Duplicate Summary

Job Number: JC48814
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
JC48814-10DUP	2E135602.D	1	08/16/17	JP	n/a	n/a	V2E5921
JC48814-10	2E135595.D	1	08/16/17	JP	n/a	n/a	V2E5921

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

JC48814-1, JC48814-2, JC48814-3, JC48814-4, JC48814-5, JC48814-6, JC48814-7, JC48814-8, JC48814-9, JC48814-10, JC48814-11, JC48814-12

CAS No.	Compound	JC48814-10 ug/l	Q	DUP ug/l	Q	RPD	Limits
75-34-3	1,1-Dichloroethane	ND		ND		nc	20
107-06-2	1,2-Dichloroethane	ND		ND		nc	20
75-35-4	1,1-Dichloroethene	ND		ND		nc	20
156-59-2	cis-1,2-Dichloroethene	ND		ND		nc	20
156-60-5	trans-1,2-Dichloroethene	ND		ND		nc	20
100-41-4	Ethylbenzene	ND		ND		nc	20
75-09-2	Methylene chloride	ND		ND		nc	20
127-18-4	Tetrachloroethene	ND		ND		nc	20
108-88-3	Toluene	ND		ND		nc	20
71-55-6	1,1,1-Trichloroethane	ND		ND		nc	20
79-00-5	1,1,2-Trichloroethane	ND		ND		nc	20
79-01-6	Trichloroethene	ND		ND		nc	20
75-01-4	Vinyl chloride	ND		ND		nc	20

CAS No.	Surrogate Recoveries	DUP	JC48814-10	Limits
1868-53-7	Dibromofluoromethane	108%	110%	80-120%
17060-07-0	1,2-Dichloroethane-D4	113%	115%	81-124%
2037-26-5	Toluene-D8	101%	101%	80-120%
460-00-4	4-Bromofluorobenzene	105%	106%	80-120%

* = Outside of Control Limits.

Instrument Performance Check (BFB)

Job Number: JC48814
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V2E5882-BFB **Injection Date:** 07/11/17
Lab File ID: 2E134527.D **Injection Time:** 12:21
Instrument ID: GCMS2E

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	19197	20.2		Pass
75	30.0 - 60.0% of mass 95	47136	49.5		Pass
95	Base peak, 100% relative abundance	95221	100.0		Pass
96	5.0 - 9.0% of mass 95	6309	6.63		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	73114	76.8		Pass
175	5.0 - 9.0% of mass 174	5773	6.06	(7.90) [a]	Pass
176	95.0 - 101.0% of mass 174	70042	73.6	(95.8) [a]	Pass
177	5.0 - 9.0% of mass 176	4743	4.98	(6.77) [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
V2E5882-IC5882	2E134528.D	07/11/17	13:05	00:44	Initial cal 0.2
V2E5882-IC5882	2E134529.D	07/11/17	13:32	01:11	Initial cal 0.5
V2E5882-IC5882	2E134530.D	07/11/17	13:59	01:38	Initial cal 1
V2E5882-IC5882	2E134531.D	07/11/17	14:27	02:06	Initial cal 2
V2E5882-IC5882	2E134532.D	07/11/17	14:55	02:34	Initial cal 5
V2E5882-IC5882	2E134533.D	07/11/17	15:22	03:01	Initial cal 10
V2E5882-IC5882	2E134534.D	07/11/17	15:50	03:29	Initial cal 20
V2E5882-ICC5882	2E134535.D	07/11/17	16:18	03:57	Initial cal 50
V2E5882-IC5882	2E134536.D	07/11/17	16:45	04:24	Initial cal 100
V2E5882-IC5882	2E134537.D	07/11/17	17:13	04:52	Initial cal 200
V2E5882-ICV5882	2E134540.D	07/11/17	18:36	06:15	Initial cal verification 50
V2E5882-ICV5882	2E134541.D	07/11/17	19:04	06:43	Initial cal verification 50

Instrument Performance Check (BFB)

Job Number: JC48814
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample:	V2E5921-BFB	**Injection Date:**	08/15/17
Lab File ID:	2E135579.D	**Injection Time:**	21:56
Instrument ID:	GCMS2E		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	16743	23.6		Pass
75	30.0 - 60.0% of mass 95	38040	53.6		Pass
95	Base peak, 100% relative abundance	70936	100.0		Pass
96	5.0 - 9.0% of mass 95	4720	6.65		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	48963	69.0		Pass
175	5.0 - 9.0% of mass 174	4002	5.64	(8.17) [a]	Pass
176	95.0 - 101.0% of mass 174	46997	66.3	(96.0) [a]	Pass
177	5.0 - 9.0% of mass 176	3118	4.40	(6.63) [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
V2E5921-CC5882	2E135580.D	08/15/17	22:23	00:27	Continuing cal 50
V2E5921-MB	2E135582.D	08/15/17	23:18	01:22	Method Blank
V2E5921-BS	2E135583.D	08/15/17	23:45	01:49	Blank Spike
JC48814-5	2E135585.D	08/16/17	00:39	02:43	HSSER-EBLK02-080817
JC48814-12	2E135586.D	08/16/17	01:06	03:10	HSSER-TRIP02-080917
JC48814-1	2E135587.D	08/16/17	01:34	03:38	HSSER-RAMW08-080817
JC48814-2	2E135588.D	08/16/17	02:02	04:06	HSSER-RAMW07-080817
JC48814-3	2E135589.D	08/16/17	02:29	04:33	HSSER-RAMW06-080817
JC48814-4	2E135590.D	08/16/17	02:57	05:01	HSSER-RAMW05-080817
JC48814-6	2E135591.D	08/16/17	03:25	05:29	HSSER-RAMW04-080817
JC48814-7	2E135592.D	08/16/17	03:52	05:56	HSSER-RAMW03-080917
JC48814-8	2E135593.D	08/16/17	04:20	06:24	HSSER-RAMW02-080917
JC48814-9	2E135594.D	08/16/17	04:48	06:52	HSSER-RAMW01-080917
JC48814-10	2E135595.D	08/16/17	05:16	07:20	HSSER-FBLK02-080917
JC48814-11	2E135596.D	08/16/17	05:43	07:47	HSSER-DUP02-080917
ZZZZZZ	2E135597.D	08/16/17	06:11	08:15	(unrelated sample)
ZZZZZZ	2E135598.D	08/16/17	06:39	08:43	(unrelated sample)
ZZZZZZ	2E135599.D	08/16/17	07:07	09:11	(unrelated sample)
ZZZZZZ	2E135600.D	08/16/17	07:35	09:39	(unrelated sample)
JC48814-10DUP	2E135602.D	08/16/17	08:32	10:36	Duplicate
JC48814-7MS	2E135603.D	08/16/17	08:59	11:03	Matrix Spike

Internal Standard Area Summary

Job Number: JC48814
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Check Std:	V2E5921-CC5882	**Injection Date:**	08/15/17
Lab File ID:	2E135580.D	**Injection Time:**	22:23
Instrument ID:	GCMS2E	**Method:**	SW846 8260C

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	91606	7.47	173094	9.70	286203	10.62	239825	13.75	124875	16.04
Upper Limit [a]	183212	7.97	346188	10.20	572406	11.12	479650	14.25	249750	16.54
Lower Limit [b]	45803	6.97	86547	9.20	143102	10.12	119913	13.25	62438	15.54

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
V2E5921-MB	102669	7.47	166824	9.70	273119	10.62	235153	13.75	121579	16.04
V2E5921-BS	89095	7.47	162598	9.70	275685	10.62	230221	13.75	120014	16.04
JC48814-5	103400	7.46	162063	9.70	265876	10.62	225821	13.75	116924	16.04
JC48814-12	108030	7.47	179002	9.70	291030	10.62	242857	13.75	124751	16.05
JC48814-1	80615	7.47	165694	9.70	272433	10.62	234868	13.75	122937	16.04
JC48814-2	77843	7.46	159325	9.70	260854	10.62	228813	13.75	118626	16.04
JC48814-3	77330	7.47	159947	9.70	262389	10.62	227462	13.75	117384	16.04
JC48814-4	82584	7.47	164805	9.70	271635	10.62	233701	13.75	120240	16.04
JC48814-6	86715	7.46	165529	9.70	270193	10.62	237209	13.75	122843	16.04
JC48814-7	86386	7.47	169483	9.70	276080	10.62	239345	13.75	124568	16.04
JC48814-8	85328	7.47	168606	9.70	275045	10.62	237837	13.75	123053	16.04
JC48814-9	83644	7.47	161315	9.70	265812	10.62	231511	13.75	119963	16.05
JC48814-10	84775	7.47	156930	9.70	257902	10.62	223894	13.75	115219	16.04
JC48814-11	82668	7.47	150746	9.70	251772	10.62	220702	13.75	114130	16.04
ZZZZZZ	87725	7.47	161102	9.70	266283	10.62	230201	13.75	118335	16.04
ZZZZZZ	86274	7.46	160465	9.70	261447	10.62	227525	13.75	117084	16.04
ZZZZZZ	95849	7.47	158521	9.70	262621	10.62	227166	13.75	116104	16.04
ZZZZZZ	84740	7.46	160029	9.70	260436	10.62	226327	13.75	117515	16.04
JC48814-10DUP	91627	7.47	161608	9.70	260699	10.62	225983	13.75	116499	16.04
JC48814-7MS	93848	7.47	163019	9.70	269741	10.62	228865	13.75	119924	16.04

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.

Surrogate Recovery Summary

Job Number: JC48814
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

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

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4
JC48814-1	2E135587.D	109	112	101	104
JC48814-2	2E135588.D	108	114	100	105
JC48814-3	2E135589.D	108	114	101	107
JC48814-4	2E135590.D	107	112	101	105
JC48814-5	2E135585.D	109	114	103	106
JC48814-6	2E135591.D	108	113	100	105
JC48814-7	2E135592.D	107	112	101	105
JC48814-8	2E135593.D	108	112	102	105
JC48814-9	2E135594.D	109	115	101	105
JC48814-10	2E135595.D	110	115	101	106
JC48814-11	2E135596.D	112	115	100	104
JC48814-12	2E135586.D	106	111	103	105
JC48814-10DUP	2E135602.D	108	113	101	105
JC48814-7MS	2E135603.D	107	114	103	105
V2E5921-BS	2E135583.D	109	112	104	107
V2E5921-MB	2E135582.D	108	114	102	107

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	80-120%
S2 = 1,2-Dichloroethane-D4	81-124%
S3 = Toluene-D8	80-120%
S4 = 4-Bromofluorobenzene	80-120%

Initial Calibration Summary

Job Number: JC48814 **Sample:** V2E5882-ICC5882
Account: UTC United Technologies Corporation **Lab FileID:** 2E134535.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Response Factor Report VOAMS2E

Method : C:\MSDCHEM\1\METHODS\M2E5882.M (RTE Integrator)
Title : SW-846 Method V8260C, ZB624 60Mx0.25MMx1.4UM
Last Update : Wed Jul 12 11:35:51 2017
Response via : Initial Calibration

Calibration Files
5 =2E134532.D 2 =2E134531.D 0.5 =2E134529.D 50 =2E134535.D
100 =2E134536.D 1 =2E134530.D 200 =2E134537.D 20 =2E134534.D
10 =2E134533.D 0.2 =2E134528.D = =

Compound

	5	2	0.5	50	100	1	200	20	10	0.2	Avg	%RSD
1) I Tert Butyl Alcohol-d9					----------ISTD----------							
2) ethanol												
	0.145	0.184	0.136	0.128	0.201	0.117	0.132	0.142			0.148	19.60
3) tertiary butyl alcohol												
	1.411	1.537	1.424	1.456	1.558	1.420	1.449	1.456			1.464	3.74
4) 1,4-dioxane												
	0.101	0.099	0.095	0.095	0.106	0.097	0.100	0.096			0.099	3.78
5) I pentafluorobenzene					----------ISTD----------							
6) chlorodifluoromethane												
	1.152	1.301	1.275	1.221	1.191	1.294	1.184	1.200	1.173	1.211	1.220	4.28
7) dichlorodifluoromethane												
	1.092	1.125	1.018	1.121	1.111	1.164	1.076	1.100	1.113	0.969	1.089	5.19
8) Freon 142B												
	0.783	0.804	0.849	0.783	0.736	0.806	0.836	0.811			0.801	4.35
9) chloromethane												
	1.260	1.335	1.419	1.351	1.363	1.464	1.331	1.280	1.293		1.344	4.89
10) vinyl chloride												
	1.198	1.242	1.245	1.335	1.342	1.290	1.326	1.270	1.254	1.394	1.290	4.58
11) bromomethane												
	0.668	0.745	0.759	0.688	0.675	0.737	0.625	0.665	0.673	0.752	0.699	6.54
12) chloroethane												
	0.671	0.674	0.756	0.690	0.678	0.722	0.639	0.671	0.656	0.684	0.684	4.83
13) trichlorofluoromethane												
	1.040	1.042	0.936	1.098	1.096	1.057	1.080	1.059	1.048		1.051	4.59
14) 1,3-butadiene												
	1.018	1.094	1.114	1.027	0.952	1.155	0.964	1.004	1.002		1.037	6.69
15) vinyl bromide												
	0.767	0.815	0.797	0.801	0.800	0.836	0.779	0.786	0.773	0.783	0.794	2.61
16) ethyl ether												
	0.415	0.465	0.482	0.429	0.417	0.498	0.408	0.421	0.415		0.439	7.67
17) 2-chloropropane												
	1.577	1.833	1.843	1.661	1.620	1.975	1.572	1.629	1.627	1.765	1.710	7.96
18) acrolein												
	0.144		0.134	0.135		0.131	0.139	0.141			0.137	3.57
19) freon 113												
	0.499	0.539	0.458	0.504	0.504	0.551	0.494	0.509	0.512		0.508	5.27
20) 1,1-dichloroethene												
	1.128	1.313	1.277	1.200	1.185	1.326	1.158	1.200	1.162	1.056	1.201	7.02
21) acetone												
	0.063	0.072	0.060	0.055	0.085	0.054	0.059	0.056			0.063	17.15
22) acetonitrile												
	0.096	0.112	0.097	0.097	0.095	0.110	0.095	0.097	0.094		0.099	6.83
23) iodomethane												

6.8.1 6

Initial Calibration Summary

Job Number: JC48814 **Sample:** V2E5882-ICC5882
Account: UTC United Technologies Corporation **Lab FileID:** 2E134535.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

	1.037	1.195	1.114	1.103	1.090	1.229	1.064	1.101	1.088	1.001	1.102	6.15
24)	carbon disulfide											
	2.399	2.733	2.640	2.548	2.493	2.804	2.446	2.512	2.488		2.563	5.29
25)	methylene chloride											
	0.697	0.810	0.830	0.735	0.722	0.886	0.702	0.722	0.720		0.758	8.80
26)	methyl acetate											
	0.508	0.564		0.532	0.525	0.626	0.514	0.527	0.515		0.539	7.26
27)	methyl tert butyl ether											
	2.018	2.251	2.428	2.095	2.044	2.313	1.991	2.044	2.049		2.137	7.23
28)	trans-1,2-dichloroethene											
	1.103	1.250	1.330	1.135	1.112	1.280	1.085	1.127	1.095	1.255	1.177	7.73
29)	hexane											
	0.617	0.699		0.644	0.638	0.778	0.627	0.643	0.638		0.661	8.05
30)	di-isopropyl ether											
	2.813	3.227	3.143	3.026	2.956	3.239	2.857	2.949	2.902	3.057	3.017	4.94
31)	ethyl tert-butyl ether											
	2.500	2.780	2.604	2.664	2.619	2.836	2.555	2.610	2.558	2.420	2.615	4.71
32)	2-butanone											
	0.062	0.066		0.068	0.066	0.067	0.065	0.065	0.062		0.065	3.62
33)	1,1-dichloroethane											
	1.279	1.435	1.302	1.359	1.333	1.464	1.294	1.343	1.314	1.247	1.337	5.07
34)	chloroprene											
	1.220	1.356	1.336	1.321	1.301	1.386	1.284	1.299	1.266	1.182	1.295	4.73
35)	acrylonitrile											
	0.266	0.292	0.239	0.276	0.268	0.306	0.264	0.272	0.270		0.272	6.92
36)	vinyl acetate											
	0.125			0.132	0.134		0.133	0.131	0.121		0.129	4.04
37)	ethyl acetate											
	0.104			0.102	0.100		0.099	0.098	0.104		0.101	2.31
38)	2,2-dichloropropane											
	1.032	1.181		1.050	1.006	1.255	0.973	1.031	1.047		1.072	8.92
39)	cis-1,2-dichloroethene											
	0.713	0.831	0.920	0.748	0.730	0.851	0.713	0.744	0.737		0.776	9.40
40)	propionitrile											
	0.087	0.100		0.091	0.090	0.097	0.090	0.091	0.088		0.092	4.88
41)	methyl acrylate											
	0.074			0.087	0.085		0.086	0.081	0.077		0.082	6.55
42)	bromochloromethane											
	0.313	0.353	0.285	0.327	0.319	0.347	0.316	0.322	0.318		0.322	6.08
43)	tetrahydrofuran											
				0.084	0.083		0.079	0.091	0.106		0.088	11.98
44)	chloroform											
	1.135	1.347		1.167	1.141	1.424	1.126	1.152	1.129		1.203	9.60
45)	t-butyl formate											
	0.483	0.512	0.527	0.505	0.505	0.570	0.493	0.490	0.495		0.509	5.15
46)	1,1-dichloropropene											
	0.938	1.058	1.025	0.996	0.983	1.033	0.974	0.973	0.952		0.992	3.97
47)	carbon tetrachloride											
	0.836	0.917	0.863	0.871	0.859	0.917	0.852	0.854	0.839		0.868	3.46
48)	isopropyl acetate											
	0.136	0.139		0.131	0.132	0.135	0.131	0.129	0.136		0.134	2.49
49)	dibromofluoromethane (s)											
	0.472	0.475	0.473	0.486	0.484	0.482	0.479	0.481	0.476	0.480	0.479	1.00
50)	methacrylonitrile											
	0.242	0.306		0.268	0.267	0.276	0.265	0.264	0.258		0.268	6.79
51)	1,1,1-trichloroethane											
	0.960	1.098	1.045	1.035	1.011	1.112	0.998	1.005	0.995	1.018	1.028	4.56
52)	Cyclohexane											
	1.099	1.079	1.102	1.132	1.116	1.197	1.102	1.113	1.083	0.977	1.100	4.95
53)	iso-butyl alcohol											

Initial Calibration Summary

Job Number: JC48814 **Sample:** V2E5882-ICC5882
Account: UTC United Technologies Corporation **Lab FileID:** 2E134535.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

```
      0.027             0.026 0.025       0.026 0.026 0.027        0.026    2.34
54)  Tert Amyl Alcohol
      0.079             0.075 0.073       0.073 0.075 0.076        0.075    2.79

55) I   1,4-difluorobenzene   ----------------ISTD---------------------
56)  1,2-dichloroethane-d4 (s)
      0.378 0.385 0.384 0.382 0.382 0.384 0.383 0.378 0.375 0.382  0.381    0.86
57)  2,2,4-trimethylpentane
      2.080 2.280 2.022 2.170 2.138 2.321 2.078 2.114 2.110 2.016  2.133    4.71
58)  n-butyl alcohol
      0.010 0.010 0.011 0.009 0.009 0.011 0.009 0.010 0.010        0.010#   8.90
59)  benzene
      1.756 1.923 1.986 1.779 1.742 2.021 1.686 1.768 1.794 2.035  1.849    6.98
60)  tert-amyl methyl ether
      1.451 1.629 1.661 1.437 1.404 1.672 1.352 1.426 1.438 1.603  1.507    7.95
61)  heptane
      0.416 0.461 0.455 0.410 0.409 0.478 0.399 0.408 0.408        0.427    6.83
62)  1,2-dichloroethane
      0.559 0.608 0.571 0.548 0.537 0.593 0.519 0.546 0.541 0.574  0.560    4.87
63)  ethyl acrylate
      0.462 0.558       0.475 0.471 0.606 0.468 0.466 0.466        0.497   10.97
64)  trichloroethene
      0.392 0.440 0.466 0.412 0.404 0.437 0.397 0.411 0.400 0.410  0.417    5.60
65)  2-nitropropane
      0.159 0.153       0.143 0.143       0.143 0.141 0.145        0.147    4.52
66)  2-chloroethyl vinyl ether
      0.218 0.244 0.218 0.227 0.225 0.237 0.221 0.225 0.225 0.212  0.225    4.17
67)  methyl methacrylate
      0.080 0.087       0.094 0.093 0.081 0.092 0.090 0.088        0.088    5.80
68)  1,2-dichloropropane
      0.458 0.506 0.515 0.481 0.469 0.536 0.462 0.473 0.469 0.441  0.481    6.08
69)  methylcyclohexane
      0.865 0.917 0.896 0.879 0.864 1.015 0.850 0.868 0.879 0.775  0.881    6.81
70)  dibromomethane
      0.232 0.245 0.228 0.227 0.224 0.259 0.220 0.227 0.226        0.232    5.30
71)  bromodichloromethane
      0.502 0.556 0.554 0.521 0.521 0.572 0.516 0.512 0.502 0.570  0.533    5.14
72)  epichlorohydrin
      0.038 0.045       0.036 0.036 0.047 0.036 0.037 0.036        0.039   12.15
73)  cis-1,3-dichloropropene
      0.665 0.734 0.681 0.694 0.687 0.722 0.684 0.688 0.669 0.643  0.687    3.85
74)  4-methyl-2-pentanone
      0.157 0.172 0.157 0.155 0.150 0.166 0.146 0.155 0.155        0.157    4.92
75)  3-methyl-1-butanol
      0.011 0.012       0.010 0.009 0.012 0.009 0.010 0.010        0.010   11.23

76) I   chlorobenzene-d5      ----------------ISTD---------------------
77)  toluene-d8 (s)
      1.392 1.396 1.372 1.425 1.424 1.380 1.428 1.401 1.402 1.378  1.400    1.45
78)  toluene
      1.126 1.272 1.249 1.193 1.172 1.273 1.152 1.174 1.151 1.213  1.197    4.37
79)  ethyl methacrylate
      0.547 0.612 0.601 0.609 0.598 0.571 0.597 0.596 0.574 0.558  0.586    3.75
80)  trans-1,3-dichloropropene
      0.656 0.735 0.671 0.703 0.688 0.721 0.674 0.689 0.677 0.717  0.693    3.64
81)  1,1,2-trichloroethane
      0.307 0.338 0.357 0.324 0.320 0.356 0.316 0.321 0.325 0.361  0.333    5.81
82)  tetrachloroethene
      0.342 0.362 0.366 0.356 0.353 0.414 0.350 0.354 0.355        0.361    5.80
83)  2-hexanone
```

6.8.1

6

Initial Calibration Summary

Job Number: JC48814 **Sample:** V2E5882-ICC5882
Account: UTC United Technologies Corporation **Lab FileID:** 2E134535.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

```
      0.165 0.177       0.167 0.159 0.175 0.154 0.172 0.169        0.167    4.65
 84)  1,3-dichloropropane
      0.652 0.718 0.702 0.673 0.659 0.721 0.647 0.669 0.651 0.638  0.673    4.46
 85)  butyl acetate
      0.323 0.379       0.320 0.306 0.398 0.299 0.318 0.319        0.333   10.67
 86)  3,3-dimethyl-1-butanol
      0.048 0.053       0.047 0.043 0.056 0.043 0.046 0.044        0.048   10.34
 87)  dibromochloromethane
      0.388 0.403 0.389 0.409 0.406 0.390 0.402 0.392 0.384 0.384  0.395    2.37
 88)  1,2-dibromoethane
      0.349 0.407 0.390 0.371 0.363 0.384 0.358 0.363 0.360 0.365  0.371    4.73
 89)  n-butyl ether
      2.424 2.658 2.584 2.484 2.387 2.747 2.329 2.494 2.480 2.556  2.514    5.01
 90)  chlorobenzene
      1.180 1.270 1.237 1.197 1.166 1.270 1.158 1.188 1.185 1.289  1.214    3.96
 91)  1,1,1,2-tetrachloroethane
      0.413 0.445 0.405 0.442 0.433 0.451 0.431 0.428 0.430 0.435  0.431    3.20
 92)  ethylbenzene
      2.134 2.418 2.316 2.227 2.162 2.429 2.135 2.218 2.196 2.217  2.245    4.80
 93)  m,p-xylene
      0.811 0.900 0.839 0.829 0.808 0.904 0.795 0.816 0.830 0.804  0.834    4.61
 94)  o-xylene
      1.783 1.958 1.952 1.849 1.793 2.022 1.766 1.814 1.816 2.046  1.880    5.56
 95)  styrene
      1.310 1.426 1.288 1.393 1.359 1.405 1.346 1.379 1.359 1.210  1.348    4.75
 96)  butyl acrylate
      0.952 1.056 1.040 1.019 0.978 1.066 0.960 0.995 0.984        1.005    4.14
 97)  bromoform
      0.251 0.276 0.260 0.263 0.263 0.265 0.265 0.257 0.251        0.261    2.99
 98)  isopropylbenzene
      2.175 2.372 2.223 2.259 2.199 2.324 2.177 2.227 2.208 2.032  2.220    4.12
 99)  cis-1,4-dichloro-2-butene
      0.141             0.177 0.178       0.179 0.168 0.151        0.166    9.67

100) I   1,4-dichlorobenzene-d ----------------ISTD---------------------
101)  4-bromofluorobenzene (s)
      0.975 0.978 0.974 0.978 0.976 0.969 0.967 0.973 0.977 0.977  0.974    0.39
102)  bromobenzene
      0.913 0.990 0.987 0.923 0.907 0.954 0.890 0.924 0.929 0.998  0.942    4.07
103)  1,1,2,2-tetrachloroethane
      0.903 0.989 1.021 0.947 0.936 1.028 0.901 0.930 0.896 1.008  0.956    5.38
104)  trans-1,4-dichloro-2-butene
      0.258             0.295 0.298       0.293 0.278 0.261        0.280    6.33
105)  1,2,3-trichloropropane
      0.222 0.245 0.243 0.227 0.231 0.277 0.222 0.226 0.237        0.237    7.36
106)  n-propylbenzene
      4.866 5.342 5.397 5.025 4.911 5.368 4.749 4.948 4.928 5.472  5.101    5.19
107)  2-chlorotoluene
      0.899 1.001 0.877 0.912 0.905 0.939 0.882 0.897 0.895 0.885  0.909    4.05
108)  4-chlorotoluene
      2.980 3.294 3.439 3.007 2.962 3.280 2.888 3.016 2.989 3.346  3.120    6.31
109)  1,3,5-trimethylbenzene
      3.363 3.644 3.636 3.584 3.547 3.605 3.482 3.503 3.446 3.291  3.510    3.35
110)  tert-butylbenzene
      2.796 3.076 2.921 3.038 3.079 3.047 3.030 2.924 2.889        2.978    3.32
111)  1,2,4-trimethylbenzene
      3.472 3.809 3.620 3.638 3.594 3.820 3.536 3.538 3.530 3.607  3.616    3.20
112)  sec-butylbenzene
      4.471 4.880 4.528 4.768 4.715 4.812 4.626 4.612 4.567 4.232  4.621    4.08
113)  1,3-dichlorobenzene
```

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Initial Calibration Summary

Job Number: JC48814 **Sample:** V2E5882-ICC5882
Account: UTC United Technologies Corporation **Lab FileID:** 2E134535.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

```
      1.818 1.922 1.879 1.869 1.851 1.951 1.822 1.828 1.854 2.025  1.882    3.51
114)  p-isopropyltoluene
      3.655 3.945 3.918 3.836 3.807 3.944 3.780 3.766 3.787 3.734  3.817    2.49
115)  1,4-dichlorobenzene
      1.848 1.998 1.999 1.888 1.880 2.057 1.850 1.875 1.866 2.001  1.926    4.06
116)  1,2-dichlorobenzene
      1.785 1.952 1.797 1.849 1.834 1.890 1.813 1.820 1.816 1.624  1.818    4.63
117)  n-butylbenzene
      2.016 2.198 2.042 2.108 2.095 2.055 2.108 2.072 2.044 2.048  2.079    2.50
118)  1,2-dibromo-3-chloropropane
      0.219 0.248       0.193 0.195       0.194 0.191 0.200        0.206   10.13
119)  1,3,5-trichlorobenzene
      1.616 1.693 1.625 1.718 1.724 1.726 1.703 1.641 1.642 1.746  1.683    2.83
120)  1,2,4-trichlorobenzene
      1.310 1.359 1.320 1.477 1.482 1.315 1.437 1.388 1.365 1.472  1.392    4.98
121)  2-ethylhexyl acrylate
      0.711             1.100 1.216       1.251 0.870 0.809        0.993   22.80
            ----- Linear regression -----  Coefficient =  0.9995
              Response Ratio = -0.02371 + 1.27626 *A

122)  hexachlorobutadiene
      0.713 0.749 0.807 0.769 0.760 0.821 0.747 0.731 0.740        0.760    4.61
123)  naphthalene
      2.942 3.074       3.368 3.388 3.094 3.215 3.175 3.125        3.173    4.73
124)  1,2,3-trichlorobenzene
      1.214 1.296 1.183 1.366 1.357 1.238 1.286 1.281 1.277 1.325  1.282    4.59
125)  hexachloroethane
      0.533 0.539       0.626 0.639 0.519 0.655 0.582 0.548        0.580    9.20
126)  Benzyl chloride
      1.909 2.139 2.036 2.047 2.039 2.046 1.995 1.995 1.996        2.022    3.04
127)  2-methylnaphthalene
      1.272             1.775 1.820       1.751 1.577 1.456        1.608   13.34
 ------------------------------------------------------------------------------
 (#) = Out of Range  ###  Number of calibration levels exceeded format  ###

          M2E5882.M         Wed Jul 12 11:52:43 2017
```

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Initial Calibration Verification

Job Number: JC48814 **Sample:** V2E5882-ICV5882
Account: UTC United Technologies Corporation **Lab FileID:** 2E134540.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\2E134540.D Vial: 15
Acq On : 11 Jul 2017 6:36 pm Operator: JessicaP
Sample : icv5882-50 Inst : VOAMS2E
Misc : MS17829,V2E5882,5,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M2E5882.M (RTE Integrator)
Title : SW-846 Method V8260C, ZB624 60Mx0.25MMx1.4UM
Last Update : Wed Jul 12 11:35:51 2017
Response via : Multiple Level Calibration

Min. RRF : 0.010 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	Tert Butyl Alcohol-d9	1.000	1.000	0.0	110	0.00	7.47
2		ethanol	0.148	0.105	29.1	85	0.00	6.19
3	M	tertiary butyl alcohol	1.464	1.338	8.6	104	0.00	7.59
4		1,4-dioxane	0.099	0.070	29.3	81	0.00	11.34
5	I	pentafluorobenzene	1.000	1.000	0.0	109	0.00	9.70
6	M	chlorodifluoromethane	1.220	0.967	20.7	86	0.00	4.01
7	M	dichlorodifluoromethane	1.089	0.956	12.2	93	0.00	3.99
8		Freon 142B	0.801	0.931	-16.2	119	0.00	4.30
9	M	chloromethane	1.344	1.225	8.9	98	0.00	4.37
10	M	vinyl chloride	1.290	1.172	9.1	95	0.00	4.63
11	M	bromomethane	0.699	0.604	13.6	95	0.00	5.30
12	M	chloroethane	0.684	0.619	9.5	97	0.00	5.48
13	M	trichlorofluoromethane	1.051	0.977	7.0	97	-0.01	5.94
14		1,3-butadiene	1.037	1.101	-6.2	116	0.00	4.68
15		vinyl bromide	0.794	0.800	-0.8	108	0.00	5.84
16	M	ethyl ether	0.439	0.409	6.8	104	0.00	6.35
17		2-chloropropane	1.710	1.587	7.2	104	0.00	6.56
18	M	acrolein	0.137	0.135	1.5	110	0.00	6.62
19		freon 113	0.508	0.575	-13.2	124	0.01	6.74
20	M	1,1-dichloroethene	1.201	1.147	4.5	104	0.00	6.78
21	M	acetone	0.063	0.054	14.3	96	0.00	6.84
22		acetonitrile		----------NA----------				
23	M	iodomethane	1.102	1.026	6.9	101	0.00	7.07
24	M	carbon disulfide	2.563	2.467	3.7	105	0.00	7.19
25	M	methylene chloride	0.758	0.728	4.0	108	0.00	7.51
26	M	methyl acetate	0.539	0.509	5.6	104	0.00	7.30
27	M	methyl tert butyl ether	2.137	2.049	4.1	106	0.00	7.83
28	M	trans-1,2-dichloroethene	1.177	1.115	5.3	107	0.00	7.88
29		hexane	0.661	0.512	22.5	86	0.00	8.16
30	M	di-isopropyl ether	3.017	2.964	1.8	106	0.00	8.42
31	M	ethyl tert-butyl ether	2.615	2.565	1.9	105	0.00	8.88
32	M	2-butanone	0.065	0.063	3.1	99	0.00	9.16
33	M	1,1-dichloroethane	1.337	1.368	-2.3	109	0.00	8.45
34	M	chloroprene	1.295	1.274	1.6	105	0.00	8.56
35	M	acrylonitrile	0.272	0.292	-7.4	115	0.00	7.85
36	M	vinyl acetate	0.129	0.134	-3.9	110	0.00	8.44
37	M	ethyl acetate	0.101	0.098	3.0	105	-0.01	9.17
38	M	2,2-dichloropropane	1.072	1.032	3.7	107	0.00	9.19
39	M	cis-1,2-dichloroethene	0.776	0.749	3.5	109	0.00	9.20
40	M	propionitrile	0.092	0.090	2.2	107	0.00	9.28
41		methyl acrylate	0.082	0.084	-2.4	104	0.00	9.26

Initial Calibration Verification

Job Number: JC48814 **Sample:** V2E5882-ICV5882
Account: UTC United Technologies Corporation **Lab FileID:** 2E134540.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

42	M	bromochloromethane	0.322	0.322	0.0	107	0.00	9.51
43	M	tetrahydrofuran	0.088	0.085	3.4	110	0.00	9.54
44	M	chloroform	1.203	1.167	3.0	109	0.00	9.56
45		t-butyl formate	0.509	0.546	-7.3	117	0.00	9.59
46		1,1-dichloropropene	0.992	1.003	-1.1	109	0.00	9.98
47		carbon tetrachloride	0.868	0.865	0.3	108	0.00	10.01
48		isopropyl acetate	0.134	0.132	1.5	109	0.00	10.17
49	S	dibromofluoromethane (s)	0.479	0.480	-0.2	107	0.00	9.76
50	M	methacrylonitrile	0.268	0.258	3.7	104	0.00	9.45
51	M	1,1,1-trichloroethane	1.028	1.015	1.3	106	0.00	9.81
52		Cyclohexane	1.100	1.042	5.3	100	0.00	9.88
53		iso-butyl alcohol	0.026	0.025	3.8	107	0.00	10.00
54		Tert Amyl Alcohol	0.075	0.073	2.7	105	0.00	10.13
55	I	1,4-difluorobenzene	1.000	1.000	0.0	108	0.00	10.62
56	S	1,2-dichloroethane-d4 (s)	0.381	0.375	1.6	106	0.00	10.19
57		2,2,4-trimethylpentane	2.133	2.113	0.9	105	0.00	10.24
58	M	n-butyl alcohol	0.010	0.009#	10.0	100	0.00	10.75
59	M	benzene	1.849	1.777	3.9	107	0.00	10.25
60		tert-amyl methyl ether	1.507	1.400	7.1	105	0.00	10.27
61	M	heptane	0.427	0.443	-3.7	116	0.00	10.40
62	M	1,2-dichloroethane	0.560	0.564	-0.7	111	0.00	10.28
63		ethyl acrylate	0.497	0.469	5.6	106	0.00	10.96
64	M	trichloroethene	0.417	0.414	0.7	108	0.00	10.96
65	M	2-nitropropane	0.147	0.154	-4.8	116	0.00	11.74
66	M	2-chloroethyl vinyl ether	0.225	0.262	-16.4	124	0.00	11.75
67	M	methyl methacrylate	0.088	0.092	-4.5	106	0.00	11.23
68	M	1,2-dichloropropane	0.481	0.494	-2.7	110	0.00	11.23
69	M	methylcyclohexane	0.881	0.833	5.4	102	0.00	11.17
70	M	dibromomethane	0.232	0.230	0.9	109	0.00	11.39
71	M	bromodichloromethane	0.533	0.539	-1.1	111	0.00	11.52
72		epichlorohydrin	0.039	0.035	10.3	106	0.00	11.88
73	M	cis-1,3-dichloropropene	0.687	0.699	-1.7	108	0.00	11.97
74	M	4-methyl-2-pentanone	0.157	0.145	7.6	100	0.00	12.06
75	M	3-methyl-1-butanol	0.010	0.009#	10.0	101	0.00	12.08
76	I	chlorobenzene-d5	1.000	1.000	0.0	108	0.00	13.75
77	S	toluene-d8 (s)	1.400	1.426	-1.9	108	0.00	12.25
78		toluene	1.197	1.201	-0.3	108	0.00	12.32
79		ethyl methacrylate	0.586	0.591	-0.9	104	0.00	12.50
80		trans-1,3-dichloropropene	0.693	0.708	-2.2	108	0.00	12.52
81		1,1,2-trichloroethane	0.333	0.329	1.2	109	0.00	12.74
82	M	tetrachloroethene	0.361	0.371	-2.8	112	0.00	12.90
83		2-hexanone	0.167	0.157	6.0	101	0.00	12.90
84	M	1,3-dichloropropane	0.673	0.682	-1.3	109	0.00	12.92
85	M	butyl acetate	0.333	0.327	1.8	110	0.00	12.96
86		3,3-dimethyl-1-butanol	0.048	0.046	4.2	105	0.00	13.07
87	M	dibromochloromethane	0.395	0.421	-6.6	111	0.00	13.18
88	M	1,2-dibromoethane	0.371	0.376	-1.3	109	0.00	13.33
89		n-butyl ether	2.514	2.506	0.3	108	0.00	13.68
90	M	chlorobenzene	1.214	1.206	0.7	108	0.00	13.79
91	M	1,1,1,2-tetrachloroethane	0.431	0.448	-3.9	109	0.00	13.84
92	M	ethylbenzene	2.245	2.225	0.9	107	0.00	13.83
93	M	m,p-xylene	0.834	0.830	0.5	108	0.00	13.93
94	M	o-xylene	1.880	1.828	2.8	106	0.00	14.35
95	M	styrene	1.348	1.390	-3.1	107	0.00	14.36
96		butyl acrylate	1.005	0.993	1.2	105	0.00	14.17
97	M	bromoform	0.261	0.269	-3.1	110	0.00	14.64
98		isopropylbenzene	2.220	2.244	-1.1	107	0.00	14.69
99		cis-1,4-dichloro-2-butene	0.166	0.174	-4.8	106	0.00	14.77

Initial Calibration Verification

Job Number: JC48814 **Sample:** V2E5882-ICV5882
Account: UTC United Technologies Corporation **Lab FileID:** 2E134540.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

100	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	108	0.00	16.05
101	S	4-bromofluorobenzene (s)	0.974	0.963	1.1	107	0.00	14.90
102	M	bromobenzene	0.942	0.934	0.8	110	0.00	15.09
103	M	1,1,2,2-tetrachloroethane	0.956	0.940	1.7	108	0.00	15.00
104	M	trans-1,4-dichloro-2-bute	0.280	0.294	-5.0	108	0.00	15.04
105	M	1,2,3-trichloropropane	0.237	0.232	2.1	111	0.00	15.08
106	M	n-propylbenzene	5.101	4.984	2.3	107	0.00	15.09
107	M	2-chlorotoluene	0.909	0.911	-0.2	108	0.00	15.25
108	M	4-chlorotoluene	3.120	3.016	3.3	109	0.00	15.34
109	M	1,3,5-trimethylbenzene	3.510	3.506	0.1	106	0.00	15.24
110	M	tert-butylbenzene	2.978	3.033	-1.8	108	0.00	15.58
111	M	1,2,4-trimethylbenzene	3.616	3.597	0.5	107	0.00	15.63
112	M	sec-butylbenzene	4.621	4.634	-0.3	105	0.00	15.80
113	M	1,3-dichlorobenzene	1.882	1.902	-1.1	110	0.00	15.99
114	M	p-isopropyltoluene	3.817	3.832	-0.4	108	0.00	15.91
115	M	1,4-dichlorobenzene	1.926	1.905	1.1	109	0.00	16.07
116	M	1,2-dichlorobenzene	1.818	1.848	-1.7	108	0.00	16.45
117	M	n-butylbenzene	2.079	2.120	-2.0	109	0.00	16.31
118	M	1,2-dibromo-3-chloropropa	0.206	0.191	7.3	107	0.00	17.18
119		1,3,5-trichlorobenzene	1.683	1.616	4.0	102	0.00	17.33
120	M	1,2,4-trichlorobenzene	1.392	1.473	-5.8	108	0.00	17.92
		----------	True	Calc.	% Drift	----------		
121		2-ethylhexyl acrylate	10.000	9.775	2.2	111	0.00	17.87
		----------	AvgRF	CCRF	% Dev	----------		
122	M	hexachlorobutadiene	0.760	0.747	1.7	105	0.00	18.02
123	M	naphthalene	3.173	3.292	-3.8	106	0.00	18.18
124	M	1,2,3-trichlorobenzene	1.282	1.352	-5.5	107	0.00	18.41
125	M	hexachloroethane	0.580	0.629	-8.4	109	0.00	16.69
126		Benzyl chloride	2.022	1.801	10.9	95	0.00	16.18
127		2-methylnaphthalene	1.608	1.792	-11.4	109	0.00	19.29

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2E134535.D M2E5882.M Wed Jul 12 11:52:59 2017

6.8.2 6

Initial Calibration Verification

Job Number: JC48814
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Sample: V2E5882-ICV5882
Lab FileID: 2E134541.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\2E134541.D Vial: 16
Acq On : 11 Jul 2017 7:04 pm Operator: JessicaP
Sample : icv5882-50 Inst : VOAMS2E
Misc : MS17829,V2E5882,5,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M2E5882.M (RTE Integrator)
Title : SW-846 Method V8260C, ZB624 60Mx0.25MMx1.4UM
Last Update : Wed Jul 12 11:35:51 2017
Response via : Multiple Level Calibration

Min. RRF : 0.010 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	Tert Butyl Alcohol-d9	1.000	1.000	0.0	126	0.00	7.48
2		ethanol		----------NA----------				
3	M	tertiary butyl alcohol		----------NA----------				
4		1,4-dioxane		----------NA----------				
5	I	pentafluorobenzene	1.000	1.000	0.0	105	0.00	9.70
6	M	chlorodifluoromethane		----------NA----------				
7	M	dichlorodifluoromethane		----------NA----------				
8		Freon 142B		----------NA----------				
9	M	chloromethane		----------NA----------				
10	M	vinyl chloride		----------NA----------				
11	M	bromomethane		----------NA----------				
12	M	chloroethane		----------NA----------				
13	M	trichlorofluoromethane		----------NA----------				
14		1,3-butadiene		----------NA----------				
15		vinyl bromide		----------NA----------				
16	M	ethyl ether		----------NA----------				
17		2-chloropropane		----------NA----------				
18	M	acrolein		----------NA----------				
19		freon 113		----------NA----------				
20	M	1,1-dichloroethene		----------NA----------				
21	M	acetone		----------NA----------				
22		acetonitrile	0.099	0.103	-4.0	112	0.00	7.29
23	M	iodomethane		----------NA----------				
24	M	carbon disulfide		----------NA----------				
25	M	methylene chloride		----------NA----------				
26	M	methyl acetate		----------NA----------				
27	M	methyl tert butyl ether		----------NA----------				
28	M	trans-1,2-dichloroethene		----------NA----------				
29		hexane		----------NA----------				
30	M	di-isopropyl ether		----------NA----------				
31	M	ethyl tert-butyl ether		----------NA----------				
32	M	2-butanone		----------NA----------				
33	M	1,1-dichloroethane		----------NA----------				
34	M	chloroprene		----------NA----------				
35	M	acrylonitrile		----------NA----------				
36	M	vinyl acetate		----------NA----------				
37	M	ethyl acetate		----------NA----------				
38	M	2,2-dichloropropane		----------NA----------				
39	M	cis-1,2-dichloroethene		----------NA----------				
40	M	propionitrile		----------NA----------				
41		methyl acrylate		----------NA----------				

Initial Calibration Verification

Job Number: JC48814 **Sample:** V2E5882-ICV5882
Account: UTC United Technologies Corporation **Lab FileID:** 2E134541.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

42	M	bromochloromethane		----------NA----------				
43	M	tetrahydrofuran		----------NA----------				
44	M	chloroform		----------NA----------				
45		t-butyl formate		----------NA----------				
46		1,1-dichloropropene		----------NA----------				
47		carbon tetrachloride		----------NA----------				
48		isopropyl acetate		----------NA----------				
49	S	dibromofluoromethane (s)	0.479	0.490	-2.3	106	0.00	9.76
50	M	methacrylonitrile		----------NA----------				
51	M	1,1,1-trichloroethane		----------NA----------				
52		Cyclohexane		----------NA----------				
53		iso-butyl alcohol		----------NA----------				
54		Tert Amyl Alcohol		----------NA----------				
55	I	1,4-difluorobenzene	1.000	1.000	0.0	103	0.00	10.62
56	S	1,2-dichloroethane-d4 (s)	0.381	0.394	-3.4	106	0.00	10.19
57		2,2,4-trimethylpentane		----------NA----------				
58	M	n-butyl alcohol		----------NA----------				
59	M	benzene		----------NA----------				
60		tert-amyl methyl ether		----------NA----------				
61	M	heptane		----------NA----------				
62	M	1,2-dichloroethane		----------NA----------				
63		ethyl acrylate		----------NA----------				
64	M	trichloroethene		----------NA----------				
65	M	2-nitropropane		----------NA----------				
66	M	2-chloroethyl vinyl ether		----------NA----------				
67	M	methyl methacrylate		----------NA----------				
68	M	1,2-dichloropropane		----------NA----------				
69	M	methylcyclohexane		----------NA----------				
70	M	dibromomethane		----------NA----------				
71	M	bromodichloromethane		----------NA----------				
72		epichlorohydrin		----------NA----------				
73	M	cis-1,3-dichloropropene		----------NA----------				
74	M	4-methyl-2-pentanone		----------NA----------				
75	M	3-methyl-1-butanol		----------NA----------				
76	I	chlorobenzene-d5	1.000	1.000	0.0	108	0.00	13.75
77	S	toluene-d8 (s)	1.400	1.380	1.4	105	0.00	12.25
78		toluene		----------NA----------				
79		ethyl methacrylate		----------NA----------				
80		trans-1,3-dichloropropene		----------NA----------				
81		1,1,2-trichloroethane		----------NA----------				
82	M	tetrachloroethene		----------NA----------				
83		2-hexanone		----------NA----------				
84	M	1,3-dichloropropane		----------NA----------				
85	M	butyl acetate		----------NA----------				
86		3,3-dimethyl-1-butanol		----------NA----------				
87	M	dibromochloromethane		----------NA----------				
88	M	1,2-dibromoethane		----------NA----------				
89		n-butyl ether		----------NA----------				
90	M	chlorobenzene		----------NA----------				
91	M	1,1,1,2-tetrachloroethane		----------NA----------				
92	M	ethylbenzene		----------NA----------				
93	M	m,p-xylene		----------NA----------				
94	M	o-xylene		----------NA----------				
95	M	styrene		----------NA----------				
96		butyl acrylate		----------NA----------				
97	M	bromoform		----------NA----------				
98		isopropylbenzene		----------NA----------				
99		cis-1,4-dichloro-2-butene		----------NA----------				

6.8.3 6

Initial Calibration Verification

Job Number: JC48814 **Sample:** V2E5882-ICV5882
Account: UTC United Technologies Corporation **Lab FileID:** 2E134541.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

100	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	110	0.00	16.04
101	S	4-bromofluorobenzene (s)	0.974	0.995	-2.2	112	0.00	14.90
102	M	bromobenzene		----------NA----------				
103	M	1,1,2,2-tetrachloroethane		----------NA----------				
104	M	trans-1,4-dichloro-2-bute		----------NA----------				
105	M	1,2,3-trichloropropane		----------NA----------				
106	M	n-propylbenzene		----------NA----------				
107	M	2-chlorotoluene		----------NA----------				
108	M	4-chlorotoluene		----------NA----------				
109	M	1,3,5-trimethylbenzene		----------NA----------				
110	M	tert-butylbenzene		----------NA----------				
111	M	1,2,4-trimethylbenzene		----------NA----------				
112	M	sec-butylbenzene		----------NA----------				
113	M	1,3-dichlorobenzene		----------NA----------				
114	M	p-isopropyltoluene		----------NA----------				
115	M	1,4-dichlorobenzene		----------NA----------				
116	M	1,2-dichlorobenzene		----------NA----------				
117	M	n-butylbenzene		----------NA----------				
118	M	1,2-dibromo-3-chloropropa		----------NA----------				
119		1,3,5-trichlorobenzene		----------NA----------				
120	M	1,2,4-trichlorobenzene		----------NA----------				
		----------	True	Calc.	% Drift	----------		
121		2-ethylhexyl acrylate		----------NA----------				
		----------	AvgRF	CCRF	% Dev	----------		
122	M	hexachlorobutadiene		----------NA----------				
123	M	naphthalene		----------NA----------				
124	M	1,2,3-trichlorobenzene		----------NA----------				
125	M	hexachloroethane		----------NA----------				
126		Benzyl chloride		----------NA----------				
127		2-methylnaphthalene		----------NA----------				

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2E134535.D M2E5882.M Wed Jul 12 11:53:01 2017

6.8.3

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Continuing Calibration Summary

Job Number: JC48814
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V2E5921-CC5882
Lab FileID: 2E135580.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\2E\v2e5920-21\2E135580.D Vial: 26
Acq On : 15 Aug 2017 10:23 pm Operator: JessicaP
Sample : CC5882-50 Inst : VOAMS2E
Misc : MS19123,V2E5921,5,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M2E5882.M (RTE Integrator)
Title : SW-846 Method V8260C, ZB624 60Mx0.25MMx1.4UM
Last Update : Wed Jul 12 11:35:51 2017
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	I	Tert Butyl Alcohol-d9	1.000	1.000	0.0	93	0.00	7.47
2		ethanol	0.148	0.149	-0.7	102	0.00	6.19
3	M	tertiary butyl alcohol	1.464	1.503	-2.7	98	-0.02	7.58
4		1,4-dioxane	0.099	0.096	3.0	93	0.00	11.34
5	I	pentafluorobenzene	1.000	1.000	0.0	77	0.00	9.70
6	M	chlorodifluoromethane	1.220	1.115	8.6	70	0.00	4.02
7	M	dichlorodifluoromethane	1.089	0.924	15.2	63	0.01	4.00
8		Freon 142B		----------NA----------				
9	M	chloromethane	1.344	1.447	-7.7	82	0.00	4.37
10	M	vinyl chloride	1.290	1.310	-1.6	76	0.00	4.63
11	M	bromomethane	0.699	0.649	7.2	73	0.00	5.31
12	M	chloroethane	0.684	0.709	-3.7	79	0.00	5.48
13	M	trichlorofluoromethane	1.051	1.031	1.9	72	-0.02	5.93
14		1,3-butadiene		----------NA----------				
15		vinyl bromide	0.794	0.681	14.2	65	0.00	5.83
16	M	ethyl ether	0.439	0.425	3.2	76	0.00	6.35
17		2-chloropropane	1.710	1.839	-7.5	85	0.00	6.55
18	M	acrolein	0.137	0.167	-21.9#	96	0.00	6.62
19		freon 113	0.508	0.386	24.0#	59	0.00	6.74
20	M	1,1-dichloroethene	1.201	1.222	-1.7	78	0.00	6.78
21	M	acetone	0.063	0.065	-3.2	83	0.00	6.83
22		acetonitrile	0.099	0.123	-24.2#	98	0.00	7.29
23	M	iodomethane	1.102	0.988	10.3	69	0.00	7.07
24	M	carbon disulfide	2.563	2.478	3.3	75	0.00	7.19
25	M	methylene chloride	0.758	0.737	2.8	77	0.00	7.51
26	M	methyl acetate	0.539	0.672	-24.7#	97	0.00	7.30
27	M	methyl tert butyl ether	2.137	2.111	1.2	78	0.00	7.82
28	M	trans-1,2-dichloroethene	1.177	1.185	-0.7	80	0.00	7.88
29		hexane	0.661	0.526	20.4#	63	0.00	8.16
30	M	di-isopropyl ether	3.017	3.247	-7.6	83	0.00	8.42
31	M	ethyl tert-butyl ether	2.615	2.798	-7.0	81	0.00	8.88
32	M	2-butanone	0.065	0.070	-7.7	79	0.00	9.16
33	M	1,1-dichloroethane	1.337	1.420	-6.2	80	0.00	8.45
34	M	chloroprene	1.295	1.312	-1.3	76	0.00	8.55
35	M	acrylonitrile	0.272	0.311	-14.3	87	-0.01	7.85
36	M	vinyl acetate	0.129	0.129	0.0	75	0.00	8.43
37	M	ethyl acetate	0.101	0.113	-11.9	86	-0.01	9.17
38	M	2,2-dichloropropane	1.072	1.041	2.9	76	0.00	9.19
39	M	cis-1,2-dichloroethene	0.776	0.731	5.8	75	0.00	9.19
40	M	propionitrile	0.092	0.106	-15.2	90	0.00	9.27
41		methyl acrylate	0.082	0.087	-6.1	76	0.00	9.25

Continuing Calibration Summary

Job Number: JC48814 **Sample:** V2E5921-CC5882
Account: UTC United Technologies Corporation **Lab FileID:** 2E135580.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

42	M	bromochloromethane	0.322	0.318	1.2	75	0.00	9.51
43	M	tetrahydrofuran	0.088	0.084	4.5	77	0.00	9.54
44	M	chloroform	1.203	1.181	1.8	78	0.00	9.56
45		t-butyl formate	0.509	0.293	42.4#	45#	0.00	9.59
46		1,1-dichloropropene	0.992	0.995	-0.3	77	0.00	9.98
47		carbon tetrachloride	0.868	0.870	-0.2	77	0.00	10.01
48		isopropyl acetate	0.134	0.135	-0.7	79	0.00	10.16
49	S	dibromofluoromethane (s)	0.479	0.511	-6.7	81	0.00	9.76
50	M	methacrylonitrile	0.268	0.277	-3.4	80	0.00	9.45
51	M	1,1,1-trichloroethane	1.028	1.056	-2.7	79	0.00	9.81
52		Cyclohexane	1.100	1.049	4.6	71	0.00	9.87
53		iso-butyl alcohol	0.026	0.033	-26.9#	98	0.00	9.99
54		Tert Amyl Alcohol	0.075	0.085	-13.3	88	0.00	10.12
55	I	1,4-difluorobenzene	1.000	1.000	0.0	79	0.00	10.62
56	S	1,2-dichloroethane-d4 (s)	0.381	0.429	-12.6	89	0.00	10.18
57		2,2,4-trimethylpentane	2.133	1.836	13.9	67	0.00	10.23
58	M	n-butyl alcohol	0.010	0.011	-10.0	96	0.00	10.74
59	M	benzene	1.849	1.765	4.5	78	0.00	10.25
60		tert-amyl methyl ether	1.507	1.463	2.9	80	0.00	10.27
61	M	heptane	0.427	0.340	20.4#	65	0.00	10.40
62	M	1,2-dichloroethane	0.560	0.586	-4.6	84	0.00	10.27
63		ethyl acrylate	0.497	0.493	0.8	82	-0.01	10.95
64	M	trichloroethene	0.417	0.396	5.0	76	0.00	10.96
65	M	2-nitropropane	0.147	0.157	-6.8	87	0.00	11.74
66	M	2-chloroethyl vinyl ether	0.225	0.191	15.1	66	0.00	11.75
67	M	methyl methacrylate	0.088	0.085	3.4	72	0.00	11.22
68	M	1,2-dichloropropane	0.481	0.490	-1.9	80	0.00	11.23
69	M	methylcyclohexane	0.881	0.751	14.8	67	0.00	11.17
70	M	dibromomethane	0.232	0.227	2.2	79	0.00	11.39
71	M	bromodichloromethane	0.533	0.527	1.1	80	0.00	11.52
72		epichlorohydrin	0.039	0.040	-2.6	89	0.00	11.88
73	M	cis-1,3-dichloropropene	0.687	0.682	0.7	78	0.00	11.97
74	M	4-methyl-2-pentanone	0.157	0.162	-3.2	83	0.00	12.06
75	M	3-methyl-1-butanol	0.010	0.011	-10.0	92	0.00	12.07
76	I	chlorobenzene-d5	1.000	1.000	0.0	80	0.00	13.75
77	S	toluene-d8 (s)	1.400	1.459	-4.2	82	0.00	12.25
78		toluene	1.197	1.134	5.3	76	0.00	12.32
79		ethyl methacrylate	0.586	0.563	3.9	74	0.00	12.50
80		trans-1,3-dichloropropene	0.693	0.692	0.1	79	0.00	12.52
81		1,1,2-trichloroethane	0.333	0.323	3.0	80	0.00	12.74
82	M	tetrachloroethene	0.361	0.319	11.6	72	0.00	12.90
83		2-hexanone	0.167	0.175	-4.8	83	0.00	12.89
84	M	1,3-dichloropropane	0.673	0.683	-1.5	81	0.00	12.92
85	M	butyl acetate	0.333	0.330	0.9	82	0.00	12.96
86		3,3-dimethyl-1-butanol	0.048	0.052	-8.3	89	0.00	13.06
87	M	dibromochloromethane	0.395	0.389	1.5	76	0.00	13.18
88	M	1,2-dibromoethane	0.371	0.350	5.7	75	0.00	13.33
89		n-butyl ether	2.514	2.550	-1.4	82	0.00	13.67
90	M	chlorobenzene	1.214	1.144	5.8	76	0.00	13.78
91	M	1,1,1,2-tetrachloroethane	0.431	0.423	1.9	76	0.00	13.84
92	M	ethylbenzene	2.245	2.155	4.0	77	0.00	13.83
93	M	m,p-xylene	0.834	0.788	5.5	76	0.00	13.93
94	M	o-xylene	1.880	1.786	5.0	77	0.00	14.35
95	M	styrene	1.348	1.292	4.2	74	0.00	14.36
96		butyl acrylate	1.005	1.014	-0.9	80	0.00	14.17
97	M	bromoform	0.261	0.247	5.4	75	0.00	14.63
98		isopropylbenzene	2.220	2.128	4.1	75	0.00	14.68
99		cis-1,4-dichloro-2-butene	0.166	0.147	11.4	67	0.00	14.77

Continuing Calibration Summary

Job Number: JC48814 **Sample:** V2E5921-CC5882
Account: UTC United Technologies Corporation **Lab FileID:** 2E135580.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

100	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	78	0.00	16.04
101	S	4-bromofluorobenzene (s)	0.974	1.042	-7.0	83	0.00	14.89
102	M	bromobenzene	0.942	0.882	6.4	74	0.00	15.09
103	M	1,1,2,2-tetrachloroethane	0.956	0.955	0.1	78	0.00	15.00
104	M	trans-1,4-dichloro-2-bute	0.280	0.239	14.6	63	0.00	15.04
105	M	1,2,3-trichloropropane	0.237	0.237	0.0	81	0.00	15.08
106	M	n-propylbenzene	5.101	5.014	1.7	77	0.00	15.09
107	M	2-chlorotoluene	0.909	0.896	1.4	76	0.00	15.24
108	M	4-chlorotoluene	3.120	2.999	3.9	77	0.00	15.34
109	M	1,3,5-trimethylbenzene	3.510	3.499	0.3	76	0.00	15.24
110	M	tert-butylbenzene	2.978	2.898	2.7	74	0.00	15.58
111	M	1,2,4-trimethylbenzene	3.616	3.552	1.8	76	0.00	15.63
112	M	sec-butylbenzene	4.621	4.522	2.1	74	0.00	15.79
113	M	1,3-dichlorobenzene	1.882	1.772	5.8	74	0.00	15.99
114	M	p-isopropyltoluene	3.817	3.645	4.5	74	0.00	15.91
115	M	1,4-dichlorobenzene	1.926	1.803	6.4	74	0.00	16.07
116	M	1,2-dichlorobenzene	1.818	1.761	3.1	74	0.00	16.44
117	M	n-butylbenzene	2.079	2.054	1.2	76	0.00	16.31
118	M	1,2-dibromo-3-chloropropa	0.206	0.202	1.9	81	0.00	17.17
119		1,3,5-trichlorobenzene	1.683	1.656	1.6	75	0.00	17.33
120	M	1,2,4-trichlorobenzene	1.392	1.387	0.4	73	0.00	17.92
		----------	True	Calc.	% Drift	----------		
121		2-ethylhexyl acrylate	10.000	7.122	28.8#	56	0.00	17.87
		----------	AvgRF	CCRF	% Dev	----------		
122	M	hexachlorobutadiene	0.760	0.682	10.3	69	0.00	18.01
123	M	naphthalene	3.173	3.259	-2.7	75	0.00	18.18
124	M	1,2,3-trichlorobenzene	1.282	1.296	-1.1	74	0.00	18.40
125	M	hexachloroethane	0.580	0.561	3.3	70	0.00	16.68
126		Benzyl chloride	2.022	1.936	4.3	73	0.00	16.18
127		2-methylnaphthalene	1.608	1.692	-5.2	74	0.00	19.29

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2E134535.D M2E5882.M Wed Aug 16 16:26:45 2017 11

6.8.4 6

MS Volatiles

Raw Data

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2E\v2e5920-21\
Data File : 2E135587.D
Acq On : 16 Aug 2017 1:34 am
Operator : JessicaP
Sample : jc48814-1
Misc : MS19123,V2E5921,5,,,,1
ALS Vial : 33 Sample Multiplier: 1

Quant Time: Aug 16 16:40:10 2017
Quant Method : C:\MSDCHEM\1\METHODS\M2E5882.M
Quant Title : SW-846 Method V8260C, ZB624 60Mx0.25MMx1.4UM
QLast Update : Wed Jul 12 10:24:32 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Tert Butyl Alcohol-d9	7.468	65	80615	500.00 ug/L	0.00
5) pentafluorobenzene	9.696	168	165694	50.00 ug/L	0.00
55) 1,4-difluorobenzene	10.619	114	272433	50.00 ug/L	0.00
76) chlorobenzene-d5	13.749	117	234868	50.00 ug/L	0.00
100) 1,4-dichlorobenzene-d4	16.040	152	122937	50.00 ug/L	0.00
System Monitoring Compounds					
49) dibromofluoromethane (s)	9.759	113	86439	54.46 ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 108.92%		
56) 1,2-dichloroethane-d4 (s)	10.183	65	116392	56.02 ug/L	0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 112.04%		
77) toluene-d8 (s)	12.249	98	333581	50.73 ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 101.46%		
101) 4-bromofluorobenzene (s)	14.897	95	124585	52.00 ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 104.00%		
Target Compounds					Qvalue
9) chloromethane	4.348	50	1873	0.42 ug/L	87

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

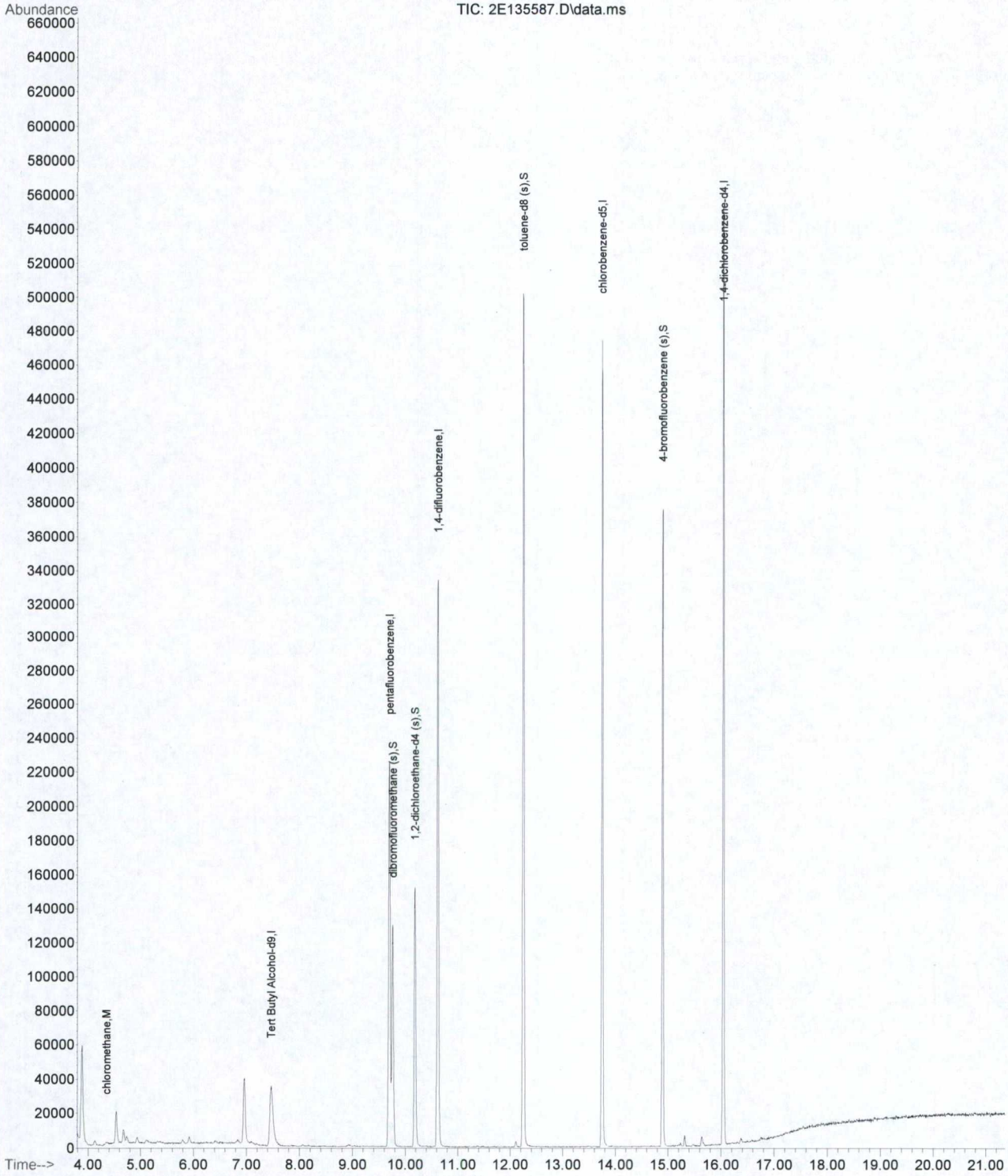
7.1.1

7

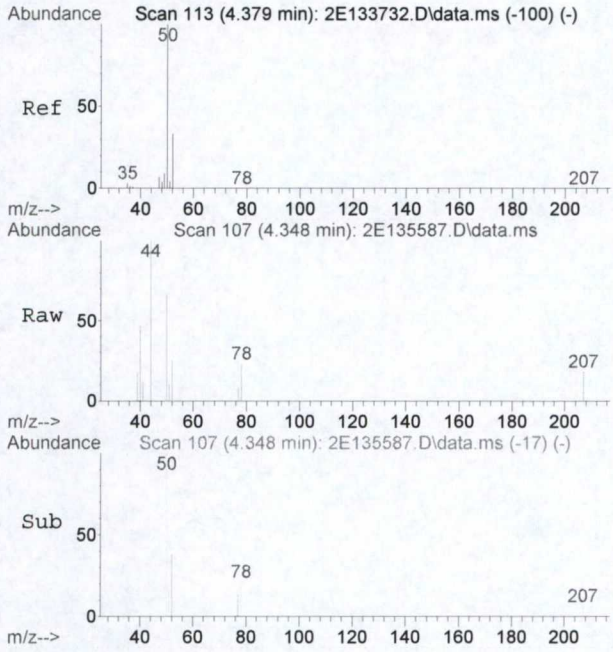
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2E\v2e5920-21\
Data File : 2E135587.D
Acq On : 16 Aug 2017 1:34 am
Operator : JessicaP
Sample : jc48814-1
Misc : MS19123,V2E5921,5,,,,1
ALS Vial : 33 Sample Multiplier: 1

Quant Time: Aug 16 16:40:10 2017
Quant Method : C:\MSDCHEM\1\METHODS\M2E5882.M
Quant Title : SW-846 Method V8260C, ZB624 60Mx0.25MMx1.4UM
QLast Update : Wed Jul 12 10:24:32 2017
Response via : Initial Calibration



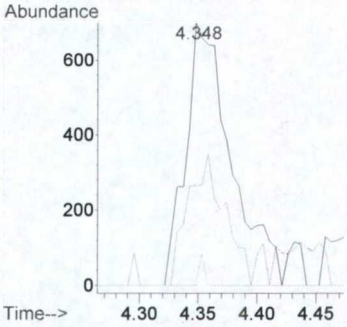
M2E5882.M Wed Aug 16 16:47:18 2017 11



#9
chloromethane
Concen: 0.42 ug/L
RT: 4.348 min Scan# 107
Delta R.T. -0.026 min
Lab File: 2E135587.D
Acq: 16 Aug 2017 1:34 am

Tgt Ion: 50 Resp: 1873

Ion	Ratio	Lower	Upper
50	100		
52	37.8	2.6	62.6
49	0.0	0.0	39.9



7.1.1

7

SGS ACCUTEST JC48814

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2E\v2e5920-21\
Data File : 2E135588.D
Acq On : 16 Aug 2017 2:02 am
Operator : JessicaP
Sample : jc48814-2
Misc : MS19123,V2E5921,5,,,,1
ALS Vial : 34 Sample Multiplier: 1

Quant Time: Aug 16 16:40:40 2017
Quant Method : C:\MSDCHEM\1\METHODS\M2E5882.M
Quant Title : SW-846 Method V8260C, ZB624 60Mx0.25MMx1.4UM
QLast Update : Wed Jul 12 10:24:32 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Tert Butyl Alcohol-d9	7.462	65	77843	500.00 ug/L	-0.01
5) pentafluorobenzene	9.696	168	159325	50.00 ug/L	0.00
55) 1,4-difluorobenzene	10.619	114	260854	50.00 ug/L	0.00
76) chlorobenzene-d5	13.749	117	228813	50.00 ug/L	0.00
100) 1,4-dichlorobenzene-d4	16.040	152	118626	50.00 ug/L	0.00
System Monitoring Compounds					
49) dibromofluoromethane (s)	9.759	113	82723	54.21 ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 108.42%		
56) 1,2-dichloroethane-d4 (s)	10.183	65	113715	57.16 ug/L	0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 114.32%		
77) toluene-d8 (s)	12.249	98	321676	50.22 ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 100.44%		
101) 4-bromofluorobenzene (s)	14.897	95	121359	52.49 ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 104.98%		
Target Compounds					Qvalue
9) chloromethane	4.348	50	1768	0.41 ug/L	86
20) 1,1-dichloroethene	6.775	61	2859	0.75 ug/L	91
33) 1,1-dichloroethane	8.453	63	5884	1.38 ug/L	92
39) cis-1,2-dichloroethene	9.187	96	7963	3.22 ug/L	87
51) 1,1,1-trichloroethane	9.806	97	254517	77.72 ug/L	96
64) trichloroethene	10.959	95	1622	0.75 ug/L	80
82) tetrachloroethene	12.905	164	1399	0.85 ug/L	82

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

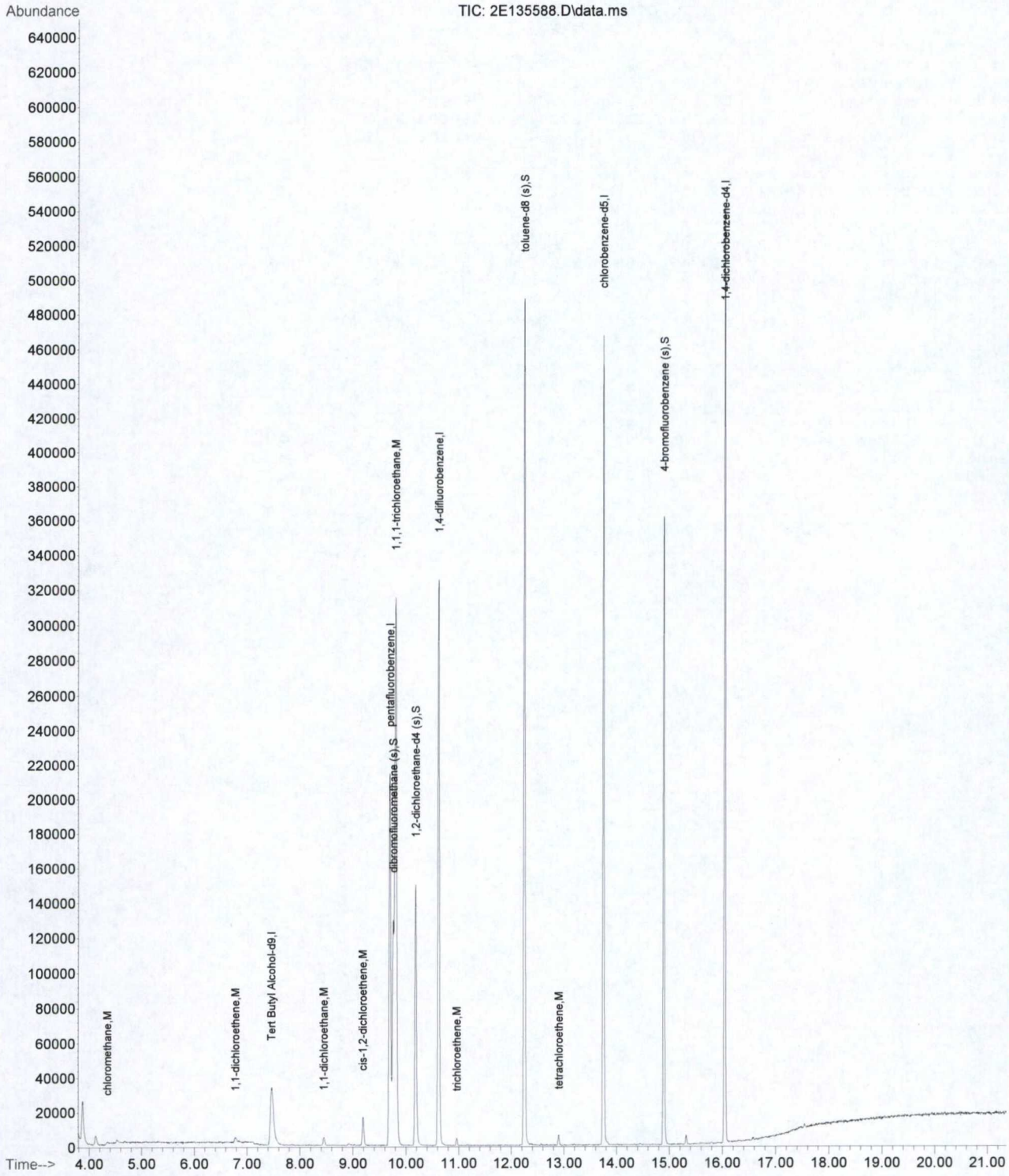
7.1.2

7

Quantitation Report (QT Reviewed)

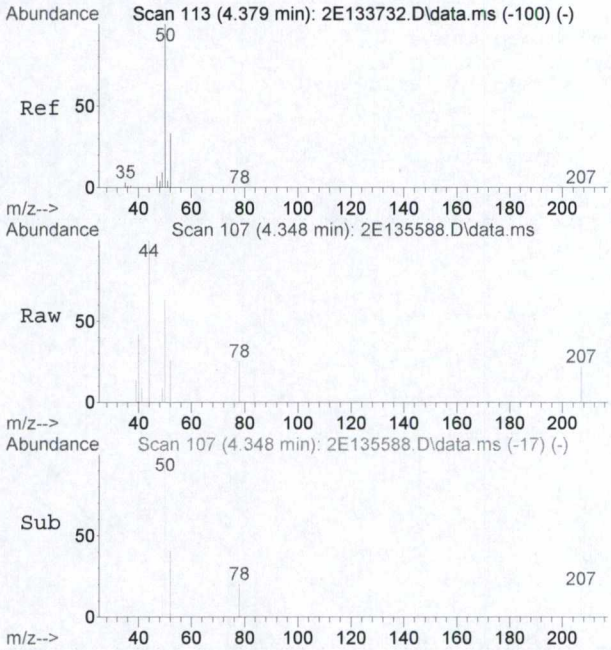
Data Path : C:\msdchem\1\data\2E\v2e5920-21\
Data File : 2E135588.D
Acq On : 16 Aug 2017 2:02 am
Operator : JessicaP
Sample : jc48814-2
Misc : MS19123,V2E5921,5,,,,1
ALS Vial : 34 Sample Multiplier: 1

Quant Time: Aug 16 16:40:40 2017
Quant Method : C:\MSDCHEM\1\METHODS\M2E5882.M
Quant Title : SW-846 Method V8260C, ZB624 60Mx0.25MMx1.4UM
QLast Update : Wed Jul 12 10:24:32 2017
Response via : Initial Calibration



M2E5882.M Wed Aug 16 16:47:20 2017 11

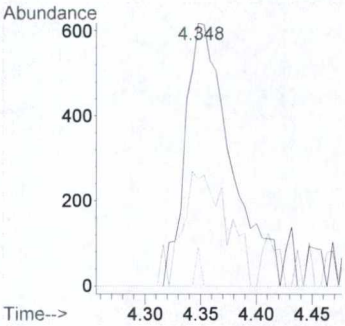
SGS ACCUTEST JC48814

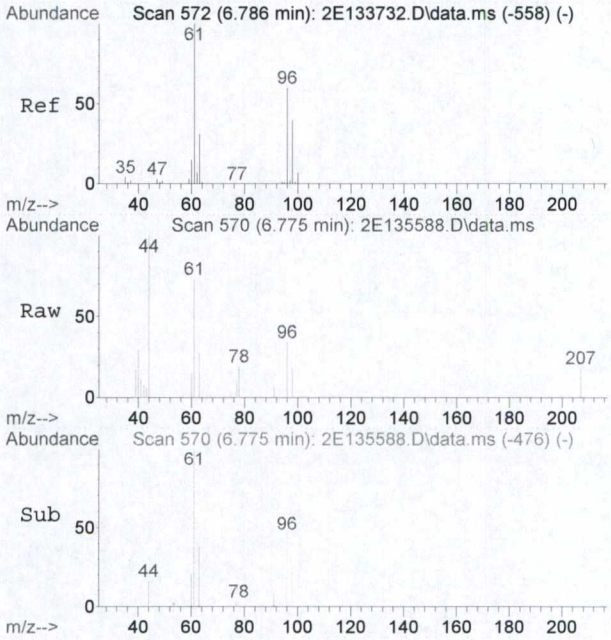


#9
chloromethane
Concen: 0.41 ug/L
RT: 4.348 min Scan# 107
Delta R.T. -0.026 min
Lab File: 2E135588.D
Acq: 16 Aug 2017 2:02 am

Tgt Ion: 50 Resp: 1768

Ion	Ratio	Lower	Upper
50	100		
52	40.7	2.6	62.6
49	14.5	0.0	39.9

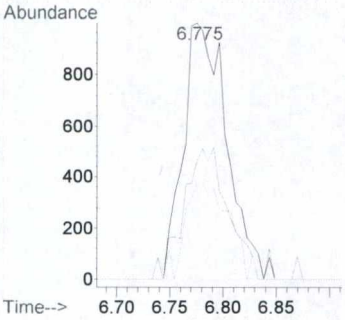




#20
1,1-dichloroethene
Concen: 0.75 ug/L
RT: 6.775 min Scan# 570
Delta R.T. -0.006 min
Lab File: 2E135588.D
Acq: 16 Aug 2017 2:02 am

Tgt Ion: 61 Resp: 2859

Ion	Ratio	Lower	Upper
61	100		
96	46.2	22.8	82.8
63	37.9	2.5	62.5



7.1.2

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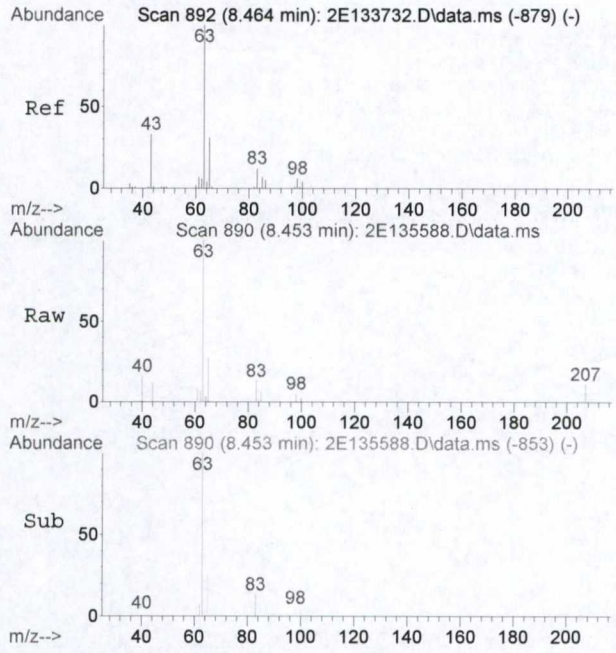
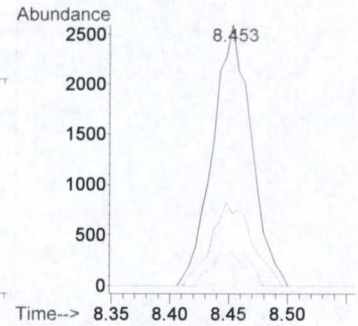
SGS ACCUTEST JC48814

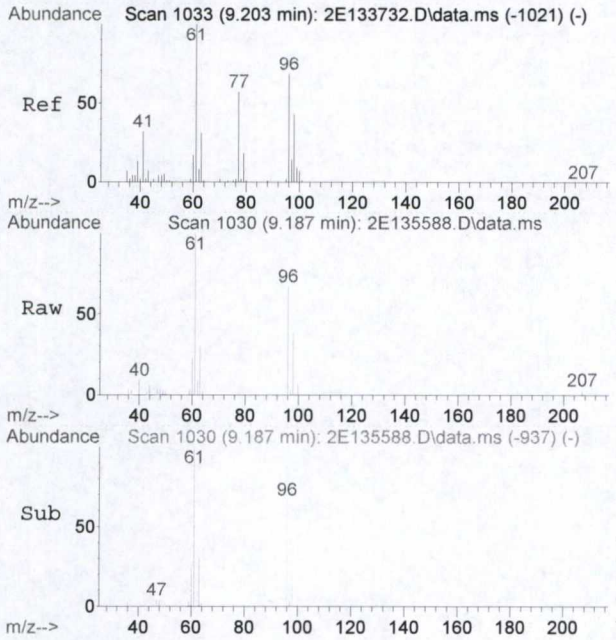


#33
1,1-dichloroethane
Concen: 1.38 ug/L
RT: 8.453 min Scan# 890
Delta R.T. -0.005 min
Lab File: 2E135588.D
Acq: 16 Aug 2017 2:02 am

Tgt Ion: 63 Resp: 5884

Ion	Ratio	Lower	Upper
63	100		
65	26.5	2.2	62.2
83	12.6	0.0	41.5

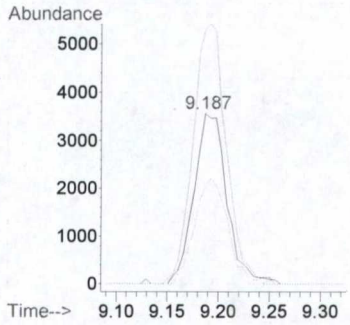




#39
cis-1,2-dichloroethene
Concen: 3.22 ug/L
RT: 9.187 min Scan# 1030
Delta R.T. -0.010 min
Lab File: 2E135588.D
Acq: 16 Aug 2017 2:02 am

Tgt Ion: 96 Resp: 7963

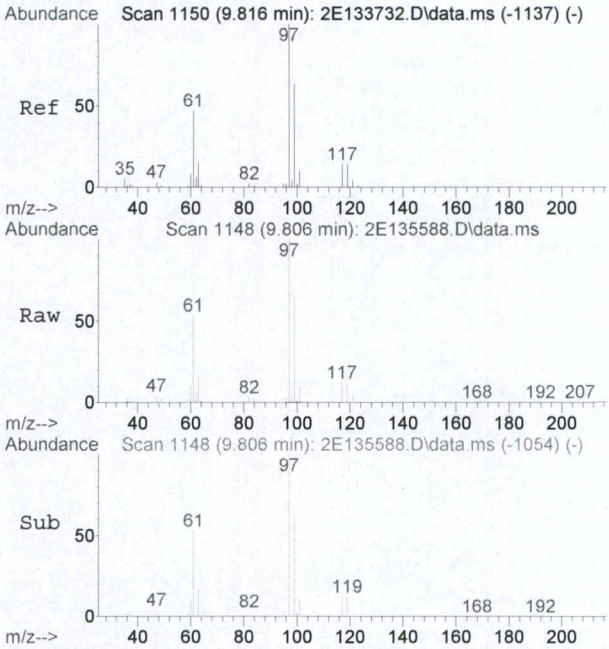
Ion	Ratio	Lower	Upper
96	100		
61	148.8	139.3	199.3
98	56.9	31.9	91.9



7.1.2

7

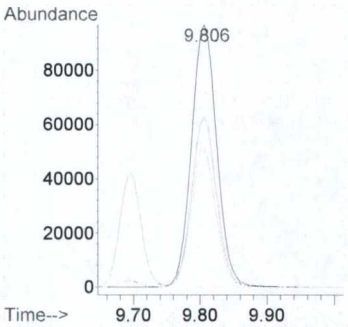
SGS ACCUTEST JC48814

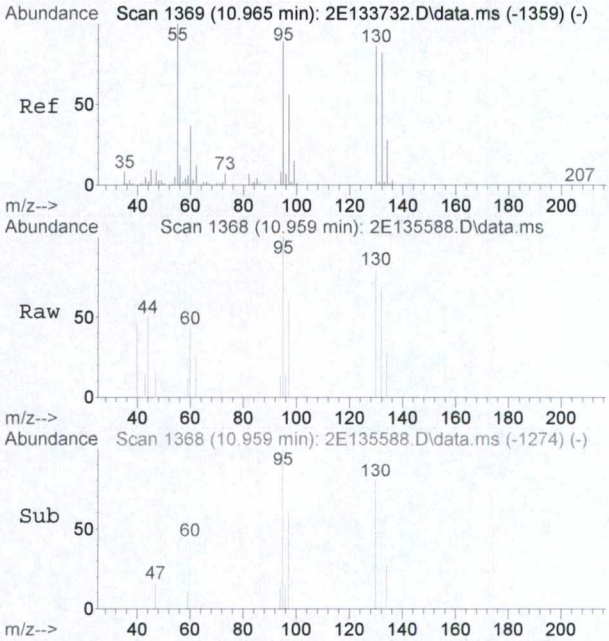


#51
1,1,1-trichloroethane
Concen: 77.72 ug/L
RT: 9.806 min Scan# 1148
Delta R.T. -0.005 min
Lab File: 2E135588.D
Acq: 16 Aug 2017 2:02 am

Tgt Ion: 97 Resp: 254517

Ion	Ratio	Lower	Upper
97	100		
99	64.7	33.2	93.2
61	53.1	18.5	78.5

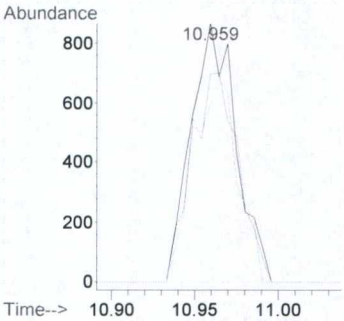




#64
trichloroethene
Concen: 0.75 ug/L
RT: 10.959 min Scan# 1368
Delta R.T. -0.005 min
Lab File: 2E135588.D
Acq: 16 Aug 2017 2:02 am

Tgt Ion: 95 Resp: 1622

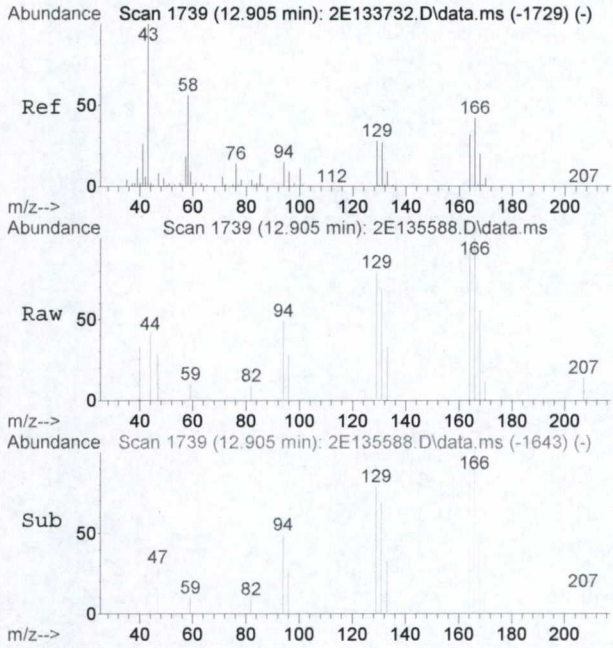
Ion	Ratio	Lower	Upper
95	100		
130	80.5	65.6	125.6
132	68.9	63.5	123.5



7.1.2

7

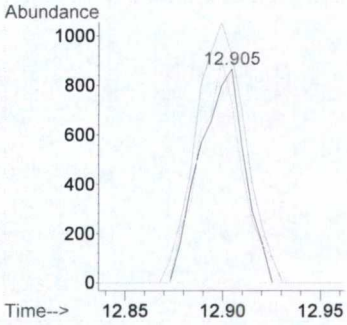
SGS ACCUTEST JC48814



#82
tetrachloroethene
Concen: 0.85 ug/L
RT: 12.905 min Scan# 1739
Delta R.T. 0.005 min
Lab File: 2E135588.D
Acq: 16 Aug 2017 2:02 am

Tgt Ion:164 Resp: 1399

Ion	Ratio	Lower	Upper
164	100		
166	106.7	102.8	162.8
129	84.3	66.3	126.3



7.1.2

7

SGS ACCUTEST JC48814

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2E\v2e5920-21\
Data File : 2E135589.D
Acq On : 16 Aug 2017 2:29 am
Operator : JessicaP
Sample : jc48814-3
Misc : MS19123,V2E5921,5,,,,1
ALS Vial : 35 Sample Multiplier: 1

Quant Time: Aug 16 16:40:57 2017
Quant Method : C:\MSDCHEM\1\METHODS\M2E5882.M
Quant Title : SW-846 Method V8260C, ZB624 60Mx0.25MMx1.4UM
QLast Update : Wed Jul 12 10:24:32 2017
Response via : Initial Calibration

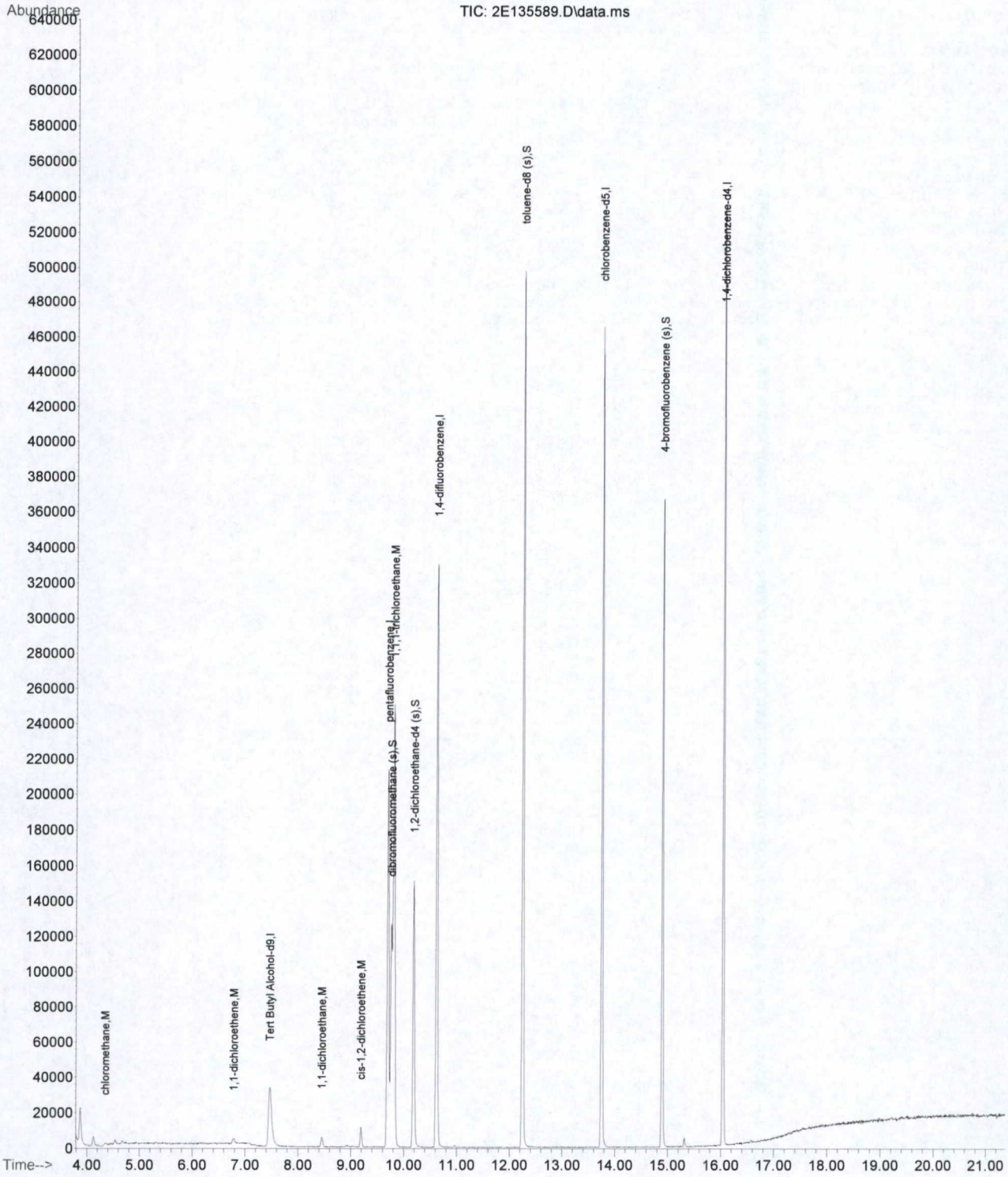
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.467	65	77330	500.00	ug/L	0.00
5) pentafluorobenzene	9.696	168	159947	50.00	ug/L	0.00
55) 1,4-difluorobenzene	10.618	114	262389	50.00	ug/L	0.00
76) chlorobenzene-d5	13.748	117	227462	50.00	ug/L	0.00
100) 1,4-dichlorobenzene-d4	16.040	152	117384	50.00	ug/L	0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	9.759	113	82934	54.13	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery	=	108.26%	
56) 1,2-dichloroethane-d4 (s)	10.183	65	113714	56.83	ug/L	0.00
Spiked Amount 50.000	Range 81 - 124		Recovery	=	113.66%	
77) toluene-d8 (s)	12.249	98	322722	50.68	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery	=	101.36%	
101) 4-bromofluorobenzene (s)	14.897	95	121833	53.26	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery	=	106.52%	
Target Compounds						Qvalue
9) chloromethane	4.348	50	1762	0.41	ug/L	73
20) 1,1-dichloroethene	6.786	61	2982	0.78	ug/L	88
33) 1,1-dichloroethane	8.453	63	7086	1.66	ug/L	97
39) cis-1,2-dichloroethene	9.192	96	4925	1.98	ug/L	86
51) 1,1,1-trichloroethane	9.806	97	198454	60.37	ug/L	96

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

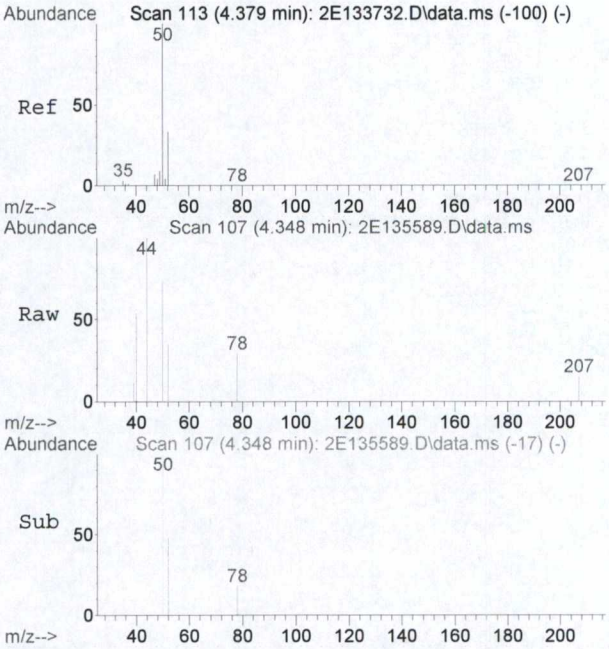
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2E\v2e5920-21\
Data File : 2E135589.D
Acq On : 16 Aug 2017 2:29 am
Operator : JessicaP
Sample : jc48814-3
Misc : MS19123,V2E5921,5,,,,1
ALS Vial : 35 Sample Multiplier: 1

Quant Time: Aug 16 16:40:57 2017
Quant Method : C:\MSDCHEM\1\METHODS\M2E5882.M
Quant Title : SW-846 Method V8260C, ZB624 60Mx0.25MMx1.4UM
QLast Update : Wed Jul 12 10:24:32 2017
Response via : Initial Calibration



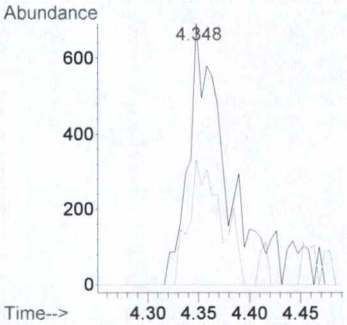
M2E5882.M Wed Aug 16 16:47:22 2017 11

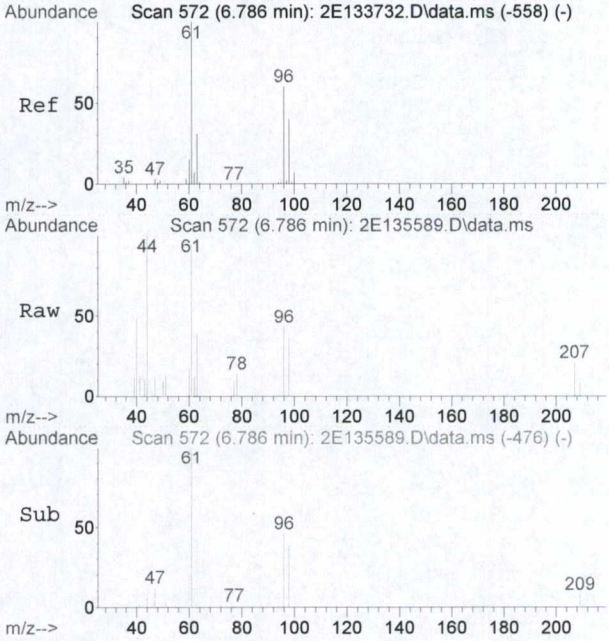


#9
chloromethane
Concen: 0.41 ug/L
RT: 4.348 min Scan# 107
Delta R.T. -0.026 min
Lab File: 2E135589.D
Acq: 16 Aug 2017 2:29 am

Tgt Ion: 50 Resp: 1762

Ion	Ratio	Lower	Upper
50	100		
52	47.9	2.6	62.6
49	0.0	0.0	39.9

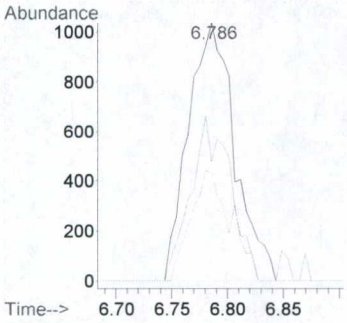




#20
1,1-dichloroethene
Concen: 0.78 ug/L
RT: 6.786 min Scan# 572
Delta R.T. 0.005 min
Lab File: 2E135589.D
Acq: 16 Aug 2017 2:29 am

Tgt Ion: 61 Resp: 2982

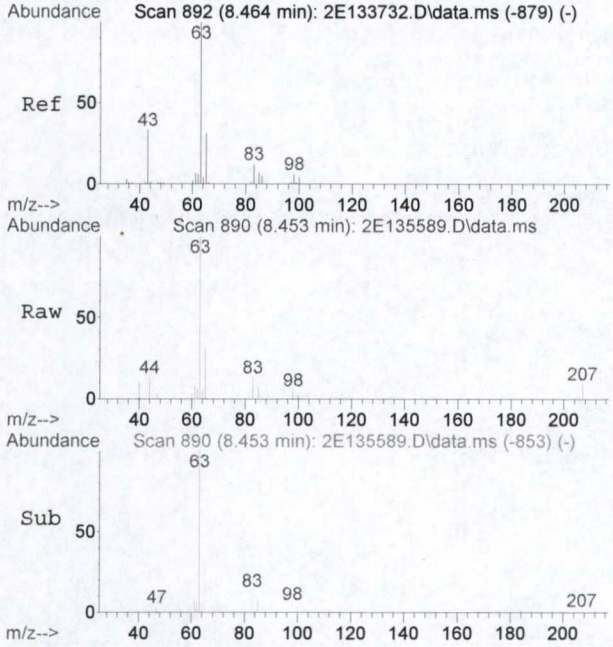
Ion	Ratio	Lower	Upper
61	100		
96	45.6	22.8	82.8
63	41.4	2.5	62.5



7.1.3

7

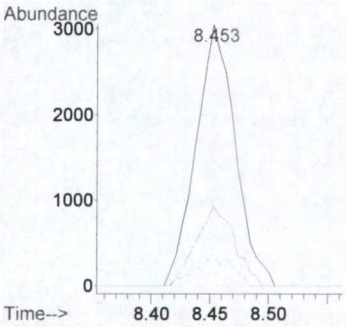
SGS ACCUTEST JC48814

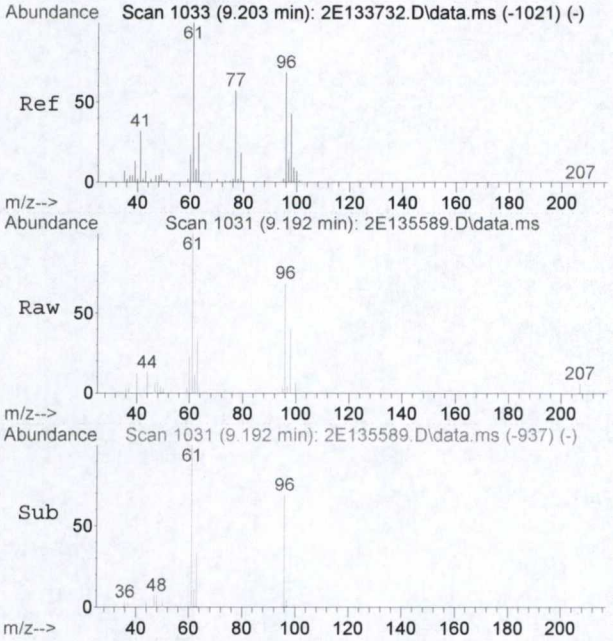


#33
1,1-dichloroethane
Concen: 1.66 ug/L
RT: 8.453 min Scan# 890
Delta R.T. -0.005 min
Lab File: 2E135589.D
Acq: 16 Aug 2017 2:29 am

Tgt Ion: 63 Resp: 7086

Ion	Ratio	Lower	Upper
63	100		
65	30.6	2.2	62.2
83	12.5	0.0	41.5

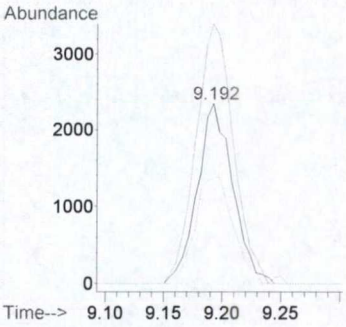




#39
cis-1,2-dichloroethene
Concen: 1.98 ug/L
RT: 9.192 min Scan# 1031
Delta R.T. -0.005 min
Lab File: 2E135589.D
Acq: 16 Aug 2017 2:29 am

Tgt Ion: 96 Resp: 4925

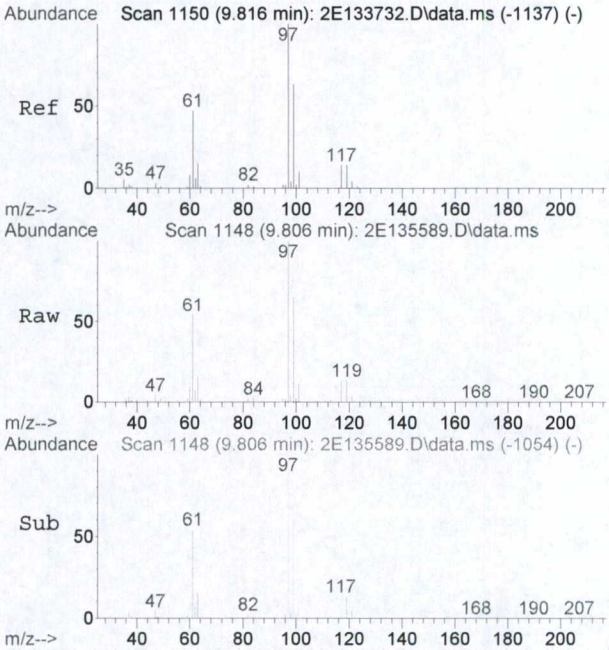
Ion	Ratio	Lower	Upper
96	100		
61	145.0	139.3	199.3
98	58.2	31.9	91.9



7.1.3

7

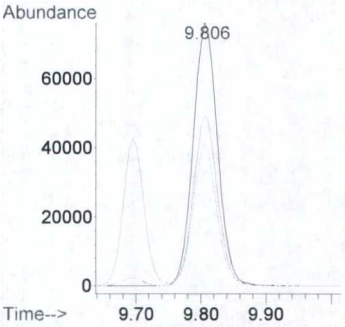
SGS ACCUTEST JC48814



#51
1,1,1-trichloroethane
Concen: 60.37 ug/L
RT: 9.806 min Scan# 1148
Delta R.T. -0.005 min
Lab File: 2E135589.D
Acq: 16 Aug 2017 2:29 am

Tgt Ion: 97 Resp: 198454

Ion	Ratio	Lower	Upper
97	100		
99	64.8	33.2	93.2
61	53.7	18.5	78.5



7.1.3

7

SGS ACCUTEST JC48814

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2E\v2e5920-21\
Data File : 2E135590.D
Acq On : 16 Aug 2017 2:57 am
Operator : JessicaP
Sample : jc48814-4
Misc : MS19123,V2E5921,5,,,,1
ALS Vial : 36 Sample Multiplier: 1

Quant Time: Aug 16 16:41:18 2017
Quant Method : C:\MSDCHEM\1\METHODS\M2E5882.M
Quant Title : SW-846 Method V8260C, ZB624 60Mx0.25MMx1.4UM
QLast Update : Wed Jul 12 10:24:32 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.467	65	82584	500.00	ug/L	0.00
5) pentafluorobenzene	9.696	168	164805	50.00	ug/L	0.00
55) 1,4-difluorobenzene	10.618	114	271635	50.00	ug/L	0.00
76) chlorobenzene-d5	13.748	117	233701	50.00	ug/L	0.00
100) 1,4-dichlorobenzene-d4	16.040	152	120240	50.00	ug/L	0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	9.758	113	84714	53.66	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 107.32%			
56) 1,2-dichloroethane-d4 (s)	10.183	65	115915	55.96	ug/L	0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 111.92%			
77) toluene-d8 (s)	12.249	98	331059	50.60	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 101.20%			
101) 4-bromofluorobenzene (s)	14.897	95	122751	52.38	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 104.76%			
Target Compounds						Qvalue
20) 1,1-dichloroethene	6.791	61	969	0.24	ug/L	87
33) 1,1-dichloroethane	8.453	63	4901	1.11	ug/L	95
39) cis-1,2-dichloroethene	9.197	96	6609	2.58	ug/L #	80
51) 1,1,1-trichloroethane	9.806	97	98097	28.96	ug/L	94
64) trichloroethene	10.959	95	4196	1.85	ug/L	97

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

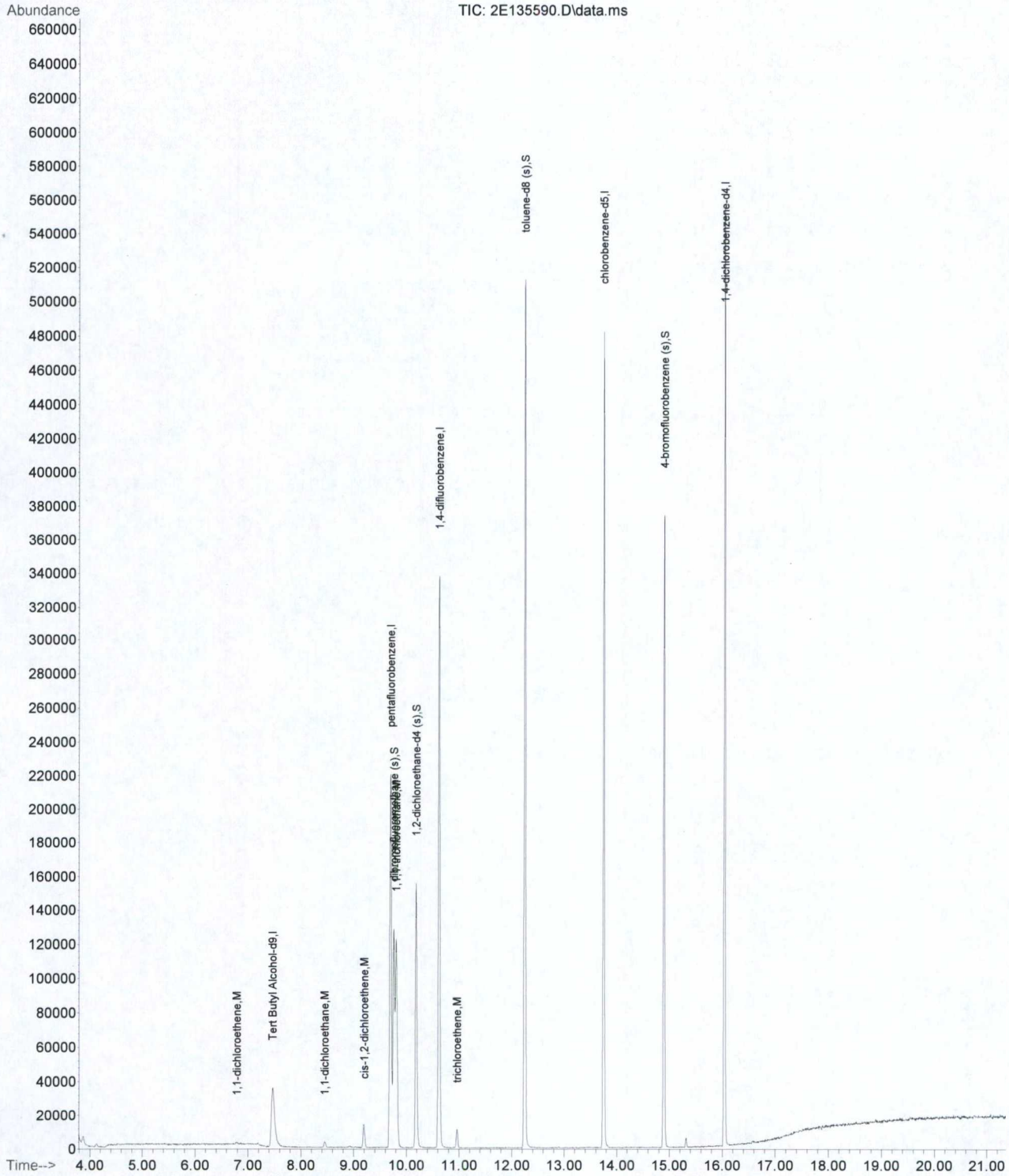
7.1.4

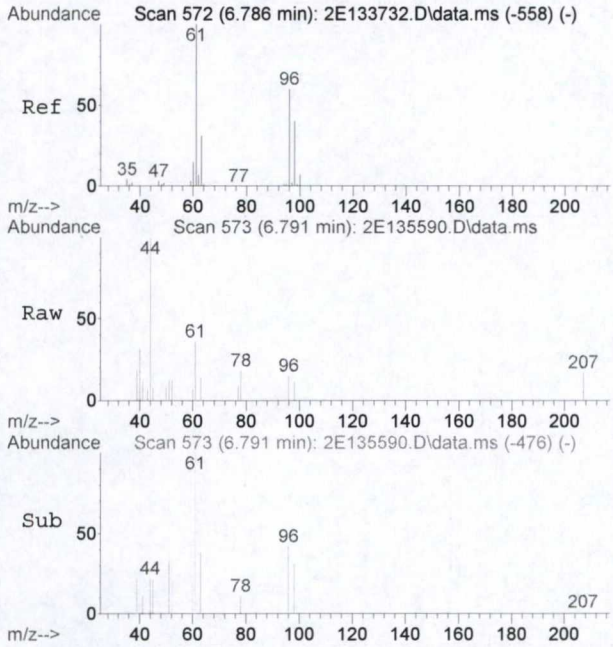
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2E\v2e5920-21\
Data File : 2E135590.D
Acq On : 16 Aug 2017 2:57 am
Operator : JessicaP
Sample : jc48814-4
Misc : MS19123,V2E5921,5,,,,1
ALS Vial : 36 Sample Multiplier: 1

Quant Time: Aug 16 16:41:18 2017
Quant Method : C:\MSDCHEM\1\METHODS\M2E5882.M
Quant Title : SW-846 Method V8260C, ZB624 60Mx0.25MMx1.4UM
QLast Update : Wed Jul 12 10:24:32 2017
Response via : Initial Calibration

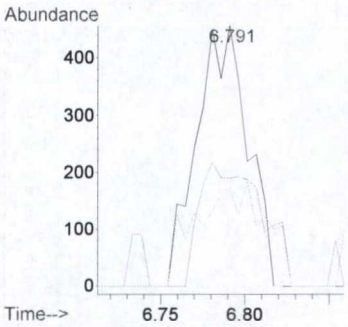


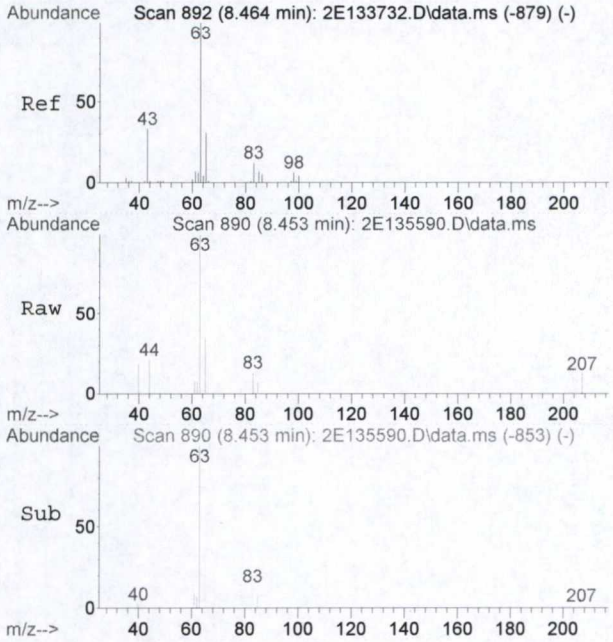


#20
1,1-dichloroethene
Concen: 0.24 ug/L
RT: 6.791 min Scan# 573
Delta R.T. 0.010 min
Lab File: 2E135590.D
Acq: 16 Aug 2017 2:57 am

Tgt Ion: 61 Resp: 969

Ion	Ratio	Lower	Upper
61	100		
96	41.9	22.8	82.8
63	38.2	2.5	62.5

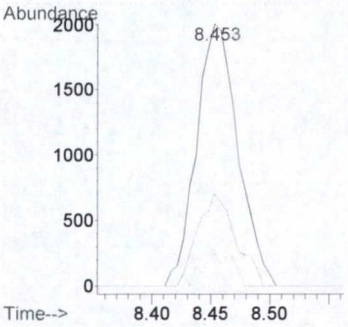




#33
1,1-dichloroethane
Concen: 1.11 ug/L
RT: 8.453 min Scan# 890
Delta R.T. -0.005 min
Lab File: 2E135590.D
Acq: 16 Aug 2017 2:57 am

Tgt Ion: 63 Resp: 4901

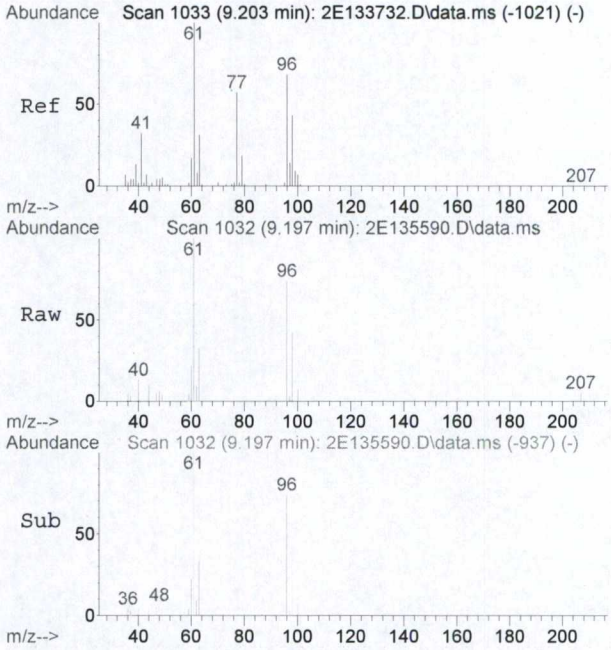
Ion	Ratio	Lower	Upper
63	100		
65	35.1	2.2	62.2
83	12.5	0.0	41.5



7.1.4

7

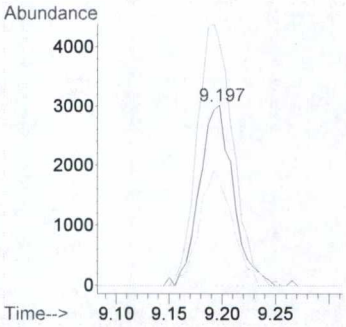
SGS ACCUTEST JC48814

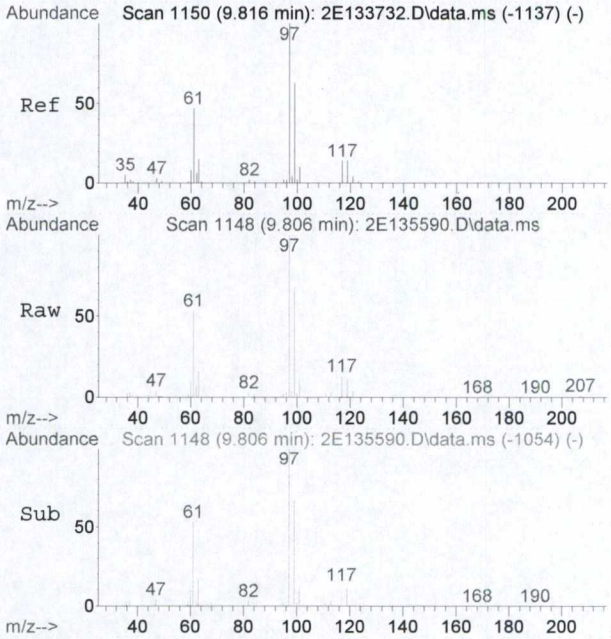


#39
cis-1,2-dichloroethene
Concen: 2.58 ug/L
RT: 9.197 min Scan# 1032
Delta R.T. -0.000 min
Lab File: 2E135590.D
Acq: 16 Aug 2017 2:57 am

Tgt Ion: 96 Resp: 6609

Ion	Ratio	Lower	Upper
96	100		
61	134.6	139.3	199.3#
98	57.1	31.9	91.9

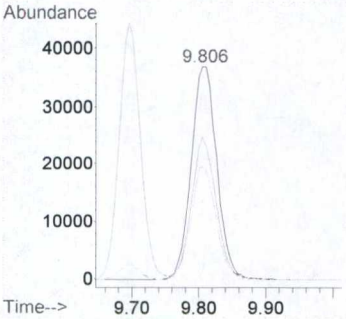




#51
1,1,1-trichloroethane
Concen: 28.96 ug/L
RT: 9.806 min Scan# 1148
Delta R.T. -0.005 min
Lab File: 2E135590.D
Acq: 16 Aug 2017 2:57 am

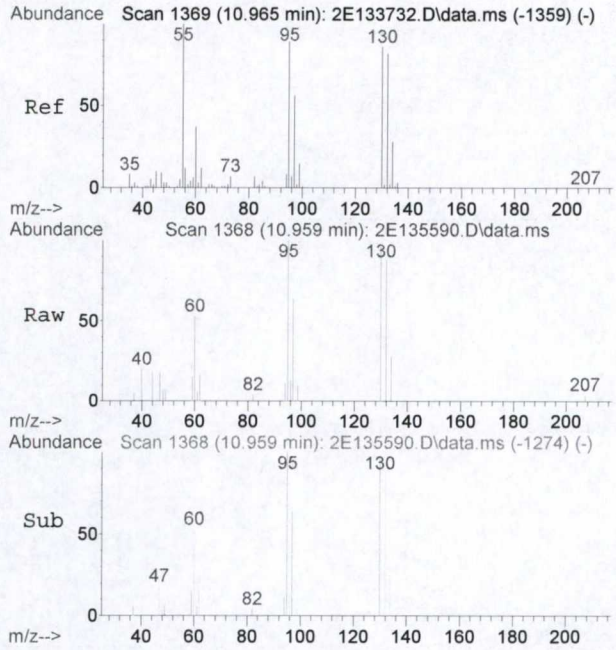
Tgt Ion: 97 Resp: 98097

Ion	Ratio	Lower	Upper
97	100		
99	67.2	33.2	93.2
61	52.8	18.5	78.5



7.1.4

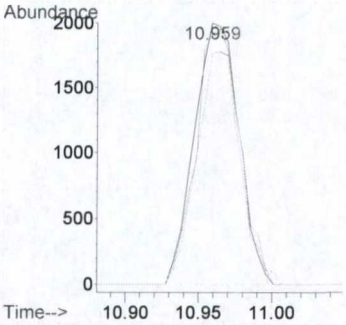
7



#64
trichloroethene
Concen: 1.85 ug/L
RT: 10.959 min Scan# 1368
Delta R.T. -0.005 min
Lab File: 2E135590.D
Acq: 16 Aug 2017 2:57 am

Tgt Ion: 95 Resp: 4196

Ion	Ratio	Lower	Upper
95	100		
130	95.9	65.6	125.6
132	88.3	63.5	123.5



7.1.4

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2E\v2e5920-21\
Data File : 2E135585.D
Acq On : 16 Aug 2017 12:39 am
Operator : JessicaP
Sample : jc48814-5
Misc : MS19123,V2E5921,5,,,,1
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Aug 16 16:39:39 2017
Quant Method : C:\MSDCHEM\1\METHODS\M2E5882.M
Quant Title : SW-846 Method V8260C, ZB624 60Mx0.25MMx1.4UM
QLast Update : Wed Jul 12 10:24:32 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Tert Butyl Alcohol-d9	7.462	65	103400	500.00 ug/L	-0.01
5) pentafluorobenzene	9.696	168	162063	50.00 ug/L	0.00
55) 1,4-difluorobenzene	10.619	114	265876	50.00 ug/L	0.00
76) chlorobenzene-d5	13.749	117	225821	50.00 ug/L	0.00
100) 1,4-dichlorobenzene-d4	16.040	152	116924	50.00 ug/L	0.00
System Monitoring Compounds					
49) dibromofluoromethane (s)	9.759	113	84609	54.51 ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 109.02%		
56) 1,2-dichloroethane-d4 (s)	10.183	65	116001	57.21 ug/L	0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 114.42%		
77) toluene-d8 (s)	12.249	98	324608	51.35 ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 102.70%		
101) 4-bromofluorobenzene (s)	14.892	95	120422	52.85 ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 105.70%		

Target Compounds Qvalue

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

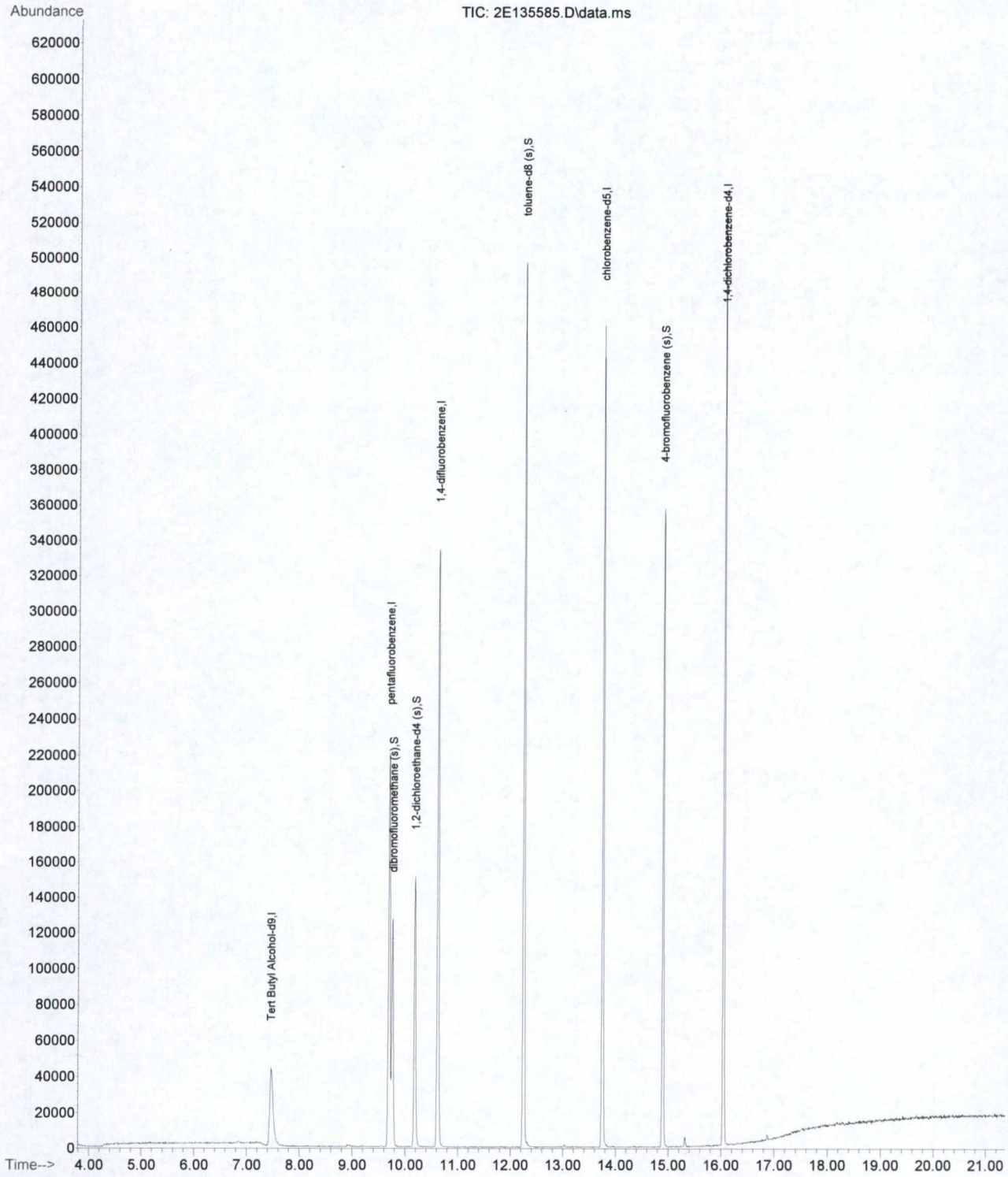
7.1.5

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2E\v2e5920-21\
Data File : 2E135585.D
Acq On : 16 Aug 2017 12:39 am
Operator : JessicaP
Sample : jc48814-5
Misc : MS19123,V2E5921,5,,,,1
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Aug 16 16:39:39 2017
Quant Method : C:\MSDCHEM\1\METHODS\M2E5882.M
Quant Title : SW-846 Method V8260C, ZB624 60Mx0.25MMx1.4UM
QLast Update : Wed Jul 12 10:24:32 2017
Response via : Initial Calibration



M2E5882.M Wed Aug 16 16:47:14 2017 11

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2E\v2e5920-21\
Data File : 2E135591.D
Acq On : 16 Aug 2017 3:25 am
Operator : JessicaP
Sample : jc48814-6
Misc : MS19123,V2E5921,5,,,,1
ALS Vial : 37 Sample Multiplier: 1

Quant Time: Aug 16 16:41:44 2017
Quant Method : C:\MSDCHEM\1\METHODS\M2E5882.M
Quant Title : SW-846 Method V8260C, ZB624 60Mx0.25MMx1.4UM
QLast Update : Wed Jul 12 10:24:32 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Tert Butyl Alcohol-d9	7.462	65	86715	500.00 ug/L	-0.01
5) pentafluorobenzene	9.696	168	165529	50.00 ug/L	0.00
55) 1,4-difluorobenzene	10.619	114	270193	50.00 ug/L	0.00
76) chlorobenzene-d5	13.749	117	237209	50.00 ug/L	0.00
100) 1,4-dichlorobenzene-d4	16.040	152	122843	50.00 ug/L	0.00
System Monitoring Compounds					
49) dibromofluoromethane (s)	9.759	113	85455	53.90 ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 107.80%		
56) 1,2-dichloroethane-d4 (s)	10.183	65	116416	56.50 ug/L	0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 113.00%		
77) toluene-d8 (s)	12.244	98	332267	50.03 ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 100.06%		
101) 4-bromofluorobenzene (s)	14.897	95	125721	52.51 ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 105.02%		
Target Compounds					Qvalue
33) 1,1-dichloroethane	8.453	63	1048	0.24 ug/L	88
51) 1,1,1-trichloroethane	9.806	97	1196	0.35 ug/L	89
82) tetrachloroethene	12.894	164	1119	0.65 ug/L #	82

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

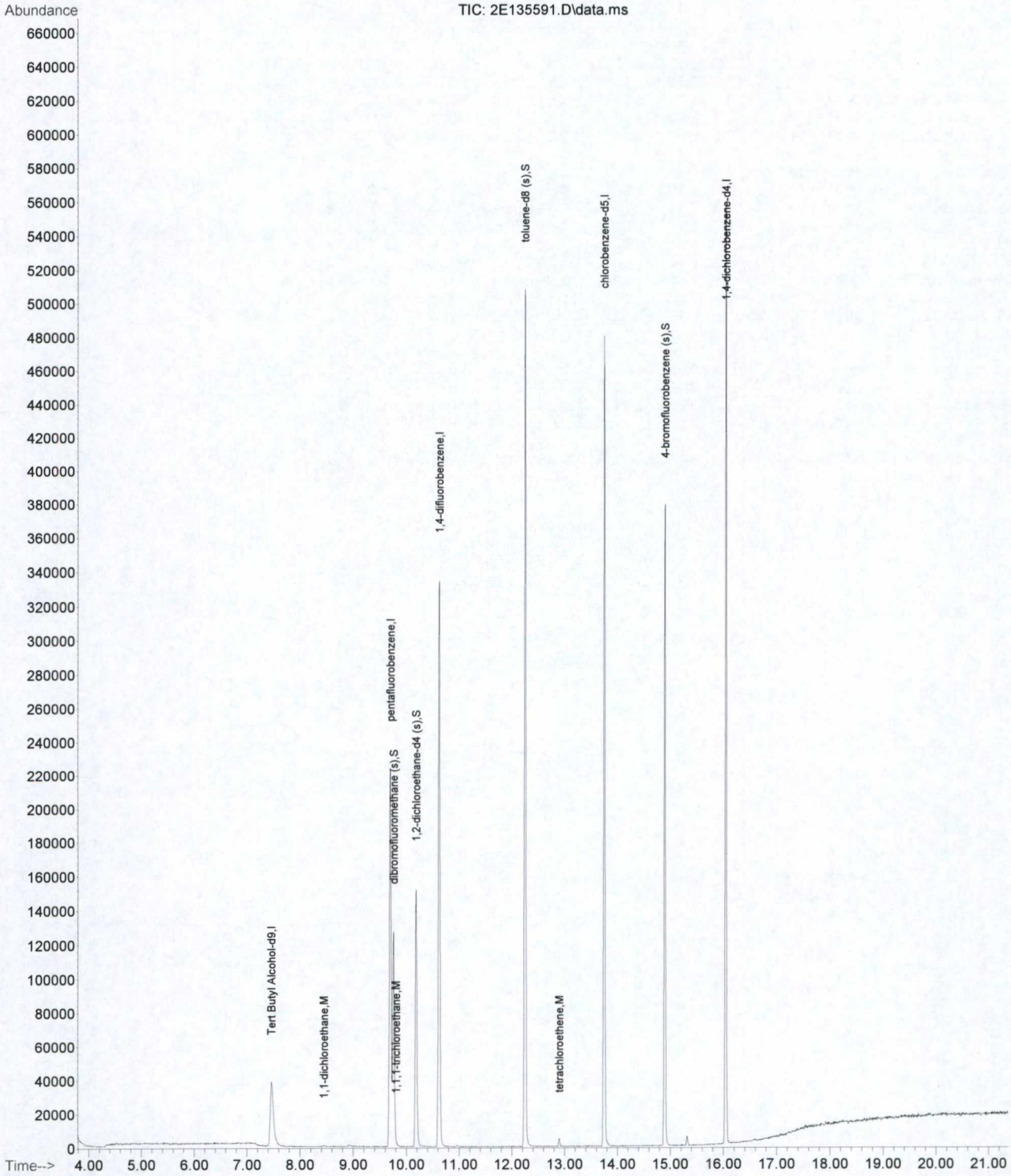
7.1.6

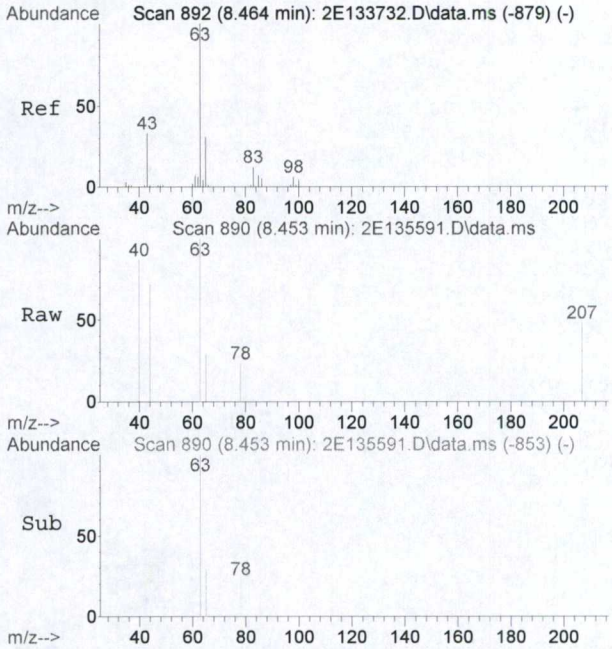
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2E\v2e5920-21\
Data File : 2E135591.D
Acq On : 16 Aug 2017 3:25 am
Operator : JessicaP
Sample : jc48814-6
Misc : MS19123,V2E5921,5,,,,1
ALS Vial : 37 Sample Multiplier: 1

Quant Time: Aug 16 16:41:44 2017
Quant Method : C:\MSDCHEM\1\METHODS\M2E5882.M
Quant Title : SW-846 Method V8260C, ZB624 60Mx0.25MMx1.4UM
QLast Update : Wed Jul 12 10:24:32 2017
Response via : Initial Calibration

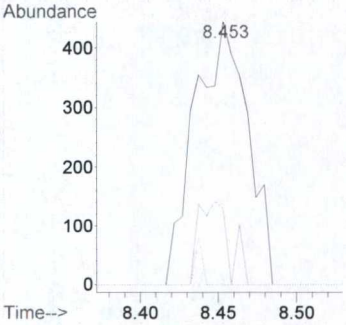


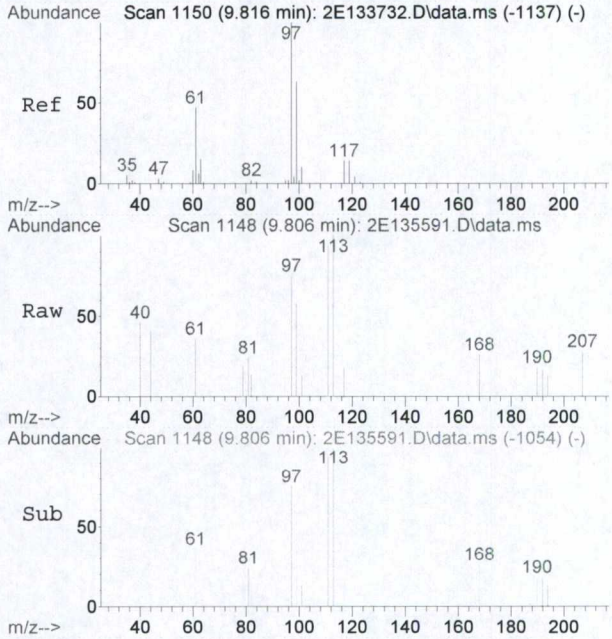


#33
1,1-dichloroethane
Concen: 0.24 ug/L
RT: 8.453 min Scan# 890
Delta R.T. -0.005 min
Lab File: 2E135591.D
Acq: 16 Aug 2017 3:25 am

Tgt Ion: 63 Resp: 1048

Ion	Ratio	Lower	Upper
63	100		
65	29.1	2.2	62.2
83	0.0	0.0	41.5

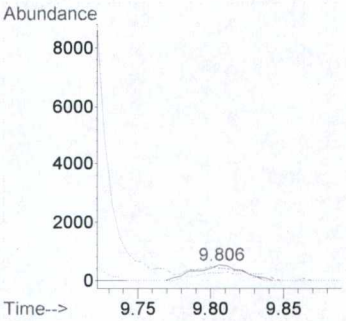




#51
1,1,1-trichloroethane
Concen: 0.35 ug/L
RT: 9.806 min Scan# 1148
Delta R.T. -0.005 min
Lab File: 2E135591.D
Acq: 16 Aug 2017 3:25 am

Tgt Ion: 97 Resp: 1196

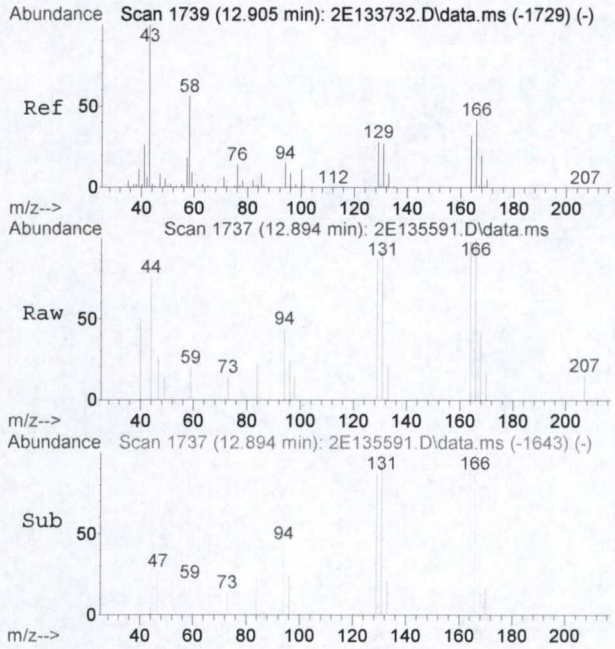
Ion	Ratio	Lower	Upper
97	100		
99	77.8	33.2	93.2
61	47.6	18.5	78.5



7.1.6

7

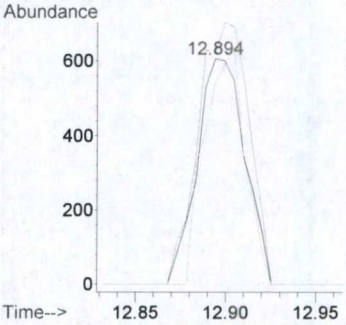
SGS ACCUTEST JC48814



#82
tetrachloroethene
Concen: 0.65 ug/L
RT: 12.894 min Scan# 1737
Delta R.T. -0.005 min
Lab File: 2E135591.D
Acq: 16 Aug 2017 3:25 am

Tgt Ion:164 Resp: 1119

Ion	Ratio	Lower	Upper
164	100		
166	102.3	102.8	162.8#
129	88.9	66.3	126.3



7.1.6

7

SGS ACCUTEST JC48814

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2E\v2e5920-21\
Data File : 2E135592.D
Acq On : 16 Aug 2017 3:52 am
Operator : JessicaP
Sample : jc48814-7
Misc : MS19123,V2E5921,5,,,,1
ALS Vial : 38 Sample Multiplier: 1

Quant Time: Aug 16 16:42:15 2017
Quant Method : C:\MSDCHEM\1\METHODS\M2E5882.M
Quant Title : SW-846 Method V8260C, ZB624 60Mx0.25MMx1.4UM
QLast Update : Wed Jul 12 10:24:32 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Tert Butyl Alcohol-d9	7.473	65	86386	500.00 ug/L	0.00
5) pentafluorobenzene	9.696	168	169483	50.00 ug/L	0.00
55) 1,4-difluorobenzene	10.618	114	276080	50.00 ug/L	0.00
76) chlorobenzene-d5	13.748	117	239345	50.00 ug/L	0.00
100) 1,4-dichlorobenzene-d4	16.045	152	124568	50.00 ug/L	0.00
System Monitoring Compounds					
49) dibromofluoromethane (s)	9.759	113	87017	53.60 ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 107.20%		
56) 1,2-dichloroethane-d4 (s)	10.183	65	118426	56.25 ug/L	0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 112.50%		
77) toluene-d8 (s)	12.249	98	337139	50.31 ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 100.62%		
101) 4-bromofluorobenzene (s)	14.891	95	127622	52.57 ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 105.14%		
Target Compounds					Qvalue
33) 1,1-dichloroethane	8.458	63	1869	0.41 ug/L	88
51) 1,1,1-trichloroethane	9.800	97	2024	0.58 ug/L	93
64) trichloroethene	10.954	95	824	0.36 ug/L #	75
82) tetrachloroethene	12.899	164	1791	1.04 ug/L	91

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

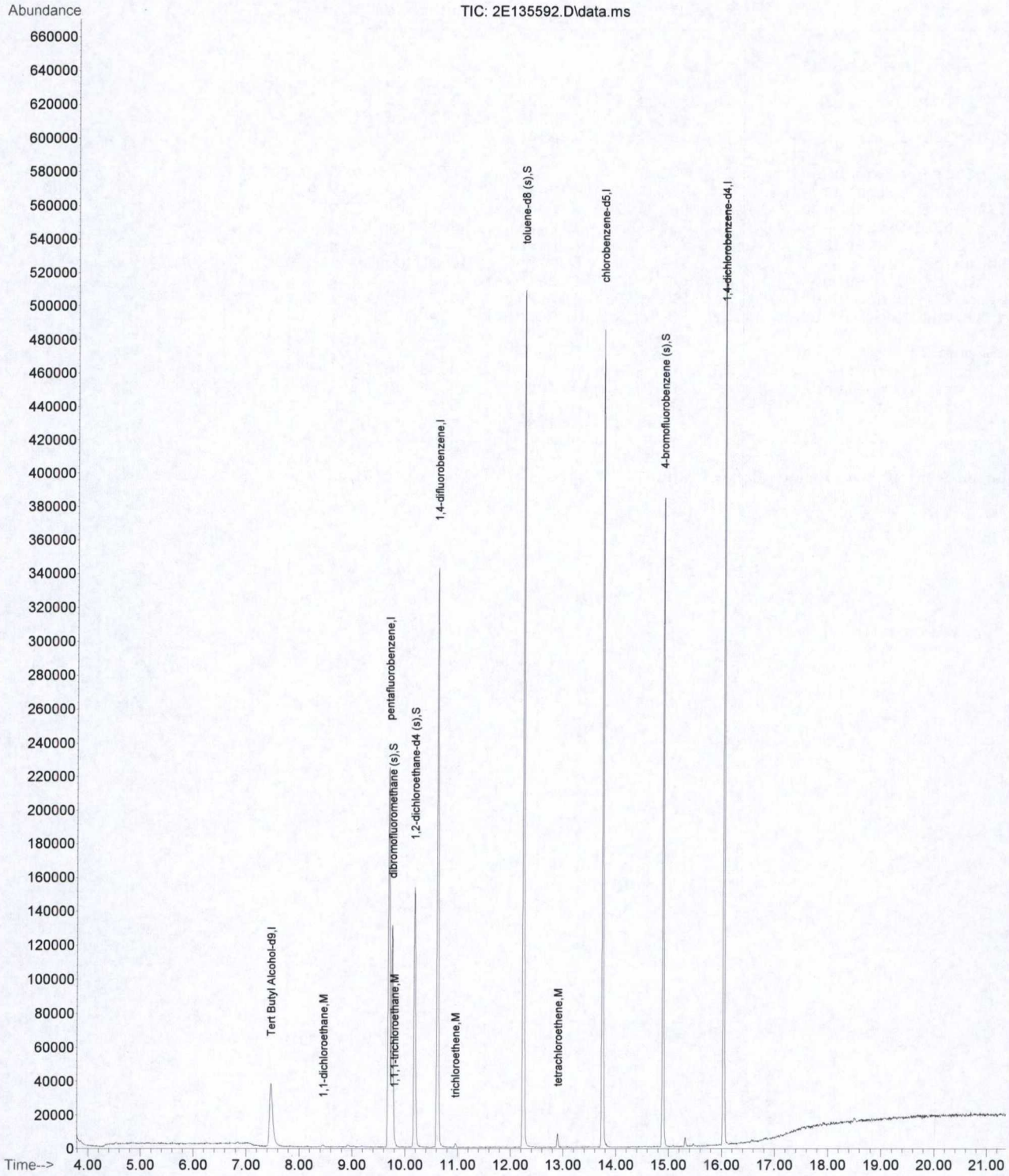
7.1.7

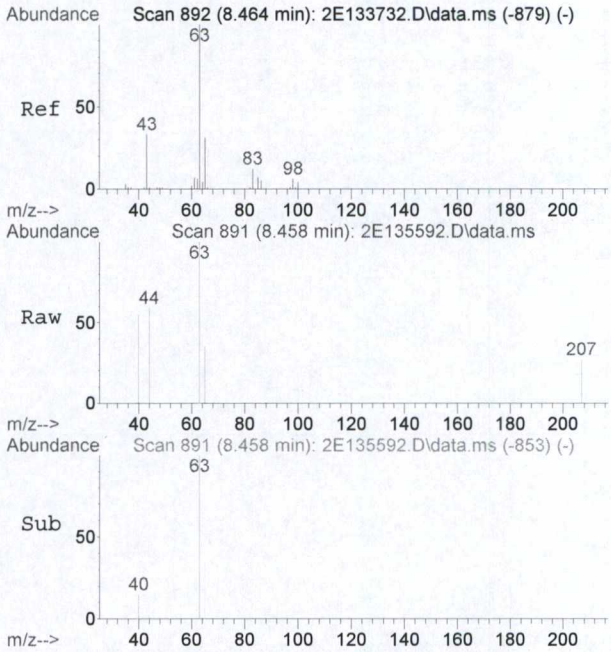
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2E\v2e5920-21\
Data File : 2E135592.D
Acq On : 16 Aug 2017 3:52 am
Operator : JessicaP
Sample : jc48814-7
Misc : MS19123,V2E5921,5,,,,1
ALS Vial : 38 Sample Multiplier: 1

Quant Time: Aug 16 16:42:15 2017
Quant Method : C:\MSDCHEM\1\METHODS\M2E5882.M
Quant Title : SW-846 Method V8260C, ZB624 60Mx0.25MMx1.4UM
QLast Update : Wed Jul 12 10:24:32 2017
Response via : Initial Calibration

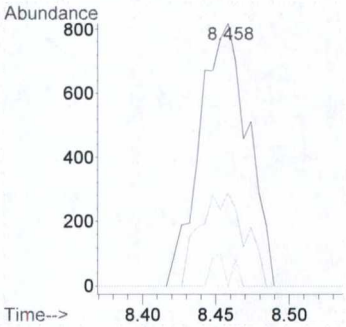


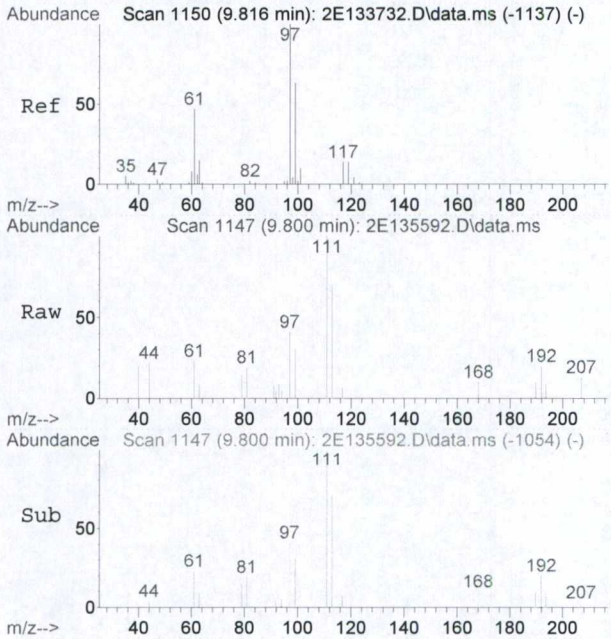


#33
1,1-dichloroethane
Concen: 0.41 ug/L
RT: 8.458 min Scan# 891
Delta R.T. -0.000 min
Lab File: 2E135592.D
Acq: 16 Aug 2017 3:52 am

Tgt Ion: 63 Resp: 1869

Ion	Ratio	Lower	Upper
63	100		
65	35.0	2.2	62.2
83	0.0	0.0	41.5

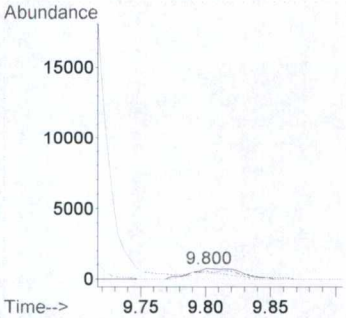




#51
1,1,1-trichloroethane
Concen: 0.58 ug/L
RT: 9.800 min Scan# 1147
Delta R.T. -0.011 min
Lab File: 2E135592.D
Acq: 16 Aug 2017 3:52 am

Tgt Ion: 97 Resp: 2024

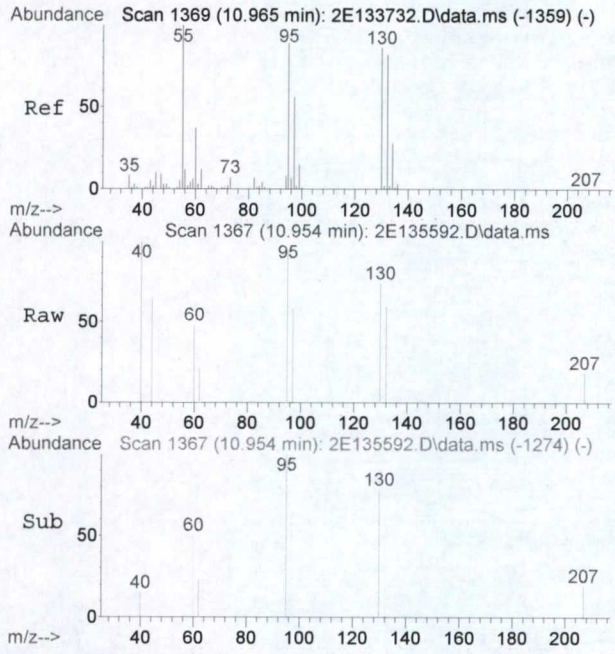
Ion	Ratio	Lower	Upper
97	100		
99	66.0	33.2	93.2
61	56.4	18.5	78.5



7.1.7

7

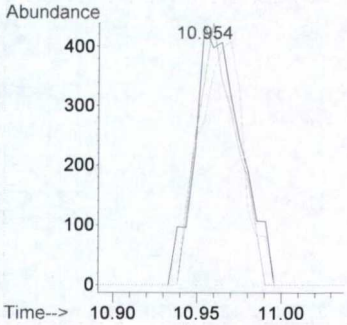
SGS ACCUTEST JC48814

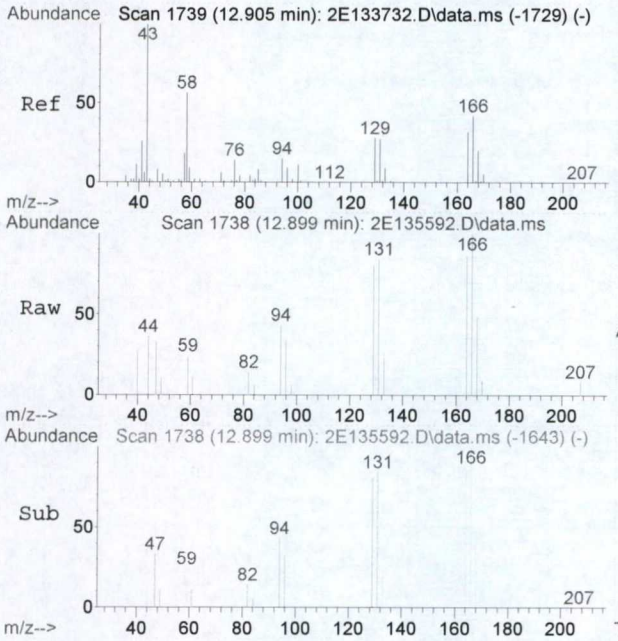


#64
trichloroethene
Concen: 0.36 ug/L
RT: 10.954 min Scan# 1367
Delta R.T. -0.011 min
Lab File: 2E135592.D
Acq: 16 Aug 2017 3:52 am

Tgt Ion: 95 Resp: 824

Ion	Ratio	Lower	Upper
95	100		
130	77.9	65.6	125.6
132	62.5	63.5	123.5#

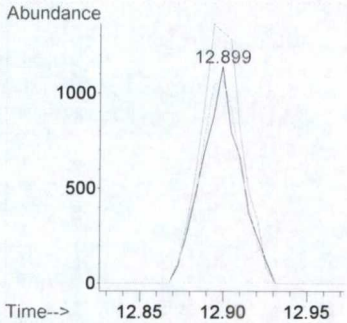




#82
tetrachloroethene
Concen: 1.04 ug/L
RT: 12.899 min Scan# 1738
Delta R.T. -0.000 min
Lab File: 2E135592.D
Acq: 16 Aug 2017 3:52 am

Tgt Ion:164 Resp: 1791

Ion	Ratio	Lower	Upper
164	100		
166	116.1	102.8	162.8
129	94.0	66.3	126.3



7.1.7

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2E\v2e5920-21\
Data File : 2E135593.D
Acq On : 16 Aug 2017 4:20 am
Operator : JessicaP
Sample : jc48814-8
Misc : MS19123,V2E5921,5,,,,1
ALS Vial : 39 Sample Multiplier: 1

Quant Time: Aug 16 16:42:31 2017
Quant Method : C:\MSDCHEM\1\METHODS\M2E5882.M
Quant Title : SW-846 Method V8260C, ZB624 60Mx0.25MMx1.4UM
QLast Update : Wed Jul 12 10:24:32 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Tert Butyl Alcohol-d9	7.473	65	85328	500.00 ug/L	0.00
5) pentafluorobenzene	9.696	168	168606	50.00 ug/L	0.00
55) 1,4-difluorobenzene	10.618	114	275045	50.00 ug/L	0.00
76) chlorobenzene-d5	13.749	117	237837	50.00 ug/L	0.00
100) 1,4-dichlorobenzene-d4	16.040	152	123053	50.00 ug/L	0.00
System Monitoring Compounds					
49) dibromofluoromethane (s)	9.759	113	86899	53.81 ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 107.62%		
56) 1,2-dichloroethane-d4 (s)	10.183	65	117805	56.17 ug/L	0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 112.34%		
77) toluene-d8 (s)	12.249	98	338609	50.85 ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 101.70%		
101) 4-bromofluorobenzene (s)	14.897	95	125645	52.39 ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 104.78%		
Target Compounds					Qvalue
33) 1,1-dichloroethane	8.458	63	1947	0.43 ug/L	91
51) 1,1,1-trichloroethane	9.801	97	2597	0.75 ug/L	82
82) tetrachloroethene	12.899	164	2921	1.70 ug/L	91

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

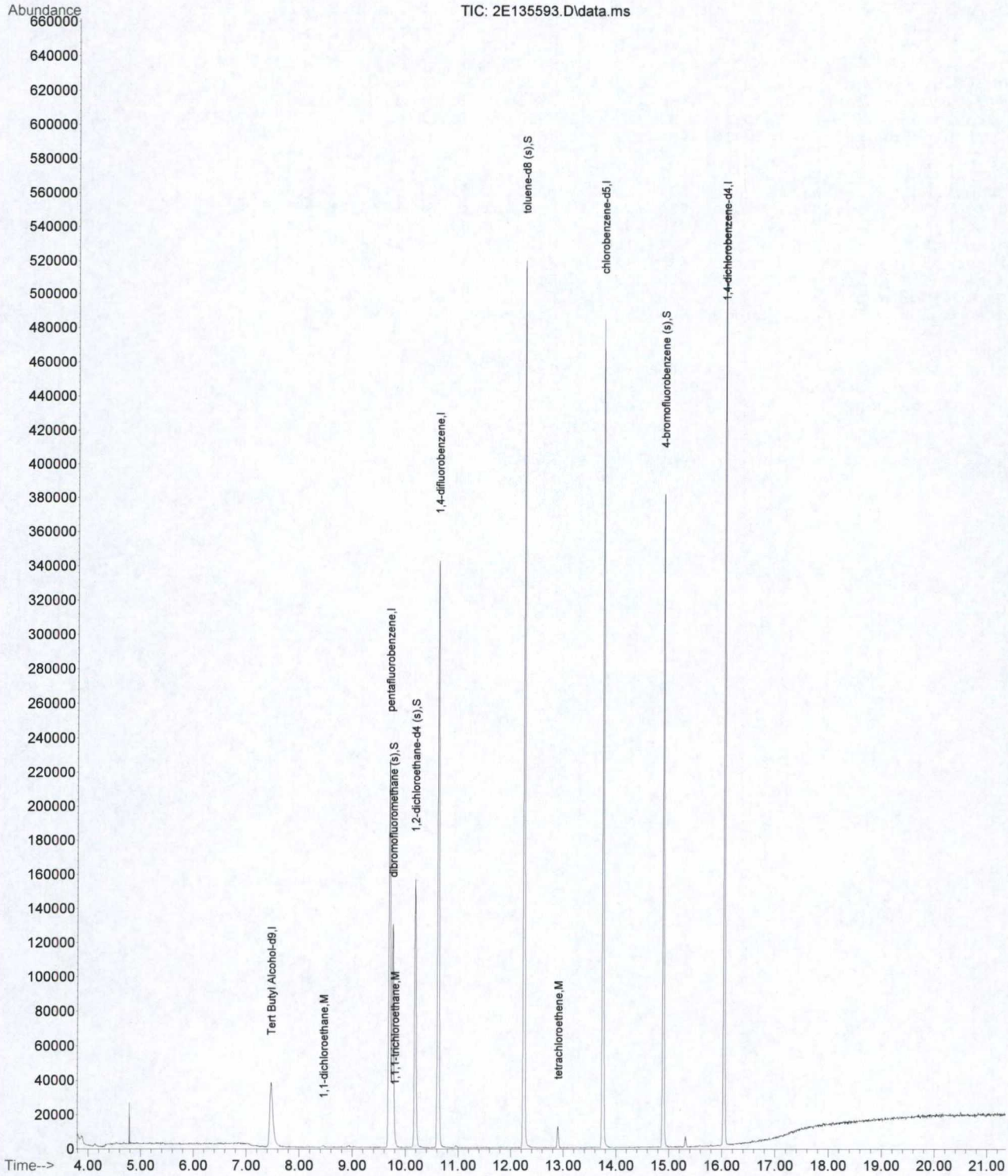
7.1.8

7

Quantitation Report (QT Reviewed)

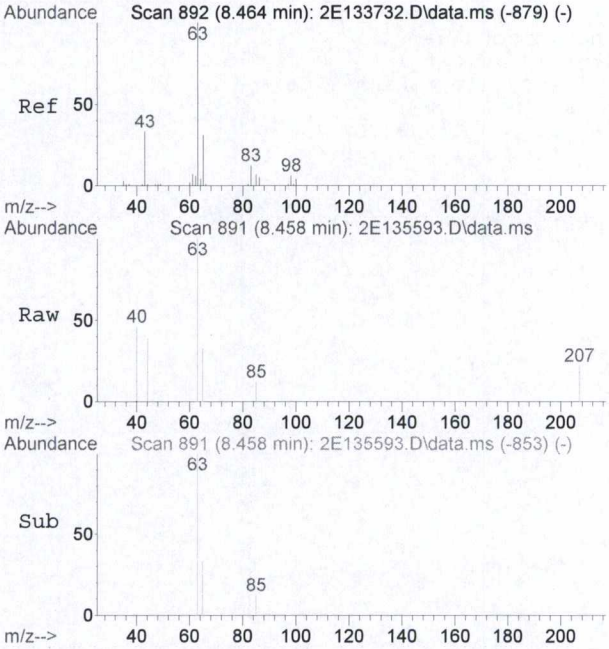
Data Path : C:\msdchem\1\data\2E\v2e5920-21\
Data File : 2E135593.D
Acq On : 16 Aug 2017 4:20 am
Operator : JessicaP
Sample : jc48814-8
Misc : MS19123,V2E5921,5,,,,1
ALS Vial : 39 Sample Multiplier: 1

Quant Time: Aug 16 16:42:31 2017
Quant Method : C:\MSDCHEM\1\METHODS\M2E5882.M
Quant Title : SW-846 Method V8260C, ZB624 60Mx0.25MMx1.4UM
QLast Update : Wed Jul 12 10:24:32 2017
Response via : Initial Calibration



M2E5882.M Wed Aug 16 16:47:30 2017 11

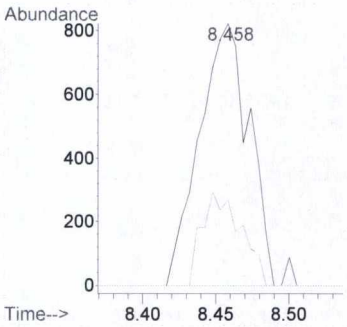
Page: 2

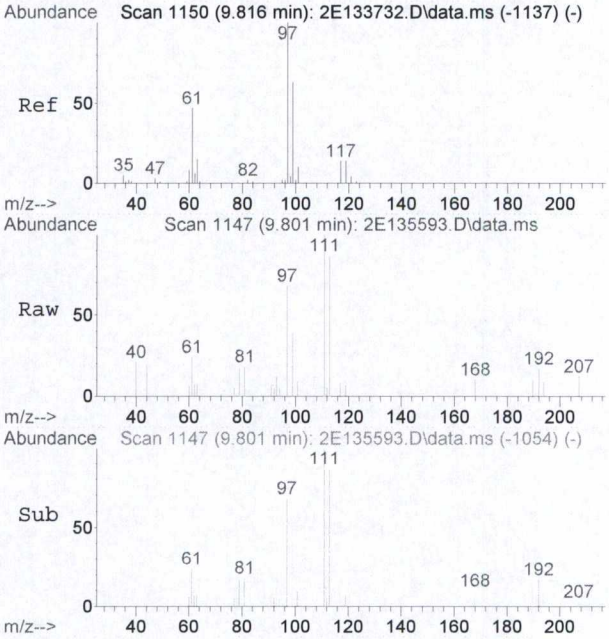


#33
1,1-dichloroethane
Concen: 0.43 ug/L
RT: 8.458 min Scan# 891
Delta R.T. 0.000 min
Lab File: 2E135593.D
Acq: 16 Aug 2017 4:20 am

Tgt Ion: 63 Resp: 1947

Ion	Ratio	Lower	Upper
63	100		
65	32.8	2.2	62.2
83	0.0	0.0	41.5

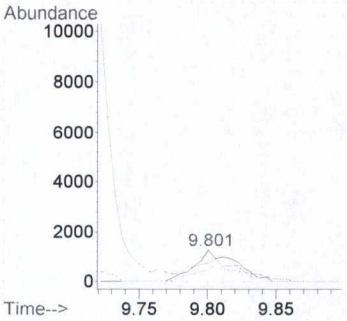




#51
1,1,1-trichloroethane
Concen: 0.75 ug/L
RT: 9.801 min Scan# 1147
Delta R.T. -0.010 min
Lab File: 2E135593.D
Acq: 16 Aug 2017 4:20 am

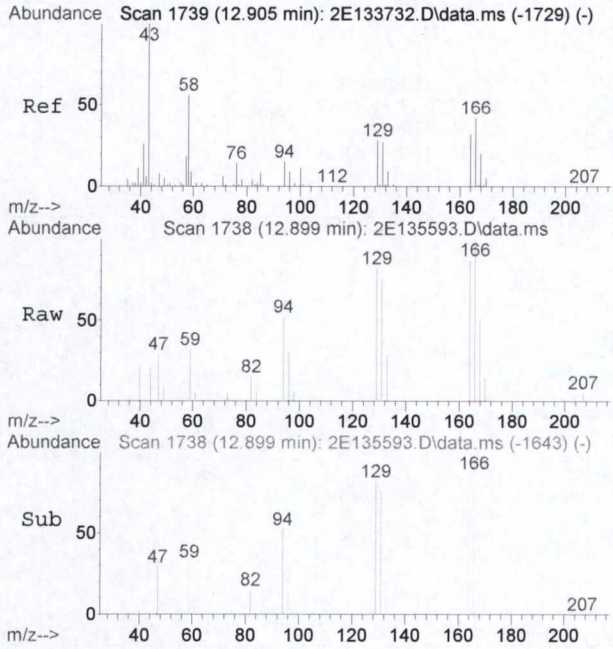
Tgt Ion: 97 Resp: 2597

Ion	Ratio	Lower	Upper
97	100		
99	50.4	33.2	93.2
61	35.4	18.5	78.5



7.1.8

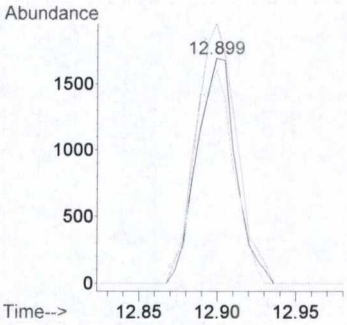
7



#82
tetrachloroethene
Concen: 1.70 ug/L
RT: 12.899 min Scan# 1738
Delta R.T. 0.000 min
Lab File: 2E135593.D
Acq: 16 Aug 2017 4:20 am

Tgt Ion:164 Resp: 2921

Ion	Ratio	Lower	Upper
164	100		
166	115.6	102.8	162.8
129	94.9	66.3	126.3



7.1.8

7

SGS ACCUTEST JC48814

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2E\v2e5920-21\
Data File : 2E135594.D
Acq On : 16 Aug 2017 4:48 am
Operator : JessicaP
Sample : jc48814-9
Misc : MS19123,V2E5921,5,,,,1
ALS Vial : 40 Sample Multiplier: 1

Quant Time: Aug 16 16:42:49 2017
Quant Method : C:\MSDCHEM\1\METHODS\M2E5882.M
Quant Title : SW-846 Method V8260C, ZB624 60Mx0.25MMx1.4UM
QLast Update : Wed Jul 12 10:24:32 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Tert Butyl Alcohol-d9	7.473	65	83644	500.00 ug/L	0.00
5) pentafluorobenzene	9.701	168	161315	50.00 ug/L	0.00
55) 1,4-difluorobenzene	10.619	114	265812	50.00 ug/L	0.00
76) chlorobenzene-d5	13.749	117	231511	50.00 ug/L	0.00
100) 1,4-dichlorobenzene-d4	16.045	152	119963	50.00 ug/L	0.00
System Monitoring Compounds					
49) dibromofluoromethane (s)	9.759	113	84433	54.64 ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 109.28%		
56) 1,2-dichloroethane-d4 (s)	10.183	65	116311	57.38 ug/L	0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 114.76%		
77) toluene-d8 (s)	12.249	98	326378	50.36 ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 100.72%		
101) 4-bromofluorobenzene (s)	14.897	95	122644	52.46 ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 104.92%		
Target Compounds					Qvalue
33) 1,1-dichloroethane	8.453	63	3537	0.82 ug/L	94
51) 1,1,1-trichloroethane	9.806	97	4056	1.22 ug/L	91
64) trichloroethene	10.965	95	1305	0.59 ug/L	99
82) tetrachloroethene	12.899	164	9245	5.52 ug/L	95

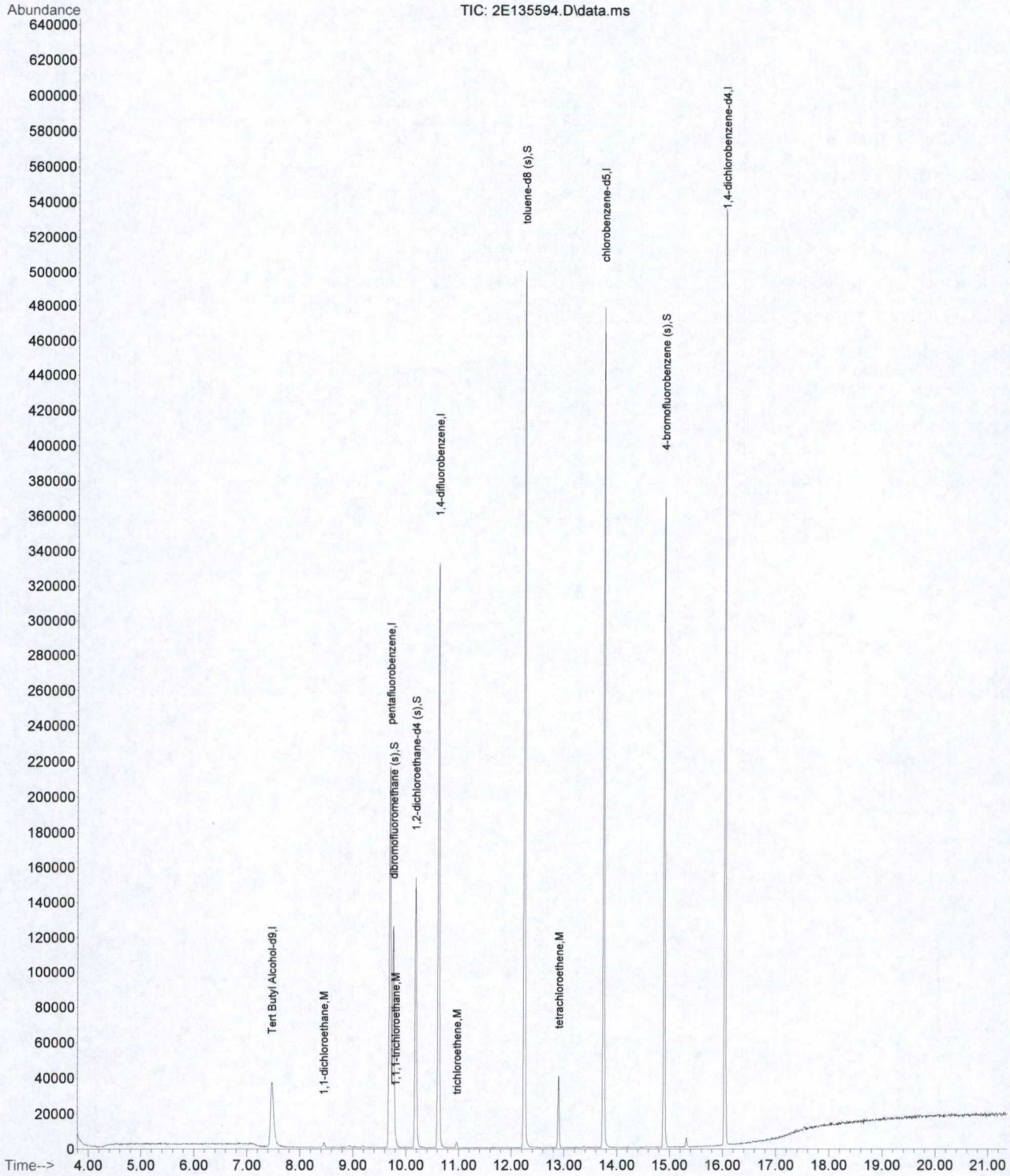
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.9 7

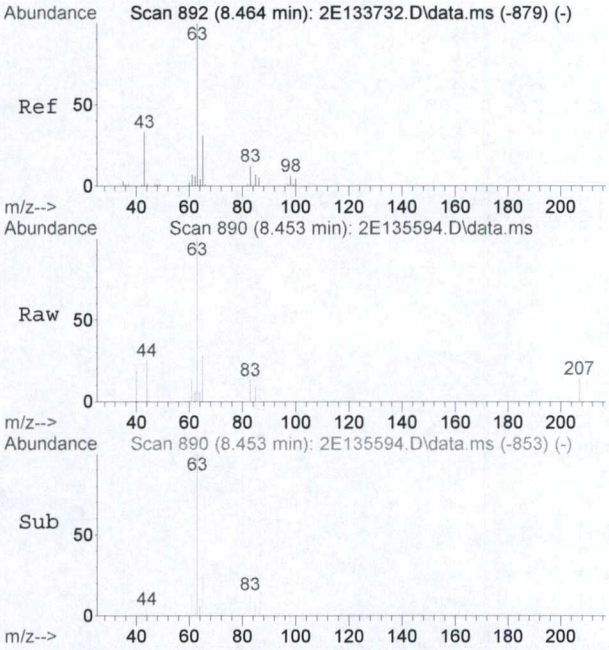
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2E\v2e5920-21\
Data File : 2E135594.D
Acq On : 16 Aug 2017 4:48 am
Operator : JessicaP
Sample : jc48814-9
Misc : MS19123,V2E5921,5,,,,1
ALS Vial : 40 Sample Multiplier: 1

Quant Time: Aug 16 16:42:49 2017
Quant Method : C:\MSDCHEM\1\METHODS\M2E5882.M
Quant Title : SW-846 Method V8260C, ZB624 60Mx0.25MMx1.4UM
QLast Update : Wed Jul 12 10:24:32 2017
Response via : Initial Calibration



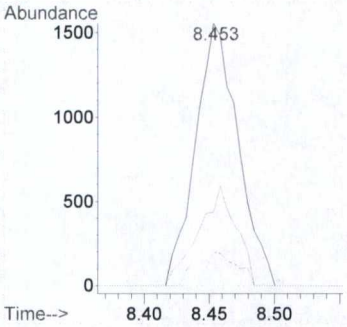
M2E5882.M Wed Aug 16 16:47:32 2017 11

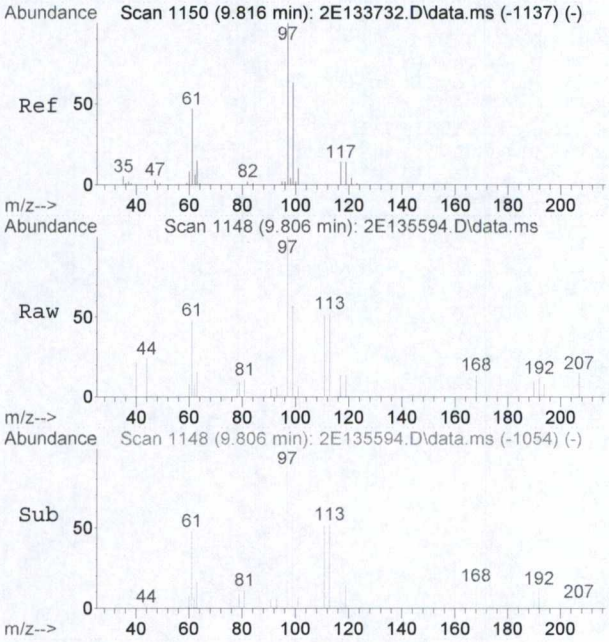


#33
1,1-dichloroethane
Concen: 0.82 ug/L
RT: 8.453 min Scan# 890
Delta R.T. -0.005 min
Lab File: 2E135594.D
Acq: 16 Aug 2017 4:48 am

Tgt Ion: 63 Resp: 3537

Ion	Ratio	Lower	Upper
63	100		
65	28.1	2.2	62.2
83	12.8	0.0	41.5

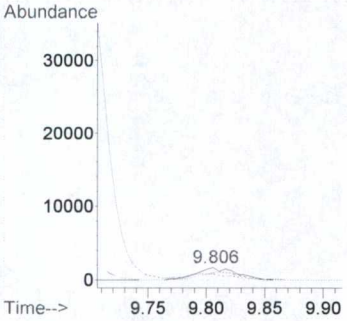




#51
1,1,1-trichloroethane
Concen: 1.22 ug/L
RT: 9.806 min Scan# 1148
Delta R.T. -0.005 min
Lab File: 2E135594.D
Acq: 16 Aug 2017 4:48 am

Tgt Ion: 97 Resp: 4056

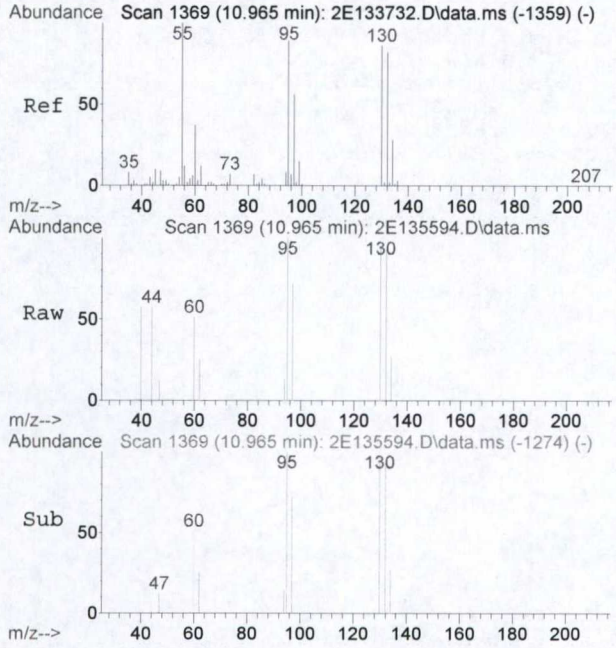
Ion	Ratio	Lower	Upper
97	100		
99	50.2	33.2	93.2
61	48.4	18.5	78.5



7.1.9

7

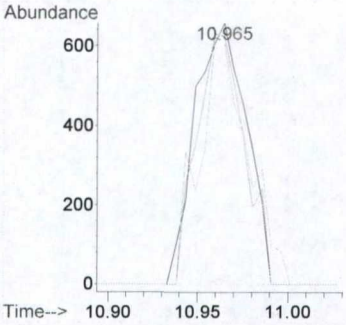
SGS ACCUTEST JC48814

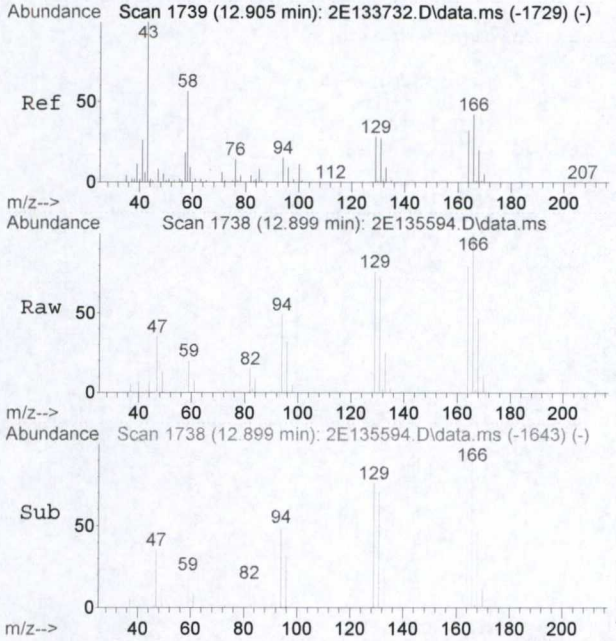


#64
trichloroethene
Concen: 0.59 ug/L
RT: 10.965 min Scan# 1369
Delta R.T. 0.000 min
Lab File: 2E135594.D
Acq: 16 Aug 2017 4:48 am

Tgt Ion: 95 Resp: 1305

Ion	Ratio	Lower	Upper
95	100		
130	94.8	65.6	125.6
132	92.7	63.5	123.5

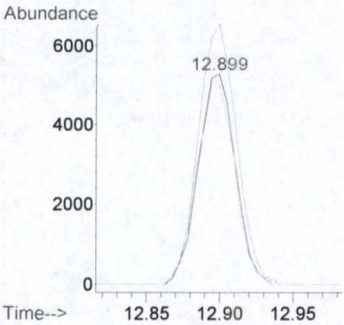




#82
tetrachloroethene
Concen: 5.52 ug/L
RT: 12.899 min Scan# 1738
Delta R.T. 0.000 min
Lab File: 2E135594.D
Acq: 16 Aug 2017 4:48 am

Tgt Ion:164 Resp: 9245

Ion	Ratio	Lower	Upper
164	100		
166	124.6	102.8	162.8
129	94.4	66.3	126.3



7.1.9

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2E\v2e5920-21\
Data File : 2E135595.D
Acq On : 16 Aug 2017 5:16 am
Operator : JessicaP
Sample : jc48814-10
Misc : MS19123,V2E5921,5,,,,1
ALS Vial : 41 Sample Multiplier: 1

Quant Time: Aug 16 05:37:34 2017
Quant Method : C:\MSDCHEM\1\METHODS\M2E5882.M
Quant Title : SW-846 Method V8260C, ZB624 60Mx0.25MMx1.4UM
QLast Update : Wed Jul 12 10:24:32 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.467	65	84775	500.00	ug/L	0.00
5) pentafluorobenzene	9.696	168	156930	50.00	ug/L	0.00
55) 1,4-difluorobenzene	10.618	114	257902	50.00	ug/L	0.00
76) chlorobenzene-d5	13.749	117	223894	50.00	ug/L	0.00
100) 1,4-dichlorobenzene-d4	16.045	152	115219	50.00	ug/L	0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	9.759	113	82579	54.94	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 109.88%			
56) 1,2-dichloroethane-d4 (s)	10.183	65	113015	57.46	ug/L	0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 114.92%			
77) toluene-d8 (s)	12.249	98	317108	50.59	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 101.18%			
101) 4-bromofluorobenzene (s)	14.897	95	118654	52.84	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 105.68%			

Target Compounds Qvalue

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

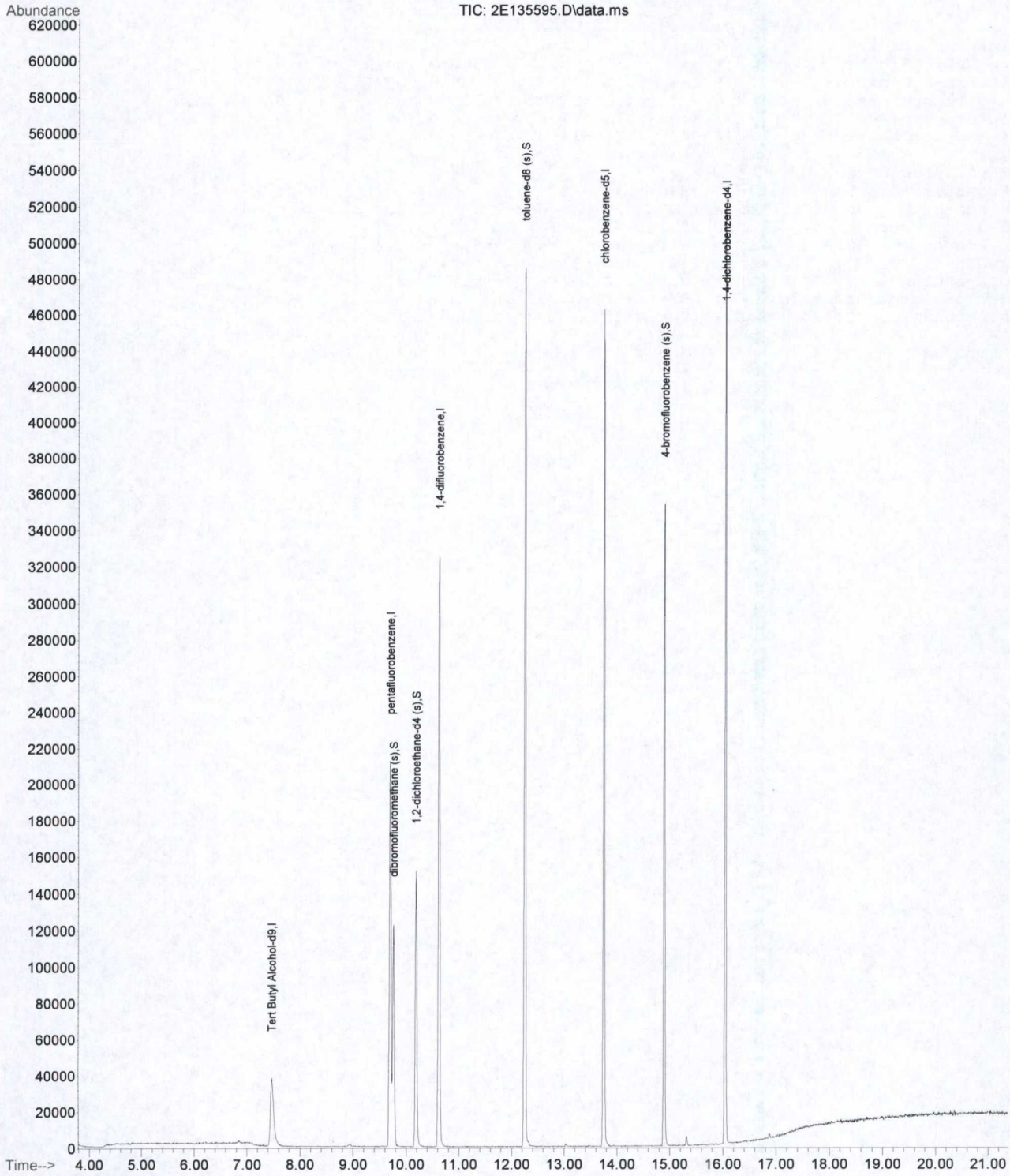
7.1.10

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2E\v2e5920-21\
Data File : 2E135595.D
Acq On : 16 Aug 2017 5:16 am
Operator : JessicaP
Sample : jc48814-10
Misc : MS19123,V2E5921,5,,,,1
ALS Vial : 41 Sample Multiplier: 1

Quant Time: Aug 16 05:37:34 2017
Quant Method : C:\MSDCHEM\1\METHODS\M2E5882.M
Quant Title : SW-846 Method V8260C, ZB624 60Mx0.25MMx1.4UM
QLast Update : Wed Jul 12 10:24:32 2017
Response via : Initial Calibration



SGS ACCUTEST JC48814

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2E\v2e5920-21\
Data File : 2E135596.D
Acq On : 16 Aug 2017 5:43 am
Operator : JessicaP
Sample : jc48814-11
Misc : MS19123,V2E5921,5,,,,1
ALS Vial : 42 Sample Multiplier: 1

Quant Time: Aug 16 16:43:24 2017
Quant Method : C:\MSDCHEM\1\METHODS\M2E5882.M
Quant Title : SW-846 Method V8260C, ZB624 60Mx0.25MMx1.4UM
QLast Update : Wed Jul 12 10:24:32 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.473	65	82668	500.00	ug/L	0.00
5) pentafluorobenzene	9.696	168	150746	50.00	ug/L	0.00
55) 1,4-difluorobenzene	10.618	114	251772	50.00	ug/L	0.00
76) chlorobenzene-d5	13.748	117	220702	50.00	ug/L	0.00
100) 1,4-dichlorobenzene-d4	16.040	152	114130	50.00	ug/L	0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	9.759	113	80572	55.80	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 111.60%			
56) 1,2-dichloroethane-d4 (s)	10.183	65	110513	57.56	ug/L	0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 115.12%			
77) toluene-d8 (s)	12.249	98	310471	50.25	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 100.50%			
101) 4-bromofluorobenzene (s)	14.891	95	116148	52.22	ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 104.44%			
Target Compounds						Qvalue
33) 1,1-dichloroethane	8.458	63	1637	0.41	ug/L	83
51) 1,1,1-trichloroethane	9.811	97	1756	0.57	ug/L	89
64) trichloroethene	10.954	95	743	0.35	ug/L	82
82) tetrachloroethene	12.894	164	1525	0.96	ug/L	82

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

7.1.11

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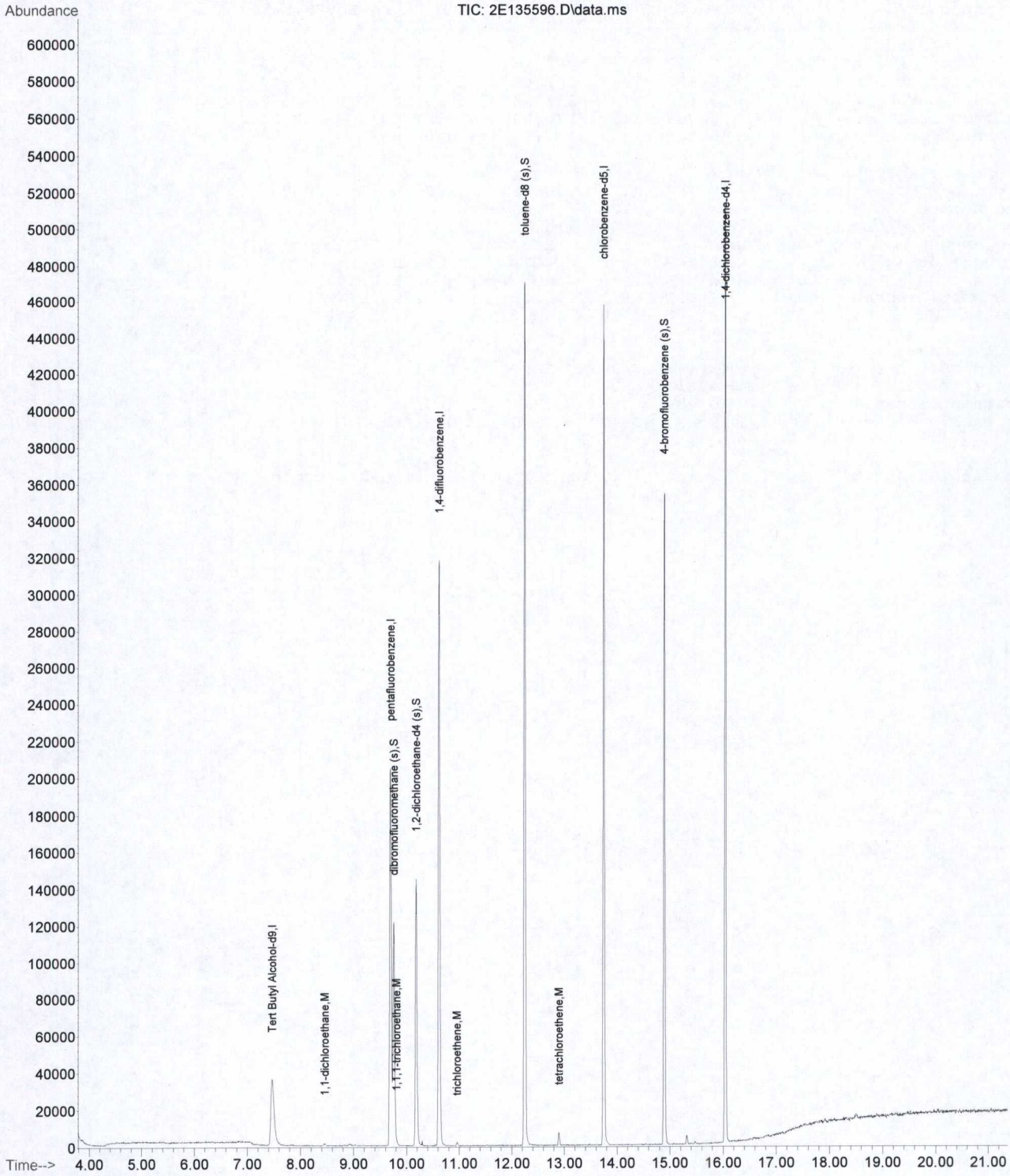
Quantitation Report (QT Reviewed)

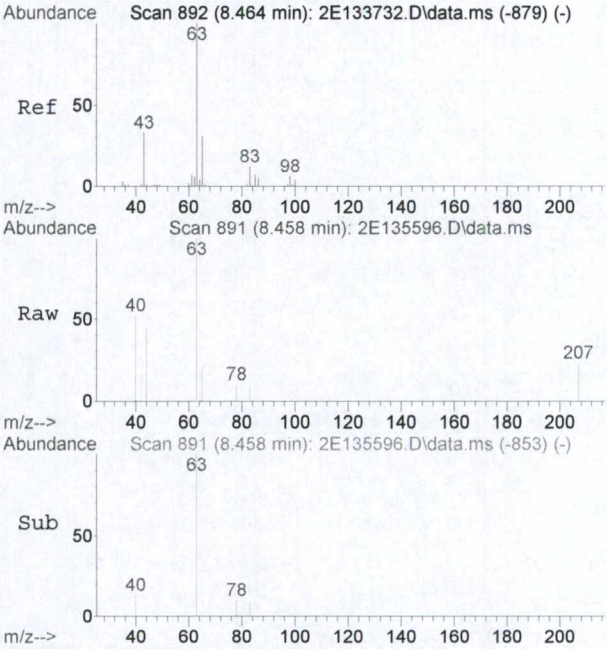
Data Path : C:\msdchem\1\data\2E\v2e5920-21\
Data File : 2E135596.D
Acq On : 16 Aug 2017 5:43 am
Operator : JessicaP
Sample : jc48814-11
Misc : MS19123,V2E5921,5,,,,1
ALS Vial : 42 Sample Multiplier: 1

Quant Time: Aug 16 16:43:24 2017
Quant Method : C:\MSDCHEM\1\METHODS\M2E5882.M
Quant Title : SW-846 Method V8260C, ZB624 60Mx0.25MMx1.4UM
QLast Update : Wed Jul 12 10:24:32 2017
Response via : Initial Calibration



M2E5882.M Wed Aug 16 16:47:36 2017 11

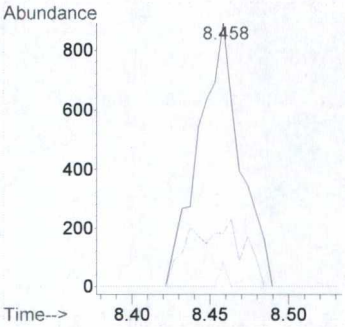
SGS ACCUTEST JC48814

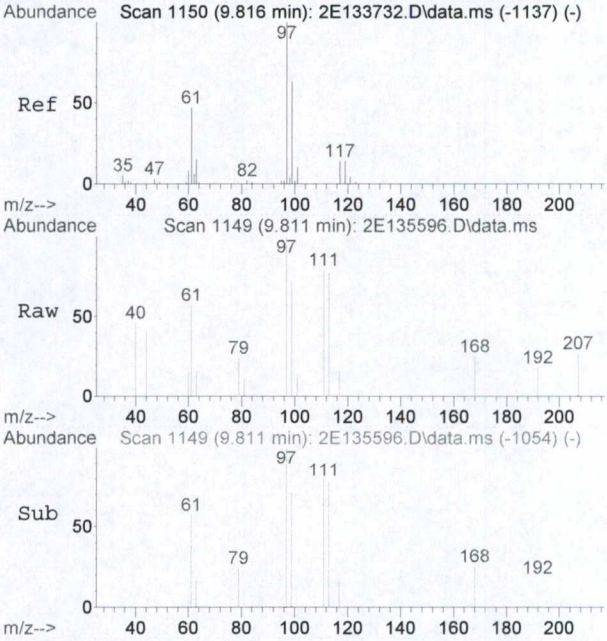


#33
1,1-dichloroethane
Concen: 0.41 ug/L
RT: 8.458 min Scan# 891
Delta R.T. -0.000 min
Lab File: 2E135596.D
Acq: 16 Aug 2017 5:43 am

Tgt Ion: 63 Resp: 1637

Ion	Ratio	Lower	Upper
63	100		
65	20.4	2.2	62.2
83	9.2	0.0	41.5

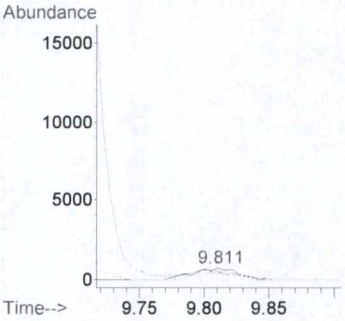




#51
1,1,1-trichloroethane
Concen: 0.57 ug/L
RT: 9.811 min Scan# 1149
Delta R.T. -0.000 min
Lab File: 2E135596.D
Acq: 16 Aug 2017 5:43 am

Tgt Ion: 97 Resp: 1756

Ion	Ratio	Lower	Upper
97	100		
99	70.9	33.2	93.2
61	56.6	18.5	78.5



7.1.11

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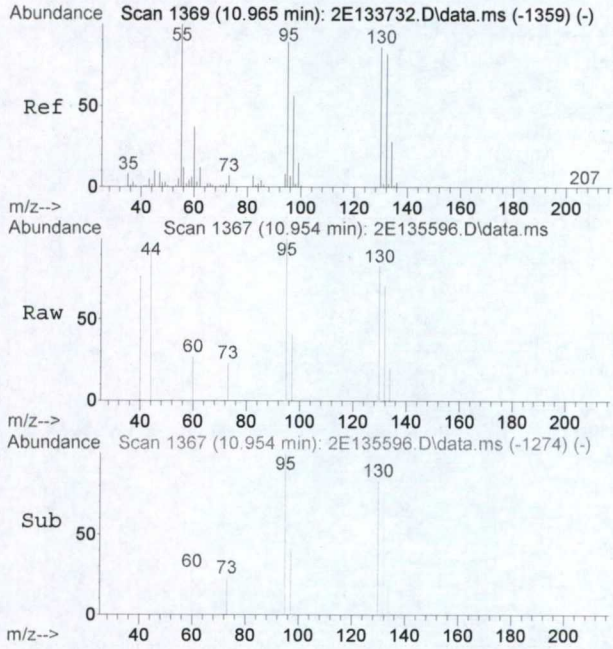
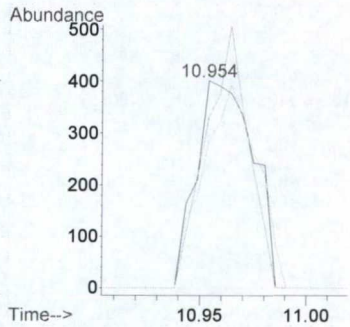
SGS ACCUTEST JC48814

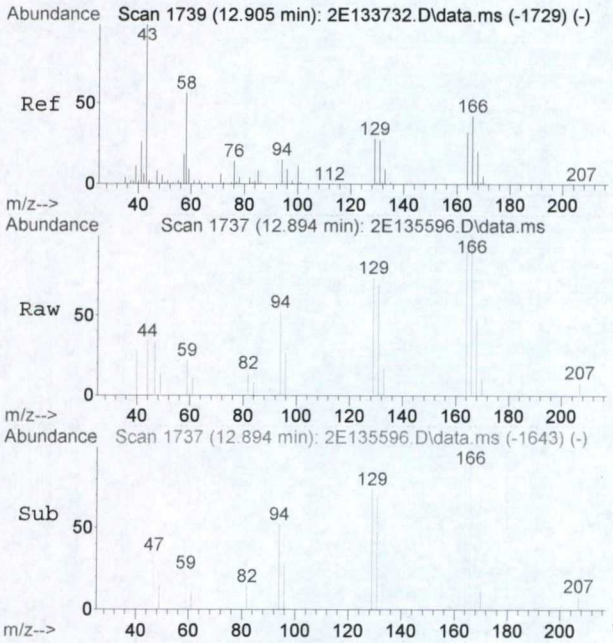


#64
trichloroethene
Concen: 0.35 ug/L
RT: 10.954 min Scan# 1367
Delta R.T. -0.011 min
Lab File: 2E135596.D
Acq: 16 Aug 2017 5:43 am

Tgt Ion: 95 Resp: 743

Ion	Ratio	Lower	Upper
95	100		
130	82.5	65.6	125.6
132	71.3	63.5	123.5

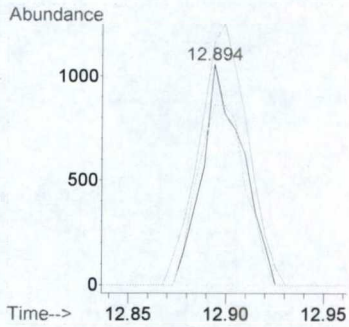




#82
tetrachloroethene
Concen: 0.96 ug/L
RT: 12.894 min Scan# 1737
Delta R.T. -0.005 min
Lab File: 2E135596.D
Acq: 16 Aug 2017 5:43 am

Tgt Ion:164 Resp: 1525

Ion	Ratio	Lower	Upper
164	100		
166	110.1	102.8	162.8
129	81.5	66.3	126.3



7.1.11

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2E\v2e5920-21\
Data File : 2E135586.D
Acq On : 16 Aug 2017 1:06 am
Operator : JessicaP
Sample : jc48814-12
Misc : MS19123,V2E5921,5,,,,1
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Aug 16 16:39:53 2017
Quant Method : C:\MSDCHEM\1\METHODS\M2E5882.M
Quant Title : SW-846 Method V8260C, ZB624 60Mx0.25MMx1.4UM
QLast Update : Wed Jul 12 10:24:32 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Tert Butyl Alcohol-d9	7.467	65	108030	500.00 ug/L	0.00
5) pentafluorobenzene	9.701	168	179002	50.00 ug/L	0.00
55) 1,4-difluorobenzene	10.618	114	291030	50.00 ug/L	0.00
76) chlorobenzene-d5	13.749	117	242857	50.00 ug/L	0.00
100) 1,4-dichlorobenzene-d4	16.045	152	124751	50.00 ug/L	0.00
System Monitoring Compounds					
49) dibromofluoromethane (s)	9.759	113	91083	53.12 ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 106.24%		
56) 1,2-dichloroethane-d4 (s)	10.183	65	123084	55.46 ug/L	0.00
Spiked Amount 50.000	Range 81 - 124		Recovery = 110.92%		
77) toluene-d8 (s)	12.249	98	350128	51.50 ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 103.00%		
101) 4-bromofluorobenzene (s)	14.892	95	127809	52.57 ug/L	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 105.14%		

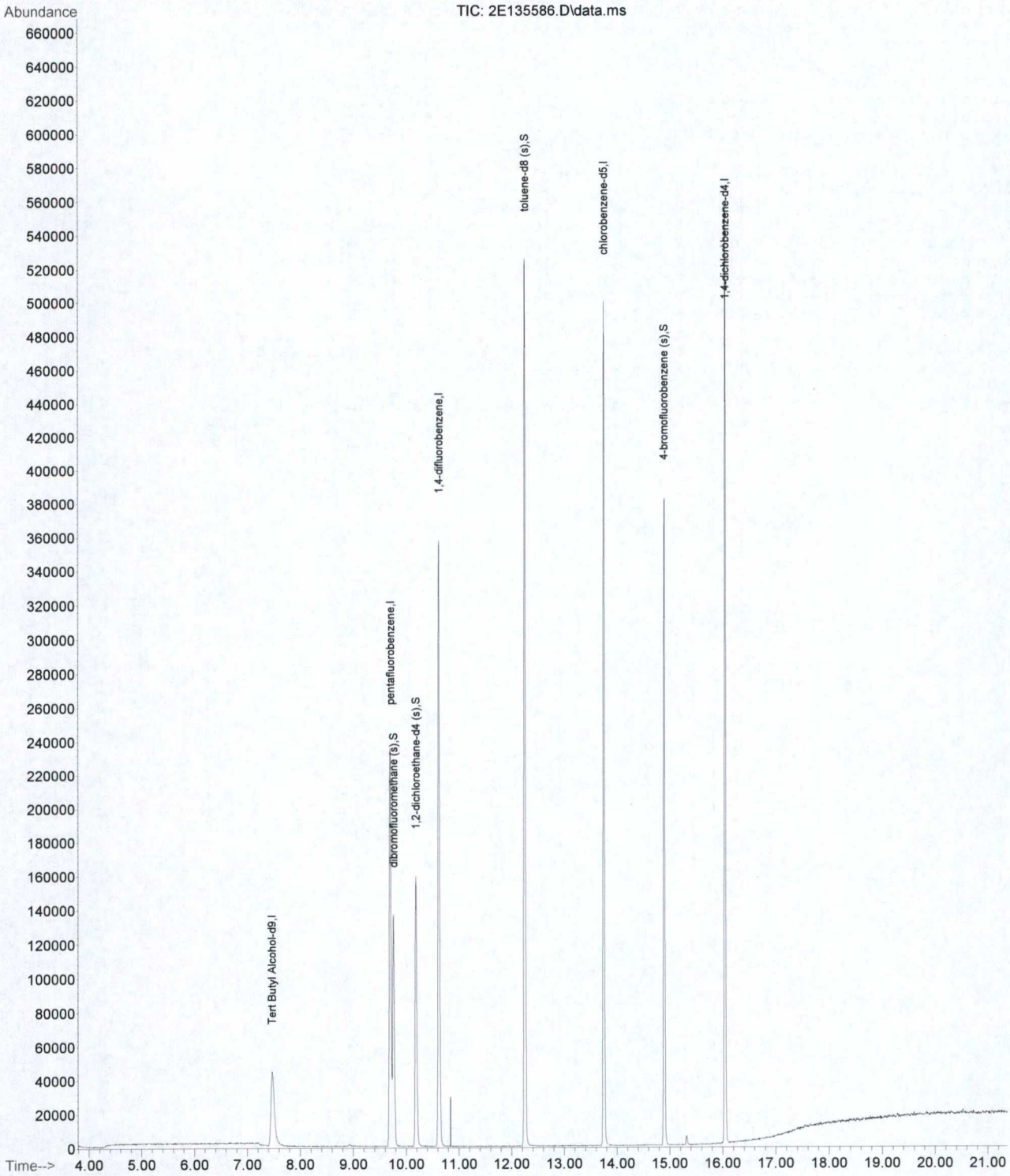
Target Compounds Qvalue

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

7.1.12

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2E\v2e5920-21\
Data File : 2E135586.D
Acq On : 16 Aug 2017 1:06 am
Operator : JessicaP
Sample : jc48814-12
Misc : MS19123,V2E5921,5,,,,1
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Aug 16 16:39:53 2017
Quant Method : C:\MSDCHEM\1\METHODS\M2E5882.M
Quant Title : SW-846 Method V8260C, ZB624 60Mx0.25MMx1.4UM
QLast Update : Wed Jul 12 10:24:32 2017
Response via : Initial Calibration