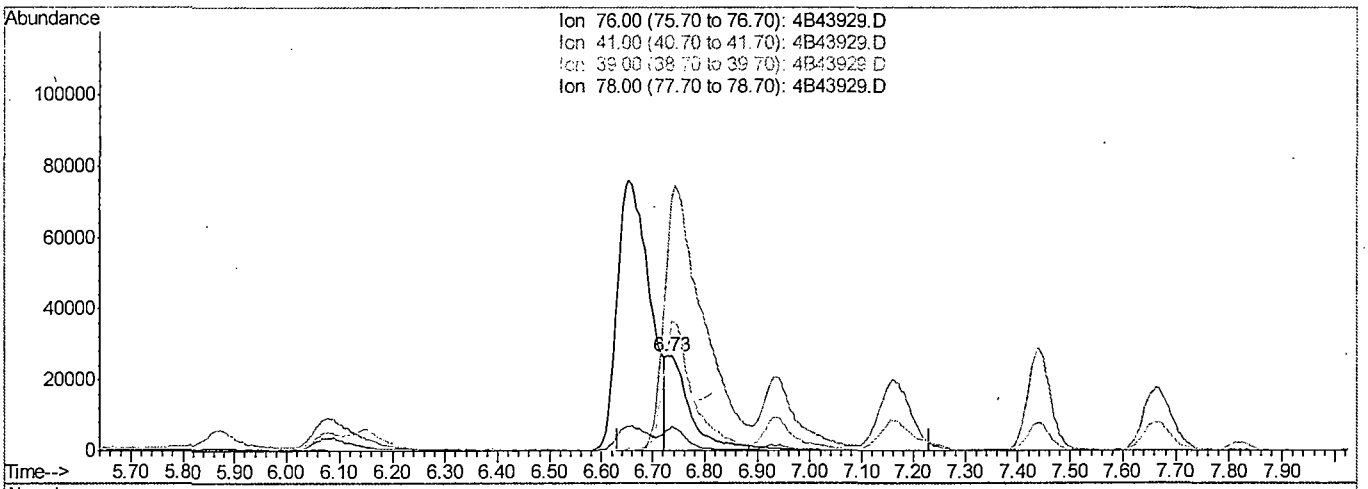
Parameter	CAS	Sig#	R.T. (min.)	Reason
Allyl chloride	107-05-1		6.73	Poor instrument integration

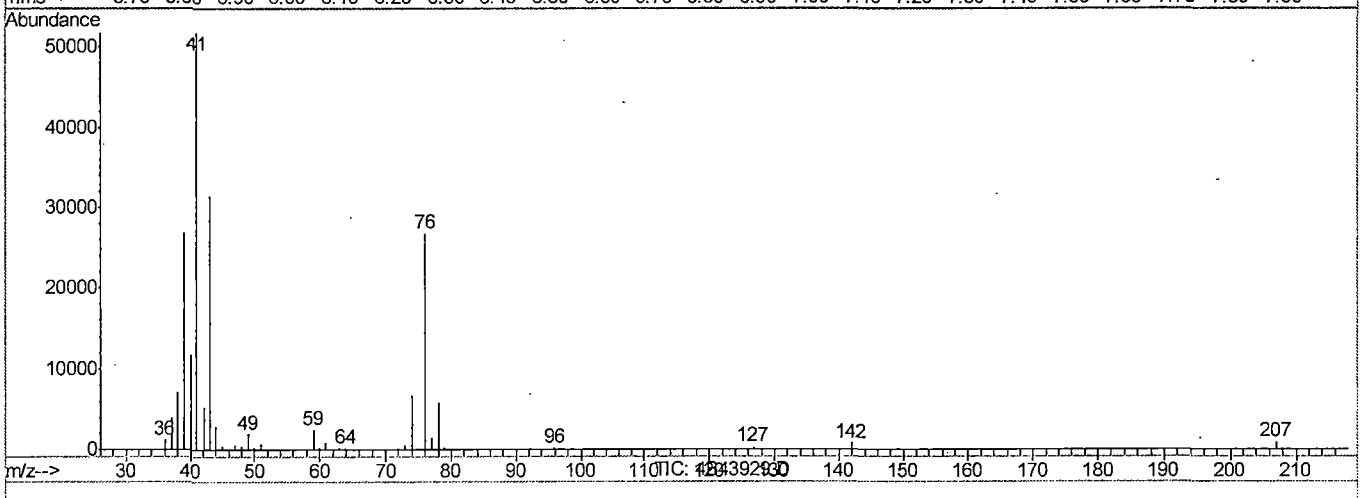
Quantitation Report (Qedit)

Data File : C:\MSDChem\1\DATA\4B43929.D Vial: 14
Acq On : 29 Jul 2014 3:55 pm Operator: TOANP
Sample : jb71643-4ms Inst : MS4B
Misc : MS71276,V4B1890,w,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Jul 29 16:22:13 2014 Results File: M4B1867.RES

Method : C:\MSDCHEM\1\METHODS\M4B1867.M (RTE Integrator)
Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
Last Update : Mon Jul 14 10:33:25 2014
Response via : Multiple Level Calibration





(24) allyl chloride (M)

6.73min 51.04ug/L m

response 83979

Ion	Exp%	Act%
76.00	100	100
41.00	191.40	193.22
39.00	108.10	100.33
78.00	22.70	21.73

ACCUTEST LABORATORIES JB72431

4B43929.D edits: allyl chloride

Manual Integrations APPROVED (compounds with "m" flag)
Kanya Veerawat
07/30/14 17:51

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 4B43930.D
Acq On : 29 Jul 2014 4:23 pm
Operator : TOANP
Sample : jb72643-4msd
Misc : MS71276,V4B1890,w,,,,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Jul 30 10:16:42 2014
Quant Method : C:\MSDCHEM\1\METHODS\M4B1867.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 14 10:33:25 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	6.89	65	193888	500.00	ug/L	0.00
5) pentafluorobenzene	8.84	168	270817	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.70	114	359957	50.00	ug/L	0.00
88) chlorobenzene-d5	12.88	117	366526	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.43	152	200396	50.00	ug/L	0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.92	113	114832	52.44	ug/L	0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 104.88%			
50) 1,2-dichloroethane-d4 (s)	9.32	65	126439	50.10	ug/L	0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 100.20%			
80) toluene-d8 (s)	11.29	98	445087	49.17	ug/L	0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 98.34%			
105) 4-bromofluorobenzene (s)	14.14	95	175089	44.89	ug/L	0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 89.78%			
Target Compounds						Qvalue
2) tertiary butyl alcohol	6.99	59	121220	223.54	ug/L	99
3) 1,4-dioxane	10.41	88	48350	1054.35	ug/L	93
7) chlorodifluoromethane	3.89	51	146612	52.85	ug/L	99
8) dichlorodifluoromethane	3.87	85	156437	50.76	ug/L	97
10) chloromethane	4.17	52	65345	54.06	ug/L	98
11) vinyl chloride	4.42	62	194517	47.33	ug/L	98
12) bromomethane	5.00	94	122417	55.64	ug/L	99
13) chloroethane	5.14	64	90178	54.73	ug/L	98
15) trichlorofluoromethane	5.56	101	189524	46.43	ug/L	98
19) ethyl ether	5.87	74	66941	52.82	ug/L #	72
20) 2-chloropropane	6.07	43	164267	38.68	ug/L #	71
21) acrolein	6.16	56	364063	618.82	ug/L	97
22) 1,1-dichloroethene	6.28	96	100080	41.16	ug/L	98
23) acetone	6.33	58	15034	58.21	ug/L #	85
24) allyl chloride	6.72	76	96588m	58.07	ug/L	
25) acetonitrile	6.76	40	148360	545.91	ug/L #	71
26) iodomethane	6.55	142	234613	45.54	ug/L	100
27) carbon disulfide	6.66	76	362545	43.69	ug/L	99
28) methylene chloride	6.93	84	143316	52.96	ug/L	100
29) methyl acetate	6.72	74	26292	64.08	ug/L	91
30) 1-chloropropane	6.94	42	178052	38.71	ug/L	92
31) methyl tert butyl ether	7.16	73	410239	57.48	ug/L	100
32) trans-1,2-dichloroethene	7.23	96	111099	44.16	ug/L	97
33) di-isopropyl ether	7.66	45	433617	49.93	ug/L	98
34) 2-butanone	8.37	72	17296	54.55	ug/L #	72
35) 1,1-dichloroethane	7.75	63	215699	49.83	ug/L	99
36) chloroprene	7.82	53	144665	44.63	ug/L	97
37) acrylonitrile	7.23	53	262651	271.60	ug/L	97
38) vinyl acetate	7.70	86	19994	54.72	ug/L	97
39) ethyl tert-butyl ether	8.08	59	333663	42.49	ug/L	99
40) ethyl acetate	8.36	45	20380	50.45	ug/L	86
41) 2,2-dichloropropane	8.40	77	155124	49.41	ug/L	97
42) cis-1,2-dichloroethene	8.41	96	126776	50.41	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 4B43930.D
Acq On : 29 Jul 2014 4:23 pm
Operator : TOANP
Sample : jb72643-4msd
Misc : MS71276,V4B1890,w,,,,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Jul 30 10:16:42 2014
Quant Method : C:\MSDCHEM\1\METHODS\M4B1867.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 14 10:33:25 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
43) methylacrylate	8.44	85	22017	55.82	ug/L	#	64
44) propionitrile	8.51	54	214373	516.73	ug/L		98
45) bromochloromethane	8.70	128	66473	53.30	ug/L		97
46) tetrahydrofuran	8.71	42	47726	46.27	ug/L		94
47) chloroform	8.74	85	129993	50.08	ug/L		100
48) T-BUTYL FORMATE	8.75	59	2982	1.33	ug/L	#	48
51) freon 113	6.24	151	83940	49.09	ug/L		90
52) methacrylonitrile	8.65	41	116408	69.99	ug/L		99
53) 1,1,1-trichloroethane	8.96	97	162571	43.75	ug/L		97
54) cyclohexane	9.00	84	124952	39.33	ug/L		99
55) iso-butyl alcohol	9.13	43	80707	557.01	ug/L		99
57) epichlorohydrin	10.94	57	66058	210.38	ug/L		98
58) n-butyl alcohol	9.82	56	286691	2717.14	ug/L		97
59) carbon tetrachloride	9.13	117	147121	41.62	ug/L		97
60) 1,1-dichloropropene	9.11	75	132403	42.94	ug/L		99
61) hexane	7.44	57	127844	47.08	ug/L		100
63) benzene	9.36	78	415045	44.57	ug/L		99
64) iso-octane	9.30	57	224252	40.02	ug/L		100
65) tert-amyl methyl ether	9.35	87	72056	37.60	ug/L		99
66) heptane	9.45	57	76434	43.45	ug/L		98
67) isopropyl acetate	9.26	61	62438	45.56	ug/L	#	89
68) 1,2-dichloroethane	9.40	62	150716	48.75	ug/L		99
69) trichloroethene	10.02	95	103251	44.16	ug/L		99
72) 2-nitropropane	10.81	41	38914	32.51	ug/L	#	16
74) methyl methacrylate	10.26	100	39338	54.78	ug/L		91
75) 1,2-dichloropropane	10.29	63	120944	48.31	ug/L		97
76) dibromomethane	10.46	93	82567	51.72	ug/L		99
77) methylcyclohexane	10.21	83	177183	45.08	ug/L		98
78) bromodichloromethane	10.58	83	164886	49.42	ug/L		98
79) cis-1,3-dichloropropene	11.02	75	214613	50.47	ug/L		98
81) 4-methyl-2-pentanone	11.10	58	69013	49.93	ug/L		90
82) toluene	11.37	92	271908	45.06	ug/L		99
83) 3-methyl-1-butanol	11.12	55	172315	1033.38	ug/L		98
84) trans-1,3-dichloropropene	11.59	75	200512	45.87	ug/L		99
85) ethyl methacrylate	11.54	69	183900	44.25	ug/L		98
86) 1,1,2-trichloroethane	11.82	83	102729	48.94	ug/L		100
87) 2-hexanone	11.97	58	65059	47.23	ug/L		93
89) tetrachloroethene	11.96	164	88697	44.34	ug/L		99
90) 1,3-dichloropropane	12.01	76	197795	47.85	ug/L		98
91) butyl acetate	12.03	56	104632	44.80	ug/L		98
92) 3,3-DIMETHYL-1-BUTANOL	12.16	57	196891	467.18	ug/L		99
93) dibromochloromethane	12.29	129	145905	49.79	ug/L		98
94) 1,2-dibromoethane	12.45	107	131622	47.92	ug/L		97
96) chlorobenzene	12.92	112	329107	43.45	ug/L		98
97) 1,1,1,2-tetrachloroethane	12.98	131	134123	47.63	ug/L		99
98) ethylbenzene	12.96	91	525384	41.18	ug/L		100
99) m,p-xylene	13.07	106	397131	84.14	ug/L		96
100) o-xylene	13.53	106	214780	43.28	ug/L		96
101) styrene	13.55	104	364744	42.09	ug/L		99
102) bromoform	13.87	173	114484	45.83	ug/L		99

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 4B43930.D
Acq On : 29 Jul 2014 4:23 pm
Operator : TOANP
Sample : jb72643-4msd
Misc : MS71276,V4B1890,w,,,,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Jul 30 10:16:42 2014
Quant Method : C:\MSDCHEM\1\METHODS\M4B1867.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 14 10:33:25 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
104) isopropylbenzene	13.89	105	555813	47.47 ug/L	100
106) cyclohexanone	14.13	55	61796	228.37 ug/L	100
107) bromobenzene	14.36	156	154869	45.23 ug/L	96
108) 1,1,2,2-tetrachloroethane	14.27	83	202054	54.00 ug/L	99
109) trans-1,4-dichloro-2-buten	14.32	53	53909	52.55 ug/L	98
110) 1,2,3-trichloropropane	14.36	110	48007	54.05 ug/L	99
111) n-propylbenzene	14.34	91	632087	44.21 ug/L	100
113) 2-chlorotoluene	14.52	126	137460	45.23 ug/L	96
114) 4-chlorotoluene	14.63	91	405873	42.96 ug/L	99
115) 1,3,5-trimethylbenzene	14.50	105	482267	46.02 ug/L	98
116) tert-butylbenzene	14.89	119	396558	46.35 ug/L	97
117) pentachloroethane	15.01	167	103191	52.59 ug/L	100
118) 1,2,4-trimethylbenzene	14.94	105	481095	44.90 ug/L	99
119) sec-butylbenzene	15.13	105	625522	45.48 ug/L	98
120) 1,3-dichlorobenzene	15.36	146	296243	43.78 ug/L	98
121) p-isopropyltoluene	15.26	119	534964	44.38 ug/L	98
122) 1,4-dichlorobenzene	15.45	146	297646	43.39 ug/L	99
123) benzyl chloride	15.59	91	366674	49.39 ug/L	100
124) 1,2-dichlorobenzene	15.89	146	307770	45.01 ug/L	99
126) n-butylbenzene	15.71	92	273902	43.83 ug/L	96
128) 1,2-dibromo-3-chloropropan	16.76	75	41705	53.28 ug/L	95
129) 1,3,5-TRICHLOROBENZENE	16.92	180	275792	45.53 ug/L	100
130) 1,2,4-trichlorobenzene	17.60	180	266282	49.58 ug/L	99
131) hexachlorobutadiene	17.70	225	107798	43.22 ug/L	99
132) naphthalene	17.91	128	664752	58.01 ug/L	100
133) 1,2,3-trichlorobenzene	18.17	180	255153	55.32 ug/L	99
134) hexachloroethane	16.16	201	90326	40.94 ug/L	99

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

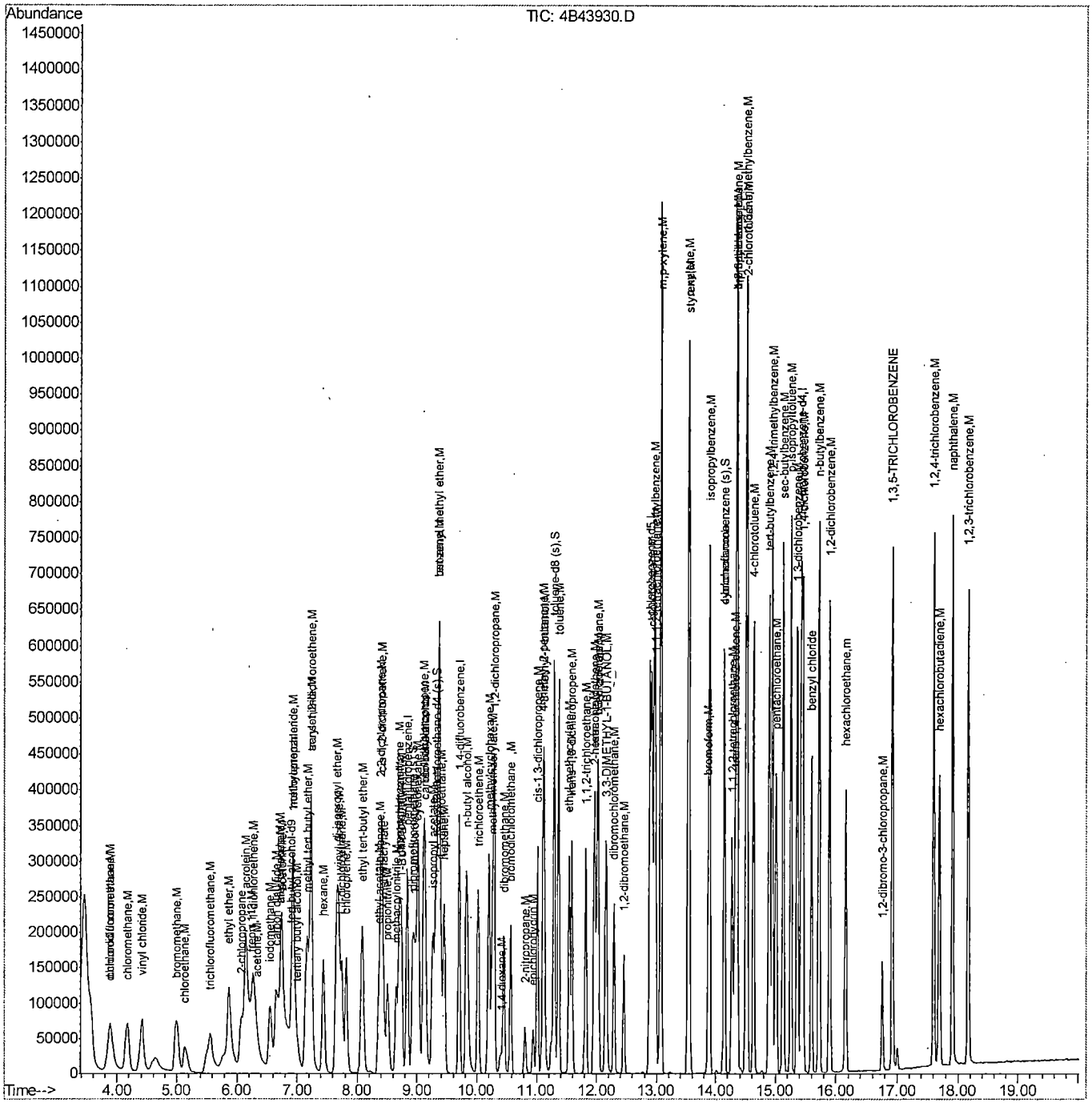
7.4.2

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 4B43930.D
Acq On : 29 Jul 2014 4:23 pm
Operator : TOANP
Sample : jb72643-4msd
Misc : MS71276,V4B1890,w,,,,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Jul 30 10:16:42 2014
Quant Method : C:\MSDCHEM\1\METHODS\M4B1867.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 14 10:33:25 2014
Response via : Initial Calibration



Manual Integration Approval Summary

Sample Number: JB72643-4MSD
Lab FileID: 4B43930.D
Injection Time: 07/29/14 16:23

Method: SW846 8260B
Analyst approved: 07/30/14 14:50 Dong, Mei
Supervisor approved: 07/30/14 17:51 Kanya Veerawat

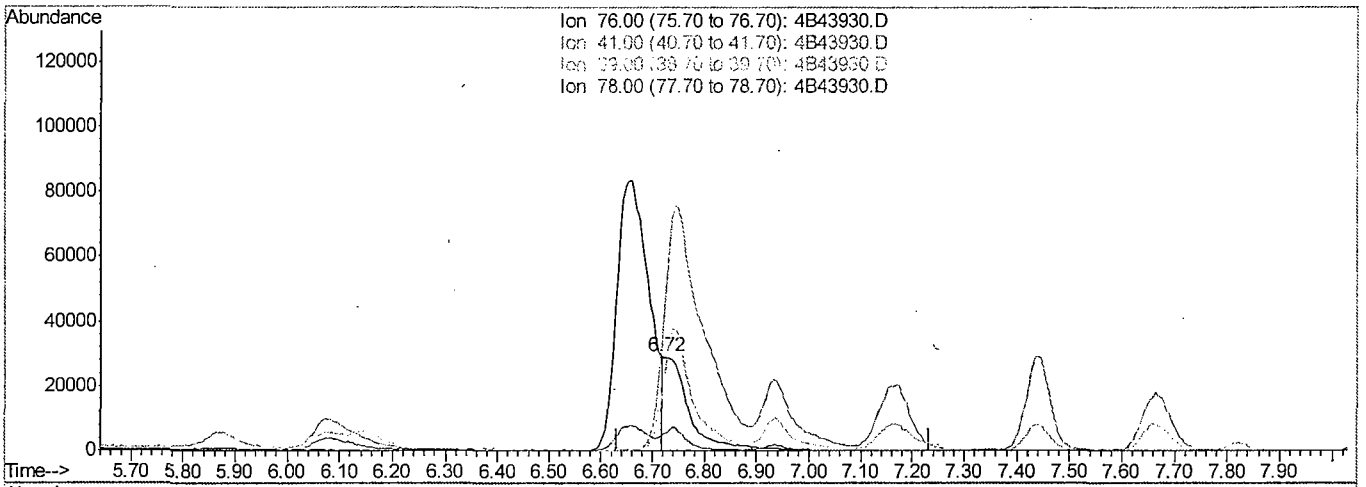
Parameter	CAS	Sig#	R.T. (min.)	Reason
Allyl chloride	107-05-1		6.72	Poor instrument integration

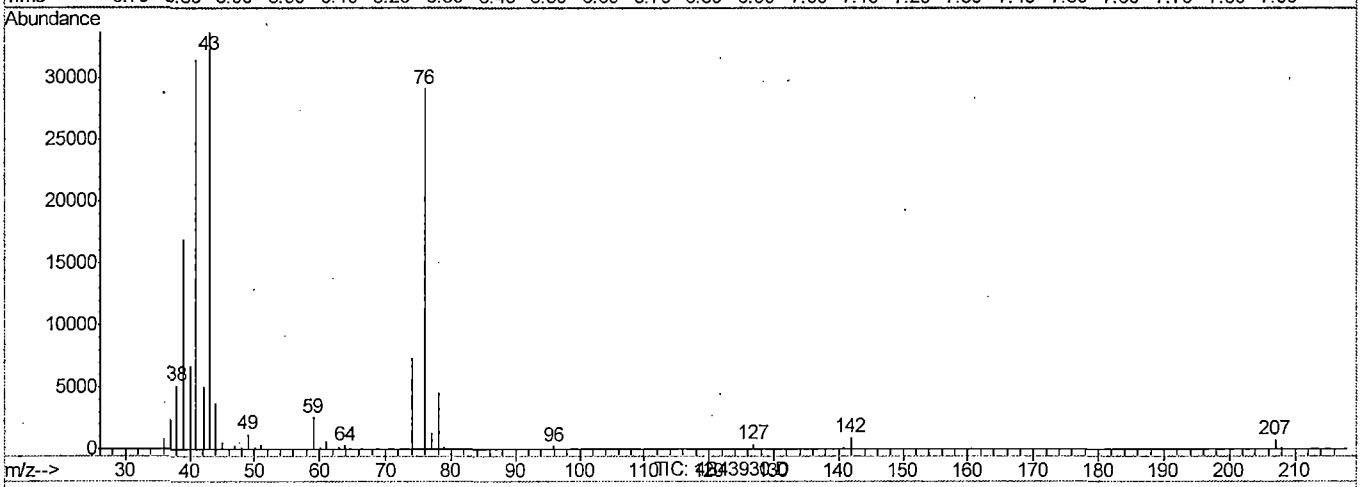
Quantitation Report (Qedit)

Data File : C:\MSDChem\1\DATA\4B43930.D Vial: 15
Acq On : 29 Jul 2014 4:23 pm Operator: TOANP
Sample : jb71643-4msd Inst : MS4B
Misc : MS71276,V4B1890,w,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Jul 30 08:34:31 2014 Results File: M4B1867.RES

Method : C:\MSDCHEM\1\METHODS\M4B1867.M (RTE Integrator)
Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
Last Update : Mon Jul 14 10:33:25 2014
Response via : Multiple Level Calibration





(24) allyl chloride (M)

6.72min 58.07ug/L m

response 96588

Ion	Exp%	Act%
76.00	100	100
41.00	191.40	107.86#
39.00	108.10	57.98#
78.00	22.70	15.59

4B43930.D M4B1867.M Wed Jul 30 10:16:35 2014 GCMS4B

4B43930.D edits: allyl chloride

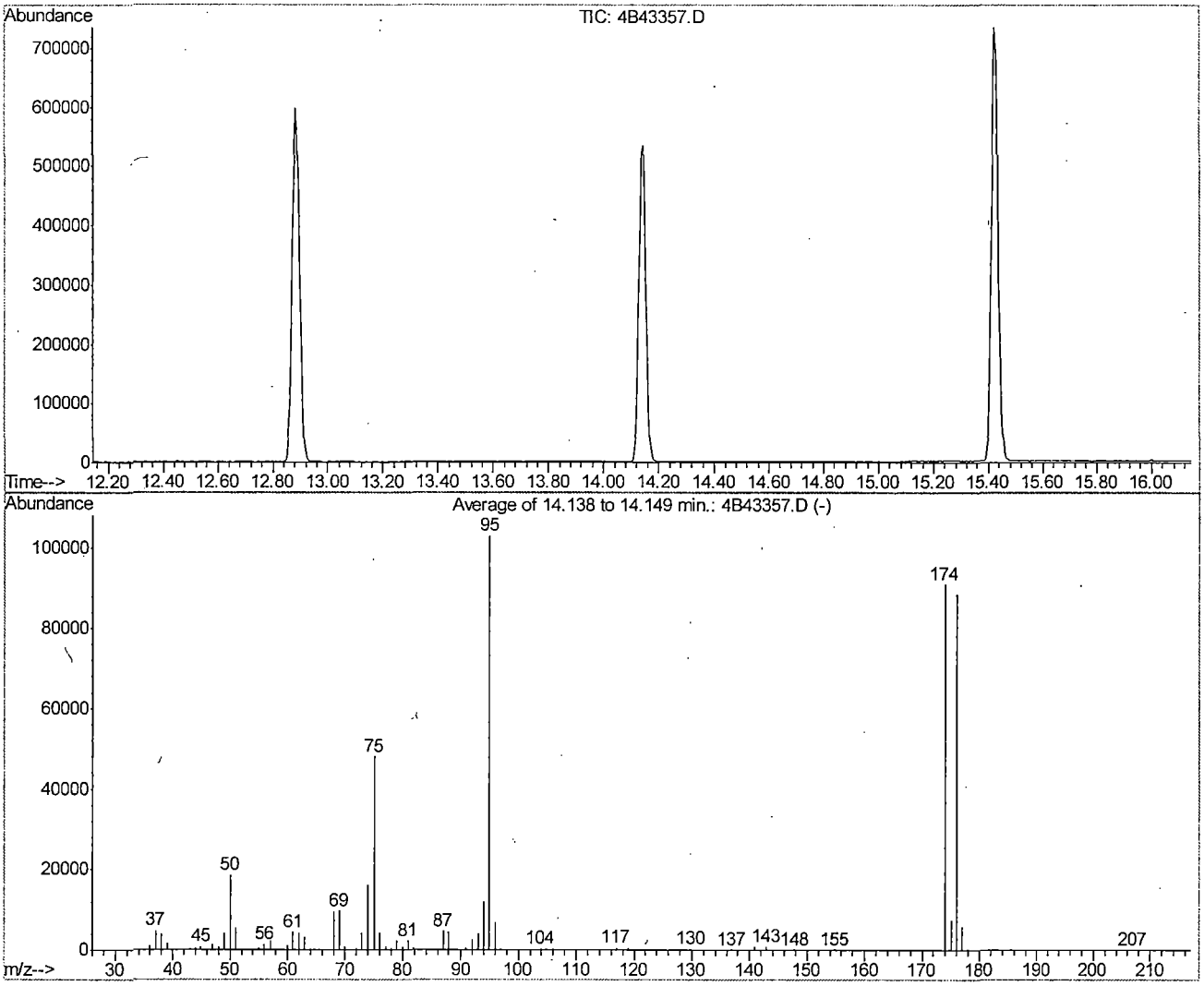
JB72431

7.4.2.2

SW-846 Method 8260

Data File : C:\MSDChem\1\DATA\4B43357.D Vial: 1
Acq On : 10 Jul 2014 3:39 pm Operator: TOANP
Sample : bfb Inst : MS4B
Misc : MS69789,V4B1867,w,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M4B1867.M (RTE Integrator)
Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um



AutoFind: Scans 2057, 2058, 2059; Background Corrected with Scan 2047

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	18.0	18518	PASS
75	95	30	60	46.5	47970	PASS
95	95	100	100	100.0	103101	PASS
96	95	5	9	6.6	6827	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	88.3	91066	PASS
175	174	5	9	8.1	7393	PASS
176	174	95	101	97.2	88544	PASS
177	176	5	9	6.6	5819	PASS

4B43357.D M4B1867.M Fri Jul 11 10:31:42 2014 GCMS4B

Average of 14.138 to 14.149 min.: 4B43357.D
bfb
dified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.00	1133	48.05	685	63.00	3126	77.95	497
37.00	4876	49.00	4273	64.00	300	78.90	2289
38.00	4073	50.00	18518	68.00	9618	79.95	703
39.00	1654	51.00	5622	69.00	9657	80.90	2378
39.95	13	52.00	265	70.00	744	81.90	490
40.90	51	55.00	412	72.00	606	86.95	4683
41.05	103	56.00	1375	72.95	4320	87.90	4420
43.05	145	57.00	2510	74.00	16041	90.90	413
44.00	475	60.00	990	75.00	47970	92.00	2542
45.00	921	61.00	4467	76.00	4149	93.00	4034
47.00	1404	62.00	4334	77.00	681	94.00	12022

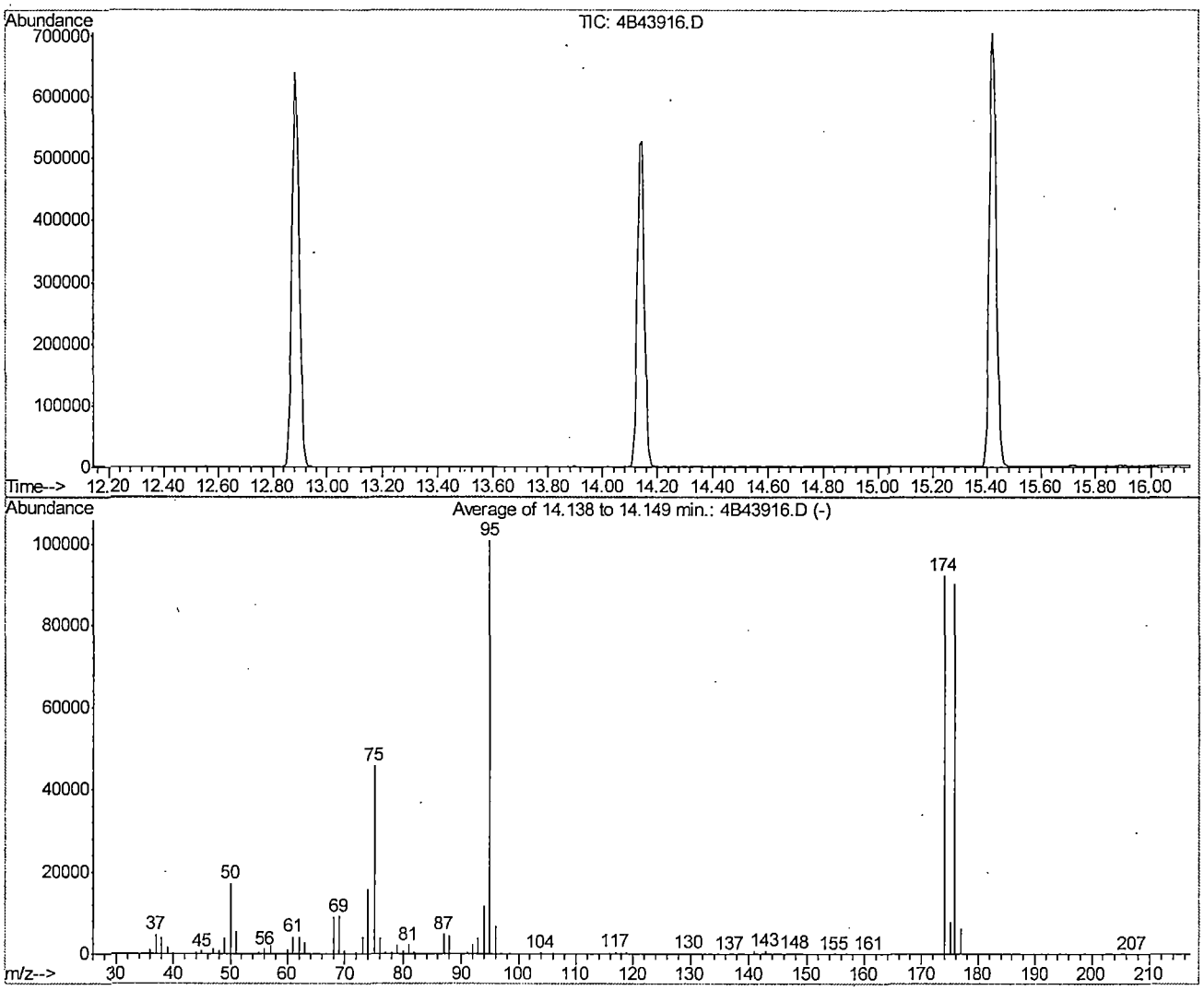
Average of 14.138 to 14.149 min.: 4B43357.D
bfb
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
95.00	103101	128.90	126	175.00	7393		
96.00	6827	129.90	388	175.90	88544		
97.00	220	130.90	51	176.90	5819		
103.90	375	136.90	168	177.90	188		
104.90	178	140.90	823	206.95	17		
105.90	366	142.90	847				
115.85	300	146.90	110				
116.90	623	147.85	234				
117.85	292	154.90	238				
118.90	443	156.95	130				
127.85	347	173.90	91066				

SW-846 Method 8260

Data File : C:\MSDChem\1\DATA\4B43916.D Vial: 1
Acq On : 29 Jul 2014 9:38 am Operator: TOANP
Sample : BFB Inst : MS4B
Misc : MS71276V4B1890,w,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M4B1867.M (RTE Integrator)
Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um



AutoFind: Scans 2057, 2058, 2059; Background Corrected with Scan 2047

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.0	17192	PASS
75	95	30	60	45.4	45832	PASS
95	95	100	100	100.0	100909	PASS
96	95	5	9	6.7	6730	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	91.5	92285	PASS
175	174	5	9	8.5	7868	PASS
176	174	95	101	97.6	90088	PASS
177	176	5	9	6.8	6115	PASS

4B43916.D M4B1867.M Wed Jul 30 10:06:04 2014 GCMS4B

Average of 14.138 to 14.149 min.: 4B43916.D
BFB
dified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.00	976	49.00	3971	63.95	243	78.90	2194
37.00	4735	50.00	17192	68.00	9167	79.95	718
38.00	3846	51.00	5402	69.00	9303	80.90	2287
39.00	1547	51.95	137	70.00	735	81.85	496
40.00	251	55.00	436	71.95	562	86.95	4849
40.95	108	56.00	1286	73.00	4199	88.00	4303
41.90	57	57.00	2178	74.00	15840	91.00	418
44.00	467	60.00	944	75.00	45832	92.00	2388
45.00	734	61.00	4176	76.00	3856	93.00	3878
47.00	1419	62.00	4080	76.90	608	94.00	11741
48.05	711	63.00	2943	78.00	505	95.00	100909

Average of 14.138 to 14.149 min.: 4B43916.D
BFB
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
96.00	6730	129.85	322	173.90	92285		
97.00	176	130.80	59	175.00	7868		
103.90	423	134.90	76	175.90	90088		
104.90	51	136.80	123	176.90	6115		
105.95	340	140.90	837	177.95	201		
115.90	321	142.90	888	207.00	66		
116.90	558	145.90	110				
117.85	308	147.90	271				
118.85	431	154.85	234				
127.90	298	156.95	178				
128.85	128	160.80	54				

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B43358.D
Acq On : 10 Jul 2014 4:17 pm
Operator : TOANP
Sample : ic1867-0.2
Misc : MS69789,V4B1867,w,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 11 10:17:59 2014
Quant Method : C:\MSDCHEM\1\METHODS\M4B1867.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 11 08:33:29 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	6.88	65	162971	500.00	ug/L	-0.02
5) pentafluorobenzene	8.83	168	243826	50.00	ug/L	-0.02
56) 1,4-difluorobenzene	9.70	114	305811	50.00	ug/L	-0.02
88) chlorobenzene-d5	12.89	117	334467	50.00	ug/L	-0.01
103) 1,4-dichlorobenzene-d4	15.43	152	191201	50.00	ug/L	-0.02
System Monitoring Compounds						
49) dibromofluoromethane (s)	0.00	113	0d	0.00	ug/L	
Spiked Amount 50.000	Range 79 - 120		Recovery =	0.00%#		
50) 1,2-dichloroethane-d4 (s)	0.00	65	0d	0.00	ug/L	
Spiked Amount 50.000	Range 72 - 123		Recovery =	0.00%#		
80) toluene-d8 (s)	11.29	98	1688	0.22	ug/L	-0.01
Spiked Amount 50.000	Range 78 - 119		Recovery =	0.44%#		
105) 4-bromofluorobenzene (s)	0.00	95	0d	0.00	ug/L	
Spiked Amount 50.000	Range 74 - 119		Recovery =	0.00%#		
Target Compounds						Qvalue
27) carbon disulfide	6.66	76	1358	0.18	ug/L	69
33) di-isopropyl ether	7.65	45	1402	0.18	ug/L	72
39) ethyl tert-butyl ether	8.08	59	1163	0.16	ug/L #	41
42) cis-1,2-dichloroethene	8.42	96	386	0.17	ug/L #	41
63) benzene	9.36	78	1639	0.21	ug/L	82
68) 1,2-dichloroethane	9.41	62	499	0.19	ug/L #	50
79) cis-1,3-dichloropropene	11.02	75	712	0.20	ug/L	76
82) toluene	11.37	92	1097	0.22	ug/L	77
84) trans-1,3-dichloropropene	11.59	75	821	0.22	ug/L	72
90) 1,3-dichloropropane	12.01	76	730	0.19	ug/L	72
94) 1,2-dibromoethane	12.45	107	487	0.19	ug/L	83
96) chlorobenzene	12.92	112	1343	0.19	ug/L	85
98) ethylbenzene	12.96	91	2377	0.20	ug/L	88
99) m,p-xylene	13.07	106	1650	0.38	ug/L	99
100) o-xylene	13.53	106	863	0.19	ug/L #	81

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

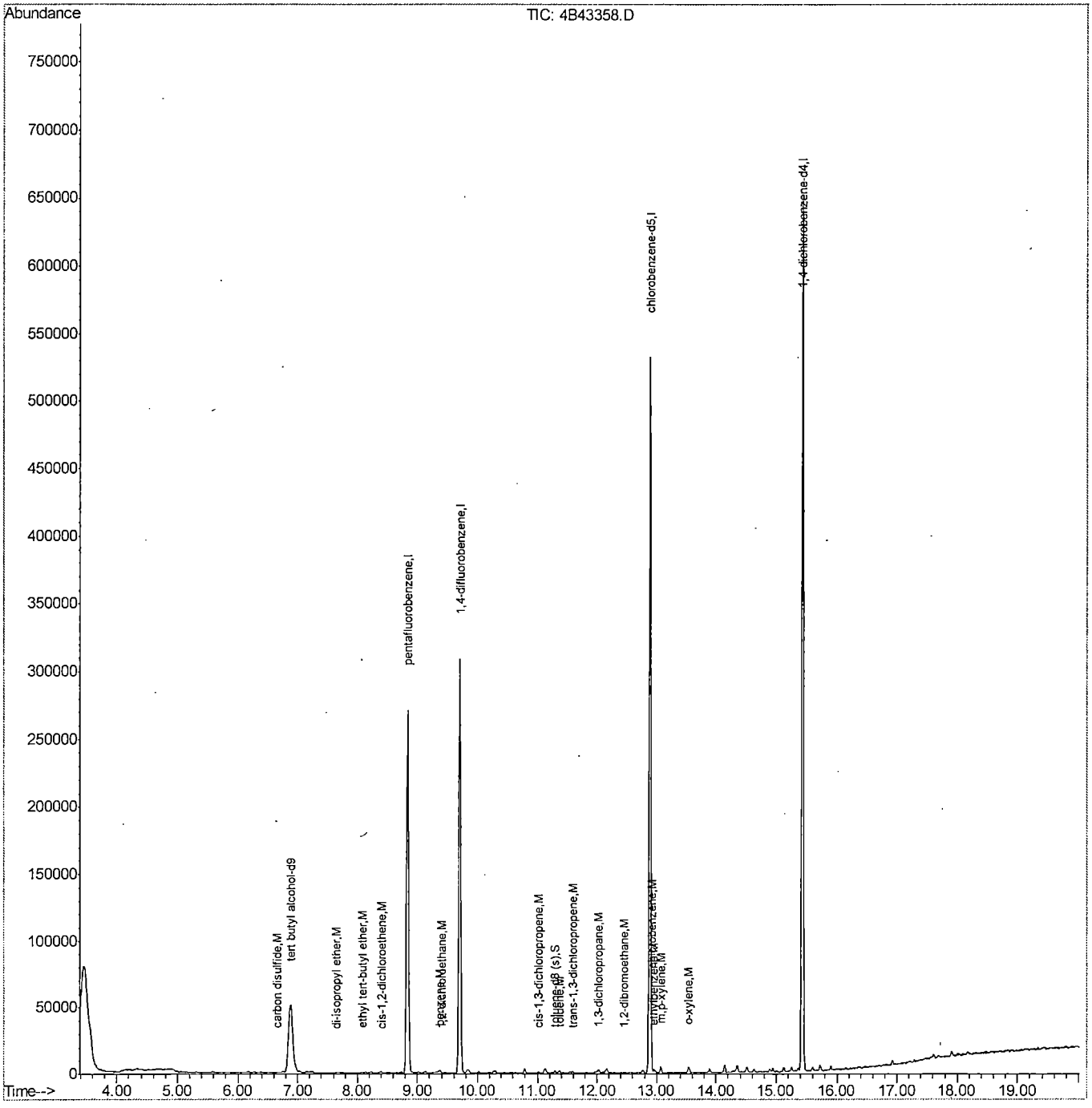
7.6.1

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B43358.D
Acq On : 10 Jul 2014 4:17 pm
Operator : TOANP
Sample : ic1867-0.2
Misc : MS69789,V4B1867,w,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 11 10:17:59 2014
Quant Method : C:\MSDCHEM\1\METHODS\M4B1867.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 11 08:33:29 2014
Response via : Initial Calibration



ACCUTEST LABORATORIES JB72431

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B43359.D
Acq On : 10 Jul 2014 4:44 pm
Operator : TOANP
Sample : ic1867-0.5
Misc : MS69789,V4B1867,w,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 11 10:12:05 2014
Quant Method : C:\MSDCHEM\1\METHODS\M4B1867.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 11 08:33:29 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	6.88	65	135128	500.00	ug/L	-0.02
5) pentafluorobenzene	8.84	168	244881	50.00	ug/L	-0.01
56) 1,4-difluorobenzene	9.70	114	309477	50.00	ug/L	-0.02
88) chlorobenzene-d5	12.89	117	338848	50.00	ug/L	-0.01
103) 1,4-dichlorobenzene-d4	15.43	152	194184	50.00	ug/L	-0.02
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.93	113	865	0.44	ug/L	-0.02
Spiked Amount 50.000	Range 79 - 120		Recovery =	0.88%#		
50) 1,2-dichloroethane-d4 (s)	9.32	65	1180	0.52	ug/L	-0.02
Spiked Amount 50.000	Range 72 - 123		Recovery =	1.04%#		
80) toluene-d8 (s)	11.29	98	3854	0.50	ug/L	-0.01
Spiked Amount 50.000	Range 78 - 119		Recovery =	1.00%#		
105) 4-bromofluorobenzene (s)	0.00	95	0d	0.00	ug/L	
Spiked Amount 50.000	Range 74 - 119		Recovery =	0.00%#		
Target Compounds						Qvalue
22) 1,1-dichloroethene	6.30	96	1227	0.56	ug/L #	41
27) carbon disulfide	6.65	76	3544	0.47	ug/L	86
28) methylene chloride	6.92	84	1228	0.50	ug/L	88
31) methyl tert butyl ether	7.16	73	3605	0.56	ug/L	88
32) trans-1,2-dichloroethene	7.22	96	1405	0.62	ug/L #	69
33) di-isopropyl ether	7.67	45	4604	0.58	ug/L	88
35) 1,1-dichloroethane	7.74	63	1894	0.48	ug/L	84
36) chloroprene	7.82	53	1408	0.48	ug/L	90
37) acrylonitrile	7.25	53	2339	2.67	ug/L	92
39) ethyl tert-butyl ether	8.09	59	4257	0.59	ug/L	96
41) 2,2-dichloropropane	8.41	77	1579	0.56	ug/L	81
42) cis-1,2-dichloroethene	8.41	96	1214	0.53	ug/L #	79
46) tetrahydrofuran	8.73	42	564	0.60	ug/L #	34
47) chloroform	8.74	85	1091	0.46	ug/L	89
48) T-BUTYL FORMATE	8.76	59	1145	0.57	ug/L #	70
61) hexane	7.44	57	977	0.42	ug/L #	65
63) benzene	9.37	78	4035	0.51	ug/L	97
64) iso-octane	9.30	57	2231	0.46	ug/L #	68
65) tert-amyl methyl ether	9.37	87	962	0.58	ug/L #	23
67) isopropyl acetate	9.27	61	667	0.57	ug/L #	46
68) 1,2-dichloroethane	9.41	62	1270	0.48	ug/L	93
69) trichloroethene	10.02	95	979	0.49	ug/L	91
74) methyl methacrylate	10.27	100	301	0.49	ug/L #	86
75) 1,2-dichloropropane	10.30	63	1115	0.52	ug/L	88
76) dibromomethane	10.47	93	661	0.48	ug/L	88
77) methylcyclohexane	10.21	83	1412	0.42	ug/L	95
78) bromodichloromethane	10.58	83	1577	0.55	ug/L	90
79) cis-1,3-dichloropropene	11.02	75	2008	0.55	ug/L	80
82) toluene	11.37	92	2807	0.55	ug/L #	77
84) trans-1,3-dichloropropene	11.59	75	2302	0.62	ug/L	89
89) tetrachloroethene	11.96	164	773	0.42	ug/L	83
90) 1,3-dichloropropane	12.02	76	2431	0.63	ug/L	84
94) 1,2-dibromoethane	12.45	107	1601	0.63	ug/L	96

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B43359.D
Acq On : 10 Jul 2014 4:44 pm
Operator : TOANP
Sample : ic1867-0.5
Misc : MS69789,V4B1867,w,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 11 10:12:05 2014
Quant Method : C:\MSDCHEM\1\METHODS\M4B1867.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 11 08:33:29 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
96) chlorobenzene	12.93	112	4352	0.62 ug/L	85
98) ethylbenzene	12.96	91	6996	0.59 ug/L	92
99) m,p-xylene	13.08	106	5034	1.15 ug/L	97
100) o-xylene	13.53	106	2811	0.61 ug/L	96
134) hexachloroethane	16.16	201	1135	0.61 ug/L	92

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

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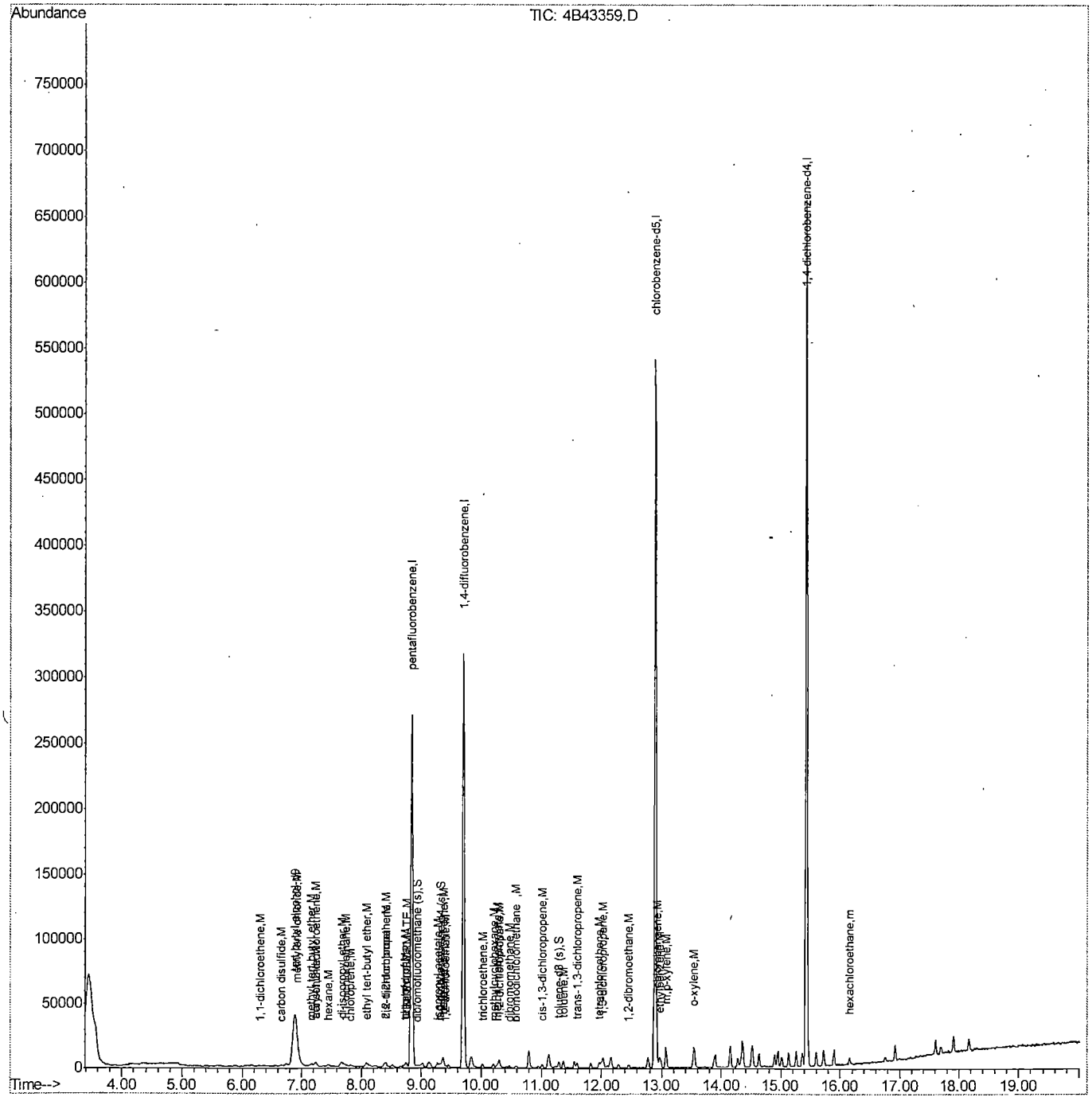
Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B43359.D
Acq On : 10 Jul 2014 4:44 pm
Operator : TOANP
Sample : ic1867-0.5
Misc : MS69789,V4B1867,w,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 11 10:12:05 2014
Quant Method : C:\MSDCHEM\1\METHODS\M4B1867.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 11 08:33:29 2014
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B43360.D
Acq On : 10 Jul 2014 5:12 pm
Operator : TOANP
Sample : ic1867-1
Misc : MS69789,V4B1867,w,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jul 14 10:39:14 2014
Quant Method : C:\MSDCHEM\1\METHODS\M4B1867.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 11 08:33:29 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	6.89	65	134185	500.00	ug/L	-0.02
5) pentafluorobenzene	8.84	168	244993	50.00	ug/L	-0.01
56) 1,4-difluorobenzene	9.70	114	307611	50.00	ug/L	-0.02
88) chlorobenzene-d5	12.89	117	324322	50.00	ug/L	-0.01
103) 1,4-dichlorobenzene-d4	15.42	152	190536	50.00	ug/L	-0.02
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.93	113	1843	0.93	ug/L	-0.02
Spiked Amount 50.000	Range 79 - 120		Recovery =	1.86%#		
50) 1,2-dichloroethane-d4 (s)	9.32	65	2219	0.97	ug/L	-0.02
Spiked Amount 50.000	Range 72 - 123		Recovery =	1.94%#		
80) toluene-d8 (s)	11.29	98	7563	0.99	ug/L	-0.01
Spiked Amount 50.000	Range 78 - 119		Recovery =	1.98%#		
105) 4-bromofluorobenzene (s)	14.14	95	4646	1.18	ug/L	-0.02
Spiked Amount 50.000	Range 74 - 119		Recovery =	2.36%#		
Target Compounds						Qvalue
7) chlorodifluoromethane	3.88	51	2175	0.89	ug/L	65
10) chloromethane	4.13	52	922	0.84	ug/L #	18
11) vinyl chloride	4.40	62	2560	0.77	ug/L	74
12) bromomethane	4.99	94	1656	0.88	ug/L #	64
13) chloroethane	5.14	64	916	0.72	ug/L #	44
14) vinyl bromide	5.46	106	1186	0.02	ug/L #	82
20) 2-chloropropane	6.08	43	4383	1.10	ug/L #	70
21) acrolein	6.16	56	527011	1251.41	ug/L	99
22) 1,1-dichloroethene	6.28	96	2617	1.19	ug/L #	72
26) iodomethane	6.55	142	3298	0.82	ug/L	93
27) carbon disulfide	6.66	76	6479	0.85	ug/L	84
28) methylene chloride	6.93	84	2143	0.88	ug/L #	78
31) methyl tert butyl ether	7.17	73	5960	0.92	ug/L	97
32) trans-1,2-dichloroethene	7.23	96	2268	1.00	ug/L #	75
33) di-isopropyl ether	7.67	45	7573	0.95	ug/L	99
35) 1,1-dichloroethane	7.74	63	3453	0.88	ug/L	96
36) chloroprene	7.81	53	2572	0.88	ug/L	95
37) acrylonitrile	7.24	53	3817	4.36	ug/L	91
39) ethyl tert-butyl ether	8.09	59	7022	0.97	ug/L	98
41) 2,2-dichloropropane	8.40	77	2462	0.87	ug/L	87
42) cis-1,2-dichloroethene	8.41	96	2069	0.89	ug/L	96
44) propionitrile	8.52	54	3937	9.93	ug/L	87
45) bromochloromethane	8.70	128	920	0.85	ug/L	88
46) tetrahydrofuran	8.73	42	947	1.01	ug/L #	34
47) chloroform	8.74	85	2165	0.92	ug/L	88
48) T-BUTYL FORMATE	8.76	59	2028	1.00	ug/L #	78
53) 1,1,1-trichloroethane	8.96	97	2546	0.86	ug/L	90
59) carbon tetrachloride	9.13	117	2271	0.84	ug/L	96
60) 1,1-dichloropropene	9.11	75	2188	0.84	ug/L	91
61) hexane	7.44	57	2094	0.90	ug/L	91
63) benzene	9.37	78	7215	0.91	ug/L	96
64) iso-octane	9.30	57	4938	1.03	ug/L #	61
65) tert-amyl methyl ether	9.36	87	1663	1.02	ug/L #	72

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B43360.D
Acq On : 10 Jul 2014 5:12 pm
Operator : TOANP
Sample : ic1867-1
Misc : MS69789,V4B1867,w,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jul 14 10:39:14 2014
Quant Method : C:\MSDCHEM\1\METHODS\M4B1867.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 11 08:33:29 2014
Response via : Initial Calibration

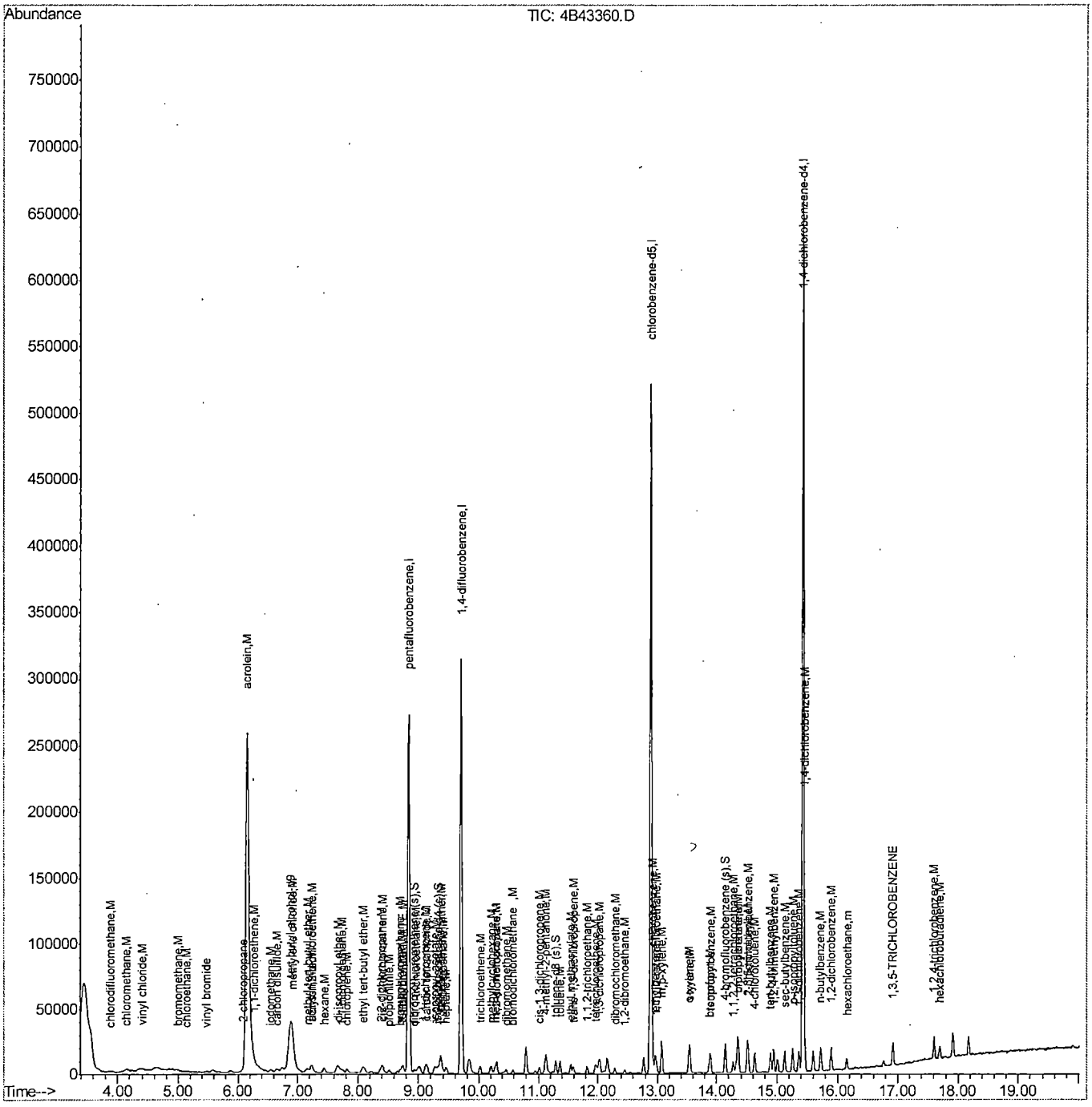
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
66) heptane	9.46	57	1459	1.01 ug/L	90
67) isopropyl acetate	9.27	61	1341	1.15 ug/L #	61
68) 1,2-dichloroethane	9.40	62	2299	0.87 ug/L	90
69) trichloroethene	10.02	95	1791	0.90 ug/L	96
74) methyl methacrylate	10.27	100	492	0.80 ug/L #	84
75) 1,2-dichloropropane	10.29	63	1941	0.91 ug/L	92
76) dibromomethane	10.47	93	1185	0.87 ug/L	90
77) methylcyclohexane	10.20	83	2906	0.87 ug/L	90
78) bromodichloromethane	10.58	83	2511	0.88 ug/L	91
79) cis-1,3-dichloropropene	11.02	75	3287	0.90 ug/L	92
81) 4-methyl-2-pentanone	11.11	58	1389	1.08 ug/L	95
82) toluene	11.37	92	4619	0.90 ug/L	97
84) trans-1,3-dichloropropene	11.60	75	3665	0.99 ug/L	96
85) ethyl methacrylate	11.55	69	3935	1.03 ug/L	96
86) 1,1,2-trichloroethane	11.82	83	1960	1.04 ug/L	93
89) tetrachloroethene	11.96	164	1497	0.85 ug/L	96
90) 1,3-dichloropropane	12.01	76	3652	0.99 ug/L	91
93) dibromochloromethane	12.29	129	2745	1.00 ug/L	89
94) 1,2-dibromoethane	12.45	107	2286	0.94 ug/L	88
96) chlorobenzene	12.92	112	6636	0.99 ug/L	92
97) 1,1,1,2-tetrachloroethane	12.98	131	2641	1.03 ug/L	91
98) ethylbenzene	12.96	91	10668	0.95 ug/L	96
99) m,p-xylene	13.08	106	7763	1.85 ug/L	98
100) o-xylene	13.53	106	4279	0.97 ug/L	94
101) styrene	13.55	104	7863	0.98 ug/L	97
102) bromoform	13.87	173	2621	1.09 ug/L	95
104) isopropylbenzene	13.89	105	11373	0.99 ug/L	96
107) bromobenzene	14.36	156	3789	1.09 ug/L	94
108) 1,1,2,2-tetrachloroethane	14.28	83	5641	1.26 ug/L	99
111) n-propylbenzene	14.35	91	14381	1.01 ug/L	98
113) 2-chlorotoluene	14.52	126	3224	1.05 ug/L	88
114) 4-chlorotoluene	14.64	91	10305	1.07 ug/L	98
115) 1,3,5-trimethylbenzene	14.51	105	10626	1.01 ug/L	98
116) tert-butylbenzene	14.89	119	8779	1.03 ug/L	98
118) 1,2,4-trimethylbenzene	14.95	105	11136	1.03 ug/L	98
119) sec-butylbenzene	15.13	105	13858	1.02 ug/L	95
120) 1,3-dichlorobenzene	15.37	146	7546	1.10 ug/L	96
121) p-isopropyltoluene	15.26	119	12424	1.04 ug/L	98
122) 1,4-dichlorobenzene	15.45	146	7693	1.10 ug/L	90
124) 1,2-dichlorobenzene	15.90	146	8052	1.14 ug/L	100
126) n-butylbenzene	15.72	92	6282	1.02 ug/L	99
129) 1,3,5-TRICHLOROBENZENE	16.92	180	6589	1.08 ug/L	98
130) 1,2,4-trichlorobenzene	17.61	180	6098	1.13 ug/L	98
131) hexachlorobutadiene	17.70	225	2464	1.00 ug/L	94
134) hexachloroethane	16.16	201	1723	0.94 ug/L	93

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B43360.D
Acq On : 10 Jul 2014 5:12 pm
Operator : TOANP
Sample : ic1867-1
Misc : MS69789,V4B1867,w,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jul 14 10:39:14 2014
Quant Method : C:\MSDCHEM\1\METHODS\M4B1867.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 11 08:33:29 2014
Response via : Initial Calibration



7.6.3

7

Manual Integrations APPROVED (compounds with "m" flag)
Jessica Reitan-Chu
07/14/14 10:59

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B43361.D
Acq On : 10 Jul 2014 5:39 pm
Operator : TOANP
Sample : ic1867-2
Misc : MS69789,V4B1867,w,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 11 10:53:05 2014
Quant Method : C:\MSDCHEM\1\METHODS\M4B1867.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 11 08:33:29 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) tert butyl alcohol-d9	6.89	65	140427	500.00	ug/L		-0.02
5) pentafluorobenzene	8.84	168	246890	50.00	ug/L		-0.02
56) 1,4-difluorobenzene	9.70	114	308984	50.00	ug/L		-0.02
88) chlorobenzene-d5	12.89	117	328602	50.00	ug/L		-0.01
103) 1,4-dichlorobenzene-d4	15.43	152	192192	50.00	ug/L		-0.02
System Monitoring Compounds							
49) dibromofluoromethane (s)	8.93	113	3792	1.90	ug/L		-0.02
Spiked Amount 50.000	Range 79 - 120		Recovery =	3.80%#			
50) 1,2-dichloroethane-d4 (s)	9.32	65	4471	1.94	ug/L		-0.02
Spiked Amount 50.000	Range 72 - 123		Recovery =	3.88%#			
80) toluene-d8 (s)	11.29	98	15846	2.06	ug/L		-0.01
Spiked Amount 50.000	Range 78 - 119		Recovery =	4.12%#			
105) 4-bromofluorobenzene (s)	14.14	95	7729	1.95	ug/L		-0.02
Spiked Amount 50.000	Range 74 - 119		Recovery =	3.90%#			
Target Compounds							Qvalue
3) 1,4-dioxane	10.41	88	2066	53.91	ug/L		86
7) chlorodifluoromethane	3.88	51	4576	1.87	ug/L		81
10) chloromethane	4.16	52	1853	1.68	ug/L	#	58
11) vinyl chloride	4.41	62	4951	1.48	ug/L		88
12) bromomethane	4.99	94	3017	1.58	ug/L		96
13) chloroethane	5.15	64	2060	1.60	ug/L		88
14) vinyl bromide	5.46	106	3051m	0.05	ug/L		
19) ethyl ether	5.87	74	1870	1.79	ug/L		86
20) 2-chloropropane	6.08	43	6638	1.66	ug/L	#	67
21) acrolein	6.15	56	1067059	2514.31	ug/L		100
22) 1,1-dichloroethene	6.28	96	3478	1.57	ug/L	#	70
26) iodomethane	6.55	142	5762	1.41	ug/L		98
27) carbon disulfide	6.65	76	10832	1.42	ug/L		97
28) methylene chloride	6.93	84	3847	1.56	ug/L		99
29) methyl acetate	6.73	74	625	1.67	ug/L	#	12
31) methyl tert butyl ether	7.18	73	10813	1.66	ug/L		98
32) trans-1,2-dichloroethene	7.23	96	3601	1.57	ug/L		88
33) di-isopropyl ether	7.66	45	15884	1.98	ug/L		95
35) 1,1-dichloroethane	7.75	63	5765	1.46	ug/L		99
36) chloroprene	7.83	53	5152	1.74	ug/L		98
37) acrylonitrile	7.25	53	7545	8.56	ug/L		99
38) vinyl acetate	7.71	86	582	1.75	ug/L	#	1
39) ethyl tert-butyl ether	8.09	59	14820	2.03	ug/L		92
40) ethyl acetate	8.36	45	744	2.08	ug/L	#	1
41) 2,2-dichloropropane	8.41	77	4267	1.49	ug/L		93
42) cis-1,2-dichloroethene	8.41	96	3576	1.53	ug/L		91
44) propionitrile	8.52	54	6722	16.83	ug/L		96
45) bromochloromethane	8.69	128	1664	1.52	ug/L		76
46) tetrahydrofuran	8.73	42	1823	1.94	ug/L		80
47) chloroform	8.74	85	3604	1.52	ug/L		96
48) T-BUTYL FORMATE	8.75	59	4299	2.11	ug/L		89
52) methacrylonitrile	8.65	41	2920	1.74	ug/L		95
53) 1,1,1-trichloroethane	8.96	97	4379	1.46	ug/L		94

7.6.4

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B43361.D
Acq On : 10 Jul 2014 5:39 pm
Operator : TOANP
Sample : ic1867-2
Misc : MS69789,V4B1867,w,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 11 10:53:05 2014
Quant Method : C:\MSDCHEM\1\METHODS\M4B1867.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 11 08:33:29 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
59) carbon tetrachloride	9.13	117	3663	1.34 ug/L		85
60) 1,1-dichloropropene	9.11	75	3806	1.46 ug/L		97
61) hexane	7.44	57	4278	1.84 ug/L		98
63) benzene	9.37	78	12504	1.57 ug/L		93
64) iso-octane	9.30	57	9762	2.03 ug/L		91
65) tert-amyl methyl ether	9.36	87	3545	2.15 ug/L	#	79
66) heptane	9.45	57	2624	1.81 ug/L		93
67) isopropyl acetate	9.26	61	2611	2.22 ug/L	#	73
68) 1,2-dichloroethane	9.41	62	4309	1.61 ug/L		93
69) trichloroethene	10.02	95	2974	1.48 ug/L		89
72) 2-nitropropane	10.81	41	2430	1.95 ug/L	#	1
73) 2-chloroethyl vinyl ether	10.79	63	19368	10.99 ug/L		97
74) methyl methacrylate	10.27	100	952	1.54 ug/L	#	67
75) 1,2-dichloropropane	10.29	63	3292	1.53 ug/L		96
76) dibromomethane	10.47	93	2198	1.60 ug/L		96
77) methylcyclohexane	10.21	83	6006	1.78 ug/L		94
78) bromodichloromethane	10.58	83	4468	1.56 ug/L		97
79) cis-1,3-dichloropropene	11.02	75	5830	1.59 ug/L		95
81) 4-methyl-2-pentanone	11.12	58	2158	1.67 ug/L	#	64
82) toluene	11.37	92	7978	1.55 ug/L		97
83) 3-methyl-1-butanol	11.13	55	10115	46.86 ug/L		97
84) trans-1,3-dichloropropene	11.59	75	6076	1.64 ug/L		95
85) ethyl methacrylate	11.54	69	6207	1.62 ug/L		97
86) 1,1,2-trichloroethane	11.82	83	3072	1.62 ug/L		94
87) 2-hexanone	11.98	58	2170	1.58 ug/L		91
89) tetrachloroethene	11.96	164	2783	1.55 ug/L		89
90) 1,3-dichloropropane	12.01	76	6080	1.63 ug/L		94
92) 3,3-DIMETHYL-1-BUTANOL	12.16	57	11651	23.60 ug/L		96
93) dibromochloromethane	12.29	129	4125	1.49 ug/L		96
94) 1,2-dibromoethane	12.46	107	3810	1.54 ug/L		97
96) chlorobenzene	12.93	112	10204	1.50 ug/L		83
97) 1,1,1,2-tetrachloroethane	12.99	131	3922	1.50 ug/L		95
98) ethylbenzene	12.96	91	16864	1.48 ug/L		99
99) m,p-xylene	13.07	106	12697	2.99 ug/L		90
100) o-xylene	13.53	106	6580	1.47 ug/L		96
101) styrene	13.55	104	11846	1.46 ug/L		96
102) bromoform	13.87	173	3579	1.47 ug/L		93
104) isopropylbenzene	13.89	105	17498	1.50 ug/L		98
106) cyclohexanone	14.14	55	6090	15.79 ug/L		98
107) bromobenzene	14.36	156	5434	1.55 ug/L		95
108) 1,1,2,2-tetrachloroethane	14.27	83	7350	1.62 ug/L		95
109) trans-1,4-dichloro-2-buten	14.32	53	1827	1.65 ug/L		89
110) 1,2,3-trichloropropane	14.36	110	1641	1.60 ug/L		94
111) n-propylbenzene	14.35	91	21516	1.50 ug/L		98
113) 2-chlorotoluene	14.53	126	4665	1.51 ug/L		94
114) 4-chlorotoluene	14.63	91	14947	1.54 ug/L		98
115) 1,3,5-trimethylbenzene	14.50	105	16010	1.52 ug/L		98
116) tert-butylbenzene	14.90	119	12560	1.46 ug/L		97
117) pentachloroethane	15.01	167	3094	1.49 ug/L		96
118) 1,2,4-trimethylbenzene	14.94	105	16239	1.49 ug/L		99

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B43361.D
Acq On : 10 Jul 2014 5:39 pm
Operator : TOANP
Sample : ic1867-2
Misc : MS69789,V4B1867,w,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 11 10:53:05 2014
Quant Method : C:\MSDCHEM\1\METHODS\M4B1867.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 11 08:33:29 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
119) sec-butylbenzene	15.13	105	20656	1.51	ug/L		97
120) 1,3-dichlorobenzene	15.36	146	10315	1.49	ug/L		96
121) p-isopropyltoluene	15.26	119	18185	1.51	ug/L		96
122) 1,4-dichlorobenzene	15.46	146	10807	1.53	ug/L		98
124) 1,2-dichlorobenzene	15.90	146	11042	1.56	ug/L		97
126) n-butylbenzene	15.72	92	9274	1.49	ug/L		92
128) 1,2-dibromo-3-chloropropan	16.75	75	1675	1.71	ug/L	#	64
129) 1,3,5-TRICHLOROBENZENE	16.93	180	9486	1.54	ug/L		100
130) 1,2,4-trichlorobenzene	17.61	180	8413	1.54	ug/L		95
131) hexachlorobutadiene	17.70	225	3852	1.55	ug/L		97
132) naphthalene	17.91	128	20469	1.63	ug/L		96
133) 1,2,3-trichlorobenzene	18.17	180	7660	1.57	ug/L		98
134) hexachloroethane	16.16	201	2440	1.32	ug/L		93

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

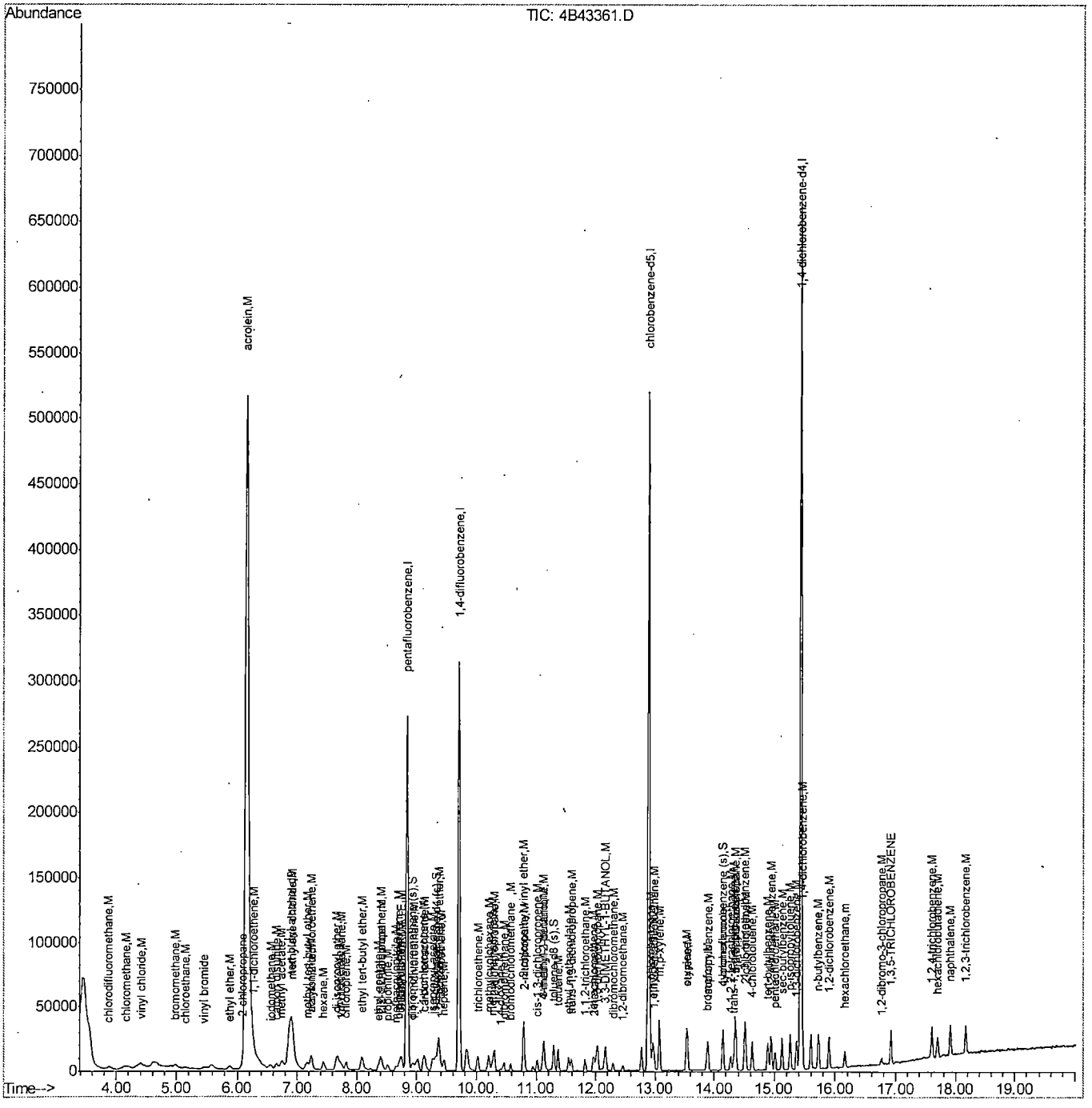
7.6.4

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B43361.D
Acq On : 10 Jul 2014 5:39 pm
Operator : TOANP
Sample : ic1867-2
Misc : MS69789,V4B1867,w,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 11 10:53:05 2014
Quant Method : C:\MSDCHEM\1\METHODS\M4B1867.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 11 08:33:29 2014
Response via : Initial Calibration



Manual Integration Approval Summary

Sample Number:	V4B1867-IC1867	**Method:**	SW846 8260B
Lab FileID:	4B43361.D	**Analyst approved:**	07/11/14 11:00 Dong, Mei
Injection Time:	07/10/14 17:39	**Supervisor approved:**	07/14/14 10:59 Jessica Reitan-Chu

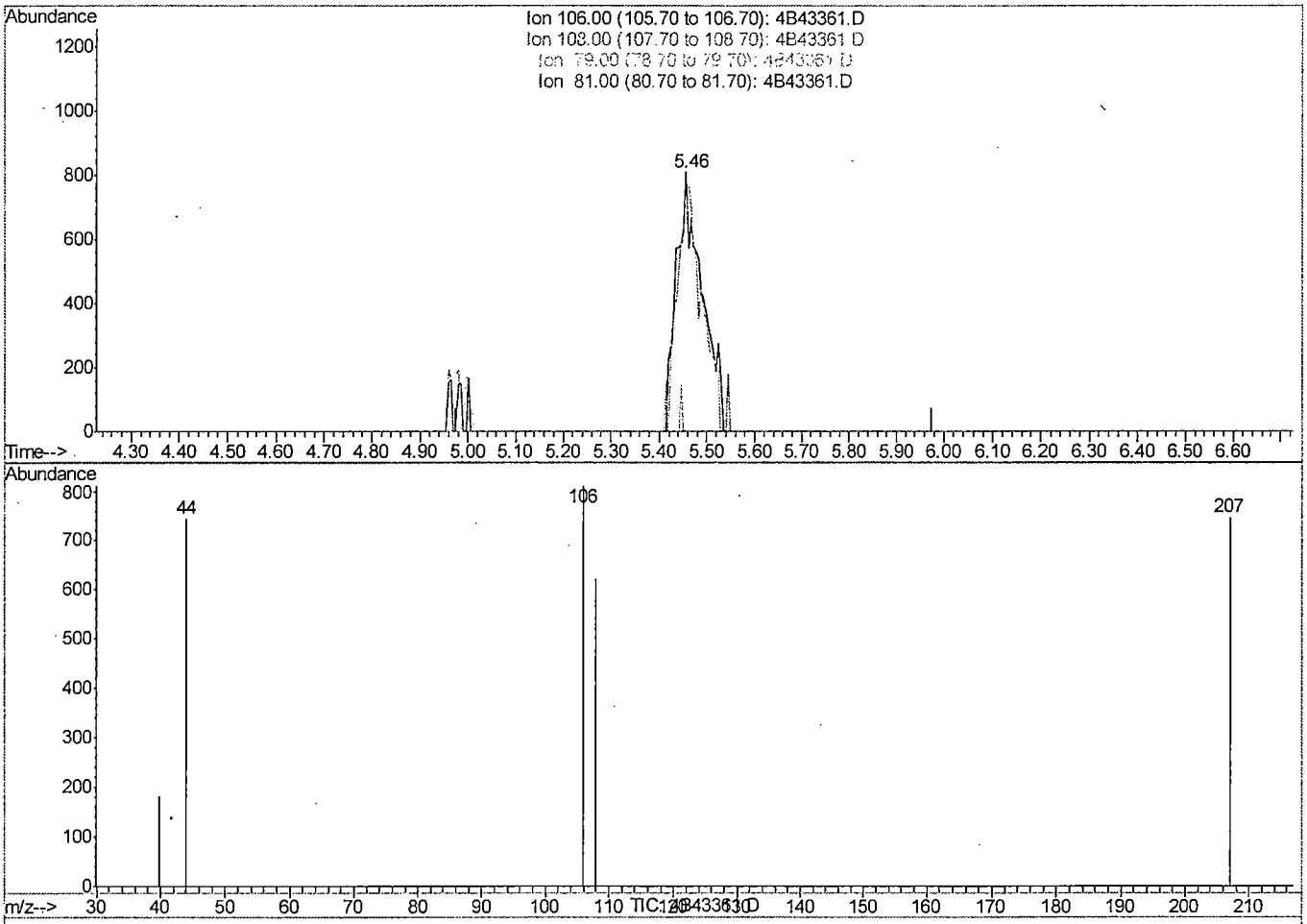
Parameter	CAS	Sig#	R.T. (min.)	Reason
Vinyl Bromide	593-60-2		5.46	Poor instrument integration

Quantitation Report (Qedit)

Data File : C:\MSDCHEM\1\DATA\4B43361.D Vial: 5
Acq On : 10 Jul 2014 5:39 pm Operator: TOANP
Sample : ic1867-2 Inst : MS4B
Misc : MS69789,V4B1867,w,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Jul 11 10:04:44 2014 Results File: M4B1867.RES

Method : C:\MSDCHEM\1\METHODS\M4B1867.M (RTE Integrator)
Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
Last Update : Fri Jul 11 10:52:04 2014
Response via : Multiple Level Calibration



(14) vinyl bromide

5.46min 0.05ug/L m

response 3051

Ion	Exp%	Act%
106.00	100	100
108.00	93.70	0.00#
79.00	12.00	0.00#
81.00	11.70	0.00#

4B43361.D M4B1867.M Fri Jul 11 10:53:10 2014 GCMS4B

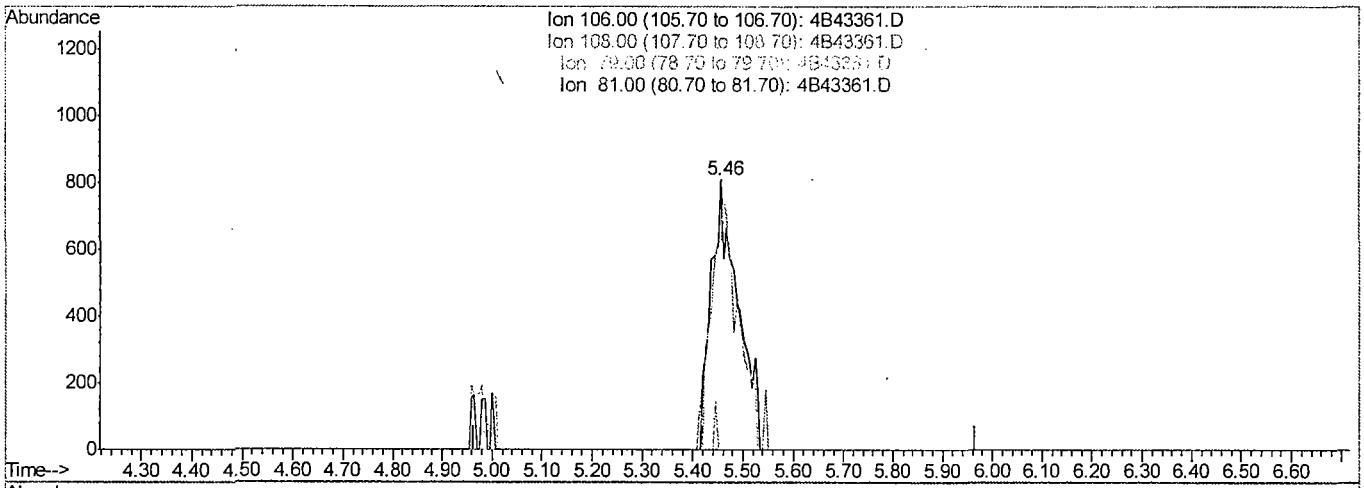
4B43361.D edits: vinyl bromide

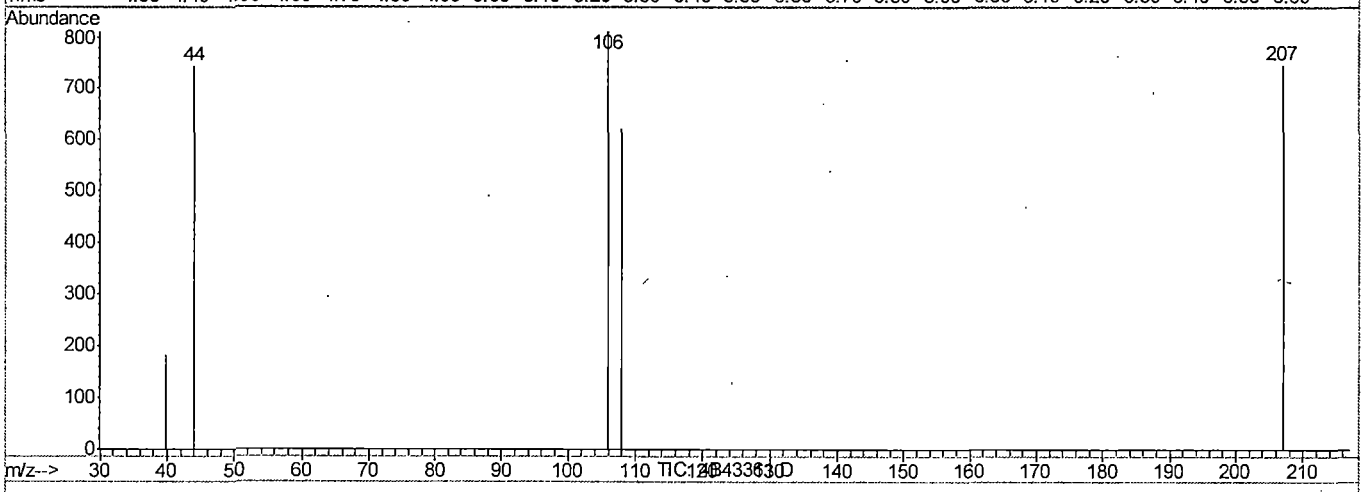
Quantitation Report (Qedit)

Data File : C:\MSDChem\1\DATA\old\4B43361.D Vial: 5
Acq On : 10 Jul 2014 5:39 pm Operator: TOANP
Sample : ic1867-2 Inst : MS4B
Misc : MS69789,V4B1867,w,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Jul 11 10:52:17 2014 Results File: M4B1867.RES

Method : C:\MSDCHEM\1\METHODS\M4B1867.M (RTE Integrator)
Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
Last Update : Fri Jul 11 10:53:40 2014
Response via : Multiple Level Calibration





(14) vinyl bromide

5.46min 1.57ug/L

response 3051

Ion	Exp%	Act%
106.00	100	100
108.00	94.10	90.89
79.00	12.80	0.00#
81.00	13.10	0.00#

4B43361.D M4B1867.M Fri Jul 11 10:59:55 2014 GCMS4B

4B43361.D edits: vinyl bromide

7.6.4.3

7

Manual Integrations APPROVED (compounds with "m" flag)
Jessica Reitan-Chu
07/14/14 10:59

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B43362.D
Acq On : 10 Jul 2014 6:07 pm
Operator : TOANP
Sample : ic1867-5
Misc : MS69789,V4B1867,w,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jul 11 10:12:51 2014
Quant Method : C:\MSDCHEM\1\METHODS\M4B1867.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 11 08:33:29 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) tert butyl alcohol-d9	6.89	65	135521	500.00	ug/L		-0.02
5) pentafluorobenzene	8.83	168	245005	50.00	ug/L		-0.02
56) 1,4-difluorobenzene	9.70	114	305320	50.00	ug/L		-0.02
88) chlorobenzene-d5	12.89	117	329810	50.00	ug/L		-0.01
103) 1,4-dichlorobenzene-d4	15.43	152	196087	50.00	ug/L		-0.02
System Monitoring Compounds							
49) dibromofluoromethane (s)	8.93	113	9327	4.71	ug/L		-0.02
Spiked Amount 50.000	Range 79 - 120		Recovery =	9.42%#			
50) 1,2-dichloroethane-d4 (s)	9.32	65	10496	4.60	ug/L		-0.02
Spiked Amount 50.000	Range 72 - 123		Recovery =	9.20%#			
80) toluene-d8 (s)	11.29	98	36126	4.76	ug/L		-0.01
Spiked Amount 50.000	Range 78 - 119		Recovery =	9.52%#			
105) 4-bromofluorobenzene (s)	14.14	95	17342	4.28	ug/L		-0.02
Spiked Amount 50.000	Range 74 - 119		Recovery =	8.56%#			
Target Compounds							Qvalue
2) tertiary butyl alcohol	7.00	59	9070	17.58	ug/L		71
3) 1,4-dioxane	10.43	88	3575	96.66	ug/L		92
7) chlorodifluoromethane	3.88	51	12052	4.96	ug/L		97
8) dichlorodifluoromethane	3.88	85	10087	4.21	ug/L		87
10) chloromethane	4.16	52	4655	4.26	ug/L	#	77
11) vinyl chloride	4.40	62	13687	4.14	ug/L		92
12) bromomethane	4.99	94	9036	4.78	ug/L		95
13) chloroethane	5.15	64	6250	4.88	ug/L		95
14) vinyl bromide	5.46	106	8316	0.15	ug/L		99
15) trichlorofluoromethane	5.55	101	13289m	4.74	ug/L		
16) 1,3-butadiene	4.43	54	7874	0.16	ug/L	#	91
17) Pentane	5.58	43	12658	0.20	ug/L	#	90
19) ethyl ether	5.87	74	5705	5.49	ug/L		94
20) 2-chloropropane	6.09	43	20118	5.07	ug/L		93
21) acrolein	6.16	56	26295	62.44	ug/L		99
22) 1,1-dichloroethene	6.28	96	11043	5.02	ug/L		93
23) acetone	6.36	58	1125	2.61	ug/L	#	31
24) allyl chloride	6.73	76	7221m	8.48	ug/L		
25) acetonitrile	6.78	40	13666	36.20	ug/L	#	43
26) iodomethane	6.55	142	20674	5.12	ug/L		94
27) carbon disulfide	6.66	76	37562	4.95	ug/L		99
28) methylene chloride	6.93	84	12126	4.95	ug/L		97
29) methyl acetate	6.72	74	1548	4.17	ug/L	#	89
30) 1-chloropropane	6.93	42	29472	3.57	ug/L	#	79
31) methyl tert butyl ether	7.17	73	31525	4.88	ug/L		100
32) trans-1,2-dichloroethene	7.23	96	11114	4.88	ug/L		94
33) di-isopropyl ether	7.67	45	37866	4.77	ug/L		96
34) 2-butanone	8.38	72	1282	4.98	ug/L	#	41
35) 1,1-dichloroethane	7.75	63	19768	5.05	ug/L		99
36) chloroprene	7.83	53	14294	4.87	ug/L		99
37) acrylonitrile	7.23	53	21583	24.67	ug/L		99
38) vinyl acetate	7.72	86	1390	4.20	ug/L		38
39) ethyl tert-butyl ether	8.08	59	33915	4.68	ug/L		99

7.6.5 7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B43362.D
Acq On : 10 Jul 2014 6:07 pm
Operator : TOANP
Sample : ic1867-5
Misc : MS69789,V4B1867,w,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jul 11 10:12:51 2014
Quant Method : C:\MSDCHEM\1\METHODS\M4B1867.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 11 08:33:29 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
40) ethyl acetate	8.36	45	1693	4.76	ug/L		70
41) 2,2-dichloropropane	8.41	77	14540	5.12	ug/L		97
42) cis-1,2-dichloroethene	8.41	96	11581	5.01	ug/L		94
43) methylacrylate	8.44	85	1503	4.44	ug/L	#	63
44) propionitrile	8.52	54	18243	46.02	ug/L		91
45) bromochloromethane	8.70	128	5638	5.18	ug/L		94
46) tetrahydrofuran	8.73	42	4474	4.79	ug/L		84
47) chloroform	8.74	85	11674	4.97	ug/L		98
48) T-BUTYL FORMATE	8.75	59	9468	4.68	ug/L		94
51) freon 113	6.25	151	5549	4.39	ug/L		93
52) methacrylonitrile	8.66	41	7394	4.45	ug/L		95
53) 1,1,1-trichloroethane	8.96	97	14870	5.00	ug/L		97
54) cyclohexane	9.00	84	13538	5.19	ug/L		95
55) iso-butyl alcohol	9.13	43	6404	29.70	ug/L		80
57) epichlorohydrin	10.95	57	6413	18.54	ug/L		98
58) n-butyl alcohol	9.83	56	21609	165.29	ug/L		99
59) carbon tetrachloride	9.14	117	13826	5.13	ug/L		95
60) 1,1-dichloropropene	9.11	75	13339	5.18	ug/L		97
61) hexane	7.45	57	11461	4.98	ug/L		97
63) benzene	9.36	78	39872	5.07	ug/L		100
64) iso-octane	9.30	57	25180	5.30	ug/L	#	88
65) tert-amyl methyl ether	9.35	87	7873	4.84	ug/L	#	87
66) heptane	9.45	57	7140	4.99	ug/L		90
67) isopropyl acetate	9.27	61	4903	4.22	ug/L		92
68) 1,2-dichloroethane	9.41	62	13355	5.06	ug/L		99
69) trichloroethene	10.02	95	9992	5.04	ug/L		96
71) ethyl acrylate	10.01	55	14105	0.20	ug/L		98
72) 2-nitropropane	10.81	41	5152	4.18	ug/L	#	30
73) 2-chloroethyl vinyl ether	10.79	63	36738	21.09	ug/L		99
74) methyl methacrylate	10.27	100	3047	5.00	ug/L	#	80
75) 1,2-dichloropropane	10.29	63	10593	4.99	ug/L		96
76) dibromomethane	10.46	93	6790	5.01	ug/L		98
77) methylcyclohexane	10.21	83	16663	5.00	ug/L		97
78) bromodichloromethane	10.58	83	13601	4.81	ug/L		97
79) cis-1,3-dichloropropene	11.02	75	17763	4.92	ug/L		98
81) 4-methyl-2-pentanone	11.10	58	5480	4.30	ug/L		87
82) toluene	11.37	92	25263	4.97	ug/L		94
83) 3-methyl-1-butanol	11.13	55	14038	65.81	ug/L		92
84) trans-1,3-dichloropropene	11.59	75	17726	4.84	ug/L		97
85) ethyl methacrylate	11.54	69	16519	4.36	ug/L		96
86) 1,1,2-trichloroethane	11.82	83	8633	4.60	ug/L		96
87) 2-hexanone	11.98	58	5554	4.10	ug/L		97
89) tetrachloroethene	11.96	164	8990	4.99	ug/L		95
90) 1,3-dichloropropane	12.01	76	17184	4.60	ug/L		93
91) butyl acetate	12.04	56	9509	3.63	ug/L		97
92) 3,3-DIMETHYL-1-BUTANOL	12.16	57	15520	31.32	ug/L		96
93) dibromochloromethane	12.29	129	11733	4.21	ug/L		96
94) 1,2-dibromoethane	12.45	107	11356	4.58	ug/L		98
96) chlorobenzene	12.92	112	32290	4.72	ug/L		95
97) 1,1,1,2-tetrachloroethane	12.99	131	11427	4.36	ug/L		95

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B43362.D
Acq On : 10 Jul 2014 6:07 pm
Operator : TOANP
Sample : ic1867-5
Misc : MS69789,V4B1867,w,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jul 11 10:12:51 2014
Quant Method : C:\MSDCHEM\1\METHODS\M4B1867.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 11 08:33:29 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
98) ethylbenzene	12.96	91	54588	4.77 ug/L	100
99) m,p-xylene	13.08	106	41106	9.63 ug/L	99
100) o-xylene	13.53	106	20876	4.65 ug/L	99
101) styrene	13.55	104	36347	4.47 ug/L	98
102) bromoform	13.87	173	9439	3.87 ug/L	95
104) isopropylbenzene	13.90	105	55894	4.71 ug/L	100
106) cyclohexanone	14.14	55	17379	44.16 ug/L	98
107) bromobenzene	14.36	156	16064	4.50 ug/L	94
108) 1,1,2,2-tetrachloroethane	14.27	83	17452	3.78 ug/L	94
109) trans-1,4-dichloro-2-buten	14.32	53	4450	3.94 ug/L	95
110) 1,2,3-trichloropropane	14.36	110	4126	3.94 ug/L	93
111) n-propylbenzene	14.35	91	69065	4.73 ug/L	97
113) 2-chlorotoluene	14.53	126	14573	4.63 ug/L	96
114) 4-chlorotoluene	14.64	91	43755	4.41 ug/L	99
115) 1,3,5-trimethylbenzene	14.51	105	49913	4.63 ug/L	97
116) tert-butylbenzene	14.89	119	39392	4.49 ug/L	99
117) pentachloroethane	15.01	167	8591	4.05 ug/L	93
118) 1,2,4-trimethylbenzene	14.95	105	50644	4.55 ug/L	96
119) sec-butylbenzene	15.13	105	65373	4.68 ug/L	99
120) 1,3-dichlorobenzene	15.36	146	30724	4.34 ug/L	98
121) p-isopropyltoluene	15.26	119	56223	4.56 ug/L	97
122) 1,4-dichlorobenzene	15.46	146	30779	4.27 ug/L	98
123) benzyl chloride	15.59	91	34688	3.61 ug/L	98
124) 1,2-dichlorobenzene	15.90	146	30527	4.22 ug/L	100
126) n-butylbenzene	15.72	92	28926	4.56 ug/L	98
128) 1,2-dibromo-3-chloropropan	16.76	75	3467	3.47 ug/L	93
129) 1,3,5-TRICHLOROBENZENE	16.93	180	26438	4.22 ug/L	100
130) 1,2,4-trichlorobenzene	17.61	180	22613	4.06 ug/L	99
131) hexachlorobutadiene	17.69	225	11523	4.55 ug/L	96
132) naphthalene	17.91	128	48310	3.77 ug/L	100
133) 1,2,3-trichlorobenzene	18.17	180	19879	4.00 ug/L	99
134) hexachloroethane	16.16	201	7873	4.17 ug/L	97

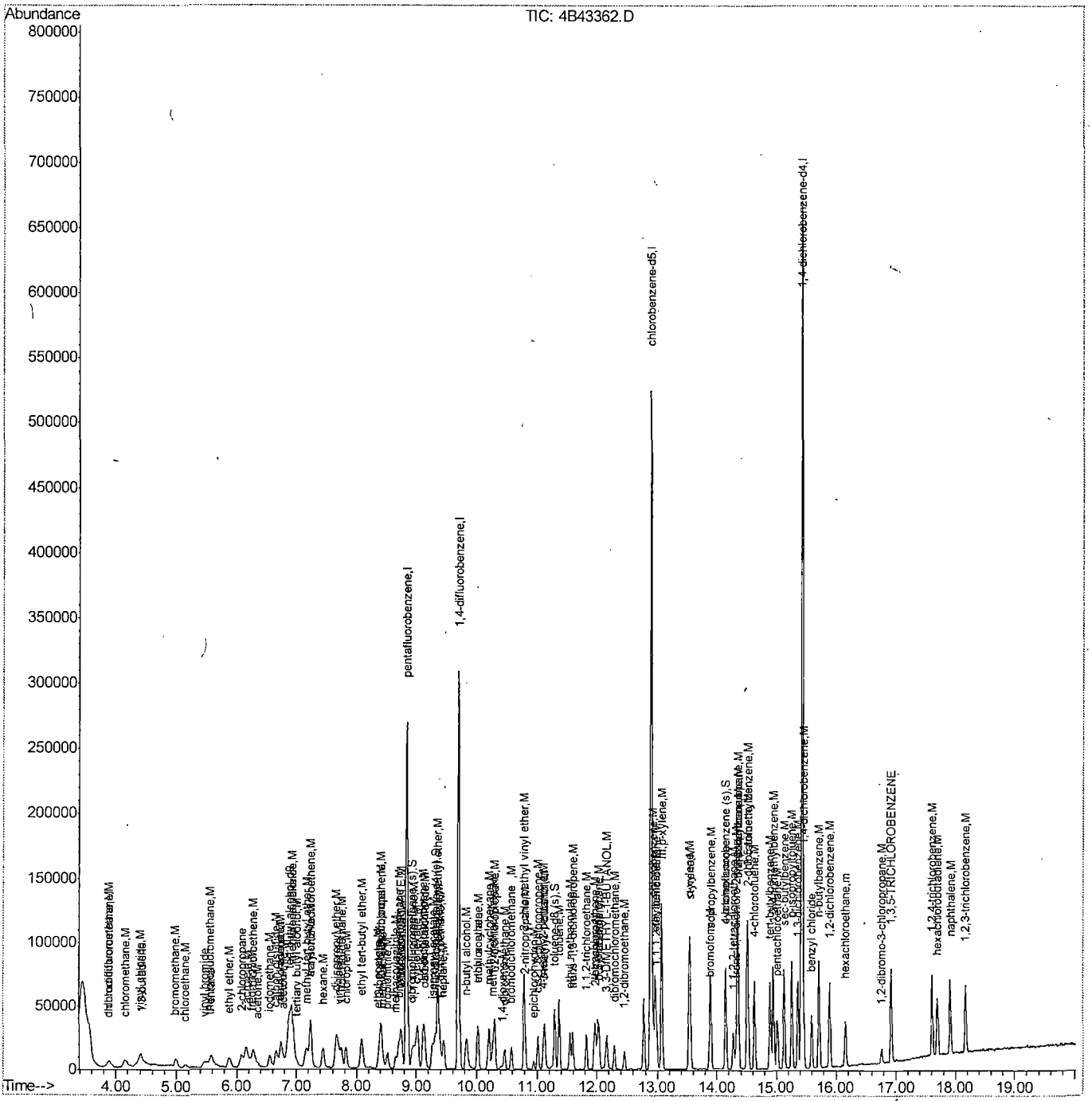
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.6.5

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B43362.D
Acq On : 10 Jul 2014 6:07 pm
Operator : TOANP
Sample : ic1867-5
Misc : MS69789,V4B1867,w,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jul 11 10:12:51 2014
Quant Method : C:\MSDCHEM\1\METHODS\M4B1867.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 11 08:33:29 2014
Response via : Initial Calibration



7.6.5 7

Manual Integration Approval Summary

Sample Number: V4B1867-IC1867
Lab FileID: 4B43362.D
Injection Time: 07/10/14 18:07

Method: SW846 8260B
Analyst approved: 07/11/14 11:00 Dong, Mei
Supervisor approved: 07/14/14 10:59 Jessica Reitan-Chu

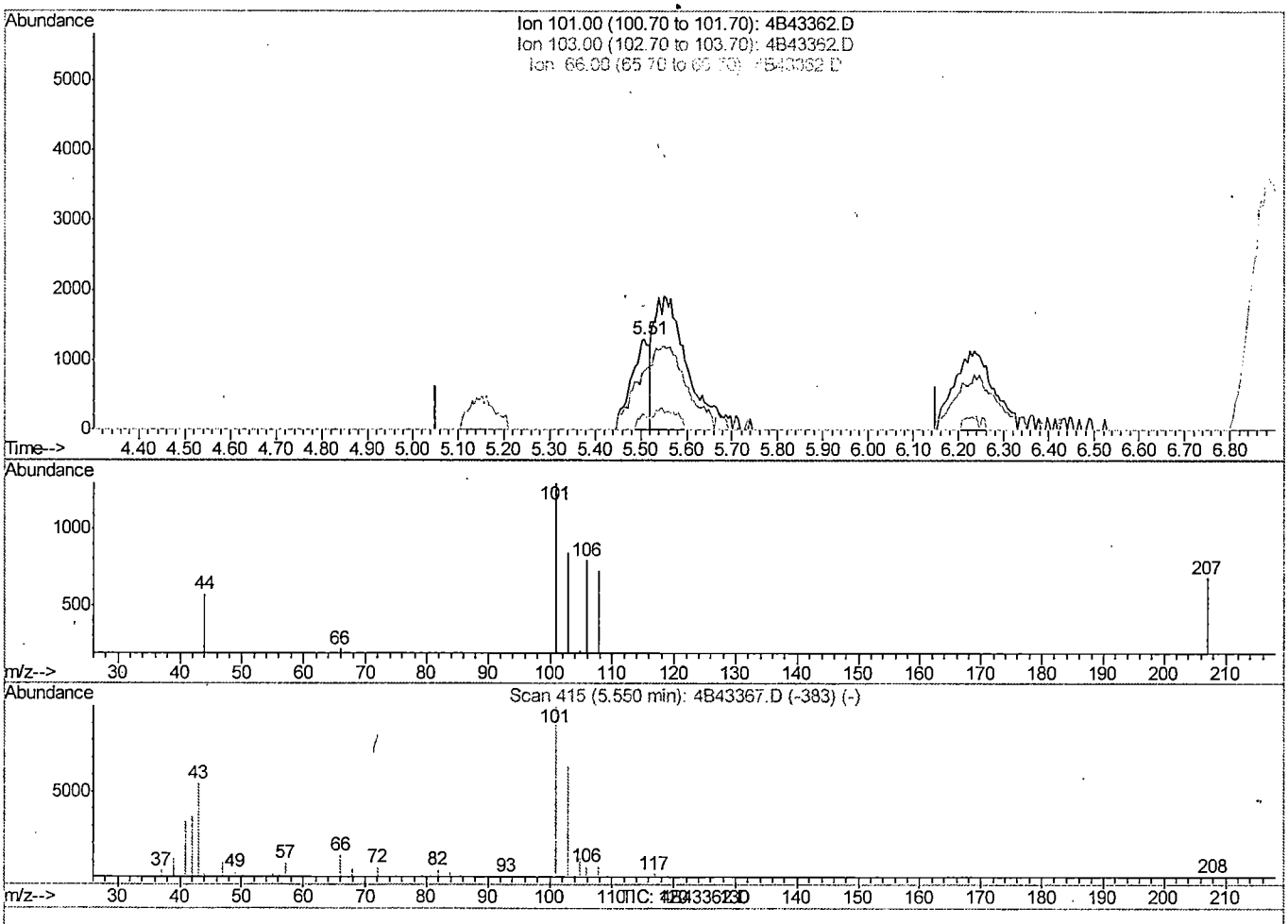
Parameter	CAS	Sig#	R.T. (min.)	Reason
Trichlorofluoromethane	75-69-4		5.55	Poor instrument integration
Allyl chloride	107-05-1		6.73	Poor instrument integration

Quantitation Report (Qedit)

Data File : C:\MSDChem\1\DATA\4B43362.D Vial: 6
Acq On : 10 Jul 2014 6:07 pm Operator: TOANP
Sample : ic1867-5 Inst : MS4B
Misc : MS69789,V4B1867,w,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Jul 11 08:44:05 2014 Results File: M4B1867.RES

Method : C:\MSDCHEM\1\METHODS\M4B1867.M (RTE Integrator)
Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
Last Update : Fri Jul 11 08:33:29 2014
Response via : Multiple Level Calibration



(15) trichlorofluoromethane (M)

5.51min 1.26ug/L

response 3524

Ion	Exp%	Act%
101.00	100	100
103.00	63.70	65.33
66.00	12.60	16.60
0.00	0.00	0.00

4B43362.D M4B1867.M Fri Jul 11 08:44:29 2014 GCMS4B

7.6.5.2

7

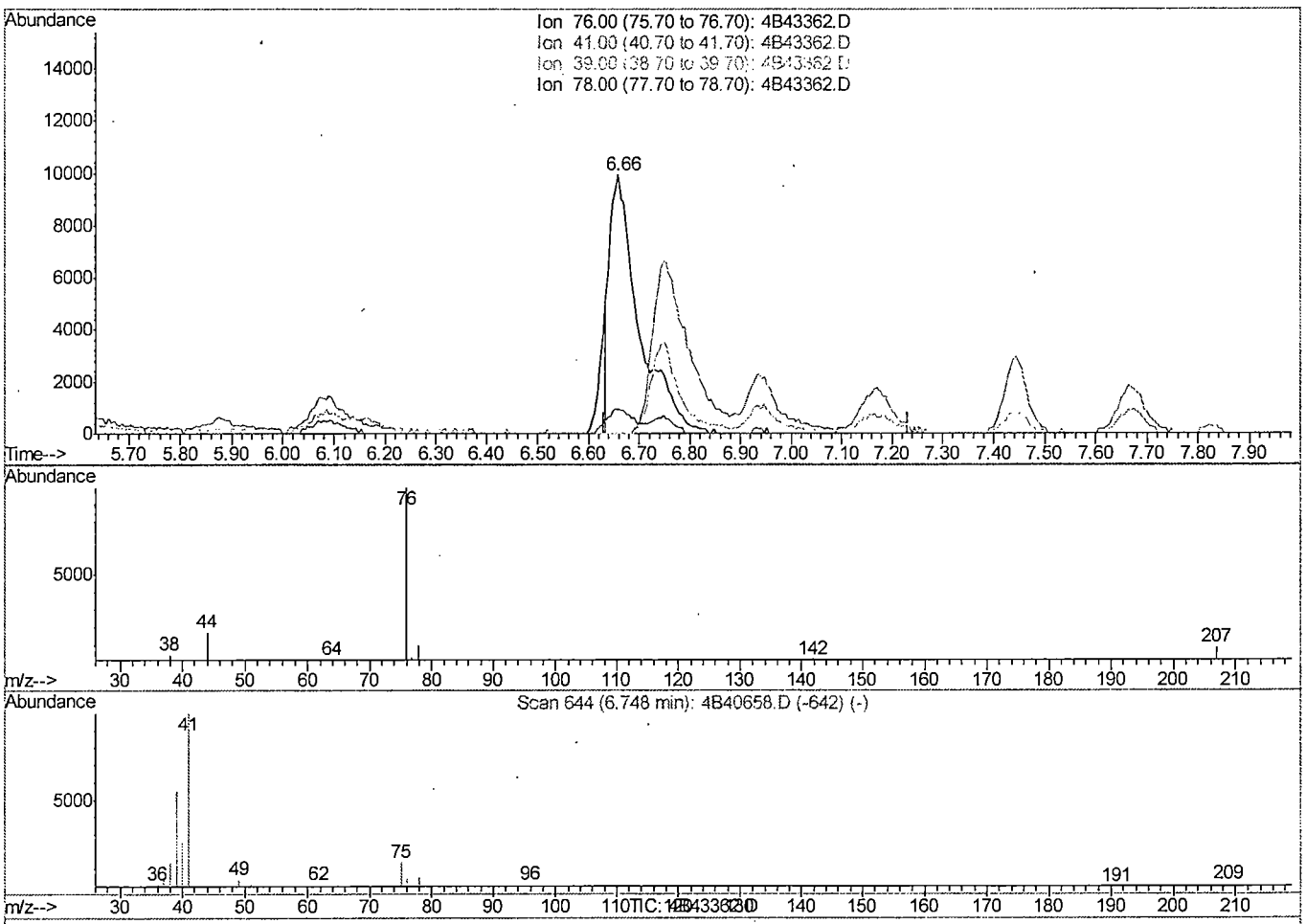
4B43362.D edits: trichlorofluoromethane

Quantitation Report (Qedit)

Data File : C:\MSDChem\1\DATA\4B43362.D Vial: 6
Acq On : 10 Jul 2014 6:07 pm Operator: TOANP
Sample : ic1867-5 Inst : MS4B
Misc : MS69789,V4B1867,w,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Jul 11 08:44:05 2014 Results File: M4B1867.RES

Method : C:\MSDCHEM\1\METHODS\M4B1867.M (RTE Integrator)
Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
Last Update : Fri Jul 11 08:33:29 2014
Response via : Multiple Level Calibration



(24) allyl chloride (M)

6.66min 47.22ug/L

response 40206

Ion	Exp%	Act%
76.00	100	100
41.00	201.90	0.00#
39.00	125.00	0.00#
78.00	23.30	9.51

4B43362.D M4B1867.M Fri Jul 11 08:44:50 2014 GCMS4B

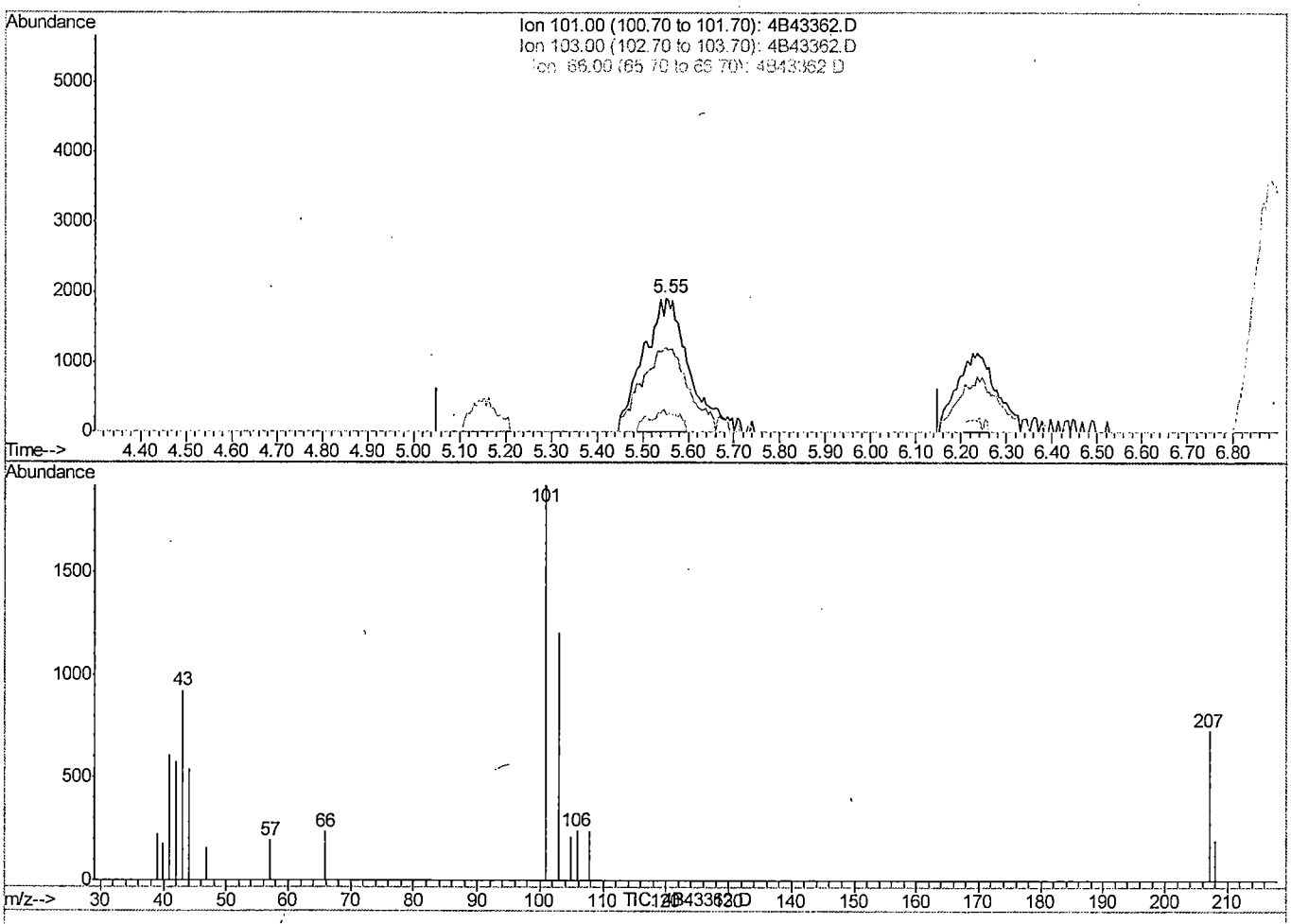
4B43362.D edits: allyl chloride

Quantitation Report (Qedit)

Data File : C:\MSDChem\1\DATA\4B43362.D Vial: 6
Acq On : 10 Jul 2014 6:07 pm Operator: TOANP
Sample : ic1867-5 Inst : MS4B
Misc : MS69789,V4B1867,w,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Jul 11 10:12:51 2014 Results File: M4B1867.RES

Method : C:\MSDCHEM\1\METHODS\M4B1867.M (RTE Integrator)
Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
Last Update : Fri Jul 11 10:17:48 2014
Response via : Multiple Level Calibration



(15) trichlorofluoromethane (M)

5.55min 4.74ug/L m

response 13289

Ion	Exp%	Act%
101.00	100	100
103.00	63.70	62.70
66.00	12.60	12.28
0.00	0.00	0.00

4B43362.D M4B1867.M Fri Jul 11 10:33:28 2014 GCMS4B

7.6.5.4

7

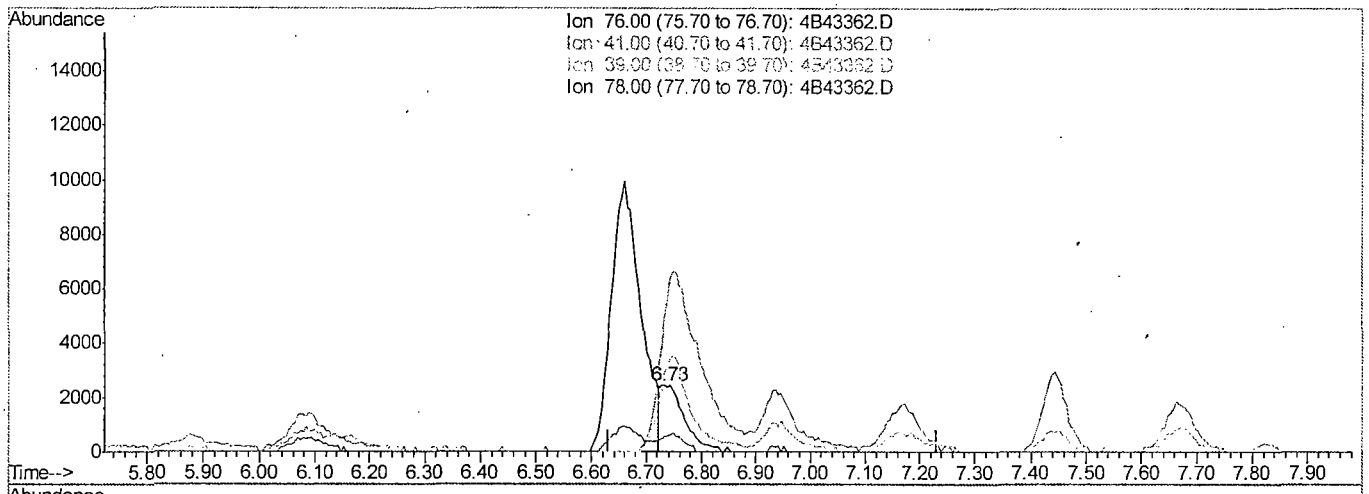
4B43362.D edits: trichlorofluoromethane

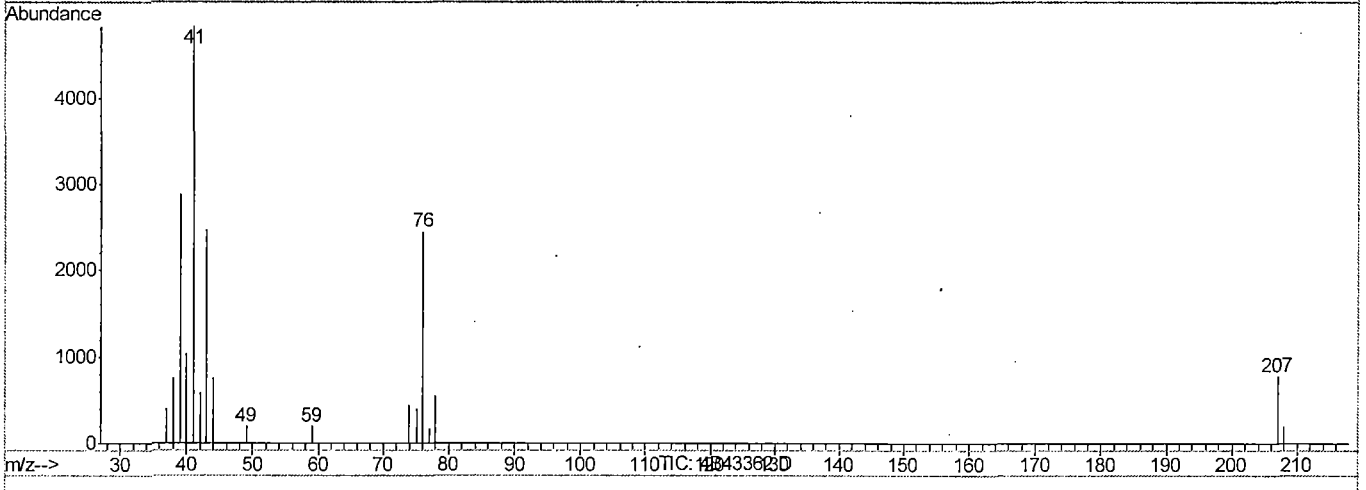
Quantitation Report (Qedit)

Data File : C:\MSDChem\1\DATA\4B43362.D Vial: 6
Acq On : 10 Jul 2014 6:07 pm Operator: TOANP
Sample : ic1867-5 Inst : MS4B
Misc : MS69789,V4B1867,w,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Jul 11 10:12:51 2014 Results File: M4B1867.RES

Method : C:\MSDCHEM\1\METHODS\M4B1867.M (RTE Integrator)
Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
Last Update : Fri Jul 11 10:17:48 2014
Response via : Multiple Level Calibration





(24) allyl chloride (M)

6.73min 8.48ug/L m

response 7221

Ion	Exp%	Act%
76.00	100	100
41.00	201.90	197.51
39.00	125.00	118.03
78.00	23.30	22.12

7.6.5.5 7

4B43362.D M4B1867.M Fri Jul 11 10:33:31 2014 GCMS4B

4B43362.D edits: allyl chloride

ACCUTEST LABORATORIES JB72431

Manual Integrations APPROVED (compounds with "m" flag)
Jessica Reitan-Chu
07/14/14 10:59

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B43363.D
Acq On : 10 Jul 2014 6:35 pm
Operator : TOANP
Sample : ic1867-10
Misc : MS69789,V4B1867,w,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jul 11 08:43:54 2014
Quant Method : C:\MSDCHEM\1\METHODS\M4B1867.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 11 08:33:29 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) tert butyl alcohol-d9	6.88	65	136093	500.00	ug/L	-0.02
5) pentafluorobenzene	8.84	168	247398	50.00	ug/L	-0.01
56) 1,4-difluorobenzene	9.70	114	307806	50.00	ug/L	-0.02
88) chlorobenzene-d5	12.89	117	331689	50.00	ug/L	-0.01
103) 1,4-dichlorobenzene-d4	15.43	152	196117	50.00	ug/L	-0.01
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.93	113	20610	10.30	ug/L	-0.02
Spiked Amount 50.000	Range 79 - 120		Recovery = 20.60%#			
50) 1,2-dichloroethane-d4 (s)	9.32	65	23356	10.13	ug/L	-0.02
Spiked Amount 50.000	Range 72 - 123		Recovery = 20.26%#			
80) toluene-d8 (s)	11.29	98	79083	10.33	ug/L	-0.01
Spiked Amount 50.000	Range 78 - 119		Recovery = 20.66%#			
105) 4-bromofluorobenzene (s)	14.14	95	37663	9.30	ug/L	-0.02
Spiked Amount 50.000	Range 74 - 119		Recovery = 18.60%#			
Target Compounds						Qvalue
2) tertiary butyl alcohol	6.99	59	19515	37.67	ug/L	89
3) 1,4-dioxane	10.42	88	7938	213.73	ug/L	97
7) chlorodifluoromethane	3.89	51	26969	10.99	ug/L	99
8) dichlorodifluoromethane	3.87	85	28378	11.73	ug/L	99
10) chloromethane	4.15	52	11772	10.66	ug/L	94
11) vinyl chloride	4.40	62	38073	11.40	ug/L	97
12) bromomethane	5.00	94	23586	12.36	ug/L	98
13) chloroethane	5.14	64	16574	12.82	ug/L	96
14) vinyl bromide	5.47	106	21519	0.39	ug/L	99
15) trichlorofluoromethane	5.56	101	39163	13.85	ug/L	95
16) 1,3-butadiene	4.43	54	19870	0.40	ug/L	97
17) Pentane	5.58	43	30721	0.48	ug/L	98
19) ethyl ether	5.87	74	11851	11.30	ug/L	98
20) 2-chloropropane	6.08	43	38426	9.59	ug/L #	86
21) acrolein	6.16	56	53195	125.09	ug/L	99
22) 1,1-dichloroethene	6.28	96	22705	10.22	ug/L	98
23) acetone	6.37	58	2401	5.52	ug/L #	60
24) allyl chloride	6.74	76	13672m	15.90	ug/L	
25) acetonitrile	6.77	40	26397	69.25	ug/L #	80
26) iodomethane	6.55	142	45633	11.18	ug/L	94
27) carbon disulfide	6.66	76	85462	11.16	ug/L	99
28) methylene chloride	6.93	84	26683	10.79	ug/L	98
29) methyl acetate	6.73	74	3866	10.31	ug/L #	87
30) 1-chloropropane	6.94	42	51917	6.23	ug/L	91
31) methyl tert butyl ether	7.17	73	68209	10.46	ug/L	99
32) trans-1,2-dichloroethene	7.23	96	23728	10.32	ug/L	99
33) di-isopropyl ether	7.67	45	81531	10.16	ug/L	97
34) 2-butanone	8.38	72	2853	10.97	ug/L #	1
35) 1,1-dichloroethane	7.75	63	43533	11.01	ug/L	99
36) chloroprene	7.82	53	31659	10.69	ug/L	97
37) acrylonitrile	7.24	53	45607	51.62	ug/L	96
38) vinyl acetate	7.71	86	3369	10.09	ug/L	82
39) ethyl tert-butyl ether	8.08	59	73985	10.11	ug/L	99

7.6.9
7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B43363.D
Acq On : 10 Jul 2014 6:35 pm
Operator : TOANP
Sample : ic1867-10
Misc : MS69789,V4B1867,w,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jul 11 08:43:54 2014
Quant Method : C:\MSDCHEM\1\METHODS\M4B1867.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 11 08:33:29 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
40) ethyl acetate	8.36	45	3690	10.28 ug/L		86
41) 2,2-dichloropropane	8.40	77	31637	11.03 ug/L		99
42) cis-1,2-dichloroethene	8.41	96	25031	10.72 ug/L		96
43) methylacrylate	8.45	85	3545	10.38 ug/L	#	37
44) propionitrile	8.52	54	37819	94.49 ug/L		98
45) bromochloromethane	8.70	128	12426	11.30 ug/L		95
46) tetrahydrofuran	8.72	42	9345	9.92 ug/L		96
47) chloroform	8.74	85	25733	10.85 ug/L		96
48) T-BUTYL FORMATE	8.75	59	20379	9.98 ug/L		95
51) freon 113	6.24	151	15748	12.35 ug/L		85
52) methacrylonitrile	8.66	41	15490	9.22 ug/L		97
53) 1,1,1-trichloroethane	8.96	97	33857	11.28 ug/L		98
54) cyclohexane	9.00	84	30336	11.51 ug/L		95
55) iso-butyl alcohol	9.14	43	12827	58.92 ug/L		81
57) epichlorohydrin	10.95	57	13576	38.94 ug/L		99
58) n-butyl alcohol	9.83	56	44566	338.13 ug/L		97
59) carbon tetrachloride	9.13	117	30699	11.30 ug/L		97
60) 1,1-dichloropropene	9.11	75	29287	11.28 ug/L		98
61) hexane	7.44	57	26071	11.23 ug/L		97
63) benzene	9.37	78	86106	10.86 ug/L		99
64) iso-octane	9.31	57	56628	11.82 ug/L		89
65) tert-amyl methyl ether	9.35	87	16531	10.09 ug/L		92
66) heptane	9.45	57	16086	11.16 ug/L		98
67) isopropyl acetate	9.26	61	11092	9.47 ug/L		90
68) 1,2-dichloroethane	9.40	62	29196	10.98 ug/L		99
69) trichloroethene	10.02	95	21805	10.91 ug/L		97
71) ethyl acrylate	10.01	55	34638	0.50 ug/L		97
72) 2-nitropropane	10.81	41	10261	8.26 ug/L	#	6
73) 2-chloroethyl vinyl ether	10.79	63	81973	46.69 ug/L		100
74) methyl methacrylate	10.27	100	6752	11.00 ug/L		89
75) 1,2-dichloropropane	10.29	63	23511	10.98 ug/L		96
76) dibromomethane	10.47	93	14828	10.86 ug/L		96
77) methylcyclohexane	10.21	83	37834	11.26 ug/L		98
78) bromodichloromethane	10.58	83	29861	10.47 ug/L		99
79) cis-1,3-dichloropropene	11.02	75	39231	10.77 ug/L		99
81) 4-methyl-2-pentanone	11.11	58	11902	9.26 ug/L		97
82) toluene	11.37	92	56489	11.03 ug/L		99
83) 3-methyl-1-butanol	11.13	55	29267	136.10 ug/L		99
84) trans-1,3-dichloropropene	11.59	75	38827	10.51 ug/L		98
85) ethyl methacrylate	11.54	69	36843	9.65 ug/L		97
86) 1,1,2-trichloroethane	11.82	83	19197	10.14 ug/L		99
87) 2-hexanone	11.98	58	12064	8.84 ug/L		89
89) tetrachloroethene	11.96	164	19882	10.98 ug/L		95
90) 1,3-dichloropropane	12.01	76	37852	10.08 ug/L		95
91) butyl acetate	12.03	56	20869	7.92 ug/L		95
92) 3,3-DIMETHYL-1-BUTANOL	12.16	57	32368	64.95 ug/L		99
93) dibromochloromethane	12.29	129	26748	9.54 ug/L		93
94) 1,2-dibromoethane	12.45	107	25128	10.08 ug/L		96
96) chlorobenzene	12.92	112	70405	10.24 ug/L		97
97) 1,1,1,2-tetrachloroethane	12.99	131	25394	9.64 ug/L		96

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B43363.D
Acq On : 10 Jul 2014 6:35 pm
Operator : TOANP
Sample : ic1867-10
Misc : MS69789,V4B1867,w,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jul 11 08:43:54 2014
Quant Method : C:\MSDCHEM\1\METHODS\M4B1867.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 11 08:33:29 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
98) ethylbenzene	12.96	91	122529	10.64	ug/L	98
99) m,p-xylene	13.07	106	91971	21.43	ug/L	100
100) o-xylene	13.53	106	46204	10.23	ug/L	100
101) styrene	13.55	104	82690	10.12	ug/L	99
102) bromoform	13.87	173	21684	8.84	ug/L	99
104) isopropylbenzene	13.90	105	124486	10.49	ug/L	99
106) cyclohexanone	14.14	55	26609	67.60	ug/L	98
107) bromobenzene	14.36	156	35317	9.90	ug/L	94
108) 1,1,2,2-tetrachloroethane	14.27	83	38473	8.33	ug/L	100
109) trans-1,4-dichloro-2-buten	14.32	53	9796	8.67	ug/L	92
110) 1,2,3-trichloropropane	14.36	110	9174	8.75	ug/L	99
111) n-propylbenzene	14.35	91	154914	10.60	ug/L	100
113) 2-chlorotoluene	14.53	126	32216	10.24	ug/L	96
114) 4-chlorotoluene	14.64	91	98766	9.96	ug/L	98
115) 1,3,5-trimethylbenzene	14.51	105	110615	10.26	ug/L	99
116) tert-butylbenzene	14.89	119	87248	9.94	ug/L	100
117) pentachloroethane	15.01	167	19520	9.19	ug/L	97
118) 1,2,4-trimethylbenzene	14.94	105	112822	10.13	ug/L	98
119) sec-butylbenzene	15.13	105	145197	10.39	ug/L	99
120) 1,3-dichlorobenzene	15.36	146	68813	9.71	ug/L	99
121) p-isopropyltoluene	15.26	119	126140	10.23	ug/L	99
122) 1,4-dichlorobenzene	15.46	146	68504	9.51	ug/L	99
123) benzyl chloride	15.59	91	73177	7.62	ug/L	99
124) 1,2-dichlorobenzene	15.90	146	67079	9.26	ug/L	100
126) n-butylbenzene	15.72	92	65772	10.37	ug/L	99
128) 1,2-dibromo-3-chloropropan	16.76	75	7466	7.47	ug/L	97
129) 1,3,5-TRICHLOROBENZENE	16.93	180	60662	9.68	ug/L	100
130) 1,2,4-trichlorobenzene	17.61	180	52403	9.40	ug/L	99
131) hexachlorobutadiene	17.70	225	26318	10.39	ug/L	97
132) naphthalene	17.91	128	111203	8.68	ug/L	99
133) 1,2,3-trichlorobenzene	18.17	180	45663	9.19	ug/L	99
134) hexachloroethane	16.16	201	17881	9.47	ug/L	97

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

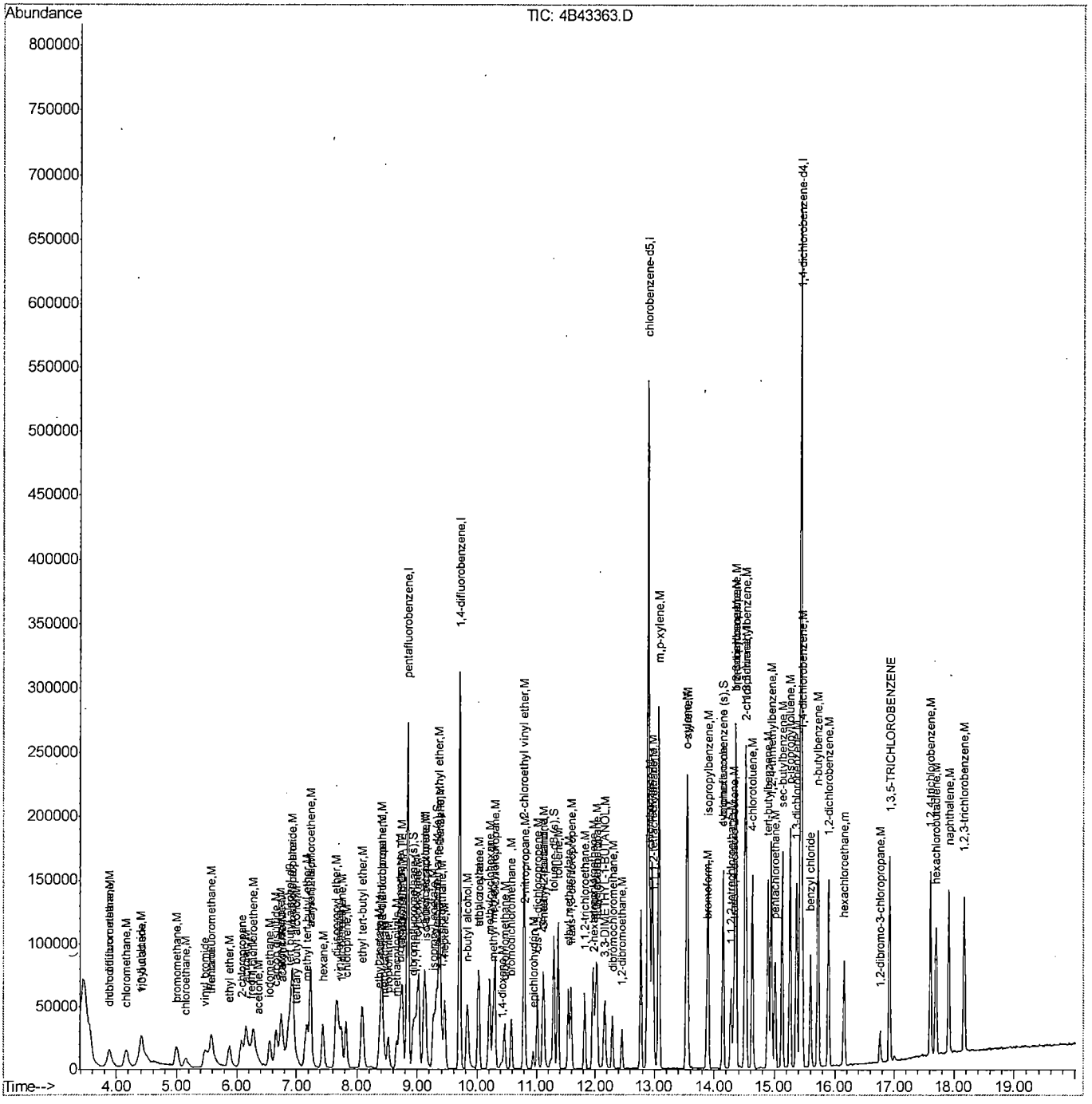
7.6.6

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B43363.D
Acq On : 10 Jul 2014 6:35 pm
Operator : TOANP
Sample : ic1867-10
Misc : MS69789,V4B1867,w,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jul 11 08:43:54 2014
Quant Method : C:\MSDCHEM\1\METHODS\M4B1867.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 11 08:33:29 2014
Response via : Initial Calibration



7.6.9

7

ACCUTEST LABORATORIES JB72431

Manual Integration Approval Summary

Sample Number:	V4B1867-IC1867	**Method:**	SW846 8260B
Lab FileID:	4B43363.D	**Analyst approved:**	07/11/14 11:00 Dong, Mei
Injection Time:	07/10/14 18:35	**Supervisor approved:**	07/14/14 10:59 Jessica Reitan-Chu

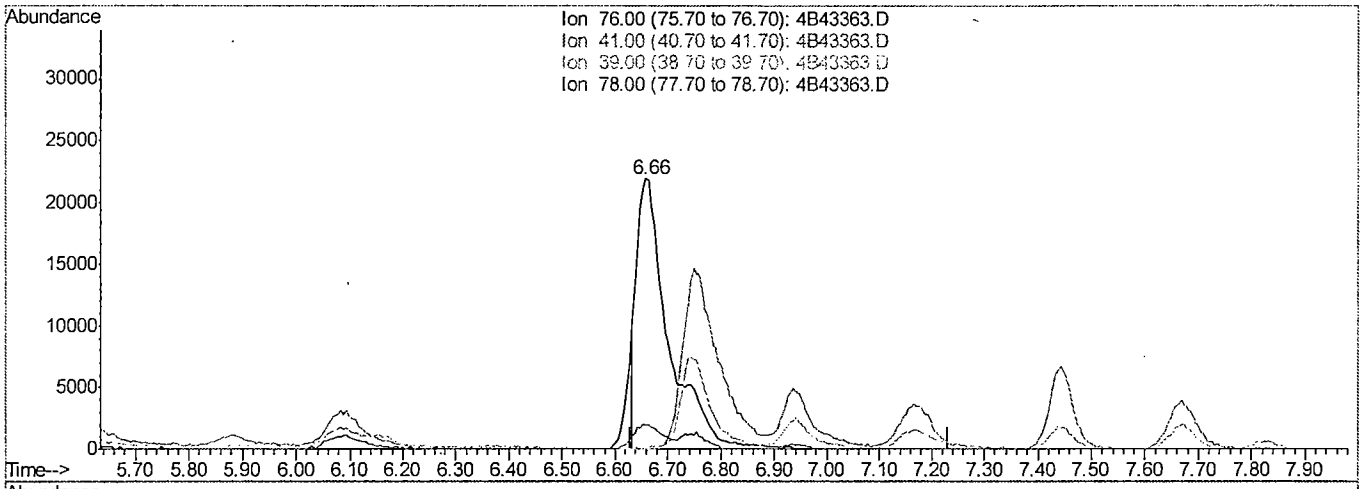
Parameter	CAS	Sig#	R.T. (min.)	Reason
Allyl chloride	107-05-1		6.74	Poor instrument integration

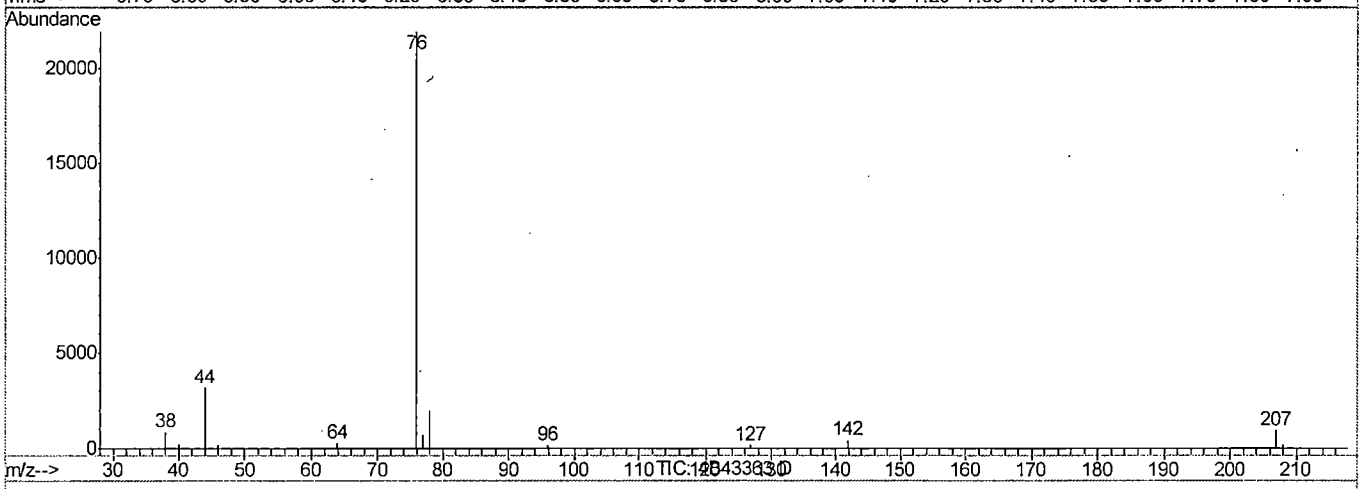
Quantitation Report (Qedit)

Data File : C:\MSDChem\1\DATA\4B43363.D Vial: 7
Acq On : 10 Jul 2014 6:35 pm Operator: TOANP
Sample : ic1867-10 Inst : MS4B
Misc : MS69789,V4B1867,w,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Jul 11 08:41:32 2014 Results File: M4B1867.RES

Method : C:\MSDCHEM\1\METHODS\M4B1867.M (RTE Integrator)
Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
Last Update : Fri Jul 11 08:33:29 2014
Response via : Multiple Level Calibration





(24) allyl chloride (M)

6.66min 105.52ug/L

response 90720

Ion	Exp%	Act%
76.00	100	100
41.00	201.90	0.00#
39.00	125.00	0.00#
78.00	23.30	8.25

4B43363.D M4B1867.M Fri Jul 11 08:42:18 2014 GCMS4B

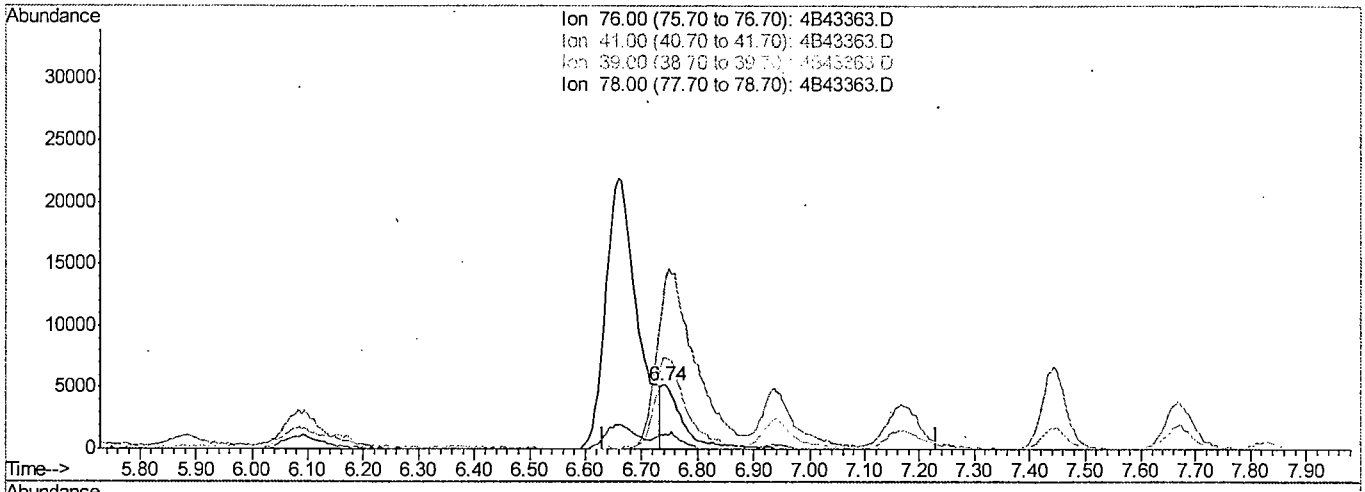
4B43363.D edits: allyl chloride

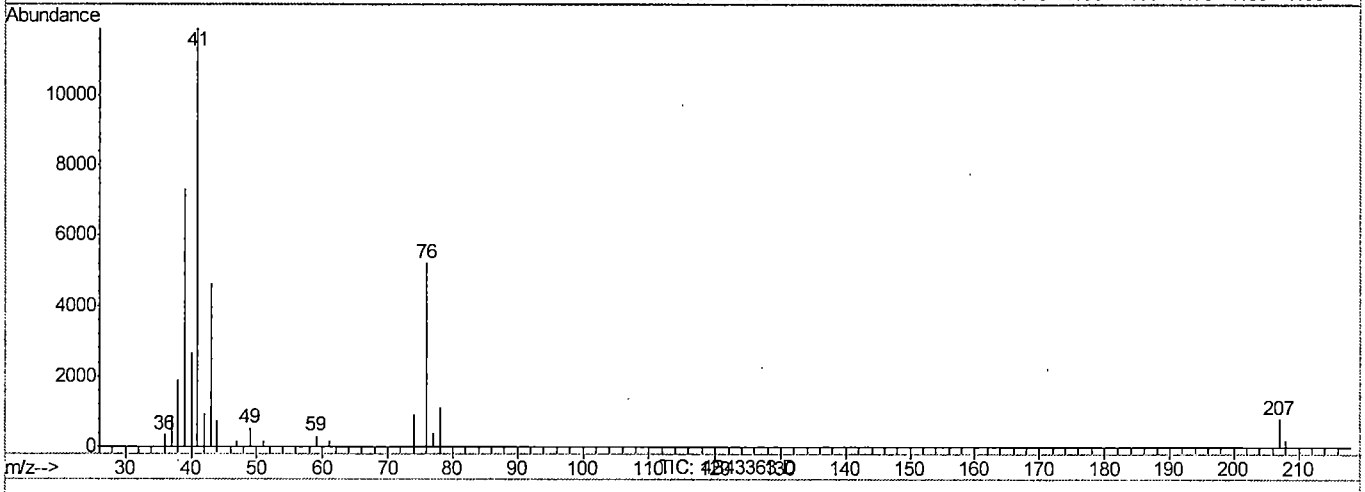
Quantitation Report (Qedit)

Data File : C:\MSDChem\1\DATA\4B43363.D Vial: 7
Acq On : 10 Jul 2014 6:35 pm Operator: TOANP
Sample : ic1867-10 Inst : MS4B
Misc : MS69789,V4B1867,w,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Jul 11 08:43:54 2014 Results File: M4B1867.RES

Method : C:\MSDCHEM\1\METHODS\M4B1867.M (RTE Integrator)
Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
Last Update : Fri Jul 11 10:17:48 2014
Response via : Multiple Level Calibration





(24) allyl chloride (M)

6.74min 15.90ug/L m

response 13672

Ion	Exp%	Act%
76.00	100	100
41.00	201.90	228.02
39.00	125.00	140.59
78.00	23.30	21.44

4B43363.D M4B1867.M Fri Jul 11 10:33:56 2014 GCMS4B

4B43363.D edits: allyl chloride

7.6.6.3

7

4B43364.D
Manual Integrations APPROVED
(compounds with "m" flag)
Jessica Reitan-Chu
07/14/14 10:59

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B43364.D
Acq On : 10 Jul 2014 7:02 pm
Operator : TOANP
Sample : ic1867-20
Misc : MS69789,V4B1867,w,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jul 11 10:04:06 2014
Quant Method : C:\MSDCHEM\1\METHODS\M4B1867.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 11 08:33:29 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) tert butyl alcohol-d9	6.89	65	152834	500.00	ug/L		-0.02
5) pentafluorobenzene	8.84	168	244522	50.00	ug/L		-0.02
56) 1,4-difluorobenzene	9.70	114	303991	50.00	ug/L		-0.02
88) chlorobenzene-d5	12.89	117	321074	50.00	ug/L		-0.01
103) 1,4-dichlorobenzene-d4	15.43	152	194334	50.00	ug/L		-0.02
System Monitoring Compounds							
49) dibromofluoromethane (s)	8.92	113	102193	51.69	ug/L		-0.02
Spiked Amount 50.000	Range 79 - 120		Recovery = 103.38%				
50) 1,2-dichloroethane-d4 (s)	9.32	65	114284	50.15	ug/L		-0.02
Spiked Amount 50.000	Range 72 - 123		Recovery = 100.30%				
80) toluene-d8 (s)	11.29	98	383479	50.71	ug/L		-0.01
Spiked Amount 50.000	Range 78 - 119		Recovery = 101.42%				
105) 4-bromofluorobenzene (s)	14.14	95	180753	45.06	ug/L		-0.02
Spiked Amount 50.000	Range 74 - 119		Recovery = 90.12%				
Target Compounds							Qvalue
2) tertiary butyl alcohol	6.98	59	41828	71.90	ug/L		95
3) 1,4-dioxane	10.43	88	17155	411.31	ug/L		91
7) chlorodifluoromethane	3.89	51	51278	21.13	ug/L		99
8) dichlorodifluoromethane	3.87	85	58434	24.44	ug/L		98
10) chloromethane	4.16	52	22631	20.74	ug/L		97
11) vinyl chloride	4.41	62	72343	21.91	ug/L		94
12) bromomethane	5.00	94	42946	22.78	ug/L		99
13) chloroethane	5.14	64	30124	23.57	ug/L		98
14) vinyl bromide	5.46	106	41233	0.75	ug/L		99
15) trichlorofluoromethane	5.56	101	74959	26.82	ug/L		99
16) 1,3-butadiene	4.43	54	37275	0.76	ug/L		94
17) Pentane	5.58	43	53989	0.85	ug/L		96
19) ethyl ether	5.87	74	23597	22.76	ug/L		96
20) 2-chloropropane	6.08	43	75403	19.04	ug/L	#	88
21) acrolein	6.15	56	108333	257.74	ug/L		99
22) 1,1-dichloroethene	6.28	96	41863	19.07	ug/L		98
23) acetone	6.36	58	5152	11.97	ug/L		94
24) allyl chloride	6.73	76	28516m	33.56	ug/L		
25) acetonitrile	6.76	40	50436	133.87	ug/L		92
26) iodomethane	6.55	142	90040	22.32	ug/L		99
27) carbon disulfide	6.65	76	163725	21.63	ug/L		100
28) methylene chloride	6.93	84	51514	21.08	ug/L		96
29) methyl acetate	6.72	74	8123	21.93	ug/L		94
30) 1-chloropropane	6.94	42	89162	10.83	ug/L		96
31) methyl tert butyl ether	7.17	73	133579	20.73	ug/L		98
32) trans-1,2-dichloroethene	7.23	96	44632	19.65	ug/L		100
33) di-isopropyl ether	7.66	45	154958	19.54	ug/L		98
34) 2-butanone	8.39	72	5939	23.10	ug/L	#	71
35) 1,1-dichloroethane	7.75	63	82630	21.14	ug/L		98
36) chloroprene	7.83	53	60011	20.51	ug/L		98
37) acrylonitrile	7.23	53	95661	109.56	ug/L		97
38) vinyl acetate	7.71	86	6723	20.38	ug/L		99
39) ethyl tert-butyl ether	8.09	59	141661	19.59	ug/L		99

7.6.7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B43364.D
Acq On : 10 Jul 2014 7:02 pm
Operator : TOANP
Sample : ic1867-20
Misc : MS69789,V4B1867,w,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jul 11 10:04:06 2014
Quant Method : C:\MSDCHEM\1\METHODS\M4B1867.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 11 08:33:29 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
40) ethyl acetate	8.36	45	8098	22.82	ug/L		91
41) 2,2-dichloropropane	8.40	77	59978	21.16	ug/L		99
42) cis-1,2-dichloroethene	8.41	96	47773	20.70	ug/L		95
43) methylacrylate	8.45	85	7358	21.80	ug/L	#	42
44) propionitrile	8.52	54	79987	202.19	ug/L		100
45) bromochloromethane	8.70	128	23829	21.93	ug/L		96
46) tetrahydrofuran	8.73	42	19377	20.81	ug/L		96
47) chloroform	8.74	85	49314	21.04	ug/L		97
48) T-BUTYL FORMATE	8.75	59	40271	19.96	ug/L		97
51) freon 113	6.23	151	31922	25.32	ug/L		97
52) methacrylonitrile	8.66	41	31089	18.73	ug/L		97
53) 1,1,1-trichloroethane	8.96	97	65578	22.11	ug/L		98
54) cyclohexane	9.01	84	57916	22.23	ug/L	#	78
55) iso-butyl alcohol	9.13	43	28508	132.49	ug/L		94
57) epichlorohydrin	10.95	57	28172	81.81	ug/L		97
58) n-butyl alcohol	9.83	56	96498	741.34	ug/L		100
59) carbon tetrachloride	9.13	117	59156	22.04	ug/L		98
60) 1,1-dichloropropene	9.11	75	55948	21.83	ug/L		99
61) hexane	7.44	57	48706	21.24	ug/L		98
63) benzene	9.36	78	162944	20.80	ug/L		98
64) iso-octane	9.30	57	101711	21.49	ug/L		88
65) tert-amyl methyl ether	9.36	87	31509	19.47	ug/L		98
66) heptane	9.46	57	30300	21.28	ug/L		95
67) isopropyl acetate	9.26	61	23828	20.59	ug/L	#	85
68) 1,2-dichloroethane	9.41	62	55908	21.29	ug/L		99
69) trichloroethene	10.02	95	41180	20.85	ug/L		97
71) ethyl acrylate	10.01	55	68909	1.00	ug/L		97
72) 2-nitropropane	10.81	41	20650	16.82	ug/L	#	38
73) 2-chloroethyl vinyl ether	10.79	63	159618	92.05	ug/L		100
74) methyl methacrylate	10.26	100	13479	22.23	ug/L		89
75) 1,2-dichloropropane	10.29	63	44764	21.17	ug/L		99
76) dibromomethane	10.46	93	28673	21.27	ug/L		98
77) methylcyclohexane	10.21	83	72637	21.88	ug/L		98
78) bromodichloromethane	10.58	83	58009	20.59	ug/L		97
79) cis-1,3-dichloropropene	11.02	75	74609	20.74	ug/L		98
81) 4-methyl-2-pentanone	11.10	58	24708	19.47	ug/L		97
82) toluene	11.37	92	104902	20.74	ug/L		98
83) 3-methyl-1-butanol	11.13	55	62728	295.37	ug/L		98
84) trans-1,3-dichloropropene	11.59	75	73587	20.17	ug/L		99
85) ethyl methacrylate	11.54	69	72405	19.20	ug/L		98
86) 1,1,2-trichloroethane	11.82	83	36689	19.63	ug/L		99
87) 2-hexanone	11.98	58	25356	18.82	ug/L		89
89) tetrachloroethene	11.96	164	36522	20.84	ug/L		98
90) 1,3-dichloropropane	12.01	76	72368	19.91	ug/L		96
91) butyl acetate	12.03	56	40835	16.01	ug/L		96
92) 3,3-DIMETHYL-1-BUTANOL	12.16	57	71776	148.78	ug/L		99
93) dibromochloromethane	12.29	129	52031	19.18	ug/L		99
94) 1,2-dibromoethane	12.45	107	48369	20.04	ug/L		99
96) chlorobenzene	12.92	112	130425	19.60	ug/L		98
97) 1,1,1,2-tetrachloroethane	12.99	131	49644	19.47	ug/L		97

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B43364.D
Acq On : 10 Jul 2014 7:02 pm
Operator : TOANP
Sample : ic1867-20
Misc : MS69789,V4B1867,w,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jul 11 10:04:06 2014
Quant Method : C:\MSDCHEM\1\METHODS\M4B1867.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 11 08:33:29 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
98) ethylbenzene	12.96	91	224670	20.15 ug/L	99
99) m,p-xylene	13.07	106	168802	40.64 ug/L	97
100) o-xylene	13.53	106	87190	19.95 ug/L	99
101) styrene	13.55	104	155310	19.64 ug/L	97
102) bromoform	13.87	173	43898	18.48 ug/L	98
104) isopropylbenzene	13.90	105	233547	19.86 ug/L	99
106) cyclohexanone	14.14	55	57559	147.58 ug/L	98
107) bromobenzene	14.36	156	65875	18.64 ug/L	92
108) 1,1,2,2-tetrachloroethane	14.27	83	77783	16.99 ug/L	99
109) trans-1,4-dichloro-2-buten	14.32	53	21130	18.87 ug/L	92
110) 1,2,3-trichloropropane	14.36	110	18443	17.75 ug/L	99
111) n-propylbenzene	14.35	91	284447	19.65 ug/L	99
113) 2-chlorotoluene	14.52	126	59671	19.14 ug/L	98
114) 4-chlorotoluene	14.64	91	182057	18.53 ug/L	98
115) 1,3,5-trimethylbenzene	14.50	105	206235	19.30 ug/L	100
116) tert-butylbenzene	14.89	119	164079	18.86 ug/L	100
117) pentachloroethane	15.01	167	38698	18.39 ug/L	95
118) 1,2,4-trimethylbenzene	14.94	105	211490	19.16 ug/L	99
119) sec-butylbenzene	15.13	105	269183	19.43 ug/L	99
120) 1,3-dichlorobenzene	15.36	146	130567	18.59 ug/L	98
121) p-isopropyltoluene	15.26	119	239233	19.59 ug/L	99
122) 1,4-dichlorobenzene	15.46	146	132986	18.63 ug/L	98
123) benzyl chloride	15.59	91	146567	15.41 ug/L	99
124) 1,2-dichlorobenzene	15.90	146	131351	18.30 ug/L	99
126) n-butylbenzene	15.72	92	124209	19.77 ug/L	98
128) 1,2-dibromo-3-chloropropan	16.76	75	16348	16.50 ug/L	97
129) 1,3,5-TRICHLOROBENZENE	16.93	180	119819	19.29 ug/L	99
130) 1,2,4-trichlorobenzene	17.61	180	106179	19.23 ug/L	99
131) hexachlorobutadiene	17.70	225	49881	19.88 ug/L	99
132) naphthalene	17.91	128	246299	19.40 ug/L	100
133) 1,2,3-trichlorobenzene	18.17	180	96235	19.55 ug/L	99
134) hexachloroethane	16.16	201	36446	19.48 ug/L	98

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

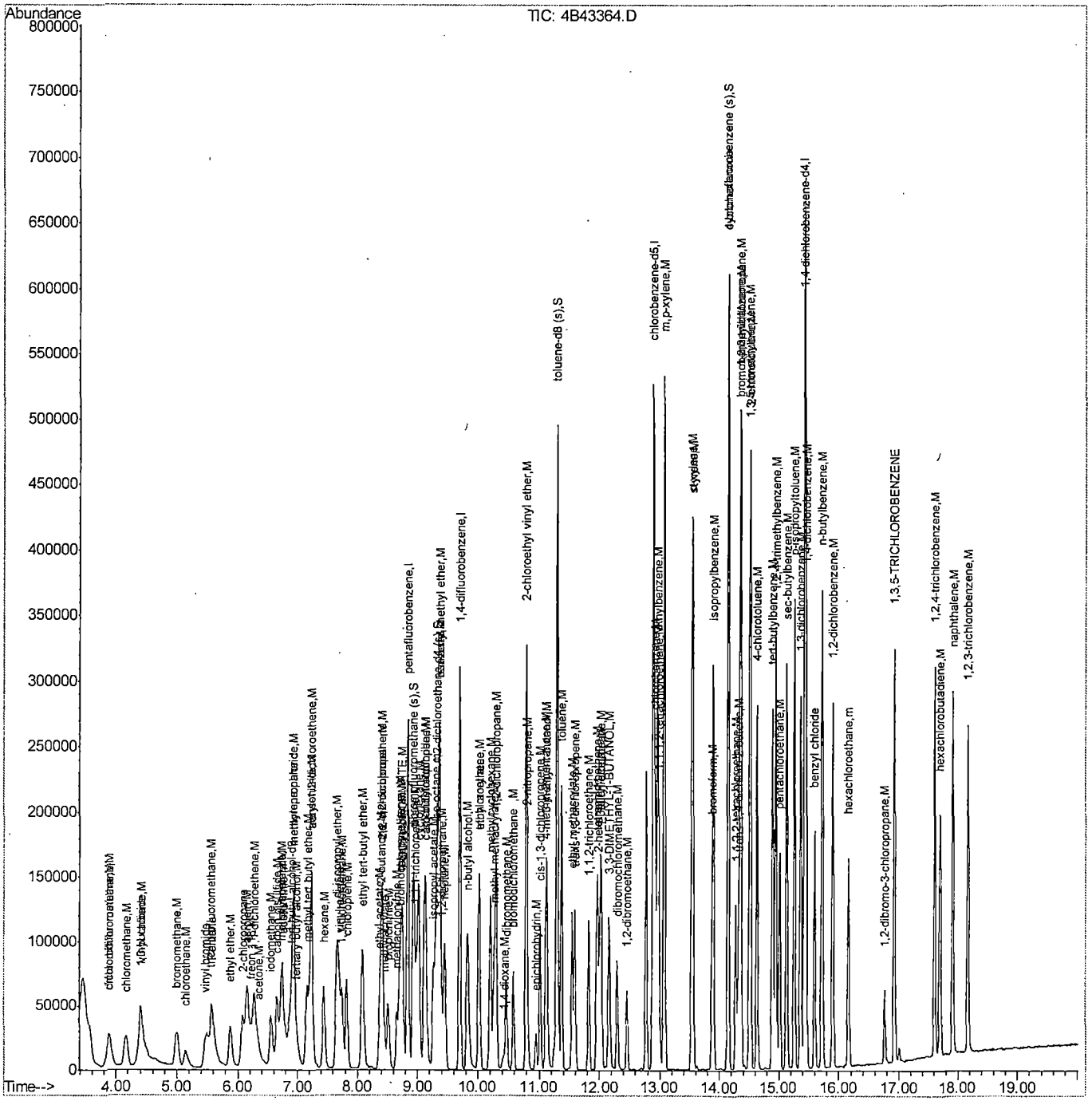
7.6.7

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B43364.D
Acq On : 10 Jul 2014 7:02 pm
Operator : TOANP
Sample : ic1867-20
Misc : MS69789,V4B1867,w,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jul 11 10:04:06 2014
Quant Method : C:\MSDCHEM\1\METHODS\M4B1867.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 11 08:33:29 2014
Response via : Initial Calibration



7.6.7

Manual Integration Approval Summary

Sample Number: V4B1867-IC1867
Lab FileID: 4B43364.D
Injection Time: 07/10/14 19:02

Method: SW846 8260B
Analyst approved: 07/11/14 11:00 Dong, Mei
Supervisor approved: 07/14/14 10:59 Jessica Reitan-Chu

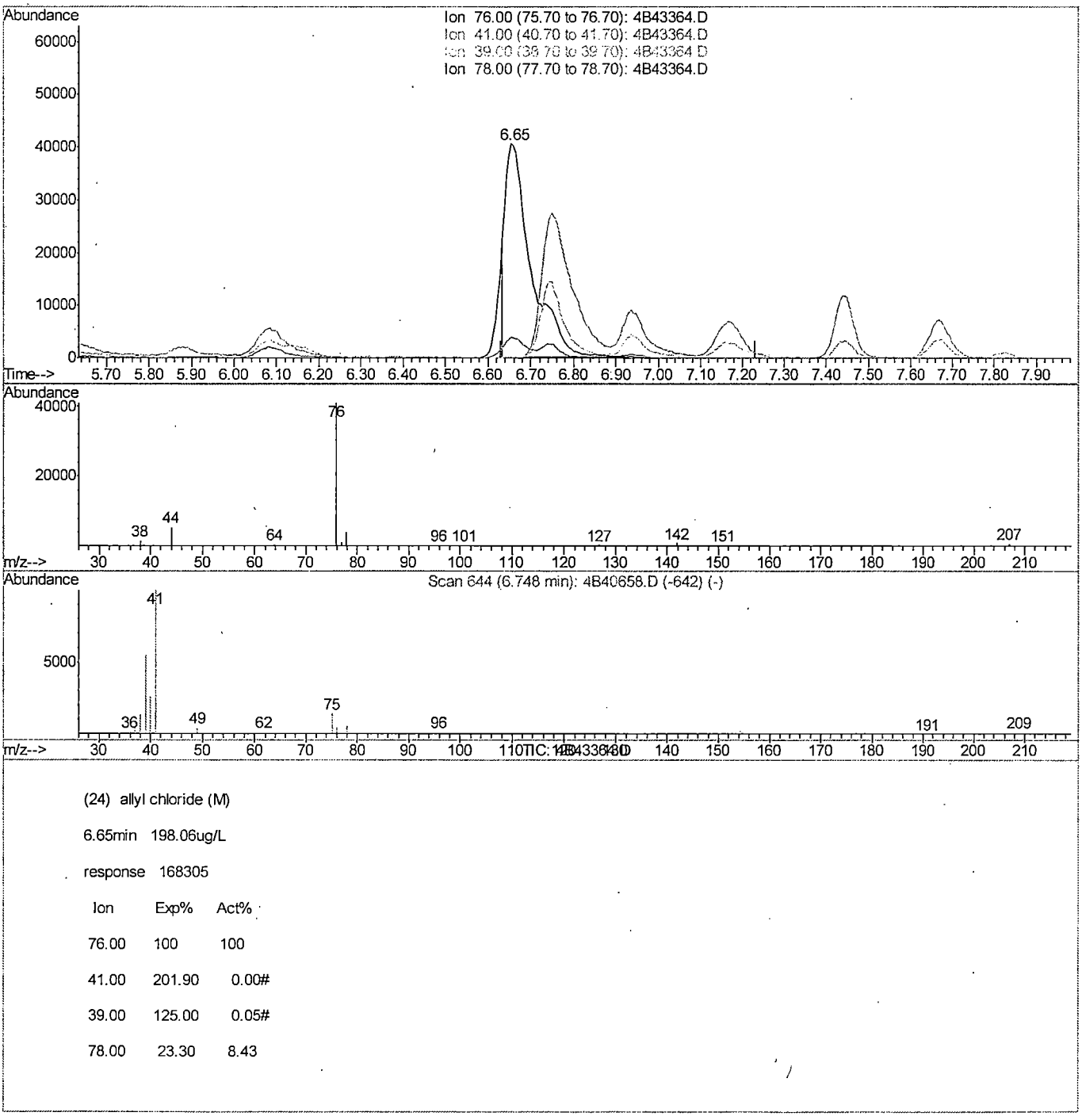
Parameter	CAS	Sig#	R.T. (min.)	Reason
Allyl chloride	107-05-1		6.73	Poor instrument integration

Quantitation Report (Qedit)

Data File : C:\MSDChem\1\DATA\4B43364.D Vial: 8
Acq On : 10 Jul 2014 7:02 pm Operator: TOANP
Sample : ic1867-20 Inst : MS4B
Misc : MS69789,V4B1867,w,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Jul 11 08:39:42 2014 Results File: M4B1867.RES

Method : C:\MSDCHEM\1\METHODS\M4B1867.M (RTE Integrator)
Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
Last Update : Fri Jul 11 08:33:29 2014
Response via : Multiple Level Calibration



(24) allyl chloride (M)

6.65min 198.06ug/L

response 168305

Ion	Exp%	Act%
76.00	100	100
41.00	201.90	0.00#
39.00	125.00	0.05#
78.00	23.30	8.43

4B43364.D M4B1867.M Fri Jul 11 08:40:15 2014 GCMS4B

7.6.7.2

7

ACCUTEST LABORATORIES JB72431

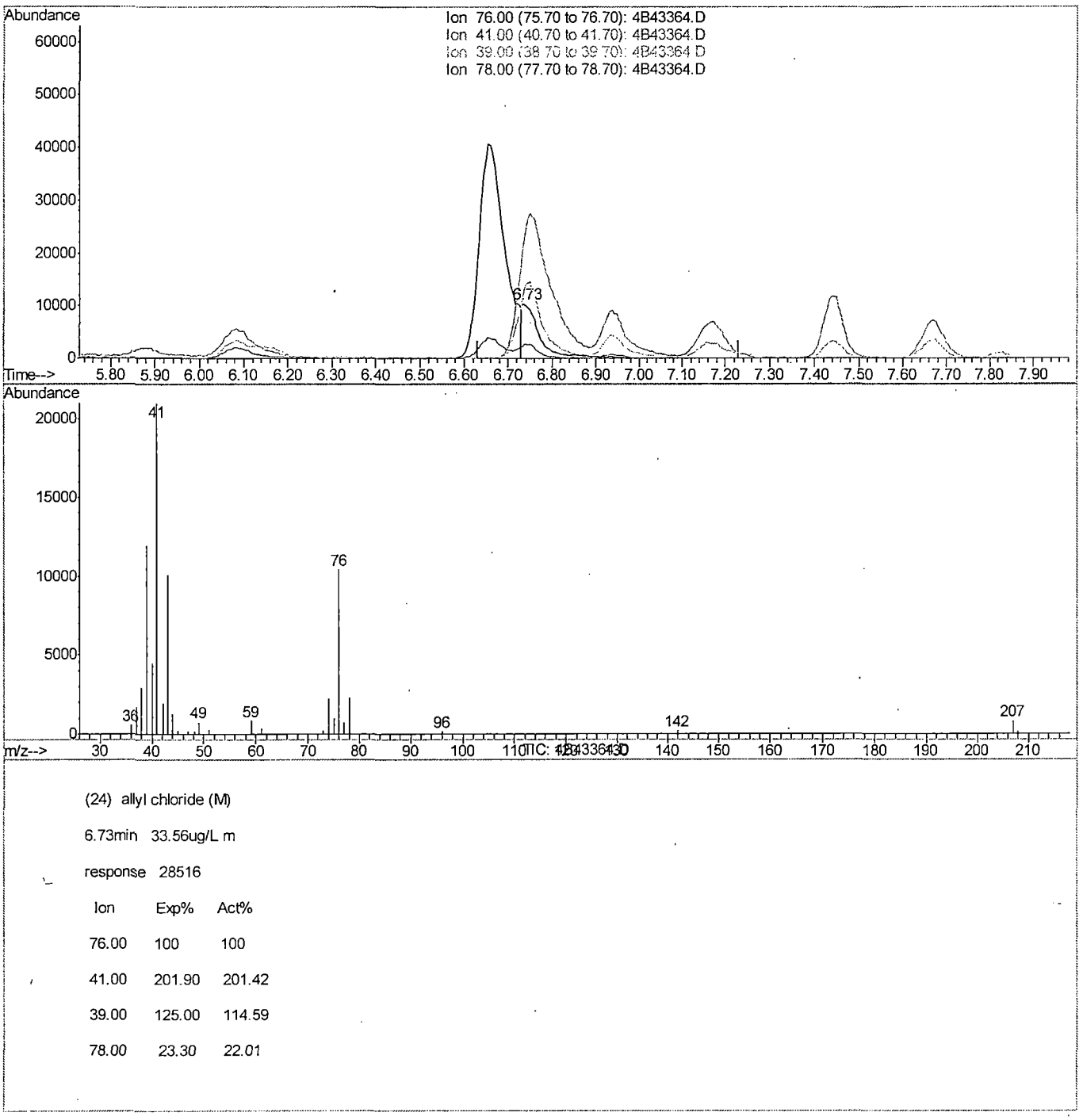
4B43364.D edits: allyl chloride

Quantitation Report (Qedit)

Data File : C:\MSDChem\1\DATA\4B43364.D Vial: 8
Acq On : 10 Jul 2014 7:02 pm Operator: TOANP
Sample : ic1867-20 Inst : MS4B
Misc : MS69789,V4B1867,w,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Jul 11 10:04:06 2014 Results File: M4B1867.RES

Method : C:\MSDCHEM\1\METHODS\M4B1867.M (RTE Integrator)
Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
Last Update : Fri Jul 11 10:17:48 2014
Response via : Multiple Level Calibration



(24) allyl chloride (M)

6.73min 33.56ug/L m

response 28516

Ion	Exp%	Act%
76.00	100	100
41.00	201.90	201.42
39.00	125.00	114.59
78.00	23.30	22.01

4B43364.D M4B1867.M Fri Jul 11 10:34:15 2014 GCMS4B

4B43364.D edits: allyl chloride

4B43365.D

Manual Integrations APPROVED (compounds with "m" flag)
Jessica Reitan-Chu
07/14/14 10:59

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B43365.D
Acq On : 10 Jul 2014 7:30 pm
Operator : TOANP
Sample : icc1867-50
Misc : MS69789,V4B1867,w,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jul 11 10:04:11 2014
Quant Method : C:\MSDCHEM\1\METHODS\M4B1867.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 11 08:33:29 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) tert butyl alcohol-d9	6.89	65	140005	500.00	ug/L		-0.01
5) pentafluorobenzene	8.84	168	245312	50.00	ug/L		-0.01
56) 1,4-difluorobenzene	9.70	114	307072	50.00	ug/L		-0.02
88) chlorobenzene-d5	12.89	117	316715	50.00	ug/L		-0.01
103) 1,4-dichlorobenzene-d4	15.43	152	195163	50.00	ug/L		-0.02
System Monitoring Compounds							
49) dibromofluoromethane (s)	8.93	113	106145	53.51	ug/L		-0.02
Spiked Amount 50.000	Range 79 - 120		Recovery = 107.02%				
50) 1,2-dichloroethane-d4 (s)	9.32	65	118456	51.82	ug/L		-0.02
Spiked Amount 50.000	Range 72 - 123		Recovery = 103.64%				
80) toluene-d8 (s)	11.29	98	385407	50.46	ug/L		-0.01
Spiked Amount 50.000	Range 78 - 119		Recovery = 100.92%				
105) 4-bromofluorobenzene (s)	14.14	95	186485	46.29	ug/L		-0.02
Spiked Amount 50.000	Range 74 - 119		Recovery = 92.58%				
Target Compounds							Qvalue
2) tertiary butyl alcohol	7.00	59	99016	185.79	ug/L		96
3) 1,4-dioxane	10.41	88	39939	1045.33	ug/L		94
7) chlorodifluoromethane	3.89	51	131576	54.06	ug/L		98
8) dichlorodifluoromethane	3.87	85	152255	63.48	ug/L		98
10) chloromethane	4.19	52	61485	56.16	ug/L		99
11) vinyl chloride	4.42	62	190481	57.50	ug/L		98
12) bromomethane	5.00	94	107414	56.78	ug/L		99
13) chloroethane	5.14	64	74856	58.38	ug/L		98
14) vinyl bromide	5.47	106	107450	1.95	ug/L		99
15) trichlorofluoromethane	5.55	101	199497	71.14	ug/L		99
16) 1,3-butadiene	4.43	54	97660	2.00	ug/L		96
17) Pentane	5.58	43	143768	2.27	ug/L		99
19) ethyl ether	5.88	74	60503	58.17	ug/L		99
20) 2-chloropropane	6.08	43	191886	48.30	ug/L	#	85
21) acrolein	6.16	56	271098	642.90	ug/L		98
22) 1,1-dichloroethene	6.29	96	106714	48.45	ug/L		99
23) acetone	6.35	58	11853	27.46	ug/L		86
24) allyl chloride	6.73	76	85844m	100.69	ug/L		
25) acetonitrile	6.77	40	117795	311.65	ug/L	#	75
26) iodomethane	6.56	142	232457	57.45	ug/L		97
27) carbon disulfide	6.66	76	415007	54.66	ug/L		99
28) methylene chloride	6.93	84	131629	53.70	ug/L		100
29) methyl acetate	6.72	74	19859	53.43	ug/L		96
30) 1-chloropropane	6.94	42	199196	24.12	ug/L		98
31) methyl tert butyl ether	7.17	73	335656	51.92	ug/L		99
32) trans-1,2-dichloroethene	7.23	96	114643	50.31	ug/L		97
33) di-isopropyl ether	7.67	45	392977	49.39	ug/L		95
34) 2-butanone	8.39	72	15002	58.16	ug/L	#	59
35) 1,1-dichloroethane	7.75	63	212045	54.08	ug/L		99
36) chloroprene	7.83	53	155220	52.87	ug/L		99
37) acrylonitrile	7.24	53	230253	262.85	ug/L		98
38) vinyl acetate	7.71	86	18199	54.99	ug/L		97
39) ethyl tert-butyl ether	8.09	59	355267	48.98	ug/L		98

7.6.8

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B43365.D
Acq On : 10 Jul 2014 7:30 pm
Operator : TOANP
Sample : icc1867-50
Misc : MS69789,V4B1867,w,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jul 11 10:04:11 2014
Quant Method : C:\MSDCHEM\1\METHODS\M4B1867.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 11 08:33:29 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
40) ethyl acetate	8.37	45	18249	51.25 ug/L	#	84
41) 2,2-dichloropropane	8.41	77	149478	52.56 ug/L		96
42) cis-1,2-dichloroethene	8.41	96	122498	52.91 ug/L		96
43) methylacrylate	8.45	85	18516	54.67 ug/L	#	90
44) propionitrile	8.51	54	191669	482.94 ug/L		99
45) bromochloromethane	8.70	128	61577	56.49 ug/L		94
46) tetrahydrofuran	8.72	42	45282	48.47 ug/L		95
47) chloroform	8.74	85	126954	54.00 ug/L		97
48) T-BUTYL FORMATE	8.75	59	98453	48.63 ug/L		98
51) freon 113	6.24	151	82901	65.55 ug/L		92
52) methacrylonitrile	8.66	41	76057	45.67 ug/L		97
53) 1,1,1-trichloroethane	8.96	97	169318	56.91 ug/L		99
54) cyclohexane	9.00	84	146127	55.90 ug/L		98
55) iso-butyl alcohol	9.13	43	65886	305.22 ug/L		94
57) epichlorohydrin	10.95	57	67193	193.18 ug/L		96
58) n-butyl alcohol	9.83	56	229605	1746.23 ug/L		98
59) carbon tetrachloride	9.13	117	154694	57.05 ug/L		98
60) 1,1-dichloropropene	9.11	75	142748	55.13 ug/L		99
61) hexane	7.44	57	123870	53.47 ug/L		100
63) benzene	9.37	78	418858	52.94 ug/L		99
64) iso-octane	9.31	57	235290	49.22 ug/L	#	87
65) tert-amyl methyl ether	9:36	87	78890	48.25 ug/L		97
66) heptane	9.45	57	78232	54.40 ug/L		96
67) isopropyl acetate	9.26	61	55118	47.15 ug/L		91
68) 1,2-dichloroethane	9.41	62	142608	53.77 ug/L		99
69) trichloroethene	10.02	95	106988	53.64 ug/L		99
71) ethyl acrylate	10.01	55	164325	2.37 ug/L		98
72) 2-nitropropane	10.81	41	49114	39.61 ug/L	#	23
73) 2-chloroethyl vinyl ether	10.79	63	380424	217.19 ug/L		100
74) methyl methacrylate	10.27	100	33725	55.05 ug/L	#	77
75) 1,2-dichloropropane	10.30	63	112555	52.71 ug/L		99
76) dibromomethane	10.46	93	72940	53.56 ug/L		98
77) methylcyclohexane	10.21	83	184955	55.16 ug/L		96
78) bromodichloromethane	10.58	83	149282	52.45 ug/L		98
79) cis-1,3-dichloropropene	11.02	75	188271	51.82 ug/L		99
81) 4-methyl-2-pentanone	11.10	58	57965	45.22 ug/L		99
82) toluene	11.37	92	266809	52.23 ug/L		98
83) 3-methyl-1-butanol	11.13	55	149398	696.42 ug/L		98
84) trans-1,3-dichloropropene	11.59	75	184788	50.14 ug/L		99
85) ethyl methacrylate	11.54	69	184210	48.35 ug/L		99
86) 1,1,2-trichloroethane	11.82	83	90684	48.04 ug/L		99
87) 2-hexanone	11.98	58	60919	44.76 ug/L		91
89) tetrachloroethene	11.96	164	94699	54.78 ug/L		97
90) 1,3-dichloropropane	12.01	76	178397	49.76 ug/L		98
91) butyl acetate	12.03	56	104581	41.56 ug/L		100
92) 3,3-DIMETHYL-1-BUTANOL	12.16	57	175997	369.84 ug/L		99
93) dibromochloromethane	12.29	129	132115	49.37 ug/L		99
94) 1,2-dibromoethane	12.45	107	121032	50.83 ug/L		98
96) chlorobenzene	12.92	112	332432	50.63 ug/L		99
97) 1,1,1,2-tetrachloroethane	12.99	131	126018	50.10 ug/L		98

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B43365.D
Acq On : 10 Jul 2014 7:30 pm
Operator : TOANP
Sample : icc1867-50
Misc : MS69789,V4B1867,w,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jul 11 10:04:11 2014
Quant Method : C:\MSDCHEM\1\METHODS\M4B1867.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 11 08:33:29 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
98) ethylbenzene	12.96	91	569837	51.81	ug/L	99
99) m,p-xylene	13.07	106	427632	104.37	ug/L	97
100) o-xylene	13.53	106	221584	51.40	ug/L	98
101) styrene	13.55	104	402654	51.62	ug/L	97
102) bromoform	13.87	173	111955	47.77	ug/L	99
104) isopropylbenzene	13.90	105	593770	50.28	ug/L	99
106) cyclohexanone	14.14	55	140000	357.43	ug/L	99
107) bromobenzene	14.36	156	169547	47.76	ug/L	91
108) 1,1,2,2-tetrachloroethane	14.27	83	184809	40.20	ug/L	100
109) trans-1,4-dichloro-2-buten	14.32	53	51760	46.02	ug/L	97
110) 1,2,3-trichloropropane	14.36	110	43880	42.05	ug/L	98
111) n-propylbenzene	14.35	91	727527	50.03	ug/L	100
113) 2-chlorotoluene	14.53	126	149965	47.89	ug/L	98
114) 4-chlorotoluene	14.64	91	468376	47.47	ug/L	98
115) 1,3,5-trimethylbenzene	14.51	105	525167	48.94	ug/L	99
116) tert-butylbenzene	14.89	119	430521	49.26	ug/L	99
117) pentachloroethane	15.01	167	99493	47.09	ug/L	99
118) 1,2,4-trimethylbenzene	14.95	105	539337	48.65	ug/L	100
119) sec-butylbenzene	15.13	105	694131	49.89	ug/L	100
120) 1,3-dichlorobenzene	15.36	146	334142	47.39	ug/L	99
121) p-isopropyltoluene	15.26	119	603917	49.24	ug/L	99
122) 1,4-dichlorobenzene	15.46	146	334582	46.68	ug/L	99
123) benzyl chloride	15.59	91	363530	38.05	ug/L	100
124) 1,2-dichlorobenzene	15.90	146	332761	46.17	ug/L	99
126) n-butylbenzene	15.72	92	318519	50.47	ug/L	98
128) 1,2-dibromo-3-chloropropan	16.76	75	37166	37.35	ug/L	98
129) 1,3,5-TRICHLOROBENZENE	16.93	180	302071	48.43	ug/L	99
130) 1,2,4-trichlorobenzene	17.61	180	270582	48.79	ug/L	99
131) hexachlorobutadiene	17.70	225	128366	50.93	ug/L	99
132) naphthalene	17.91	128	586609	46.02	ug/L	100
133) 1,2,3-trichlorobenzene	18.17	180	240711	48.69	ug/L	100
134) hexachloroethane	16.16	201	101261	53.90	ug/L	99

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

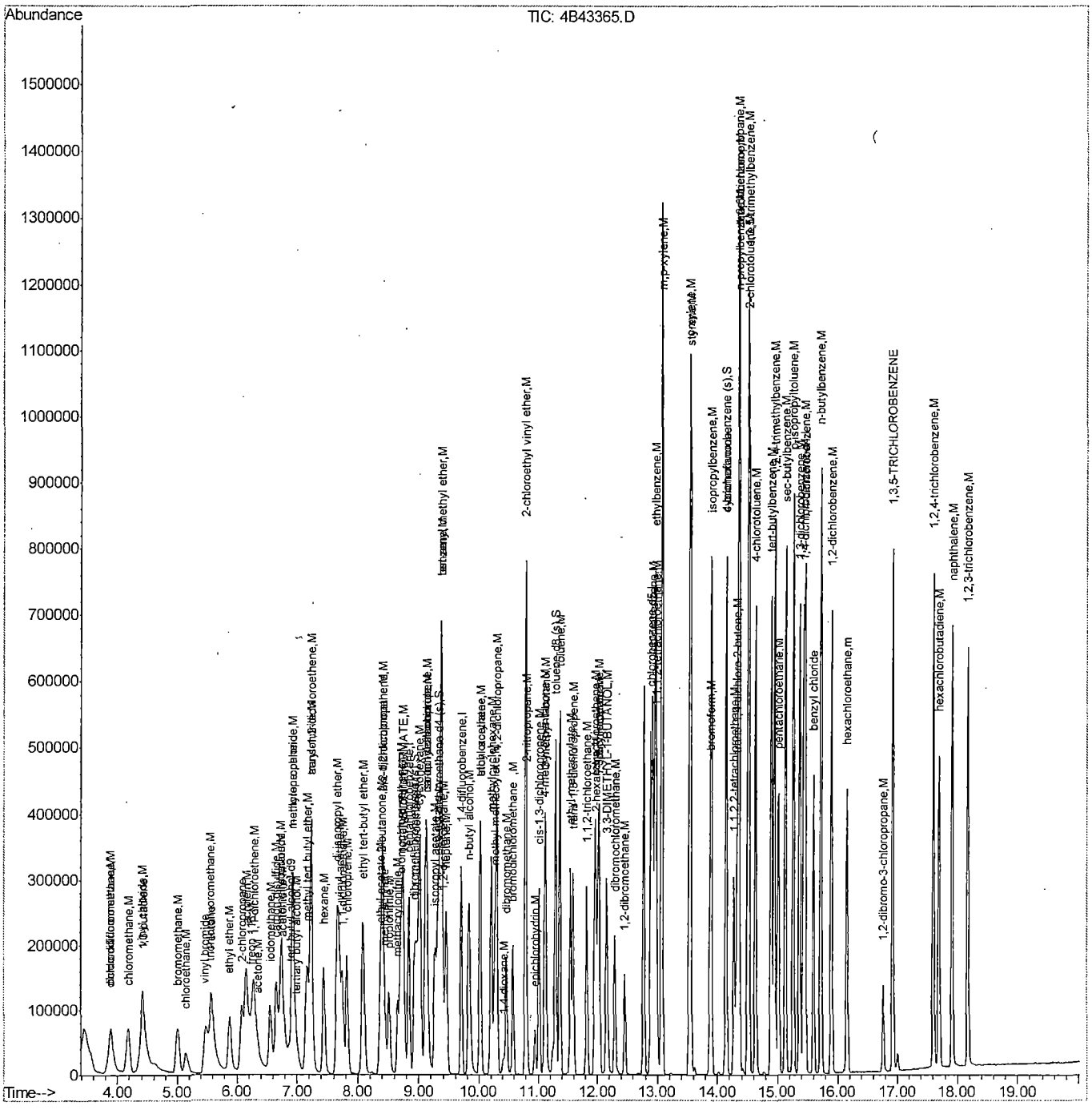
7.6.8

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B43365.D
Acq On : 10 Jul 2014 7:30 pm
Operator : TOANP
Sample : icc1867-50
Misc : MS69789,V4B1867,w,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jul 11 10:04:11 2014
Quant Method : C:\MSDCHEM\1\METHODS\M4B1867.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 11 08:33:29 2014
Response via : Initial Calibration



ACCUTEST LABORATORIES JB72431

Manual Integration Approval Summary

Sample Number:	V4B1867-ICC1867	**Method:**	SW846 8260B
Lab FileID:	4B43365.D	**Analyst approved:**	07/11/14 11:00 Dong, Mei
Injection Time:	07/10/14 19:30	**Supervisor approved:**	07/14/14 10:59 Jessica Reitan-Chu

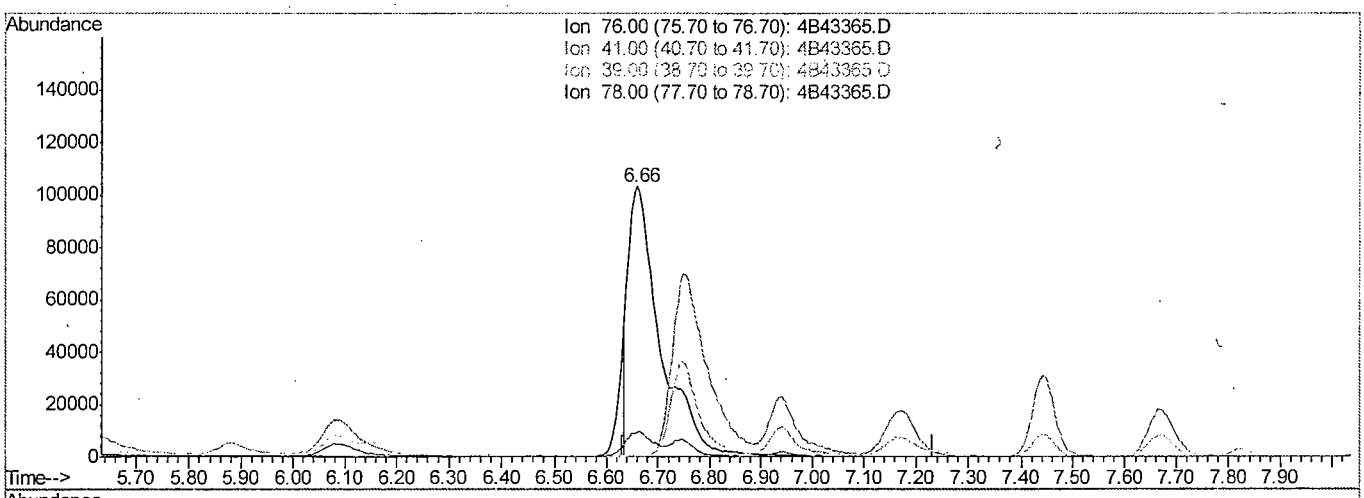
Parameter	CAS	Sig#	R.T. (min.)	Reason
Allyl chloride	107-05-1		6.73	Poor instrument integration

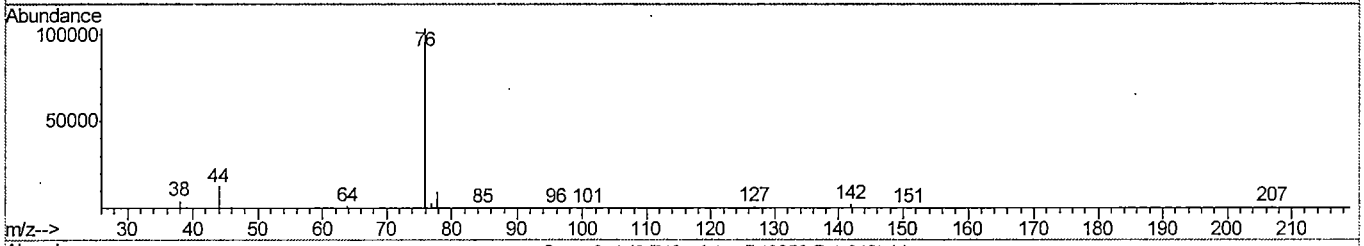
Quantitation Report (Qedit)

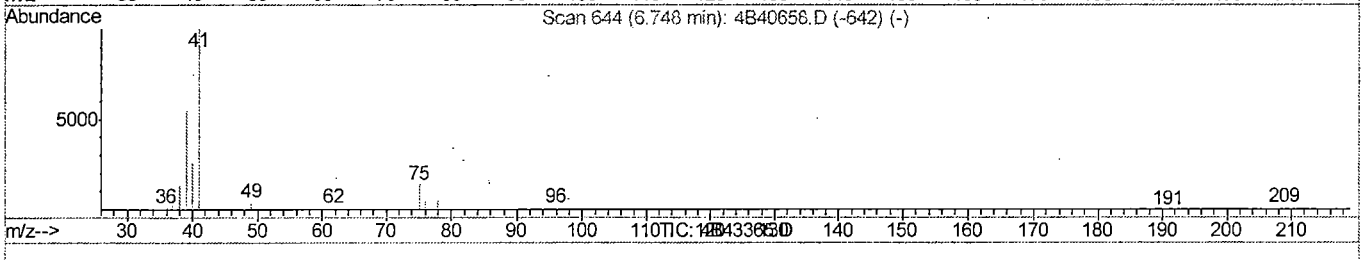
Data File : C:\MSDChem\1\DATA\4B43365.D Vial: 9
Acq On : 10 Jul 2014 7:30 pm Operator: TOANP
Sample : icc1867-50 Inst : MS4B
Misc : MS69789,V4B1867,w,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Jul 11 08:33:31 2014 Results File: M4B1867.RES

Method : C:\MSDCHEM\1\METHODS\M4B1867.M (RTE Integrator)
Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
Last Update : Fri Jul 11 08:33:29 2014
Response via : Multiple Level Calibration







(24) allyl chloride (M)

6.66min 531.65ug/L

response 453237

Ion	Exp%	Act%
76.00	100	100
41.00	201.90	0.00#
39.00	125.00	0.18#
78.00	23.30	8.98

4B43365.D M4B1867.M Fri Jul 11 08:33:42 2014 GCMS4B

7.6.8.2

7

ACCUTEST LABORATORIES JB72431

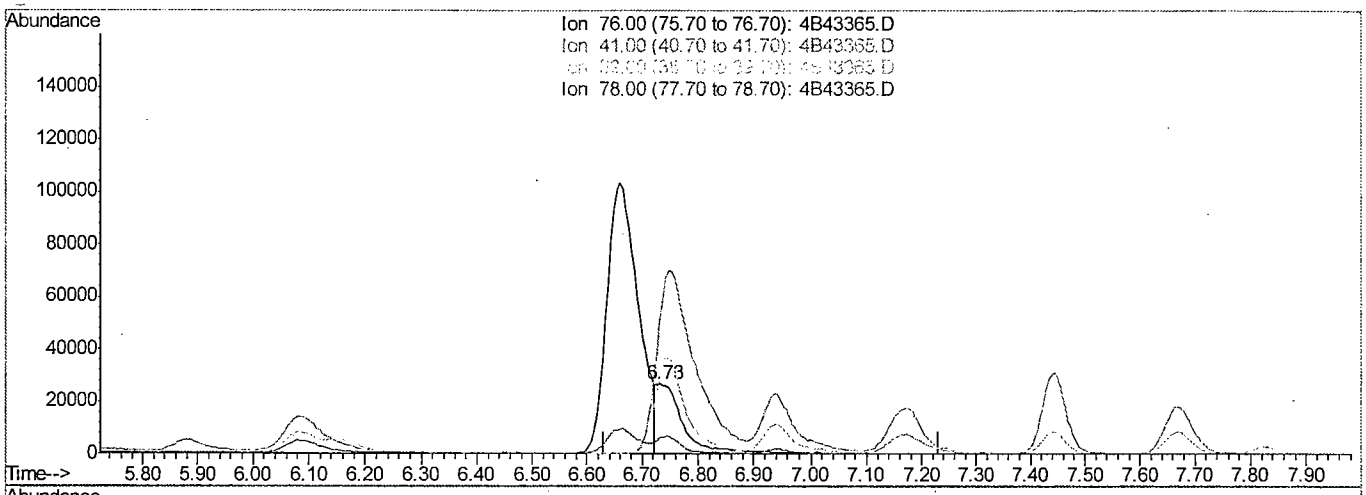
4B43365.D edits: allyl chloride

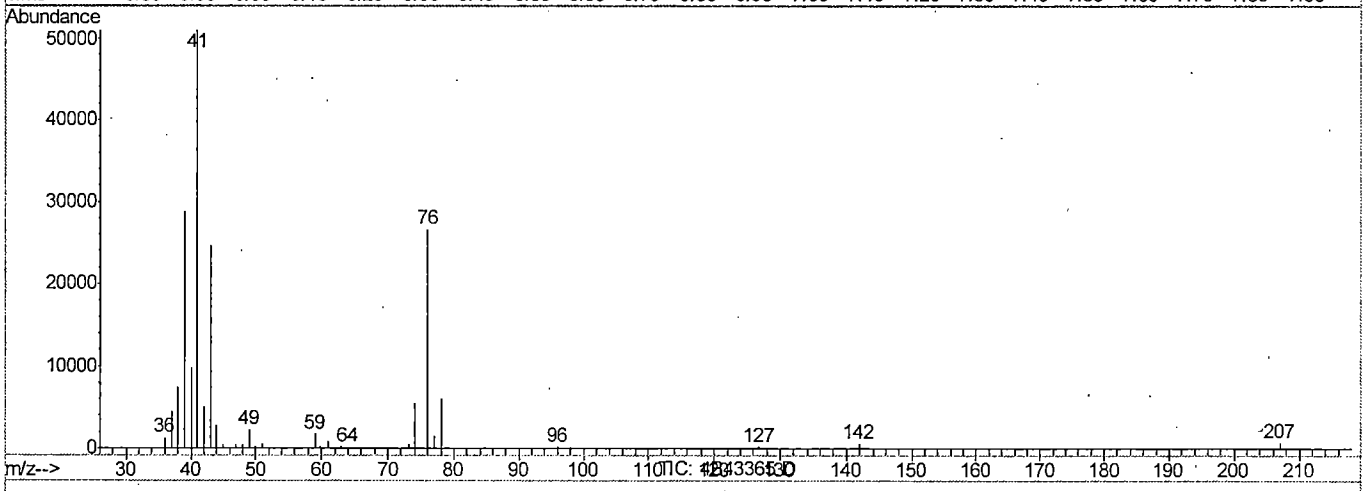
Quantitation Report (Qedit)

Data File : C:\MSDChem\1\DATA\4B43365.D Vial: 9
Acq On : 10 Jul 2014 7:30 pm Operator: TOANP
Sample : icc1867-50 Inst : MS4B
Misc : MS69789,V4B1867,w,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Jul 11 10:04:11 2014 Results File: M4B1867.RES

Method : C:\MSDCHEM\1\METHODS\M4B1867.M (RTE Integrator)
Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
Last Update : Fri Jul 11 10:17:48 2014
Response via : Multiple Level Calibration





(24) allyl chloride (M)

6.73min 100.69ug/L m

response 85844

Ion	Exp%	Act%
76.00	100	100
41.00	201.90	191.37
39.00	125.00	108.06
78.00	23.30	22.75

4B43365.D M4B1867.M Fri Jul 11 10:34:49 2014 GCMS4B

4B43365.D edits: allyl chloride

Manual Integrations APPROVED (compounds with "m" flag)
Jessica Reitan-Chu
07/14/14 10:59

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B43366.D
Acq On : 10 Jul 2014 7:57 pm
Operator : TOANP
Sample : ic1867-100
Misc : MS69789,V4B1867,w,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jul 11 10:04:17 2014
Quant Method : C:\MSDCHEM\1\METHODS\M4B1867.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 11 08:33:29 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) tert butyl alcohol-d9	6.90	65	137804	500.00	ug/L		0.00
5) pentafluorobenzene	8.84	168	249187	50.00	ug/L		-0.01
56) 1,4-difluorobenzene	9.70	114	314972	50.00	ug/L		-0.02
88) chlorobenzene-d5	12.89	117	310833	50.00	ug/L		-0.01
103) 1,4-dichlorobenzene-d4	15.43	152	198243	50.00	ug/L		-0.01
System Monitoring Compounds							
49) dibromofluoromethane (s)	8.93	113	218127	108.26	ug/L		-0.02
Spiked Amount 50.000	Range 79 - 120		Recovery = 216.52%#				
50) 1,2-dichloroethane-d4 (s)	9.32	65	238911	102.88	ug/L		-0.02
Spiked Amount 50.000	Range 72 - 123		Recovery = 205.76%#				
80) toluene-d8 (s)	11.29	98	782648	99.89	ug/L		-0.01
Spiked Amount 50.000	Range 78 - 119		Recovery = 199.78%#				
105) 4-bromofluorobenzene (s)	14.14	95	368486	90.05	ug/L		-0.02
Spiked Amount 50.000	Range 74 - 119		Recovery = 180.10%#				
Target Compounds							Qvalue
2) tertiary butyl alcohol	7.00	59	202243	385.54	ug/L		97
3) 1,4-dioxane	10.41	88	82452	2192.49	ug/L		94
7) chlorodifluoromethane	3.89	51	272635	110.26	ug/L		98
8) dichlorodifluoromethane	3.87	85	302399	124.11	ug/L		99
10) chloromethane	4.19	52	125573	112.91	ug/L		94
11) vinyl chloride	4.43	62	388439	115.43	ug/L		99
12) bromomethane	5.01	94	196706	102.37	ug/L		98
13) chloroethane	5.14	64	138645	106.45	ug/L		96
14) vinyl bromide	5.47	106	222936	3.98	ug/L		99
15) trichlorofluoromethane	5.56	101	401594	140.98	ug/L		99
16) 1,3-butadiene	4.44	54	200739	4.04	ug/L		97
17) Pentane	5.58	43	283907	4.41	ug/L		98
19) ethyl ether	5.88	74	123386	116.79	ug/L		98
20) 2-chloropropane	6.08	43	390114	96.67	ug/L	#	92
22) 1,1-dichloroethene	6.28	96	221200	98.86	ug/L		98
23) acetone	6.36	58	23041	52.55	ug/L		89
24) allyl chloride	6.73	76	163595m	188.91	ug/L		
25) acetonitrile	6.77	40	237613	618.87	ug/L		91
26) iodomethane	6.56	142	483951	117.75	ug/L		97
27) carbon disulfide	6.66	76	867120	112.43	ug/L		99
28) methylene chloride	6.93	84	270076	108.47	ug/L		98
29) methyl acetate	6.73	74	41280	109.34	ug/L		91
30) 1-chloropropane	6.94	42	412493	49.18	ug/L		99
31) methyl tert butyl ether	7.17	73	681447	103.76	ug/L		98
32) trans-1,2-dichloroethene	7.23	96	232552	100.46	ug/L		97
33) di-isopropyl ether	7.67	45	813032	100.60	ug/L		97
34) 2-butanone	8.38	72	30415	116.07	ug/L	#	1
35) 1,1-dichloroethane	7.75	63	436028	109.47	ug/L		99
36) chloroprene	7.83	53	324605	108.84	ug/L		99
37) acrylonitrile	7.24	53	463704	521.12	ug/L		97
38) vinyl acetate	7.71	86	36604	108.87	ug/L		100
39) ethyl tert-butyl ether	8.09	59	730944	99.20	ug/L		99
40) ethyl acetate	8.36	45	37694	104.21	ug/L		92

7.6.9

7

ACCUTEST LABORATORIES JB72431

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B43366.D
Acq On : 10 Jul 2014 7:57 pm
Operator : TOANP
Sample : ic1867-100
Misc : MS69789,V4B1867,w,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jul 11 10:04:17 2014
Quant Method : C:\MSDCHEM\1\METHODS\M4B1867.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 11 08:33:29 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
41) 2,2-dichloropropane	8.41	77	298793	103.43	ug/L		98
42) cis-1,2-dichloroethene	8.41	96	251388	106.89	ug/L		96
43) methylacrylate	8.45	85	38741	112.61	ug/L		99
44) propionitrile	8.52	54	390948	969.73	ug/L		99
45) bromochloromethane	8.70	128	127492	115.14	ug/L		94
46) tetrahydrofuran	8.72	42	89953	94.78	ug/L		97
47) chloroform	8.74	85	261367	109.44	ug/L		97
48) T-BUTYL FORMATE	8.75	59	201502	97.99	ug/L		98
51) freon 113	6.24	151	171195	133.26	ug/L		96
52) methacrylonitrile	8.66	41	154653	91.41	ug/L		97
53) 1,1,1-trichloroethane	8.96	97	346345	114.59	ug/L		98
54) cyclohexane	9.00	84	293464	110.52	ug/L		98
55) iso-butyl alcohol	9.13	43	135848	619.53	ug/L		93
57) epichlorohydrin	10.95	57	139081	389.82	ug/L		99
58) n-butyl alcohol	9.83	56	470156	3486.02	ug/L		98
59) carbon tetrachloride	9.14	117	316001	113.62	ug/L		99
60) 1,1-dichloropropene	9.11	75	295361	111.21	ug/L		98
61) hexane	7.44	57	254645	107.16	ug/L		98
63) benzene	9.37	78	866504	106.76	ug/L		99
64) iso-octane	9.31	57	445176	90.80	ug/L	#	85
65) tert-amyl methyl ether	9.36	87	160220	95.54	ug/L		98
66) heptane	9.45	57	159199	107.92	ug/L		97
67) isopropyl acetate	9.26	61	115123	96.01	ug/L		93
68) 1,2-dichloroethane	9.41	62	294345	108.20	ug/L		98
69) trichloroethene	10.02	95	225355	110.15	ug/L		98
71) ethyl acrylate	10.01	55	332582	4.68	ug/L		99
72) 2-nitropropane	10.81	41	98348	77.33	ug/L	#	26
73) 2-chloroethyl vinyl ether	10.79	63	770133	428.65	ug/L		98
74) methyl methacrylate	10.26	100	69535	110.66	ug/L	#	72
75) 1,2-dichloropropane	10.30	63	233133	106.43	ug/L		100
76) dibromomethane	10.47	93	152517	109.19	ug/L		96
77) methylcyclohexane	10.21	83	372170	108.20	ug/L		96
78) bromodichloromethane	10.58	83	317207	108.65	ug/L		100
79) cis-1,3-dichloropropene	11.02	75	389983	104.65	ug/L		99
81) 4-methyl-2-pentanone	11.10	58	121064	92.08	ug/L		99
82) toluene	11.37	92	545796	104.16	ug/L		99
83) 3-methyl-1-butanol	11.13	55	304016	1381.63	ug/L		99
84) trans-1,3-dichloropropene	11.59	75	373182	98.71	ug/L		99
85) ethyl methacrylate	11.54	69	375040	95.97	ug/L		99
86) 1,1,2-trichloroethane	11.82	83	185094	95.59	ug/L		99
87) 2-hexanone	11.98	58	125243	89.71	ug/L		94
89) tetrachloroethene	11.96	164	195258	115.09	ug/L		98
90) 1,3-dichloropropane	12.01	76	358256	101.82	ug/L		96
91) butyl acetate	12.03	56	213379	86.40	ug/L		95
92) 3,3-DIMETHYL-1-BUTANOL	12.16	57	376655	806.48	ug/L		99
93) dibromochloromethane	12.29	129	274578	104.54	ug/L		98
94) 1,2-dibromoethane	12.45	107	248161	106.20	ug/L		100
96) chlorobenzene	12.92	112	674883	104.74	ug/L		99
97) 1,1,1,2-tetrachloroethane	12.99	131	265350	107.48	ug/L		98
98) ethylbenzene	12.96	91	1136381	105.27	ug/L		99

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B43366.D
Acq On : 10 Jul 2014 7:57 pm
Operator : TOANP
Sample : ic1867-100
Misc : MS69789,V4B1867,w,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jul 11 10:04:17 2014
Quant Method : C:\MSDCHEM\1\METHODS\M4B1867.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 11 08:33:29 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
99) m,p-xylene	13.07	106	851555	211.76 ug/L	98
100) o-xylene	13.53	106	447122	105.68 ug/L	100
101) styrene	13.55	104	802110	104.78 ug/L	97
102) bromoform	13.87	173	233396	101.48 ug/L	99
104) isopropylbenzene	13.90	105	1201260	100.14 ug/L	100
106) cyclohexanone	14.14	55	227469	571.72 ug/L	98
107) bromobenzene	14.36	156	343199	95.18 ug/L	92
108) 1,1,2,2-tetrachloroethane	14.28	83	375608	80.44 ug/L	99
109) trans-1,4-dichloro-2-buten	14.32	53	108560	95.02 ug/L	97
110) 1,2,3-trichloropropane	14.36	110	88014	83.03 ug/L	98
111) n-propylbenzene	14.35	91	1447952	98.03 ug/L	99
113) 2-chlorotoluene	14.53	126	304717	95.79 ug/L	95
114) 4-chlorotoluene	14.64	91	949399	94.72 ug/L	98
115) 1,3,5-trimethylbenzene	14.51	105	1069074	98.08 ug/L	99
116) tert-butylbenzene	14.89	119	903039	101.73 ug/L	99
117) pentachloroethane	15.01	167	212463	98.99 ug/L	98
118) 1,2,4-trimethylbenzene	14.95	105	1092094	96.99 ug/L	100
119) sec-butylbenzene	15.13	105	1410927	99.84 ug/L	100
120) 1,3-dichlorobenzene	15.36	146	694252	96.92 ug/L	99
121) p-isopropyltoluene	15.26	119	1235494	99.16 ug/L	99
122) 1,4-dichlorobenzene	15.46	146	706850	97.09 ug/L	100
123) benzyl chloride	15.59	91	763267	78.66 ug/L	100
124) 1,2-dichlorobenzene	15.90	146	690282	94.30 ug/L	99
126) n-butylbenzene	15.72	92	649107	101.26 ug/L	97
128) 1,2-dibromo-3-chloropropan	16.76	75	76306	75.50 ug/L	95
129) 1,3,5-TRICHLOROBENZENE	16.93	180	627740	99.08 ug/L	100
130) 1,2,4-trichlorobenzene	17.61	180	560834	99.56 ug/L	99
131) hexachlorobutadiene	17.70	225	255399	99.76 ug/L	99
132) naphthalene	17.91	128	1199618	92.64 ug/L	100
133) 1,2,3-trichlorobenzene	18.18	180	492028	97.97 ug/L	99
134) hexachloroethane	16.16	201	219492	115.02 ug/L	99

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

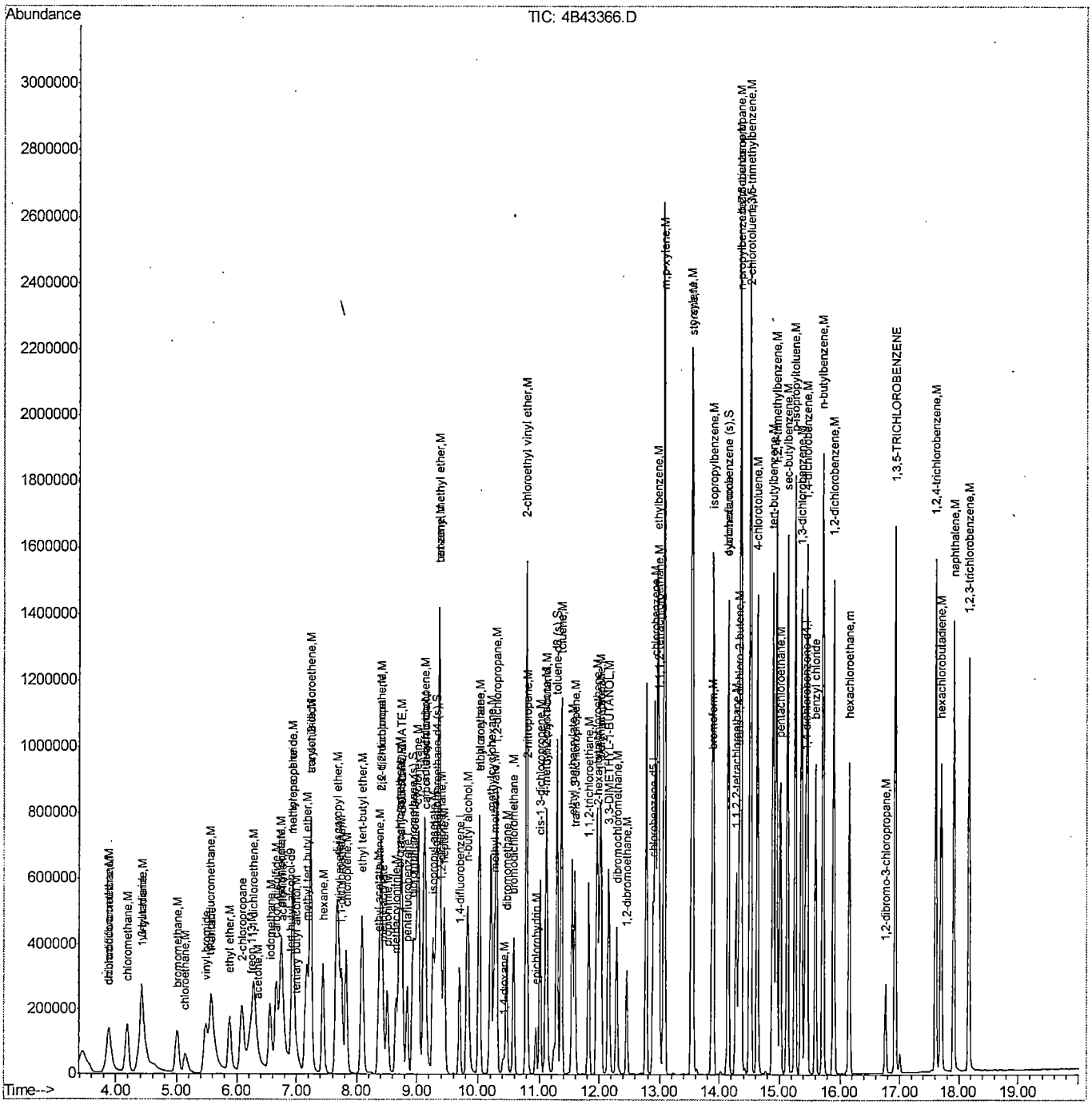
7.6.9

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B43366.D
Acq On : 10 Jul 2014 7:57 pm
Operator : TOANP
Sample : ic1867-100
Misc : MS69789,V4B1867,w,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jul 11 10:04:17 2014
Quant Method : C:\MSDCHEM\1\METHODS\M4B1867.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 11 08:33:29 2014
Response via : Initial Calibration



7.6.9

7

ACCUTEST LABORATORIES
JB72431

Manual Integration Approval Summary

Sample Number:	V4B1867-IC1867	**Method:**	SW846 8260B
Lab FileID:	4B43366.D	**Analyst approved:**	07/11/14 11:00 Dong, Mei
Injection Time:	07/10/14 19:57	**Supervisor approved:**	07/14/14 10:59 Jessica Reitan-Chu

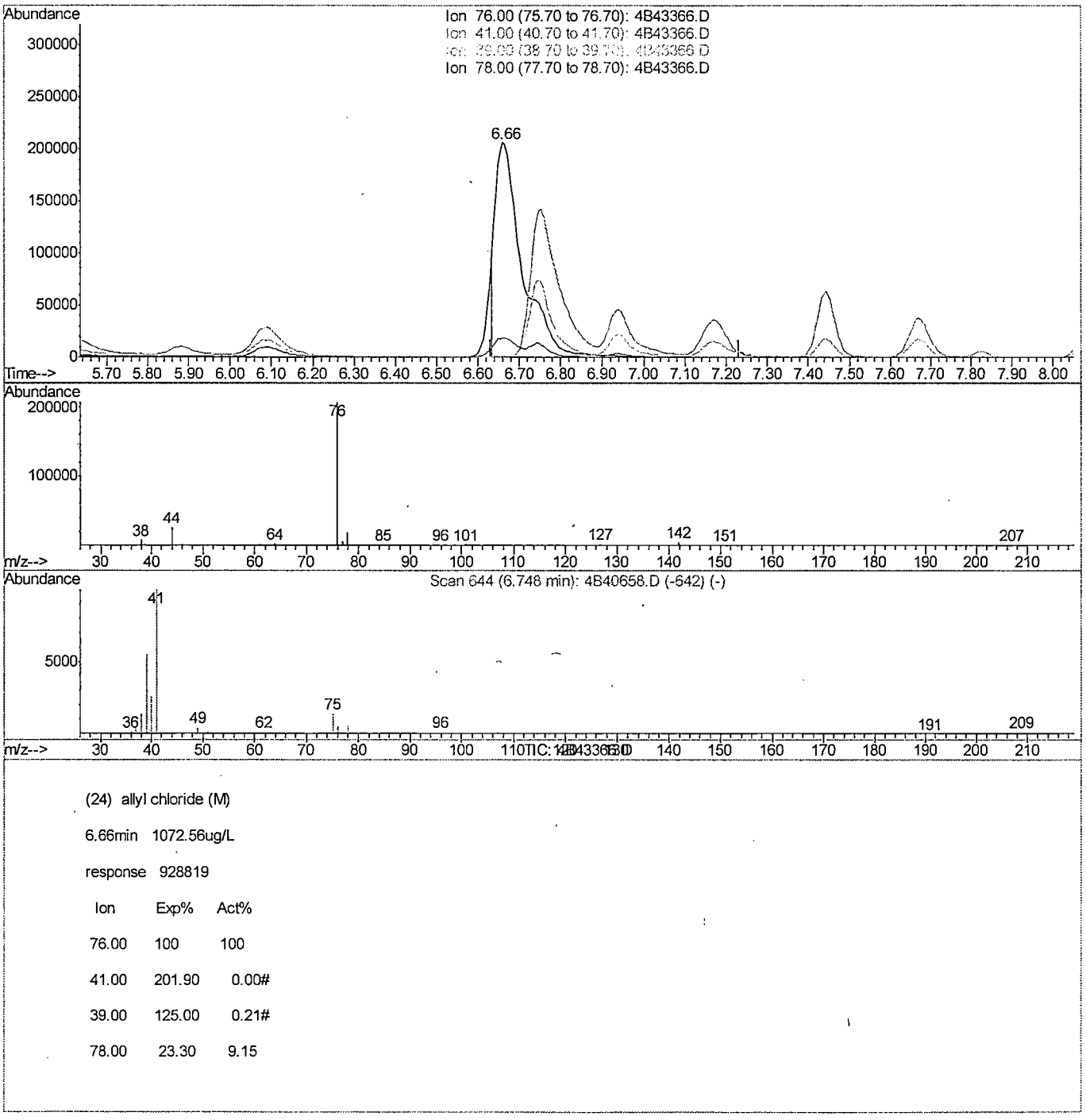
Parameter	CAS	Sig#	R.T. (min.)	Reason
Allyl chloride	107-05-1		6.73	Poor instrument integration

Quantitation Report (Qedit)

Data File : C:\MSDChem\1\DATA\4B43366.D Vial: 10
Acq On : 10 Jul 2014 7:57 pm Operator: TOANP
Sample : ic1867-100 Inst : MS4B
Misc : MS69789,V4B1867,w,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Jul 11 08:35:24 2014 Results File: M4B1867.RES

Method : C:\MSDCHEM\1\METHODS\M4B1867.M (RTE Integrator)
Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
Last Update : Fri Jul 11 08:33:29 2014
Response via : Multiple Level Calibration



(24) allyl chloride (M)

6.66min 1072.56ug/L

response 928819

Ion	Exp%	Act%
76.00	100	100
41.00	201.90	0.00#
39.00	125.00	0.21#
78.00	23.30	9.15

4B43366.D M4B1867.M Fri Jul 11 08:35:54 2014 GCMS4B

7.6.9.2

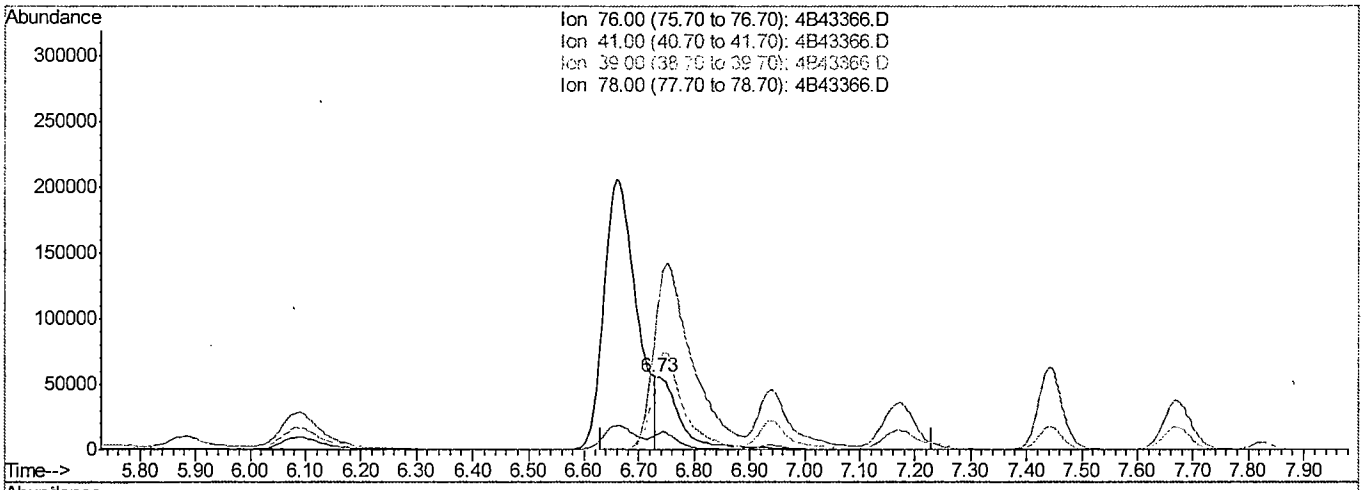
7

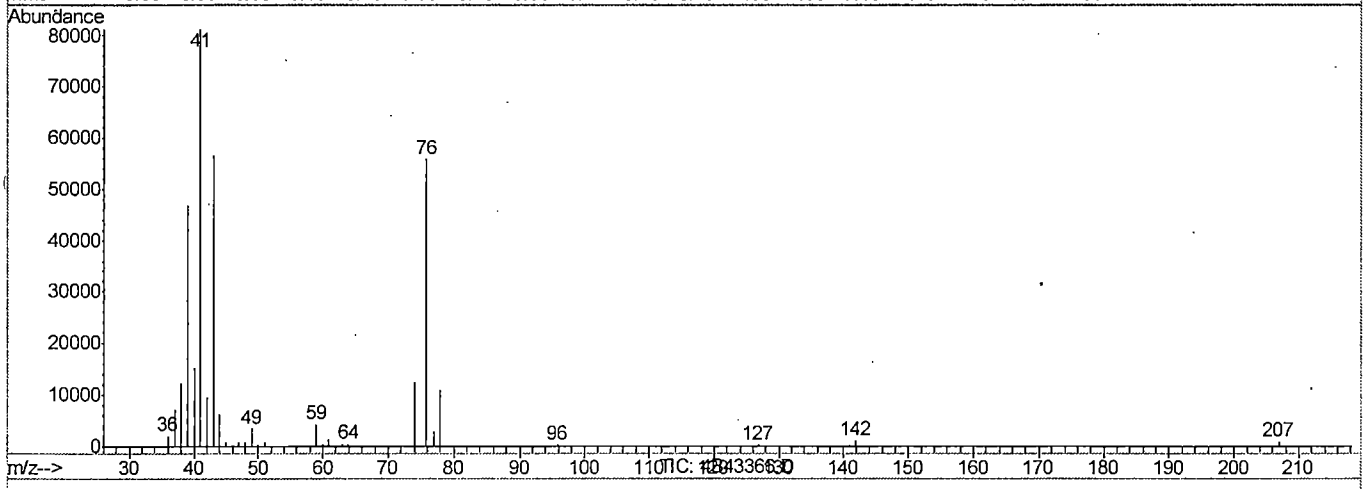
Quantitation Report (Qedit)

Data File : C:\MSDChem\1\DATA\4B43366.D Vial: 10
Acq On : 10 Jul 2014 7:57 pm Operator: TOANP
Sample : ic1867-100 Inst : MS4B
Misc : MS69789,V4B1867,w,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Jul 11 10:04:17 2014 Results File: M4B1867.RES

Method : C:\MSDCHEM\1\METHODS\M4B1867.M (RTE Integrator)
Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
Last Update : Fri Jul 11 10:17:48 2014
Response via : Multiple Level Calibration





(24) allyl chloride (M)

6.73min 188.91ug/L m

response 163595

Ion	Exp%	Act%
76.00	100	100
41.00	201.90	145.10#
39.00	125.00	83.85#
78.00	23.30	19.41

Cal Report: 4B43367.D

Manual Integrations APPROVED (compounds with "m" flag)
Jessica Reitan-Chu
07/14/14 10:59

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B43367.D
Acq On : 10 Jul 2014 8:25 pm
Operator : TOANP
Sample : ic1867-200
Misc : MS69789,V4B1867,w,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jul 11 11:29:29 2014
Quant Method : C:\MSDCHEM\1\METHODS\M4B1867.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 11 08:33:29 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) tert butyl alcohol-d9	6.91	65	137545	500.00	ug/L		0.00
5) pentafluorobenzene	8.84	168	248279	50.00	ug/L		-0.01
56) 1,4-difluorobenzene	9.70	114	322264	50.00	ug/L		-0.02
88) chlorobenzene-d5	12.89	117	308069	50.00	ug/L		-0.01
103) 1,4-dichlorobenzene-d4	15.43	152	195200	50.00	ug/L		-0.01
System Monitoring Compounds							
49) dibromofluoromethane (s)	8.93	113	436629	217.50	ug/L		-0.02
Spiked Amount 50.000	Range 79 - 120		Recovery = 435.00%#				
50) 1,2-dichloroethane-d4 (s)	9.32	65	472858	204.37	ug/L		-0.02
Spiked Amount 50.000	Range 72 - 123		Recovery = 408.74%#				
80) toluene-d8 (s)	11.29	98	1559760	194.58	ug/L		-0.01
Spiked Amount 50.000	Range 78 - 119		Recovery = 389.16%#				
105) 4-bromofluorobenzene (s)	14.14	95	703353	174.56	ug/L		-0.02
Spiked Amount 50.000	Range 74 - 119		Recovery = 349.12%#				
Target Compounds							Qvalue
2) tertiary butyl alcohol	7.00	59	376151	718.42	ug/L		96
3) 1,4-dioxane	10.42	88	154728	4122.14	ug/L		95
7) chlorodifluoromethane	3.89	51	541953	219.99	ug/L		98
8) dichlorodifluoromethane	3.87	85	599641	247.00	ug/L		99
10) chloromethane	4.20	52	245853	221.87	ug/L		98
11) vinyl chloride	4.43	62	749210	223.45	ug/L		93
13) chloroethane	5.13	64	212381	163.65	ug/L		97
14) vinyl bromide	5.47	106	436389	7.81	ug/L		99
15) trichlorofluoromethane	5.55	101	797080	280.84	ug/L		99
16) 1,3-butadiene	4.45	54	386557	7.81	ug/L		97
17) Pentane	5.57	43	560294	8.73	ug/L		98
19) ethyl ether	5.88	74	238927	226.99	ug/L		97
20) 2-chloropropane	6.08	43	766847	190.72	ug/L	#	92
21) acrolein	6.27	56	401	0.94	ug/L		68
22) 1,1-dichloroethene	6.28	96	433817	194.59	ug/L		98
23) acetone	6.35	58	44113	100.97	ug/L	#	82
24) allyl chloride	6.74	76	299765m	347.42	ug/L		
25) acetonitrile	6.77	40	443569	1159.52	ug/L		92
26) iodomethane	6.55	142	949099	231.76	ug/L		98
27) carbon disulfide	6.66	76	1683987	219.14	ug/L		100
28) methylene chloride	6.93	84	524891	211.59	ug/L		99
29) methyl acetate	6.72	74	78288	208.13	ug/L		97
30) 1-chloropropane	6.94	42	795176	95.15	ug/L		99
31) methyl tert butyl ether	7.17	73	1300941	198.81	ug/L		98
32) trans-1,2-dichloroethene	7.23	96	452624	196.24	ug/L		99
33) di-isopropyl ether	7.67	45	1539413	191.17	ug/L		91
34) 2-butanone	8.38	72	57940	221.93	ug/L	#	1
35) 1,1-dichloroethane	7.75	63	854057	215.21	ug/L		98
36) chloroprene	7.83	53	638981	215.03	ug/L		99
37) acrylonitrile	7.24	53	880508	993.15	ug/L		97
38) vinyl acetate	7.71	86	71605	213.76	ug/L		89
39) ethyl tert-butyl ether	8.09	59	1381875	188.23	ug/L		99
40) ethyl acetate	8.36	45	69717	193.45	ug/L		96

7.6.10

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B43367.D
Acq On : 10 Jul 2014 8:25 pm
Operator : TOANP
Sample : ic1867-200
Misc : MS69789,V4B1867,w,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jul 11 11:29:29 2014
Quant Method : C:\MSDCHEM\1\METHODS\M4B1867.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 11 08:33:29 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
41) 2,2-dichloropropane	8.41	77	578665	201.04 ug/L		97
42) cis-1,2-dichloroethene	8.41	96	492904	210.34 ug/L		95
43) methylacrylate	8.45	85	74962	218.70 ug/L		98
44) propionitrile	8.52	54	745772	1856.62 ug/L		99
45) bromochloromethane	8.70	128	252219	228.62 ug/L		95
46) tetrahydrofuran	8.72	42	169873	179.64 ug/L		97
47) chloroform	8.74	85	514395	216.17 ug/L		98
48) T-BUTYL FORMATE	8.76	59	378481	184.72 ug/L		99
51) freon 113	6.23	151	339201	265.00 ug/L		97
52) methacrylonitrile	8.66	41	298609	177.15 ug/L		99
53) 1,1,1-trichloroethane	8.96	97	683692	227.03 ug/L		98
54) cyclohexane	9.01	84	573414	216.75 ug/L	#	79
55) iso-butyl alcohol	9.14	43	250076	1144.63 ug/L		94
57) epichlorohydrin	10.95	57	266294	729.49 ug/L		98
58) n-butyl alcohol	9.83	56	873364	6329.12 ug/L		99
59) carbon tetrachloride	9.13	117	625762	219.91 ug/L		100
60) 1,1-dichloropropene	9.11	75	588495	216.58 ug/L		99
61) hexane	7.44	57	497290	204.53 ug/L		99
63) benzene	9.37	78	1705230	205.35 ug/L		99
64) iso-octane	9.31	57	821736	163.81 ug/L	#	85
65) tert-amyl methyl ether	9.36	87	298037	173.70 ug/L		95
66) heptane	9.45	57	326607	216.40 ug/L		96
67) isopropyl acetate	9.26	61	218366	177.99 ug/L		96
68) 1,2-dichloroethane	9.40	62	580999	208.74 ug/L		98
69) trichloroethene	10.02	95	449414	214.69 ug/L		98
71) ethyl acrylate	10.01	55	634490	8.73 ug/L		100
72) 2-nitropropane	10.81	41	188356	144.76 ug/L	#	11
73) 2-chloroethyl vinyl ether	10.79	63	1424552	774.95 ug/L		98
74) methyl methacrylate	10.26	100	132682	206.38 ug/L	#	70
75) 1,2-dichloropropane	10.29	63	455984	203.46 ug/L		99
76) dibromomethane	10.46	93	300181	210.04 ug/L		98
77) methylcyclohexane	10.21	83	707248	200.97 ug/L		96
78) bromodichloromethane	10.58	83	637653	213.47 ug/L		100
79) cis-1,3-dichloropropene	11.02	75	779180	204.36 ug/L		100
81) 4-methyl-2-pentanone	11.11	58	230049	171.02 ug/L		95
82) toluene	11.37	92	1082398	201.90 ug/L		99
83) 3-methyl-1-butanol	11.13	55	563313	2502.11 ug/L		97
84) trans-1,3-dichloropropene	11.59	75	721206	186.45 ug/L		98
85) ethyl methacrylate	11.54	69	704255	176.14 ug/L		98
86) 1,1,2-trichloroethane	11.82	83	361217	182.32 ug/L		99
87) 2-hexanone	11.98	58	232226	162.58 ug/L		95
89) tetrachloroethene	11.96	164	389090	231.40 ug/L		99
90) 1,3-dichloropropane	12.01	76	685166	196.48 ug/L		97
91) butyl acetate	12.03	56	390808	159.67 ug/L		96
92) 3,3-DIMETHYL-1-BUTANOL	12.16	57	702606	1517.90 ug/L		99
93) dibromochloromethane	12.29	129	539811	207.37 ug/L		98
94) 1,2-dibromoethane	12.45	107	476957	205.95 ug/L		99
96) chlorobenzene	12.92	112	1298343	203.30 ug/L		99
97) 1,1,1,2-tetrachloroethane	12.99	131	526437	215.15 ug/L		98
98) ethylbenzene	12.96	91	2164274	202.30 ug/L		100

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B43367.D
Acq On : 10 Jul 2014 8:25 pm
Operator : TOANP
Sample : ic1867-200
Misc : MS69789,V4B1867,w,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jul 11 11:29:29 2014
Quant Method : C:\MSDCHEM\1\METHODS\M4B1867.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 11 08:33:29 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
99) m,p-xylene	13.08	106	1636299	410.56 ug/L	97
100) o-xylene	13.53	106	872617	208.10 ug/L	99
101) styrene	13.55	104	1509094	198.91 ug/L	98
102) bromoform	13.87	173	450689	197.71 ug/L	99
104) isopropylbenzene	13.90	105	2351303	199.07 ug/L	99
106) cyclohexanone	14.14	55	401706	1025.39 ug/L	98
107) bromobenzene	14.36	156	649518	182.95 ug/L	91
108) 1,1,2,2-tetrachloroethane	14.28	83	715232	155.57 ug/L	98
109) trans-1,4-dichloro-2-buten	14.32	53	208208	185.09 ug/L	97
110) 1,2,3-trichloropropane	14.36	110	163451	156.61 ug/L	98
111) n-propylbenzene	14.35	91	2697436	185.48 ug/L	99
113) 2-chlorotoluene	14.53	126	581563	185.67 ug/L	96
114) 4-chlorotoluene	14.64	91	1812778	183.68 ug/L	98
115) 1,3,5-trimethylbenzene	14.51	105	2063151	192.23 ug/L	98
116) tert-butylbenzene	14.89	119	1804791	206.48 ug/L	100
117) pentachloroethane	15.01	167	425793	201.48 ug/L	99
118) 1,2,4-trimethylbenzene	14.95	105	2073468	187.01 ug/L	99
119) sec-butylbenzene	15.13	105	2742959	197.12 ug/L	99
120) 1,3-dichlorobenzene	15.36	146	1343257	190.45 ug/L	99
121) p-isopropyltoluene	15.26	119	2393500	195.10 ug/L	99
122) 1,4-dichlorobenzene	15.46	146	1360869	189.84 ug/L	99
123) benzyl chloride	15.59	91	1409850	147.55 ug/L	100
124) 1,2-dichlorobenzene	15.90	146	1325212	183.85 ug/L	100
126) n-butylbenzene	15.72	92	1248123	197.74 ug/L	99
128) 1,2-dibromo-3-chloropropan	16.76	75	147552	148.26 ug/L	95
129) 1,3,5-TRICHLOROBENZENE	16.93	180	1218704	195.35 ug/L	100
130) 1,2,4-trichlorobenzene	17.61	180	1069844	192.89 ug/L	100
131) hexachlorobutadiene	17.70	225	490810	194.71 ug/L	99
132) naphthalene	17.91	128	2226566	174.63 ug/L	99
133) 1,2,3-trichlorobenzene	18.17	180	913074	184.65 ug/L	99
134) hexachloroethane	16.16	201	452054	240.58 ug/L	99

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

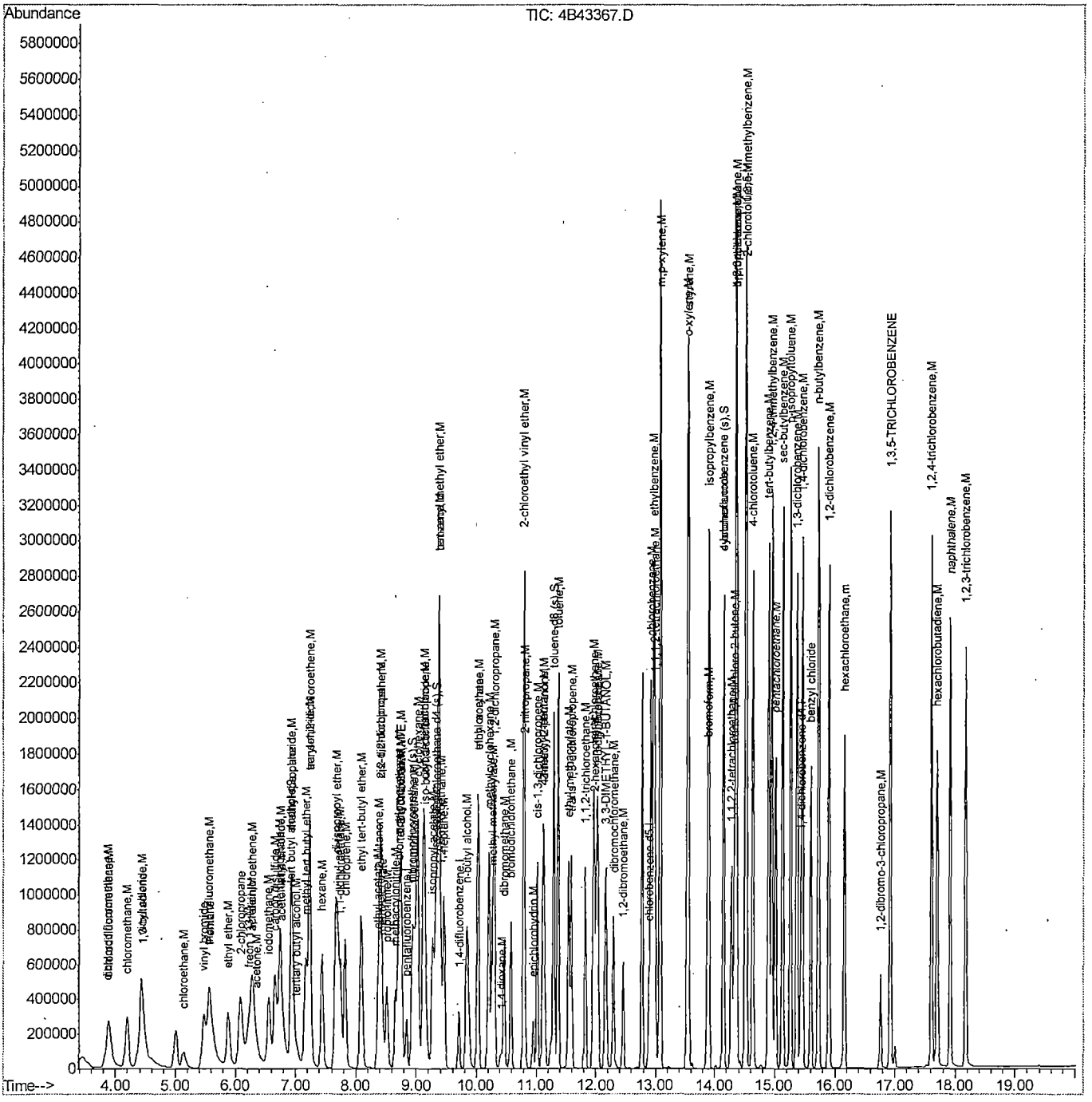
7.6.10

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B43367.D
Acq On : 10 Jul 2014 8:25 pm
Operator : TOANP
Sample : ic1867-200
Misc : MS69789,V4B1867,w,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jul 11 11:29:29 2014
Quant Method : C:\MSDCHEM\1\METHODS\M4B1867.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Fri Jul 11 08:33:29 2014
Response via : Initial Calibration



Manual Integration Approval Summary

Sample Number: V4B1867-IC1867
Lab FileID: 4B43367.D
Injection Time: 07/10/14 20:25

Method: SW846 8260B
Analyst approved: 07/11/14 11:30 Dong, Mei
Supervisor approved: 07/14/14 10:59 Jessica Reitan-Chu

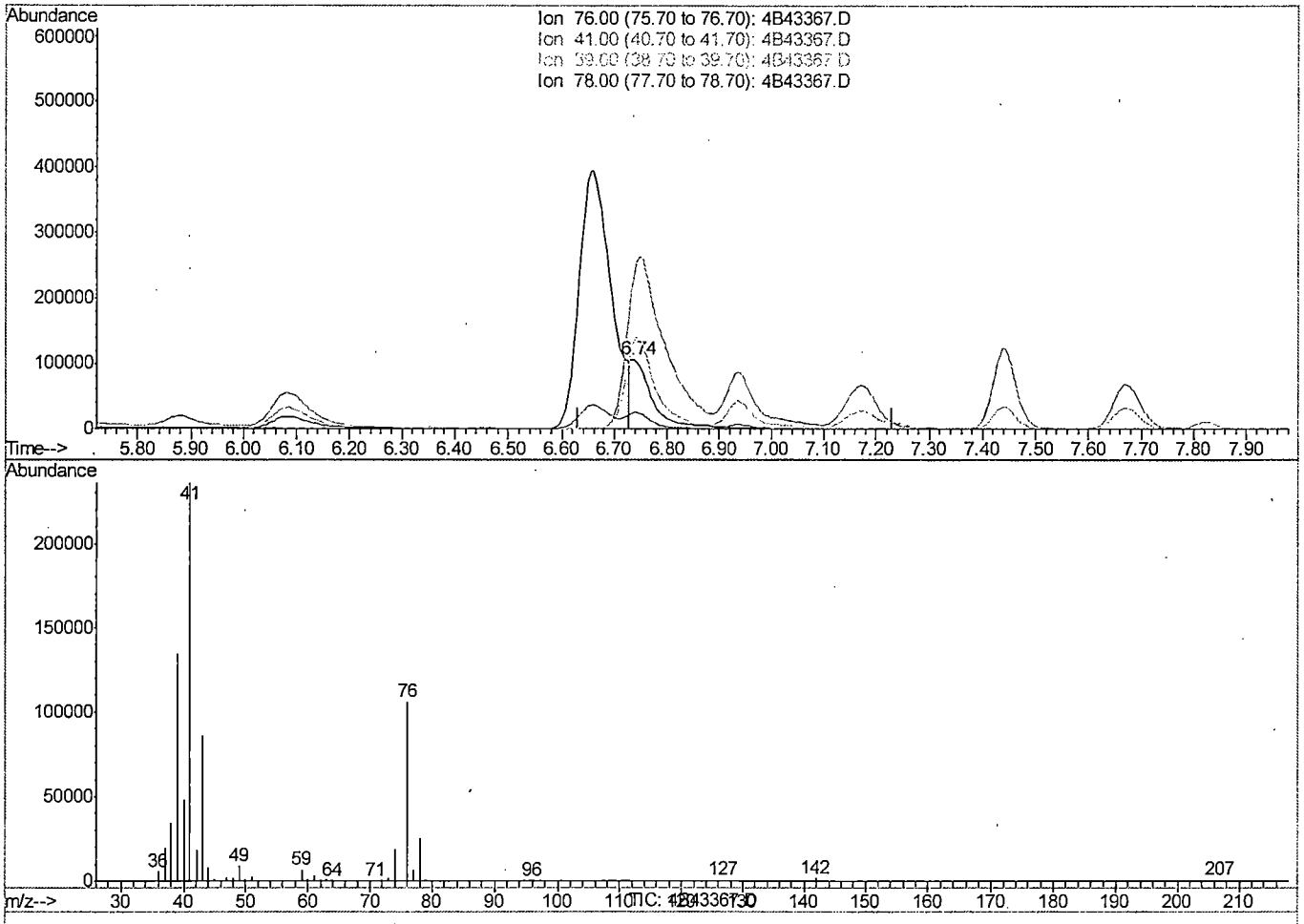
Parameter	CAS	Sig#	R.T. (min.)	Reason
Allyl chloride	107-05-1		6.74	Poor instrument integration

Quantitation Report (Qedit)

Data File : C:\MSDChem\1\DATA\4B43367.D Vial: 11
Acq On : 10 Jul 2014 8:25 pm Operator: TOANP
Sample : ic1867-200 Inst : MS4B
Misc : MS69789,V4B1867,w,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Jul 11 10:04:23 2014 Results File: M4B1867.RES

Method : C:\MSDCHEM\1\METHODS\M4B1867.M (RTE Integrator)
Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
Last Update : Fri Jul 11 10:17:48 2014
Response via : Multiple Level Calibration



(24) allyl chloride (M)

6.74min 347.42ug/L m

response 299765

Ion	Exp%	Act%
76.00	100	100
41.00	201.90	222.65
39.00	125.00	126.90
78.00	23.30	23.64

4B43367.D M4B1867.M Fri Jul 11 10:35:21 2014 GCMS4B

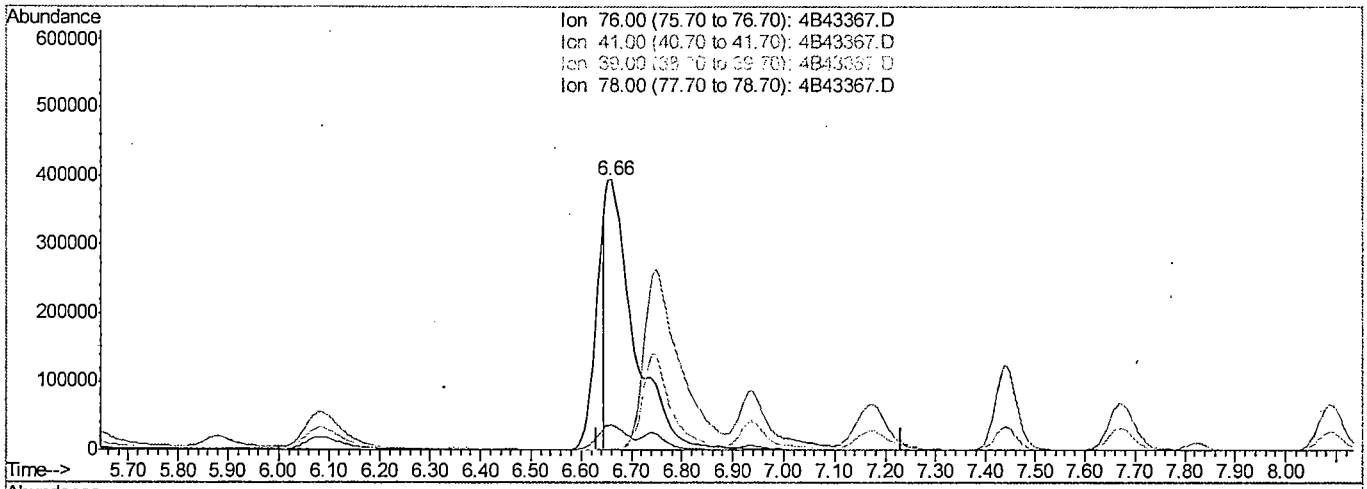
4B43367.D edits: allyl chloride

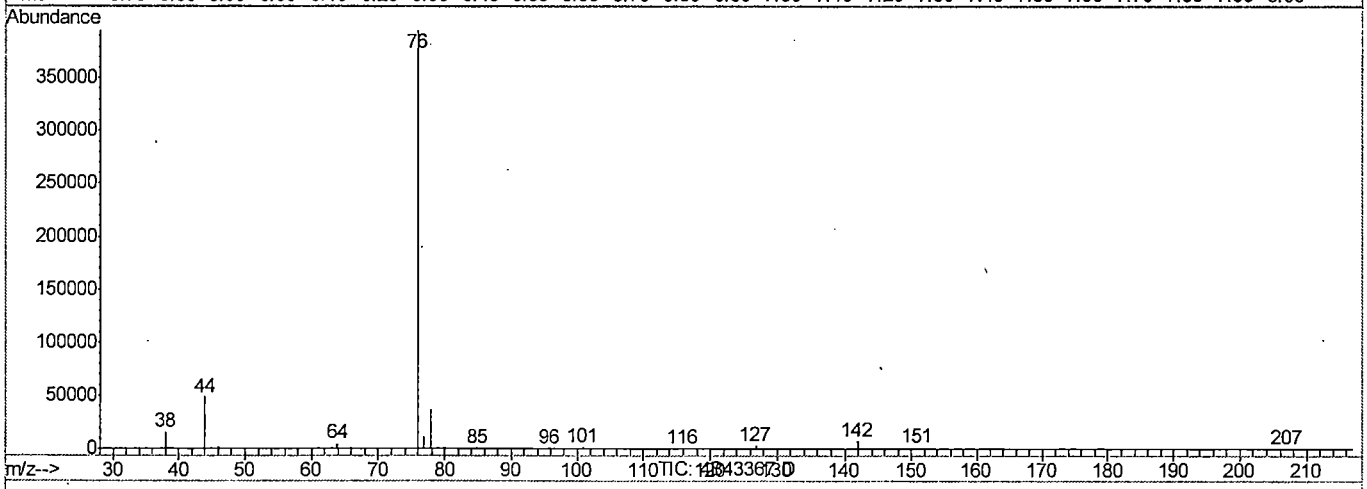
Quantitation Report (Qedit)

Data File : C:\MSDChem\1\DATA\old\4B43367.D Vial: 11
Acq On : 10 Jul 2014 8:25 pm Operator: TOANP
Sample : ic1867-200 Inst : MS4B
Misc : MS69789,V4B1867,w,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Jul 11 11:08:03 2014 Results File: M4B1867.RES

Method : C:\MSDCHEM\1\METHODS\M4B1867.M (RTE Integrator)
Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
Last Update : Fri Jul 11 10:53:40 2014
Response via : Multiple Level Calibration





(24) allyl chloride (M)

6.66min 1030.89ug/L

response 1572055

Ion	Exp%	Act%
76.00	100	100
41.00	191.40	0.00#
39.00	108.10	0.10#
78.00	22.70	9.29

4B43367.D M4B1867.M Fri Jul 11 11:08:13 2014 GCMS4B

7.6.10.3

7

4B43367.D edits: allyl chloride

ACCUTEST LABORATORIES JB72431

Cal Report: 4B43370.D

Manual Integrations APPROVED (compounds with "m" flag)
Jessica Reitan-Chu
07/14/14 10:59

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B43370.D
Acq On : 10 Jul 2014 9:48 pm
Operator : TOANP
Sample : icv1867-50
Misc : MS69789,V4B1867,w,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jul 14 10:36:08 2014
Quant Method : C:\MSDCHEM\1\METHODS\M4B1867.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 14 10:33:25 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) tert butyl alcohol-d9	6.89	65	134191	500.00	ug/L		0.00
5) pentafluorobenzene	8.84	168	244341	50.00	ug/L		0.00
56) 1,4-difluorobenzene	9.70	114	305525	50.00	ug/L		0.00
88) chlorobenzene-d5	12.89	117	326427	50.00	ug/L		0.00
103) 1,4-dichlorobenzene-d4	15.43	152	200997	50.00	ug/L		0.00
System Monitoring Compounds							
49) dibromofluoromethane (s)	8.93	113	101964	51.61	ug/L		0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 103.22%				
50) 1,2-dichloroethane-d4 (s)	9.32	65	112356	49.34	ug/L		0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 98.68%				
80) toluene-d8 (s)	11.29	98	375072	48.82	ug/L		0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 97.64%				
105) 4-bromofluorobenzene (s)	14.14	95	183001	46.78	ug/L		0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 93.56%				
Target Compounds							Qvalue
2) tertiary butyl alcohol	7.00	59	99805	265.93	ug/L		95
3) 1,4-dioxane	10.42	88	39229	1236.01	ug/L		98
7) chlorodifluoromethane	3.89	51	151102	60.37	ug/L		99
8) dichlorodifluoromethane	3.87	85	135557	48.75	ug/L		96
10) chloromethane	4.17	52	58066	53.25	ug/L		96
11) vinyl chloride	4.42	62	182320	49.16	ug/L		99
12) bromomethane	5.00	94	99168	49.86	ug/L		100
13) chloroethane	5.14	64	85654	57.97	ug/L		97
14) vinyl bromide	5.47	106	110155	51.46	ug/L		99
15) trichlorofluoromethane	5.56	101	196262	53.29	ug/L		99
16) 1,3-butadiene	4.43	54	99966	53.50	ug/L		97
17) Pentane	5.58	43	137618	49.56	ug/L		96
19) ethyl ether	5.87	74	60770	53.15	ug/L		97
20) 2-chloropropane	6.08	43	194715	50.82	ug/L		98
21) acrolein	6.16	56	248643	468.43	ug/L		99
22) 1,1-dichloroethene	6.28	96	110254	50.25	ug/L		98
23) acetone	6.36	58	11897	51.06	ug/L	#	85
24) allyl chloride	6.74	76	92328m	61.52	ug/L		
25) acetonitrile	6.76	40	119095	485.71	ug/L	#	64
26) iodomethane	6.55	142	239729	51.51	ug/L		99
27) carbon disulfide	6.66	76	436204	58.26	ug/L		99
28) methylene chloride	6.93	84	131117	53.71	ug/L		98
29) methyl acetate	6.72	74	17943	48.47	ug/L		98
30) 1-chloropropane	6.94	42	194367	47.42	ug/L		99
31) methyl tert butyl ether	7.17	73	638397	99.13	ug/L		100
32) trans-1,2-dichloroethene	7.23	96	111461	49.10	ug/L		97
33) di-isopropyl ether	7.67	45	383670	48.97	ug/L		99
34) 2-butanone	8.38	72	14457	50.54	ug/L	#	56
35) 1,1-dichloroethane	7.75	63	211887	54.25	ug/L		98
36) chloroprene	7.82	53	140944	48.20	ug/L		99
37) acrylonitrile	7.23	53	221422	253.77	ug/L		97
38) vinyl acetate	7.71	86	18894	57.31	ug/L		99
39) ethyl tert-butyl ether	8.09	59	340022	47.99	ug/L		99

7.6.11 7

ACCUTEST LABORATORIES JB72431

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B43370.D
Acq On : 10 Jul 2014 9:48 pm
Operator : TOANP
Sample : icv1867-50
Misc : MS69789,V4B1867,w,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jul 14 10:36:08 2014
Quant Method : C:\MSDCHEM\1\METHODS\M4B1867.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 14 10:33:25 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
40) ethyl acetate	8.36	45	17441	47.86	ug/L	75
41) 2,2-dichloropropane	8.40	77	144009	50.84	ug/L	97
42) cis-1,2-dichloroethene	8.41	96	120165	52.96	ug/L	100
43) methylacrylate	8.45	85	18512	52.02	ug/L	96
44) propionitrile	8.51	54	188841	504.51	ug/L	99
45) bromochloromethane	8.70	128	61570	54.72	ug/L	97
46) tetrahydrofuran	8.72	42	43657	46.91	ug/L	97
47) chloroform	8.74	85	125988	53.80	ug/L	99
48) T-BUTYL FORMATE	8.75	59	98256	48.73	ug/L	100
51) freon 113	6.24	151	85492	55.42	ug/L	94
52) methacrylonitrile	8.65	41	72528	48.33	ug/L	100
53) 1,1,1-trichloroethane	8.96	97	171467	51.09	ug/L	99
54) cyclohexane	9.00	84	147371	51.41	ug/L	96
55) iso-butyl alcohol	9.13	43	67170	513.82	ug/L	98
57) epichlorohydrin	10.95	57	64308	241.30	ug/L	98
58) n-butyl alcohol	9.83	56	222912	2489.06	ug/L	100
59) carbon tetrachloride	9.13	117	156139	52.09	ug/L	99
60) 1,1-dichloropropene	9.11	75	136773	52.26	ug/L	99
61) hexane	7.44	57	141194	61.25	ug/L	100
63) benzene	9.36	78	420004	53.14	ug/L	100
64) iso-octane	9.31	57	211363	44.44	ug/L	94
65) tert-amyl methyl ether	9.35	87	76252	46.87	ug/L	94
66) heptane	9.45	57	70413	47.16	ug/L	99
67) isopropyl acetate	9.26	61	53799	46.25	ug/L	97
68) 1,2-dichloroethane	9.40	62	139916	53.32	ug/L	98
69) trichloroethene	10.02	95	107634	54.24	ug/L	99
71) ethyl acrylate	10.01	55	164603	51.36	ug/L	100
72) 2-nitropropane	10.81	41	49373	48.59	ug/L	95
73) 2-chloroethyl vinyl ether	10.79	63	376682	240.23	ug/L	100
74) methyl methacrylate	10.26	100	33520	55.00	ug/L	99
75) 1,2-dichloropropane	10.29	63	112718	53.05	ug/L	100
76) dibromomethane	10.46	93	71394	52.69	ug/L	99
77) methylcyclohexane	10.21	83	172435	51.68	ug/L	99
78) bromodichloromethane	10.58	83	149125	52.66	ug/L	99
79) cis-1,3-dichloropropene	11.02	75	183328	50.80	ug/L	99
81) 4-methyl-2-pentanone	11.11	58	58545	49.91	ug/L	93
82) toluene	11.37	92	265629	51.86	ug/L	100
83) 3-methyl-1-butanol	11.13	55	144883	1023.43	ug/L	100
84) trans-1,3-dichloropropene	11.59	75	176658	47.61	ug/L	99
85) ethyl methacrylate	11.54	69	181687	51.50	ug/L	100
86) 1,1,2-trichloroethane	11.82	83	91046	51.10	ug/L	97
87) 2-hexanone	11.98	58	60142	51.44	ug/L	94
89) tetrachloroethene	11.96	164	94488	53.03	ug/L	97
90) 1,3-dichloropropane	12.01	76	179018	48.62	ug/L	98
91) butyl acetate	12.03	56	103536	49.78	ug/L	94
92) 3,3-DIMETHYL-1-BUTANOL	12.16	57	171685	457.44	ug/L	100
93) dibromochloromethane	12.29	129	130690	50.08	ug/L	100
94) 1,2-dibromoethane	12.45	107	123496	50.49	ug/L	97
96) chlorobenzene	12.92	112	339779	50.37	ug/L	99
97) 1,1,1,2-tetrachloroethane	12.99	131	124145	49.50	ug/L	98

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B43370.D
Acq On : 10 Jul 2014 9:48 pm
Operator : TOANP
Sample : icv1867-50
Misc : MS69789,V4B1867,w,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jul 14 10:36:08 2014
Quant Method : C:\MSDCHEM\1\METHODS\M4B1867.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 14 10:33:25 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
98) ethylbenzene	12.96	91	574822	50.59 ug/L	100
99) m,p-xylene	13.07	106	433505	103.13 ug/L	97
100) o-xylene	13.53	106	220809	49.96 ug/L	97
101) styrene	13.55	104	403192	52.24 ug/L	99
102) bromoform	13.87	173	112266	50.47 ug/L	99
104) isopropylbenzene	13.90	105	588201	50.08 ug/L	100
106) cyclohexanone	14.14	55	103660	431.71 ug/L	100
107) bromobenzene	14.36	156	171270	49.87 ug/L	100
108) 1,1,2,2-tetrachloroethane	14.27	83	178297	47.39 ug/L	100
109) trans-1,4-dichloro-2-buten	14.32	53	49888	48.48 ug/L	99
110) 1,2,3-trichloropropane	14.36	110	43026	48.30 ug/L	99
111) n-propylbenzene	14.35	91	764491	53.31 ug/L	99
113) 2-chlorotoluene	14.53	126	151146	49.58 ug/L	96
114) 4-chlorotoluene	14.64	91	471719	49.79 ug/L	100
115) 1,3,5-trimethylbenzene	14.50	105	522403	49.70 ug/L	99
116) tert-butylbenzene	14.89	119	426759	49.73 ug/L	99
117) pentachloroethane	15.01	167	98681	50.14 ug/L	97
118) 1,2,4-trimethylbenzene	14.95	105	566015	52.67 ug/L	100
119) sec-butylbenzene	15.13	105	680313	49.32 ug/L	99
120) 1,3-dichlorobenzene	15.36	146	332194	48.95 ug/L	99
121) p-isopropyltoluene	15.26	119	606908	50.19 ug/L	100
122) 1,4-dichlorobenzene	15.46	146	336493	48.91 ug/L	99
123) benzyl chloride	15.59	91	367393	49.34 ug/L	100
124) 1,2-dichlorobenzene	15.90	146	332110	48.42 ug/L	99
126) n-butylbenzene	15.72	92	321876	51.36 ug/L	99
128) 1,2-dibromo-3-chloropropan	16.76	75	36533	46.53 ug/L	96
129) 1,3,5-TRICHLOROBENZENE	16.93	180	303880	50.02 ug/L	100
130) 1,2,4-trichlorobenzene	17.61	180	269177	49.97 ug/L	100
131) hexachlorobutadiene	17.70	225	128092	51.20 ug/L	99
132) naphthalene	17.91	128	565997	49.25 ug/L	100
133) 1,2,3-trichlorobenzene	18.17	180	236892	51.20 ug/L	100
134) hexachloroethane	16.16	201	100770	45.32 ug/L	99

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

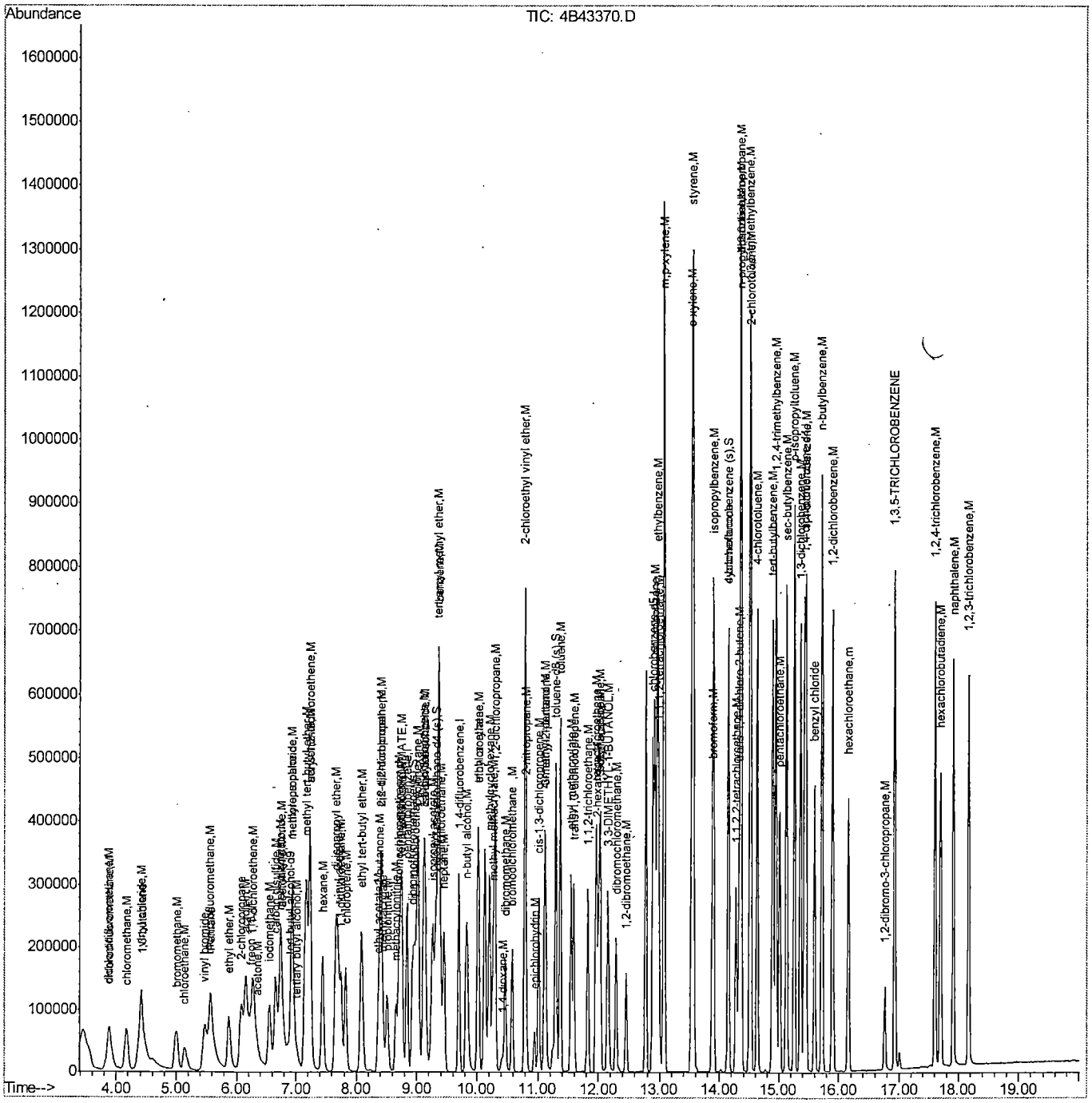
7.6.11

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 4B43370.D
Acq On : 10 Jul 2014 9:48 pm
Operator : TOANP
Sample : icv1867-50
Misc : MS69789,V4B1867,w,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jul 14 10:36:08 2014
Quant Method : C:\MSDCHEM\1\METHODS\M4B1867.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 14 10:33:25 2014
Response via : Initial Calibration



Manual Integration Approval Summary

Sample Number: V4B1867-ICV1867
Lab FileID: 4B43370.D
Injection Time: 07/10/14 21:48

Method: SW846 8260B
Analyst approved: 07/14/14 10:41 Dong, Mei
Supervisor approved: 07/14/14 10:59 Jessica Reitan-Chu

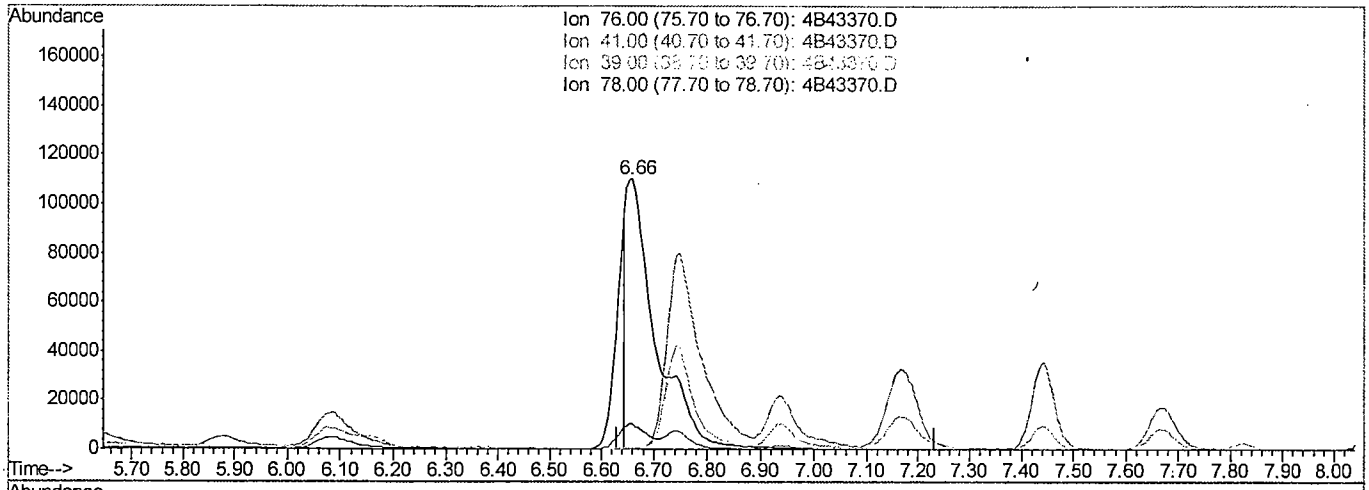
Parameter	CAS	Sig#	R.T. (min.)	Reason
Allyl chloride	107-05-1		6.74	Poor instrument integration

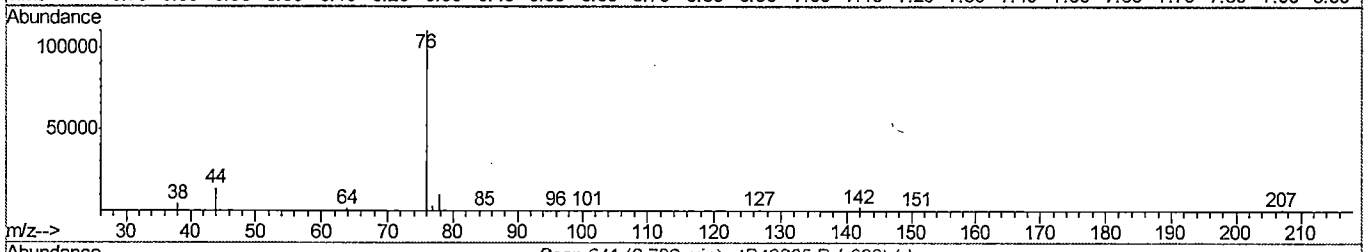
Quantitation Report (Qedit)

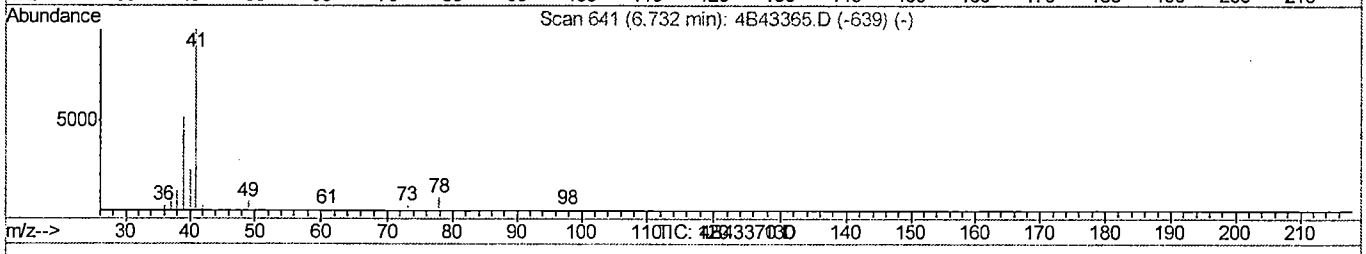
Data File : C:\MSDChem\1\DATA\4B43370.D Vial: 14
Acq On : 10 Jul 2014 9:48 pm Operator: TOANP
Sample : icv1867-50 Inst : MS4B
Misc : MS69789,V4B1867,w,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Jul 11 10:36:50 2014 Results File: M4B1867.RES

Method : C:\MSDCHEM\1\METHODS\M4B1867.M (RTE Integrator)
Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
Last Update : Fri Jul 11 10:36:45 2014
Response via : Multiple Level Calibration







(24) allyl chloride (M)

6.66min 284.16ug/L

response 426460

Ion	Exp%	Act%
76.00	100	100
41.00	191.40	0.00#
39.00	108.10	0.08#
78.00	22.70	9.19

4B43370.D M4B1867.M Fri Jul 11 10:39:54 2014 GCMS4B

4B43370.D edits: allyl chloride

7.6.11.2

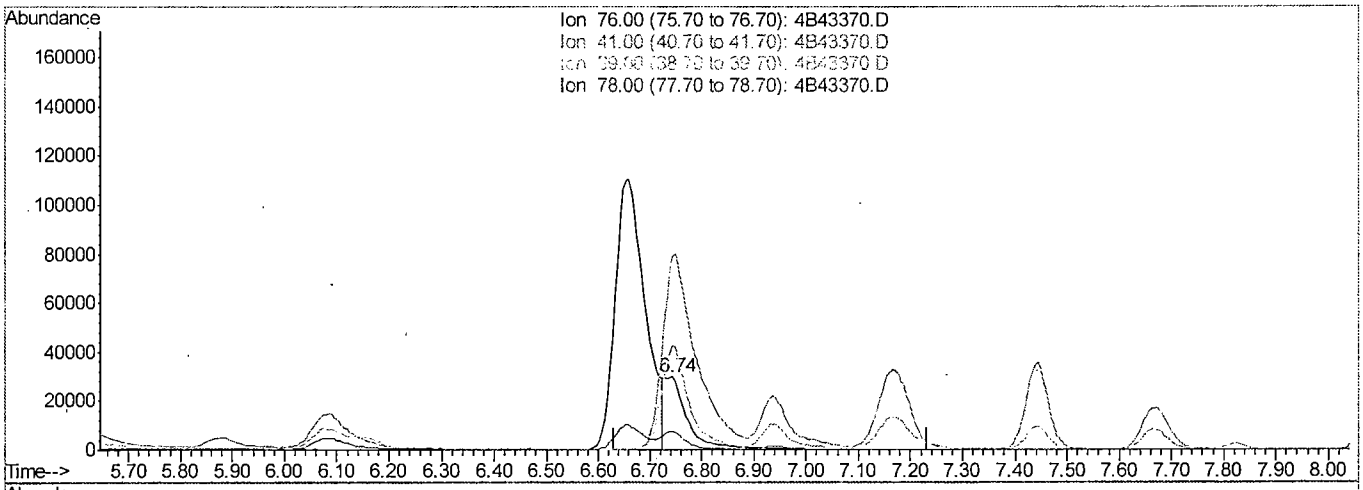
7

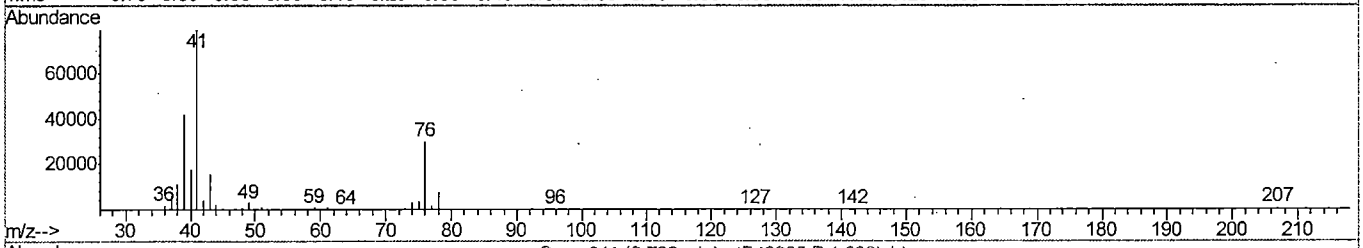
Quantitation Report (Qedit)

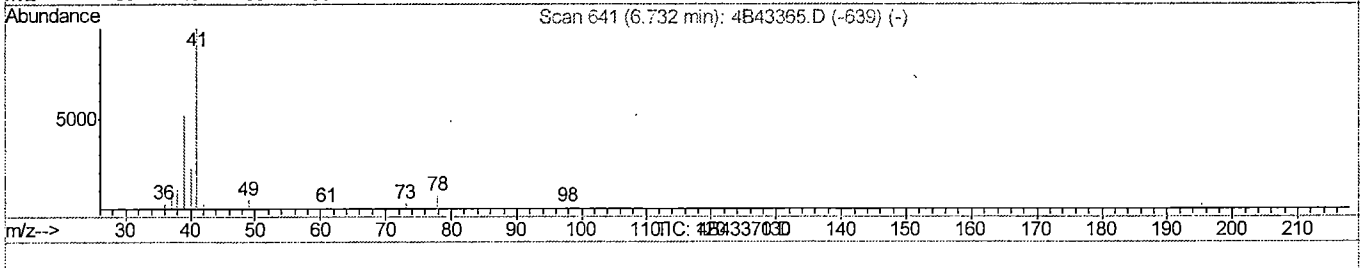
Data File : C:\MSDChem\1\DATA\4B43370.D Vial: 14
Acq On : 10 Jul 2014 9:48 pm Operator: TOANP
Sample : icv1867-50 Inst : MS4B
Misc : MS69789,V4B1867,w,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Jul 11 10:36:50 2014 Results File: M4B1867.RES

Method : C:\MSDCHEM\1\METHODS\M4B1867.M (RTE Integrator)
Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
Last Update : Fri Jul 11 10:36:45 2014
Response via : Multiple Level Calibration







(24) allyl chloride (M)

6.74min 61.52ug/L m

response 92328

Ion	Exp%	Act%
76.00	100	100
41.00	191.40	264.38#
39.00	108.10	140.73#
78.00	22.70	25.90

4B43370.D M4B1867.M Fri Jul 11 10:40:05 2014 GCMS4B

4B43370.D edits: allyl chloride

Manual Integrations APPROVED (compounds with "m" flag)
Kanya Veerawat
07/30/14 17:49

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 4B43917.D
Acq On : 29 Jul 2014 10:08 am
Operator : TOANP
Sample : CC1867-50
Misc : MS71276V4B1890,w,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 30 10:09:14 2014
Quant Method : C:\MSDCHEM\1\METHODS\M4B1867.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 14 10:33:25 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Unit's		Dev(Min)
1) tert butyl alcohol-d9	6.88	65	220254	500.00	ug/L		-0.01
5) pentafluorobenzene	8.84	168	277640	50.00	ug/L		0.00
56) 1,4-difluorobenzene	9.70	114	362074	50.00	ug/L		0.00
88) chlorobenzene-d5	12.88	117	305519	50.00	ug/L		0.00
103) 1,4-dichlorobenzene-d4	15.43	152	190088	50.00	ug/L		0.00
System Monitoring Compounds							
49) dibromofluoromethane (s)	8.92	113	119861	53.39	ug/L		0.00
Spiked Amount 50.000	Range 79 - 120		Recovery = 106.78%				
50) 1,2-dichloroethane-d4 (s)	9.32	65	130245	50.34	ug/L		0.00
Spiked Amount 50.000	Range 72 - 123		Recovery = 100.68%				
80) toluene-d8 (s)	11.29	98	393608	43.23	ug/L		0.00
Spiked Amount 50.000	Range 78 - 119		Recovery = 86.46%				
105) 4-bromofluorobenzene (s)	14.14	95	153901	41.60	ug/L		0.00
Spiked Amount 50.000	Range 74 - 119		Recovery = 83.20%				
Target Compounds							Qvalue
2) tertiary butyl alcohol	6.99	59	127093	206.32	ug/L		98
3) 1,4-dioxane	10.40	88	46410	890.89	ug/L		98
7) chlorodifluoromethane	3.88	51	152279	53.54	ug/L		98
8) dichlorodifluoromethane	3.87	85	164717	52.13	ug/L		98
10) chloromethane	4.17	52	68517	55.29	ug/L		97
11) vinyl chloride	4.42	62	206579	49.02	ug/L		92
12) bromomethane	5.00	94	120852	53.55	ug/L		100
13) chloroethane	5.14	64	95834	56.97	ug/L		97
15) trichlorofluoromethane	5.56	101	201065	48.05	ug/L		97
19) ethyl ether	5.87	74	71023	54.67	ug/L		98
20) 2-chloropropane	6.08	43	207163	47.58	ug/L	#	82
21) acrolein	6.15	56	307451	509.75	ug/L		98
22) 1,1-dichloroethene	6.28	96	116341	46.67	ug/L		94
23) acetone	6.34	58	27844	105.17	ug/L	#	82
24) allyl chloride	6.72	76	102267m	59.97	ug/L		
25) acetonitrile	6.76	40	158134	567.57	ug/L		89
26) iodomethane	6.55	142	267312	50.56	ug/L		100
27) carbon disulfide	6.65	76	445868	52.41	ug/L		100
28) methylene chloride	6.93	84	152567	55.00	ug/L		99
29) methyl acetate	6.72	74	26698	63.47	ug/L		95
30) 1-chloropropane	6.93	42	221797	47.63	ug/L		99
31) methyl tert butyl ether	7.16	73	420217	57.43	ug/L		99
32) trans-1,2-dichloroethene	7.23	96	126665	49.11	ug/L		98
33) di-isopropyl ether	7.66	45	416968	46.84	ug/L		99
34) 2-butanone	8.37	72	24152	74.30	ug/L	#	79
35) 1,1-dichloroethane	7.74	63	235999	53.18	ug/L		97
36) chloroprene	7.82	53	159929	48.13	ug/L		99
37) acrylonitrile	7.23	53	319284	322.05	ug/L		99
38) vinyl acetate	7.70	86	22297	59.52	ug/L		89
39) ethyl tert-butyl ether	8.08	59	407592	50.63	ug/L		99
40) ethyl acetate	8.35	45	23526	56.81	ug/L	#	94
41) 2,2-dichloropropane	8.40	77	173213	53.81	ug/L		96
42) cis-1,2-dichloroethene	8.41	96	139835	54.24	ug/L		98

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 4B43917.D
Acq On : 29 Jul 2014 10:08 am
Operator : TOANP
Sample : CC1867-50
Misc : MS71276V4B1890,w,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 30 10:09:14 2014
Quant Method : C:\MSDCHEM\1\METHODS\M4B1867.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 14 10:33:25 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
43) methylacrylate	8.44	85	23554	58.25	ug/L	#	61
44) propionitrile	8.51	54	263762	620.15	ug/L		98
45) bromochloromethane	8.70	128	72314	56.56	ug/L		99
46) tetrahydrofuran	8.71	42	58103	54.95	ug/L		96
47) chloroform	8.74	85	142255	53.46	ug/L		98
48) T-BUTYL FORMATE	8.75	59	113175	49.40	ug/L		99
51) freon 113	6.23	151	86033	49.08	ug/L		95
52) methacrylonitrile	8.65	41	93401	54.78	ug/L		97
53) 1,1,1-trichloroethane	8.96	97	179629	47.13	ug/L		98
54) cyclohexane	9.00	84	156628	48.08	ug/L		86
55) iso-butyl alcohol	9.13	43	88737	597.38	ug/L		97
57) epichlorohydrin	10.94	57	84911	268.85	ug/L		99
58) n-butyl alcohol	9.82	56	302818	2853.20	ug/L		96
59) carbon tetrachloride	9.13	117	166833	46.95	ug/L		97
60) 1,1-dichloropropene	9.11	75	157772	50.87	ug/L		99
61) hexane	7.44	57	125923	46.10	ug/L		99
63) benzene	9.36	78	471733	50.36	ug/L		99
64) iso-octane	9.31	57	213589	37.90	ug/L		94
65) tert-amyl methyl ether	9.35	87	88634	45.98	ug/L		99
66) heptane	9.45	57	76367	43.16	ug/L		99
67) isopropyl acetate	9.25	61	61670	44.74	ug/L		92
68) 1,2-dichloroethane	9.40	62	160655	51.66	ug/L		100
69) trichloroethene	10.02	95	119581	50.85	ug/L		99
72) 2-nitropropane	10.81	41	54232	45.04	ug/L	#	76
73) 2-chloroethyl vinyl ether	10.79	63	406084	218.54	ug/L		99
74) methyl methacrylate	10.26	100	36273	50.22	ug/L		91
75) 1,2-dichloropropane	10.29	63	124224	49.33	ug/L		100
76) dibromomethane	10.46	93	86316	53.76	ug/L		96
77) methylcyclohexane	10.20	83	185058	46.80	ug/L		98
78) bromodichloromethane	10.57	83	171265	51.03	ug/L		99
79) cis-1,3-dichloropropene	11.01	75	198472	46.41	ug/L		97
81) 4-methyl-2-pentanone	11.10	58	67856	48.81	ug/L		95
82) toluene	11.36	92	267019	43.99	ug/L		99
83) 3-methyl-1-butanol	11.12	55	189992	1135.18	ug/L		99
84) trans-1,3-dichloropropene	11.59	75	176886	40.23	ug/L		97
85) ethyl methacrylate	11.54	69	166706	39.88	ug/L		97
86) 1,1,2-trichloroethane	11.82	83	91900	43.52	ug/L		99
87) 2-hexanone	11.97	58	71603	51.68	ug/L		93
89) tetrachloroethene	11.96	164	92284	55.34	ug/L		99
90) 1,3-dichloropropane	12.00	76	174983	50.78	ug/L		95
91) butyl acetate	12.03	56	99731	51.23	ug/L		99
92) 3,3-DIMETHYL-1-BUTANOL	12.15	57	229483	652.73	ug/L		99
93) dibromochloromethane	12.29	129	129880	53.17	ug/L		97
94) 1,2-dibromoethane	12.45	107	118844	51.91	ug/L		98
96) chlorobenzene	12.91	112	301117	47.69	ug/L		99
97) 1,1,1,2-tetrachloroethane	12.98	131	135894	57.89	ug/L		99
98) ethylbenzene	12.96	91	502517	47.25	ug/L		99
99) m,p-xylene	13.07	106	381293	96.92	ug/L		97
100) o-xylene	13.53	106	208329	50.36	ug/L		95
101) styrene	13.55	104	346263	47.93	ug/L		100

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 4B43917.D
Acq On : 29 Jul 2014 10:08 am
Operator : TOANP
Sample : CC1867-50
Misc : MS71276V4B1890,w,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 30 10:09:14 2014
Quant Method : C:\MSDCHEM\1\METHODS\M4B1867.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 14 10:33:25 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
102) bromoform	13.87	173	110808	53.22	ug/L	100
104) isopropylbenzene	13.89	105	558183	50.25	ug/L	99
106) cyclohexanone	14.13	55	437711	2184.04	ug/L	99
107) bromobenzene	14.36	156	150924	46.47	ug/L	95
108) 1,1,2,2-tetrachloroethane	14.27	83	190341	53.62	ug/L	99
109) trans-1,4-dichloro-2-buten	14.32	53	56191	57.74	ug/L	98
110) 1,2,3-trichloropropane	14.36	110	46577	55.29	ug/L	97
111) n-propylbenzene	14.34	91	638173	47.06	ug/L	100
113) 2-chlorotoluene	14.52	126	135111	46.86	ug/L	100
114) 4-chlorotoluene	14.63	91	405522	45.26	ug/L	99
115) 1,3,5-trimethylbenzene	14.50	105	478446	48.13	ug/L	99
116) tert-butylbenzene	14.89	119	421674	51.96	ug/L	97
117) pentachloroethane	15.01	167	102835	55.25	ug/L	98
118) 1,2,4-trimethylbenzene	14.94	105	485757	47.79	ug/L	99
119) sec-butylbenzene	15.13	105	643494	49.33	ug/L	100
120) 1,3-dichlorobenzene	15.36	146	305417	47.58	ug/L	100
121) p-isopropyltoluene	15.26	119	555206	48.55	ug/L	98
122) 1,4-dichlorobenzene	15.45	146	309729	47.60	ug/L	99
123) benzyl chloride	15.59	91	428943	60.91	ug/L	99
124) 1,2-dichlorobenzene	15.89	146	314630	48.51	ug/L	99
126) n-butylbenzene	15.71	92	296862	50.08	ug/L	97
128) 1,2-dibromo-3-chloropropan	16.76	75	45490	61.26	ug/L	96
129) 1,3,5-TRICHLOROBENZENE	16.92	180	307839	53.57	ug/L	100
130) 1,2,4-trichlorobenzene	17.60	180	284392	55.82	ug/L	99
131) hexachlorobutadiene	17.70	225	118002	49.88	ug/L	100
132) naphthalene	17.91	128	719260	66.17	ug/L	99
133) 1,2,3-trichlorobenzene	18.17	180	274712	62.79	ug/L	100
134) hexachloroethane	16.16	201	103572	49.08	ug/L	99

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

7.6.12

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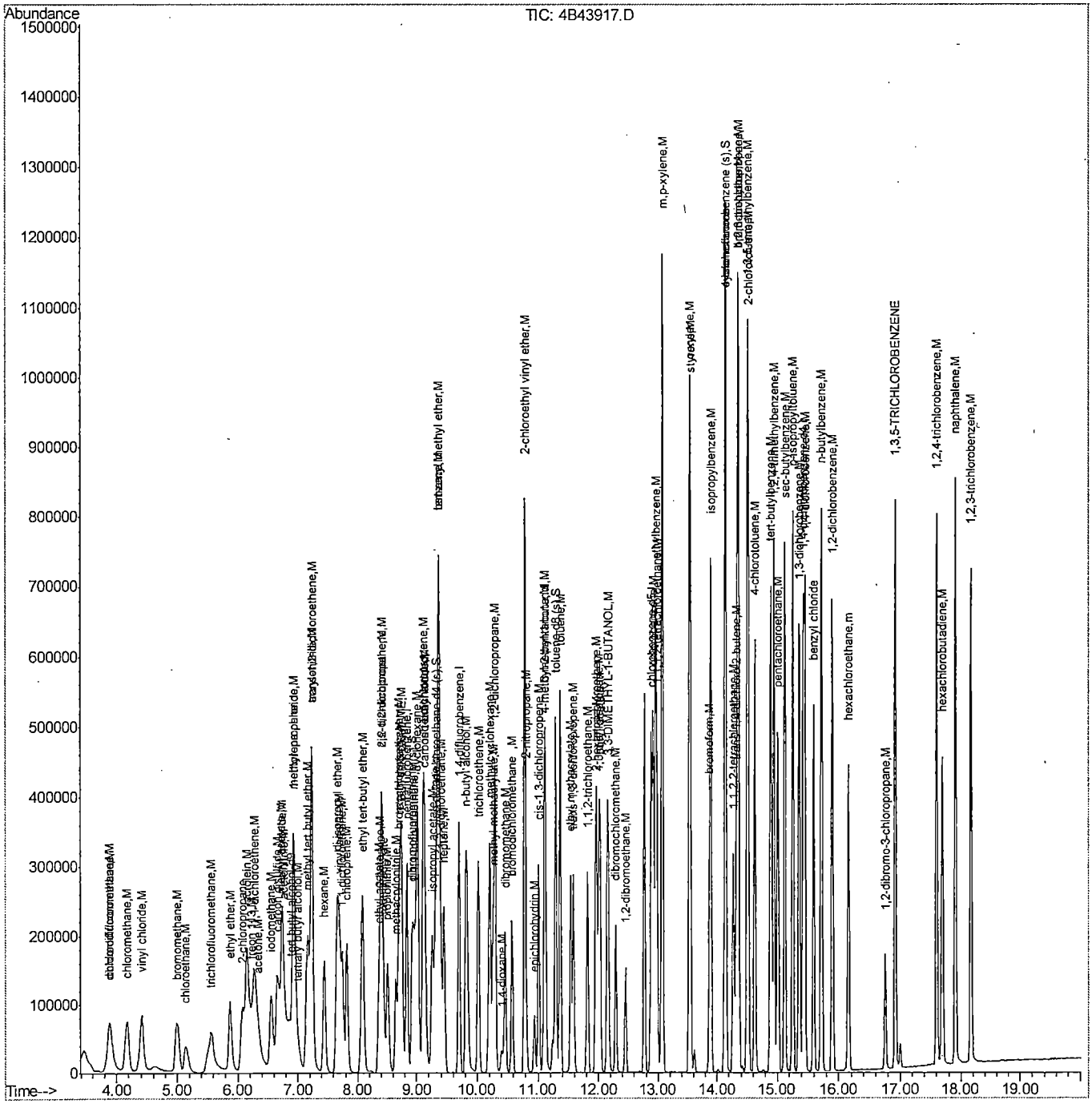
Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 4B43917.D
Acq On : 29 Jul 2014 10:08 am
Operator : TOANP
Sample : CC1867-50
Misc : MS71276V4B1890,w,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 30 10:09:14 2014
Quant Method : C:\MSDCHEM\1\METHODS\M4B1867.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jul 14 10:33:25 2014
Response via : Initial Calibration



7.9.12

7

ACCUTEST LABORATORIES JB72431

Manual Integration Approval Summary

Sample Number:	V4B1890-CC1867	**Method:**	SW846 8260B
Lab FileID:	4B43917.D	**Analyst approved:**	07/30/14 13:01 Dong, Mei
Injection Time:	07/29/14 10:08	**Supervisor approved:**	07/30/14 17:49 Kanya Veerawat

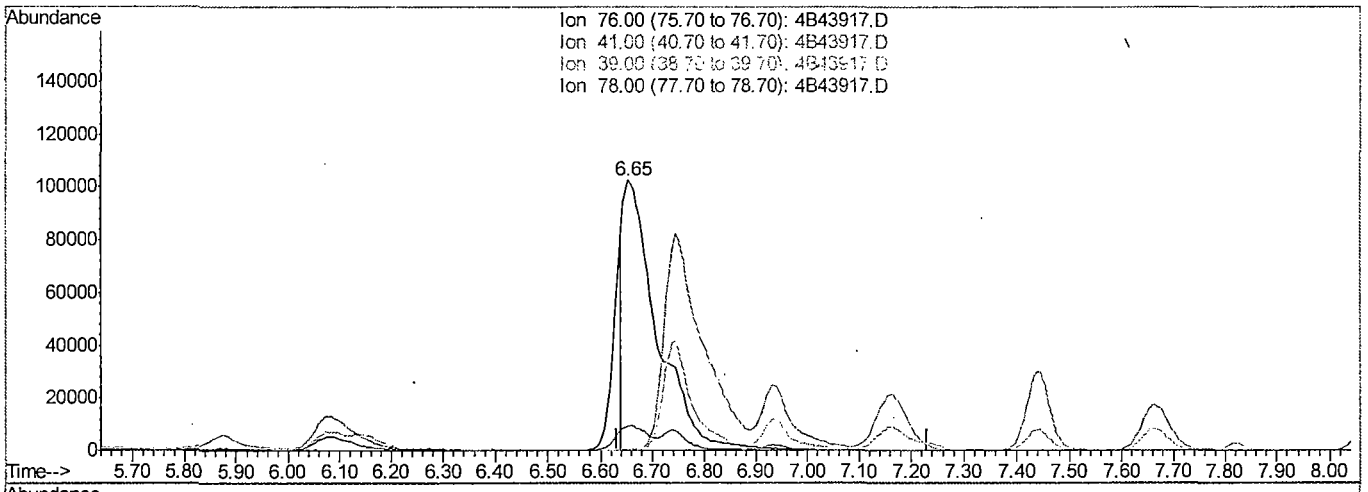
Parameter	CAS	Sig#	R.T. (min.)	Reason
Allyl chloride	107-05-1		6.72	Poor instrument integration

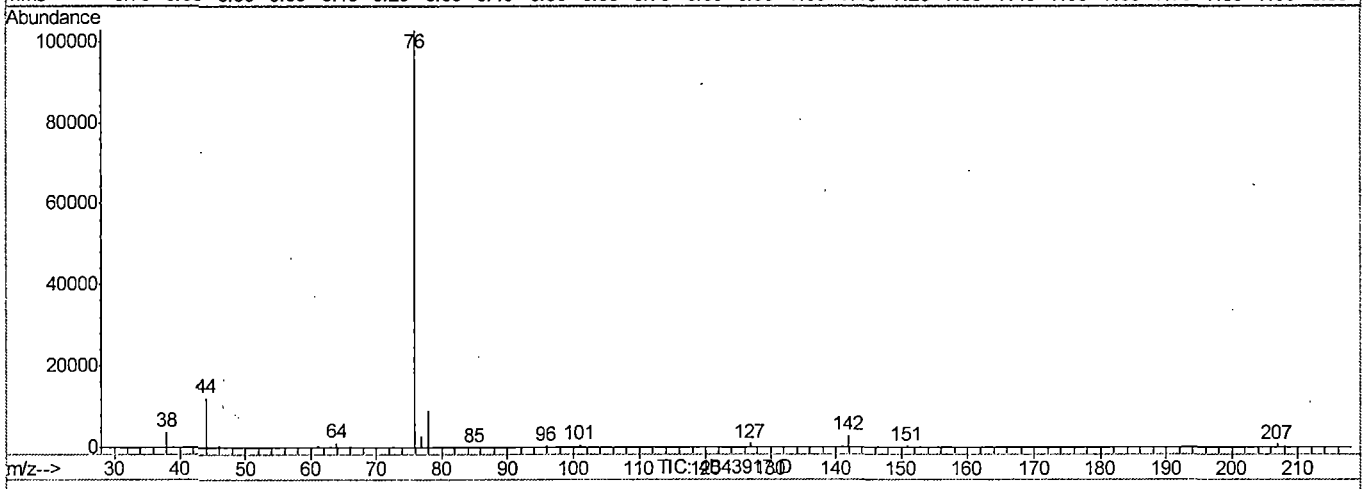
Quantitation Report (Qedit)

Data File : C:\MSDChem\1\DATA\4B43917.D Vial: 2
Acq On : 29 Jul 2014 10:08 am Operator: TOANP
Sample : CC1867-50 Inst : MS4B
Misc : MS71276V4B1890,w,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Jul 30 10:07:14 2014 Results File: M4B1867.RES

Method : C:\MSDCHEM\1\METHODS\M4B1867.M (RTE Integrator)
Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
Last Update : Mon Jul 14 10:33:25 2014
Response via : Multiple Level Calibration





(24) allyl chloride (M)

6.65min 276.03ug/L

response 470704

Ion	Exp%	Act%
76.00	100	100
41.00	191.40	0.00#
39.00	108.10	0.06#
78.00	22.70	8.84

4B43917.D M4B1867.M Wed Jul 30 10:09:05 2014 GCMS4B

4B43917.D edits: allyl chloride

7.6.12.2

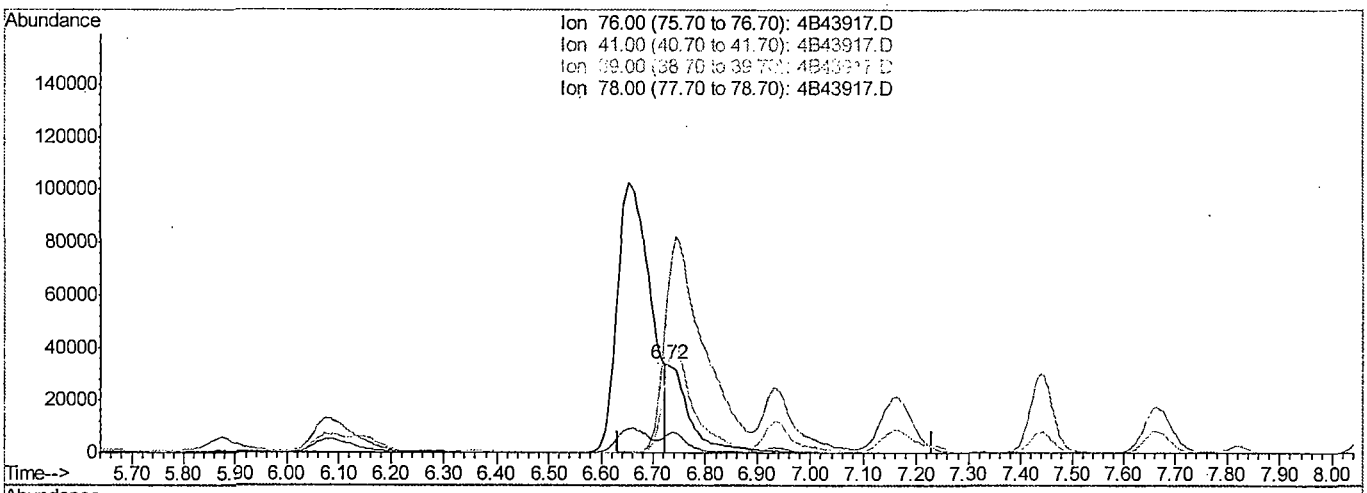
7

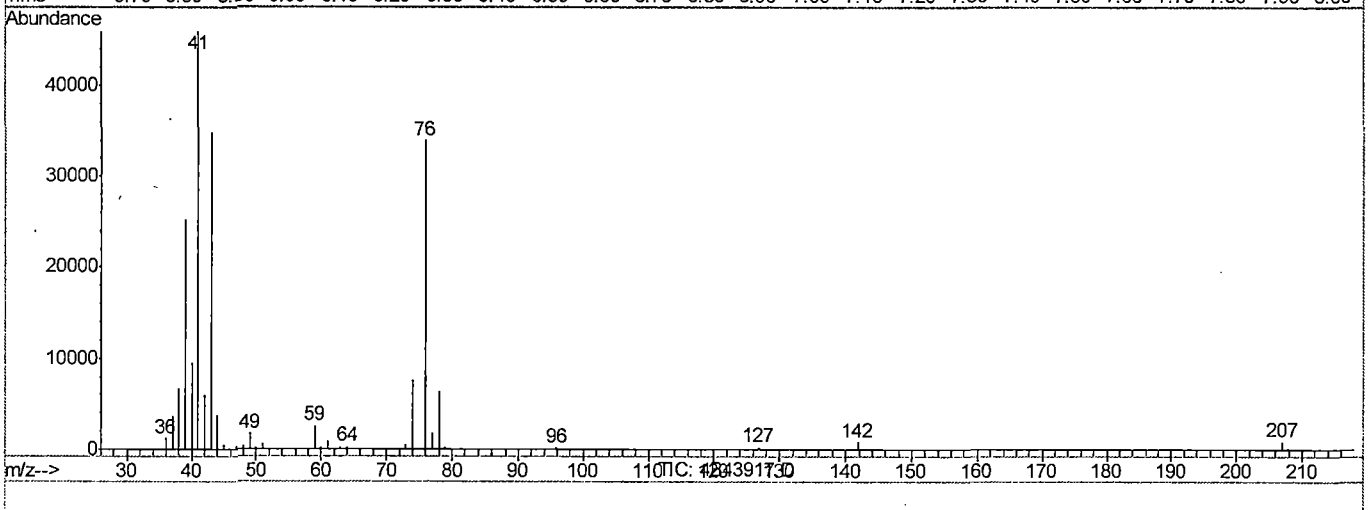
Quantitation Report (Qedit)

Data File : C:\MSDChem\1\DATA\4B43917.D Vial: 2
Acq On : 29 Jul 2014 10:08 am Operator: TOANP
Sample : CC1867-50 Inst : MS4B
Misc : MS71276V4B1890,w,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Quant Time: Jul 30 10:07:14 2014 Results File: M4B1867.RES

Method : C:\MSDCHEM\1\METHODS\M4B1867.M (RTE Integrator)
Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
Last Update : Mon Jul 14 10:33:25 2014
Response via : Multiple Level Calibration





(24) allyl chloride (M)

6.72min 59.97ug/L m

response 102267

Ion	Exp%	Act%
76.00	100	100
41.00	191.40	135.51#
39.00	108.10	74.43#
78.00	22.70	18.74

4B43917.D M4B1867.M Wed Jul 30 10:09:19 2014 GCMS4B

7.6.12.3

7

JB72431

4B43917.D edits: allyl chloride

ACCUTEST.

VOLATILE ANALYSIS LOG

Batch ID: V4B1867 7/10/14

Print Analyst Name: Dan Pham

Date: 7/10/14

Analyst Signature:

Columns: 7361 (624 XD 25mm x 0.18 µm)

Method 8260B

Initial Cal. Method V4B1867 7/10/14

Standard Data (ppm)

Lot #	Description	Conc.
V0114-1861-72	4CP	100
V0114-1861-100	BN A	100
V0114-1861-94	BN B	100
V0114-1861-97	BN C	100
V0114-1861-63	BN Surr	1000

Standard Data (ppm)

Lot #	Description	Conc.
V0114-1861-71	A	1000
V0114-1861-78	B	1000
V0114-1861-115	C	1000
V0114-1861-81	Acrolein	1000
V0114-1861-117	4-Chlorotoluene	1000

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with the criteria of Accutest SOP EQA044.

Supervisor Signature: _____ **Date:** 7/16/14

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
	4B43357	BFB													
	43358	2c1867 -0.2	8260B				5							0.2µl/200ml ABC 4CP Surr	
	43359	2c1867 -0.5					5							0.5µl/100ml ↓	
	43360	2c1867 -1					5							1µl/100ml Acrolein 1µl/100ml ABC 4CP Surr	
	43361	2c1867 -2					5							2µl/100ml Acrolein 2µl/100ml ABC 4CP Surr	
	43362	2c1867 -5					5							5µl/100ml ABC 4CP Surr Acrolein	
	43363	2c1867 -10					5							10µl/100ml ↓	
	43364	2c1867 -20					5							10µl/50ml ABC 4CP Surr Acrolein	
	43365	2c1867 -50					5							25µl/50ml ABC 4CP Surr	
	43366	2c1867 -100					5							50µl/50ml ABC 4CP Surr	
	43367	2c1867 -200	↓				5							100µl/50ml ↓	
	43368	2B													
	43369	2B													
	43370	2cV1867-50	8260B				5							25ml/50ml 4CP. Surr. Hexane Bz(ABC Surr)	

MTX = Matrix Designate W for water, S for soil, O for oil. L+ = Library Search. IS = Internal Standard Area. SU = Surrogate.
Sample Amt = Volume (ML) or Weight (g); MOH amt.= volume (ul) extract injected * IF pH > 2, comment on sample result.
All strike outs must be initialed, dated and reason code applied as follows: 1 = reviewer correction error; 2 = transcription error; 3 = computer miscalculation; 4 = analyst's correction error

Form: OR001-9
Rev. Date: 2/14/2007

ACCUTEST

VOLATILE ANALYSIS LOG

Batch ID: V4B1890

Print Analyst Name: Toan Pham

Date: 7/29/14

Analyst Signature: [signature]

Columns: ZB624 60m x 0.25mm x 1.4 µm

Method 8260B

Initial Cal. Method M4B1867

Standard Data

Lot #	Description	Conc.
V014-1861	-128 Cal Std	100 ppm
↓	-140 C	↓
212873	PA paper exp 57	116

Standard Data

Lot #	Description	Conc.
V014-1861	-141 Ext A	100 ppm
	-137 B	
	-142 C	
	-123 Acr	1000 ppm
	-115 IS	250/1000 ppm

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with the criteria of Accutest SOP EQA044.

Supervisor Signature: [signature] Date: 8/5/14

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
	4D43916	BFB											ok	9:38am	
	43917	CC1867-50					5				W		ok	23T, 29T, 34T, 132T, 133T A, B, C, Acr 25 µg/ml	
	43918	IB											ok		
	43919	MB					5				W		ok		
	43920	BS					5				W		ok	25 µg/ml Ext A, B, C, Acr	
	43921	IB											ok		
R	43922	TB72643-1	71276 PAUG	GW	1		5		1x		W		ok		✓
	43923	TB72643-2			1		5		1x		W		ok		✓
	43924	TB72643-3			2		5		1x		W		ok		✓
	43925	TB72643-4			2		5		1x		W		ok		✓
	43926	TB72643-5			1		5		1x		W		ok		✓
	43927	TB72607-6	71235 [illegible]		2		5		1x		W		ok		✓
	43928	TB72643-3	71276 PAUG		2		5/10		10x		W		ok		✓
	43929	TB72643-4ms			1		5		1x		W		ok		✓
	43930	TB72643-4ml			1		5		1x		W		ok		✓
	43931	IB									W		ok		✓
	43932	TB72431-2	71175 SC	WTB	1		5		1x		W		ok	UTCQC	✓

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: ~~TOGA Pha~~ V4B1890 (dup 7/29/14)

Print Analyst Name: Doan Pham

Date: 7/29/14

Analyst Signature: DPL

Columns: 624 (60m x0.25mm x1.4um)

Method 8260B

Initial Cal. Method M4B1867

Standard Data		
Lot #	Description	Conc.

Standard Data		
Lot #	Description	Conc.
	page 115	

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: 8/5/14

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
X	4B43933	TB72431-1	71175 SL	W	1		5		1X		✓	✓	✓	Vtsac	✓
	43934	TB72441-2	71164 71204	W	3		5		1X		✓	✓	✓		✓
	43935	TB72441-1	1	W	3		5		1X		✓	✓	✓		✓
	43936	TB72643-6	71276 PAVG	W	2		5		1X		✓	✓	✓		✓
	43937	TB72643-7		W	2		5		1X		✓	✓	✓		✓
	43938	TB72643-8		W	2		5		1X		✓	✓	✓		✓
	43939	TB72643-9		W	2		5		1X		✓	✓	✓		✓
	43940	TB72643-10		W	1		5		1X		✓	✓	✓		✓
	43941	TB72643-11		W	2		5		1X		✓	✓	✓	9:26 pm	✓

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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Appendix D

Third Quarter 2014 Phase1/Phase 2 AS/SVE System Operations Data Sheets

DAILY DOCUMENTATION SHEET

Control Panel Touch Screen

DATE	10-3-14									
TIME	0950									
OBSERVER'S INITIALS	A.H.									
ALARMS										
Shut Down Alarm Code	NA									
Non-critical Alarm Code	NA									
HOURS METERS										
B-701 SVE (hrs)	32442									
C-2201 SPRG (hrs)	27464									
F-2501 H-XCH (hrs)	27464									
ANALOGS										
MV-701 SVE POS (%)	27									
PT-701 SVE (-wc)	-81.6									
PT-2501 SPRG (psi)	13.2									
SET POINTS										
PTLA-2501 SPRG (psi)	2.0									
PTHA-2501 SPRG (psi)	17.0									
SET POINTS 2										
SVON-101 SVE (min)	60									
SVON-102 SVE (min)	60									
SVON-103 SVE (min)	180									
SET POINTS 3										
SVON-2801 SPRG (min)	60									
SVON-2802 SPRG (min)	60									
SVON-2803 SPRG (min)	180									
SPRG DELAY (min)	0									
SET POINTS 4										
MV-701 SVE POS (%)	30									

DAILY DOCUMENTATION SHEET

Control Panel Touch Screen

DATE	9-23-14	9-24-14	9-25-14	9-26-14	9-27-14	9-28-14	9-29-14	9-30-14	10-1-14	10-2-14
TIME	8:43AM	7:30PM	12:20PM	1:05PM	9:02AM	8:10AM	8:29AM	8:36AM	8:35AM	9:57AM
OBSERVER'S INITIALS	RK	RK	DC	DE	KA	DE	RK	RK	RK	RK
ALARMS										
Shut Down Alarm Code	NA		NA	NA	NA	NA	NA	ALA	NA	NA
Non-critical Alarm Code	NA		NA	NA	NA	NA	NA	NA	NA	NA
HOURS METERS										
B-701 SVE (hrs)	32001	32031	32053	32078	32098	32121	32145	32169	32193	32218
C-2201 SPRG (hrs)	27220	27250	27272	27297	27318	27341	27365	27390	27414	27439
F-2501 H-XCH (hrs)	27220	27250	27272	27297	27318	27341	27365	27390	27414	27439
ANALOGS										
MV-701 SVE POS (%)	27	27	27	27	27	27	27	27	27	27
PT-701 SVE (-wc)	81.6	81.6	-68	-68.0	-68.0	-81.6	81.6	81.6	81.6	81.6
PT-2501 SPRG (psi)	13.1	13.1	13.0	12.9	12.9	12.1	13.2	13.1	13.0	13.1
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	7-21-14	7-22-14	7/23/14	9/16/14	9-17-14	9-18-14	9-19-14	9.20.14	9-21-14	9-22-14
TIME	9:58Am	9:15Am	1035		2:28Pm	1:02 Pm	10:13Am	9:25Am	12:30Pm	10:18 Am
OBSERVER'S INITIALS	RK	DL	NP	MP	RK	RK	RK	KA	DL	RK
ALARMS										
Shut Down Alarm Code	NA	NA	N/A	N/A	NA	NA	NA	NA	NA	NA
Non-critical Alarm Code	NA	NA	N/A	N/A	NA	NA	NA	NA	NA	NA
HOURS METERS										
B-701 SVE (hrs)	30922	30946	30971	31836	31863	31886	31907	31930	31957	31979
C-2201 SPRG (hrs)	26999	27023	27048	27054	27081	27104	27125	27148	27176	27198
F-2501 H-XCH (hrs)	26999	27023	27048	27054	27081	27104	27125	27148	27176	27198
ANALOGS										
MV-701 SVE POS (%)	27	27	27	27	27	27	27	27	27	27
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)	13.1	13.2	13.1	13.2	12.0	13.2	13.2	13.2	12.9	13.8
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

DAILY DOCUMENTATION SHEET

Control Panel Touch Screen

DATE	7-11-14	7-12-14	7-13-14	7-14-14	7-15-14	7-16-14	7-17-14	7-18-14	7-19-14	7-20-14
TIME	8:17 AM	9:02AM	10:15 AM	7:40 AM	8:27 AM	11:00 AM	8:29 AM	10:02 AM	8:05AM	11:45
OBSERVER'S INITIALS	RK	VA	DL	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)	30681	30706	30731	30752	30777	30804	30825	30851	30873	30900
C-2201 SPRG (hrs)	26756	26781	26806	26828	26853	26879	26901	26927	26949	26976
F-2501 H-XCH (hrs)	26756	26781	26806	26828	26853	26879	26901	26927	26949	26976
ANALOGS										
MV-701 SVE POS (%)	27	27	27	27	27	27	27	27	27	27
PT-701 SVE (-wc)	81.6	81.6	-81.6	81.6	81.6	81.6	81.6	68.0	81.6	81.6
PT-2501 SPRG (psi)	11.9	11.9	11.8	13.4	13.3	13.0	11.8	13.0	13.1	11.7
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)	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø
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	7-1-14	7-2-14	7-3-14	7-4-14	7-5-14	7-6-14	7-7-14	7-8-14	7-9-14	7-10-14
TIME	8:55 AM	2:52 PM	8:26 AM	7:07 AM	10:15 AM	7:35 AM	8:47 AM	8:29 AM	10:01 AM	8:37 AM
OBSERVER'S INITIALS	RK	RK	RK	RK	DL	DE/KA	RK	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)	30442	30472	30490	30512	30539	30561	30586	30609	30635	30658
C-2201 SPRG (hrs)	26514	26544	26562	26585	26612	26634	26659	26683	26709	26732
F-2501 H-XCH (hrs)	26514	26544	26562	26585	26612	26634	26659	26683	26709	26732
ANALOGS										
MV-701 SVE POS (%)	27	27	27	27	27	27	27	27	27	27
PT-701 SVE (-wc)	81.6	81.6	68.0	81.6	81.6	81.6	81.6	81.6	81.6	68.0
PT-2501 SPRG (psi)	13.0	13.0	12.8	12.9	12.9	12.9	13.0	13.1	13.0	12.9
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	140	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	7-7-14	7-14-14	7-21-14	7/23/14	9/16/14	9-22-14	9-29-14		
TIME	8:49 AM	7:42 AM	10:01 AM	1035		10:20 AM	8:29 AM		
OBSERVER'S INITIALS	EL	EL	RK	NP	NP	RK	EL		

SYSTEM LEAKS, EXCESSIVE OR UNFAMILAR NOISE, MOISTURE, ETC.

Comments and Notes	NA	NA	NA	N/A	N/A	NA	NA		

SOIL VAPOR EXTRACTION (SVE)

Hours of Operation (hrs)	30586	30752	30922	30971	31836	31979	32145		
Inlet Vacuum (-wc)	88	88	88	88	86	98	94		
Pre-Filter Vacuum (-wc)	90	92	94	94	94	92	96		
Post-Filter Vacuum (-wc)	78	82	78	78	78	78	78		
Outlet Pressure (wc)	7	6	6	6	6	6	6		
Outlet Temperature (°F)	168	162	169	170	158	156	160		
Outlet Magnehelic* (in H_2O)	0.9	0.9	0.9	0.9	0.9	0.9	0.9		
Water Level Sight Glass (in)	Ø	Ø	Ø	Ø	Ø	Ø	Ø		

AIR SPARGE (SPRG)

Hours Operation (hrs)	26659	26828	26999	27048	27054	27198	27365		
Oil Sight Glass (half pt.)	OK	OK	OK	OK	OK	OK	OK		

HEAT EXCHANGER (H-XCH)

Hours Operation (hrs)	26659	26828	26999	27048	27054	27198	27365		
Inlet Temperature (°F)	223	210	215	220	220	210	210		
Inlet Pressure (psi)	13	17	16	17	16	17.0	16		
Outlet Temperature (°F)	127	115	117	120	108	101	110		
Outlet Pressure (psi)	12.5	13.5	13.5	13.5	13.5	14.0	13.5		
Outlet Magnehelic* (in H_2O)	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)	153382	154244	155131	155386	155662	156396	157266		

p plastic pinch valves on tubing to magnehelic gauge closed excep[illegible] taking a reading.

WEEKLY DOCUMENTATION SHEET

SYSTEM COMPONENTS

DATE	5.15-14	5-19-14	5-27-14	6-2-14	6-10-14	6-16-14	6-23-14	6/26/14	6-30-14
TIME	1100	10:58	10:26 Am	1:55pm	10:06 Am	7:55 Am	8:34 Am	1430	10:21 Am
OBSERVER'S INITIALS	AH.	RK	RL	KA	TH	RK	RL	MP	RK

SYSTEM LEAKS, EXCESSIVE OR UNFAMILAR NOISE, MOISTURE, ETC.

Comments and Notes	N/A.	NA	NA	NA	NA	NA	NA	NA	NA

SOIL VAPOR EXTRACTION (SVE)

Hours of Operation (hrs)	29318	29414	29605	29752	29940	30082	30250	30328	30420
Inlet Vacuum (-wc)	86	82	84	84	80	85	86	85	80
Pre-Filter Vacuum (-wc)	92	88	90	92	84	92	92	90	84
Post-Filter Vacuum (-wc)	78	82	78	70	69	75	78	78	69
Outlet Pressure (wc)	7	7	6	6	6	6	6	6	6
Outlet Temperature (°F)	148	152	164	164	156	160	164	168	160
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)	Ø	Ø	1"	0	Ø	Ø	Ø	Ø	Ø

AIR SPARGE (SPRG)

Hours Operation (hrs)	25379	25476	25669	25817	26007	26150	26320	26399	26491
Oil Sight Glass (half pt.)	OK	OK	OK	OK	OK	OK	OK	OK	OK

HEAT EXCHANGER (H-XCH)

Hours Operation (hrs)	25379	25476	25669	25817	26007	26150	26320	26399	26491
Inlet Temperature (°F)	205	201	224	224	223	210	210	210	215
Inlet Pressure (psi)	15	14	15	15	15	16	16	16	13
Outlet Temperature (°F)	105	104	119	118	116	115	112	114	122
Outlet Pressure (psi)	13	11.5	12	12	12	13	13	13	14
Outlet Magnehelic* (in H_2O)	4.0	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)	146904	147393	148359	149110	150063	150774	151645	152055	152528

* Keep plastic pinch valves on tubing to magnehelic gauge closed except when taking a reading.

MONTHLY DOCUMENTATION SHEET

SVE MANIFOLD

DATE	10-24-13	11.18.13	1-15-14	2-19-14	3/14/14	5-15-14	6/26/14	7/23/14	9/16/14	
TIME	1200	1400	1240	1010	1020	1100	1430	1035	1150	
INITIALS	A.H.	P.H.	NP	A.H.	NP	AH.	NP	NP	NP	

MAGNEHELIC GAUGE*

CELL 1	SVE-1 (in H_2O)	0.9	0.9	1.1	1.0	1.1	1.2	1.2	~~1.2~~ 1.2	1.2	
	SVE-2 (in H_2O)	1.5	1.4	1.4	1.5	1.4	1.4	1.4	~~1.0~~ 1.5	1.6	
CELL 2	SVE-3 (in H_2O)	1.2	1.3	1.3	1.2	1.2	1.3	1.3	1.3	1.2	
	SVE-4 (in H_2O)	1.3	1.2	1.1	1.1	1.2	1.3	1.3	1.3	1.3	
CELL 3	SVE-5 (in H_2O)	0.20 ~~0.02~~	0.30	0.10	0.80	0.80	0.9	1.1	1.2	1.2	
	SVE-6 (in H_2O)	0.60	0.0	0.0	0.90	0.80	1.0	1.0	1.0	2.1	

VACUUM GAUGE

CELL 1	SVE-1 (-wc)	32	30	30	30	29	30	30	~~38~~ 32	32	
	SVE-2 (-wc)	30	30	30	30	30	30	32	~~38~~ 30	30	
CELL 2	SVE-3 (-wc)	20	20	20	20	20	20	20	~~20~~ 20	20	
	SVE-4 (-wc)	20	20	19.5	19	23	16	20	~~20~~ 20	20	
CELL 3	SVE-5 (-wc)	36	35	36	34	35	34	36	38	36	
	SVE-6 (-wc)	36	40	38	38	38	38	38	38	38	

ep plastic pinch valves on tubing to magnehelic gauge closed excep n taking a reading.

MONTHLY DOCUMENTATION SHEET

AIR SPARGE MANIFOLD

DATE		10-24-13	11/18/13	1-15-14	2-19-14	3/14/14	5-15-14	6/26/14	7/23/14	9/16/14	
TIME		1200	1400	1240	1010	1020	1100	1430	1035	1150	
INITIALS		A.H.	D.H.	NSP	A.H.	NP	A.H	NP	NP	NP	
						ROTOMETER					
CELL 1	AS-1 (scfm)	18	20	17.5	20	16	19	17	18	17	
	AS-2 (scfm)	20	20	20	21	20	20	20	21	20.5	
	AS-3 (scfm)	20	20	21	21	21	20	20	20	20.5	
	AS-4 (scfm)	19	19	19.5	18.5	19	19	19	19	19	
	AS-5 (scfm)	18	20	18.5	20	18.5	20	18	19	18	
CELL 2	AS-6 (scfm)	16	16	17	17	16	16.5	16.5	16	16.5	
	AS-7 (scfm)	16	16.5	17	17	16	16.5	16	16.5	16.0	
	AS-8 (scfm)	21	21.5	21	21.5	21	21	21	21	22	
	AS-9 (scfm)	16	17.5	16	17.5	20	18	16	16	20	
	AS-10 (scfm)	23	23	23	23.5	23.5	23	23	23	24	
CELL 3	AS-11 (scfm)	16	16.5	15	18	20	15	16	16	16	
	AS-12 (scfm)	18	17	19	20	21	19	19	19	18	
	AS-13 (scfm)	17	16	18	18.5	18	18	17	17	17	
	AS-14 (scfm)	24	23	25	19	20	24	24	24	24	
	AS-15 (scfm)	21	20	21.5	16	17	21	21	21	21.5	
						PRESSURE GAUGE					
CELL 1	AS-1 (psi)	11.5	10.5	12	9	11	10	11	11	11.5	
	AS-2 (psi)	11.0	11	11	8.5	10	9.5	10.5	~~13.5~~ 10	11	
	AS-3 (psi)	10.5	10	11	10	9.5	9.0	10	~~10~~ 10	10	
	AS-4 (psi)	11.0	10.5	12	9.5	10.5	10	10.5	~~11~~ 10.5	11.5	
	AS-5 (psi)	11.0	10.5	13	10	11	10.5	11	~~13~~ 10.5	11.5	
CELL 2	AS-6 (psi)	11.5	11	11	~~11.5~~ 10.5	10	10.5	10	11	10.5	
	AS-7 (psi)	13	13	13	~~13~~ 13	11	10.5	10	12	12	
	AS-8 (psi)	11.5	11.5	12	~~12.5~~ 11	11	11	11	11	11	
	AS-9 (psi)	13	12.5	13	12	11.5	12	12	12.5	12	
	AS-10 (psi)	13.5	12.5	13	12.5	12.5	11	11	11.5	11	
CELL 3	AS-11 (psi)	10.5	11	11.5	10.5	11	9.5	9.5	11	11	
	AS-12 (psi)	13.5	13.5	13.5	14.0	12.5	11.0	13.5	13.5	11.5	
	AS-13 (psi)	13.0	13	13	14.0	12.5	10.5	10.5	10	13	
	AS-14 (psi)	12.0	13.5	13	14.0	14	10.5	10.5	11	11.5	
	AS-15 (psi)	12.5	13	13.5	13.5	14	12.5	13	13	13	

MONTHLY DOCUMENTATION SHEET

WELL HEAD GAUGES

DATE	3/14/14	5-15-14	6/26/14	7/23/14	9/16/14					
TIME	1020	1100	1430	1035	1150					
INITIALS	NP	A.A.	NP	NP	NP					

CELL 1	AS-1 (psi)	COVERED	3.5	2.0	2.5	3.0					
	AS-2 (psi)		3.0	0.0	1.0	2.0					
	AS-3 (psi)		9.0	11.0	10.5	10.0					
	AS-4 (psi)		3.0	1.0	1.5	2.0					
	AS-5 (psi)		13.0	12.0	12.5	12.0					
CELL 2	AS-6 (psi)		7.0	7.0	7.0	7.0					
	AS-7 (psi)		6.5	5.0	4.5	5.5					
	AS-8 (psi)		1.5	2.0	3.0	4.0					
	AS-9 (psi)		0.0	0.0	0.0	0.0					
	AS-10 (psi)		1.5	1.0	1.0	1.0					
CELL 3	AS-11 (psi)		7.0	5.0	5.0	5.5					
	AS-12 (psi)		0.0	0.0	0.0	0.0					
	AS-13 (psi)		7.0	6.0	6.5	6.5					
	AS-14 (psi)		0.0	0.0	0.0	0.0					
	AS-15 (psi)	↓	4.0	2.0	2.5	3.0					

CELL 1	SVE-1 (in H_2O)	COVERED	6.5	6.5	6.0	6.5					
	SVE-2 (in H_2O)		2.0	4.5	3.0	3.0					
CELL 2	SVE-3 (in H_2O)		3.0	2.5	2.5	3.0					
	SVE-4 (in H_2O)		1.0	1.0	1.0	1.0					
CELL 3	SVE-5 (in H_2O)		2.5	1.5	2.0	2.5					
	SVE-6 (in H_2O)	↓	1.0	1.0	1.0	1.0					

DAILY DOCUMENTATION SHEET

BUILDINGS 1 - 2

Control Panel Touch Screen

DATE	10-3-14								
TIME	1000								
OBSERVER'S INITIALS	A.H.								
WEATHER CONDITIONS									
Indoor Room Temp (°F), Outdoor Conditions: (Rain, Snow, Clear, Overcast, etc.)	68°F Cloudy/rain								
ALARMS									
Alarm Code	N/A								
P&ID									
PDT-701 SVE (-wc)	0.03								
PT-701 SVE (-wc)	-53								
PT-702 SVE (-wc)	-64.5								
PT-2201 SPRG (psi)	14.9								
P-401 PUMP (cycles)	6								
P&ID2									
PDT-801 SVE (-wc)	0.30								
PT-801 SVE (-wc)	-138								
PT-802 SVE (-wc)	48.4								
PT-2301 SPRG (psi)	0.0								
P-501 PUMP (cycles)	154								

DAILY DOCUMENTATION SHEET

BUILDINGS 1 - 2

Control Panel Touch Screen

DATE	10-3-14								
TIME	1000								
OBSERVER'S INITIALS	A.H								
HOURS METERS									
B-701 SVE (hrs)	3021								
C-2201 SPRG (hrs)	2005								
C-2202 SPRG (hrs)	3005								
B-801 SVE (hrs)	3011								
C-2301 SPRG (hrs)	3011								
C-2302 SPRG (hrs)	3011								
SET POINTS									
PAL-701 SVE (wc)	-27								
PAH-702 SVE (wc)	100								
PAL-702 SVE (wc)	10								
PAH-2201 SPRG (psi)	30								
PAL-2201 SPRG (psi)	0.0								
PAL-801 SVE (wc)	-25								
PAH-802 SVE (wc)	100								
PAL-802 SVE (wc)	10								
PAH-2301 SPRG (psi)	30								
PAL-2301 SPRG (psi)	0.0								
SV-2801 SPRG (min)	40								
SV-2802 SPRG (min)	20								
SV-2901 SPRG (min)	20								
SV-2902 SPRG (min)	20								

DAILY DOCUMENTATION SHEET

BUILDINGS 1 - 2

Control Panel Touch Screen

DATE	9-24-14	9-25-14	9-26-14	9-27-14 8:53 Am	9-28-14	9-29-14	9-30-14	10-1-14	10-2-14
TIME	1:50 PM	12:10 PM	1:15 PM	8:53 Am	8:20 AM	9:11 Am	8:42 Am	8:49 Am	1500
OBSERVER'S INITIALS	RC	DL	DE	KA	DE	RC	RC	RC	PA
WEATHER CONDITIONS									
Indoor Room Temp (°F), Outdoor Conditions: (Rain, Snow, Clear, Overcast, etc.)	84°F Clear	80°F Clear	90°F Clear	72°F CLEAR	74°F CLEAR	82°F Clear	56°F Cloudy.	NO CONTROL POWER	overcast
ALARMS									
Alarm Code	NA	NA	NA	NA	NA	NA	NA	NOTIFIED AECOM.	NA
P&ID									
PDT-701 SVE (-wc)	0.14	0.17	0.24	0.24	0.21	0.15	0.18	System	0.06
PT-701 SVE (-wc)	-70	-72	-72	-72	-74	-76	-72	Down	-42
PT-702 SVE (-wc)	53.9	53.7	53.1	53.4	53.5	52.8	55.8		66
PT-2201 SPRG (psi)	15.6	16.5	15.3	26.8	26.4	15.0	26.7		15.3
P-401 PUMP (cycles)	4	4	5	5	5	5	6		6
P&ID2									
PDT-801 SVE (-wc)	0.28	0.31	0.30	0.31	0.30	0.29	0.28		0.35
PT-801 SVE (-wc)	-73	-73	-73	-74	-75	-77	-77		-129 ^
PT-802 SVE (-wc)	47.6	47.7	47.4	47.3	47.9	47.3	48.7		48.7
PT-2301 SPRG (psi)	0.6	0.5	2.5	3.1	0.0	0.0	0.0		0.0 ^^
P-501 PUMP (cycles)	142	144	146	147	149	150	152		154

^ -60" WC in Building on gauge

^^ 20 psi on gauge in Building after Compressor.

DAILY DOCUMENTATION SHEET

BUILDINGS 1 - 2

Control Panel Touch Screen

DATE	9-24-14	9-25-14	9.26.14	9-27-14	9-28-14	9-29-14	9-30-14	10-1-14	10-2-14
TIME	1:50 PM	12:04 PM	1:15PM	8:53 AM	8:10 AM	9:11 AM	8:42 AM	8:45 AM	1500
OBSERVER'S INITIALS	TAC	DL	DE	KA	DE	TAC	TAC	TAC	PB
HOURS METERS									
B-701 SVE (hrs)	2840	2862	2887	2907	2930	2955	2978	System	3001
C-2201 SPRG (hrs)	2824	2847	2872	2891	2915	2940	2963	Down	2986
C-2202 SPRG (hrs)	2824	2846	2872	2891	2915	2940	2963		2986
B-801 SVE (hrs)	2829	2851	2877	2896	2920	2944	2968		2991
C-2301 SPRG (hrs)	2829	2851	2877	2896	2920	2944	2968		2991
C-2302 SPRG (hrs)	2829	2851	2876	2896	2920	2944	2968		2991
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		100
PAL-702 SVE (wc)	10.0	10.0	10.0	10.0	10.0	10.0	10.0		10
PAH-2201 SPRG (psi)	30.0	30.0	30.0	30.0	30.0	30.0	30.0		30
PAL-2201 SPRG (psi)	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
PAL-802 SVE (wc)	10.0	10.0	10.0	10.0	10.0	10.0	10.0		10
PAH-2301 SPRG (psi)	30.0	30.0	30.0	30.0	30.0	30.0	30.0		30
PAL-2301 SPRG (psi)	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	7/23/14	9/16/14	9/17/14	9/18/14	9-19-14	9-20-14	9-21-14	9-22-14	9-23-14
TIME	0900	1250	2:34 PM	1:07 PM	10:19 AM	9:15 AM	12:15 PM	10:33 AM	8:52 AM
OBSERVER'S INITIALS	MF		TJC	TJC	TJC	KA	DL	TJC	TJC
WEATHER CONDITIONS									
Indoor Room Temp (°F), Outdoor Conditions: (Rain, Snow, Clear, Overcast, etc.)	80° CLEAR	78° CLEAR	79°F CLEAR	78°F CLEAR	72°F Clear	74°F CLEAR	70°F Cloudy	71°F CLEAR	69°F CLEAR
ALARMS									
Alarm Code	N/A	N/A	NA	NA	NA	NA	NA	NA	NA
P&ID									
PDT-701 SVE (-wc)	0.06	0.08	0.04	0.25	0.27	0.28	.26	0.20	0.30
PT-701 SVE (-wc)	-66	-67	-72	-69	-69	-74	-72	-70	-72
PT-702 SVE (-wc)	52.9	55.3	54.4	54.8	55.7	54.1	56.0	54.7	55.5
PT-2201 SPRG (psi)	28.2	16.2	15.1	27.3	27.4	15.3	15.4	15.7	15.4
P-401 PUMP (cycles)	4	4	4	4	4	4	4	4	4
P&ID2									
PDT-801 SVE (-wc)	0.26	0.29	0.30	0.31	0.33	0.29	.31	0.32	0.30
PT-801 SVE (-wc)	-68	-76	-79	-77	-77	-81	-79	-74	-73
PT-802 SVE (-wc)	46.4	47.6	47.5	47.3	47.9	47.4	46.9	48.1	48.8
PT-2301 SPRG (psi)	0.6	0.0	0.0	2.4	0.0	2.6	0.0	0.0	3.5
P-501 PUMP (cycles)	105	122	124	127	130	132	135	137	140

DAILY DOCUMENTATION SHEET

BUILDINGS 1 - 2

Control Panel Touch Screen

DATE	7/23/14	9/16/14	9-17-14	9-18-14	9-19-14	9-20-14	9-21-14	9-22-14	9-23-14
TIME	0906	1250	2:34pm	1:07pm	10:19AM	9:15Am	12:15Pm	10:33Am	10:52Am
OBSERVER'S INITIALS	MP	MP	TK	TRL	TK	KA	DL	TRL	TRL
HOURS METERS									
B-701 SVE (hrs)	2640	2647	2673	2695	2716	2739	2766	2789	2811
C-2201 SPRG (hrs)	2625	2632	2657	2680	2701	2724	2751	2773	2795
C-2202 SPRG (hrs)	2625	2632	2657	2680	2701	2724	2751	2773	2795
B-801 SVE (hrs)	2630	2637	2662	2685	2706	2729	2756	2778	2800
C-2301 SPRG (hrs)	2630	2637	2662	2685	2706	2729	2756	2778	2800
C-2302 SPRG (hrs)	2630	2637	2662	2684	2706	2729	2756	2778	2800
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	7-14-14	7-15-14	7-16-14	7-17-14	7-18-14	7-19-14	7-20-14	7-21-14	7-22-14
TIME	7:58 AM	8:31 AM	11:05 AM	8:37 AM	10:07 AM	8:15 AM	11:[illegible]	10:0 AM	9:[illegible]
OBSERVER'S INITIALS	TAL	TAL	TAL	TAL	TAK	DE	DL	TAK	DL
WEATHER CONDITIONS									
Indoor Room Temp (°F), Outdoor Conditions: (Rain, Snow, Clear, Overcast, etc.)	Cloudy 72°F	Cloudy 70°F	CLEAR 79°F	CLEAR 76°F	CLEAR 82°F	CLEAR 76°F	Clear 78°F	CLEAR 88°F	Cloudy 80°F
ALARMS									
Alarm Code	NA	NA	NA	NA	NA	NA	NA	NA	NA
P&ID									
PDT-701 SVE (-wc)	0.04	0.07	0.04	0.15	0.16	0.04	0.00	0.07	0.17
PT-701 SVE (-wc)	-70	-68	-69	-66	-67	-66	-68	-69	-69
PT-702 SVE (-wc)	54.6	55.9	54.1	53.3	52.6	53.9	52.9	52.7	52.5
PT-2201 SPRG (psi)	28.0	28.6	28.0	15.8	28.1	28.5	27.7	27.8	27.9
P-401 PUMP (cycles)	4	4	4	4	4	4	4	4	4
P&ID2									
PDT-801 SVE (-wc)	0.24	0.25	0.26	0.27	0.25	0.28	0.27	0.25	0.23
PT-801 SVE (-wc)	-73	-72	-69	-69	-67	-69	-64	-69	-70
PT-802 SVE (-wc)	45.9	47.6	47.4	46.5	46.6	46.4	45.9	45.9	46.0
PT-2301 SPRG (psi)	0.0	0.0	2.1	1.1	0.0	0.0	0.4	2.9	0.7
P-501 PUMP (cycles)	87	88	91	93	95	97	100	102	103

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BUILDINGS 1 - 2

Control Panel Touch Screen

DATE	7-14-14	7-15-14	7-16-14	7-17-14	7-18-14	7-19-14	7-20-14	7-21-14	7-22-14
TIME	7:58 AM	8:31 AM	11:05 AM	8:37 AM	10:07 AM	8:15 AM	11:00 AM	10:10 AM	9:00 AM
OBSERVER'S INITIALS	RK	RK	RK	RK	RK	DE	DL	JC	DL
HOURS METERS									
B-701 SVE (hrs)	2423	2448	2474	2496	2521	2543	2570	2593	2616
C-2201 SPRG (hrs)	2412	2437	2464	2485	2511	2533	2559	2583	2606
C-2202 SPRG (hrs)	2412	2437	2464	2485	2511	2533	2559	2582	2606
B-801 SVE (hrs)	2412	2437	2464	2485	2511	2533	2559	2583	2606
C-2301 SPRG (hrs)	2412	2437	2464	2485	2511	2533	2559	2582	2606
C-2302 SPRG (hrs)	2412	2437	2464	2485	2511	2533	2559	2582	2606
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	100.6	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	7-5-14	7-6-14	7-7-14	7-8-14	7-9-14	7-10-14	7-11-14	7-12-14	7-13-14
TIME	10:20 AM	7:45AM	9:02AM	8:39AM	10:05AM	8:47AM	8:28AM	9:10 AM	10:00AM
OBSERVER'S INITIALS	DL	DE/KA	TRL	TRL	TRL	TRL	TRL	KA	DL
WEATHER CONDITIONS									
Indoor Room Temp (°F), Outdoor Conditions: (Rain, Snow, Clear, Overcast, etc.)	74 cloudy	76° cloudy	90°F CLEAR	84°F CLEAR	CLEAR 86°F	CLEAR 80°F	CLEAR 82°F	CLOUDY RAIN 78°F	SUNNY 75°F
ALARMS									
Alarm Code	NA	NA	NA	NA	NA	NA	NA	NA	NA
P&ID									
PDT-701 SVE (-wc)	.13	.11	0.12	0.16	0.05	0.10	0.12	0.08	.08
PT-701 SVE (-wc)	-65	-69	-71	-73	-69	-65	-66	-67	-68
PT-702 SVE (-wc)	54.5	53.9	52.5	52.6	52.7	55.0	54.5	54.0	53.3
PT-2201 SPRG (psi)	15.2	15.0	27.9	27.7	15.2	28.2	15.5	27.8	28.1
P-401 PUMP (cycles)	4	4	4	4	4	4	4	4	4
P&ID2									
PDT-801 SVE (-wc)	-24	-23	-0.24	0.24	0.27	0.25	0.25	0.21	.26
PT-801 SVE (-wc)	-69	73	-74	-75	-71	-69	-68	-71	-71
PT-802 SVE (-wc)	47.3	46.4	45.7	45.8	46.0	47.2	47.0	46.1	46.5
PT-2301 SPRG (psi)	0.7	2.1	2.6	0.8	1.1	0.9	3.8	0.3	3.7
P-501 PUMP (cycles)	72	75	76	77	77	78	81	83	86

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BUILDINGS 1 - 2

Control Panel Touch Screen

DATE	7-5-14	7-6-14	7-7-14	7-8-14	7-9-14	7-10-14	7-11-14	7-12-14	7-13-14
TIME	10:20	7:45 Am	9:02 Am	8:39 Am	10:05 Am	8:47 Am	8:28 Am	9:10 Am	10:00 Am
OBSERVER'S INITIALS	DL	DE/KA	TK	TK	TK	TK	TK	KA	DL
HOURS METERS									
B-701 SVE (hrs)	2210	2231	2256	2280	2305	2328	2352	2376	2401
C-2201 SPRG (hrs)	2199	2220	2246	2269	2295	2317	2341	2366	2391
C-2202 SPRG (hrs)	2199	2220	2246	2269	2295	2317	2341	2366	2391
B-801 SVE (hrs)	2199	2220	2246	2269	2295	2317	2341	2366	2391
C-2301 SPRG (hrs)	2199	2220	2246	2269	2295	2317	2341	2366	2391
C-2302 SPRG (hrs)	2199	2220	2246	2269	2295	2317	2341	2366	2391
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)	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø
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)	Ø	Ø	Ø	Ø	Ø	Ø	Ø	0	Ø
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	6-26-14	6-27-14	6-28-14	6-29-14	6-30-14	7-1-14	7-2-14	7-3-14	7-4-14
TIME	8:49AM	7:59 AM	8:05AM	8:10 AM	16:37 Am	9:02 Am	2:56 Pm	8:30 AM	7:11 Am
OBSERVER'S INITIALS	RL	RL	DE	VA	RL	RL	RL	RL	RL
WEATHER CONDITIONS									
Indoor Room Temp (°F), Outdoor Conditions: (Rain, Snow, Clear, Overcast, etc.)	Cloudy 76°F	Clear 80°F	Cloudy 84°F	Sunny 78°F	Cloudy 84°F	Clear 82°F	Cloudy 76°F	Clear 72°F	Clear 74°F
ALARMS									
Alarm Code	NA	NA	NA	NA	NA	NA	NA	NA	NA
P&ID									
PDT-701 SVE (-wc)	0.11	0.12	0.10	0.12	0.07	0.08	0.06	0.07	0.03
PT-701 SVE (-wc)	-68	-70	-68	-70	-72	-72	-69	-66	-65
PT-702 SVE (-wc)	54.2	53.3	52.5	53.2	53.1	53.2	54.3	55.1	55.1
PT-2201 SPRG (psi)	28.0	14.9	14.9	15.3	27.8	27.9	28.1	28.1	15.3
P-401 PUMP (cycles)	4	4	4	4	4	4	4	4	4
P&ID2									
PDT-801 SVE (-wc)	0.25	0.28	0.26	0.25	0.25	0.26	0.27	0.26	0.27
PT-801 SVE (-wc)	-71	-70	-70	-71	-73	-74	-72	-70	-68
PT-802 SVE (-wc)	46.2	46.2	45.8	46.2	45.7	46.0	46.2	46.8	46.9
PT-2301 SPRG (psi)	0.0	2.5	3.3	2.7	7.7	3.2	2.6	3.0	3.5
P-501 PUMP (cycles)	60	61	61	62	62	63	64	66	69

DAILY DOCUMENTATION SHEET

BUILDINGS 1 - 2

Control Panel Touch Screen

DATE	6-26-14	6-27-14	6-28-14	6-29-14	6-30-14	7-1-14	7-2-14	7-3-14	7-4-14
TIME	8:49 AM	7:59 Am	8:05 AM	8:10 Am	10:37 Am	9:02 AM	2:56 PM	8:30 AM	7:11 Am
OBSERVER'S INITIALS	RK	RK	DE	KA	RL	RL	RL	RK	RK
HOURS METERS									
B-701 SVE (hrs)	1993	2016	2040	2064	2090	2113	2142	2160	2187
C-2201 SPRG (hrs)	1982	2005	2029	2053	2079	2102	2132	2149	2172
C-2202 SPRG (hrs)	1982	2005	2029	2053	2079	2102	2132	2149	2172
B-801 SVE (hrs)	1982	2005	2029	2053	2079	2102	2132	2149	2172
C-2301 SPRG (hrs)	1982	2005	2029	2053	2079	2102	2132	2149	2172
C-2302 SPRG (hrs)	1982	2005	2029	2053	2079	2102	2132	2149	2172
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	7-21-14	7/23/14	9/16/14	9-22-14	9-29-14				
TIME	10:14 Am	0900	1250	10:38 Am	9:08 Am				
OBSERVER'S INITIALS	TK	NP	NP	TK	TK				
SYSTEM LEAKS, EXCESSIVE OR UNFAMILAR NOISE; MOISTURE, ETC.									
Comments and Notes	CLEAR 89°F	CLEAR 80°	CLEAR 60°	CLEAR 71	CLEAR 82°F				
SOIL VAPOR EXTRACTION (SVE) BLOWER B-701									
Pre-Filter Vacuum (-wc)	60	60	58	61	68				
Post-Filter Vacuum (-wc)	94	95	95	116	145				
Inlet Magnehelic* (in H_2O)	0.3	0.3	0.3	0.4	0.3				
Inlet Vacuum (-wc)	100+	100+	100+	132	134				
SOIL VAPOR EXTRACTION (SVE) HEAT EXCHANGER (H-XCH)									
Inlet Pressure (wc)	52	52	54	76	55				
Inlet Temperature (°F)	127	130	125	125	124				
Outlet Pressure (wc)	8	8	9	9	8				
Outlet Temperature (°F)	115	105	98	94	96				
Water Level Sight Glass (in)	Ø	Ø	Ø	2"	24"				
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	OK				
AIR SPARGE (SPRG) HEAT EXCHANGER (H-XCH)									
Inlet Pressure (psi)	28.5	29	15	15.5	16				
Inlet Temperature (°F)	275	270	215	205	210				
Outlet Pressure (psi)	29	30	15	16	17				
Outlet Temperature (°F)	122	115	115	100	110				

* Keep plastic pinch valves on tubing to magnehelic gauge closed except when taking a reading.

WEEKLY DOCUMENTATION SHEET
BUILDING 1
SYSTEM COMPONENTS

DATE	5-27-14	6-2-14	6-10-14	6-16-14	6-23-14	6/26/14	6-30-14	7-7-14	7-14-14
TIME	10:44 Am	1:20 Pm	10:23 Am	8:10 Am	8:47 Am	1340	10:34 Am	9:03 Am	8:02 Am
OBSERVER'S INITIALS	ZL	KA/DE	RK	RK	ZL	NP	RK	RK	ZL
SYSTEM LEAKS, EXCESSIVE OR UNFAMILAR NOISE, MOISTURE, ETC.									
Comments and Notes	CLEAR 82°F	CLOUDY 90°F	CLOUDY 79°F	CLEAR 76°F	CLOUDY 78°F	SUNNY 80°F	CLOUDY 84°F	CLEAR 90°F	CLOUDY 72°F
SOIL VAPOR EXTRACTION (SVE) BLOWER B-701									
Pre-Filter Vacuum (-wc)	59	60	59	60	60	60	59	60	59
Post-Filter Vacuum (-wc)	90	90	90	93	94	92	92	94	83
Inlet Magnehelic* (in H_2O)	.3	.3	0.3	.3	.3	.3	0.25	.3	0.25
Inlet Vacuum (-wc)	BROKEN	BROKEN	BROKEN	→	→	64	100	200	OFF SCALE
SOIL VAPOR EXTRACTION (SVE) HEAT EXCHANGER (H-XCH)									
Inlet Pressure (wc)	90	90	90	90	90	52	52	52	54
Inlet Temperature (°F)	126	126	126	126	126	130	126	130	115
Outlet Pressure (wc)	8	8	8	8	8	8	9	8	8
Outlet Temperature (°F)	92	110	94	100	99	110	112	115	98
Water Level Sight Glass (in)	94	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø
AIR SPARGE (SPRG) COMPRESSOR C-2201									
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)	25	13	27	28	15.5	28	27.5	27.5	17.5
Inlet Temperature (°F)	250	225	227	266	265	250	245	260	230
Outlet Pressure (psi)	26	14	18	27.5	16	29	28.5	28.5	16.5
Outlet Temperature (°F)	119	120	118	118	118	118	126	122	115

ep plastic pinch valves on tubing to magnehelic gauge closed excep n taking a reading.

WEEKLY DOCUMENTATION SHEET
BUILDING 2
SYSTEM COMPONENTS

DATE	7/23/14	9/16/14	9-22-14	9-29-14					
TIME	0945	1100	10:28 BA	8:36 AM					
OBSERVER'S INITIALS	MP	(MP)	RK	RK					
SYSTEM LEAKS, EXCESSIVE OR UNFAMILAR NOISE, MOISTURE, ETC.									
Comments and Notes			68°F CLEAR	70°F CLEAR					
SOIL VAPOR EXTRACTION (SVE) BLOWER B-801									
Pre-Filter Vacuum (-wc)	60	60	61	60					
Post-Filter Vacuum (-wc)	65	62	65	64					
Inlet Magnehelic* (in H_2O)	0.35	0.35	0.35	0.35					
Inlet Vacuum (-wc)	160+	160+	160+	160+					
SOIL VAPOR EXTRACTION (SVE) HEAT EXCHANGER (H-XCH)									
Inlet Pressure (wc)	47	50	49	48					
Inlet Temperature (°F)	125	120	118	110					
Outlet Pressure (wc)	1	0	0	0					
Outlet Temperature (°F)	100	90	86	92					
Water Level Sight Glass (in)	10"	0"	18"	16"					
AIR SPARGE (SPRG) COMPRESSOR C-2301									
Upper Oil Sight Glass (half pt.)	OK	OK	OK	OK					
Lower Oil Sight Glass (half pt.)	OK	OK	OK	OK					
AIR SPARGE (SPRG) HEAT EXCHANGER (H-XCH)									
Inlet Pressure (psi)	19	17	16.5	16					
Inlet Temperature (°F)	225	200	200	205					
Outlet Pressure (psi)	18.5	16	16.5	16.5					
Outlet Temperature (°F)	118	110	110	114					

* Keep plastic pinch valves on tubing to magnehelic gauge closed except when taking a reading.

WEEKLY DOCUMENTATION SHEET
BUILDING 2
SYSTEM COMPONENTS

DATE	6-2-14	6-10-14	6-16-14	6-23-14	6/26/14	6-30-14	7-7-14	7-14-14	7-21-14
TIME	1:45AM	10:15 AM	8:00AM	9:40AM	1402	10:29AM	9:22AM	7:49AM	10:05AM
OBSERVER'S INITIALS	KA/DE	RK	RK	RK	NP	TJC	RK	TJC	TJC
SYSTEM LEAKS, EXCESSIVE OR UNFAMILAR NOISE, MOISTURE, ETC.									
Comments and Notes	Cloudy 84°F	Cloudy 74°F	CLEAR 74°F	Cloudy 76°F	SUNNY 80°	80°F	Sunny Humid 84°F	Cloudy 74°F	CLEAR 82°F
SOIL VAPOR EXTRACTION (SVE) BLOWER B-801									
Pre-Filter Vacuum (-wc)	60	62	58	61	60	60	60	61	60
Post-Filter Vacuum (-wc)	50	62	64	66	60	65	65	65	65
Inlet Magnehelic* (in H_2O)	.3	.3	.3	.3	.35	.3	0.3	0.3	0.3
Inlet Vacuum (-wc)	BROKEN	BROKEN →	→	→	64	84	90	110	110+
SOIL VAPOR EXTRACTION (SVE) HEAT EXCHANGER (H-XCH)									
Inlet Pressure (wc)	46	48	46	47	46	46	46	48	~~48~~
Inlet Temperature (°F)	130	125	125	125	130	125	126	125	116
Outlet Pressure (wc)	2	2	2	2	2	0	0	0	0
Outlet Temperature (°F)	106	92	94	94	110	100	102	92	101
Water Level Sight Glass (in)	18"	12"	24"	14"	14"	20"	13"	2 FT	6"
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)	16	23	17	17	17	17	18.5	17.5	19
Inlet Temperature (°F)	275	205	210	224	210	210	225	210	214
Outlet Pressure (psi)	15	19	16.5	16.5	16.5	16.5	18.0	16.5	18.5
Outlet Temperature (°F)	124	115	126	119	120	122	122	126	120

*p plastic pinch valves on tubing to magnehelic gauge closed except taking a reading.

MONTHLY DOCUMENTATION SHEET
BUILDING 1 UPPER CELL
AIR SPARGE MANIFOLD

DATE		3/14/14	5-15-14	6/26/14	7/23/14	9/16/14					
TIME		0900	1130	1355	0900	1250					
INITIALS		MP	A.H.	MP	MP	MP					
					ROTOMETER						
UPPER CELL	AS-47 (scfm)	0	12	0	0	7					
	AS-38 (scfm)	10.5	12	11.5	11	11 ~~8~~					
	AS-37 (scfm)	15.5	15	16	16	16					
	AS-23 (scfm)	16	16.5	17	17	17					
	AS-24 (scfm)	14.5	15	15	15	15.5					
	AS-39 (scfm)	17	17	17	17	17					
	AS-48 (scfm)	18.5	19	19	19	19					
	AS-52 (scfm)	16	16	16	16	16					
	AS-56 (scfm)	15	15	15	15	14.5					
	AS-54 (scfm)	16	17	16	16	17					
	AS-58 (scfm)	13	13	13	13	13					
					PRESSURE GAUGE						
UPPER CELL	AS-47 (psi)	0	13	27	27.5	12.5					
	AS-38 (psi)	15	14	17	15	14					
	AS-37 (psi)	9	7.5	8	8	8					
	AS-23 (psi)	13	11	12	12.5	11.5					
	AS-24 (psi)	13.5	12	12.5	12.5	12					
	AS-39 (psi)	12.5	11	11.5	11	11					
	AS-48 (psi)	12	10.5	11	11	11					
	AS-52 (psi)	11.5	10	11	11	10.5					
	AS-56 (psi)	11	10	11	11	10.5					
	AS-54 (psi)	14	11.5	13	17.5	12					
	AS-58 (psi)	11	11.5	11.5	11.5	10					

MONTHLY DOCUMENTATION SHEET
BUILDING 1 LOWER CELL
AIR SPARGE MANIFOLD

DATE		3/14/14	5-15-14	6/26/14	7/23/14	9/16/14					
TIME		0900	1130	1355	0900	1250					
INITIALS		NTP	D.H.	NP	NP	NP					
					ROTOMETER						
LOWER CELL	AS-49 (scfm)	14.5	13.5	14	14	14.5					
	AS-44 (scfm)	12	11.5	11	11	12					
	AS-31 (scfm)	11	10	10	10	10					
	AS-32 (scfm)	23	21.5	21	22	23					
	AS-45 (scfm)	16.5	15.5	15	15	15.5					
	AS-51 (scfm)	16.5	15.5	16	15	16					
	AS-55 (scfm)	20	18.5	19	19	19.5					
	AS-53 (scfm)	17	17	17	17	17					
	AS-59 (scfm)	16	15	15	15	16					
	AS-57 (scfm)	19	16	15	20	19					
	AS-50 (scfm)	26	~~23~~ 23	23	22	23.5					
					PRESSURE GAUGE						
LOWER CELL	AS-49 (psi)	10	11	11.5	10	11					
	AS-44 (psi)	10.5	11.5	12	11.5	11					
	AS-31 (psi)	10	10.5	11	10	10.5					
	AS-32 (psi)	10	11.5	11	10.5	11.5					
	AS-45 (psi)	11.5	12.5	12.5	11.5	12					
	AS-51 (psi)	10.5	11	11.5	10.5	11					
	AS-55 (psi)	10.5	11	11.5	10.5	11					
	AS-53 (psi)	10	12	12.5	11	12					
	AS-59 (psi)	10.5	11.5	11.5	10.5	11					
	AS-57 (psi)	12.5	13.5	14	12.5	13					
	AS-50 (psi)	11.5	12.5	13	11.5	12					

MONTHLY DOCUMENTATION SHEET
BUILDING 1
SVE MANIFOLD

DATE	5-15-14	6/26/14	7/23/14	9/16/14						
TIME	1130	1350	0900	1250						
INITIALS	A.H.	NP	NP	NP						

MAGNEHELIC GAUGE*

SVE-15 (in H_2O)	0.0	0.0	0.0	0.05						
SVE-14 (in H_2O)	0.0	0.0	0.0	0.0						
SVE-13 (in H_2O)	0.0	0.0	0.48	0.0						
SVE-11 (in H_2O)	0.5	0.45	0.45	0.45						
SVE-9 (in H_2O)	0.8	0.7	0.65	0.65						

VACUUM GAUGE

SVE-15 (-wc)	65	60	60	55						
SVE-14 (-wc)	65	60	60	60						
SVE-13 (-wc)	70	60	60	60						
SVE-11 (-wc)	26	26	28	24						
SVE-9 (-wc)	63	58	58	55						

* Keep plastic pinch valves on tubing to magnehelic gauge closed except when taking a reading.

MONTHLY DOCUMENTATION SHEET
BUILDING 1
PID MEASUREMENTS

DATE	9-9-13	10-24-13	11-18-13	1-15-14	2-19-14	3/14/14	5-15-14	6/26/14	7/23/14	9/16/14		
TIME	1415	1300	1230	1409340	0900	0940	1130	1505	0900	1250		
INITIALS	A.H.	A.H.	P.H	NJP	A.H.	NJP	A.H.	NP	NP	NP		

SVE Effluent	1.5	52.1	3.6 ~~Moisture~~	4.7	0.4	0.3	1.2 ~~G.E.A~~	0.9	0.6	0.0		
SVE - 15	2.5	moisture	moisture	moisture	1.6	~~moisture~~	moisture	moisture	moisture	moisture		
SVE - 14	2.5				moisture			0.0	0.4	0.0		
SVE - 13	5.3				moisture			1.1	2.1	0.0		
SVE - 11	2.0				moisture			2.8	1.0	0.0		
SVE - 9	1.8				moisture			0.4	0.5	0.0		
Exhaust	1.9	~~PID~~ 52.1	3.6	4.7	0.4	0.3	1.2 ~~G.E.A~~	0.9	0.6	0.0		

MONTHLY DOCUMENTATION SHEET
BUILDING 2
SVE MANIFOLD

DATE	5-15-14	6/26/14	7/23/14	9/16/14						
TIME	1115	1405	0945	1100						
INITIALS	A.H.	NP	NP	NP						
MAGNEHELIC GAUGE*										
SVE-10 (in H_2O)	0.20	0.20	0.20	0.26						
SVE-12 (in H_2O)	0.55	0.55	0.35	1.50						
SVE-8 (in H_2O)	0.70	0.60	0.60	0.65						
SVE-7 (in H_2O)	0.35	0.35	0.40	0.35						
VACUUM GAUGE										
SVE-10 (-wc)	55	60	60	15						
SVE-12 (-wc)	52	58	60	55						
SVE-8 (-wc)	56	60	60	58						
SVE-7 (-wc)	80	70	70	70						
ELECTRICAL USAGE										
Kilowatts (kwh)	504953.0	599206.10	661995.20	668301.60						

* Keep plastic pinch valves on tubing to magnehelic gauge closed except when taking a reading.

MONTHLY DOCUMENTATION SHEET
BUILDING 2
PID MEASUREMENTS

DATE	9-9-13	10-24-13	11-18-13	1-15-14	2-19-14	3/14/14	5-15-14	6/26/14	7/23/14	9/16/14		
TIME	1340	1320	1330	1340	0945	0835	1116	1520	0945	1100		
INITIALS	A.H	A.H.	P.H.	NP	A.H.	NP	A.H.	NP	NP	NP		

SVE Effluent	1.1	0.0	47	0.1	0.3	0.2	0.0	1.0	0.5	0.0		
SVE - 10	moisture	moisture	moisture	moisture	moisture	moisture	moisture	0.0	0.4	0.0		
SVE - 12	↓	↓	↓	↓	↓	↓	↓	0.0	0.0	0.0		
SVE - 8	↓	↓	↓	↓	↓	↓	↓	moisture	moisture	0.0		
SVE - 7	↓	↓	↓	↓	↓	↓	↓	0.0	0.7	0.0		
Exhaust	1.9	0.0	47	0.1	0.3	0.2	0.0	1.0	0.5	0.0		

Appendix E

Third Quarter 2014 Groundwater Sampling Data Sheets

AECOM

Well ID:	GMZ-01

Ground Water Sample Collection Record

Client:	UTAS Plants 1/2 Facility	Date:	8/4/2014	Time: Start	1120 (24hr)
Project No:	60312350-4214			Finish	1240
Site Location:	Rockford, Illinois				
Weather:	SUNNY - 80's	Collector(s):	N. PINS		

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):	32.94	Casing type/diameter:	2" PVC	Minimum purge volume:	7.2 (gals)
Water column length (ft):	14.79				(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	11M64
	Lamotte	2020	2485-3312
	Lamotte	Smart 2 Colorimeter	7094-3509

Begin purge at 1145

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
1145	-	16.20	7.04	2004	76.4	5.84	1038	500	32.94	CLOUDY / ORANGE
1150	2500	17.03	7.06	2000	85.3	5.51	739	500	32.94	
1155	5000	18.10	7.11	1996	94.2	5.21	91	500	32.94	
1200	7500	18.97	7.12	1999	99.2	4.63	78.2	500	32.94	
1205	10000	19.58	7.12	2001	111.0	4.54	60.4	500	32.94	
1210	12500	18.08	7.13	2013	116.0	5.11	52.7	500	32.94	
1215	15000	17.72	7.12	2012	113.2	5.09	48.1	500	32.94	
1220	17500	17.50	7.11	2006	111.4	5.15	45.2	500	32.94	
1225	20000	17.27	7.10	2011	109.4	5.11	47.6	500	32.94	↓

(continued on back)

Sample Collector(s): N. PINS Date: 8/4/2014

SAMPLE COLLECTION DATA Well ID: **GMZ-01**

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-GMZ01-090414	VOC's	3 - 40mL Clear Vials	1225	500	
	Ferrous Iron	4.62 mg/L			

VOCs - Volatile organic compounds

G - Glass

HCl - Hydrochloric acid

AECOM

Well ID:	GMZ-02

Ground Water Sample Collection Record

Client: UTAS Plants 1/2 Facility Date: 8-6-14 Time: Start 0920 (24hr)
Project No: 60312350-4214 Finish 1035
Site Location: Rockford, Illinois
Weather: Clear 60-70°F Collector(s): A. Hollatz

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 44.65 Screen interval(ft): 15 Approx. depth of pump intake(ft): 37
Water table depth (ft): 30.50 Casing type/diameter: 2" PVC Minimum purge volume: 7.0 (gals)
Water column length (ft): 14.15 (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	05619411 AS
	Lamotte	2020	2476-3312
	Lamotte	Smart 2 Colorimeter	0128-0702

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	16.33	7.52	916	155.8	10.37	190	500	30.55	cloudy/none
0940	7,500	16.43	7.55	914	141.9	10.30	68.9	500	30.55	↓
0945	10,000	16.63	7.56	916	132.6	10.12	25.1	500	30.55	clear/none
0950	12,500	16.61	7.58	923	~~129~~ 124.1	10.22	14.8	500	30.55	
0955	15,000	16.48	7.56	920	119.4	10.30	14.8	500	30.55	
1000	17,500	16.49	7.56	918	118.8	10.20	8.35	500	30.55	
1005	20,000	16.57	7.57	928	115.1	10.17	6.49	500	30.55	
1010	22,500	16.54	7.58	921	113.5	10.13	4.25	500	30.55	
1015	25,000	16.41	7.58	928	112.6	10.20	3.95	500	30.55	
1020	27,500	16.50	7.57	925	110.2	10.16	3.20	500	30.55	↓
	* Turbidity not stable, removed 3 well volumes, sample collected.									

(continued on back)

Sample Collector(s): Date: 8-6-14

SAMPLE COLLECTION DATA

Well ID: **GMZ-02**

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-GMZ02-080614	VOC's	3 - 40mL Clear Vials	1020	500	
HSSER_MS01- 080614	VOC's	3 - 40mL Clear Vials	1020	500	
HSSER-MSD01- 080614	VOC's	3 - 40mL Clear Vials	1020	500	
	Ferrous Iron	mg/L	0.43		

VOCs - Volatile Organic compounds

G - Glass

HCl - Hydrochloric acid

AECOM

Well ID:	GMZ-03

Ground Water Sample Collection Record

Client:	UTAS Plants 1/2 Facility	Date:	8-6-14	Time: Start	0805 (24hr)
Project No:	60312350-4214			Finish	0920
Site Location:	Rockford, Illinois				
Weather:	Clear, 60-70°F	Collector(s):	M. Hollatz		

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 44.50 Screen interval(ft): 15 Approx. depth of pump intake(ft): 37

Water table depth (ft): 29.95 Casing type/diameter: 2" PVC Minimum purge volume: 7.20 (gals)

Water column length (ft): 14.55 (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	05G1941 A5
	Lamotte	2020	2476-3312
	Lamotte	Smart 2 Colorimeter	0228-0702

Begin purge at 0610

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
0820	5000	16.14	7.63	1458	164.6	10.49	31.1	500	29.95	Clear/none
0825	7500	16.21	7.66	1451	159.8	10.53	14.6	500	29.95	
0830	10,000	16.17	7.67	1453	157.8	10.46	10.04	500	29.95	
0835	12,500	16.21	7.67	1456	157.5	10.43	5.73	500	29.95	
0840	15,000	16.13	7.67	1453	163.3	10.40	3.51	500	29.95	
0845	17,500	16.25	7.68	1449	171.1	10.32	2.61	500	29.95	
0850	20,000	16.26	7.68	1446	179.6	10.26	1.51	500	29.95	
0855	22,500	16.26	7.68	1444	188.7	10.22	1.53	500	29.95	
0900	25,000	16.25	7.68	1441	196.0	10.15	1.25	500	29.95	
0905	27,500	16.36	7.68	1440	201.6	10.04	1.10	500	29.95	
	* Turbidity not stable, removed 3 well volumes, collected Sample.									

(continued on back)

Sample Collector(s): [signature] Date: 8-6-14

SAMPLE COLLECTION DATA Well ID: **GMZ-03**

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-GMZ03-040614	VOC's	3 - 40mL Clear Vials	0905	500	
HSSER-Dup01-040614	VOC's	3 - 40mL Clear Vials	0900	500	
	Ferrous Iron	mg/L	0.13		

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: 8-5-14 Time: Start 1405 (24hr)
Project No: 60312350-4214 Finish 1505
Site Location: Rockford, Illinois
Weather: Partly Sunny 75-85°F Collector(s): A. Hollatz

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 45.15 Screen interval(ft): 15 Approx. depth of pump intake(ft): 38
Water table depth (ft): 28.27 Casing type/diameter: 2" PVC Minimum purge volume: 8.30 (gals)
Water column length (ft): 16.88 (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	05619411 AS
	Lamotte	2020	2476-3312
	Lamotte	Smart 2 Colorimeter	0228-0702

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	18.39	8.01	1938	125.7	8.84	39.9	500	28.27	cloudy/none
1425	7500	18.46	8.02	1855	117.9	8.92	15.0	500	28.27	clear/none
1430	10,000	18.36	8.03	1836	113.2	9.00	6.38	500	28.27	
1435	12,500	18.30	8.03	1816	109.9	9.08	3.79	500	28.27	
1440	15,000	18.24	8.03	1789	108.5	9.06	2.56	500	28.27	
1445	17,500	18.13	8.04	1778	108.9	9.06	2.26	500	28.27	
1450	20,000	18.21	8.04	1774	110.3	9.00	2.21	500	28.27	
1455	22,500	18.18	8.04	1759	111.3	8.97	2.13	500	28.27	"

(continued on back)

Sample Collector(s): [signature] Date: 8-5-14

SAMPLE COLLECTION DATA

Well ID: **GMZ-04**

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-GMZ04-080514	VOC's	3 - 40mL Clear Vials	1455	500	
	Ferrous Iron	mg/L	0.19		

VOCs - Volatile organic compounds

G - Glass

HCl - Hydrochloric acid

AECOM

Well ID: **MW07FGA**

Ground Water Sample Collection Record

Client: UTAS Plants 1/2 Facility Date: 8-5-14 Time: Start 0810 (24hr)
Project No: 60312350-4214 Finish 0925
Site Location: Rockford, Illinois
Weather: cloudy 60-70°F Collector(s): A. Holatz

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 46.70 Screen interval(ft): 15 Approx. depth of pump intake(ft): 39
Water table depth (ft): 28.30 Casing type/diameter: 2" SS Minimum purge volume: 36 (gals)
Water column length (ft): 18.4 (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	05G1941 AS
	Lamotte	2020	2476-3312
	Lamotte	Smart 2 Colorimeter	0228-0702

Begin purge at 0815

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
0825	5000	16.71	7.03	821	120.2	4.62	39.4	500	28.36	cloudy/none
0830	7500	16.87	7.02	819	112.8	4.57	31.0	500	28.36	
0835	10,000	16.81	7.03	817	111.1	4.55	33.4	500	28.36	↓
0840	12,500	16.76	7.02	816	109.6	4.55	33.9	500	28.36	↓
0845	15,000	16.72	7.03	815	109.1	4.55	22.7	500	28.36	clear/none
0850	17,500	16.72	7.02	813	107.4	4.48	23.9	500	28.36	
0855	20,000	16.73	7.04	812	106.6	4.36	20.8	500	28.36	
0900	22,500	16.88	7.04	813	102.9	4.26	17.4	500	28.36	
0905	25,000	16.93	7.05	812	102.7	4.23	16.9	500	28.36	↓
0910	27,500	16.94	7.06	811	104.4	4.23	16.4	500	28.36	

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Sample Collector(s): [signature] Date: 8-5-14

SAMPLE COLLECTION DATA

Well ID: **MW-07FGA**

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-MW07FGA-180514	VOC's	3 - 40mL Clear Vials	0910	500	
	Ferrous Iron	mg/L	2.06		

VOCs - Volatile organic compounds

G - Glass

HCl - Hydrochloric acid

AECOM

Well ID:	MW-203

Ground Water Sample Collection Record

Client: UTAS Plants 1/2 Facility Date: 8-5-14 Time: Start 0705 (24hr)
Project No: 60312350-4214 Finish 0805
Site Location: Rockford, Illinois
Weather: overcast 65-75°F Collector(s): A. Hellwig

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 49.50 Screen interval(ft): 15 Approx. depth of pump intake(ft): 40
Water table depth (ft): 29.05 Casing type/diameter: 2" SS Minimum purge volume: 10.0 (gals)
Water column length (ft): 20.45 (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	05619411AS
	Lamotte	2020	A476-3317
	Lamotte	Smart 2 Colorimeter	0228-0702

Begin purge at 0715

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	2500	16.57	6.54	781	216.4	1.83	24.8	500	29.09	clear/none
0725	5000	16.59	6.60	826	142.4	1.93	23.6	500	29.09	
0730	7500	16.74	6.69	840	84.9	1.88	20.3	500	29.09	
0735	10,000	16.72	6.74	847	65.8	1.84	14.2	500	29.09	
0740	12,500	16.79	6.77	851	49.8	1.84	9.55	500	29.09	
0745	15,000	16.79	6.79	854	51.6	1.88	4.85	500	29.09	
0750	17,500	16.82	6.77	858	53.8	1.84	4.63	500	29.09	
0755	20,000	16.76	6.81	858	49.8	1.72	4.67	500	29.09	↓

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Sample Collector(s): [signature] Date: 8-5-14

SAMPLE COLLECTION DATA Well ID: **MW-203**

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-MW203-080514	VOC's	3 - 40mL Clear Vials	0755	500	
	Ferrous Iron	mg/L	0.35		

VOCs - Volatile organic compounds

G - Glass
HCl - Hydrochloric acid

AECOM

Well ID:	PMW-01

Ground Water Sample Collection Record

Client:	UTAS Plants 1/2 Facility	Date:	8-6-14	Time: Start	1045 (24hr)
Project No:	60312350-4214			Finish	1155
Site Location:	Rockford, Illinois				
Weather:	Sunny 65-75°F	Collector(s):	A. Holtz		

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 44.60 Screen interval(ft): 25 Approx. depth of pump intake(ft): 37
Water table depth (ft): 30.67 Casing type/diameter: 2" PVC Minimum purge volume: 6.9 (gals)
Water column length (ft): 13.93 (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	056 1941 AS
	Lamotte	2020	2476-3312
	Lamotte	Smart 2 Colorimeter	0276-0702

Begin purge at 1050

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
1100	5000	16.44	6.93	992	23.3	3.08	1086	500	30.67	orange/none
1105	7500	16.33	6.91	1004	42.3	2.14	100.7	500	30.67	↓
1110	10,000	16.42	6.91	1010	52.2	3.18	33.7	500	30.67	
1115	12,500	16.34	6.91	1002	57.1	3.23	19.6	500	30.67	↓
1120	15,000	16.41	6.92	997	60.3	3.34	13.5	500	30.67	cloudy/none
1125	17,500	16.32	6.92	990	57.1	3.46	22.7	500	30.67	↓
1130	20,000	16.26	6.91	982	59.2	3.62	50.9	500	30.67	↓
1135	22,500	16.20	6.91	979	59.9	3.70	32.8	500	30.67	clear/none
1140	25,000	16.35	6.91	978	59.2	3.76	29.3	500	30.67	
1145	27,500	16.22	6.91	979	59.3	3.79	19.1	500	30.67	
	* Turbidity not stable, removed 3 well volumes, sample collected.									

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Sample Collector(s): [signature] Date: 8-6-14

SAMPLE COLLECTION DATA — Well ID: **PMW-01** —

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-PMW01-080614	VOC's	3 - 40mL Clear Vials	1145	500	
	Ferrous Iron	mg/L	4.37		

VOCs - Volatile organic compounds.

G - Glass
HCl - Hydrochloric acid

AECOM

Well ID: PMW-02

Ground Water Sample Collection Record

Client: UTAS Plants 1/2 Facility Date: 8-6-14 Time: Start 1220 (24hr)
Project No: 60312350-4214 Finish 1330
Site Location: Rockford, Illinois
Weather: Sunny 70-80°F Collector(s): A. Hallatt

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 44.85 Screen interval(ft): 25 Approx. depth of pump intake(ft): 37
Water table depth (ft): 30.59 Casing type/diameter: 2" PVC Minimum purge volume: 7.0 (gals)
Water column length (ft): 14.26 (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	05G1441 AS
	Lamotte	2020	2476-3312
	Lamotte	Smart 2 Colorimeter	0228-0702

Begin purge at 1225

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
1235	5000	16.34	6.80	1566	-2.6	1.53	147	500	30.63	cloudy/none
1240	7500	16.25	6.80	1575	6.7	1.87	67.2	500	30.62	↓
1245	10,000	16.03	6.79	1558	15.8	2.19	35.9	500	30.62	clear/none
1250	12,500	15.95	6.79	1538	23.7	2.41	20.4	500	30.62	
1255	15,000	16.05	6.79	1534	29.3	2.58	17.6	500	30.62	
1300	17,500	16.25	6.79	1525	36.0	2.65	13.47	500	30.62	
1305	20,000	16.36	6.79	1523	40.8	2.70	11.73	500	30.62	
1310	22,500	16.37	6.79	1518	46.0	2.72	9.85	500	30.62	
1315	25,000	16.48	6.79	1516	50.3	2.73	8.37	500	30.62	
1320	27,500	16.20	6.79	1523	54.0	2.78	7.86	500	30.62	↓
	* ORP and Turbidity not stable, removed 3 well volumes, collected sample									

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Sample Collector(s): Date: 8-6-14

SAMPLE COLLECTION DATA Well ID: **PMW-02**

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-PMW02-050614	VOC's	3 - 40mL Clear Vials	1320	500	
HSSER-EBLK01-050614	VOC's	3 - 40mL Clear Vials	1320	—	
	Ferrous Iron	mg/L	0.54		

VOCs - Volatile organic compounds

G - Glass

HCl - Hydrochloric acid

AECOM

Well ID:	SMW-01

Ground Water Sample Collection Record

Client:	UTAS Plants 1/2 Facility	Date:	8/4/2014	Time: Start	1240 (24hr)
Project No:	60312350-4214			Finish	1355
Site Location:	Rockford, Illinois				
Weather:	SUNNY - 80's	Collector(s):	N. PINS		

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 39.39 Screen interval(ft): 15 Approx. depth of pump intake(ft): 32
Water table depth (ft): 31.06 Casing type/diameter: 2" PVC Minimum purge volume: 3.1 (gals)
Water column length (ft): 6.33 (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	11M64
	Lamotte	2020	2485-3312
	Lamotte	Smart 2 Colorimeter	7094-3509

Begin purge at 1315

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
1315	-	19.15	7.30	1744	92.4	7.09	110	500	6.33	CLOUDY / ORANGE
1320	2500	17.41	7.19	1741	107.0	6.54	59.9	500	6.33	↓
1325	5000	17.77	7.18	1738	94.7	6.33	42.8	500	6.33	↓
1330	7500	18.92	7.20	1724	85.9	6.30	25.2	500	6.33	CLEAR
1335	10000	19.30	7.22	1700	84.0	5.66	17.0	500	6.33	↓
1340	12500	19.22	7.24	1706	81.1	6.06	14.0	500	6.33	↓
			*	3 PURGE VOLUMES REMOVED						

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Sample Collector(s): N. PINS Date: 8/4/2014

SAMPLE COLLECTION DATA — Well ID: SMW-01 —

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-SMW01-080414	VOC's	3 - 40mL Clear Vials	1340	500	
	Ferrous Iron	3.45mg/L			

VOCs - Volatile organic compounds

G - Glass

HCl - Hydrochloric acid

AECOM

Well ID:	SMW-02

Ground Water Sample Collection Record

Client:	UTAS Plants 1/2 Facility	Date:	8/4/2014	Time: Start	1355 (24hr)
Project No:	60312350-4214			Finish	1535
Site Location:	Rockford, Illinois				
Weather:	SUNNY - 80's	Collector(s):	N. PINS		

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft):	39.95	Screen interval(ft):	15	Approx. depth of pump intake(ft):	32
Water table depth (ft):	27.58	Casing type/diameter:	2" PVC	Minimum purge volume:	6.0 (gals)
Water column length (ft):	12.37			(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	11m64
	Lamotte	2020	2485-3312
	Lamotte	Smart 2 Colorimeter	7094-3509

Begin purge at 1420

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	-	18.88	7.18	1216	115.5	3.97	64.7	500	27.58	cloudy
1425	2500	18.97	7.09	1211	123.1	3.75	49.2	500	27.58	
1430	5000	18.72	7.10	1211	124.4	3.74	60.2	500	27.58	
1435	7500	18.60	7.11	1212	126.7	3.77	68.4	500	27.58	
1440	10000	17.49	7.08	1206	126.0	4.09	79.4	500	27.58	
1445	12500	17.63	7.08	1215	120.1	3.86	88.4	500	27.58	
1450	15000	17.49	7.14	1204	119.2	3.94	57.4	500	27.58	
1455	17500	17.04	7.11	1204	122.1	3.91	44.5	500	27.58	
1500	20000	17.48	7.09	1200	120.6	3.83	35.6	500	27.58	
1505	22500	17.88	7.11	1199	116.0	3.75	30.1	500	27.58	
1510	25000	18.04	7.12	1192	114.8	3.70	27.6	500	27.58	
			*	3 PURGE VOLUMES REMOVED						

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Sample Collector(s): N. PINS Date: 8/4/2014

SAMPLE COLLECTION DATA Well ID: **SMW-02**

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-SMW02- 080414	VOC's	3 - 40mL Clear Vials	1510	500	
	Ferrous Iron	3.78 mg/L			

VOCs - Volatile organic compounds

G - Glass

HCl - Hydrochloric acid

AECOM

Well ID:	SMW-04

Ground Water Sample Collection Record

Client:	UTAS Plants 1/2 Facility	Date:	8-6-14	Time: Start	1405 (24hr)
Project No:	60312350-4214			Finish	1510
Site Location:	Rockford, Illinois				
Weather:	Partly sunny 70-80°F	Collector(s):	M. Holst		

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 42.60 (48.35 AGS) Screen interval(ft): 15 Approx. depth of pump intake(ft): 35

Water table depth (ft): 30.23 Casing type/diameter: 2" PVC Minimum purge volume: 6.0 (gals)

Water column length (ft): 12.27 (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	05619411 95
	Lamotte	2020	2476-3312
	Lamotte	Smart 2 Colorimeter	0228-0702

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	16.92	6.92	1530	-22.2	0.91	12.1	500	30.23	clear/none
1425	7500	16.87	6.90	1501	-19.7	0.91	5.58	500	30.23	↓
1430	10,000	16.27	6.88	1461	-15.1	0.90	2.54	500	30.23	
1435	12,500	16.26	6.88	1438	-9.8	0.92	2.07	500	30.23	
1440	15,000	16.44	6.88	1424	-6.0	0.91	1.13	500	30.23	
1445	17,500	16.21	6.87	1417	-2.1	0.92	0.98	500	30.23	
1450	20,000	16.11	6.85	1409	1.0	0.92	0.61	500	30.23	
1455	22,500	16.45	6.86	1408	2.4	0.91	1.21	500	30.23	
1500	25,000	16.25	6.86	1405	4.8	0.91	0.65	500	30.23	
	* ORP and Turbidity not stable, removed 3 well volumes, collect Sample.									

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Sample Collector(s): M. Holst Date: 8-6-14

SAMPLE COLLECTION DATA Well ID: **SMW-04**

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-SMW04-160614	VOC's	3 - 40mL Clear Vials	1500	500	
	Ferrous Iron	mg/L	0.22		

VOCs - Volatile organic compounds

G - Glass
HCl - Hydrochloric acid

AECOM

Well ID:	SMW-08

Ground Water Sample Collection Record

Client:	UTAS Plants 1/2 Facility	Date:	8/4/2014	Time: Start	1000 (24hr)
Project No:	60312350-4214			Finish	1120
Site Location:	Rockford, Illinois				
Weather:	SUNNY - 80's	Collector(s):	N. PINS		

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 41.77 Screen interval(ft): 15 Approx. depth of pump intake(ft): 34
Water table depth (ft): 30.45 Casing type/diameter: 2" PVC Minimum purge volume: 5.5 (gals)
Water column length (ft): 11.32 (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	11M64
	Lamotte	2020	2485-3312
	Lamotte	Smart 2 Colorimeter	7094-3509

Begin purge at 1025

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
1025	-	16.62	6.46	1504	103.5	0.72	36.1	500	30.45	CLOUDY
1030	2500	16.79	6.50	1502	106.6	0.70	42.4	500	30.45	↓
1035	5000	16.64	6.64	1507	107.2	0.91	56.4	500	30.45	↓
1040	7500	17.52	6.69	1501	107.2	1.00	32.0	500	30.45	↓
1045	10000	17.90	6.95	1509	97.5	1.04	19.3	500	30.45	CLEAR
1050	12500	17.91	7.00	1506	99.1	1.02	12.05	500	30.45	↓
1055	15000	17.83	6.99	1506	101.8	1.01	7.46	500	30.45	↓
1100	17500	18.16	6.99	1508	100.0	1.01	4.74	500	30.45	↓
1105	20000	19.04	7.03	1513	103.3	1.02	4.51	500	30.45	↓
1110	22500	19.21	7.04	1512	102.8	1.02	4.47	500	30.45	↓

(continued on back)

Sample Collector(s): N. PINS Date: 8/4/2014

SAMPLE COLLECTION DATA Well ID: **SMW-08**

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-SMW08-080414	VOC's	3 - 40mL Clear Vials	1110	500	
HSSER-FBLK01-080414	VOC's	3 - 40mL Clear Vials	1005	—	
	Ferrous Iron	1.19 mg/L			

VOCs - Volatile organic compounds

G - Glass
HCl - Hydrochloric acid

AECOM

Well ID:	SMW-19

Ground Water Sample Collection Record

Client: UTAS Plants 1/2 Facility Date: 8-6-14 Time: Start 1520 (24hr)
Project No: 60312350-4214 Finish 1620
Site Location: Rockford, Illinois
Weather: Sunny 70-80°F Collector(s): A. Hollatz

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 41.05 Screen interval(ft): 15 Approx. depth of pump intake(ft): 35
Water table depth (ft): 29.28 Casing type/diameter: 2" SS Minimum purge volume: 5.80 (gals)
Water column length (ft): 11.77 (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	05619411 A-5
	Lamotte	2020	2476-3212
	Lamotte	Smart 2 Colorimeter	0228-0702

Begin purge at 1525

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
1535	5000	18.58	6.90	1716	45.0	5.24	85.3	500	29.30	cloudy/none
1540	7500	18.32	6.89	1704	41.7	5.27	52.2	500	29.30	↓
1545	10,000	18.15	6.87	1683	48.7	5.17	26.5	500	29.30	clear/none
1550	12,500	18.18	6.87	~~1655~~ 1665	56.9	5.13	12.4	500	29.30	
1555	15,000	18.32	6.87	1662	61.2	5.18	8.03	500	29.30	
1600	17,500	18.54	6.86	1647	66.1	5.08	4.38	500	29.30	
1605	20,000	18.60	6.86	1636	71.9	5.08	3.19	500	29.30	
1610	22,500	18.76	6.86	1628	76.7	5.06	2.48	500	29.30	

(continued on back)

Sample Collector(s): [signature] Date: 8-6-14

SAMPLE COLLECTION DATA Well ID: **SMW-19**

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-SMW19-080614	VOC's	3 - 40mL Clear Vials	1610	500	
	Ferrous Iron	mg/L	0.73		

VOCs - Volatile organic compounds

G - Glass

HCl - Hydrochloric acid

AECOM

Well ID:	SMW-20

Ground Water Sample Collection Record

Client: UTAS Plants 1/2 Facility Date: 8-6-14 Time: Start 0700 (24hr)
Project No: 60312350-4214 Finish 0800
Site Location: Rockford, Illinois
Weather: Clear 60-70°F Collector(s): A. Hollatz

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 40.05 Screen interval(ft): 15 Approx. depth of pump intake(ft): 33
Water table depth (ft): 29.30 Casing type/diameter: 2" PVC Minimum purge volume: 5.30 (gals)
Water column length (ft): 10.75 (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	05.6.19.41 AS
	Lamotte	2020	2476-3318
	Lamotte	Smart 2 Colorimeter	0228-070.2

Begin purge at 0705

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
0715	5000	16.11	7.07	1060	286	11.25	17.6	500	29.31	clear/none
0720	7500	16.09	7.26	1069	259.6	10.87	13.09	500	29.31	
0725	10,000	16.11	7.44	678	238.0	10.75	9.20	500	29.36	
0730	12,500	16.12	7.58	688	221.4	10.64	7.40	500	29.37	
0735	15,000	16.17	7.66	698	207.0	10.56	5.33	500	29.37	
0740	17,500	16.17	7.71	703	194.4	10.50	4.21	500	29.37	
0745	20,000	16.25	7.74	707	184.7	10.47	3.44	500	29.37	
0750	22,500	16.25	7.77	711	175.8	10.44	2.54	500	29.37	
	* ORP and Turbidity not stable, removed 3 well volumes and collected Sample									

(continued on back)

Sample Collector(s): [signature] Date: 8-6-14

SAMPLE COLLECTION DATA Well ID: **SMW-20**

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-SMW20-080614	VOC's	3 - 40mL Clear Vials	0750	500	
	Ferrous Iron	mg/L	0.20		

VOCs - Volatile organic compounds

G - Glass
HCl - Hydrochloric acid

AECOM

Well ID: SMW-21

Ground Water Sample Collection Record

Client: UTAS Plants 1/2 Facility Date: 8-5-14 Time: Start 1507 (24hr)
Project No: 60312350-4214 Finish 1510 1615
Site Location: Rockford, Illinois
Weather: Partly Sunny 75-85°F Collector(s): A. Hollatz

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 41.30 Screen interval(ft): 15 Approx. depth of pump intake(ft): 34
Water table depth (ft): 28.77 Casing type/diameter: 2" PVC Minimum purge volume: 6.20 (gals)
Water column length (ft): 12.53 (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	05619411 AS
	Lamotte	2020	24716-3312
	Lamotte	Smart 2 Colorimeter	0228-0702

Begin purge at 1510

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
1520	5000	16.54	8.28	722	148.6	9.71	170	500	28.77	cloudy/none
1525	7500	16.61	8.22	711	138.0	9.62	91.5	500	28.77	↓
1530	10,000	16.32	8.19	709	130.4	9.66	35.8	500	28.77	clear/none
1535	12,500	16.22	8.18	711	124.2	9.70	15.6	500	28.77	↓
1540	15,000	16.22	8.17	711	122.1	9.58	10.99	500	28.77	↓
1545	17,500	15.97	8.15	709	121.1	9.71	5.51	500	28.77	↓
1550	20,000	16.08	8.15	710	119.1	9.73	3.95	500	28.77	↓
1555	22,500	15.79	8.14	709	119.4	9.83	3.63	500	28.77	↓
1600	25,000	15.81	8.13	712	121.2	9.76	3.37	500	28.77	↓
	At Turbidity not stable, remove 3 well volumes, collected sample									

(continued on back)

Sample Collector(s): [signature] Date: 8-5-14

SAMPLE COLLECTION DATA Well ID: **SMW-21**

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-SMW21-080514	VOC's	3 - 40mL Clear Vials	1600	500	
	Ferrous Iron	mg/L	0.47		

VOCs - Volatile organic compounds

G - Glass
HCl - Hydrochloric acid

Project Name:

Project Number:

Date: 08-4-14

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	11M64	NLL	B4141308O5 8-5-15	4.00 @ 25C	27.29	4.08	4.00	0842 AH	
								—		Post Cal
pH 7.00			NLL	B4713080 3 9-3-15	7.00 @ 25C	27.15	7.03	7.00	0840 AH	
								—		Post Cal
pH 10.00			NLL	B5013042 9 4-29-15	10.00 @ 25C	27.22	9.96	10.01	0844 AH	
								—		Post Cal
Specific Cond.			NLL	14C100326 9-16	1,000 uS/cm @ 25C	27.04	101.5	1000	0838 AH	
								—		Post Cal
Specific Cond. (Check Only)					uS/cm @ 25C			—		
								—		Post Cal
Specific Cond. (Check Only)					uS/cm @ 25C			—		
								—		Post Cal
ORP			Zobell	14D100406 4-16	244 mV @ 15 C	27.34	246.3	244.0	0846 AH	
								—		Post Cal
DO			H2O Saturated Air	—	100% H20 Sat. Air	27.14	94.7	96.2	0835 AH	BP =
								—		Post Cal, BP =
Turbidity	LaMotte 2020	2485-3312	—	—	0 NTU	NA	0.00	0.00	0835 AH	
						NA		—		Post Cal
					10 NTU	NA	10.03	10.01	0835 AH	
						NA		—		Post Cal

BP = Barometric Pressure (mmHg)

Project Name:

Project Number:

Date: 8-6-14

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	05G1941AS	NCL	B44130805 8-5-15	4.00 @ 25C	27.10	4.00	4.00	AH 0646	
								—		Post Cal
pH 7.00			NCL	B47130803 8-3-15	7.00 @ 25C	27.18	7.05	7.00	0644 A.H.	
								—		Post Cal
pH 10.00			NCL	B50130429 4-29-15	10.00 @ 25C	27.19	10.01	10.00	0648 A.H	
								—		Post Cal
Specific Cond.			NCL	14C100326 9-16	1,000 uS/cm @ 25C	27.30	930	1000	0642 A.H	
								—		Post Cal
Specific Cond. (Check Only)					___ uS/cm @ 25C			—		
								—		Post Cal
Specific Cond. (Check Only)					___ uS/cm @ 25C			—		
								—		Post Cal
ORP			Zobell	140100406 4-16	244 mV @ 15 C	27.10	242.9	244.0	0651 A.H	
								—		Post Cal
DO			H2O Saturated Air	—	100% H20 Sat. Air	27.39	93.7	96.3	A.H 0639	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	10.07	10.01	A.H 0635	
						NA		—		Post Cal

BP = Barometric Pressure (mmHg)

CHAIN OF CUSTODY

PAGE 1 2

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

FED-EX Tracking #: [illegible] | Bottle Order Control #:
Accutest Quote #: [illegible] | Accutest Job #:

Client / Reporting Information

Company Name: [illegible]
Street Address: [illegible]
City / State / Zip: [illegible]
Project Contact / E-mail: [illegible]
Phone # / Fax #: [illegible]
Sampler(s) Name(s) / Phone #: [illegible]

Project Information

Project Name: [illegible]
Street: [illegible]
City / State: [illegible]
Project #: [illegible]
Client Purchase Order #:
Project Manager: [illegible]

Billing Information (if different from Report to)

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

Requested Analysis (see TEST CODE sheet)

4
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	Number of preserved Bottles: HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	LAB USE ONLY
	[illegible]		6-4-14	1110	MD	GW	3	X								
	[illegible]			1105	MD	GW	3	X								
	[illegible]			1210	MD	GW	3	X								
	[illegible]			1510	MD	GW	3	X								
	[illegible]			1305	MD	GW	3	X								
	[illegible]		6-5-14	0755	MD	GW	3	X								
	[illegible]			0910	MD	GW	3	X								
	[illegible]			1055	MD	GW	3	X								
	[illegible]			1100	MD	GW	3	X								
	[illegible]		6-6-14	0750	MD	GW	3	X								
	[illegible]			0905	MD	GW	3	X								
	[illegible]			1020	MD	GW	3	X								

Turnaround Time (Business days)

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

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

Comments / Special Instructions

[illegible]

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 [illegible]	6-4-14 1900	1	2		2
Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
3		3	4		4
Relinquished by:	Date Time:	Received By:	Custody Seal #	☐ Intact ☐ Not Intact	Preserved where applicable ☐	On Ice ☐	Cooler Temp.
5		5					

CHAIN OF CUSTODY

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

FED-EX Tracking #: | Bottle Order Control #:
Accutest Quote #: | Accutest Job #:

Client / Reporting Information	Project Information	Requested Analysis (see TEST CODE sheet)	Matrix Codes
Company Name	Project Name		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
Street Address	Street	Billing Information (if different from Report to)	
City State Zip	City State	Company Name	
Project Contact E-mail	Project #	Street Address	
Phone # Fax #	Client Purchase Order #	City State Zip	
Sampler(s) Name(s) Phone #	Project Manager	Attention:	

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection: Date	Collection: Time	Sampled by	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	LAB USE ONLY

Turnaround Time (Business days) | Data Deliverable Information | Comments / Special Instructions

Approved By (Accutest PM): / Date:

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

Emergency & Rush T/A data available VIA Lablink

- [ ] 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

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
NJ Reduced = Results + QC Summary + Partial Raw 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		1	2		2
Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
3		3	4		4
Relinquished I	Date Time:	Received By:	Custody Seal #	Intact / Not Intact	Preserved where applicable	On Ice	Cooler Temp.
5		5					

AECOM

Well ID:	RAMW-01

Ground Water Sample Collection Record

Client:	UTAS Plants 1/2 Facility	Date:	8-5-14	Time: Start	1305 (24hr)
Project No:	60312350-4214			Finish	1400
Site Location:	Rockford, Illinois				
Weather:	Partly sunny 70-80°F	Collector(s):	A. Hollatz		

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 45.85 Screen interval(ft): 15 Approx. depth of pump intake(ft): 38
Water table depth (ft): 30.58 Casing type/diameter: 2" PVC Minimum purge volume: 7.5 (gals)
Water column length (ft): _____ (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	06G19411A5
	Lamotte	2020	2476-3312
	Lamotte	Smart 2 Colorimeter	0225-0702

Begin purge at 1310

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
1320	5000	16.20	7.15	908	183.1	7.02	7.84	500	30.58	Clear/none
1325	7500	16.24	7.13	916	166.4	6.70	5.46	500	30.58	
1330	10,000	16.16	7.12	912	156.2	6.59	2.93	500	30.58	
1335	12,500	16.03	7.12	909	151.0	6.57	1.41	500	30.58	
1340	15,000	15.91	7.11	908	148.1	6.52	0.33	500	30.58	
1345	17,500	16.00	7.12	904	146.2	6.48	0.31	500	30.58	
1350	20,000	16.09	7.12	901	144.9	6.37	0.33	500	30.58	

(continued on back)

Sample Collector(s): _____ Date: 8-5-14

SAMPLE COLLECTION DATA Well ID: **RAMW-01**

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-RAMW01-080514	VOC's	3 - 40mL Clear Vials	1350		
HSSER-FBLK02-080514	VOC's	3 - 40mL Clear Vials	1305	—	
	Ferrous Iron	mg/L	0.04		

VOCs - Volatile organic compounds

G - Glass
HCl - Hydrochloric acid

AECOM

Well ID:	RAMW-02

Ground Water Sample Collection Record

Client: UTAS Plants 1/2 Facility Date: 8-5-14 Time: Start 1100 (24hr)
Project No: 60312350-4214 Finish 1215
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): 44.70 Screen interval(ft): 15 Approx. depth of pump intake(ft): 37
Water table depth (ft): 30.48 Casing type/diameter: 2" PVC Minimum purge volume: ~~90~~ 70 (gals)
Water column length (ft): 14.22 (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	056 1941 AJ
	Lamotte	2020	2476-3212
	Lamotte	Smart 2 Colorimeter	0228-0702

Begin purge at 1106

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
1115	5000	16.36	7.09	1107	135.0	1.71	17.0	500	30.48	clear/none
1120	7500	16.35	7.10	1067	133.1	2.24	14.0	500	30.48	
1125	10,000	16.33	7.11	1036	130.6	2.55	12.62	500	30.48	
1130	12,500	16.37	7.12	1013	128.1	2.69	7.67	500	30.48	
1135	15,000	16.31	7.12	999	126.4	2.72	5.56	500	30.48	
1140	17,500	16.19	7.12	984	125.2	2.77	3.19	500	30.48	
1145	20,000	16.13	7.11	982	124.2	2.76	2.62	500	30.48	
1150	22,500	16.09	7.11	980	122.3	2.73	1.24	500	30.48	
1155	25,000	16.13	7.12	982	118.0	2.76	1.11	500	30.48	
1200	27,500	16.04	7.11	982	114.3	2.55	0.72	500	30.48	
	* Turbidity not stable, removed 3 well volumes, collected sample.									

(continued on back)

Sample Collector(s): [signature] Date: 8-5-14

SAMPLE COLLECTION DATA Well ID: **RAMW-02**

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-RAMW02-080514	VOC's	3 - 40mL Clear Vials	1200	500	
HSSER-MS02- 080514	VOC's	3 - 40mL Clear Vials	1205	500	
HESSER-MSD02- 080514	VOC's	3 - 40mL Clear Vials	1200	500	
	Ferrous Iron	mg/L	0.10		

VOCs - Volatile organic compounds

G - Glass

HCl - Hydrochloric acid

AECOM

Well ID:	RAMW-03

Ground Water Sample Collection Record

Client:	UTAS Plants 1/2 Facility	Date:	8-5-14	Time: Start	0940 (24hr)
Project No:	60312350-4214			Finish	1055
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): 45.15 Screen interval(ft): 15 Approx. depth of pump intake(ft): 38
Water table depth (ft): 30.27 Casing type/diameter: 2" PVC Minimum purge volume: 7.30 (gals)
Water column length (ft): 14.88 (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	05G1941 A5
	Lamotte	2020	2476-3312
	Lamotte	Smart 2 Colorimeter	0228-0702

Begin purge at 0945

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
0955	5000	18.49	7.29	851	182.1	2.87	56.8	500	30.28	Cloudy/none
1000	7500	18.67	7.28	933	174.0	2.56	49.6	500	30.28	↓
1005	10,000	18.71	7.28	1021	166.1	2.27	31.8	500	30.28	Clear/none
1010	12,500	18.77	7.28	1115	156.9	2.03	22.2	500	30.28	
1015	15,000	18.83	7.28	1178	145.0	1.84	14.5	500	30.28	
1020	17,500	18.64	7.28	1224	132.7	1.74	12.99	500	30.28	
1025	20,000	18.55	7.28	1266	123.0	1.66	8.26	500	30.28	
1030	22,500	18.47	7.28	1286	118.7	1.60	5.76	500	30.28	
1035	25,000	18.45	7.28	1301	116.9	1.57	5.80	500	30.28	
1040	27,500	18.51	7.28	1316	112.6	1.55	5.49	500	30.28	↓

(continued on back)

Sample Collector(s): [signature] Date: 8-5-14

SAMPLE COLLECTION DATA Well ID: **RAMW-03**

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-RAMW03-080514	VOC's	3 - 40mL Clear Vials	1640	500	
HSSER-Dup02- 080514	VOC's	3 - 40mL Clear Vials	0000	500	
	Ferrous Iron	mg/L	0.62		

VOCs - Volatile organic compounds

G - Glass
HCl - Hydrochloric acid

AECOM

Well ID:	RAMW-04

Ground Water Sample Collection Record

Client: UTAS Plants 1/2 Facility Date: 8-4-14 Time: Start 1520 (24hr)
Project No: 60312350-4214 Finish 1620
Site Location: Rockford, Illinois
Weather: Sunny 75-85°F Collector(s): A. Holland

1. **WELL and WATER LEVEL DATA: (measured from Top of Casing)**

Total well length (ft): 48.35 Screen interval(ft): 15 Approx. depth of pump intake(ft): 41
Water table depth (ft): 30.13 Casing type/diameter: 2" PVC Minimum purge volume: 8.90 (gals)
Water column length (ft): 16.22 (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	056 1941 AS
	Lamotte	2020	2476-3312
	Lamotte	Smart 2 Colorimeter	0228-0702

Begin purge at 1530

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
1540	5000	18.87	7.42	795	111.1	6.30	6.14	500	30.13	clear/none
1545	7500	19.00	7.40	795	106.4	6.09	6.29	500	30.13	
1550	10,000	18.97	7.40	799	104.1	6.18	7.13	500	30.13	
1555	12,500	19.16	7.40	800	101.4	6.12	6.23	500	30.13	
1600	15,000	19.01	7.39	801	100.1	6.11	6.98	500	30.13	
1605	17,500	18.86	7.38	801	99.9	6.04	6.96	500	30.13	
1610	20,000	19.07	7.38	800	98.8	5.95	6.73	500	30.13	

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Sample Collector(s): [signature] Date: 8-4-14

SAMPLE COLLECTION DATA — Well ID: **RAMW-04** —

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-RAMW04-080414	VOC's	3 - 40mL Clear Vials	1610	500	
HSSER-EBLK02-080414	VOC's	3 - 40mL Clear Vials	1520	—	
	Ferrous Iron	mg/L	0.38		

VOCs - Volatile organic compounds

G - Glass
HCl - Hydrochloric acid

AECOM

Well ID:	RAMW-05

Ground Water Sample Collection Record

Client:	UTAS Plants 1/2 Facility	Date:	8-4-14	Time: Start	1408 (24hr)
Project No:	60312350-4214			Finish	1515
Site Location:	Rockford, Illinois				
Weather:	Sunny 75-85°F	Collector(s):	N. Hollatz		

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 43.70 Screen interval(ft): 15 Approx. depth of pump intake(ft): 36
Water table depth (ft): 29.02 Casing type/diameter: 2" PVC Minimum purge volume: 7.20 (gals)
Water column length (ft): 14.68 (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	05G1941 AS
	Lamotte	2020	2476-3712
	Lamotte	Smart 2 Colorimeter	0228-0702

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	18.19	8.01	909	123.2	9.56	138	500	29.02	Cloudy/none
1425	7500	18.36	8.02	888	104.7	9.67	134	500	29.02	↓
1430	10,000	18.32	8.05	857	94.8	9.71	53.5	500	29.02	↓
1435	12,500	18.37	8.09	851	88.0	9.70	26.1	500	29.02	clear/none
1440	15,000	18.31	8.08	843	84.5	9.80	13.1	500	29.02	↓
1445	17,500	18.32	8.06	841	82.0	9.70	11.01	500	29.02	↓
1450	20,000	18.33	8.03	836	81.8	9.68	5.95	500	29.02	↓
1455	22,500	18.18	8.01	833	84.2	9.73	5.13	500	29.02	↓
1500	25,000	18.28	7.99	829	83.3	9.69	2.76	500	29.02	↓
1505	27,500	18.21	7.98	826	82.8	9.67	1.70	500	29.02	↓
	* Turbidity not stable, three well volumes removed, sample collected									

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Sample Collector(s): [signature] Date: 8-4-14

SAMPLE COLLECTION DATA Well ID: **RAMW-05**

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-RAMW05-0804/L	VOC's	3 - 40mL Clear Vials	1305	500	
	Ferrous Iron	mg/L	0.19		

VOCs - Volatile organic compounds

G - Glass

HCl - Hydrochloric acid

AECOM

Well ID:	RAMW-06

Ground Water Sample Collection Record

Client:	UTAS Plants 1/2 Facility	Date:	8-4-14	Time: Start	1305 (24hr)
Project No:	60312350-4214			Finish	1405
Site Location:	Rockford, Illinois				
Weather:	75-85°F	Collector(s):	N Holtz		

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 44.15 Screen interval(ft): 15 Approx. depth of pump intake(ft): 37
Water table depth (ft): 29.05 Casing type/diameter: 2" PVC Minimum purge volume: 7.40 (gals)
Water column length (ft): 15.10 (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	05b1941 AS
	Lamotte	2020	2476-3312
	Lamotte	Smart 2 Colorimeter	0228-0702

Begin purge at 1310

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
1320	5000	17.59	7.98	744	127.8	10.19	6.53	500	29.05	clear/none
1325	7500	17.70	8.00	721	108.8	10.18	3.05	500	29.05	
1330	10,000	17.75	8.00	710	102.5	10.07	4.04	500	29.05	
1335	12,500	17.73	8.00	702	102.2	10.12	3.40	500	29.05	
1340	15,000	17.83	8.00	701	96.7	9.97	1.94	500	29.05	
1345	17,500	17.74	8.00	1098	101.1	10.14	1.84	500	29.05	
1350	20,000	17.74	7.94	700	98.3	10.12	1.80	500	29.05	

(continued on back)

Sample Collector(s): [signature] Date: 8-4-14

SAMPLE COLLECTION DATA Well ID: **RAMW-06**

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-RAMW06-080414	VOC's	3 - 40mL Clear Vials	1350	500	
	Ferrous Iron	mg/L	0.11		

VOCs - Volatile organic compounds

G - Glass

HCl - Hydrochloric acid

AECOM

Well ID: RAMW-07

Ground Water Sample Collection Record

Client: UTAS Plants 1/2 Facility Date: 8-4-14 Time: Start 1135 (24hr)
Project No: 60312350-4214 Finish 1250
Site Location: Rockford, Illinois
Weather: Sunny 75-85°F Collector(s): A. Hallatt

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 48.45 Screen interval(ft): 15 Approx. depth of pump intake(ft): 41
Water table depth (ft): 33.51 Casing type/diameter: 2" PVC Minimum purge volume: 7.30 (gals)
Water column length (ft): 14.94 (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	056 1941 AJ
	Lamotte	2020	2476-3312
	Lamotte	Smart 2 Colorimeter	0228-0702

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
1145	2500	18.84	7.09	1066	21.6	0.68	3.10	500	33.51	Clear/none
1150	5000	19.24	7.24	1061	16.1	1.15	1.90	500	33.52	
1155	75000	19.21	7.26	1058	21.9	1.45	1.67	500	33.52	
1200	10000	19.32	7.27	1053	27.9	1.69	1.04	500	33.52	
1205	12500	19.26	7.28	1052	33.4	1.73	0.83	500	33.52	
1210	15000	19.17	7.28	1051	37.7	1.83	0.59	500	33.52	
1215	17,500	19.21	7.29	1049	42.8	1.93	0.33	500	33.52	
1220	20,000	19.19	7.29	1047	46.5	1.98	0.70	500	33.52	
1225	22,500	19.24	7.29	1047	50.0	2.11	0.68	500	33.52	
1230	25,000	19.18	7.30	1047	52.3	2.17	0.53	500	33.52	
1235	27,500	19.34	7.30	1045	51.7	2.16	0.47	500	33.52	
1240	30,000	19.28	7.30	1046	54.2	2.15	0.30	500	33.52	
	* Parameters not stable, removed 3 well volumes, sample collected									

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Sample Collector(s): Date: 8-4-14

SAMPLE COLLECTION DATA Well ID: **RAMW-07**

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-RAMW07-080414	VOC's	3 - 40mL Clear Vials	1240	500	
	Ferrous Iron	mg/L	0.00		

VOCs - Volatile organic compounds

G - Glass
HCl - Hydrochloric acid

AECOM

Well ID: **RAMW-08**

Ground Water Sample Collection Record

Client: UTAS Plants 1/2 Facility Date: 8-4-14 Time: Start 1035 (24hr)
Project No: 60312350-4214 Finish 1130
Site Location: Rockford, Illinois
Weather: Sunny 70-80°F Collector(s): A. Hollatz

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 44.16 Screen interval(ft): 15 Approx. depth of pump intake(ft): 37
Water table depth (ft): 29.65 Casing type/diameter: 2" PVC Minimum purge volume: 7.10 (gals)
Water column length (ft): 14.5 (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	056 1941 AS
	Lamotte	2020	2476-3312
	Lamotte	Smart 2 Colorimeter	0228-0702

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
1050	2500	19.59	7.12	962	-167.9	0.36	11.4	500	29.70	clear/sand
1055	5000	20.25	7.10	962	-127.5	0.26	9.80	500	29.72	
1100	7,500	20.01	7.20	964	-140.3	0.30	11.30	500	29.78	
1105	10,000	19.67	7.21	954	-135.5	0.29	12.00	500	29.76	
1110	12,500	19.82	7.22	946	-139.9	0.30	13.06	500	29.76	
1115	15,000	19.67	7.21	943	-140.3	0.31	11.97	500	29.76	

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Sample Collector(s): [signature] Date: 8-4-14

SAMPLE COLLECTION DATA Well ID: **RAMW-08**

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-RAMW08-686414	VOC's	3 - 40mL Clear Vials	1115	500	
	Ferrous Iron	mg/L	→		Over range (10-6 ppm)

VOCs - Volatile organic compounds

G - Glass

HCl - Hydrochloric acid

Project Name:

Project Number:

Date: 6-5-14

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	05G1941A5	NCL	B4130505 8-5-15	4.00 @ 25C	27.29	4.09	4.00	A.H 0644	
								—		Post Cal
pH 7.00			NCL	B4713090 3 9-3-15	7.00 @ 25C	27.27	6.99	7.00	A.H 0642	
								—		Post Cal
pH 10.00			NCL	B5013042 9 11-29-15	10.00 @ 25C	27.29	10.04	10.01	A.H 0647	
								—		Post Cal
Specific Cond.			NCL	14C100326 9-15	1,000 uS/cm @ 25C	27.12	1048	1000	A.H 0700	
								—		Post Cal
Specific Cond. (Check Only)					____uS/cm @ 25C			—		
								—		Post Cal
Specific Cond. (Check Only)					____uS/cm @ 25C			—		
								—		Post Cal
ORP			Zobell	14D100486 4-16	____mV @ ____C	27.16	231.5	244.0	0650 A.H.	
								—		Post Cal
DO			H2O Saturated Air	—	100% H20 Sat. Air	27.05	96.2	96.2	A.H 0639	BP =
								—		Post Cal, BP =
Turbidity	LaMotte 2020	2426342	—	—	0 NTU	NA	0.01	0.00	0630 A.H.	
						NA		—		Post Cal
					10 NTU	NA	9.87	10.01	0636 A.H	
						NA		—		Post Cal

BP = Barometric Pressure (mmHg)

Project Name:

Project Number:

Date: 8-4-14

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	05G1941A5	NCL	B44130805 8-5-15	4.00 @ 25C	27.35	4.07	4.00	0842 AH	
								—		Post Cal
pH 7.00			NCL	B47130803 9-3-15	7.00 @ 25C	27.22	7.02	7.00	0840 A.H	
								—		Post Cal
pH 10.00			NCL	B50130429 4-29-15	10.00 @ 25C	27.25	9.89	10.01	0844 A.H	
								—		Post Cal
Specific Cond.			NCL	14C100326 9-16	1,000 uS/cm @ 25C	27.15	1030	1000	0838 AH	
								—		Post Cal
Specific Cond. (Check Only)					uS/cm @ 25C			—		
								—		Post Cal
Specific Cond. (Check Only)					uS/cm @ 25C			—		
								—		Post Cal
ORP			Zobell	14D100406 4-16	244 mV @ 15 C	27.30	239.4	244.0	0846 AH	
								—		Post Cal
DO			H2O Saturated Air	—	100% H20 Sat. Air	~~98.2~~ 27.10	98.2	96.2	0835 A.H	BP =
								—		Post Cal, BP =
Turbidity	LaMotte 2020	2476-3312	—	—	0 NTU	NA	0.00	0.00	0835 AH	
						NA		—		Post Cal
					10 NTU	NA	9.98	10.01	0835 A.H.	
						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 #
[illegible]	
Accutest Quote #	Accutest Job #

Client / Reporting Information

Company Name: AECOM
Street Address: 27755 [illegible] 6100
City / State / Zip: [illegible] 60555
Project Contact / E-mail: [illegible]
Phone # / Fax #: [illegible] 630 836 [illegible]
Sampler(s) Name(s) / Phone #: [illegible]

Project Information

Project Name: [illegible]
Street:
City / State: [illegible]
Project #: [illegible]
Client Purchase Order #:
Project Manager: [illegible]

Billing Information (if different from Report to)

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

Requested Analysis (see TEST CODE sheet)

VOC 8260 R

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	LAB USE ONLY
	HSSER RAMW08-080414		8-4-14	1115	AH	GW	3	X								
	HSSER RAMW07-080414			1240	AH	GW	3	X								
	HSSER RAMW06-080414			1350	AH	GW	3	X								
	HSSER RAMW05-080414			1505	AH	GW	3	X								
	HSSER RAMW04-080414			1610	AH	GW	3	X								
	HSSER FBLK02-080414			1520	AH	GW	3	X								
	HSSER RAMW03-080514		08-5-14	1040	AH	GW	3	X								
	HSSER RAMW02-080514			1200	AH	GW	3	X								
	HSSER RAMW01-080514			1350	AH	GW	3	X								
	HSSER MW02-080514			1300	AH	GW	3	X								
	HSSER MW03-080514			1300	AH	GW	3	X								
	HSSER FBLK03-080514			1305	AH	GW	3	X								

Turnaround Time (Business days)

- [x] Std. 10 Business Days
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [ ] 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

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

Comments / Special Instructions

[illegible] 13 VOC
Level 1 [illegible]

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 [illegible]	8-6-14 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.

CHAIN OF CUSTODY

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

FED-EX Tracking #: [illegible] | Bottle Order Control #:
Accutest Quote #: [illegible] | Accutest Job #:

Client / Reporting Information

Company Name: [illegible]
Street Address: [illegible]
City / State / Zip: [illegible]
Project Contact / E-mail: [illegible]
Phone # / Fax #: [illegible]
Sampler(s) Name(s) / Phone #: [illegible]

Project Information

Project Name: [illegible]
Street:
City / State:
Project #: [illegible]
Client Purchase Order #:
Project Manager: [illegible]

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	Number of preserved Bottles: HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	LAB USE ONLY
	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	3	X								
	[illegible]		[illegible]	—	—	[illegible]	3	X								

Turnaround Time (Business days)

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

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 [illegible]	[illegible]	1	2		2
Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
3		3	4		4
Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice / Cooler Temp.
5		5	☐ Intact ☐ Not Intact	☐	☐

Appendix F

Fourth Quarter 2014 Progress Report

AECOM

Submitted to:
UTC Aerospace Systems
Rockford, IL

Submitted by:
AECOM
Warrenville, IL
60312350
December 2014

QUARTERLY PROGRESS REPORT – Fourth Quarter 2014 (September 2014 – November 2014)

UTC Aerospace Systems Plants 1/2 Facility
Southeast Rockford Groundwater Contamination
Superfund Site
2421 11th Street
Rockford, Illinois 61104
ILD981000417, ILD010219665
AECOM Project No. 60312350

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 September, October, and November of the Fourth Quarter of 2014 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-fifth 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 September, October and November of the Fourth Quarter of 2014:

- On September 10, 2014, AECOM submitted to the USEPA the Second Quarter GMZ Monitoring and System Performance Report;
- Phase 1 and Phase 2 AS/SVE system air sampling of the SVE system effluent after the system being reactivated (switched to the pulse-on mode). SVE process air effluent sampling was conducted on September 16, 2014;

- 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 November 14, 2014;
- Phase 2 SVE system water sample was collected from the moisture separator. The moisture separator water sample was collected on November 14, 2014;

Summary of Sampling and Tests

- Three process air samples were collected from the Phase 1 AS/SVE system effluent during the September 16, 2014 and November 14, 2014 sampling events; and
- Two process air samples were collected from the Phase 2 AS/SVE system effluent during the September 16, 2014 and November 14, 2014 sampling events.
- One water sample from the Phase 1 system moisture separator was collected on November 14, 2014.

Work Plans and Other Deliverables Completed In Accordance With the CD

- The *Second Quarter GMZ Monitoring and System Performance Report, Area 9/10 Remedial Action* (June 2014) 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-off mode (system not in operation) to approximately January 19, 2015;
- Operation of the Phase 1 and Phase 2 AS/SVE systems will be in pulse-on mode (system in run mode) from approximately January 19, 2014 and approximately March 20, 2015; and
- Completion of the Fourth Quarter 2014 Groundwater Monitoring event in December 2014. The monitoring event will include the GMZ monitoring well network (which includes the Phase 1 AS/SVE performance monitoring network) and the Phase 2 AS/SVE performance monitoring network.

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 69%. 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.