SGS Accutest

Report of Analysis

Client Sample ID:	HSSER-GMZ03-020817		
Lab Sample ID:	JC37020-14	Date Sampled:	02/08/17
Matrix:	AQ - Ground Water	Date Received:	02/10/17
Method:	SW846 8260C	Percent Solids:	n/a
Project:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4B69365.D	1	02/16/17	HT	n/a	n/a	V4B2855
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	0.00046	0.0010	0.00021	mg/l	J
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00039	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00020	mg/l	
156-59-2	cis-1,2-Dichloroethene	0.00031	0.0010	0.00031	mg/l	J
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00036	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00020	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.0010	mg/l	
127-18-4	Tetrachloroethene	ND	0.0010	0.00023	mg/l	
108-88-3	Toluene	ND	0.0010	0.00023	mg/l	
71-55-6	1,1,1-Trichloroethane	0.00060	0.0010	0.00022	mg/l	J
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	ND	0.0010	0.00026	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00033	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		76-120%
17060-07-0	1,2-Dichloroethane-D4	115%		73-122%
2037-26-5	Toluene-D8	101%		84-119%
460-00-4	4-Bromofluorobenzene	105%		78-117%

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

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

SGS Accutest

Report of Analysis

Client Sample ID:	HSSER-PMW02-020817		
Lab Sample ID:	JC37020-15	Date Sampled:	02/08/17
Matrix:	AQ - Ground Water	Date Received:	02/10/17
Method:	SW846 8260C	Percent Solids:	n/a
Project:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4B69358.D	1	02/16/17	HT	n/a	n/a	V4B2855
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	0.0054	0.0010	0.00021	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00039	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00020	mg/l	
156-59-2	cis-1,2-Dichloroethene	0.0098	0.0010	0.00031	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00036	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00020	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.0010	mg/l	
127-18-4	Tetrachloroethene	0.0217	0.0010	0.00023	mg/l	
108-88-3	Toluene	ND	0.0010	0.00023	mg/l	
71-55-6	1,1,1-Trichloroethane	0.0025	0.0010	0.00022	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	0.0021	0.0010	0.00026	mg/l	
75-01-4	Vinyl chloride	0.0088	0.0010	0.00033	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		76-120%
17060-07-0	1,2-Dichloroethane-D4	110%		73-122%
2037-26-5	Toluene-D8	101%		84-119%
460-00-4	4-Bromofluorobenzene	104%		78-117%

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

SGS Accutest

Report of Analysis

Client Sample ID:	HSSER-GMZ02-020817		
Lab Sample ID:	JC37020-16	Date Sampled:	02/08/17
Matrix:	AQ - Ground Water	Date Received:	02/10/17
Method:	SW846 8260C	Percent Solids:	n/a
Project:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4B69357.D	1	02/16/17	HT	n/a	n/a	V4B2855
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	0.00067	0.0010	0.00021	mg/l	J
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00039	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00020	mg/l	
156-59-2	cis-1,2-Dichloroethene	ND	0.0010	0.00031	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00036	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00020	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.0010	mg/l	
127-18-4	Tetrachloroethene	0.00031	0.0010	0.00023	mg/l	J
108-88-3	Toluene	ND	0.0010	0.00023	mg/l	
71-55-6	1,1,1-Trichloroethane	0.00072	0.0010	0.00022	mg/l	J
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	ND	0.0010	0.00026	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00033	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		76-120%
17060-07-0	1,2-Dichloroethane-D4	109%		73-122%
2037-26-5	Toluene-D8	99%		84-119%
460-00-4	4-Bromofluorobenzene	104%		78-117%

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

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

SGS Accutest

Report of Analysis

Client Sample ID:	HSSER-SMW04-020817		
Lab Sample ID:	JC37020-17	Date Sampled:	02/08/17
Matrix:	AQ - Ground Water	Date Received:	02/10/17
Method:	SW846 8260C	Percent Solids:	n/a
Project:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4B69359.D	1	02/16/17	HT	n/a	n/a	V4B2855
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	0.0109	0.0010	0.00021	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00039	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00020	mg/l	
156-59-2	cis-1,2-Dichloroethene	0.0273	0.0010	0.00031	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00036	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00020	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.0010	mg/l	
127-18-4	Tetrachloroethene	0.0108	0.0010	0.00023	mg/l	
108-88-3	Toluene	ND	0.0010	0.00023	mg/l	
71-55-6	1,1,1-Trichloroethane	0.0011	0.0010	0.00022	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	0.0010	0.0010	0.00026	mg/l	
75-01-4	Vinyl chloride	0.0146	0.0010	0.00033	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		76-120%
17060-07-0	1,2-Dichloroethane-D4	112%		73-122%
2037-26-5	Toluene-D8	100%		84-119%
460-00-4	4-Bromofluorobenzene	104%		78-117%

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

SGS Accutest

Report of Analysis

Client Sample ID:	HSSER-DUP01-020817		
Lab Sample ID:	JC37020-18	Date Sampled:	02/08/17
Matrix:	AQ - Ground Water	Date Received:	02/10/17
Method:	SW846 8260C	Percent Solids:	n/a
Project:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4B69364.D	1	02/16/17	HT	n/a	n/a	V4B2855
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	0.00049	0.0010	0.00021	mg/l	J
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00039	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00020	mg/l	
156-59-2	cis-1,2-Dichloroethene	0.00033	0.0010	0.00031	mg/l	J
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00036	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00020	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.0010	mg/l	
127-18-4	Tetrachloroethene	ND	0.0010	0.00023	mg/l	
108-88-3	Toluene	ND	0.0010	0.00023	mg/l	
71-55-6	1,1,1-Trichloroethane	0.00064	0.0010	0.00022	mg/l	J
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	ND	0.0010	0.00026	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00033	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		76-120%
17060-07-0	1,2-Dichloroethane-D4	113%		73-122%
2037-26-5	Toluene-D8	101%		84-119%
460-00-4	4-Bromofluorobenzene	105%		78-117%

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

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

SGS Accutest

Report of Analysis

Client Sample ID:	HSSER-TRIP01-020617		
Lab Sample ID:	JC37020-19	Date Sampled:	02/08/17
Matrix:	AQ - Trip Blank Water	Date Received:	02/10/17
Method:	SW846 8260C	Percent Solids:	n/a
Project:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4B69379.D	1	02/16/17	HT	n/a	n/a	V4B2855
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	ND	0.0010	0.00021	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00039	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00020	mg/l	
156-59-2	cis-1,2-Dichloroethene	ND	0.0010	0.00031	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00036	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00020	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.0010	mg/l	
127-18-4	Tetrachloroethene	ND	0.0010	0.00023	mg/l	
108-88-3	Toluene	ND	0.0010	0.00023	mg/l	
71-55-6	1,1,1-Trichloroethane	ND	0.0010	0.00022	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	ND	0.0010	0.00026	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00033	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		76-120%
17060-07-0	1,2-Dichloroethane-D4	111%		73-122%
2037-26-5	Toluene-D8	101%		84-119%
460-00-4	4-Bromofluorobenzene	102%		78-117%

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

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

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

GW
TB

SGS ACCUTEST

CHAIN OF CUSTODY

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

REVISED

PAGE 1 OF 2

FED-EX Tracking # 6780 9741 5239
Bottle Order Control #
SGS Accutest Quote #
SGS Accutest Job # JC37020

Client / Reporting Information

Company Name: AECOM
Street Address: 4320 WINFIELD RD
City State Zip: WARRENVILLE IL 60555
Project Contact E-mail: Peter Hollatz/peter.hollatz@aecom.com
Phone # Fax #: 630.918.9648
Sampler(s) Name(s) Phone #: NICK PINS / ALLAN HOLLATZ

Project Information

Project Name: UTAS PLANTS 1/2 FACILITY
Street:
City State: ROCKFORD IL
Project #: 60532451
Client Purchase Order #:
Project Manager: PETER HOLLATZ

Billing Information (if different from Report to)

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

Requested Analysis (see TEST CODE sheet)

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

SGS Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	NJ Water	MEOH	ENCORE	* VOCs											
1	HSSER-SMW08-020617		2/6/17	1140	NP	GW	3	3								X											LAB USE ONLY
2	HSSER-FBLK01-020617		2/6/17	1040	NP	GW	3	3								X											
3	HSSER-GMZ01-020617		2/6/17	1335	NP	GW	3	3								X											
4	HSSER-SMW01-020617		2/6/17	1445	NP	GW	3	3								X											
5	HSSER-SMW02-020717		2/7/17	0920	NP	GW	3	3								X											V23
6	HSSER-MW203-020717		2/7/17	1030	NP	GW	3	3								X											
7	HSSER-MW07FGA-020717		2/7/17	1115	NP	GW	3	3								X											
8	HSSER-SMW19-020717	●	2/7/17	1305	NP	GW	3	3								X											
9	HSSER-SMW21-020717		2/7/17	1425	NP	GW	3	3								X											
10	HSSER-GMZ04-020817		2/8/17	0830	NP	GW	3	3								X											
11	HSSER-SMW20-020817	●	2/8/17	0940	NP	GW	3	3								X											
12	HSSER-PMW01-020817		2/8/17	1020	AH	GW	3	3								X											

Turnaround Time (Business days)

- ☑ Std. 10 Business Days
- ☐ 5 Day RUSH
- ☐ 3 Day RUSH
- ☐ 2 Day RUSH
- ☐ 1 Day RUSH
- ☐ other_____

Emergency & Rush T/A data available VIA Lablink

Approved by (SGS Accutest PM): / Date:

INITIAL ASESSMENT 1A

LABEL VERIFICATION

Data Deliverable Information

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

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

Comments / Special Instructions

* LIST OF 13 VOCs
LEVEL IV QC
● 40ml QC vial

Sample inventory is verified upon receipt in the Laboratory

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

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 Nick P (AECOM)	2/9/17 1400	1 FX	2 FX	2/10/17 10:00	2
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by Sampler: 5	Date Time:	Received By: 5	Custody Seal # 46 ☑ Intact ☐ Not intact	Preserved where applicable ☐	On Ice ☑ Cooler Temp. 3.2°C

5.1 5

JC37020: Chain of Custody
Page 1 of 4

SGS ACCUTEST

GW
TB

CHAIN OF CUSTODY

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

FED-EX Tracking # 6788 9741 5239
Bottle Order Control #
SGS Accutest Quote #
SGS Accutest Job # JC37020

Client / Reporting Information

Company Name: AECOM
Street Address: 4320 WINFIELD RD
City / State / Zip: WARRENVILLE IL 60555
Project Contact / E-mail: PETER HOLLATZ / peter.hollatz@aecom.com
Phone #: 630.918.9648
Sampler(s) Name(s) / Phone #: NICK PINS / ALLAN HOLLATZ

Project Information

Project Name: VTAS PLANTS 1/2 FACILITY
Street:
City / State: ROCKFORD IL
Project #: 60532451
Client Purchase Order #:
Project Manager: PETER HOLLATZ

Billing Information (If different from Report to)

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

Requested Analysis (see TEST CODE sheet)

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

SGS Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	NI Water	MEOH	ENCORE	* VOCs	LAB USE ONLY
13	HSSER-EB4K01-020817		2/8/17	1035	AH	GW	3	3								X	
14	HSSER-GMZ03-020817		2/8/17	1050	NP	GW	3	3								X	
15	HSSER-PMW02-020817		2/8/17	1145	AH	GW	3	3								X	
16	HSSER-GMZ02-020817		2/8/17	1215	NP	GW	3	3								X	V23
17	HSSER-MS01-020817		2/8/17	1215	NP	GW	3	3								X	
18	HSSER-MSD01-020817		2/8/17	1215	NP	GW	3	3								X	
19	HSSER-SMW04-020817		2/8/17	1245	AH	GW	3	3								X	
20	HSSER-DUP01-020817		2/8/17	0000	NP	GW	3	3								X	
21	HSSER-TRIP01-020617		2/6/17	—	—	GW	2	2								X	

6
17
18
19

2/13/17

Turnaround Time (Business days)

Approved by (SGS Accutest PM): / Date:

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

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information

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

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

Comments / Special Instructions

* LIST OF 13 VOCs
LEVEL IV QC

Sample inventory is verified upon receipt in the Laboratory

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

Relinquished by Sampler	Date/Time	Received By	Relinquished By	Date/Time	Received By
1 N.L. P. (AECOM)	2/9/17 1400	1 FX	2 FX	2/10/17 10:00	2 [illegible]
3		3	4		4
5		5			

Custody Seal # ☐ Intact ☐ Not intact
Preserved where applicable ☐
On Ice ☑
Cooler Temp. 3.2°C

JC37020: Chain of Custody
Page 2 of 4

SGS Accutest Sample Receipt Summary

Job Number: JC37020 **Client:** AECOM **Project:** UTAS PLANTS 1/2 FACILITY

Date / Time Received: 2/10/2017 10:00:00 AM **Delivery Method:** FedEx **Airbill #'s:** 6780 9741 5239

Cooler Temps (Raw Measured) °C: Cooler 1: (3.2);

Cooler Temps (Corrected) °C: Cooler 1: (4.6);

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

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

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

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

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

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

Comments

1) -16: Received 2 of 9 VOC vials broken. Limited volume.

SM089-02
Rev. Date 12/1/16

5.1 5

JC37020: Chain of Custody
Page 3 of 4

Responded to by: Kelly

Response Date: 2/10/17

Response:

Please proceed as noted with limited volume

5.1

5

JC37020: Chain of Custody
Page 4 of 4

Internal Sample Tracking Chronicle

United Technologies Corporation

Job No: JC37020

ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Project No: 60532451

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JC37020-1	Collected: 06-FEB-17 11:40 By: NP		Received: 10-FEB-17 By: HY			
HSSER-SMW08-020617						
JC37020-1	SW846 8260C	16-FEB-17 17:59	HT			V8260SL
JC37020-2	Collected: 06-FEB-17 10:40 By: NP		Received: 10-FEB-17 By: HY			
HSSER-FBLK01-020617						
JC37020-2	SW846 8260C	16-FEB-17 21:48	HT			V8260SL
JC37020-3	Collected: 06-FEB-17 13:35 By: NP		Received: 10-FEB-17 By: HY			
HSSER-GMZ01-020617						
JC37020-3	SW846 8260C	17-FEB-17 00:10	HT			V8260SL
JC37020-4	Collected: 06-FEB-17 14:45 By: NP		Received: 10-FEB-17 By: HY			
HSSER-SMW01-020617						
JC37020-4	SW846 8260C	17-FEB-17 17:29	HT			V8260SL
JC37020-5	Collected: 07-FEB-17 09:20 By: NP		Received: 10-FEB-17 By: HY			
HSSER-SMW02-020717						
JC37020-5	SW846 8260C	17-FEB-17 17:57	HT			V8260SL
JC37020-6	Collected: 07-FEB-17 10:30 By: NP		Received: 10-FEB-17 By: HY			
HSSER-MW203-020717						
JC37020-6	SW846 8260C	17-FEB-17 18:26	HT			V8260SL
JC37020-7	Collected: 07-FEB-17 11:15 By: NP		Received: 10-FEB-17 By: HY			
HSSER-MW07FGA-020717						
JC37020-7	SW846 8260C	17-FEB-17 18:56	HT			V8260SL
JC37020-8	Collected: 07-FEB-17 13:05 By: NP		Received: 10-FEB-17 By: HY			
HSSER-SMW19-020717						
JC37020-8	SW846 8260C	16-FEB-17 23:14	HT			V8260SL

Internal Sample Tracking Chronicle

United Technologies Corporation

Job No: JC37020

ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Project No: 60532451

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JC37020-9 Collected: 07-FEB-17 14:25 By: NP HSSER-SMW21-020717			Received: 10-FEB-17 By: HY			
JC37020-9	SW846 8260C	16-FEB-17 23:42	HT			V8260SL
JC37020-10 Collected: 08-FEB-17 08:30 By: NP HSSER-GMZ04-020817			Received: 10-FEB-17 By: HY			
JC37020-10	SW846 8260C	16-FEB-17 17:31	HT			V8260SL
JC37020-11 Collected: 08-FEB-17 09:40 By: NP HSSER-SMW20-020817			Received: 10-FEB-17 By: HY			
JC37020-11	SW846 8260C	16-FEB-17 17:03	HT			V8260SL
JC37020-12 Collected: 08-FEB-17 10:20 By: AH HSSER-PMW01-020817			Received: 10-FEB-17 By: HY			
JC37020-12	SW846 8260C	16-FEB-17 16:35	HT			V8260SL
JC37020-13 Collected: 08-FEB-17 10:35 By: AH HSSER-EBLK01-020817			Received: 10-FEB-17 By: HY			
JC37020-13	SW846 8260C	16-FEB-17 22:16	HT			V8260SL
JC37020-14 Collected: 08-FEB-17 10:50 By: NP HSSER-GMZ03-020817			Received: 10-FEB-17 By: HY			
JC37020-14	SW846 8260C	16-FEB-17 16:07	HT			V8260SL
JC37020-15 Collected: 08-FEB-17 11:45 By: AH HSSER-PMW02-020817			Received: 10-FEB-17 By: HY			
JC37020-15	SW846 8260C	16-FEB-17 12:45	HT			V8260SL
JC37020-16 Collected: 08-FEB-17 12:15 By: NP HSSER-GMZ02-020817			Received: 10-FEB-17 By: HY			
JC37020-16	SW846 8260C	16-FEB-17 12:17	HT			V8260SL

Internal Sample Tracking Chronicle

United Technologies Corporation

Job No: JC37020

ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Project No: 60532451

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JC37020-17 Collected: 08-FEB-17 12:45 By: AH HSSER-SMW04-020817			Received: 10-FEB-17 By: HY			
JC37020-17	SW846 8260C	16-FEB-17 13:13	HT			V8260SL
JC37020-18 Collected: 08-FEB-17 00:00 By: NP HSSER-DUP01-020817			Received: 10-FEB-17 By: HY			
JC37020-18	SW846 8260C	16-FEB-17 15:36	HT			V8260SL
JC37020-19 Collected: 08-FEB-17 12:45 By: HSSER-TRIP01-020617			Received: 10-FEB-17 By: HY			
JC37020-19	SW846 8260C	16-FEB-17 22:44	HT			V8260SL

SGS Accutest Internal Chain of Custody

Job Number: JC37020
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Received: 02/10/17

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC37020-1.1	Secured Storage	Hueanh Tran	02/14/17 12:17	Retrieve from Storage
JC37020-1.1	Hueanh Tran	GCMS2C	02/14/17 12:17	Load on Instrument
JC37020-1.1	GCMS2C	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37020-1.1	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37020-1.1	Secured Storage	Hueanh Tran	02/16/17 10:55	Retrieve from Storage
JC37020-1.1	Hueanh Tran	GCMS4B	02/16/17 10:55	Load on Instrument
JC37020-1.1	GCMS4B	Hueanh Tran	02/17/17 10:31	Unload from Instrument
JC37020-1.1	Hueanh Tran	Secured Storage	02/17/17 10:31	Return to Storage
JC37020-2.1	Secured Storage	Hueanh Tran	02/14/17 12:17	Retrieve from Storage
JC37020-2.1	Hueanh Tran	GCMS2C	02/14/17 12:17	Load on Instrument
JC37020-2.1	GCMS2C	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37020-2.1	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37020-2.1	Secured Storage	Hueanh Tran	02/16/17 10:55	Retrieve from Storage
JC37020-2.1	Hueanh Tran	GCMS4B	02/16/17 10:55	Load on Instrument
JC37020-2.1	GCMS4B	Hueanh Tran	02/17/17 10:31	Unload from Instrument
JC37020-2.1	Hueanh Tran	Secured Storage	02/17/17 10:31	Return to Storage
JC37020-3.1	Secured Storage	Hueanh Tran	02/14/17 12:17	Retrieve from Storage
JC37020-3.1	Hueanh Tran	GCMS2C	02/14/17 12:17	Load on Instrument
JC37020-3.1	GCMS2C	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37020-3.1	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37020-3.1	Secured Storage	Hueanh Tran	02/16/17 10:56	Retrieve from Storage
JC37020-3.1	Hueanh Tran	GCMS4B	02/16/17 10:56	Load on Instrument
JC37020-3.1	GCMS4B	Hueanh Tran	02/17/17 10:31	Unload from Instrument
JC37020-3.1	Hueanh Tran	Secured Storage	02/17/17 10:31	Return to Storage
JC37020-4.2	Secured Storage	Hueanh Tran	02/14/17 12:17	Retrieve from Storage
JC37020-4.2	Hueanh Tran	GCMS2C	02/14/17 12:17	Load on Instrument
JC37020-4.2	GCMS2C	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37020-4.2	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37020-4.2	Secured Storage	Hueanh Tran	02/17/17 10:33	Retrieve from Storage
JC37020-4.2	Hueanh Tran	GCMS4B	02/17/17 10:33	Load on Instrument
JC37020-4.2	GCMS4B	Hueanh Tran	02/20/17 09:29	Unload from Instrument
JC37020-4.2	Hueanh Tran	Secured Storage	02/20/17 09:29	Return to Storage
JC37020-5.1	Secured Storage	Hueanh Tran	02/14/17 12:17	Retrieve from Storage
JC37020-5.1	Hueanh Tran	GCMS2C	02/14/17 12:17	Load on Instrument
JC37020-5.1	GCMS2C	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37020-5.1	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37020-5.1	Secured Storage	Hueanh Tran	02/17/17 10:33	Retrieve from Storage
JC37020-5.1	Hueanh Tran	GCMS4B	02/17/17 10:33	Load on Instrument
JC37020-5.1	GCMS4B	Hueanh Tran	02/20/17 09:29	Unload from Instrument
JC37020-5.1	Hueanh Tran	Secured Storage	02/20/17 09:29	Return to Storage

SGS Accutest Internal Chain of Custody

Job Number: JC37020
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Received: 02/10/17

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC37020-6.2	Secured Storage	Hueanh Tran	02/14/17 12:17	Retrieve from Storage
JC37020-6.2	Hueanh Tran	GCMS2C	02/14/17 12:17	Load on Instrument
JC37020-6.2	GCMS2C	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37020-6.2	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37020-6.2	Secured Storage	Hueanh Tran	02/17/17 10:33	Retrieve from Storage
JC37020-6.2	Hueanh Tran	GCMS4B	02/17/17 10:33	Load on Instrument
JC37020-6.2	GCMS4B	Hueanh Tran	02/20/17 09:29	Unload from Instrument
JC37020-6.2	Hueanh Tran	Secured Storage	02/20/17 09:29	Return to Storage
JC37020-7.2	Secured Storage	Hueanh Tran	02/14/17 12:17	Retrieve from Storage
JC37020-7.2	Hueanh Tran	GCMS2C	02/14/17 12:17	Load on Instrument
JC37020-7.2	GCMS2C	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37020-7.2	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37020-7.2	Secured Storage	Hueanh Tran	02/17/17 10:33	Retrieve from Storage
JC37020-7.2	Hueanh Tran	GCMS4B	02/17/17 10:33	Load on Instrument
JC37020-7.2	GCMS4B	Hueanh Tran	02/20/17 09:29	Unload from Instrument
JC37020-7.2	Hueanh Tran	Secured Storage	02/20/17 09:29	Return to Storage
JC37020-8.1	Secured Storage	Hueanh Tran	02/14/17 12:17	Retrieve from Storage
JC37020-8.1	Hueanh Tran	GCMS2C	02/14/17 12:17	Load on Instrument
JC37020-8.1	GCMS2C	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37020-8.1	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37020-8.1	Secured Storage	Hueanh Tran	02/16/17 10:55	Retrieve from Storage
JC37020-8.1	Hueanh Tran	GCMS4B	02/16/17 10:55	Load on Instrument
JC37020-8.1	GCMS4B	Hueanh Tran	02/17/17 10:31	Unload from Instrument
JC37020-8.1	Hueanh Tran	Secured Storage	02/17/17 10:31	Return to Storage
JC37020-9.2	Secured Storage	Hueanh Tran	02/14/17 12:17	Retrieve from Storage
JC37020-9.2	Hueanh Tran	GCMS2C	02/14/17 12:17	Load on Instrument
JC37020-9.2	GCMS2C	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37020-9.2	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37020-9.2	Secured Storage	Hueanh Tran	02/16/17 10:55	Retrieve from Storage
JC37020-9.2	Hueanh Tran	GCMS4B	02/16/17 10:55	Load on Instrument
JC37020-9.2	GCMS4B	Hueanh Tran	02/17/17 10:31	Unload from Instrument
JC37020-9.2	Hueanh Tran	Secured Storage	02/17/17 10:31	Return to Storage
JC37020-10.1	Secured Storage	Hueanh Tran	02/14/17 12:17	Retrieve from Storage
JC37020-10.1	Hueanh Tran	GCMS2C	02/14/17 12:17	Load on Instrument
JC37020-10.1	GCMS2C	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37020-10.1	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37020-10.1	Secured Storage	Hueanh Tran	02/16/17 10:55	Retrieve from Storage
JC37020-10.1	Hueanh Tran	GCMS4B	02/16/17 10:55	Load on Instrument
JC37020-10.1	GCMS4B	Hueanh Tran	02/17/17 10:31	Unload from Instrument

SGS Accutest Internal Chain of Custody

Job Number: JC37020
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Received: 02/10/17

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC37020-10.1	Hueanh Tran	Secured Storage	02/17/17 10:31	Return to Storage
JC37020-11.3	Secured Storage	Hueanh Tran	02/14/17 12:17	Retrieve from Storage
JC37020-11.3	Hueanh Tran	GCMS2C	02/14/17 12:17	Load on Instrument
JC37020-11.3	GCMS2C	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37020-11.3	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37020-11.3	Secured Storage	Hueanh Tran	02/16/17 10:55	Retrieve from Storage
JC37020-11.3	Hueanh Tran	GCMS4B	02/16/17 10:55	Load on Instrument
JC37020-11.3	GCMS4B	Hueanh Tran	02/17/17 10:31	Unload from Instrument
JC37020-11.3	Hueanh Tran	Secured Storage	02/17/17 10:31	Return to Storage
JC37020-12.2	Secured Storage	Hueanh Tran	02/14/17 12:17	Retrieve from Storage
JC37020-12.2	Hueanh Tran	GCMS2C	02/14/17 12:17	Load on Instrument
JC37020-12.2	GCMS2C	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37020-12.2	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37020-12.2	Secured Storage	Hueanh Tran	02/16/17 10:55	Retrieve from Storage
JC37020-12.2	Hueanh Tran	GCMS4B	02/16/17 10:55	Load on Instrument
JC37020-12.2	GCMS4B	Hueanh Tran	02/17/17 10:31	Unload from Instrument
JC37020-12.2	Hueanh Tran	Secured Storage	02/17/17 10:31	Return to Storage
JC37020-13.2	Secured Storage	Hueanh Tran	02/14/17 12:17	Retrieve from Storage
JC37020-13.2	Hueanh Tran	GCMS2C	02/14/17 12:17	Load on Instrument
JC37020-13.2	GCMS2C	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37020-13.2	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37020-13.2	Secured Storage	Hueanh Tran	02/16/17 10:55	Retrieve from Storage
JC37020-13.2	Hueanh Tran	GCMS4B	02/16/17 10:55	Load on Instrument
JC37020-13.2	GCMS4B	Hueanh Tran	02/17/17 10:31	Unload from Instrument
JC37020-13.2	Hueanh Tran	Secured Storage	02/17/17 10:31	Return to Storage
JC37020-14.1	Secured Storage	Hueanh Tran	02/14/17 12:17	Retrieve from Storage
JC37020-14.1	Hueanh Tran	GCMS2C	02/14/17 12:17	Load on Instrument
JC37020-14.1	GCMS2C	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37020-14.1	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37020-14.1	Secured Storage	Hueanh Tran	02/16/17 10:55	Retrieve from Storage
JC37020-14.1	Hueanh Tran	GCMS4B	02/16/17 10:55	Load on Instrument
JC37020-14.1	GCMS4B	Hueanh Tran	02/17/17 10:31	Unload from Instrument
JC37020-14.1	Hueanh Tran	Secured Storage	02/17/17 10:31	Return to Storage
JC37020-15.1	Secured Storage	Hueanh Tran	02/14/17 12:17	Retrieve from Storage
JC37020-15.1	Hueanh Tran	GCMS2C	02/14/17 12:17	Load on Instrument
JC37020-15.1	GCMS2C	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37020-15.1	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37020-15.1	Secured Storage	Hueanh Tran	02/16/17 10:55	Retrieve from Storage
JC37020-15.1	Hueanh Tran	GCMS4B	02/16/17 10:55	Load on Instrument

SGS Accutest Internal Chain of Custody

Job Number: JC37020
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Received: 02/10/17

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC37020-15.1	GCMS4B	Hueanh Tran	02/17/17 10:31	Unload from Instrument
JC37020-15.1	Hueanh Tran	Secured Storage	02/17/17 10:31	Return to Storage
JC37020-16.1	Secured Storage	Hueanh Tran	02/14/17 12:17	Retrieve from Storage
JC37020-16.1	Hueanh Tran	GCMS2C	02/14/17 12:17	Load on Instrument
JC37020-16.1	GCMS2C	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37020-16.1	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37020-16.1	Secured Storage	Hueanh Tran	02/16/17 10:55	Retrieve from Storage
JC37020-16.1	Hueanh Tran	GCMS4B	02/16/17 10:55	Load on Instrument
JC37020-16.1	GCMS4B	Hueanh Tran	02/17/17 10:31	Unload from Instrument
JC37020-16.1	Hueanh Tran	Secured Storage	02/17/17 10:31	Return to Storage
JC37020-16.2	Secured Storage	Hueanh Tran	02/14/17 12:17	Retrieve from Storage
JC37020-16.2	Hueanh Tran	GCMS2C	02/14/17 12:17	Load on Instrument
JC37020-16.2	GCMS2C	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37020-16.2	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37020-16.2	Secured Storage	Hueanh Tran	02/16/17 10:56	Retrieve from Storage
JC37020-16.2	Hueanh Tran	GCMS4B	02/16/17 10:56	Load on Instrument
JC37020-16.2	GCMS4B	Hueanh Tran	02/17/17 10:31	Unload from Instrument
JC37020-16.2	Hueanh Tran	Secured Storage	02/17/17 10:31	Return to Storage
JC37020-16.8	Secured Storage	Hueanh Tran	02/14/17 12:17	Retrieve from Storage
JC37020-16.8	Hueanh Tran	GCMS2C	02/14/17 12:17	Load on Instrument
JC37020-16.8	GCMS2C	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37020-16.8	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37020-16.8	Secured Storage	Hueanh Tran	02/16/17 10:55	Retrieve from Storage
JC37020-16.8	Hueanh Tran	GCMS4B	02/16/17 10:55	Load on Instrument
JC37020-16.8	GCMS4B	Hueanh Tran	02/17/17 10:31	Unload from Instrument
JC37020-16.8	Hueanh Tran	Secured Storage	02/17/17 10:31	Return to Storage
JC37020-17.2	Secured Storage	Hueanh Tran	02/14/17 12:17	Retrieve from Storage
JC37020-17.2	Hueanh Tran	GCMS2C	02/14/17 12:17	Load on Instrument
JC37020-17.2	GCMS2C	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37020-17.2	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37020-17.2	Secured Storage	Hueanh Tran	02/16/17 10:55	Retrieve from Storage
JC37020-17.2	Hueanh Tran	GCMS4B	02/16/17 10:55	Load on Instrument
JC37020-17.2	GCMS4B	Hueanh Tran	02/17/17 10:31	Unload from Instrument
JC37020-17.2	Hueanh Tran	Secured Storage	02/17/17 10:31	Return to Storage
JC37020-18.2	Secured Storage	Hueanh Tran	02/14/17 12:17	Retrieve from Storage
JC37020-18.2	Hueanh Tran	GCMS2C	02/14/17 12:17	Load on Instrument
JC37020-18.2	GCMS2C	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37020-18.2	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37020-18.2	Secured Storage	Hueanh Tran	02/16/17 10:55	Retrieve from Storage

SGS Accutest Internal Chain of Custody

Job Number: JC37020
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Received: 02/10/17

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC37020-18.2	Hueanh Tran	GCMS4B	02/16/17 10:55	Load on Instrument
JC37020-18.2	GCMS4B	Hueanh Tran	02/17/17 10:31	Unload from Instrument
JC37020-18.2	Hueanh Tran	Secured Storage	02/17/17 10:31	Return to Storage
JC37020-19.1	Secured Storage	Hueanh Tran	02/14/17 12:17	Retrieve from Storage
JC37020-19.1	Hueanh Tran	GCMS2C	02/14/17 12:17	Load on Instrument
JC37020-19.1	GCMS2C	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37020-19.1	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37020-19.1	Secured Storage	Hueanh Tran	02/16/17 10:55	Retrieve from Storage
JC37020-19.1	Hueanh Tran	GCMS4B	02/16/17 10:55	Load on Instrument
JC37020-19.1	GCMS4B	Hueanh Tran	02/17/17 10:31	Unload from Instrument
JC37020-19.1	Hueanh Tran	Secured Storage	02/17/17 10:31	Return to Storage

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Job Number: JC37020
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
V4B2855-MB	4B69353.D	1	02/16/17	HT	n/a	n/a	V4B2855

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

JC37020-1, JC37020-10, JC37020-11, JC37020-12, JC37020-14, JC37020-15, JC37020-16, JC37020-17, JC37020-18

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.39	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.20	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.31	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.36	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.23	ug/l	
108-88-3	Toluene	ND	1.0	0.23	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.22	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.28	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.26	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.33	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	103%	76-120%
17060-07-0	1,2-Dichloroethane-D4	109%	73-122%
2037-26-5	Toluene-D8	101%	84-119%
460-00-4	4-Bromofluorobenzene	104%	78-117%

Method Blank Summary

Job Number: JC37020
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
V4B2855-MB2	4B69376.D	1	02/16/17	HT	n/a	n/a	V4B2855

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

JC37020-2, JC37020-3, JC37020-8, JC37020-9, JC37020-13, JC37020-19

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.39	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.20	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.31	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.36	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.23	ug/l	
108-88-3	Toluene	ND	1.0	0.23	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.22	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.28	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.26	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.33	ug/l	

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

Method Blank Summary

Job Number: JC37020
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
V4B2856-MB	4B69387.D	1	02/17/17	HT	n/a	n/a	V4B2856

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

JC37020-4, JC37020-5, JC37020-6, JC37020-7

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.39	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.20	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.31	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.36	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.23	ug/l	
108-88-3	Toluene	ND	1.0	0.23	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.22	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.28	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.26	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.33	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	104%	76-120%
17060-07-0	1,2-Dichloroethane-D4	109%	73-122%
2037-26-5	Toluene-D8	101%	84-119%
460-00-4	4-Bromofluorobenzene	102%	78-117%

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

Blank Spike Summary

Job Number: JC37020
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
V4B2855-BS	4B69354.D	1	02/16/17	HT	n/a	n/a	V4B2855

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

JC37020-1, JC37020-2, JC37020-3, JC37020-8, JC37020-9, JC37020-10, JC37020-11, JC37020-12, JC37020-13, JC37020-14, JC37020-15, JC37020-16, JC37020-17, JC37020-18, JC37020-19

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
75-34-3	1,1-Dichloroethane	50	46.4	93	79-124
107-06-2	1,2-Dichloroethane	50	49.6	99	81-127
75-35-4	1,1-Dichloroethene	50	43.2	86	69-136
156-59-2	cis-1,2-Dichloroethene	50	48.9	98	79-118
156-60-5	trans-1,2-Dichloroethene	50	45.3	91	73-125
100-41-4	Ethylbenzene	50	47.3	95	84-115
75-09-2	Methylene chloride	50	46.5	93	75-122
127-18-4	Tetrachloroethene	50	46.3	93	70-134
108-88-3	Toluene	50	47.2	94	84-117
71-55-6	1,1,1-Trichloroethane	50	49.1	98	83-134
79-00-5	1,1,2-Trichloroethane	50	49.9	100	84-119
79-01-6	Trichloroethene	50	50.7	101	84-120
75-01-4	Vinyl chloride	50	45.5	91	55-121

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

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JC37020
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
V4B2856-BS	4B69388.D	1	02/17/17	HT	n/a	n/a	V4B2856

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

JC37020-4, JC37020-5, JC37020-6, JC37020-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
75-34-3	1,1-Dichloroethane	50	48.2	96	79-124
107-06-2	1,2-Dichloroethane	50	51.4	103	81-127
75-35-4	1,1-Dichloroethene	50	48.2	96	69-136
156-59-2	cis-1,2-Dichloroethene	50	50.7	101	79-118
156-60-5	trans-1,2-Dichloroethene	50	46.5	93	73-125
100-41-4	Ethylbenzene	50	46.4	93	84-115
75-09-2	Methylene chloride	50	50.1	100	75-122
127-18-4	Tetrachloroethene	50	44.1	88	70-134
108-88-3	Toluene	50	46.4	93	84-117
71-55-6	1,1,1-Trichloroethane	50	48.9	98	83-134
79-00-5	1,1,2-Trichloroethane	50	49.0	98	84-119
79-01-6	Trichloroethene	50	50.2	100	84-120
75-01-4	Vinyl chloride	50	36.0	72	55-121

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

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: JC37020
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
JC37230-5MS	4B69396.D	1	02/17/17	HT	n/a	n/a	V4B2856
JC37230-5	4B69391.D	1	02/17/17	HT	n/a	n/a	V4B2856

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

JC37020-4, JC37020-5, JC37020-6, JC37020-7

CAS No.	Compound	JC37230-5 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
75-34-3	1,1-Dichloroethane	ND		50	47.6	95	71-131
107-06-2	1,2-Dichloroethane	ND		50	48.2	96	72-135
75-35-4	1,1-Dichloroethene	ND		50	49.3	99	57-149
156-59-2	cis-1,2-Dichloroethene	ND		50	49.2	98	59-134
156-60-5	trans-1,2-Dichloroethene	ND		50	47.9	96	64-134
100-41-4	Ethylbenzene	ND		50	46.5	93	48-143
75-09-2	Methylene chloride	ND		50	48.0	96	69-127
127-18-4	Tetrachloroethene	ND		50	47.0	94	55-144
108-88-3	Toluene	ND		50	45.6	91	61-136
71-55-6	1,1,1-Trichloroethane	ND		50	52.5	105	70-147
79-00-5	1,1,2-Trichloroethane	ND		50	47.6	95	78-122
79-01-6	Trichloroethene	ND		50	50.7	101	62-141
75-01-4	Vinyl chloride	ND		50	48.7	97	44-136

CAS No.	Surrogate Recoveries	MS	JC37230-5	Limits
1868-53-7	Dibromofluoromethane	105%	106%	76-120%
17060-07-0	1,2-Dichloroethane-D4	104%	112%	73-122%
2037-26-5	Toluene-D8	100%	101%	84-119%
460-00-4	4-Bromofluorobenzene	102%	103%	78-117%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JC37020
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
JC37020-16MS	4B69371.D	1	02/16/17	HT	n/a	n/a	V4B2855
JC37020-16MSD	4B69372.D	1	02/16/17	HT	n/a	n/a	V4B2855
JC37020-16	4B69357.D	1	02/16/17	HT	n/a	n/a	V4B2855

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

JC37020-1, JC37020-2, JC37020-3, JC37020-8, JC37020-9, JC37020-10, JC37020-11, JC37020-12, JC37020-13, JC37020-14, JC37020-15, JC37020-16, JC37020-17, JC37020-18, JC37020-19

CAS No.	Compound	JC37020-16 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
75-34-3	1,1-Dichloroethane	0.67	J	50	50.2	99	50	47.1	93	6	71-131/12
107-06-2	1,2-Dichloroethane	ND		50	49.6	99	50	48.0	96	3	72-135/11
75-35-4	1,1-Dichloroethene	ND		50	44.9	90	50	42.4	85	6	57-149/14
156-59-2	cis-1,2-Dichloroethene	ND		50	49.9	100	50	48.3	97	3	59-134/11
156-60-5	trans-1,2-Dichloroethene	ND		50	47.8	96	50	45.5	91	5	64-134/12
100-41-4	Ethylbenzene	ND		50	46.8	94	50	46.0	92	2	48-143/11
75-09-2	Methylene chloride	ND		50	47.3	95	50	45.1	90	5	69-127/12
127-18-4	Tetrachloroethene	0.31	J	50	46.9	93	50	46.2	92	2	55-144/12
108-88-3	Toluene	ND		50	46.3	93	50	45.4	91	2	61-136/11
71-55-6	1,1,1-Trichloroethane	0.72	J	50	55.1	109	50	53.9	106	2	70-147/13
79-00-5	1,1,2-Trichloroethane	ND		50	48.7	97	50	48.0	96	1	78-122/10
79-01-6	Trichloroethene	ND		50	51.0	102	50	49.9	100	2	62-141/11
75-01-4	Vinyl chloride	ND		50	43.9	88	50	43.9	88	0	44-136/16

CAS No.	Surrogate Recoveries	MS	MSD	JC37020-16	Limits
1868-53-7	Dibromofluoromethane	107%	104%	105%	76-120%
17060-07-0	1,2-Dichloroethane-D4	109%	104%	109%	73-122%
2037-26-5	Toluene-D8	99%	100%	99%	84-119%
460-00-4	4-Bromofluorobenzene	102%	102%	104%	78-117%

* = Outside of Control Limits.

Duplicate Summary

Job Number: JC37020
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
JC37230-4DUP	4B69398.D	1	02/17/17	HT	n/a	n/a	V4B2856
JC37230-4	4B69390.D	1	02/17/17	HT	n/a	n/a	V4B2856

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

JC37020-4, JC37020-5, JC37020-6, JC37020-7

CAS No.	Compound	JC37230-4 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	JC37230-4	Limits
1868-53-7	Dibromofluoromethane	104%	105%	76-120%
17060-07-0	1,2-Dichloroethane-D4	108%	110%	73-122%
2037-26-5	Toluene-D8	100%	101%	84-119%
460-00-4	4-Bromofluorobenzene	102%	102%	78-117%

* = Outside of Control Limits.

Instrument Performance Check (BFB)

Job Number: JC37020
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample:	V4B2825-BFB	Injection Date:	01/27/17
Lab File ID:	4B68755.D	Injection Time:	11:04
Instrument ID:	GCMS4B		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	14.99 - 40.0% of mass 95	21258	19.0		Pass
75	30.0 - 60.0% of mass 95	50882	45.5		Pass
95	Base peak, 100% relative abundance	111944	100.0		Pass
96	5.0 - 9.0% of mass 95	7433	6.64		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	113464	101.4		Pass
175	5.0 - 9.0% of mass 174	8642	7.72	(7.62) [a]	Pass
176	95.0 - 101.0% of mass 174	110720	98.9	(97.6) [a]	Pass
177	5.0 - 9.0% of mass 176	7242	6.47	(6.54) [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
V4B2825-IC2825	4B68756.D	01/27/17	11:39	00:35	Initial cal 2
V4B2825-IC2825	4B68757.D	01/27/17	12:07	01:03	Initial cal 20
V4B2825-ICC2825	4B68758.D	01/27/17	12:35	01:31	Initial cal 50
V4B2825-IC2825	4B68759.D	01/27/17	13:03	01:59	Initial cal 200
V4B2825-IC2825	4B68762.D	01/27/17	14:30	03:26	Initial cal 0.2
V4B2825-IC2825	4B68763.D	01/27/17	14:58	03:54	Initial cal 0.5
V4B2825-IC2825	4B68764.D	01/27/17	15:26	04:22	Initial cal 1
V4B2825-IC2825	4B68765.D	01/27/17	15:57	04:53	Initial cal 5
V4B2825-IC2825	4B68766.D	01/27/17	16:25	05:21	Initial cal 10
V4B2825-IC2825	4B68767.D	01/27/17	16:53	05:49	Initial cal 100
V4B2825-ICV2825	4B68770.D	01/27/17	18:19	07:15	Initial cal verification 50

Instrument Performance Check (BFB)

Job Number: JC37020
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample:	V4B2828-BFB	Injection Date:	01/30/17
Lab File ID:	4B68829.D	Injection Time:	22:20
Instrument ID:	GCMS4B		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	14.99 - 40.0% of mass 95	21741	20.2		Pass
75	30.0 - 60.0% of mass 95	51608	47.9		Pass
95	Base peak, 100% relative abundance	107738	100.0		Pass
96	5.0 - 9.0% of mass 95	6993	6.49		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	102328	95.0		Pass
175	5.0 - 9.0% of mass 174	7984	7.41	(7.80) [a]	Pass
176	95.0 - 101.0% of mass 174	99685	92.5	(97.4) [a]	Pass
177	5.0 - 9.0% of mass 176	6688	6.21	(6.71) [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
V4B2828-IC2825	4B68832.D	01/31/17	00:21	02:01	Initial cal 5
V4B2828-IC2825	4B68833.D	01/31/17	00:49	02:29	Initial cal 10
V4B2828-IC2825	4B68834.D	01/31/17	01:20	03:00	Initial cal 20
V4B2828-IC2825	4B68835.D	01/31/17	01:48	03:28	Initial cal 50
V4B2828-IC2825	4B68836.D	01/31/17	02:16	03:56	Initial cal 100
V4B2828-IC2825	4B68837.D	01/31/17	02:44	04:24	Initial cal 200
V4B2828-ICV2825	4B68840.D	01/31/17	04:10	05:50	Initial cal verification 50

Instrument Performance Check (BFB)

Job Number: JC37020
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample:	V4B2855-BFB	Injection Date:	02/16/17
Lab File ID:	4B69351.D	Injection Time:	09:12
Instrument ID:	GCMS4B		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	14.99 - 40.0% of mass 95	20285	19.7		Pass
75	30.0 - 60.0% of mass 95	48836	47.5		Pass
95	Base peak, 100% relative abundance	102712	100.0		Pass
96	5.0 - 9.0% of mass 95	7127	6.94		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	99093	96.5		Pass
175	5.0 - 9.0% of mass 174	7577	7.38	(7.65) [a]	Pass
176	95.0 - 101.0% of mass 174	97499	94.9	(98.4) [a]	Pass
177	5.0 - 9.0% of mass 176	6660	6.48	(6.83) [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
V4B2855-CC2825	4B69352.D	02/16/17	09:44	00:32	Continuing cal 20
V4B2855-MB	4B69353.D	02/16/17	10:16	01:04	Method Blank
V4B2855-BS	4B69354.D	02/16/17	10:45	01:33	Blank Spike
ZZZZZZ	4B69355.D	02/16/17	11:21	02:09	(unrelated sample)
JC37020-16	4B69357.D	02/16/17	12:17	03:05	HSSER-GMZ02-020817
JC37020-15	4B69358.D	02/16/17	12:45	03:33	HSSER-PMW02-020817
JC37020-17	4B69359.D	02/16/17	13:13	04:01	HSSER-SMW04-020817
ZZZZZZ	4B69360.D	02/16/17	13:44	04:32	(unrelated sample)
ZZZZZZ	4B69362.D	02/16/17	14:40	05:28	(unrelated sample)
ZZZZZZ	4B69363.D	02/16/17	15:08	05:56	(unrelated sample)
JC37020-18	4B69364.D	02/16/17	15:36	06:24	HSSER-DUP01-020817
JC37020-14	4B69365.D	02/16/17	16:07	06:55	HSSER-GMZ03-020817
JC37020-12	4B69366.D	02/16/17	16:35	07:23	HSSER-PMW01-020817
JC37020-11	4B69367.D	02/16/17	17:03	07:51	HSSER-SMW20-020817
JC37020-10	4B69368.D	02/16/17	17:31	08:19	HSSER-GMZ04-020817
JC37020-1	4B69369.D	02/16/17	17:59	08:47	HSSER-SMW08-020617
ZZZZZZ	4B69370.D	02/16/17	18:29	09:17	(unrelated sample)
JC37020-16MS	4B69371.D	02/16/17	18:57	09:45	Matrix Spike
JC37020-16MSD	4B69372.D	02/16/17	19:25	10:13	Matrix Spike Duplicate
ZZZZZZ	4B69373.D	02/16/17	19:53	10:41	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: JC37020
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample:	V4B2855-BFB2	Injection Date:	02/16/17
Lab File ID:	4B69374.D	Injection Time:	20:21
Instrument ID:	GCMS4B		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	14.99 - 40.0% of mass 95	20659	19.4		Pass
75	30.0 - 60.0% of mass 95	50043	47.0		Pass
95	Base peak, 100% relative abundance	106469	100.0		Pass
96	5.0 - 9.0% of mass 95	6858	6.44		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	105408	99.0		Pass
175	5.0 - 9.0% of mass 174	8505	7.99	(8.07) [a]	Pass
176	95.0 - 101.0% of mass 174	105141	98.8	(99.7) [a]	Pass
177	5.0 - 9.0% of mass 176	6562	6.16	(6.24) [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
V4B2855-CC2825	4B69375.D	02/16/17	20:51	00:30	Continuing cal 50
V4B2855-MB2	4B69376.D	02/16/17	21:19	00:58	Method Blank
JC37020-2	4B69377.D	02/16/17	21:48	01:27	HSSER-FBLK01-020617
JC37020-13	4B69378.D	02/16/17	22:16	01:55	HSSER-EBLK01-020817
JC37020-19	4B69379.D	02/16/17	22:44	02:23	HSSER-TRIP01-020617
JC37020-8	4B69380.D	02/16/17	23:14	02:53	HSSER-SMW19-020717
JC37020-9	4B69381.D	02/16/17	23:42	03:21	HSSER-SMW21-020717
JC37020-3	4B69382.D	02/17/17	00:10	03:49	HSSER-GMZ01-020617

Instrument Performance Check (BFB)

Job Number: JC37020
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample:	V4B2856-BFB	Injection Date:	02/17/17
Lab File ID:	4B69385.D	Injection Time:	09:14
Instrument ID:	GCMS4B		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	14.99 - 40.0% of mass 95	20253	20.0		Pass
75	30.0 - 60.0% of mass 95	48413	47.8		Pass
95	Base peak, 100% relative abundance	101253	100.0		Pass
96	5.0 - 9.0% of mass 95	6563	6.48		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	99315	98.1		Pass
175	5.0 - 9.0% of mass 174	7791	7.69	(7.84) [a]	Pass
176	95.0 - 101.0% of mass 174	97355	96.2	(98.0) [a]	Pass
177	5.0 - 9.0% of mass 176	6657	6.57	(6.84) [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
V4B2856-CC2825	4B69386.D	02/17/17	09:42	00:28	Continuing cal 20
V4B2856-MB	4B69387.D	02/17/17	10:12	00:58	Method Blank
V4B2856-BS	4B69388.D	02/17/17	10:40	01:26	Blank Spike
JC37230-4	4B69390.D	02/17/17	11:47	02:33	(used for QC only; not part of job JC37020)
JC37230-5	4B69391.D	02/17/17	12:15	03:01	(used for QC only; not part of job JC37020)
ZZZZZZ	4B69392.D	02/17/17	12:43	03:29	(unrelated sample)
ZZZZZZ	4B69393.D	02/17/17	13:12	03:58	(unrelated sample)
ZZZZZZ	4B69394.D	02/17/17	13:40	04:26	(unrelated sample)
JC37230-5MS	4B69396.D	02/17/17	14:38	05:24	Matrix Spike
JC37230-4DUP	4B69398.D	02/17/17	15:35	06:21	Duplicate
ZZZZZZ	4B69399.D	02/17/17	16:03	06:49	(unrelated sample)
ZZZZZZ	4B69400.D	02/17/17	16:33	07:19	(unrelated sample)
ZZZZZZ	4B69401.D	02/17/17	17:01	07:47	(unrelated sample)
JC37020-4	4B69402.D	02/17/17	17:29	08:15	HSSER-SMW01-020617
JC37020-5	4B69403.D	02/17/17	17:57	08:43	HSSER-SMW02-020717
JC37020-6	4B69404.D	02/17/17	18:26	09:12	HSSER-MW203-020717
JC37020-7	4B69405.D	02/17/17	18:56	09:42	HSSER-MW07FGA-020717
ZZZZZZ	4B69406.D	02/17/17	19:24	10:10	(unrelated sample)
ZZZZZZ	4B69407.D	02/17/17	19:52	10:38	(unrelated sample)

Volatile Internal Standard Area Summary

Job Number: JC37020
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Check Std:	V4B2855-CC2825	Injection Date:	02/16/17
Lab File ID:	4B69352.D	Injection Time:	09:44
Instrument ID:	GCMS4B	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	118963	6.80	278792	8.84	387728	9.71	372183	12.91	215613	15.48
Upper Limit [a]	237926	7.30	557584	9.34	775456	10.21	744366	13.41	431226	15.98
Lower Limit [b]	59482	6.30	139396	8.34	193864	9.21	186092	12.41	107807	14.98

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
V4B2855-MB	131576	6.81	297318	8.84	408799	9.71	385674	12.91	215888	15.48
V4B2855-BS	107920	6.81	271170	8.84	382795	9.71	359522	12.91	215569	15.48
ZZZZZZ	131432	6.81	295056	8.84	406677	9.71	386150	12.91	216954	15.48
JC37020-16	137123	6.81	304465	8.84	419229	9.71	397415	12.91	219310	15.48
JC37020-15	133577	6.81	299739	8.84	413850	9.71	387485	12.91	217598	15.48
JC37020-17	138582	6.81	291119	8.84	408824	9.71	383454	12.91	216445	15.48
ZZZZZZ	130599	6.81	283792	8.84	388831	9.71	380351	12.91	210870	15.48
ZZZZZZ	129361	6.81	293862	8.84	407021	9.71	384503	12.91	213649	15.48
ZZZZZZ	134796	6.81	290892	8.84	405800	9.71	384476	12.91	214493	15.48
JC37020-18	140822	6.81	289130	8.84	403851	9.71	379704	12.91	209924	15.48
JC37020-14	151550	6.81	283702	8.84	394173	9.71	373224	12.91	205681	15.48
JC37020-12	131117	6.81	279550	8.84	391793	9.71	367736	12.91	208617	15.48
JC37020-11	135561	6.81	282885	8.84	400638	9.71	374286	12.91	207546	15.48
JC37020-10	133097	6.81	280762	8.84	393964	9.71	372087	12.91	205785	15.48
JC37020-1	134730	6.81	279184	8.84	394415	9.71	368189	12.91	205929	15.48
ZZZZZZ	123761	6.80	273645	8.84	379804	9.71	367499	12.91	206635	15.48
JC37020-16MS	148075	6.81	270919	8.84	388451	9.71	364108	12.91	218842	15.48
JC37020-16MSD	145122	6.80	279086	8.84	389654	9.71	363950	12.91	220053	15.48
ZZZZZZ	138374	6.81	303260	8.84	419181	9.71	392896	12.91	223746	15.48

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

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

Volatile Internal Standard Area Summary

Job Number: JC37020
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Check Std:	V4B2855-CC2825	Injection Date:	02/16/17
Lab File ID:	4B69375.D	Injection Time:	20:51
Instrument ID:	GCMS4B	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	115466	6.80	270373	8.84	380211	9.71	360040	12.91	212124	15.48
Upper Limit [a]	230932	7.30	540746	9.34	760422	10.21	720080	13.41	424248	15.98
Lower Limit [b]	57733	6.30	135187	8.34	190106	9.21	180020	12.41	106062	14.98

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
V4B2855-MB2	151542	6.81	301772	8.84	411532	9.71	391025	12.91	222857	15.48
JC37020-2	153094	6.81	297965	8.84	406314	9.71	383532	12.91	216195	15.48
JC37020-13	153988	6.81	289591	8.84	401264	9.71	377893	12.91	215581	15.48
JC37020-19	155907	6.81	291305	8.84	401821	9.71	378583	12.91	213251	15.48
JC37020-8	141401	6.81	282550	8.84	390442	9.71	366542	12.91	202883	15.48
JC37020-9	137624	6.81	282415	8.84	393366	9.71	371774	12.91	209416	15.48
JC37020-3	136325	6.81	278602	8.84	389487	9.71	365203	12.91	208452	15.48

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

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

Volatile Internal Standard Area Summary

Job Number: JC37020
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Check Std:	V4B2856-CC2825	Injection Date:	02/17/17
Lab File ID:	4B69386.D	Injection Time:	09:42
Instrument ID:	GCMS4B	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	131643	6.80	267437	8.84	381062	9.71	361875	12.91	212166	15.48
Upper Limit [a]	263286	7.30	534874	9.34	762124	10.21	723750	13.41	424332	15.98
Lower Limit [b]	65822	6.30	133719	8.34	190531	9.21	180938	12.41	106083	14.98

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
V4B2856-MB	134146	6.81	287493	8.84	394022	9.71	371741	12.91	210255	15.48
V4B2856-BS	107842	6.80	263537	8.84	370789	9.71	346820	12.91	211419	15.48
JC37230-4	144660	6.81	284046	8.84	394662	9.71	370655	12.91	207386	15.48
JC37230-5	140044	6.81	284949	8.84	395989	9.71	375629	12.91	210757	15.48
ZZZZZZ	135543	6.81	285684	8.84	391831	9.71	371592	12.91	208327	15.48
ZZZZZZ	140179	6.81	282430	8.84	392182	9.71	369260	12.91	207362	15.48
ZZZZZZ	150567	6.81	278719	8.84	393757	9.71	370106	12.91	207972	15.48
JC37230-5MS	125764	6.80	280194	8.84	391733	9.71	361505	12.91	220983	15.48
JC37230-4DUP	145533	6.81	307453	8.84	422938	9.71	396513	12.91	223512	15.48
ZZZZZZ	150983	6.81	296509	8.84	411505	9.71	384800	12.91	219413	15.48
ZZZZZZ	132634	6.81	292050	8.84	402030	9.71	378112	12.91	211566	15.48
ZZZZZZ	140049	6.81	292541	8.84	409667	9.71	383017	12.91	215486	15.48
JC37020-4	139915	6.81	285313	8.84	399104	9.71	374313	12.91	212707	15.48
JC37020-5	137171	6.81	285186	8.84	400565	9.71	375749	12.90	209020	15.48
JC37020-6	134314	6.81	281888	8.84	396787	9.71	369438	12.91	208270	15.48
JC37020-7	131717	6.81	277045	8.84	386804	9.71	364654	12.91	201829	15.48
ZZZZZZ	134857	6.81	278324	8.84	393781	9.71	368872	12.91	207061	15.48
ZZZZZZ	134939	6.81	277464	8.84	389717	9.71	368058	12.91	206665	15.48

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

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

Volatile Surrogate Recovery Summary

Job Number: JC37020
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
JC37020-1	4B69369.D	107	117	101	106
JC37020-2	4B69377.D	104	109	100	103
JC37020-3	4B69382.D	107	116	101	103
JC37020-4	4B69402.D	107	113	100	102
JC37020-5	4B69403.D	109	115	99	104
JC37020-6	4B69404.D	107	115	101	103
JC37020-7	4B69405.D	107	115	101	104
JC37020-8	4B69380.D	105	112	100	103
JC37020-9	4B69381.D	107	114	101	103
JC37020-10	4B69368.D	108	116	101	104
JC37020-11	4B69367.D	107	116	100	105
JC37020-12	4B69366.D	108	115	101	104
JC37020-13	4B69378.D	105	110	100	103
JC37020-14	4B69365.D	106	115	101	105
JC37020-15	4B69358.D	104	110	101	104
JC37020-16	4B69357.D	105	109	99	104
JC37020-17	4B69359.D	105	112	100	104
JC37020-18	4B69364.D	107	113	101	105
JC37020-19	4B69379.D	105	111	101	102
JC37020-16MS	4B69371.D	107	109	99	102
JC37020-16MSD	4B69372.D	104	104	100	102
JC37230-4DUP	4B69398.D	104	108	100	102
JC37230-5MS	4B69396.D	105	104	100	102
V4B2855-BS	4B69354.D	105	104	100	101
V4B2855-MB	4B69353.D	103	109	101	104
V4B2855-MB2	4B69376.D	103	107	101	101
V4B2856-BS	4B69388.D	105	105	101	101
V4B2856-MB	4B69387.D	104	109	101	102

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

Initial Calibration Summary

Job Number: JC37020 **Sample:** V4B2825-ICC2825
Account: UTC United Technologies Corporation **Lab FileID:** 4B68758.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Response Factor Report MS4B

Method : C:\MSDCHEM\1\METHODS\M4B2825.M (RTE Integrator)
Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
Last Update : Tue Jan 31 16:58:58 2017
Response via : Initial Calibration

Calibration Files
1 =4B68764.D 0.5 =4B68763.D 100 =4B68767.D 50 =4B68758.D
20 =4B68757.D 200 =4B68759.D 5 =4B68765.D 2 =4B68756.D
10 =4B68766.D 0.2 =4B68762.D = =

Compound

	1	0.5	100	50	20	200	5	2	10	0.2	Avg	%RSD
1) tert butyl alcohol-d9 ----------ISTD----------												
2) tertiary butyl alcohol												
	1.449	1.273	1.304	1.281	1.241	1.329	1.219	1.338			1.304	5.44
3) 1,4-dioxane												
		0.115	0.117	0.114	0.111	0.108		0.114			0.113	2.71
4) Ethanol												
											0.000#	-1.00
5) I pentafluorobenzene ----------ISTD----------												
6) CHLOROTRIFLUOROETHENE												
											0.000#	-1.00
7) chlorodifluoromethane												
	0.673	0.821	0.815	0.809	0.793	0.832	0.816	0.768			0.791	6.52
8) dichlorodifluoromethane												
	0.632	0.571	0.711	0.753	0.706	0.737	0.677	0.685	0.702		0.686	8.07
9) Freon 114												
											0.000#	-1.00
10) chloromethane												
	0.332	0.315	0.350	0.349	0.349	0.327	0.384	0.386	0.352	0.288	0.343	8.63
11) vinyl chloride												
	0.870	0.932	0.927	0.947	0.926	0.892	0.911	0.907	0.951	0.882	0.914	2.95
12) bromomethane												
	0.414	0.415	0.436	0.417	0.336	0.454	0.492	0.421			0.423	10.42
13) chloroethane												
	0.406	0.410	0.418	0.432	0.421	0.378	0.371	0.405	0.433		0.408	5.28
14) vinyl bromide												
	0.537	0.518	0.586	0.603	0.595	0.559	0.573	0.580	0.605	0.552	0.571	5.07
15) trichlorofluoromethane												
	0.697	0.801	0.838	0.800	0.774	0.771	0.780	0.817			0.785	5.36
16) 1,3-butadiene												
	0.794	0.769	0.830	0.865	0.733	0.595	0.570	0.854			0.751	15.06
17) Pentane												
											0.000#	-1.00
18) freon 123a												
											0.000#	-1.00
19) ethyl ether												
	0.233	0.288	0.300	0.305	0.274	0.280	0.278	0.302			0.282	8.20
20) 2-chloropropane												
	0.218	0.167	0.196	0.206	0.161	0.182	0.198	0.200			0.191	10.22
21) acrolein												
	0.126	0.135	0.103	0.111	0.112	0.099	0.111	0.113	0.109		0.113	9.79
22) 1,1-dichloroethene												
	0.441	0.395	0.470	0.489	0.493	0.444	0.492	0.454	0.488		0.463	7.11
23) acetone												

```
     0.046       0.053 0.057 0.060 0.049 0.058 0.057 0.060        0.055    9.47
24)  allyl chloride
                 0.404 0.382 0.362 0.357 0.783 0.537 0.387        0.459   33.87
        ----- Quadratic regression -----                Coefficient =  0.9981
             Response Ratio = 0.00219 + 0.42171 *A + -0.01592 *A^2

25)  acetonitrile
     0.037 0.034 0.030 0.031 0.032 0.027 0.034 0.030 0.034        0.032    8.31
26)  iodomethane
     0.964 1.053 0.953 0.999 1.008 0.958 0.766 0.770 0.999 1.053  0.952   10.84
27)  carbon disulfide
     1.326 1.516 1.559 1.667 1.669 1.528 1.156 1.211 1.570        1.467   12.94
28)  methylene chloride
     0.507 0.517 0.515 0.534 0.544 0.493 0.522 0.512 0.541        0.521    3.17
29)  methyl acetate
                 0.080 0.081 0.081 0.076 0.078 0.063 0.085        0.078    9.13
30)  1-chloropropane
                                                                  0.000#  -1.00
31)  methyl tert butyl ether
     1.363 1.353 1.369 1.452 1.486 1.294 1.504 1.449 1.480 1.458  1.421    4.94
32)  trans-1,2-dichloroethene
     0.431 0.467 0.460 0.483 0.491 0.435 0.490 0.459 0.487 0.459  0.466    4.66
33)  di-isopropyl ether
     2.050 1.817 1.834 1.929 2.009 1.681 2.045 2.004 2.050 2.320  1.974    8.77
34)  2-butanone
     0.057 0.055 0.061 0.063 0.064 0.059 0.062 0.054 0.063        0.060    6.15
35)  1,1-dichloroethane
     0.844 0.920 0.899 0.955 0.979 0.839 0.981 0.925 1.009 1.062  0.941    7.49
36)  chloroprene
     0.761 0.631 0.764 0.788 0.796 0.713 0.793 0.755 0.798 0.820  0.762    7.19
37)  acrylonitrile
     0.197 0.192 0.196 0.203 0.211 0.186 0.205 0.191 0.210 0.215  0.201    4.79
38)  vinyl acetate
                 0.096 0.099 0.095 0.094 0.087 0.082 0.097        0.093    6.58
39)  ethyl tert-butyl ether
     1.718 1.568 1.646 1.696 1.724 1.559 1.699 1.668 1.733 1.730  1.674    3.85
40)  ethyl acetate
                 0.086 0.090 0.090 0.081 0.090 0.074 0.092        0.086    7.62
41)  2,2-dichloropropane
     0.457 0.486 0.424 0.485 0.508 0.386 0.477 0.455 0.500 0.491  0.467    8.07
42)  cis-1,2-dichloroethene
     0.512 0.467 0.513 0.544 0.549 0.486 0.536 0.519 0.561        0.521    5.87
43)  methylacrylate
                 0.076 0.078 0.078 0.073 0.078 0.062 0.079        0.075    7.92
44)  propionitrile
     0.079       0.069 0.071 0.077 0.064 0.080 0.074 0.079        0.074    7.67
45)  bromochloromethane
     0.243 0.226 0.271 0.282 0.284 0.263 0.270 0.253 0.283 0.231  0.260    8.22
46)  tetrahydrofuran
     0.173       0.166 0.173 0.182 0.155 0.186 0.181 0.193        0.176    6.82
47)  chloroform
     0.589 0.657 0.537 0.559 0.573 0.506 0.579 0.539 0.574        0.568    7.42
48)  T-BUTYL FORMATE
     0.366       0.423 0.442 0.446 0.417 0.370 0.412 0.407        0.410    7.20
49)  dibromofluoromethane (s)
     0.416 0.418 0.427 0.429 0.426 0.430 0.420 0.420 0.421 0.416  0.422    1.23
50)  1,2-dichloroethane-d4 (s)
     0.467 0.460 0.445 0.452 0.458 0.442 0.465 0.461 0.472 0.452  0.457    2.11
51)  freon 113
                 0.402 0.431 0.423 0.408 0.311       0.407        0.397   10.97
```

Initial Calibration Summary

Job Number: JC37020 **Sample:** V4B2825-ICC2825
Account: UTC United Technologies Corporation **Lab FileID:** 4B68758.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

```
52)  methacrylonitrile
      0.388 0.375 0.353 0.365 0.361 0.335 0.398 0.365 0.378        0.369    5.08
53)  1,1,1-trichloroethane
      0.650 0.640 0.676 0.708 0.698 0.654 0.631 0.595 0.685 0.656  0.659    5.11
54)  cyclohexane
      0.699 0.682 0.666 0.768 0.734 0.700 0.572 0.548 0.712        0.676   10.66
55)  iso-butyl alcohol
                                                                   0.000#  -1.00

56) I   1,4-difluorobenzene   ----------------ISTD---------------------
57)  epichlorohydrin
      0.041 0.031 0.039 0.038 0.040 0.038 0.038 0.039 0.040        0.038    7.44
58)  n-butyl alcohol
                  0.011 0.010 0.012 0.010 0.015 0.010 0.014        0.012   17.25
59)  carbon tetrachloride
      0.377 0.386 0.421 0.449 0.452 0.416 0.426 0.396 0.441 0.437  0.420    6.27
60)  1,1-dichloropropene
      0.463 0.525 0.471 0.500 0.509 0.446 0.503 0.457 0.512 0.519  0.490    5.81
61)  hexane--The compound does not meet initial criteria.
      0.542 0.461 0.565 0.633 0.621 0.573 0.577 0.616 0.583 0.571  0.574    8.51
62)  Tert Amyl alcohol
      0.021       0.017 0.017 0.019 0.017 0.022 0.019 0.020        0.019   10.95
63)  benzene
      1.369 1.441 1.347 1.418 1.439 1.273 1.451 1.383 1.462 1.732  1.432    8.41
64)  iso-octane
      1.515 1.303 1.453 1.595 1.592 1.485 1.537 1.609 1.553 1.621  1.526    6.28
65)  tert-amyl methyl ether
      0.228 0.212 0.222 0.229 0.235 0.213 0.245 0.227 0.240 0.179  0.223    8.34
66)  heptane
      0.349       0.338 0.380 0.371 0.343 0.363 0.391 0.353        0.361    5.18
67)  isopropyl acetate
      0.141       0.151 0.157 0.154 0.144 0.141 0.147 0.150        0.148    3.98
68)  1,2-dichloroethane
      0.453 0.476 0.432 0.460 0.474 0.403 0.480 0.474 0.486 0.436  0.458    5.80
69)  trichloroethene
      0.341 0.349 0.352 0.372 0.379 0.333 0.372 0.350 0.379 0.362  0.359    4.49
70)  Tert-amyl Ethyl Ether
                                                                   0.000#  -1.00
71)  ethyl acrylate
      0.446 0.509 0.468 0.477 0.477 0.446 0.479 0.430 0.473        0.467    5.00
72)  2-nitropropane
      0.156       0.140 0.146 0.149 0.134 0.153 0.135 0.142        0.144    5.64
73)  2-chloroethyl vinyl ether
      0.243 0.215 0.234 0.242 0.246 0.218 0.241 0.233 0.249 0.295  0.242    9.03
74)  methyl methacrylate
      0.087       0.106 0.108 0.105 0.102 0.100 0.093 0.100        0.100    6.87
75)  1,2-dichloropropane
      0.393 0.378 0.371 0.397 0.414 0.342 0.425 0.418 0.420 0.337  0.389    8.23
76)  dibromomethane
      0.226 0.227 0.224 0.234 0.234 0.217 0.235 0.223 0.236 0.249  0.231    3.92
77)  methylcyclohexane
      0.599 0.485 0.594 0.640 0.637 0.582 0.630 0.643 0.628 0.563  0.600    8.11
78)  bromodichloromethane
      0.418 0.490 0.486 0.498 0.492 0.468 0.490 0.454 0.480 0.398  0.467    7.33
79)  cis-1,3-dichloropropene
      0.588 0.589 0.643 0.673 0.669 0.622 0.649 0.615 0.650 0.546  0.624    6.49
80)  toluene-d8 (s)
      1.156 1.150 1.150 1.155 1.153 1.161 1.153 1.159 1.153 1.158  1.155    0.31
81)  4-methyl-2-pentanone
      0.163 0.176 0.143 0.152 0.162 0.133 0.167 0.158 0.163 0.172  0.159    8.36
```

```
 82)  toluene
       0.866 0.947 0.866 0.900 0.903 0.831 0.897 0.855 0.900 1.109  0.907    8.59
 83)  3-methyl-1-butanol
       0.018 0.016 0.015 0.015 0.017 0.014 0.017 0.017 0.018        0.016    7.96
 84)  trans-1,3-dichloropropene
       0.455 0.541 0.545 0.569 0.568 0.526 0.551 0.502 0.552 0.588  0.540    7.09
 85)  ethyl methacrylate
       0.456       0.505 0.516 0.513 0.483 0.521 0.461 0.508        0.495    5.14
 86)  1,1,2-trichloroethane
       0.272       0.289 0.295 0.295 0.278 0.312 0.283 0.296        0.290    4.31
 87)  2-hexanone
       0.166       0.151 0.159 0.169 0.142 0.176 0.169 0.174        0.163    7.13

 88) I   chlorobenzene-d5       ----------------ISTD---------------------
 89)  tetrachloroethene
       0.414 0.429 0.402 0.404 0.394 0.373 0.420 0.389 0.428 0.460  0.411    5.97
 90)  1,3-dichloropropane
       0.624 0.785 0.580 0.599 0.603 0.559 0.659 0.624 0.613 0.664  0.631    9.95
 91)  butyl acetate
       0.329 0.242 0.294 0.293 0.294 0.291 0.301 0.277 0.303        0.291    7.94
 92)  3,3-DIMETHYL-1-BUTANOL
       0.041 0.036 0.035 0.033 0.036 0.034 0.035 0.035 0.038        0.036    6.50
 93)  dibromochloromethane
       0.296 0.403 0.458 0.448 0.416 0.458 0.389 0.355 0.389 0.331  0.394   13.79
 94)  1,2-dibromoethane
       0.389 0.481 0.420 0.421 0.405 0.415 0.401 0.393 0.408 0.409  0.414    6.19
 95)  n-butyl ether
       1.756 2.043 1.873 1.896 1.857 1.785 1.828 1.686 1.833 2.267  1.882    8.74
 96)  chlorobenzene
       1.054 1.221 1.085 1.107 1.092 1.057 1.110 1.054 1.094 1.282  1.116    6.81
 97)  1,1,1,2-tetrachloroethane
       0.350 0.469 0.401 0.408 0.396 0.394 0.400 0.371 0.394 0.388  0.397    7.65
 98)  ethylbenzene
       1.794 1.929 1.767 1.824 1.824 1.681 1.882 1.803 1.835 2.262  1.860    8.39
 99)  m,p-xylene
       0.665 0.759 0.717 0.727 0.714 0.703 0.738 0.707 0.723 0.840  0.729    6.27
100)  o-xylene
       0.666 0.766 0.749 0.760 0.737 0.731 0.741 0.705 0.736 0.706  0.730    4.09
101)  styrene
       1.150 1.425 1.227 1.261 1.249 1.199 1.281 1.191 1.245 1.534  1.276    9.14
102)  bromoform
       0.175       0.354 0.334 0.289       0.255 0.225 0.251        0.269   23.17
             ----- Linear regression -----  Coefficient =  0.9941
               Response Ratio = -0.00541 + 0.34174 *A


103) I   1,4-dichlorobenzene-d ----------------ISTD---------------------
104)  isopropylbenzene
       3.060 3.382 3.078 3.289 3.303 2.973 3.414 3.071 3.336 3.870  3.278    7.92
105)  4-bromofluorobenzene (s)
       0.828 0.817 0.799 0.809 0.815 0.819 0.832 0.822 0.822 0.824  0.819    1.16
106)  cyclohexanone
       0.171       0.142 0.152 0.163 0.126 0.198 0.164 0.175        0.161   13.49
107)  bromobenzene
       0.913 1.138 0.885 0.938 0.930 0.873 0.992 0.922 0.958        0.950    8.32
108)  1,1,2,2-tetrachloroethane
       0.846       0.877 0.914 0.904 0.854 1.021 0.870 0.906        0.899    6.15
109)  trans-1,4-dichloro-2-butene--The compound does not meet initial criteria.
                   0.196 0.187 0.155 0.208 0.137 0.120 0.116        0.160   23.36
             ----- Linear regression -----  Coefficient =  0.9944
```

6.9.1

6

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              Response Ratio = -0.00659 + 0.20133 *A

110)  1,2,3-trichloropropane
       0.200        0.218 0.225 0.230 0.214 0.260 0.220 0.232        0.225    7.81
111)  n-propylbenzene
       3.704        3.557 3.814 3.877 3.450 4.033 3.814 3.941        3.774    5.17
112)  4-ETHYLTOLUENE
                                                                     0.000#  -1.00
113)  2-chlorotoluene
       0.777 0.893 0.794 0.836 0.826 0.786 0.854 0.796 0.839        0.823    4.58
114)  4-chlorotoluene
       2.317        2.245 2.380 2.376 2.181 2.499 2.336 2.407        2.343    4.19
115)  1,3,5-trimethylbenzene
       2.567 2.914 2.526 2.709 2.737 2.417 2.852 2.703 2.770        2.688    5.92
116)  tert-butylbenzene
       2.338 2.716 2.386 2.539 2.527 2.291 2.589 2.401 2.534        2.480    5.47
117)  pentachloroethane
       0.452        0.523 0.564 0.565 0.559 0.525 0.516 0.501        0.526    7.27
118)  1,2,4-trimethylbenzene
       2.564        2.608 2.819 2.852 2.467 2.941 2.751 2.877        2.735    6.20
119)  sec-butylbenzene
       3.473        3.585 3.852 3.835 3.427 3.852 3.577 3.842        3.680    4.99
120)  1,3-dichlorobenzene
       1.829        1.663 1.781 1.798 1.601 1.905 1.789 1.842        1.776    5.55
121)  p-isopropyltoluene
       2.947        3.143 3.379 3.396 2.961 3.370 3.066 3.351        3.201    6.07
122)  1,4-dichlorobenzene
       1.733        1.666 1.771 1.761 1.616 1.821 1.714 1.757        1.730    3.73
123)  benzyl chloride
       1.411 1.356 1.623 1.747 1.688 1.642 1.428 1.408 1.472        1.530    9.42
124)  1,2-dichlorobenzene
       1.723        1.625 1.759 1.802 1.540 1.833 1.743 1.763        1.724    5.58
125)  1,4-DIETHYLBENZENE
                                                                     0.000#  -1.00
126)  n-butylbenzene
       1.557 1.777 1.662 1.819 1.809 1.557 1.712 1.601 1.762        1.695    6.18
127)  1,2,4,5-TETRAMETHYLBENZENE
                                                                     0.000#  -1.00
128)  1,2-dibromo-3-chloropropane
                    0.160 0.165 0.156 0.157 0.155 0.126 0.155        0.153    8.14
129)  1,3,5-TRICHLOROBENZENE
       1.396        1.482 1.616 1.664 1.396 1.577 1.462 1.593        1.523    6.75
130)  1,2,4-trichlorobenzene
       1.227        1.358 1.463 1.478 1.298 1.379 1.226 1.415        1.356    7.22
131)  hexachlorobutadiene
       0.763 0.908 0.724 0.799 0.835 0.695 0.831 0.771 0.831        0.795    8.17
132)  naphthalene
       2.358        2.431 2.576 2.568 2.342 2.557 2.255 2.525        2.451    5.00
133)  1,2,3-trichlorobenzene
       1.109        1.190 1.260 1.264 1.149 1.233 1.112 1.230        1.193    5.31
134)  hexachloroethane
                    0.642 0.664 0.617 0.638 0.534 0.536 0.560        0.599    9.08
135)  2-ethylhexyl acrylate--The compound does not meet initial criteria.
                    0.350 0.306 0.233 0.407 0.167 0.187 0.192        0.263   35.08
            ----- Linear regression -----  Coefficient =  0.9943
              Response Ratio = -0.01085 + 0.40945 *A

136)  2-methylnaphthalene--The compound does not meet initial criteria.
                    0.650 0.658 0.578 0.674 0.468       0.531        0.593   13.86
```

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Initial Calibration Summary

Job Number: JC37020 **Sample:** V4B2825-ICC2825
Account: UTC United Technologies Corporation **Lab FileID:** 4B68758.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

```
137) I   pentafluorobenzene(a) ----------------ISTD---------------------
138)  Freon 142B
                  0.473 0.459 0.567 0.539 0.210       0.376        0.437   29.69
            ----- Linear regression -----  Coefficient =  0.9931
              Response Ratio = -0.02771 + 0.52631 *A

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

          M4B2825.M         Tue Jan 31 17:17:16 2017   GCMS4B
```

6.9.1

6

Initial Calibration Verification

Job Number: JC37020 **Sample:** V4B2825-ICV2825
Account: UTC United Technologies Corporation **Lab FileID:** 4B68770.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Evaluate Continuing Calibration Report

Data File : C:\MSDChem\1\DATA\4B68770.D Vial: 17
Acq On : 27 Jan 2017 6:19 pm Operator: Hueanht
Sample : icv2825-50 Inst : MS4B
Misc : MS11826,V4B2825,W,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M4B2825.M (RTE Integrator)
Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
Last Update : Tue Jan 31 16:58:58 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	TrueValue	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	tert butyl alcohol-d9	500.00	1.000	1.000	0.0	93	0.00	6.81
2 M	tertiary butyl alcohol	250.00	1.304	1.375	-5.4	98	0.00	6.91
3 M	1,4-dioxane	1250.00	0.113	0.119	-5.3	95	0.00	10.34
4	Ethanol		----------NA----------					
5 I	pentafluorobenzene	50.00	1.000	1.000	0.0	98	0.00	8.84
6	CHLOROTRIFLUOROETHENE		----------NA----------					
7 M	chlorodifluoromethane	50.00	0.791	0.726	8.2	88	-0.01	3.85
8 M	dichlorodifluoromethane	50.00	0.686	0.734	-7.0	96	-0.01	3.82
9	Freon 114		----------NA----------					
10 M	chloromethane	50.00	0.343	0.385	-12.2	109	0.01	4.18
11 M	vinyl chloride	50.00	0.914	0.936	-2.4	97	0.00	4.40
12 M	bromomethane	50.00	0.423	0.434	-2.6	98	0.00	4.98
13 M	chloroethane	50.00	0.408	0.395	3.2	90	0.01	5.16
14	vinyl bromide	50.00	0.571	0.582	-1.9	95	0.00	5.45
15 M	trichlorofluoromethane	50.00	0.785	0.818	-4.2	96	-0.02	5.51
16	1,3-butadiene	50.00	0.751	0.669	10.9	79	0.00	4.47
17	Pentane		----------NA----------					
18	freon 123a		----------NA----------					
19 M	ethyl ether	50.00	0.282	0.291	-3.2	96	0.00	5.88
20	2-chloropropane	50.00	0.191	0.157	17.8	79	0.00	6.08
21 M	acrolein	500.00	0.113	0.102	9.7	91	0.00	6.09
22 M	1,1-dichloroethene	50.00	0.463	0.503	-8.6	101	0.00	6.25
23 M	acetone	250.00	0.055	0.055	0.0	95	0.00	6.26

	----------TrueValue	CC-RF	Calc.	% Drift	----------	R.T.
24 M allyl chloride	50.00	0.146	92.583	-85.2#	187 0.00	6.71

	----------TrueValue	AvgRF	CCRF	% Dev	----------	R.T.
25 M acetonitrile	500.00	0.032	0.029	9.4	90 0.00	6.63
26 M iodomethane	50.00	0.952	0.808	15.1	80 -0.03	6.48
27 M carbon disulfide	50.00	1.467	1.242	15.3	73 0.00	6.61
28 M methylene chloride	50.00	0.521	0.516	1.0	95 0.00	6.87
29 M methyl acetate	50.00	0.078	0.079	-1.3	96 0.00	6.65
30 1-chloropropane		----------NA----------				
31 M methyl tert butyl ether	50.00	1.421	1.381	2.8	94 0.00	7.18
32 M trans-1,2-dichloroethene	50.00	0.466	0.462	0.9	94 0.00	7.22
33 M di-isopropyl ether	50.00	1.974	1.936	1.9	99 0.00	7.70
34 M 2-butanone	250.00	0.060	0.059	1.7	93 0.00	8.31
35 M 1,1-dichloroethane	50.00	0.941	0.941	0.0	97 0.00	7.73
36 M chloroprene	50.00	0.762	0.782	-2.6	98 0.00	7.82
37 M acrylonitrile	250.00	0.201	0.197	2.0	96 0.00	7.13

Initial Calibration Verification

Job Number: JC37020 **Sample:** V4B2825-ICV2825
Account: UTC United Technologies Corporation **Lab FileID:** 4B68770.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

38 M	vinyl acetate	50.00	0.093	0.092	1.1	92	0.00	7.66
39 M	ethyl tert-butyl ether	50.00	1.674	1.712	-2.3	99	0.00	8.11
40 M	ethyl acetate	50.00	0.086	0.094	-9.3	102	0.00	8.31
41 M	2,2-dichloropropane	50.00	0.467	0.432	7.5	88	0.00	8.39
42 M	cis-1,2-dichloroethene	50.00	0.521	0.529	-1.5	96	0.00	8.37
43	methylacrylate	50.00	0.075	0.076	-1.3	96	0.00	8.39
44 M	propionitrile	500.00	0.074	0.069	6.8	96	0.00	8.39
45 M	bromochloromethane	50.00	0.260	0.279	-7.3	97	0.00	8.65
46 M	tetrahydrofuran	50.00	0.176	0.166	5.7	94	0.00	8.66
47 M	chloroform	50.00	0.568	0.549	3.3	97	0.00	8.71
48 M	T-BUTYL FORMATE	50.00	0.410	0.297	27.6	66	0.00	8.75
49 S	dibromofluoromethane (s)	50.00	0.422	0.424	-0.5	97	0.00	8.89
50 S	1,2-dichloroethane-d4 (s)	50.00	0.457	0.446	2.4	97	0.00	9.29
51 M	freon 113	50.00	0.397	0.469	-18.1	107	0.00	6.26
52 M	methacrylonitrile	50.00	0.369	0.346	6.2	93	0.00	8.56
53 M	1,1,1-trichloroethane	50.00	0.659	0.644	2.3	90	0.00	8.95
54 M	cyclohexane	50.00	0.676	0.575	14.9	74	0.00	9.05
55	iso-butyl alcohol		----------NA----------					
56 I	1,4-difluorobenzene	50.00	1.000	1.000	0.0	97	0.00	9.72
57 M	epichlorohydrin	250.00	0.038	0.036	5.3	93	0.00	10.87
58 M	n-butyl alcohol	2500.00	0.012	0.010#	16.7	92	0.00	9.75
59 M	carbon tetrachloride	50.00	0.420	0.417	0.7	90	0.00	9.14
60 M	1,1-dichloropropene	50.00	0.490	0.496	-1.2	96	0.00	9.11
61 M	hexane	50.00	0.574	0.281	51.0#	43#	0.00	7.52
62	Tert Amyl alcohol	250.00	0.019	0.032	-68.4#	184	0.00	9.21
63 M	benzene	50.00	1.432	1.404	2.0	96	0.00	9.35
64 m	iso-octane	50.00	1.526	1.409	7.7	86	0.00	9.42
65 M	tert-amyl methyl ether	50.00	0.223	0.237	-6.3	100	0.00	9.40
66 M	heptane	50.00	0.361	0.362	-0.3	93	0.00	9.56
67 M	isopropyl acetate	50.00	0.148	0.153	-3.4	95	0.00	9.24
68 M	1,2-dichloroethane	50.00	0.458	0.448	2.2	95	0.00	9.37
69 M	trichloroethene	50.00	0.359	0.372	-3.6	97	0.00	10.02
70	Tert-amyl Ethyl Ether		----------NA----------					
71	ethyl acrylate	50.00	0.467	0.461	1.3	94	0.00	9.99
72 M	2-nitropropane	50.00	0.144	0.141	2.1	94	0.00	10.75
73 M	2-chloroethyl vinyl ether	250.00	0.242	0.251	-3.7	101	0.00	10.77
74 M	methyl methacrylate	50.00	0.100	0.099	1.0	89	0.00	10.24
75 M	1,2-dichloropropane	50.00	0.389	0.389	0.0	95	0.00	10.30
76 M	dibromomethane	50.00	0.231	0.230	0.4	95	0.00	10.41
77 M	methylcyclohexane	50.00	0.600	0.602	-0.3	91	0.00	10.30
78 M	bromodichloromethane	50.00	0.467	0.496	-6.2	97	0.00	10.55
79 M	cis-1,3-dichloropropene	50.00	0.624	0.660	-5.8	95	0.00	11.00
80 S	toluene-d8 (s)	50.00	1.155	1.153	0.2	97	0.00	11.31
81 M	4-methyl-2-pentanone	250.00	0.159	0.147	7.5	94	0.00	11.09
82 M	toluene	50.00	0.907	0.895	1.3	97	0.00	11.39
83 M	3-methyl-1-butanol	1000.00	0.016	0.014	12.5	89	0.00	11.08
84 M	trans-1,3-dichloropropene	50.00	0.540	0.559	-3.5	95	0.00	11.57
85 M	ethyl methacrylate	50.00	0.495	0.498	-0.6	94	0.00	11.55
86 M	1,1,2-trichloroethane	50.00	0.290	0.295	-1.7	97	0.00	11.81
87 M	2-hexanone	250.00	0.163	0.151	7.4	92	0.00	11.97
88 I	chlorobenzene-d5	50.00	1.000	1.000	0.0	97	0.00	12.91
89 M	tetrachloroethene	50.00	0.411	0.446	-8.5	107	0.00	11.96
90 M	1,3-dichloropropane	50.00	0.631	0.588	6.8	95	0.00	12.00
91 M	butyl acetate	50.00	0.291	0.287	1.4	95	0.00	12.05
92 M	3,3-DIMETHYL-1-BUTANOL	500.00	0.036	0.029	19.4	85	0.00	12.16
93 M	dibromochloromethane	50.00	0.394	0.443	-12.4	96	0.00	12.27
94 M	1,2-dibromoethane	50.00	0.414	0.412	0.5	95	0.00	12.43
95	n-butyl ether	50.00	1.882	1.888	-0.3	97	0.00	12.88

Initial Calibration Verification

Job Number: JC37020 **Sample:** V4B2825-ICV2825
Account: UTC United Technologies Corporation **Lab FileID:** 4B68770.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

96 M	chlorobenzene	50.00	1.116	1.100	1.4	97	0.00	12.94
97 M	1,1,1,2-tetrachloroethane	50.00	0.397	0.403	-1.5	96	0.00	13.01
98 M	ethylbenzene	50.00	1.860	1.815	2.4	97	0.00	13.00
99 M	m,p-xylene	100.00	0.729	0.722	1.0	97	0.00	13.13
100 M	o-xylene	50.00	0.730	0.747	-2.3	96	0.00	13.57
101 M	styrene	50.00	1.276	1.240	2.8	96	0.00	13.59
	----------TrueValue		CC-RF	Calc.	% Drift		----------	R.T.
102 M	bromoform	50.00	0.322	47.916	4.2	94	0.00	13.84
	----------TrueValue		AvgRF	CCRF	% Dev		----------	R.T.
103 I	1,4-dichlorobenzene-d4	50.00	1.000	1.000	0.0	96	0.00	15.48
104 M	isopropylbenzene	50.00	3.278	3.262	0.5	95	0.00	13.95
105 S	4-bromofluorobenzene (s)	50.00	0.819	0.817	0.2	97	0.00	14.18
106	cyclohexanone	500.00	0.161	0.150	6.8	94	0.00	14.11
107 M	bromobenzene	50.00	0.950	0.933	1.8	95	0.00	14.39
108 M	1,1,2,2-tetrachloroethane	50.00	0.899	0.878	2.3	92	0.00	14.27
	----------TrueValue		CC-RF	Calc.	% Drift		----------	R.T.
109 M	trans-1,4-dichloro-2-bute	50.00	0.193	49.529	0.9	99	0.00	14.30
	----------TrueValue		AvgRF	CCRF	% Dev		----------	R.T.
110 M	1,2,3-trichloropropane	50.00	0.225	0.220	2.2	94	0.00	14.37
111 M	n-propylbenzene	50.00	3.774	3.758	0.4	94	0.00	14.41
112	4-ETHYLTOLUENE		----------NA----------					
113 M	2-chlorotoluene	50.00	0.823	0.830	-0.9	95	0.00	14.57
114 M	4-chlorotoluene	50.00	2.343	2.353	-0.4	95	0.00	14.69
115 M	1,3,5-trimethylbenzene	50.00	2.688	2.667	0.8	94	0.00	14.59
116 M	tert-butylbenzene	50.00	2.480	2.514	-1.4	95	0.00	14.97
117 M	pentachloroethane	50.00	0.526	0.474	9.9	81	0.00	15.05
118 M	1,2,4-trimethylbenzene	50.00	2.735	2.761	-1.0	94	0.00	15.03
119 M	sec-butylbenzene	50.00	3.680	3.802	-3.3	95	0.00	15.21
120 M	1,3-dichlorobenzene	50.00	1.776	1.758	1.0	95	0.00	15.40
121 M	p-isopropyltoluene	50.00	3.201	3.308	-3.3	94	0.00	15.36
122 M	1,4-dichlorobenzene	50.00	1.730	1.737	-0.4	94	0.00	15.51
123	benzyl chloride	50.00	1.530	1.102	28.0	60	0.00	15.61
124 M	1,2-dichlorobenzene	50.00	1.724	1.745	-1.2	95	0.00	15.93
125	1,4-DIETHYLBENZENE		----------NA----------					
126 M	n-butylbenzene	50.00	1.695	1.760	-3.8	93	0.00	15.82
127	1,2,4,5-TETRAMETHYLBENZEN		----------NA----------					
128 M	1,2-dibromo-3-chloropropa	50.00	0.153	0.162	-5.9	94	0.00	16.77
129	1,3,5-TRICHLOROBENZENE	50.00	1.523	1.587	-4.2	94	0.00	16.97
130 M	1,2,4-trichlorobenzene	50.00	1.356	1.419	-4.6	93	0.00	17.66
131 M	hexachlorobutadiene	50.00	0.795	0.773	2.8	93	0.00	17.77
132 M	naphthalene	50.00	2.451	2.459	-0.3	92	0.00	17.97
133 M	1,2,3-trichlorobenzene	50.00	1.193	1.226	-2.8	93	0.00	18.21
134 m	hexachloroethane	50.00	0.599	0.650	-8.5	94	0.00	16.25
	----------TrueValue		CC-RF	Calc.	% Drift		----------	R.T.
135	2-ethylhexyl acrylate	10.00	0.055	8.028	19.7	86	0.00	17.66
136	2-methylnaphthalene		----------NA----------					
	----------TrueValue		AvgRF	CCRF	% Dev		----------	R.T.
137 I	pentafluorobenzene(a)	50.00	1.000	1.000	0.0	102	0.00	8.84
138	Freon 142B		----------NA----------					

6.9.2 6

Initial Calibration Verification

Job Number: JC37020
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V4B2825-ICV2825
Lab FileID: 4B68770.D

(#) = Out of Range SPCC's out = 0 CCC's out = 0
4B68758.D M4B2825.M Tue Jan 31 17:15:31 2017 GCMS4B

6.9.2

6

Initial Calibration Verification

Job Number: JC37020
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V4B2828-ICV2825
Lab FileID: 4B68840.D

Evaluate Continuing Calibration Report

Data File : C:\MSDChem\1\DATA\4B68840.D Vial: 12
Acq On : 31 Jan 2017 4:10 am Operator: Hueanht
Sample : icv2825-50 Inst : MS4B
Misc : MS12037,V4B2828,W,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M4B2825.M (RTE Integrator)
Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
Last Update : Tue Jan 31 16:58:58 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	TrueValue	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	tert butyl alcohol-d9	500.00	1.000	1.000	0.0	114	0.00	6.81
2 M	tertiary butyl alcohol		----------NA----------					
3 M	1,4-dioxane		----------NA----------					
4	Ethanol		----------NA----------					
5 I	pentafluorobenzene	50.00	1.000	1.000	0.0	92	0.00	8.84
6	CHLOROTRIFLUOROETHENE		----------NA----------					
7 M	chlorodifluoromethane		----------NA----------					
8 M	dichlorodifluoromethane		----------NA----------					
9	Freon 114		----------NA----------					
10 M	chloromethane		----------NA----------					
11 M	vinyl chloride		----------NA----------					
12 M	bromomethane		----------NA----------					
13 M	chloroethane		----------NA----------					
14	vinyl bromide		----------NA----------					
15 M	trichlorofluoromethane		----------NA----------					
16	1,3-butadiene		----------NA----------					
17	Pentane		----------NA----------					
18	freon 123a		----------NA----------					
19 M	ethyl ether		----------NA----------					
20	2-chloropropane		----------NA----------					
21 M	acrolein		----------NA----------					
22 M	1,1-dichloroethene		----------NA----------					
23 M	acetone		----------NA----------					
24 M	allyl chloride		----------NA----------					
25 M	acetonitrile		----------NA----------					
26 M	iodomethane		----------NA----------					
27 M	carbon disulfide		----------NA----------					
28 M	methylene chloride		----------NA----------					
29 M	methyl acetate		----------NA----------					
30	1-chloropropane		----------NA----------					
31 M	methyl tert butyl ether		----------NA----------					
32 M	trans-1,2-dichloroethene		----------NA----------					
33 M	di-isopropyl ether		----------NA----------					
34 M	2-butanone		----------NA----------					
35 M	1,1-dichloroethane		----------NA----------					
36 M	chloroprene		----------NA----------					
37 M	acrylonitrile		----------NA----------					
38 M	vinyl acetate		----------NA----------					
39 M	ethyl tert-butyl ether		----------NA----------					
40 M	ethyl acetate		----------NA----------					
41 M	2,2-dichloropropane		----------NA----------					

Initial Calibration Verification

Job Number: JC37020 **Sample:** V4B2828-ICV2825
Account: UTC United Technologies Corporation **Lab FileID:** 4B68840.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

42	M	cis-1,2-dichloroethene		----------NA----------					
43		methylacrylate		----------NA----------					
44	M	propionitrile		----------NA----------					
45	M	bromochloromethane		----------NA----------					
46	M	tetrahydrofuran		----------NA----------					
47	M	chloroform		----------NA----------					
48	M	T-BUTYL FORMATE		----------NA----------					
49	S	dibromofluoromethane (s)	50.00	0.422	0.440	-4.3	94	0.00	8.89
50	S	1,2-dichloroethane-d4 (s)	50.00	0.457	0.499	-9.2	101	0.00	9.29
51	M	freon 113		----------NA----------					
52	M	methacrylonitrile		----------NA----------					
53	M	1,1,1-trichloroethane		----------NA----------					
54	M	cyclohexane		----------NA----------					
55		iso-butyl alcohol		----------NA----------					
56	I	1,4-difluorobenzene	50.00	1.000	1.000	0.0	92	0.00	9.72
57	M	epichlorohydrin		----------NA----------					
58	M	n-butyl alcohol		----------NA----------					
59	M	carbon tetrachloride		----------NA----------					
60	M	1,1-dichloropropene		----------NA----------					
61	M	hexane		----------NA----------					
62		Tert Amyl alcohol		----------NA----------					
63	M	benzene		----------NA----------					
64	m	iso-octane		----------NA----------					
65	M	tert-amyl methyl ether		----------NA----------					
66	M	heptane		----------NA----------					
67	M	isopropyl acetate		----------NA----------					
68	M	1,2-dichloroethane		----------NA----------					
69	M	trichloroethene		----------NA----------					
70		Tert-amyl Ethyl Ether		----------NA----------					
71		ethyl acrylate		----------NA----------					
72	M	2-nitropropane		----------NA----------					
73	M	2-chloroethyl vinyl ether		----------NA----------					
74	M	methyl methacrylate		----------NA----------					
75	M	1,2-dichloropropane		----------NA----------					
76	M	dibromomethane		----------NA----------					
77	M	methylcyclohexane		----------NA----------					
78	M	bromodichloromethane		----------NA----------					
79	M	cis-1,3-dichloropropene		----------NA----------					
80	S	toluene-d8 (s)	50.00	1.155	1.163	-0.7	92	0.00	11.31
81	M	4-methyl-2-pentanone		----------NA----------					
82	M	toluene		----------NA----------					
83	M	3-methyl-1-butanol		----------NA----------					
84	M	trans-1,3-dichloropropene		----------NA----------					
85	M	ethyl methacrylate		----------NA----------					
86	M	1,1,2-trichloroethane		----------NA----------					
87	M	2-hexanone		----------NA----------					
88	I	chlorobenzene-d5	50.00	1.000	1.000	0.0	94	0.00	12.90
89	M	tetrachloroethene		----------NA----------					
90	M	1,3-dichloropropane		----------NA----------					
91	M	butyl acetate		----------NA----------					
92	M	3,3-DIMETHYL-1-BUTANOL		----------NA----------					
93	M	dibromochloromethane		----------NA----------					
94	M	1,2-dibromoethane		----------NA----------					
95		n-butyl ether		----------NA----------					
96	M	chlorobenzene		----------NA----------					
97	M	1,1,1,2-tetrachloroethane		----------NA----------					
98	M	ethylbenzene		----------NA----------					
99	M	m,p-xylene		----------NA----------					

6.9.3 6

Initial Calibration Verification

Job Number: JC37020 **Sample:** V4B2828-ICV2825
Account: UTC United Technologies Corporation **Lab FileID:** 4B68840.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

100	M	o-xylene		----------NA----------					
101	M	styrene		----------NA----------					
102	M	bromoform		----------NA----------					
103	I	1,4-dichlorobenzene-d4	50.00	1.000	1.000	0.0	90	0.00	15.48
104	M	isopropylbenzene		----------NA----------					
105	S	4-bromofluorobenzene (s)	50.00	0.819	0.826	-0.9	92	0.00	14.18
106		cyclohexanone		----------NA----------					
107	M	bromobenzene		----------NA----------					
108	M	1,1,2,2-tetrachloroethane		----------NA----------					
109	M	trans-1,4-dichloro-2-bute		----------NA----------					
110	M	1,2,3-trichloropropane		----------NA----------					
111	M	n-propylbenzene		----------NA----------					
112		4-ETHYLTOLUENE		----------NA----------					
113	M	2-chlorotoluene		----------NA----------					
114	M	4-chlorotoluene		----------NA----------					
115	M	1,3,5-trimethylbenzene		----------NA----------					
116	M	tert-butylbenzene		----------NA----------					
117	M	pentachloroethane		----------NA----------					
118	M	1,2,4-trimethylbenzene		----------NA----------					
119	M	sec-butylbenzene		----------NA----------					
120	M	1,3-dichlorobenzene		----------NA----------					
121	M	p-isopropyltoluene		----------NA----------					
122	M	1,4-dichlorobenzene		----------NA----------					
123		benzyl chloride		----------NA----------					
124	M	1,2-dichlorobenzene		----------NA----------					
125		1,4-DIETHYLBENZENE		----------NA----------					
126	M	n-butylbenzene		----------NA----------					
127		1,2,4,5-TETRAMETHYLBENZEN		----------NA----------					
128	M	1,2-dibromo-3-chloropropa		----------NA----------					
129		1,3,5-TRICHLOROBENZENE		----------NA----------					
130	M	1,2,4-trichlorobenzene		----------NA----------					
131	M	hexachlorobutadiene		----------NA----------					
132	M	naphthalene		----------NA----------					
133	M	1,2,3-trichlorobenzene		----------NA----------					
134	m	hexachloroethane		----------NA----------					
135		2-ethylhexyl acrylate		----------NA----------					
136		2-methylnaphthalene		----------NA----------					
137	I	pentafluorobenzene(a)	50.00	1.000	1.000	0.0	95	0.00	8.84
		----------TrueValue		CC-RF	Calc.	% Drift		----------	R.T.
138		Freon 142B	50.00	0.420	42.546	14.9	87	0.00	4.11

(#) = Out of Range SPCC's out = 0 CCC's out = 0
4B68758.D M4B2825.M Tue Jan 31 17:12:12 2017 GCMS4B

6.9.3

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Continuing Calibration Summary

Job Number: JC37020 **Sample:** V4B2855-CC2825
Account: UTC United Technologies Corporation **Lab FileID:** 4B69352.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\4B\v4b2855\4B69352.D Vial: 2
Acq On : 16 Feb 2017 9:44 am Operator: Hueanht
Sample : cc2825-20 Inst : MS4B
Misc : MS12524,V4B2855,5,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M4B2825.M (RTE Integrator)
Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
Last Update : Tue Jan 31 16:58:58 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		tert butyl alcohol-d9	1.000	1.000	0.0	87	0.00	6.80
2	M	tertiary butyl alcohol	1.304	1.342	-2.9	91	0.00	6.90
3	M	1,4-dioxane	0.113	0.115	-1.8	88	0.00	10.34
4		Ethanol		----------NA----------				
5	I	pentafluorobenzene	1.000	1.000	0.0	93	0.00	8.84
6		CHLOROTRIFLUOROETHENE		----------NA----------				
7	M	chlorodifluoromethane	0.791	0.917	-15.9	106	-0.01	3.85
8	M	dichlorodifluoromethane	0.686	0.665	3.1	88	0.00	3.82
9		Freon 114		----------NA----------				
10	M	chloromethane	0.343	0.334	2.6	89	0.01	4.19
11	M	vinyl chloride	0.914	0.823	10.0	83	0.00	4.40
12	M	bromomethane	0.423	0.478	-13.0	107	0.00	4.98
13	M	chloroethane	0.408	0.435	-6.6	96	0.00	5.16
14		vinyl bromide	0.571	0.550	3.7	86	0.00	5.45
15	M	trichlorofluoromethane	0.785	0.771	1.8	90	-0.01	5.52
16		1,3-butadiene	0.751	0.691	8.0	74	-0.03	4.44
17		Pentane		----------NA----------				
18		freon 123a		----------NA----------				
19	M	ethyl ether	0.282	0.293	-3.9	89	0.00	5.88
20		2-chloropropane	0.191	0.172	9.9	78	0.00	6.07
21	M	acrolein	0.113	0.105	7.1	87	0.00	6.09
22	M	1,1-dichloroethene	0.463	0.481	-3.9	91	0.00	6.25
23	M	acetone	0.055	0.045	18.2	71	0.00	6.26
		----------	True	Calc.	% Drift	----------		
24	M	allyl chloride	20.000	34.745	-73.7#	185	0.00	6.71
		----------	AvgRF	CCRF	% Dev	----------		
25	M	acetonitrile	0.032	0.036	-12.5	108	0.00	6.62
26	M	iodomethane	0.952	0.779	18.2	72	-0.03	6.48
27	M	carbon disulfide	1.467	1.267	13.6	71	0.00	6.61
28	M	methylene chloride	0.521	0.541	-3.8	93	0.00	6.87
29	M	methyl acetate	0.078	0.080	-2.6	92	0.00	6.65
30		1-chloropropane		----------NA----------				
31	M	methyl tert butyl ether	1.421	1.427	-0.4	89	0.00	7.17
32	M	trans-1,2-dichloroethene	0.466	0.480	-3.0	91	0.00	7.21
33	M	di-isopropyl ether	1.974	2.063	-4.5	96	0.00	7.70
34	M	2-butanone	0.060	0.056	6.7	82	0.00	8.31
35	M	1,1-dichloroethane	0.941	0.984	-4.6	94	0.00	7.73
36	M	chloroprene	0.762	0.818	-7.3	96	0.00	7.82
37	M	acrylonitrile	0.201	0.204	-1.5	90	0.00	7.13

Continuing Calibration Summary

Job Number: JC37020 **Sample:** V4B2855-CC2825
Account: UTC United Technologies Corporation **Lab FileID:** 4B69352.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

38	M	vinyl acetate	0.093	0.089	4.3	87	0.00	7.66
39	M	ethyl tert-butyl ether	1.674	1.690	-1.0	91	0.00	8.11
40	M	ethyl acetate	0.086	0.089	-3.5	93	0.00	8.31
41	M	2,2-dichloropropane	0.467	0.481	-3.0	88	0.00	8.40
42	M	cis-1,2-dichloroethene	0.521	0.551	-5.8	93	0.00	8.37
43		methylacrylate	0.075	0.074	1.3	88	0.00	8.39
44	M	propionitrile	0.074	0.076	-2.7	92	0.00	8.38
45	M	bromochloromethane	0.260	0.278	-6.9	91	0.00	8.64
46	M	tetrahydrofuran	0.176	0.174	1.1	89	0.00	8.66
47	M	chloroform	0.568	0.580	-2.1	94	0.00	8.71
48	M	T-BUTYL FORMATE	0.410	0.394	3.9	82	0.00	8.74
49	S	dibromofluoromethane (s)	0.422	0.439	-4.0	96	0.00	8.89
50	S	1,2-dichloroethane-d4 (s)	0.457	0.490	-7.2	100	0.00	9.29
51	M	freon 113	0.397	0.335	15.6	74	-0.01	6.24
52	M	methacrylonitrile	0.369	0.360	2.4	93	0.00	8.56
53	M	1,1,1-trichloroethane	0.659	0.676	-2.6	90	0.00	8.95
54	M	cyclohexane	0.676	0.583	13.8	74	0.00	9.06
55		iso-butyl alcohol		----------NA----------				
56	I	1,4-difluorobenzene	1.000	1.000	0.0	93	0.00	9.71
57	M	epichlorohydrin	0.038	0.039	-2.6	90	0.00	10.87
58	M	n-butyl alcohol	0.012	0.012	0.0	91	0.00	9.75
59	M	carbon tetrachloride	0.420	0.435	-3.6	90	0.00	9.13
60	M	1,1-dichloropropene	0.490	0.511	-4.3	94	0.00	9.11
61	M	hexane	0.574	0.588	-2.4	88	0.00	7.52
62		Tert Amyl alcohol	0.019	0.016	15.8	81	0.00	9.20
63	M	benzene	1.432	1.440	-0.6	93	0.00	9.34
64	m	iso-octane	1.526	1.533	-0.5	90	0.00	9.42
65	M	tert-amyl methyl ether	0.223	0.230	-3.1	91	0.00	9.40
66	M	heptane	0.361	0.386	-6.9	97	0.00	9.55
67	M	isopropyl acetate	0.148	0.166	-12.2	100	0.00	9.23
68	M	1,2-dichloroethane	0.458	0.501	-9.4	98	0.00	9.37
69	M	trichloroethene	0.359	0.374	-4.2	92	0.00	10.01
70		Tert-amyl Ethyl Ether		----------NA----------				
71		ethyl acrylate	0.467	0.444	4.9	87	0.00	9.99
72	M	2-nitropropane	0.144	0.149	-3.5	93	0.00	10.75
73	M	2-chloroethyl vinyl ether	0.242	0.244	-0.8	92	0.00	10.77
74	M	methyl methacrylate	0.100	0.096	4.0	85	0.00	10.24
75	M	1,2-dichloropropane	0.389	0.418	-7.5	94	0.00	10.30
76	M	dibromomethane	0.231	0.240	-3.9	96	0.00	10.41
77	M	methylcyclohexane	0.600	0.619	-3.2	90	0.00	10.30
78	M	bromodichloromethane	0.467	0.521	-11.6	99	0.00	10.55
79	M	cis-1,3-dichloropropene	0.624	0.651	-4.3	91	0.00	11.00
80	S	toluene-d8 (s)	1.155	1.169	-1.2	94	0.00	11.31
81	M	4-methyl-2-pentanone	0.159	0.155	2.5	90	0.00	11.10
82	M	toluene	0.907	0.891	1.8	92	0.00	11.38
83	M	3-methyl-1-butanol	0.016	0.017	-6.3	94	0.00	11.09
84	M	trans-1,3-dichloropropene	0.540	0.557	-3.1	91	0.00	11.58
85	M	ethyl methacrylate	0.495	0.470	5.1	85	0.00	11.55
86	M	1,1,2-trichloroethane	0.290	0.301	-3.8	95	0.00	11.81
87	M	2-hexanone	0.163	0.149	8.6	82	0.00	11.97
88	I	chlorobenzene-d5	1.000	1.000	0.0	95	0.00	12.91
89	M	tetrachloroethene	0.411	0.386	6.1	93	0.00	11.96
90	M	1,3-dichloropropane	0.631	0.610	3.3	96	0.00	12.00
91	M	butyl acetate	0.291	0.278	4.5	90	0.00	12.05
92	M	3,3-DIMETHYL-1-BUTANOL	0.036	0.033	8.3	89	0.00	12.15
93	M	dibromochloromethane	0.394	0.422	-7.1	96	0.00	12.26
94	M	1,2-dibromoethane	0.414	0.397	4.1	93	0.00	12.43
95		n-butyl ether	1.882	1.678	10.8	85	0.00	12.88

Continuing Calibration Summary

Job Number: JC37020 **Sample:** V4B2855-CC2825
Account: UTC United Technologies Corporation **Lab FileID:** 4B69352.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

96	M	chlorobenzene	1.116	1.059	5.1	92	0.00	12.94
97	M	1,1,1,2-tetrachloroethane	0.397	0.401	-1.0	96	0.00	13.00
98	M	ethylbenzene	1.860	1.797	3.4	93	0.00	13.00
99	M	m,p-xylene	0.729	0.689	5.5	91	0.00	13.13
100	M	o-xylene	0.730	0.708	3.0	91	0.00	13.57
101	M	styrene	1.276	1.202	5.8	91	0.00	13.59
		----------	True	Calc.	% Drift	----------		
102	M	bromoform	20.000	18.150	9.3	97	0.00	13.84
		----------	AvgRF	CCRF	% Dev	----------		
103	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	93	0.00	15.48
104	M	isopropylbenzene	3.278	3.208	2.1	90	0.00	13.95
105	S	4-bromofluorobenzene (s)	0.819	0.828	-1.1	95	0.00	14.18
106		cyclohexanone	0.161	0.061	62.1#	35#	0.00	14.11
107	M	bromobenzene	0.950	0.928	2.3	93	0.00	14.39
108	M	1,1,2,2-tetrachloroethane	0.899	0.913	-1.6	94	0.00	14.27
		----------	True	Calc.	% Drift	----------		
109	M	trans-1,4-dichloro-2-bute	20.000	9.854	50.7#	50	0.00	14.30
		----------	AvgRF	CCRF	% Dev	----------		
110	M	1,2,3-trichloropropane	0.225	0.221	1.8	89	0.00	14.36
111	M	n-propylbenzene	3.774	3.865	-2.4	93	0.00	14.41
112		4-ETHYLTOLUENE		----------NA----------				
113	M	2-chlorotoluene	0.823	0.793	3.6	89	0.00	14.56
114	M	4-chlorotoluene	2.343	2.351	-0.3	92	0.00	14.69
115	M	1,3,5-trimethylbenzene	2.688	2.690	-0.1	91	0.00	14.59
116	M	tert-butylbenzene	2.480	2.460	0.8	91	0.00	14.97
117	M	pentachloroethane	0.526	0.562	-6.8	92	0.00	15.04
118	M	1,2,4-trimethylbenzene	2.735	2.805	-2.6	92	0.00	15.02
119	M	sec-butylbenzene	3.680	3.679	0.0	89	0.00	15.21
120	M	1,3-dichlorobenzene	1.776	1.779	-0.2	92	0.00	15.40
121	M	p-isopropyltoluene	3.201	3.265	-2.0	89	0.00	15.36
122	M	1,4-dichlorobenzene	1.730	1.727	0.2	91	0.00	15.51
123		benzyl chloride	1.530	1.446	5.5	80	0.00	15.61
124	M	1,2-dichlorobenzene	1.724	1.748	-1.4	90	0.00	15.92
125		1,4-DIETHYLBENZENE		----------NA----------				
126	M	n-butylbenzene	1.695	1.753	-3.4	90	0.00	15.81
127		1,2,4,5-TETRAMETHYLBENZEN		----------NA----------				
128	M	1,2-dibromo-3-chloropropa	0.153	0.160	-4.6	96	0.00	16.77
129		1,3,5-TRICHLOROBENZENE	1.523	1.602	-5.2	90	0.00	16.97
130	M	1,2,4-trichlorobenzene	1.356	1.379	-1.7	87	0.00	17.65
131	M	hexachlorobutadiene	0.795	0.798	-0.4	89	0.00	17.77
132	M	naphthalene	2.451	2.380	2.9	86	0.00	17.97
133	M	1,2,3-trichlorobenzene	1.193	1.172	1.8	86	0.00	18.21
134	m	hexachloroethane	0.599	0.571	4.7	86	0.00	16.25
		----------	True	Calc.	% Drift	----------		
135		2-ethylhexyl acrylate	4.000	3.413	14.7	85	0.00	17.66
		----------	AvgRF	CCRF	% Dev	----------		
136		2-methylnaphthalene	0.593	0.435	26.6#	70	0.00	19.28
137	I	pentafluorobenzene(a)	1.000	1.000	0.0	101	0.00	8.84
		----------	True	Calc.	% Drift	----------		
138		Freon 142B		----------NA----------				

6.9.4 6

Continuing Calibration Summary

Job Number: JC37020
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V4B2855-CC2825
Lab FileID: 4B69352.D

```
(#) = Out of Range                SPCC's out = 0  CCC's out = 0
 4B68757.D  M4B2825.M         Fri Feb 17 12:03:09 2017   11
```

6.9.4 6

Continuing Calibration Summary

Job Number: JC37020 **Sample:** V4B2855-CC2825
Account: UTC United Technologies Corporation **Lab FileID:** 4B69375.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\4B\v4b2855\4B69375.D Vial: 25
Acq On : 16 Feb 2017 8:51 pm Operator: Hueanht
Sample : cc2825-50 Inst : MS4B
Misc : MS12539,V4B2855,5,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M4B2825.M (RTE Integrator)
Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
Last Update : Tue Jan 31 16:58:58 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	tert butyl alcohol-d9	1.000	1.000	0.0	96	0.00	6.80
2 M	tertiary butyl alcohol	1.304	1.339	-2.7	99	0.00	6.91
3 M	1,4-dioxane	0.113	0.111	1.8	91	0.00	10.34
4	Ethanol		----------NA----------				
5 I	pentafluorobenzene	1.000	1.000	0.0	92	0.00	8.84
6	CHLOROTRIFLUOROETHENE		----------NA----------				
7 M	chlorodifluoromethane	0.791	0.921	-16.4	104	0.00	3.86
8 M	dichlorodifluoromethane	0.686	0.674	1.7	82	0.00	3.82
9	Freon 114		----------NA----------				
10 M	chloromethane	0.343	0.337	1.7	89	0.00	4.18
11 M	vinyl chloride	0.914	0.832	9.0	81	0.00	4.40
12 M	bromomethane	0.423	0.482	-13.9	102	0.00	4.98
13 M	chloroethane	0.408	0.425	-4.2	91	0.00	5.16
14	vinyl bromide	0.571	0.565	1.1	86	0.00	5.45
15 M	trichlorofluoromethane	0.785	0.806	-2.7	89	0.00	5.53
16	1,3-butadiene		----------NA----------				
17	Pentane		----------NA----------				
18	freon 123a		----------NA----------				
19 M	ethyl ether	0.282	0.299	-6.0	92	0.00	5.88
20	2-chloropropane	0.191	0.163	14.7	77	0.00	6.07
21 M	acrolein	0.113	0.111	1.8	92	0.00	6.09
22 M	1,1-dichloroethene	0.463	0.505	-9.1	95	0.00	6.25
23 M	acetone	0.055	0.045	18.2	73	0.00	6.26
	----------	True	Calc.	% Drift	----------		
24 M	allyl chloride	50.000	107.399	-114.8#	201	0.00	6.71
	----------	AvgRF	CCRF	% Dev	----------		
25 M	acetonitrile	0.032	0.037	-15.6	111	0.00	6.62
26 M	iodomethane	0.952	0.802	15.8	74	-0.03	6.48
27 M	carbon disulfide	1.467	1.243	15.3	69	0.00	6.61
28 M	methylene chloride	0.521	0.552	-6.0	95	0.00	6.87
29 M	methyl acetate	0.078	0.081	-3.8	92	0.00	6.66
30	1-chloropropane		----------NA----------				
31 M	methyl tert butyl ether	1.421	1.443	-1.5	92	0.00	7.17
32 M	trans-1,2-dichloroethene	0.466	0.480	-3.0	92	0.00	7.21
33 M	di-isopropyl ether	1.974	1.971	0.2	94	0.00	7.69
34 M	2-butanone	0.060	0.060	0.0	87	0.00	8.30
35 M	1,1-dichloroethane	0.941	0.965	-2.6	93	0.00	7.73
36 M	chloroprene	0.762	0.806	-5.8	94	0.00	7.82
37 M	acrylonitrile	0.201	0.202	-0.5	92	0.00	7.13

Continuing Calibration Summary

Job Number: JC37020 **Sample:** V4B2855-CC2825
Account: UTC United Technologies Corporation **Lab FileID:** 4B69375.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

38	M	vinyl acetate	0.093	0.098	-5.4	91	0.00	7.66
39	M	ethyl tert-butyl ether	1.674	1.693	-1.1	92	0.00	8.11
40	M	ethyl acetate	0.086	0.090	-4.7	92	0.00	8.31
41	M	2,2-dichloropropane	0.467	0.438	6.2	83	0.00	8.39
42	M	cis-1,2-dichloroethene	0.521	0.545	-4.6	92	0.00	8.37
43		methylacrylate	0.075	0.079	-5.3	94	0.00	8.39
44	M	propionitrile	0.074	0.075	-1.4	97	0.00	8.38
45	M	bromochloromethane	0.260	0.286	-10.0	93	0.00	8.64
46	M	tetrahydrofuran	0.176	0.178	-1.1	94	0.00	8.66
47	M	chloroform	0.568	0.581	-2.3	96	0.00	8.71
48	M	T-BUTYL FORMATE	0.410	0.420	-2.4	87	0.00	8.74
49	S	dibromofluoromethane (s)	0.422	0.445	-5.5	95	0.00	8.89
50	S	1,2-dichloroethane-d4 (s)	0.457	0.479	-4.8	97	0.00	9.29
51	M	freon 113	0.397	0.375	5.5	80	0.00	6.26
52	M	methacrylonitrile	0.369	0.373	-1.1	94	0.00	8.56
53	M	1,1,1-trichloroethane	0.659	0.693	-5.2	90	0.00	8.96
54	M	cyclohexane	0.676	0.603	10.8	72	0.00	9.06
55		iso-butyl alcohol		----------NA----------				
56	I	1,4-difluorobenzene	1.000	1.000	0.0	92	0.00	9.71
57	M	epichlorohydrin	0.038	0.040	-5.3	95	0.00	10.87
58	M	n-butyl alcohol	0.012	0.011	8.3	102	0.00	9.75
59	M	carbon tetrachloride	0.420	0.435	-3.6	89	0.00	9.13
60	M	1,1-dichloropropene	0.490	0.497	-1.4	91	0.00	9.11
61	M	hexane	0.574	0.579	-0.9	84	0.00	7.51
62		Tert Amyl alcohol	0.019	0.017	10.5	96	0.00	9.21
63	M	benzene	1.432	1.418	1.0	92	0.00	9.34
64	m	iso-octane	1.526	1.493	2.2	86	0.00	9.42
65	M	tert-amyl methyl ether	0.223	0.230	-3.1	92	0.00	9.40
66	M	heptane	0.361	0.381	-5.5	92	0.00	9.55
67	M	isopropyl acetate	0.148	0.157	-6.1	92	0.00	9.23
68	M	1,2-dichloroethane	0.458	0.483	-5.5	97	0.00	9.37
69	M	trichloroethene	0.359	0.380	-5.8	94	0.00	10.01
70		Tert-amyl Ethyl Ether		----------NA----------				
71		ethyl acrylate	0.467	0.472	-1.1	91	0.00	9.99
72	M	2-nitropropane	0.144	0.152	-5.6	96	0.00	10.75
73	M	2-chloroethyl vinyl ether	0.242	0.248	-2.5	94	0.00	10.77
74	M	methyl methacrylate	0.100	0.104	-4.0	89	0.00	10.24
75	M	1,2-dichloropropane	0.389	0.405	-4.1	94	0.00	10.30
76	M	dibromomethane	0.231	0.241	-4.3	95	0.00	10.41
77	M	methylcyclohexane	0.600	0.609	-1.5	87	0.00	10.30
78	M	bromodichloromethane	0.467	0.522	-11.8	96	0.00	10.55
79	M	cis-1,3-dichloropropene	0.624	0.661	-5.9	90	0.00	11.00
80	S	toluene-d8 (s)	1.155	1.164	-0.8	93	0.00	11.31
81	M	4-methyl-2-pentanone	0.159	0.158	0.6	96	0.00	11.09
82	M	toluene	0.907	0.892	1.7	91	0.00	11.38
83	M	3-methyl-1-butanol	0.016	0.018	-12.5	107	0.00	11.08
84	M	trans-1,3-dichloropropene	0.540	0.570	-5.6	92	0.00	11.58
85	M	ethyl methacrylate	0.495	0.506	-2.2	90	0.00	11.55
86	M	1,1,2-trichloroethane	0.290	0.309	-6.6	96	0.00	11.81
87	M	2-hexanone	0.163	0.157	3.7	91	0.00	11.97
88	I	chlorobenzene-d5	1.000	1.000	0.0	94	0.00	12.91
89	M	tetrachloroethene	0.411	0.390	5.1	91	0.00	11.96
90	M	1,3-dichloropropane	0.631	0.603	4.4	95	0.00	12.00
91	M	butyl acetate	0.291	0.287	1.4	92	0.00	12.05
92	M	3,3-DIMETHYL-1-BUTANOL	0.036	0.037	-2.8	104	0.00	12.15
93	M	dibromochloromethane	0.394	0.449	-14.0	94	0.00	12.26
94	M	1,2-dibromoethane	0.414	0.420	-1.4	94	0.00	12.43
95		n-butyl ether	1.882	1.748	7.1	87	0.00	12.88

Continuing Calibration Summary

Job Number: JC37020 **Sample:** V4B2855-CC2825
Account: UTC United Technologies Corporation **Lab FileID:** 4B69375.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

96	M	chlorobenzene	1.116	1.086	2.7	92	0.00	12.94
97	M	1,1,1,2-tetrachloroethane	0.397	0.405	-2.0	94	0.00	13.01
98	M	ethylbenzene	1.860	1.792	3.7	93	0.00	13.00
99	M	m,p-xylene	0.729	0.699	4.1	91	0.00	13.13
100	M	o-xylene	0.730	0.736	-0.8	91	0.00	13.57
101	M	styrene	1.276	1.204	5.6	90	0.00	13.59
		----------	True	Calc.	% Drift	----------		
102	M	bromoform	50.000	48.972	2.1	93	0.00	13.84
		----------	AvgRF	CCRF	% Dev	----------		
103	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	92	0.00	15.48
104	M	isopropylbenzene	3.278	3.219	1.8	90	0.00	13.95
105	S	4-bromofluorobenzene (s)	0.819	0.836	-2.1	95	0.00	14.18
106		cyclohexanone	0.161	0.039	75.8#	24#	0.00	14.10
107	M	bromobenzene	0.950	0.940	1.1	92	0.00	14.39
108	M	1,1,2,2-tetrachloroethane	0.899	0.946	-5.2	95	0.00	14.27
		----------	True	Calc.	% Drift	----------		
109	M	trans-1,4-dichloro-2-bute	50.000	37.399	25.2#	71	0.00	14.30
		----------	AvgRF	CCRF	% Dev	----------		
110	M	1,2,3-trichloropropane	0.225	0.234	-4.0	96	0.00	14.36
111	M	n-propylbenzene	3.774	3.734	1.1	90	0.00	14.41
112		4-ETHYLTOLUENE		----------NA----------				
113	M	2-chlorotoluene	0.823	0.820	0.4	90	0.00	14.56
114	M	4-chlorotoluene	2.343	2.349	-0.3	91	0.00	14.69
115	M	1,3,5-trimethylbenzene	2.688	2.632	2.1	89	0.00	14.58
116	M	tert-butylbenzene	2.480	2.469	0.4	90	0.00	14.97
117	M	pentachloroethane	0.526	0.565	-7.4	92	0.00	15.04
118	M	1,2,4-trimethylbenzene	2.735	2.750	-0.5	90	0.00	15.02
119	M	sec-butylbenzene	3.680	3.685	-0.1	88	0.00	15.21
120	M	1,3-dichlorobenzene	1.776	1.746	1.7	90	0.00	15.40
121	M	p-isopropyltoluene	3.201	3.238	-1.2	88	0.00	15.35
122	M	1,4-dichlorobenzene	1.730	1.742	-0.7	91	0.00	15.51
123		benzyl chloride	1.530	1.431	6.5	75	0.00	15.61
124	M	1,2-dichlorobenzene	1.724	1.759	-2.0	92	0.00	15.92
125		1,4-DIETHYLBENZENE		----------NA----------				
126	M	n-butylbenzene	1.695	1.706	-0.6	86	0.00	15.81
127		1,2,4,5-TETRAMETHYLBENZEN		----------NA----------				
128	M	1,2-dibromo-3-chloropropa	0.153	0.179	-17.0	100	0.00	16.77
129		1,3,5-TRICHLOROBENZENE	1.523	1.576	-3.5	90	0.00	16.97
130	M	1,2,4-trichlorobenzene	1.356	1.385	-2.1	87	0.00	17.65
131	M	hexachlorobutadiene	0.795	0.721	9.3	83	0.00	17.77
132	M	naphthalene	2.451	2.539	-3.6	91	0.00	17.97
133	M	1,2,3-trichlorobenzene	1.193	1.193	0.0	87	0.00	18.20
134	m	hexachloroethane	0.599	0.603	-0.7	84	0.00	16.25
		----------	True	Calc.	% Drift	----------		
135		2-ethylhexyl acrylate	10.000	9.504	5.0	101	0.00	17.66
		----------	AvgRF	CCRF	% Dev	----------		
136		2-methylnaphthalene	0.593	0.545	8.1	76	0.00	19.27
137	I	pentafluorobenzene(a)	1.000	1.000	0.0	96	0.00	8.84
		----------	True	Calc.	% Drift	----------		
138		Freon 142B		----------NA----------				

6.9.5 6

Continuing Calibration Summary

Job Number: JC37020
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V4B2855-CC2825
Lab FileID: 4B69375.D

```
(#) = Out of Range                SPCC's out = 0  CCC's out = 0
 4B68758.D  M4B2825.M         Fri Feb 17 12:31:55 2017   11
```

6.9.5

6

Continuing Calibration Summary

Job Number: JC37020 **Sample:** V4B2856-CC2825
Account: UTC United Technologies Corporation **Lab FileID:** 4B69386.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\4B\V4B2856-57\4B69386.D Vial: 4
Acq On : 17 Feb 2017 9:42 am Operator: Hueanht
Sample : cc2825-20 Inst : MS4B
Misc : MS12539,V4B2856,5,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M4B2825.M (RTE Integrator)
Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
Last Update : Tue Jan 31 16:58:58 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		tert butyl alcohol-d9	1.000	1.000	0.0	96	0.00	6.80
2	M	tertiary butyl alcohol	1.304	1.299	0.4	97	0.00	6.91
3	M	1,4-dioxane	0.113	0.110	2.7	93	0.00	10.34
4		Ethanol		----------NA----------				
5	I	pentafluorobenzene	1.000	1.000	0.0	89	0.00	8.84
6		CHLOROTRIFLUOROETHENE		----------NA----------				
7	M	chlorodifluoromethane	0.791	0.850	-7.5	94	0.00	3.87
8	M	dichlorodifluoromethane	0.686	0.591	13.8	75	0.00	3.83
9		Freon 114		----------NA----------				
10	M	chloromethane	0.343	0.318	7.3	81	0.00	4.17
11	M	vinyl chloride	0.914	0.844	7.7	81	0.00	4.40
12	M	bromomethane	0.423	0.485	-14.7	104	0.00	4.98
13	M	chloroethane	0.408	0.455	-11.5	97	0.00	5.15
14		vinyl bromide	0.571	0.599	-4.9	90	0.00	5.44
15	M	trichlorofluoromethane	0.785	0.803	-2.3	90	0.00	5.53
16		1,3-butadiene	0.751	0.775	-3.2	80	0.00	4.46
17		Pentane		----------NA----------				
18		freon 123a		----------NA----------				
19	M	ethyl ether	0.282	0.286	-1.4	84	0.00	5.87
20		2-chloropropane	0.191	0.197	-3.1	85	0.00	6.07
21	M	acrolein	0.113	0.109	3.5	87	0.00	6.09
22	M	1,1-dichloroethene	0.463	0.472	-1.9	86	0.00	6.26
23	M	acetone	0.055	0.050	9.1	75	0.00	6.26
		----------	True	Calc.	% Drift	----------		
24	M	allyl chloride	20.000	15.740	21.3#	82	0.00	6.71
		----------	AvgRF	CCRF	% Dev	----------		
25	M	acetonitrile	0.032	0.039	-21.9#	109	0.00	6.62
26	M	iodomethane	0.952	1.001	-5.1	89	0.00	6.51
27	M	carbon disulfide	1.467	1.613	-10.0	86	0.00	6.62
28	M	methylene chloride	0.521	0.544	-4.4	89	0.00	6.87
29	M	methyl acetate	0.078	0.088	-12.8	97	0.00	6.65
30		1-chloropropane		----------NA----------				
31	M	methyl tert butyl ether	1.421	1.408	0.9	85	0.00	7.17
32	M	trans-1,2-dichloroethene	0.466	0.484	-3.9	88	0.00	7.21
33	M	di-isopropyl ether	1.974	2.115	-7.1	94	0.00	7.69
34	M	2-butanone	0.060	0.062	-3.3	86	0.00	8.31
35	M	1,1-dichloroethane	0.941	0.994	-5.6	91	0.00	7.73
36	M	chloroprene	0.762	0.828	-8.7	93	0.00	7.82
37	M	acrylonitrile	0.201	0.208	-3.5	88	0.00	7.13

Continuing Calibration Summary

Job Number: JC37020 **Sample:** V4B2856-CC2825
Account: UTC United Technologies Corporation **Lab FileID:** 4B69386.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

38	M	vinyl acetate	0.093	0.101	-8.6	94	0.00	7.66
39	M	ethyl tert-butyl ether	1.674	1.732	-3.5	90	0.00	8.11
40	M	ethyl acetate	0.086	0.098	-14.0	97	0.00	8.31
41	M	2,2-dichloropropane	0.467	0.522	-11.8	92	0.00	8.39
42	M	cis-1,2-dichloroethene	0.521	0.540	-3.6	88	0.00	8.37
43		methylacrylate	0.075	0.076	-1.3	88	0.00	8.39
44	M	propionitrile	0.074	0.079	-6.8	93	0.00	8.38
45	M	bromochloromethane	0.260	0.276	-6.2	87	0.00	8.64
46	M	tetrahydrofuran	0.176	0.181	-2.8	89	0.00	8.66
47	M	chloroform	0.568	0.589	-3.7	92	0.00	8.71
48	M	T-BUTYL FORMATE	0.410	0.432	-5.4	87	0.00	8.74
49	S	dibromofluoromethane (s)	0.422	0.453	-7.3	95	0.00	8.89
50	S	1,2-dichloroethane-d4 (s)	0.457	0.506	-10.7	99	0.00	9.29
51	M	freon 113	0.397	0.390	1.8	82	0.00	6.26
52	M	methacrylonitrile	0.369	0.370	-0.3	92	0.00	8.56
53	M	1,1,1-trichloroethane	0.659	0.714	-8.3	91	0.00	8.95
54	M	cyclohexane	0.676	0.668	1.2	81	0.00	9.06
55		iso-butyl alcohol		----------NA----------				
56	I	1,4-difluorobenzene	1.000	1.000	0.0	92	0.00	9.71
57	M	epichlorohydrin	0.038	0.042	-10.5	96	0.00	10.87
58	M	n-butyl alcohol	0.012	0.013	-8.3	101	0.00	9.75
59	M	carbon tetrachloride	0.420	0.444	-5.7	90	0.00	9.13
60	M	1,1-dichloropropene	0.490	0.495	-1.0	89	0.00	9.11
61	M	hexane	0.574	0.532	7.3	78	0.00	7.52
62		Tert Amyl alcohol	0.019	0.019	0.0	90	0.00	9.21
63	M	benzene	1.432	1.402	2.1	89	0.00	9.34
64	m	iso-octane	1.526	1.453	4.8	84	0.00	9.41
65	M	tert-amyl methyl ether	0.223	0.232	-4.0	91	0.00	9.40
66	M	heptane	0.361	0.320	11.4	79	0.00	9.55
67	M	isopropyl acetate	0.148	0.153	-3.4	91	0.00	9.23
68	M	1,2-dichloroethane	0.458	0.488	-6.6	94	0.00	9.37
69	M	trichloroethene	0.359	0.371	-3.3	90	0.00	10.01
70		Tert-amyl Ethyl Ether		----------NA----------				
71		ethyl acrylate	0.467	0.437	6.4	84	0.00	9.99
72	M	2-nitropropane	0.144	0.154	-6.9	94	0.00	10.76
73	M	2-chloroethyl vinyl ether	0.242	0.255	-5.4	95	0.00	10.77
74	M	methyl methacrylate	0.100	0.095	5.0	83	0.00	10.24
75	M	1,2-dichloropropane	0.389	0.408	-4.9	90	0.00	10.30
76	M	dibromomethane	0.231	0.242	-4.8	95	0.00	10.41
77	M	methylcyclohexane	0.600	0.572	4.7	82	0.00	10.30
78	M	bromodichloromethane	0.467	0.501	-7.3	93	0.00	10.55
79	M	cis-1,3-dichloropropene	0.624	0.640	-2.6	88	0.00	11.00
80	S	toluene-d8 (s)	1.155	1.161	-0.5	92	0.00	11.31
81	M	4-methyl-2-pentanone	0.159	0.166	-4.4	94	0.00	11.09
82	M	toluene	0.907	0.862	5.0	87	0.00	11.38
83	M	3-methyl-1-butanol	0.016	0.021	-31.3#	112	0.00	11.09
84	M	trans-1,3-dichloropropene	0.540	0.545	-0.9	88	0.00	11.58
85	M	ethyl methacrylate	0.495	0.465	6.1	83	0.00	11.55
86	M	1,1,2-trichloroethane	0.290	0.295	-1.7	92	0.00	11.81
87	M	2-hexanone	0.163	0.163	0.0	89	0.00	11.97
88	I	chlorobenzene-d5	1.000	1.000	0.0	92	0.00	12.91
89	M	tetrachloroethene	0.411	0.369	10.2	86	0.00	11.96
90	M	1,3-dichloropropane	0.631	0.600	4.9	91	0.00	12.00
91	M	butyl acetate	0.291	0.294	-1.0	92	0.00	12.05
92	M	3,3-DIMETHYL-1-BUTANOL	0.036	0.043	-19.4	110	0.00	12.15
93	M	dibromochloromethane	0.394	0.411	-4.3	91	0.00	12.26
94	M	1,2-dibromoethane	0.414	0.396	4.3	90	0.00	12.43
95		n-butyl ether	1.882	1.666	11.5	82	0.00	12.88

Continuing Calibration Summary

Job Number: JC37020 **Sample:** V4B2856-CC2825
Account: UTC United Technologies Corporation **Lab FileID:** 4B69386.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

96	M	chlorobenzene	1.116	1.049	6.0	88	0.00	12.94
97	M	1,1,1,2-tetrachloroethane	0.397	0.395	0.5	92	0.00	13.01
98	M	ethylbenzene	1.860	1.777	4.5	90	0.00	13.00
99	M	m,p-xylene	0.729	0.680	6.7	88	0.00	13.13
100	M	o-xylene	0.730	0.707	3.2	88	0.00	13.57
101	M	styrene	1.276	1.188	6.9	87	0.00	13.59
		----------	True	Calc.	% Drift	----------		
102	M	bromoform	20.000	17.392	13.0	90	0.00	13.84
		----------	AvgRF	CCRF	% Dev	----------		
103	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	92	0.00	15.48
104	M	isopropylbenzene	3.278	3.118	4.9	86	0.00	13.95
105	S	4-bromofluorobenzene (s)	0.819	0.831	-1.5	93	0.00	14.18
106		cyclohexanone	0.161	0.063	60.9#	35#	0.00	14.11
107	M	bromobenzene	0.950	0.918	3.4	90	0.00	14.38
108	M	1,1,2,2-tetrachloroethane	0.899	0.910	-1.2	92	0.00	14.27
		----------	True	Calc.	% Drift	----------		
109	M	trans-1,4-dichloro-2-bute	20.000	11.578	42.1#	59	0.00	14.30
		----------	AvgRF	CCRF	% Dev	----------		
110	M	1,2,3-trichloropropane	0.225	0.227	-0.9	90	0.00	14.36
111	M	n-propylbenzene	3.774	3.767	0.2	89	0.00	14.41
112		4-ETHYLTOLUENE		----------NA----------				
113	M	2-chlorotoluene	0.823	0.795	3.4	88	0.00	14.56
114	M	4-chlorotoluene	2.343	2.337	0.3	90	0.00	14.69
115	M	1,3,5-trimethylbenzene	2.688	2.658	1.1	89	0.00	14.58
116	M	tert-butylbenzene	2.480	2.386	3.8	86	0.00	14.97
117	M	pentachloroethane	0.526	0.553	-5.1	90	0.00	15.04
118	M	1,2,4-trimethylbenzene	2.735	2.777	-1.5	89	0.00	15.02
119	M	sec-butylbenzene	3.680	3.604	2.1	86	0.00	15.21
120	M	1,3-dichlorobenzene	1.776	1.764	0.7	90	0.00	15.40
121	M	p-isopropyltoluene	3.201	3.206	-0.2	86	0.00	15.35
122	M	1,4-dichlorobenzene	1.730	1.712	1.0	89	0.00	15.51
123		benzyl chloride	1.530	1.563	-2.2	85	0.00	15.61
124	M	1,2-dichlorobenzene	1.724	1.742	-1.0	89	0.00	15.92
125		1,4-DIETHYLBENZENE		----------NA----------				
126	M	n-butylbenzene	1.695	1.710	-0.9	87	0.00	15.81
127		1,2,4,5-TETRAMETHYLBENZEN		----------NA----------				
128	M	1,2-dibromo-3-chloropropa	0.153	0.165	-7.8	97	0.00	16.77
129		1,3,5-TRICHLOROBENZENE	1.523	1.578	-3.6	87	0.00	16.97
130	M	1,2,4-trichlorobenzene	1.356	1.336	1.5	83	0.00	17.65
131	M	hexachlorobutadiene	0.795	0.759	4.5	83	0.00	17.77
132	M	naphthalene	2.451	2.331	4.9	83	0.00	17.97
133	M	1,2,3-trichlorobenzene	1.193	1.143	4.2	83	0.00	18.20
134	m	hexachloroethane	0.599	0.570	4.8	85	0.00	16.25
		----------	True	Calc.	% Drift	----------		
135		2-ethylhexyl acrylate	4.000	3.190	20.3#	75	0.00	17.66
		----------	AvgRF	CCRF	% Dev	----------		
136		2-methylnaphthalene	0.593	0.437	26.3#	69	0.00	19.27
137	I	pentafluorobenzene(a)	1.000	1.000	0.0	97	0.00	8.84
		----------	True	Calc.	% Drift	----------		
138		Freon 142B		----------NA----------				

Continuing Calibration Summary

Job Number: JC37020
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V4B2856-CC2825
Lab FileID: 4B69386.D

```
(#) = Out of Range                SPCC's out = 0  CCC's out = 0
 4B68757.D  M4B2825.M        Mon Feb 20 16:55:03 2017   11
```

6.9.6

GC/MS Volatiles

Raw Data

Manual Integrations
APPROVED
(compounds with "m" flag)
MoHui Huang
02/17/17 15:16

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2855\
Data File : 4B69369.D
Acq On : 16 Feb 2017 5:59 pm
Operator : Hueanht
Sample : jc37020-1
Misc : MS12539,V4B2855,5,,,,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Feb 17 12:28:23 2017
Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Thu Feb 16 08:29:28 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	6.807	65	134730	500.00	ug/L	0.00
5) pentafluorobenzene	8.841	168	279184	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.715	114	394415	50.00	ug/L	0.00
88) chlorobenzene-d5	12.905	117	368189	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.479	152	205929	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.841	168	279184	50.00	ug/L	# 0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.888	113	126257	53.55	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 107.10%			
50) 1,2-dichloroethane-d4 (s)	9.286	65	149541	58.56	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 117.12%			
80) toluene-d8 (s)	11.310	98	459320	50.42	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 100.84%			
105) 4-bromofluorobenzene (s)	14.181	95	177879	52.75	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 105.50%			
Target Compounds						Qvalue
22) 1,1-dichloroethene	6.279	96	848m	0.33	ug/L	
31) methyl tert butyl ether	7.178	73	1860	0.23	ug/L	93
35) 1,1-dichloroethane	7.733	63	32875	6.26	ug/L	99
42) cis-1,2-dichloroethene	8.365	96	5899	2.03	ug/L	86
47) chloroform	8.711	85	1952	0.62	ug/L	97
53) 1,1,1-trichloroethane	8.951	97	34341	9.33	ug/L	97
69) trichloroethene	10.013	95	5209	1.84	ug/L	94
89) tetrachloroethene	11.959	164	60632	20.02	ug/L	97

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

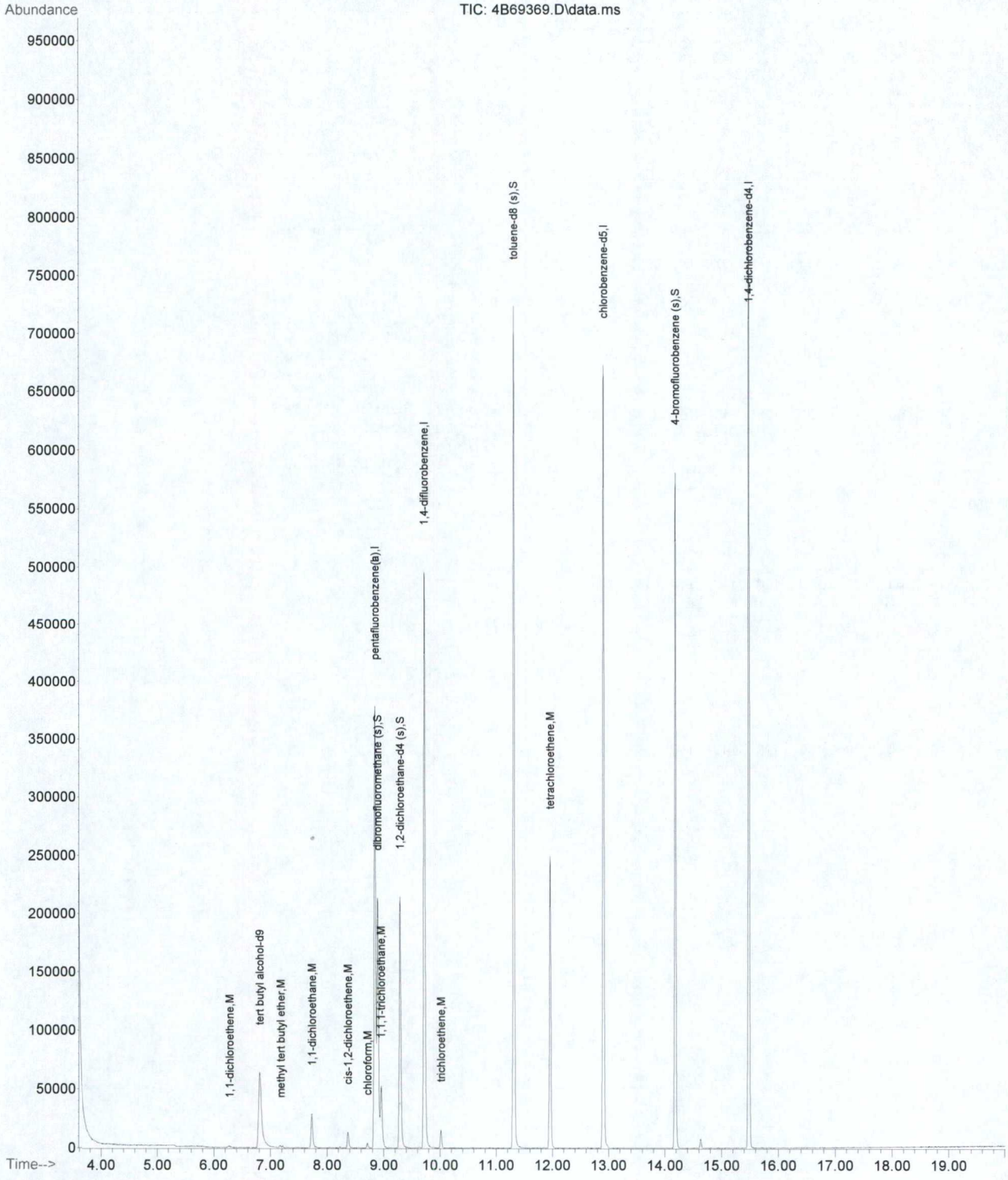
7.1.1

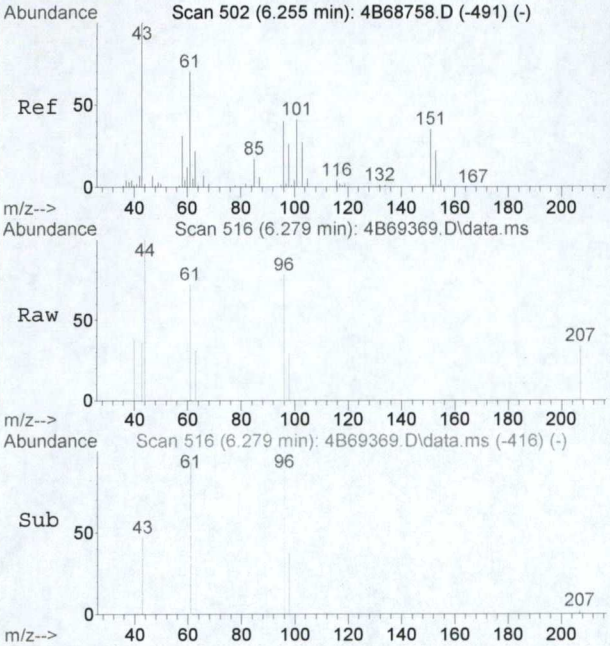
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2855\
Data File : 4B69369.D
Acq On : 16 Feb 2017 5:59 pm
Operator : Hueanht
Sample : jc37020-1
Misc : MS12539,V4B2855,5,,,,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Feb 17 12:28:23 2017
Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Thu Feb 16 08:29:28 2017
Response via : Initial Calibration

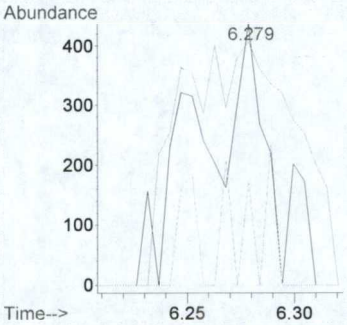


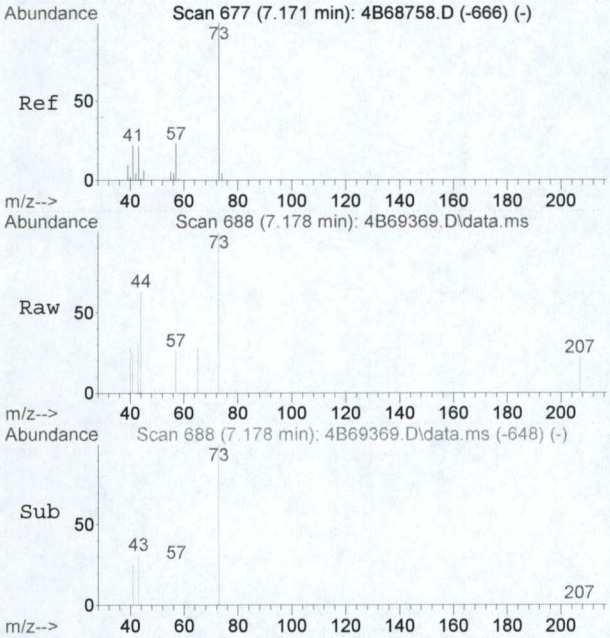


#22
1,1-dichloroethene
Concen: 0.33 ug/L m
RT: 6.279 min Scan# 516
Delta R.T. 0.023 min
Lab File: 4B69369.D
Acq: 16 Feb 2017 5:59 pm

Tgt Ion: 96 Resp: 848

Ion	Ratio	Lower	Upper
96	100		
61	92.9	144.5	204.5#
63	39.5	24.8	84.8

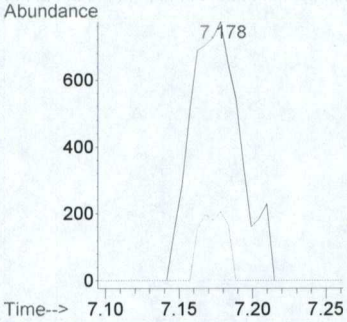




#31
methyl tert butyl ether
Concen: 0.23 ug/L
RT: 7.178 min Scan# 688
Delta R.T. 0.007 min
Lab File: 4B69369.D
Acq: 16 Feb 2017 5:59 pm

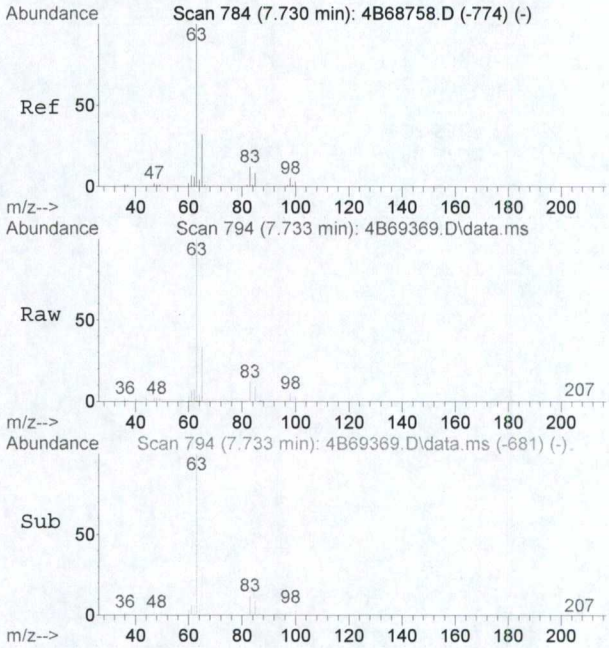
Tgt Ion: 73 Resp: 1860

Ion	Ratio	Lower	Upper
73	100		
57	26.4	0.0	69.3



7.1.1

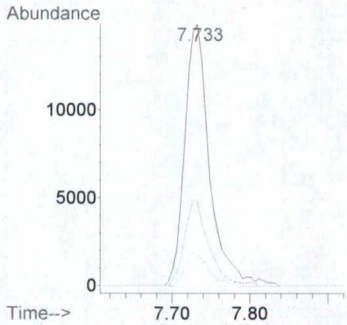
7

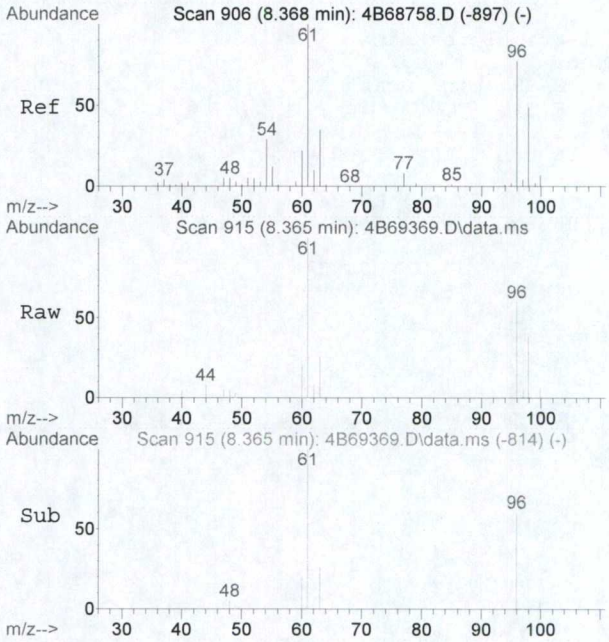


#35
1,1-dichloroethane
Concen: 6.26 ug/L
RT: 7.733 min Scan# 794
Delta R.T. 0.002 min
Lab File: 4B69369.D
Acq: 16 Feb 2017 5:59 pm

Tgt Ion: 63 Resp: 32875

Ion	Ratio	Lower	Upper
63	100		
65	32.6	1.8	61.8
83	11.7	0.0	42.3

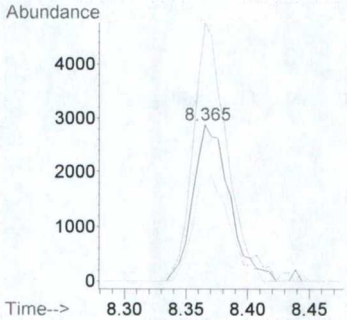




#42
cis-1,2-dichloroethene
Concen: 2.03 ug/L
RT: 8.365 min Scan# 915
Delta R.T. -0.003 min
Lab File: 4B69369.D
Acq: 16 Feb 2017 5:59 pm

Tgt Ion: 96 Resp: 5899

Ion	Ratio	Lower	Upper
96	100		
61	165.5	110.8	170.8
98	63.0	34.1	94.1



7.1.1

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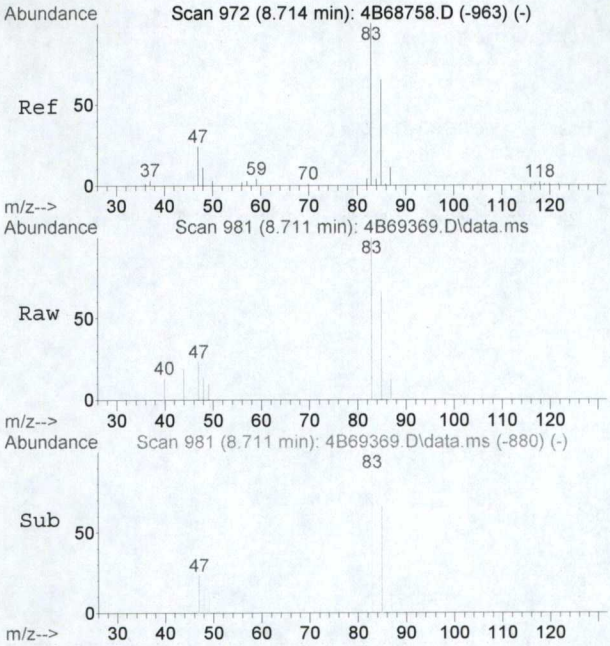
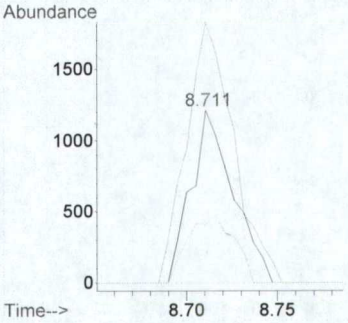
SGS ACCUTEST JC37020

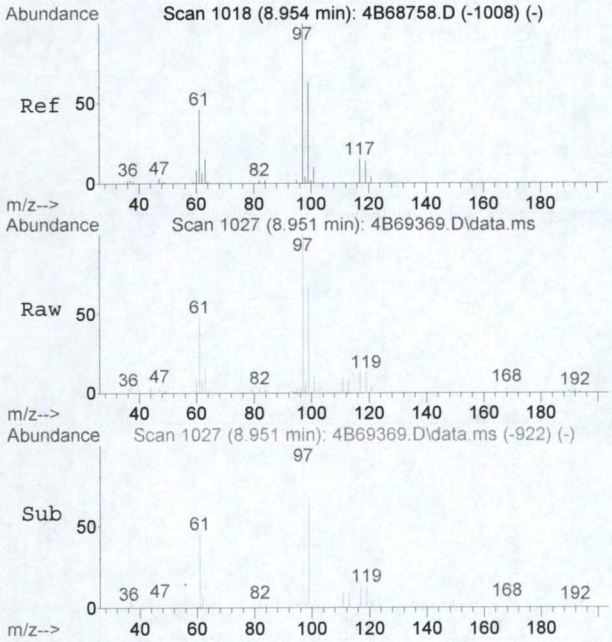


#47
chloroform
Concen: 0.62 ug/L
RT: 8.711 min Scan# 981
Delta R.T. -0.003 min
Lab File: 4B69369.D
Acq: 16 Feb 2017 5:59 pm

Tgt Ion: 85 Resp: 1952

Ion	Ratio	Lower	Upper
85	100		
83	150.5	122.7	182.7
47	34.0	9.0	69.0

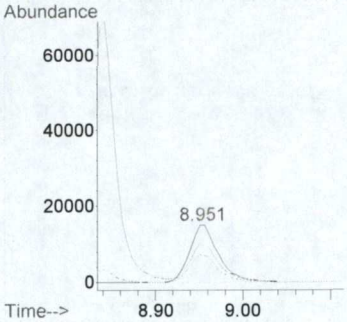




#53
1,1,1-trichloroethane
Concen: 9.33 ug/L
RT: 8.951 min Scan# 1027
Delta R.T. -0.003 min
Lab File: 4B69369.D
Acq: 16 Feb 2017 5:59 pm

Tgt Ion: 97 Resp: 34341

Ion	Ratio	Lower	Upper
97	100		
99	66.6	34.3	94.3
61	48.2	15.9	75.9



7.1.1

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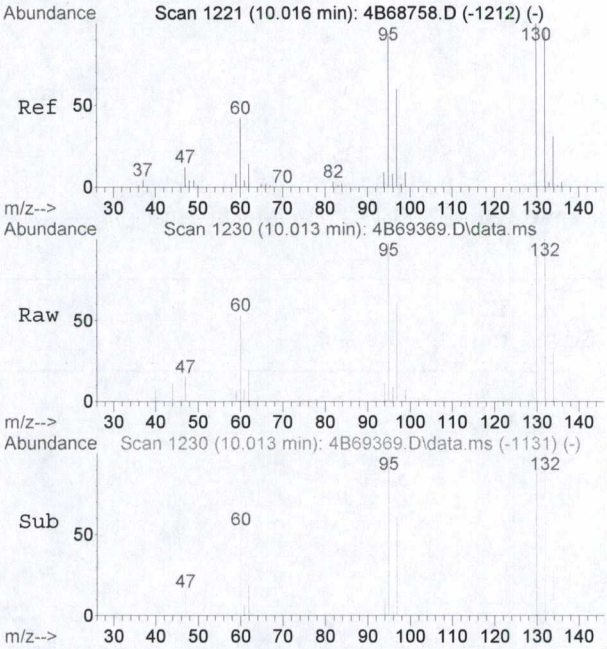
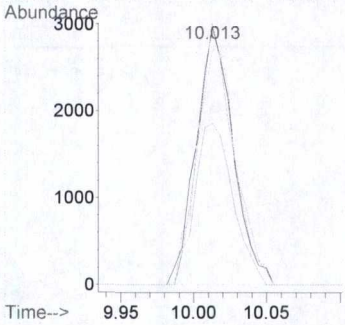
SGS ACCUTEST JC37020

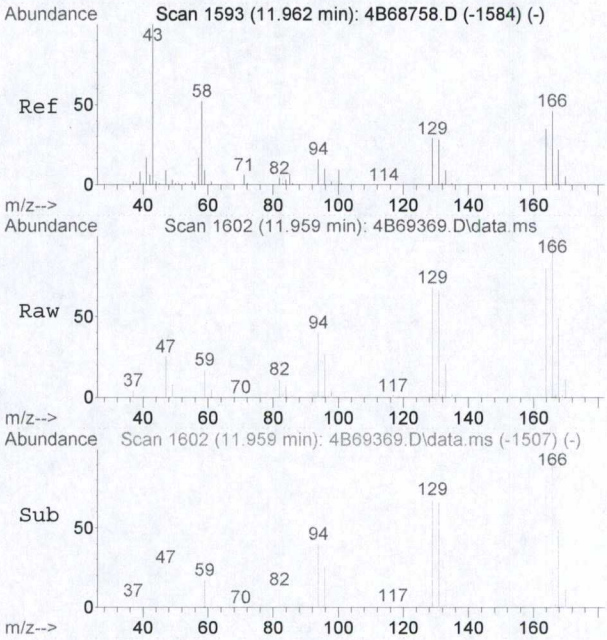


#69
trichloroethene
Concen: 1.84 ug/L
RT: 10.013 min Scan# 1230
Delta R.T. -0.003 min
Lab File: 4B69369.D
Acq: 16 Feb 2017 5:59 pm

Tgt Ion: 95 Resp: 5209

Ion	Ratio	Lower	Upper
95	100		
97	62.7	33.7	93.7
130	91.4	75.9	135.9
132	102.0	72.9	132.9

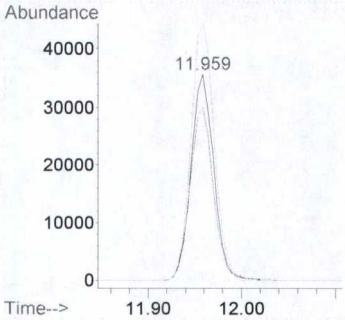




#89
tetrachloroethene
Concen: 20.02 ug/L
RT: 11.959 min Scan# 1602
Delta R.T. -0.003 min
Lab File: 4B69369.D
Acq: 16 Feb 2017 5:59 pm

Tgt Ion:164 Resp: 60632

Ion	Ratio	Lower	Upper
164	100		
129	84.4	53.9	113.9
131	82.2	50.4	110.4
166	124.7	101.4	161.4



7.1.1

7

SGS ACCUTEST JC37020

Manual Integration Approval Summary

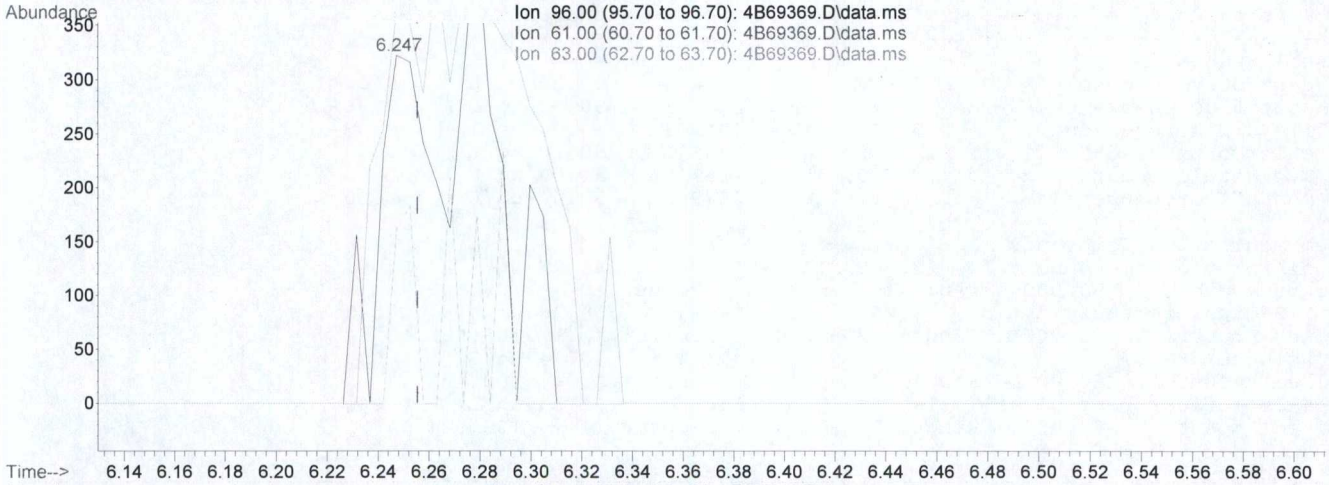
Sample Number:	JC37020-1	**Method:**	SW846 8260C
Lab FileID:	4B69369.D	**Analyst approved:**	02/17/17 12:40 Dong, Mei
Injection Time:	02/16/17 17:59	**Supervisor approved:**	02/17/17 15:16 MoHui Huang

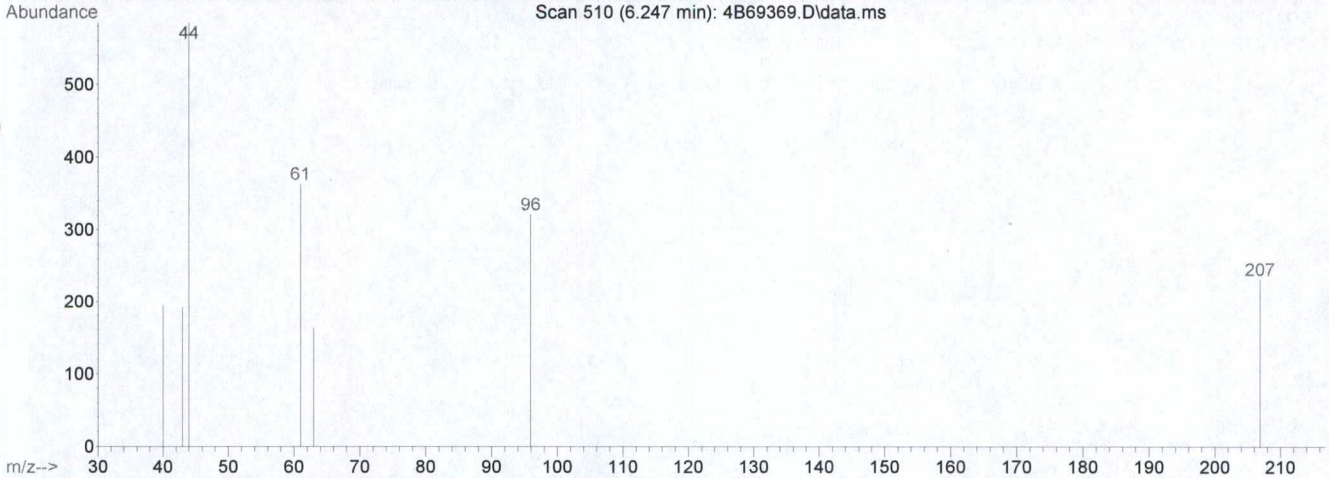
Parameter	CAS	Sig#	R.T. (min.)	Reason
1,1-Dichloroethene	75-35-4		6.28	Split peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\4B\v4b2855\
Data File : 4B69369.D
Acq On : 16 Feb 2017 5:59 pm
Operator : Hueanht
Sample : jc37020-1
Misc : MS12539,V4B2855,5,,,,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Feb 17 08:08:53 2017
Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Thu Feb 16 08:29:28 2017
Response via : Initial Calibration





TIC: 4B69369.D\data.ms

(22) 1,1-dichloroethene (M)

6.247min (-0.008) 0.20ug/L

response 511

Ion	Exp%	Act%
96.00	100	100
61.00	174.50	113.08#
63.00	54.80	50.47
0.00	0.00	0.00

7.1.1.2

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2855\
Data File : 4B69377.D
Acq On : 16 Feb 2017 9:48 pm
Operator : Hueanht
Sample : jc37020-2
Misc : MS12539,V4B2855,5,,,,1
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Feb 17 12:33:41 2017
Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Thu Feb 16 08:29:28 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) tert butyl alcohol-d9	6.807	65	153094	500.00 ug/L	0.00
5) pentafluorobenzene	8.841	168	297965	50.00 ug/L	0.00
56) 1,4-difluorobenzene	9.715	114	406314	50.00 ug/L	0.00
88) chlorobenzene-d5	12.905	117	383532	50.00 ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.479	152	216195	50.00 ug/L	0.00
137) pentafluorobenzene(a)	8.841	168	297965	50.00 ug/L	# 0.00
System Monitoring Compounds					
49) dibromofluoromethane (s)	8.888	113	130230	51.75 ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 103.50%		
50) 1,2-dichloroethane-d4 (s)	9.286	65	147946	54.28 ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 108.56%		
80) toluene-d8 (s)	11.310	98	471417	50.24 ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 100.48%		
105) 4-bromofluorobenzene (s)	14.181	95	181471	51.26 ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 102.52%		
Target Compounds					Qvalue
82) toluene	11.389	92	1720	0.23 ug/L	96

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

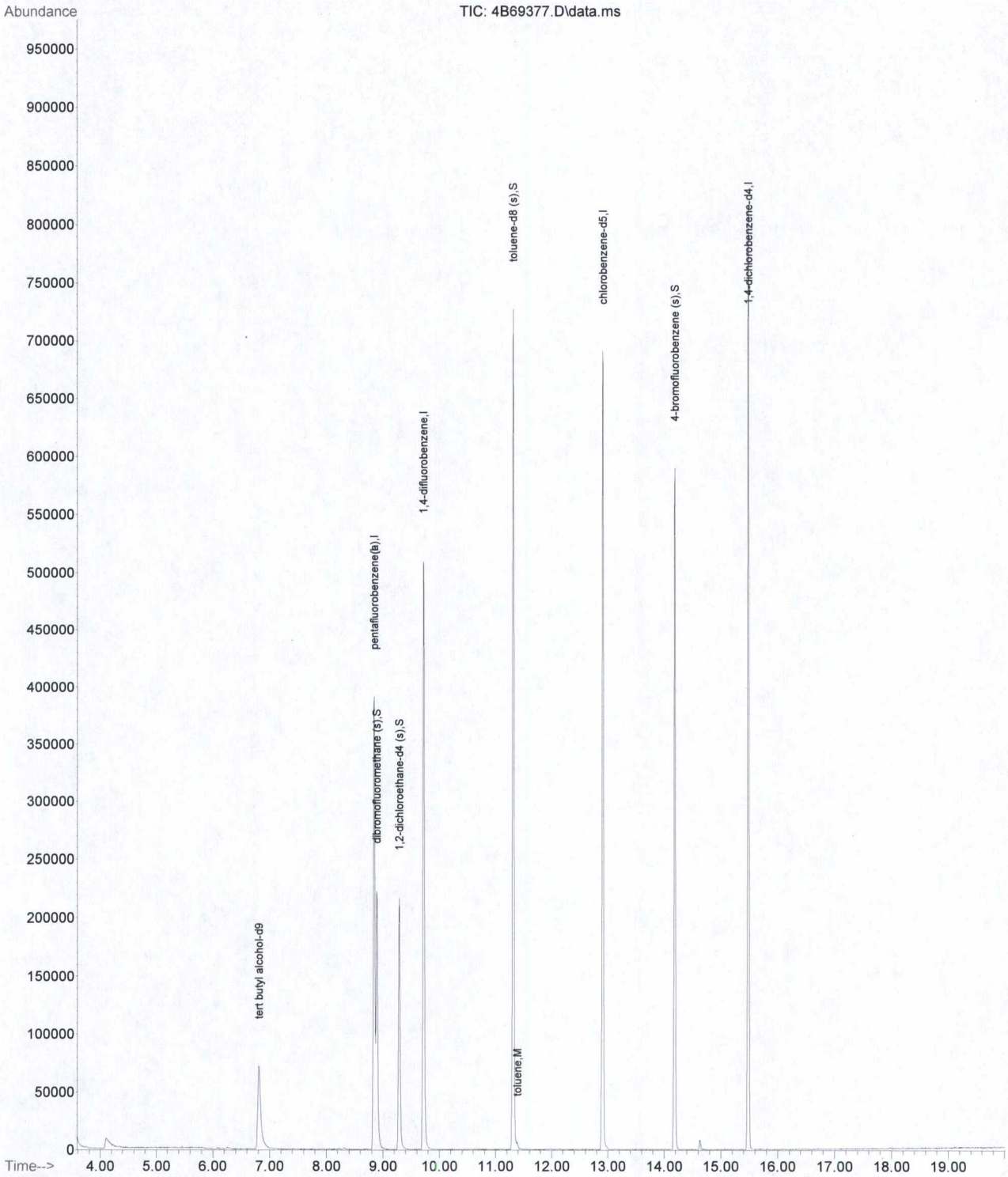
7.1.2

7

Quantitation Report (QT Reviewed)

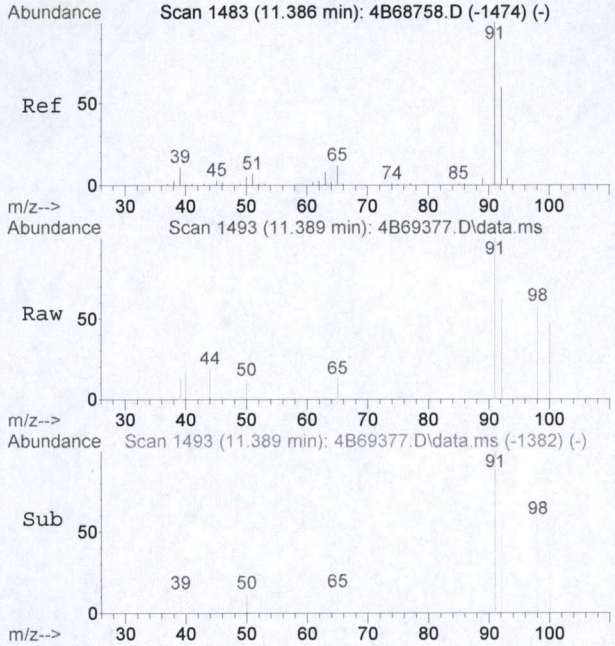
Data Path : C:\msdchem\1\data\4B\v4b2855\
Data File : 4B69377.D
Acq On : 16 Feb 2017 9:48 pm
Operator : Hueanht
Sample : jc37020-2
Misc : MS12539,V4B2855,5,,,,1
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Feb 17 12:33:41 2017
Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Thu Feb 16 08:29:28 2017
Response via : Initial Calibration



M4B2825.M Fri Feb 17 12:39:35 2017 11

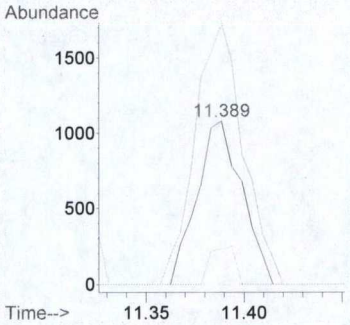
Page: 2



#82
toluene
Concen: 0.23 ug/L
RT: 11.389 min Scan# 1493
Delta R.T. 0.002 min
Lab File: 4B69377.D
Acq: 16 Feb 2017 9:48 pm

Tgt Ion: 92 Resp: 1720

Ion	Ratio	Lower	Upper
92	100		
91	160.1	136.1	196.1
65	21.0	0.0	49.7



7.1.2

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2855\
Data File : 4B69382.D
Acq On : 17 Feb 2017 12:10 am
Operator : Hueanht
Sample : jc37020-3
Misc : MS12539,V4B2855,5,,,,1
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Feb 17 12:37:03 2017
Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Thu Feb 16 08:29:28 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) tert butyl alcohol-d9	6.812	65	136325	500.00 ug/L	0.00
5) pentafluorobenzene	8.842	168	278602	50.00 ug/L	0.00
56) 1,4-difluorobenzene	9.715	114	389487	50.00 ug/L	0.00
88) chlorobenzene-d5	12.905	117	365203	50.00 ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.479	152	208452	50.00 ug/L	0.00
137) pentafluorobenzene(a)	8.842	168	278602	50.00 ug/L	# 0.00
System Monitoring Compounds					
49) dibromofluoromethane (s)	8.889	113	125866	53.50 ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 107.00%		
50) 1,2-dichloroethane-d4 (s)	9.286	65	147177	57.75 ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 115.50%		
80) toluene-d8 (s)	11.310	98	454983	50.58 ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 101.16%		
105) 4-bromofluorobenzene (s)	14.182	95	176342	51.66 ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 103.32%		
Target Compounds					Qvalue
22) 1,1-dichloroethene	6.247	96	1205	0.47 ug/L #	74
31) methyl tert butyl ether	7.178	73	3104	0.39 ug/L	99
35) 1,1-dichloroethane	7.733	63	38920	7.42 ug/L	98
42) cis-1,2-dichloroethene	8.371	96	6422	2.21 ug/L	94
53) 1,1,1-trichloroethane	8.951	97	30512	8.31 ug/L	96
69) trichloroethene	10.013	95	8178	2.92 ug/L	96
89) tetrachloroethene	11.959	164	87001	28.96 ug/L	97

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

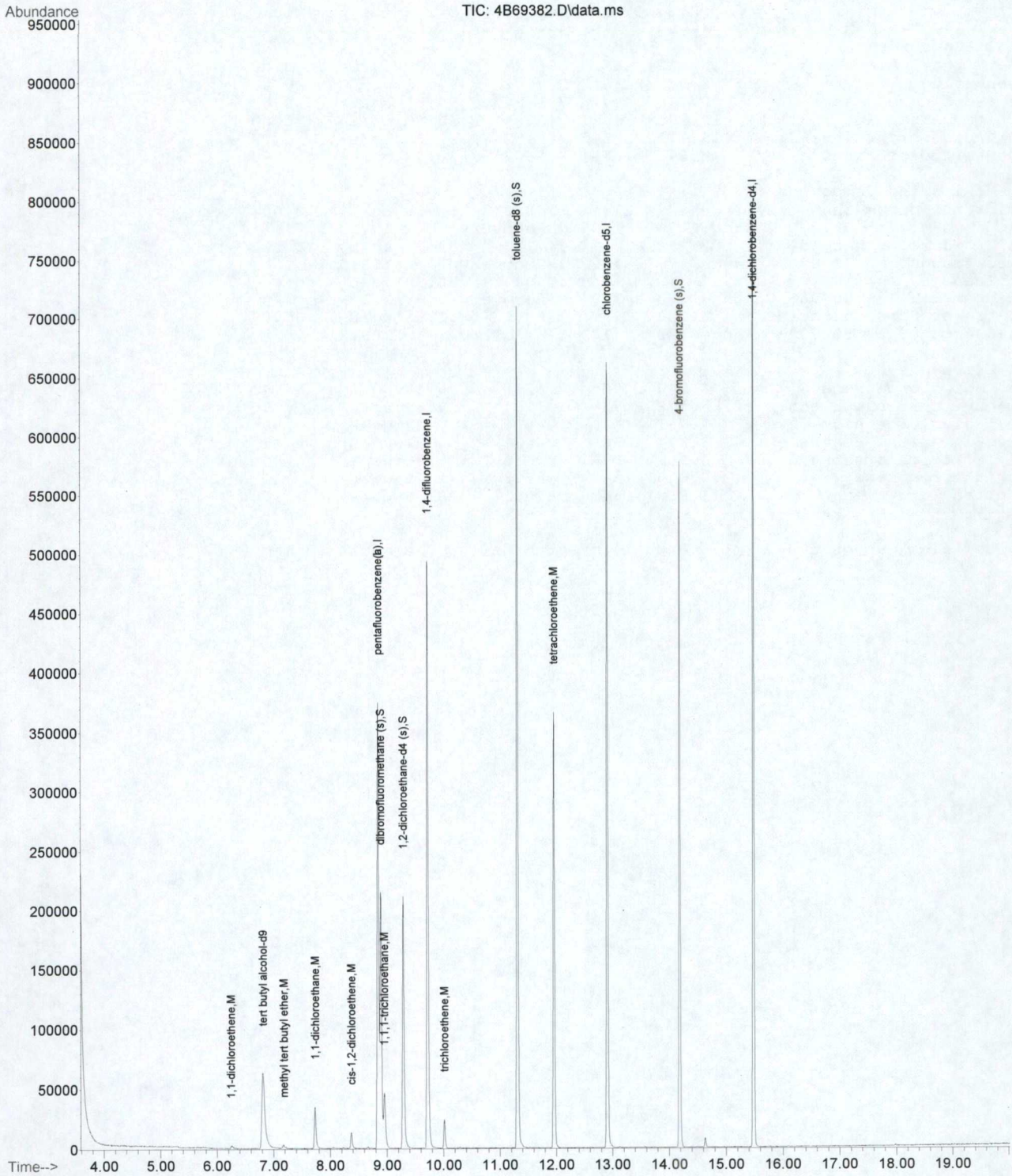
7.1.3

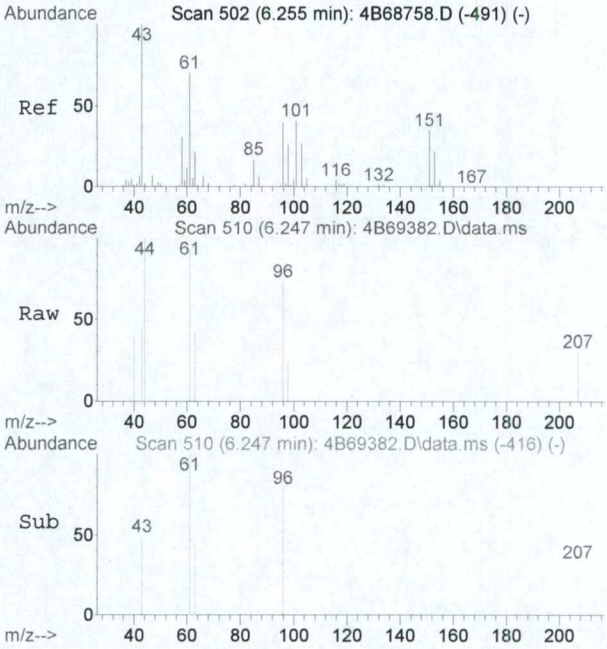
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2855\
Data File : 4B69382.D
Acq On : 17 Feb 2017 12:10 am
Operator : Hueanht
Sample : jc37020-3
Misc : MS12539,V4B2855,5,,,,1
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Feb 17 12:37:03 2017
Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Thu Feb 16 08:29:28 2017
Response via : Initial Calibration

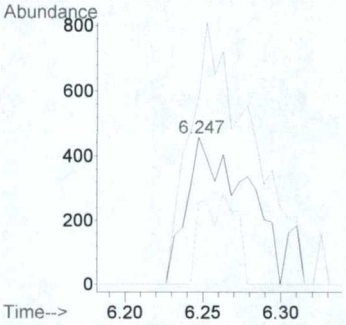


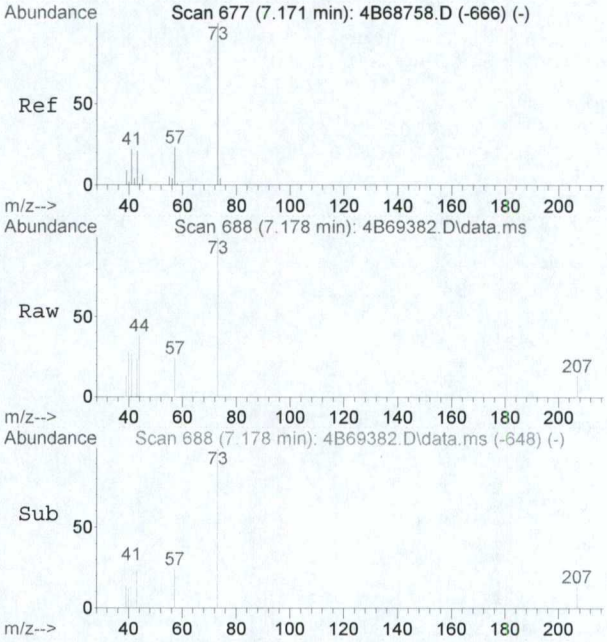


#22
1,1-dichloroethene
Concen: 0.47 ug/L
RT: 6.247 min Scan# 510
Delta R.T. -0.008 min
Lab File: 4B69382.D
Acq: 17 Feb 2017 12:10 am

Tgt Ion: 96 Resp: 1205

Ion	Ratio	Lower	Upper
96	100		
61	127.4	144.5	204.5#
63	56.9	24.8	84.8

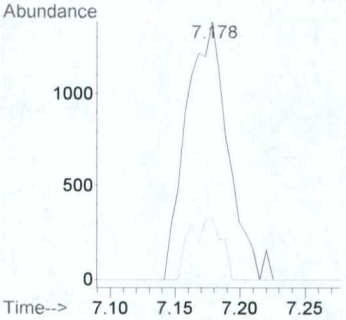




#31
methyl tert butyl ether
Concen: 0.39 ug/L
RT: 7.178 min Scan# 688
Delta R.T. 0.008 min
Lab File: 4B69382.D
Acq: 17 Feb 2017 12:10 am

Tgt Ion: 73 Resp: 3104

Ion	Ratio	Lower	Upper
73	100		
57	23.8	0.0	69.3



7.1.3

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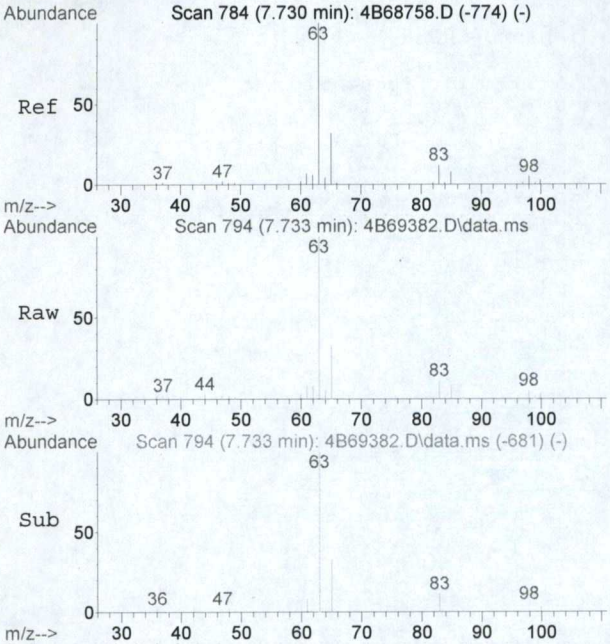
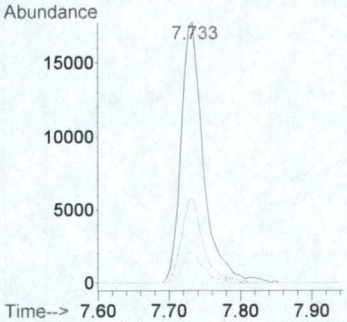
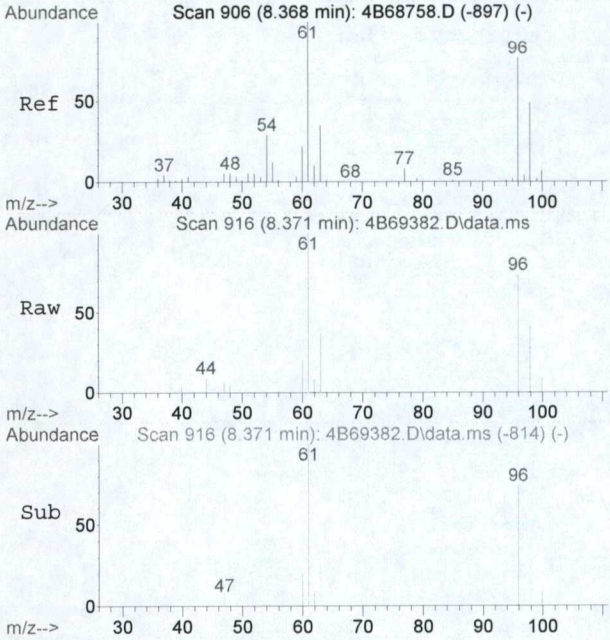


#35
1,1-dichloroethane
Concen: 7.42 ug/L
RT: 7.733 min Scan# 794
Delta R.T. 0.002 min
Lab File: 4B69382.D
Acq: 17 Feb 2017 12:10 am

Tgt Ion: 63 Resp: 38920

Ion	Ratio	Lower	Upper
63	100		
65	32.8	1.8	61.8
83	11.0	0.0	42.3

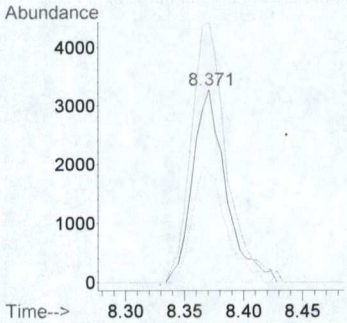




#42
cis-1,2-dichloroethene
Concen: 2.21 ug/L
RT: 8.371 min Scan# 916
Delta R.T. 0.002 min
Lab File: 4B69382.D
Acq: 17 Feb 2017 12:10 am

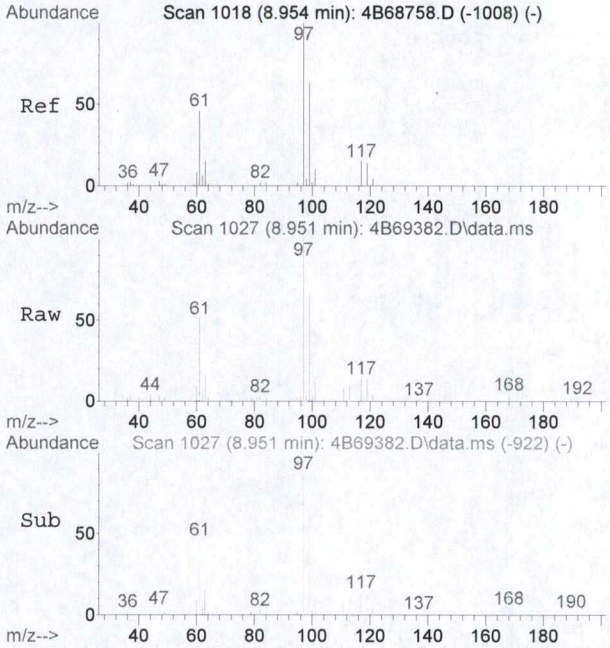
Tgt Ion: 96 Resp: 6422

Ion	Ratio	Lower	Upper
96	100		
61	135.8	110.8	170.8
98	56.2	34.1	94.1



7.1.3

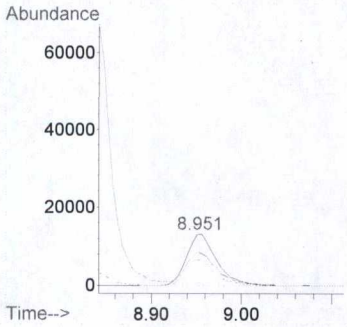
7

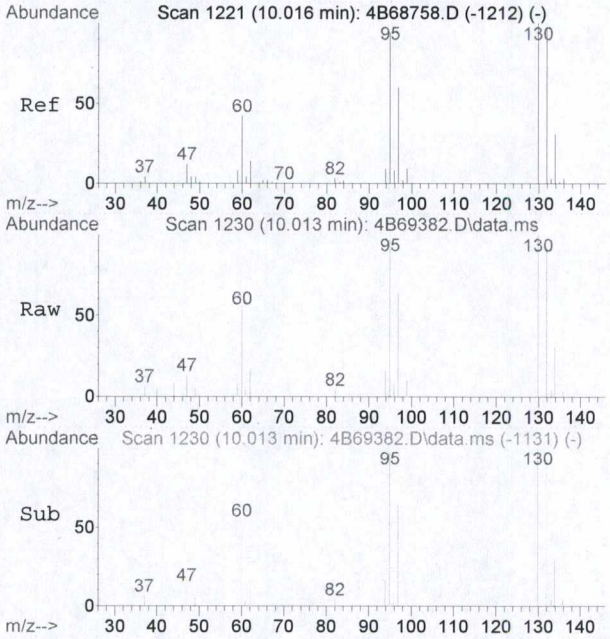


#53
1,1,1-trichloroethane
Concen: 8.31 ug/L
RT: 8.951 min Scan# 1027
Delta R.T. -0.003 min
Lab File: 4B69382.D
Acq: 17 Feb 2017 12:10 am

Tgt Ion: 97 Resp: 30512

Ion	Ratio	Lower	Upper
97	100		
99	65.7	34.3	94.3
61	50.8	15.9	75.9

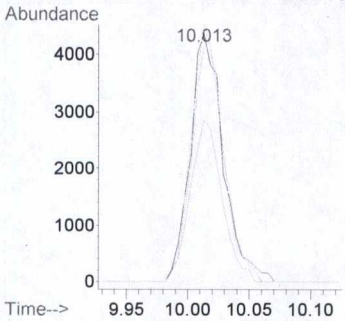




#69
trichloroethene
Concen: 2.92 ug/L
RT: 10.013 min Scan# 1230
Delta R.T. -0.003 min
Lab File: 4B69382.D
Acq: 17 Feb 2017 12:10 am

Tgt Ion: 95 Resp: 8178

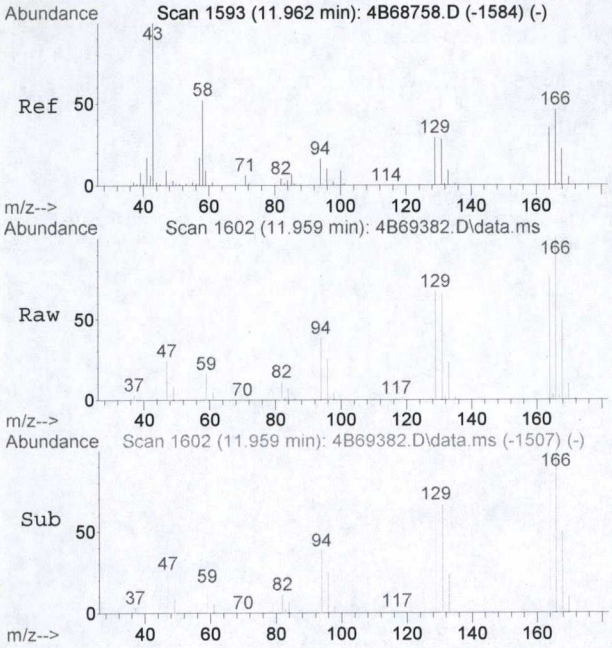
Ion	Ratio	Lower	Upper
95	100		
97	65.9	33.7	93.7
130	103.6	75.9	135.9
132	95.1	72.9	132.9



7.1.3

7

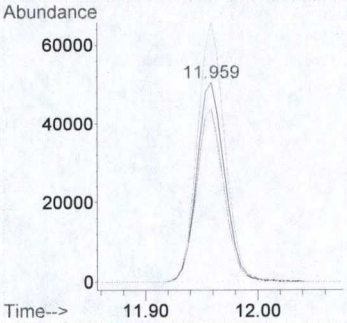
SGS ACCUTEST JC37020



#89
tetrachloroethene
Concen: 28.96 ug/L
RT: 11.959 min Scan# 1602
Delta R.T. -0.003 min
Lab File: 4B69382.D
Acq: 17 Feb 2017 12:10 am

Tgt Ion:164 Resp: 87001

Ion	Ratio	Lower	Upper
164	100		
129	86.8	53.9	113.9
131	86.2	50.4	110.4
166	130.5	101.4	161.4



7.1.3

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\V4B2856-57\
Data File : 4B69402.D
Acq On : 17 Feb 2017 5:29 pm
Operator : Hueanht
Sample : jc37020-4
Misc : MS12539,V4B2856,5,,,,1
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Feb 20 17:02:23 2017
Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Tue Jan 31 16:58:58 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) tert butyl alcohol-d9	6.812	65	139915	500.00 ug/L	0.00
5) pentafluorobenzene	8.841	168	285313	50.00 ug/L	0.00
56) 1,4-difluorobenzene	9.715	114	399104	50.00 ug/L	0.00
88) chlorobenzene-d5	12.905	117	374313	50.00 ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.479	152	212707	50.00 ug/L	0.00
137) pentafluorobenzene(a)	8.841	168	285313	50.00 ug/L	# 0.00
System Monitoring Compounds					
49) dibromofluoromethane (s)	8.889	113	128631	53.39 ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 106.78%		
50) 1,2-dichloroethane-d4 (s)	9.286	65	147278	56.43 ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 112.86%		
80) toluene-d8 (s)	11.310	98	460079	49.91 ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 99.82%		
105) 4-bromofluorobenzene (s)	14.182	95	177628	51.00 ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 102.00%		
Target Compounds					Qvalue
53) 1,1,1-trichloroethane	8.951	97	4347	1.16 ug/L	95
89) tetrachloroethene	11.959	164	7157	2.32 ug/L	94

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

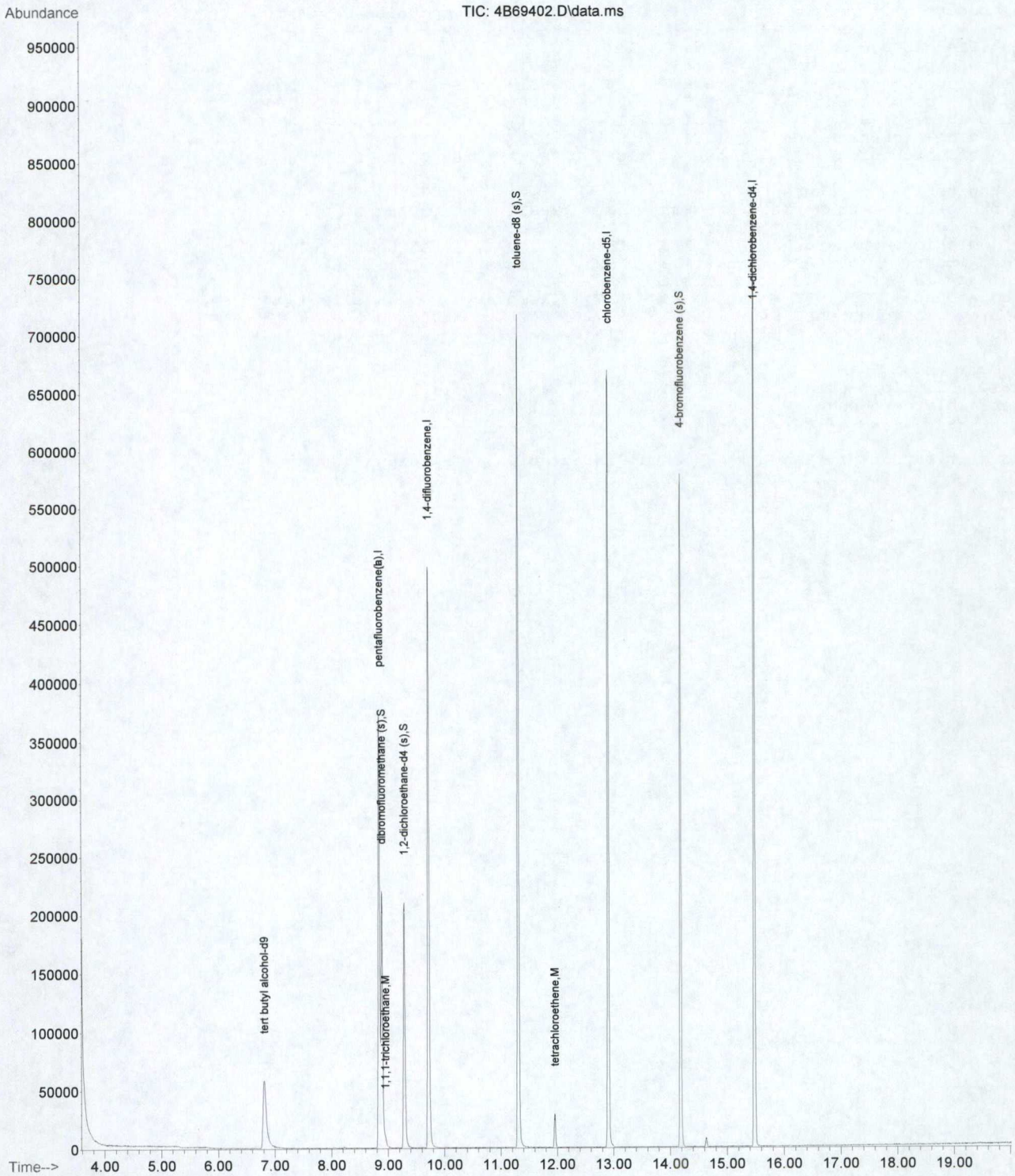
7.1.4

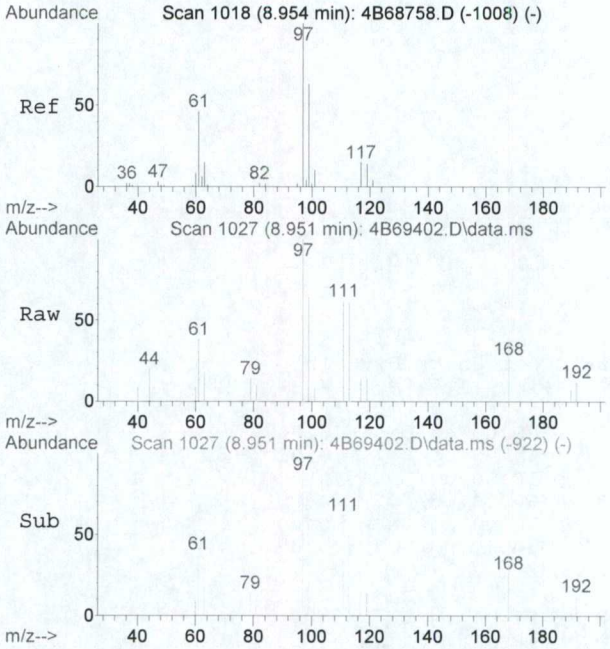
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\V4B2856-57\
Data File : 4B69402.D
Acq On : 17 Feb 2017 5:29 pm
Operator : Hueanht
Sample : jc37020-4
Misc : MS12539,V4B2856,5,,,,1
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Feb 20 17:02:23 2017
Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Tue Jan 31 16:58:58 2017
Response via : Initial Calibration

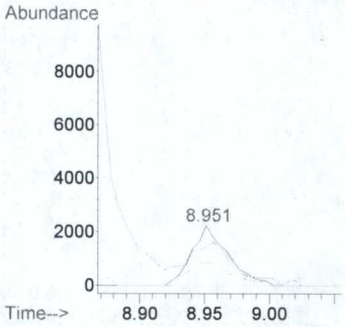


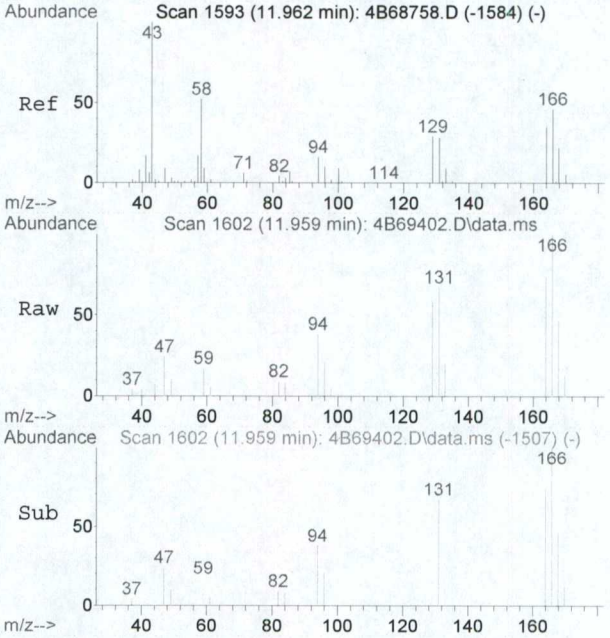


#53
1,1,1-trichloroethane
Concen: 1.16 ug/L
RT: 8.951 min Scan# 1027
Delta R.T. -0.003 min
Lab File: 4B69402.D
Acq: 17 Feb 2017 5:29 pm

Tgt Ion: 97 Resp: 4347

Ion	Ratio	Lower	Upper
97	100		
99	64.2	34.3	94.3
61	38.2	15.9	75.9

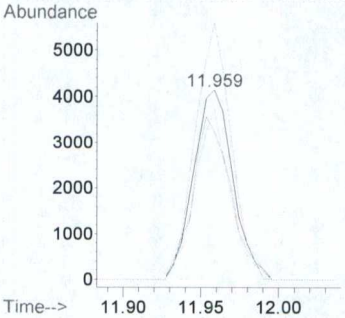




#89
tetrachloroethene
Concen: 2.32 ug/L
RT: 11.959 min Scan# 1602
Delta R.T. -0.003 min
Lab File: 4B69402.D
Acq: 17 Feb 2017 5:29 pm

Tgt Ion:164 Resp: 7157

Ion	Ratio	Lower	Upper
164	100		
129	78.5	53.9	113.9
131	90.4	50.4	110.4
166	135.2	101.4	161.4



7.1.4

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\V4B2856-57\
Data File : 4B69403.D
Acq On : 17 Feb 2017 5:57 pm
Operator : Hueanht
Sample : jc37020-5
Misc : MS12539,V4B2856,5,,,,1
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Feb 20 17:03:04 2017
Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Tue Jan 31 16:58:58 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	6.812	65	137171	500.00	ug/L	0.00
5) pentafluorobenzene	8.842	168	285186	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.715	114	400565	50.00	ug/L	0.00
88) chlorobenzene-d5	12.900	117	375749	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.479	152	209020	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.842	168	285186	50.00	ug/L	# 0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.889	113	130922	54.36	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 108.72%			
50) 1,2-dichloroethane-d4 (s)	9.286	65	150519	57.70	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 115.40%			
80) toluene-d8 (s)	11.310	98	458955	49.61	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 99.22%			
105) 4-bromofluorobenzene (s)	14.182	95	177178	51.77	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 103.54%			
Target Compounds						Qvalue
35) 1,1-dichloroethane	7.727	63	1296	0.24	ug/L	84
89) tetrachloroethene	11.959	164	1720	0.56	ug/L	91

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

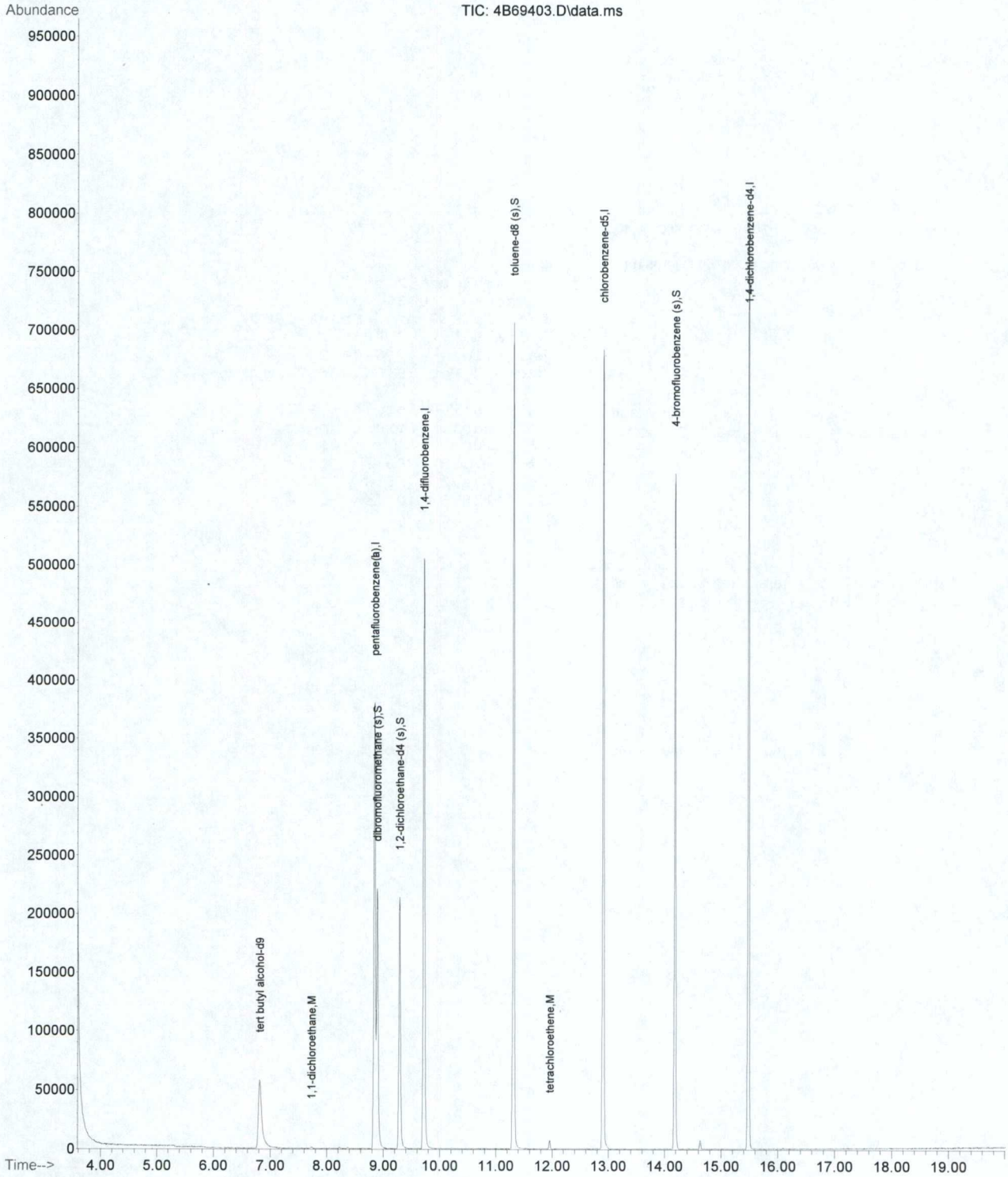
7.1.5

7

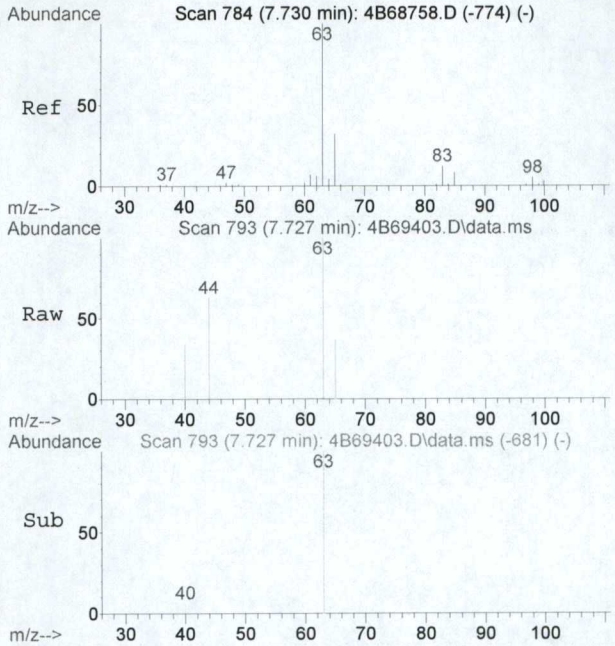
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\V4B2856-57\
Data File : 4B69403.D
Acq On : 17 Feb 2017 5:57 pm
Operator : Hueanht
Sample : jc37020-5
Misc : MS12539,V4B2856,5,,,,1
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Feb 20 17:03:04 2017
Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Tue Jan 31 16:58:58 2017
Response via : Initial Calibration



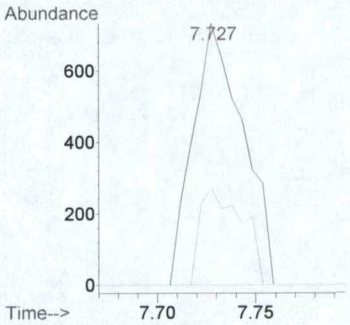
M4B2825.M Mon Feb 20 17:14:45 2017 11

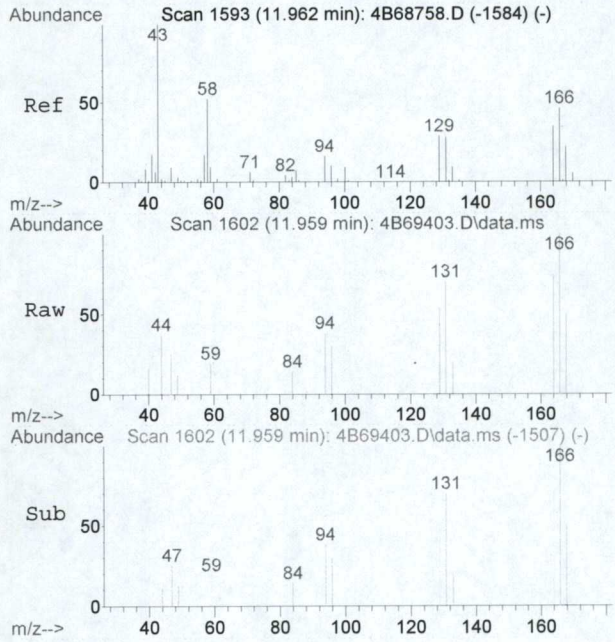


#35
1,1-dichloroethane
Concen: 0.24 ug/L
RT: 7.727 min Scan# 793
Delta R.T. -0.003 min
Lab File: 4B69403.D
Acq: 17 Feb 2017 5:57 pm

Tgt Ion: 63 Resp: 1296

Ion	Ratio	Lower	Upper
63	100		
65	37.2	1.8	61.8
83	0.0	0.0	42.3

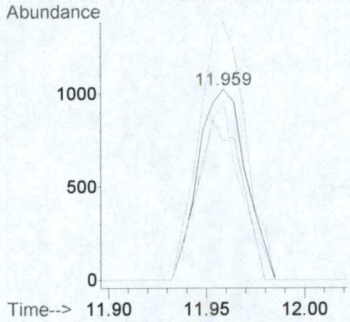




#89
tetrachloroethene
Concen: 0.56 ug/L
RT: 11.959 min Scan# 1602
Delta R.T. -0.003 min
Lab File: 4B69403.D
Acq: 17 Feb 2017 5:57 pm

Tgt Ion:164 Resp: 1720

Ion	Ratio	Lower	Upper
164	100		
129	72.8	53.9	113.9
131	94.2	50.4	110.4
166	135.5	101.4	161.4



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\V4B2856-57\
Data File : 4B69404.D
Acq On : 17 Feb 2017 6:26 pm
Operator : Hueanht
Sample : jc37020-6
Misc : MS12539,V4B2856,5,,,,1
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Feb 20 17:03:26 2017
Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Tue Jan 31 16:58:58 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) tert butyl alcohol-d9	6.812	65	134314	500.00 ug/L	0.00
5) pentafluorobenzene	8.841	168	281888	50.00 ug/L	0.00
56) 1,4-difluorobenzene	9.715	114	396787	50.00 ug/L	0.00
88) chlorobenzene-d5	12.905	117	369438	50.00 ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.478	152	208270	50.00 ug/L	0.00
137) pentafluorobenzene(a)	8.841	168	281888	50.00 ug/L	# 0.00
System Monitoring Compounds					
49) dibromofluoromethane (s)	8.888	113	126936	53.32 ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 106.64%		
50) 1,2-dichloroethane-d4 (s)	9.286	65	148493	57.59 ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 115.18%		
80) toluene-d8 (s)	11.310	98	460785	50.28 ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 100.56%		
105) 4-bromofluorobenzene (s)	14.181	95	176238	51.68 ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 103.36%		
Target Compounds					Qvalue
89) tetrachloroethene	11.959	164	11141	3.67 ug/L	94

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

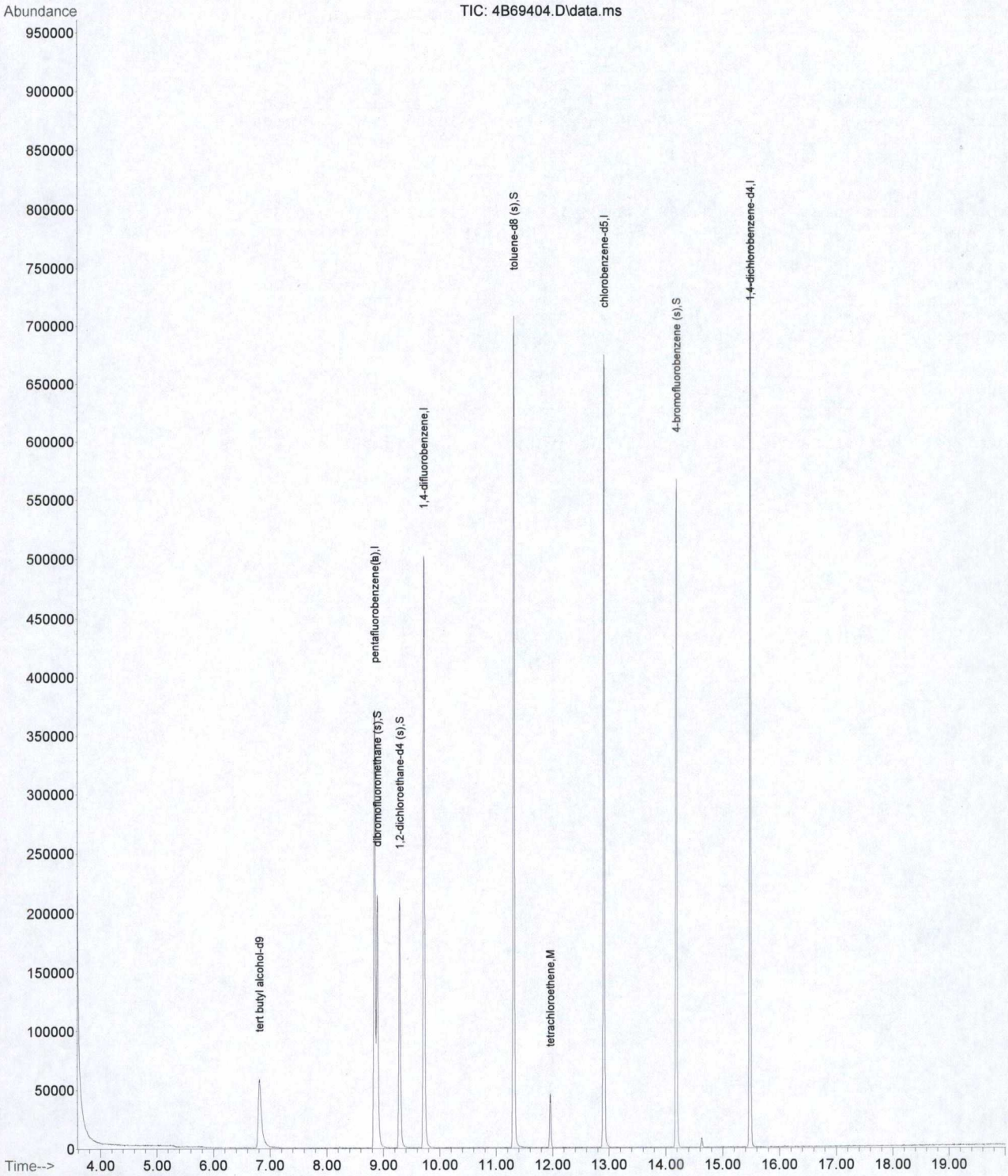
7.1.6

7

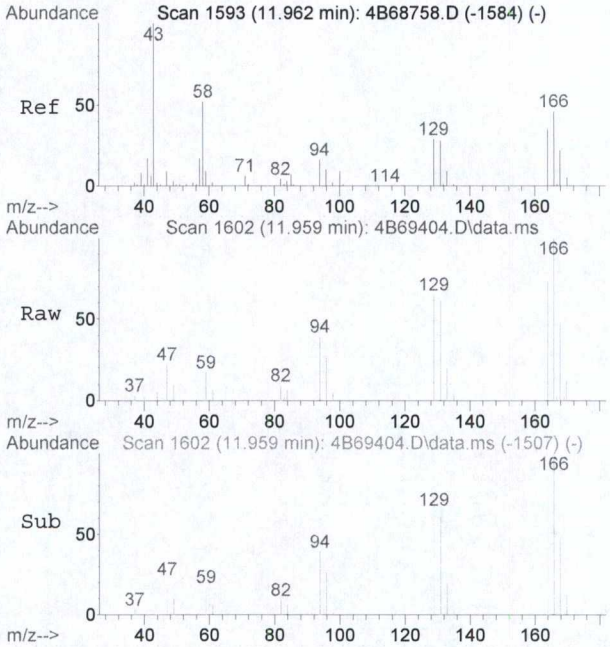
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\V4B2856-57\
Data File : 4B69404.D
Acq On : 17 Feb 2017 6:26 pm
Operator : Hueanht
Sample : jc37020-6
Misc : MS12539,V4B2856,5,,,,1
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Feb 20 17:03:26 2017
Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Tue Jan 31 16:58:58 2017
Response via : Initial Calibration



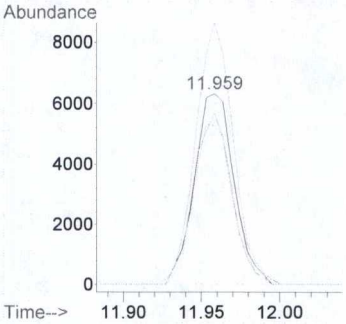
M4B2825.M Mon Feb 20 17:14:47 2017 11



#89
tetrachloroethene
Concen: 3.67 ug/L
RT: 11.959 min Scan# 1602
Delta R.T. -0.003 min
Lab File: 4B69404.D
Acq: 17 Feb 2017 6:26 pm

Tgt Ion:164 Resp: 11141

Ion	Ratio	Lower	Upper
164	100		
129	89.6	53.9	113.9
131	83.4	50.4	110.4
166	140.6	101.4	161.4



7.1.6

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\V4B2856-57\
Data File : 4B69405.D
Acq On : 17 Feb 2017 6:56 pm
Operator : Hueanht
Sample : jc37020-7
Misc : MS12539,V4B2856,5,,,,1
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Feb 20 17:03:56 2017
Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Tue Jan 31 16:58:58 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	6.807	65	131717	500.00	ug/L	0.00
5) pentafluorobenzene	8.841	168	277045	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.715	114	386804	50.00	ug/L	0.00
88) chlorobenzene-d5	12.905	117	364654	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.478	152	201829	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.841	168	277045	50.00	ug/L	# 0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.888	113	125234	53.53	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 107.06%			
50) 1,2-dichloroethane-d4 (s)	9.286	65	146343	57.75	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 115.50%			
80) toluene-d8 (s)	11.310	98	452957	50.70	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 101.40%			
105) 4-bromofluorobenzene (s)	14.181	95	171586	51.92	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 103.84%			
Target Compounds						Qvalue
53) 1,1,1-trichloroethane	8.951	97	8449	2.31	ug/L	92
89) tetrachloroethene	11.959	164	2954	0.98	ug/L	94

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

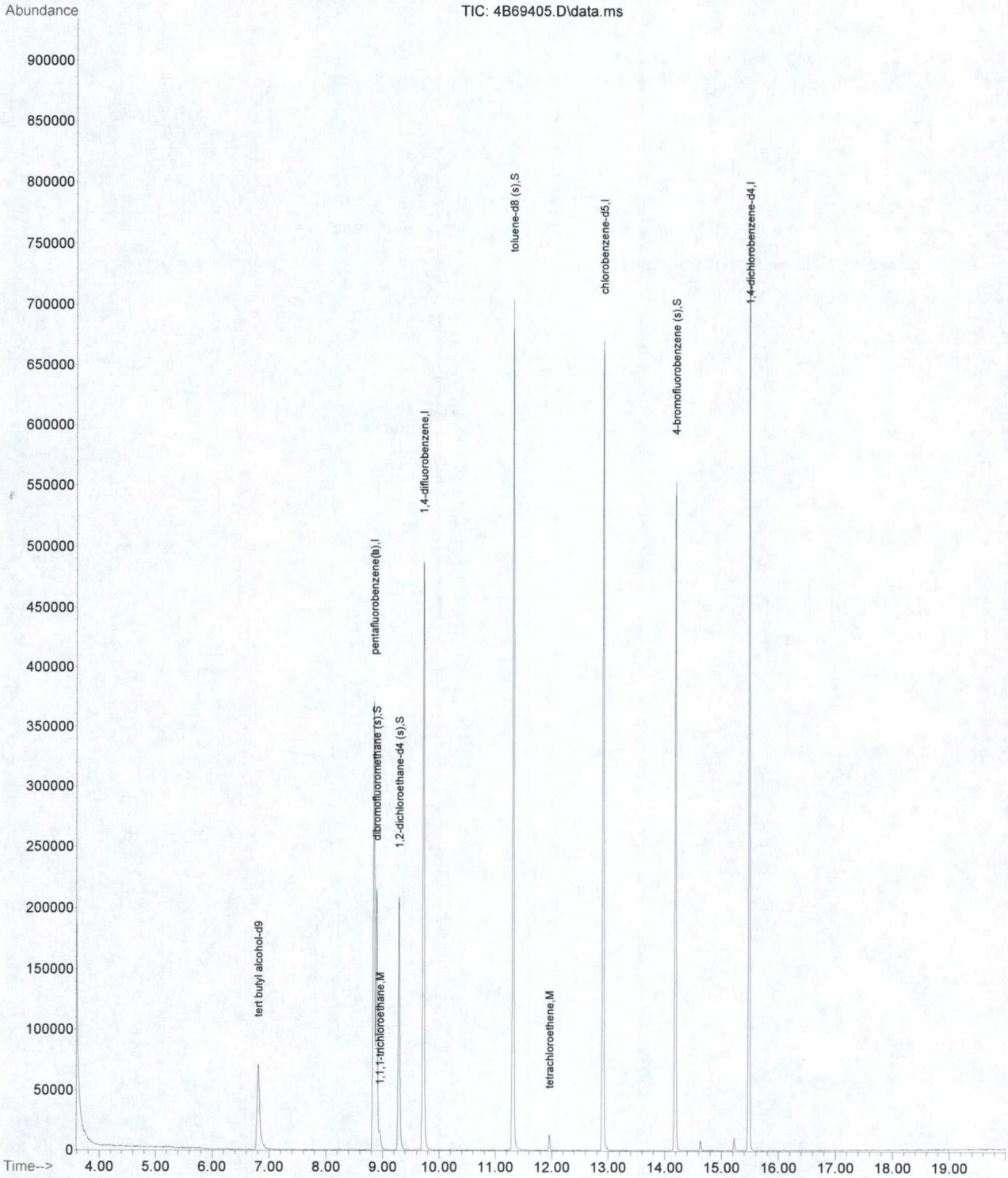
7.1.7

7

Quantitation Report (QT Reviewed)

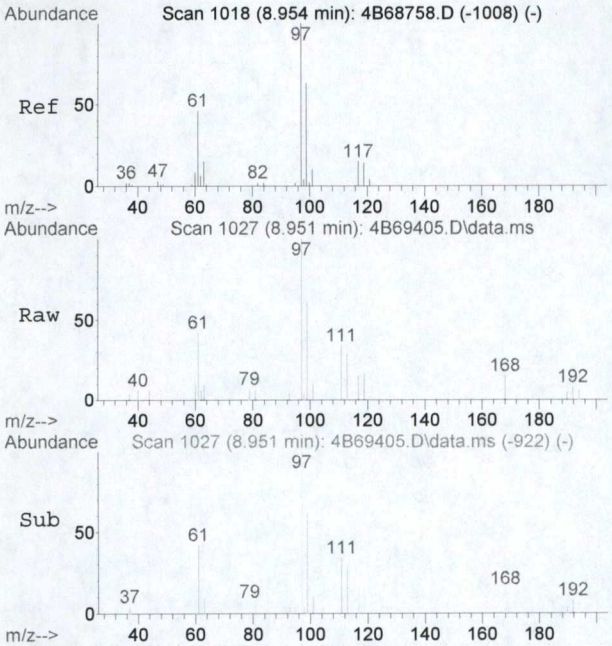
Data Path : C:\msdchem\1\data\4B\V4B2856-57\
Data File : 4B69405.D
Acq On : 17 Feb 2017 6:56 pm
Operator : Hueanht
Sample : jc37020-7
Misc : MS12539,V4B2856,5,,,,1
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Feb 20 17:03:56 2017
Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Tue Jan 31 16:58:58 2017
Response via : Initial Calibration



M4B2825.M Mon Feb 20 17:14:49 2017 11

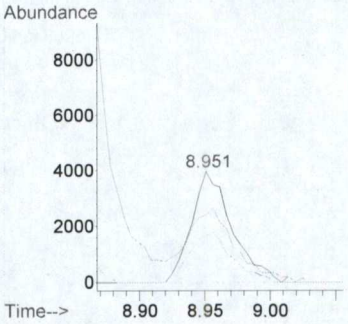
Page: 2

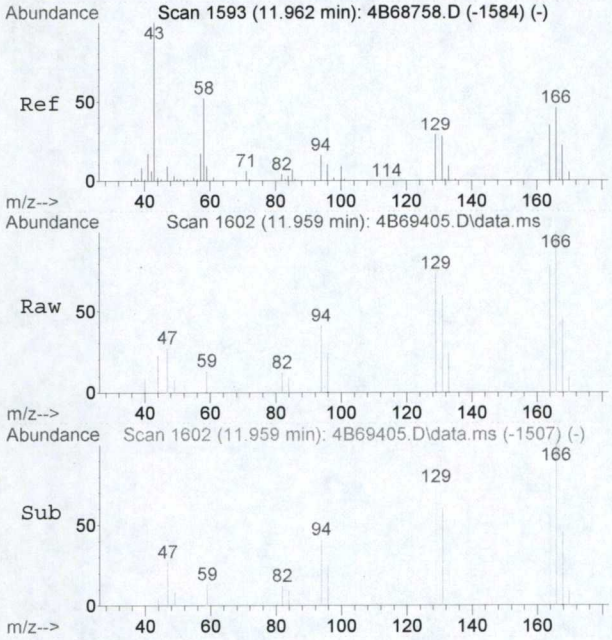


#53
1,1,1-trichloroethane
Concen: 2.31 ug/L
RT: 8.951 min Scan# 1027
Delta R.T. -0.003 min
Lab File: 4B69405.D
Acq: 17 Feb 2017 6:56 pm

Tgt Ion: 97 Resp: 8449

Ion	Ratio	Lower	Upper
97	100		
99	56.9	34.3	94.3
61	42.0	15.9	75.9

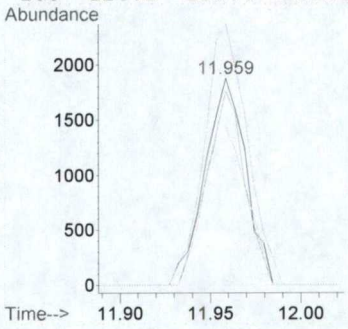




#89
tetrachloroethene
Concen: 0.98 ug/L
RT: 11.959 min Scan# 1602
Delta R.T. -0.003 min
Lab File: 4B69405.D
Acq: 17 Feb 2017 6:56 pm

Tgt Ion:164 Resp: 2954

Ion	Ratio	Lower	Upper
164	100		
129	93.5	53.9	113.9
131	76.2	50.4	110.4
166	126.1	101.4	161.4



7.1.7

7

SGS ACCUTEST JC37020

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2855\
Data File : 4B69380.D
Acq On : 16 Feb 2017 11:14 pm
Operator : Hueanht
Sample : jc37020-8
Misc : MS12539,V4B2855,5,,,,1
ALS Vial : 30 Sample Multiplier: 1

Quant Time: Feb 17 12:35:12 2017
Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Thu Feb 16 08:29:28 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) tert butyl alcohol-d9	6.807	65	141401	500.00 ug/L	0.00
5) pentafluorobenzene	8.841	168	282550	50.00 ug/L	0.00
56) 1,4-difluorobenzene	9.715	114	390442	50.00 ug/L	0.00
88) chlorobenzene-d5	12.905	117	366542	50.00 ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.479	152	202883	50.00 ug/L	0.00
137) pentafluorobenzene(a)	8.841	168	282550	50.00 ug/L	# 0.00
System Monitoring Compounds					
49) dibromofluoromethane (s)	8.888	113	125147	52.45 ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 104.90%		
50) 1,2-dichloroethane-d4 (s)	9.286	65	144402	55.87 ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 111.74%		
80) toluene-d8 (s)	11.310	98	449718	49.87 ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 99.74%		
105) 4-bromofluorobenzene (s)	14.181	95	171624	51.66 ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 103.32%		
Target Compounds					Qvalue
42) cis-1,2-dichloroethene	8.371	96	2226	0.76 ug/L	95
53) 1,1,1-trichloroethane	8.962	97	1647	0.44 ug/L	92
69) trichloroethene	10.013	95	40256	14.36 ug/L	98
89) tetrachloroethene	11.959	164	2186	0.73 ug/L	97

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

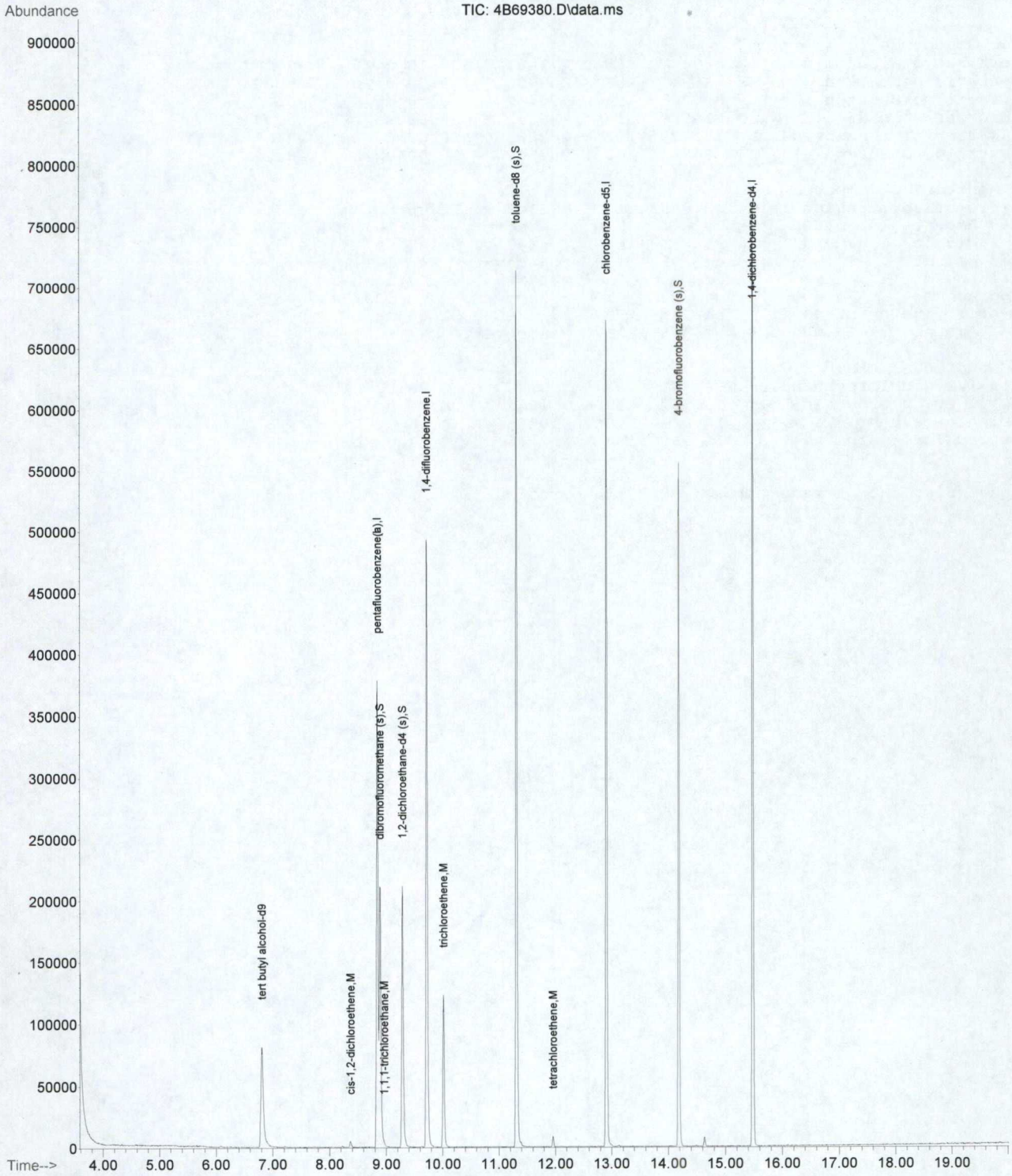
7.1.8

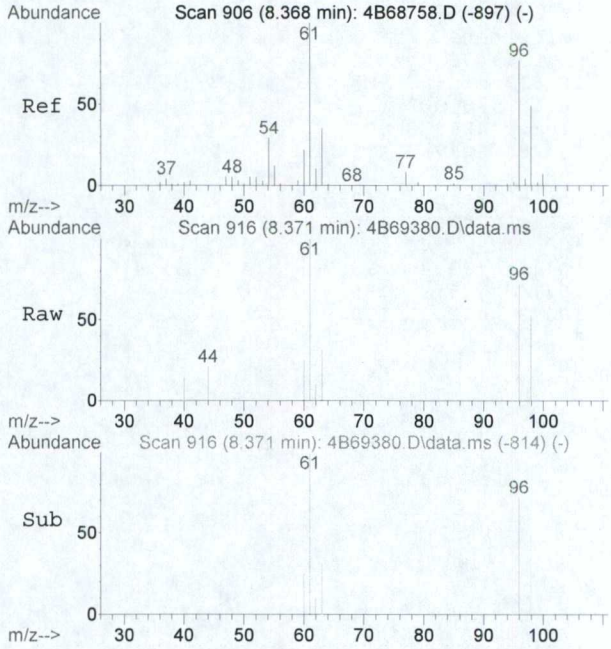
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2855\
Data File : 4B69380.D
Acq On : 16 Feb 2017 11:14 pm
Operator : Hueanht
Sample : jc37020-8
Misc : MS12539,V4B2855,5,,,,1
ALS Vial : 30 Sample Multiplier: 1

Quant Time: Feb 17 12:35:12 2017
Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Thu Feb 16 08:29:28 2017
Response via : Initial Calibration

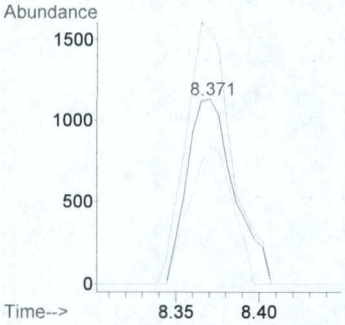


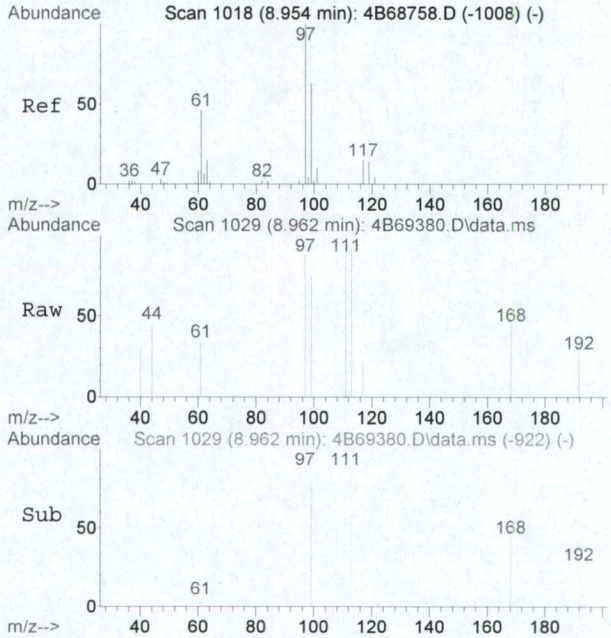


#42
cis-1,2-dichloroethene
Concen: 0.76 ug/L
RT: 8.371 min Scan# 916
Delta R.T. 0.002 min
Lab File: 4B69380.D
Acq: 16 Feb 2017 11:14 pm

Tgt Ion: 96 Resp: 2226

Ion	Ratio	Lower	Upper
96	100		
61	138.8	110.8	170.8
98	73.4	34.1	94.1

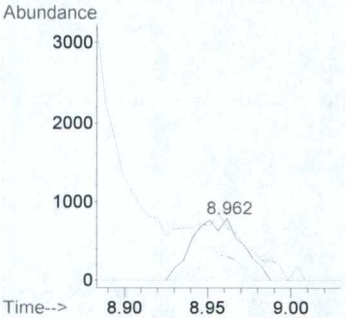




#53
1,1,1-trichloroethane
Concen: 0.44 ug/L
RT: 8.962 min Scan# 1029
Delta R.T. 0.007 min
Lab File: 4B69380.D
Acq: 16 Feb 2017 11:14 pm

Tgt Ion: 97 Resp: 1647

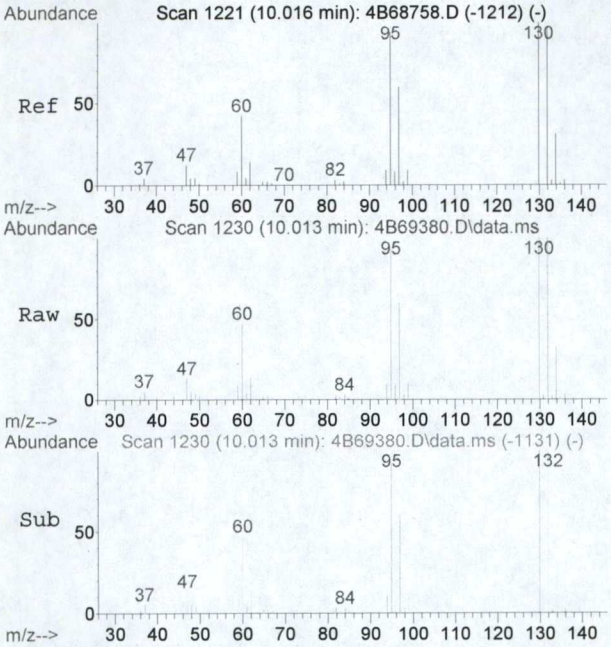
Ion	Ratio	Lower	Upper
97	100		
99	60.2	34.3	94.3
61	38.5	15.9	75.9



7.1.8

7

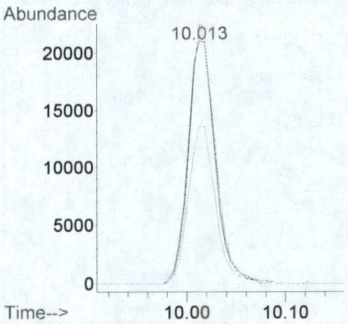
SGS ACCUTEST JC37020

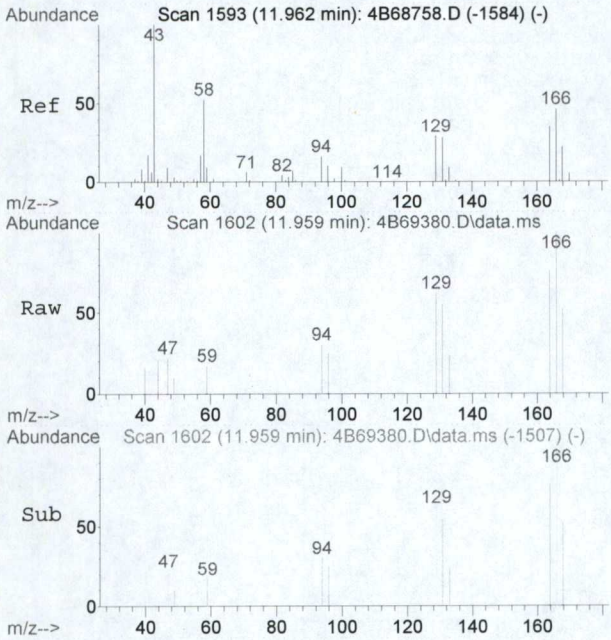


#69
trichloroethene
Concen: 14.36 ug/L
RT: 10.013 min Scan# 1230
Delta R.T. -0.003 min
Lab File: 4B69380.D
Acq: 16 Feb 2017 11:14 pm

Tgt Ion: 95 Resp: 40256

Ion	Ratio	Lower	Upper
95	100		
97	64.6	33.7	93.7
130	107.4	75.9	135.9
132	106.9	72.9	132.9

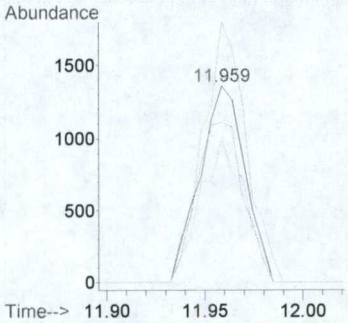




#89
tetrachloroethene
Concen: 0.73 ug/L
RT: 11.959 min Scan# 1602
Delta R.T. -0.003 min
Lab File: 4B69380.D
Acq: 16 Feb 2017 11:14 pm

Tgt Ion:164 Resp: 2186

Ion	Ratio	Lower	Upper
164	100		
129	81.9	53.9	113.9
131	73.3	50.4	110.4
166	132.3	101.4	161.4



7.1.8

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2855\
Data File : 4B69381.D
Acq On : 16 Feb 2017 11:42 pm
Operator : Hueanht
Sample : jc37020-9
Misc : MS12539,V4B2855,5,,,,1
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Feb 17 12:35:45 2017
Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Thu Feb 16 08:29:28 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	6.807	65	137624	500.00	ug/L	0.00
5) pentafluorobenzene	8.841	168	282415	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.715	114	393366	50.00	ug/L	0.00
88) chlorobenzene-d5	12.905	117	371774	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.479	152	209416	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.841	168	282415	50.00	ug/L	# 0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.888	113	127881	53.62	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 107.24%			
50) 1,2-dichloroethane-d4 (s)	9.286	65	147395	57.06	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 114.12%			
80) toluene-d8 (s)	11.310	98	459438	50.57	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 101.14%			
105) 4-bromofluorobenzene (s)	14.181	95	176393	51.44	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 102.88%			
Target Compounds						Qvalue
35) 1,1-dichloroethane	7.727	63	1145	0.22	ug/L	90
42) cis-1,2-dichloroethene	8.371	96	1563	0.53	ug/L	94
53) 1,1,1-trichloroethane	8.951	97	16186	4.35	ug/L	98

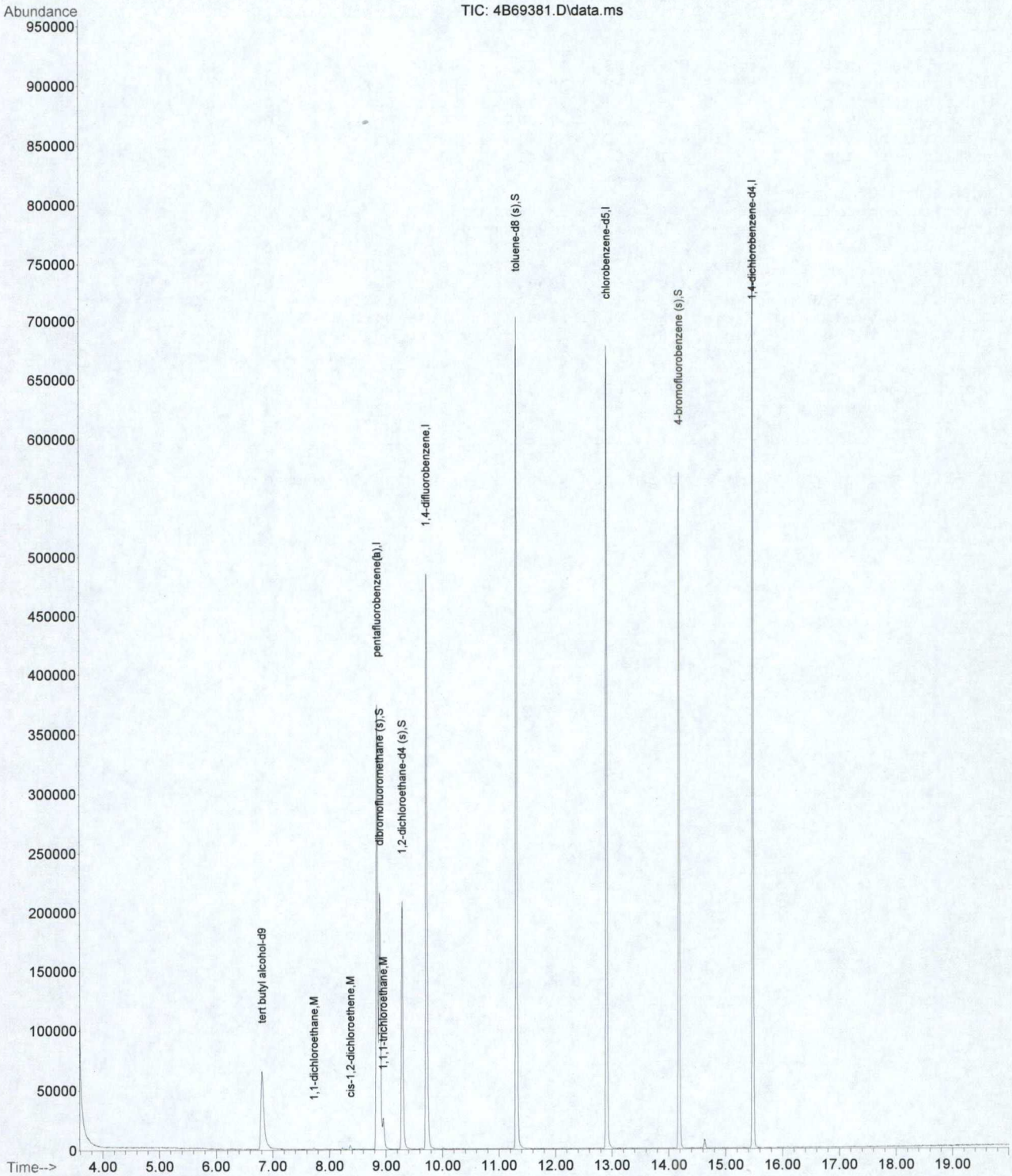
(#) = qualifier out of range (m) = manual integration (+) = signals summed

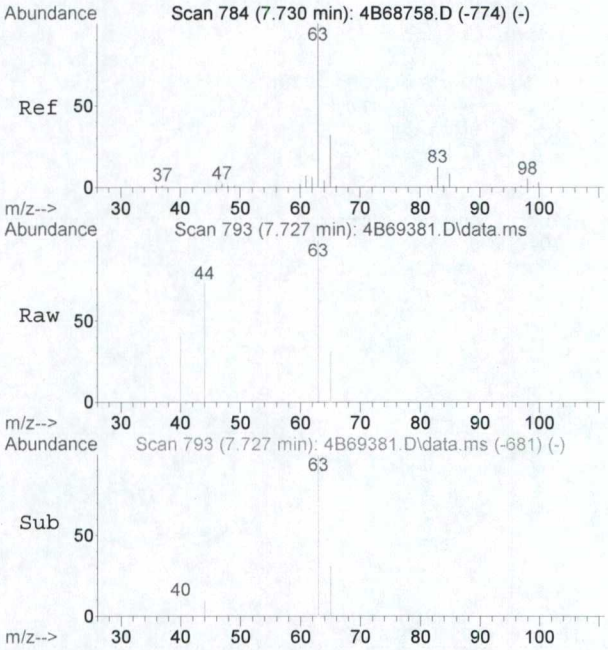
7.1.9 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2855\
Data File : 4B69381.D
Acq On : 16 Feb 2017 11:42 pm
Operator : Hueanht
Sample : jc37020-9
Misc : MS12539,V4B2855,5,,,,1
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Feb 17 12:35:45 2017
Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Thu Feb 16 08:29:28 2017
Response via : Initial Calibration

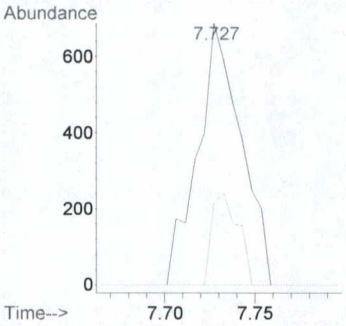


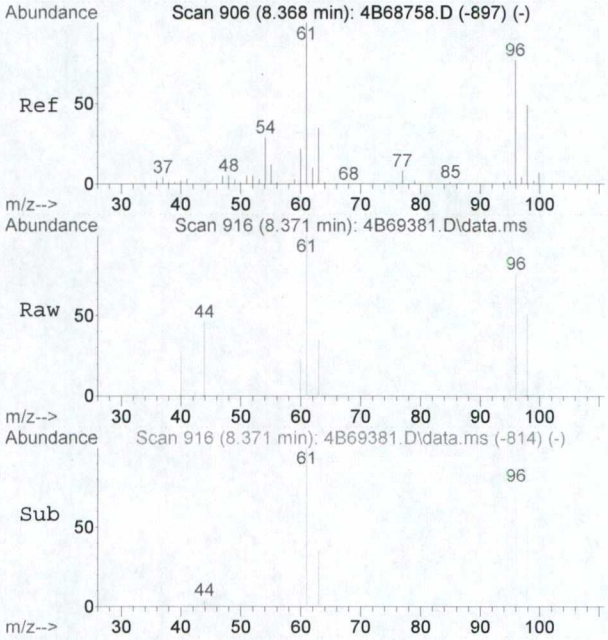


#35
1,1-dichloroethane
Concen: 0.22 ug/L
RT: 7.727 min Scan# 793
Delta R.T. -0.003 min
Lab File: 4B69381.D
Acq: 16 Feb 2017 11:42 pm

Tgt Ion: 63 Resp: 1145

Ion	Ratio	Lower	Upper
63	100		
65	31.1	1.8	61.8
83	0.0	0.0	42.3

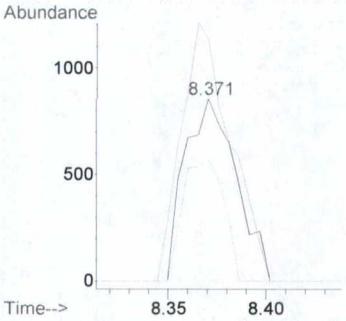




#42
cis-1,2-dichloroethene
Concen: 0.53 ug/L
RT: 8.371 min Scan# 916
Delta R.T. 0.002 min
Lab File: 4B69381.D
Acq: 16 Feb 2017 11:42 pm

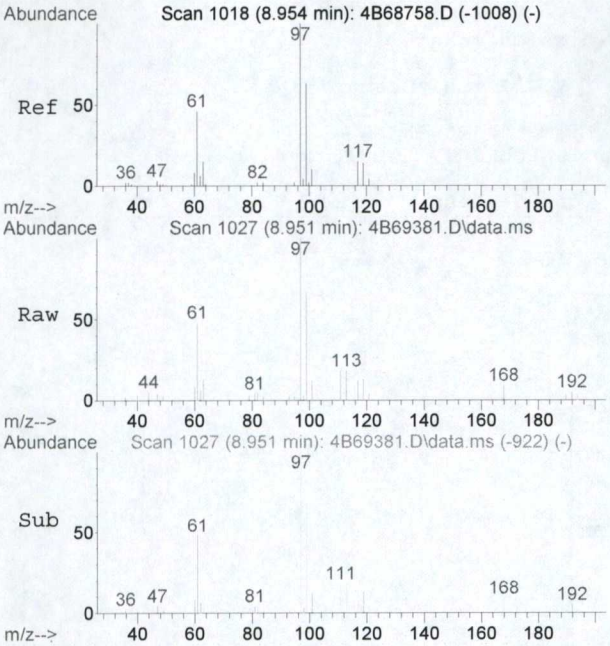
Tgt Ion: 96 Resp: 1563

Ion	Ratio	Lower	Upper
96	100		
61	132.2	110.8	170.8
98	66.8	34.1	94.1



7.1.9

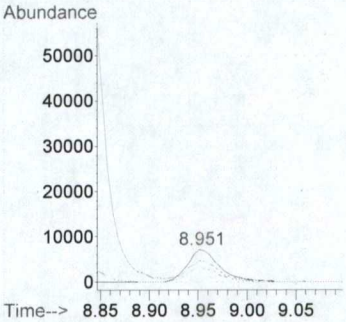
7



#53
1,1,1-trichloroethane
Concen: 4.35 ug/L
RT: 8.951 min Scan# 1027
Delta R.T. -0.003 min
Lab File: 4B69381.D
Acq: 16 Feb 2017 11:42 pm

Tgt Ion: 97 Resp: 16186

Ion	Ratio	Lower	Upper
97	100		
99	65.6	34.3	94.3
61	48.2	15.9	75.9



7.1.9

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2855\
Data File : 4B69368.D
Acq On : 16 Feb 2017 5:31 pm
Operator : Hueanht
Sample : jc37020-10
Misc : MS12539,V4B2855,5,,,,1
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Feb 17 12:27:28 2017
Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Thu Feb 16 08:29:28 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) tert butyl alcohol-d9	6.812	65	133097	500.00 ug/L	0.00
5) pentafluorobenzene	8.841	168	280762	50.00 ug/L	0.00
56) 1,4-difluorobenzene	9.715	114	393964	50.00 ug/L	0.00
88) chlorobenzene-d5	12.905	117	372087	50.00 ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.479	152	205785	50.00 ug/L	0.00
137) pentafluorobenzene(a)	8.841	168	280762	50.00 ug/L	# 0.00
System Monitoring Compounds					
49) dibromofluoromethane (s)	8.888	113	127522	53.78 ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 107.56%		
50) 1,2-dichloroethane-d4 (s)	9.286	65	149225	58.10 ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 116.20%		
80) toluene-d8 (s)	11.310	98	459278	50.48 ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 100.96%		
105) 4-bromofluorobenzene (s)	14.181	95	175966	52.22 ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 104.44%		
Target Compounds					Qvalue
35) 1,1-dichloroethane	7.733	63	1407	0.27 ug/L	89
42) cis-1,2-dichloroethene	8.371	96	1340	0.46 ug/L	93
53) 1,1,1-trichloroethane	8.956	97	10312	2.79 ug/L	97

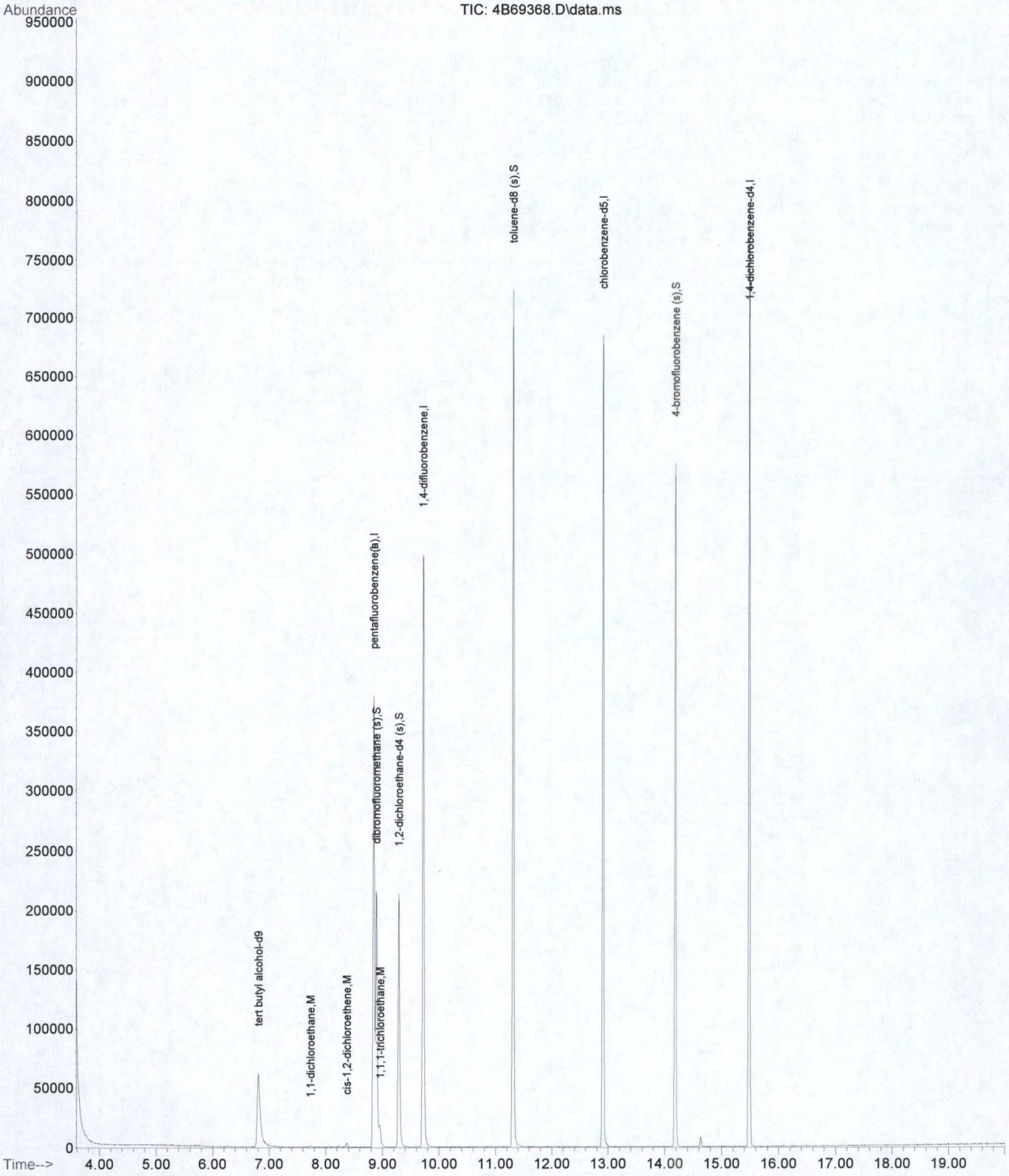
(#) = qualifier out of range (m) = manual integration (+) = signals summed

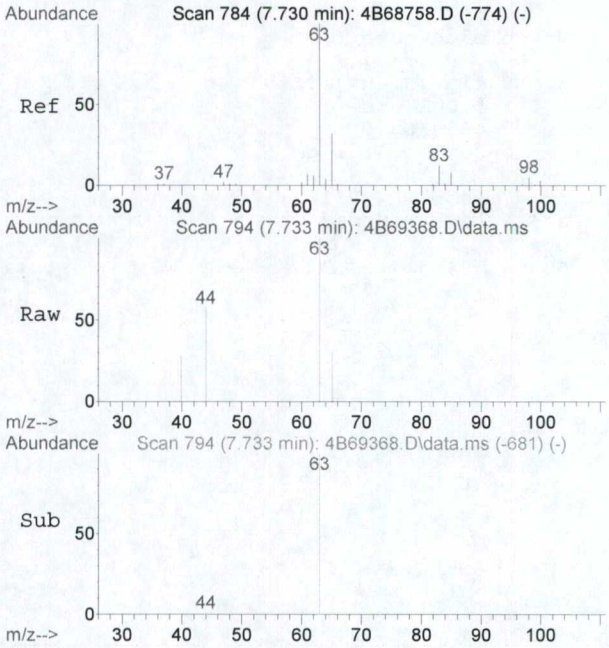
7.1.10 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2855\
Data File : 4B69368.D
Acq On : 16 Feb 2017 5:31 pm
Operator : Hueanht
Sample : jc37020-10
Misc : MS12539,V4B2855,5,,,,1
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Feb 17 12:27:28 2017
Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Thu Feb 16 08:29:28 2017
Response via : Initial Calibration

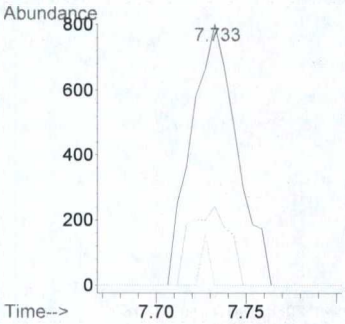


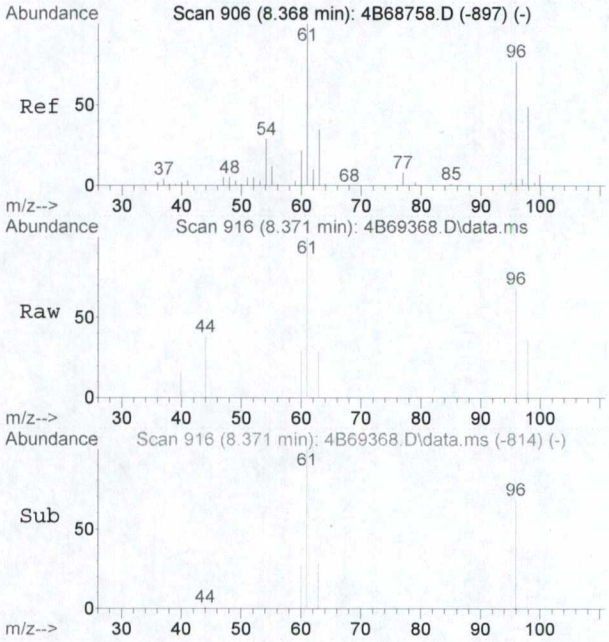


#35
1,1-dichloroethane
Concen: 0.27 ug/L
RT: 7.733 min Scan# 794
Delta R.T. 0.002 min
Lab File: 4B69368.D
Acq: 16 Feb 2017 5:31 pm

Tgt Ion: 63 Resp: 1407

Ion	Ratio	Lower	Upper
63	100		
65	30.2	1.8	61.8
83	0.0	0.0	42.3

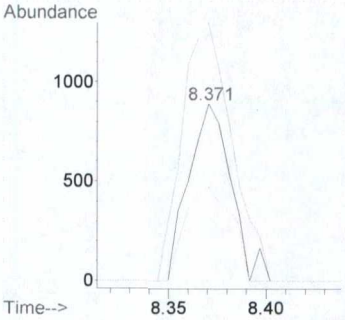




#42
cis-1,2-dichloroethene
Concen: 0.46 ug/L
RT: 8.371 min Scan# 916
Delta R.T. 0.002 min
Lab File: 4B69368.D
Acq: 16 Feb 2017 5:31 pm

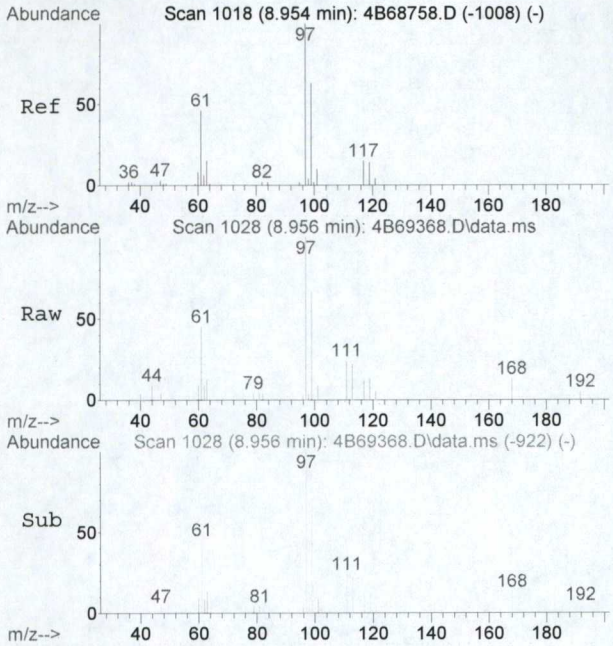
Tgt Ion: 96 Resp: 1340

Ion	Ratio	Lower	Upper
96	100		
61	146.0	110.8	170.8
98	52.9	34.1	94.1



7.1.10

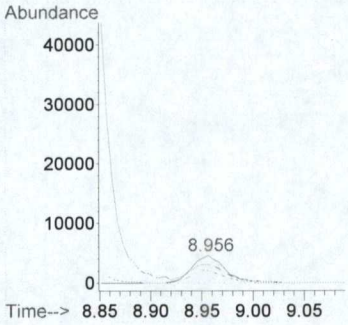
7



#53
1,1,1-trichloroethane
Concen: 2.79 ug/L
RT: 8.956 min Scan# 1028
Delta R.T. 0.002 min
Lab File: 4B69368.D
Acq: 16 Feb 2017 5:31 pm

Tgt Ion: 97 Resp: 10312

Ion	Ratio	Lower	Upper
97	100		
99	66.9	34.3	94.3
61	44.5	15.9	75.9



7.1.10

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2855\
Data File : 4B69367.D
Acq On : 16 Feb 2017 5:03 pm
Operator : Hueanht
Sample : jc37020-11
Misc : MS12539,V4B2855,5,,,,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Feb 17 12:26:56 2017
Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Thu Feb 16 08:29:28 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) tert butyl alcohol-d9	6.812	65	135561	500.00 ug/L	0.00
5) pentafluorobenzene	8.841	168	282885	50.00 ug/L	0.00
56) 1,4-difluorobenzene	9.715	114	400638	50.00 ug/L	0.00
88) chlorobenzene-d5	12.905	117	374286	50.00 ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.478	152	207546	50.00 ug/L	0.00
137) pentafluorobenzene(a)	8.841	168	282885	50.00 ug/L	# 0.00
System Monitoring Compounds					
49) dibromofluoromethane (s)	8.888	113	128059	53.60 ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 107.20%		
50) 1,2-dichloroethane-d4 (s)	9.286	65	150392	58.12 ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 116.24%		
80) toluene-d8 (s)	11.310	98	461892	49.92 ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 99.84%		
105) 4-bromofluorobenzene (s)	14.181	95	178258	52.45 ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 104.90%		
Target Compounds					Qvalue

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

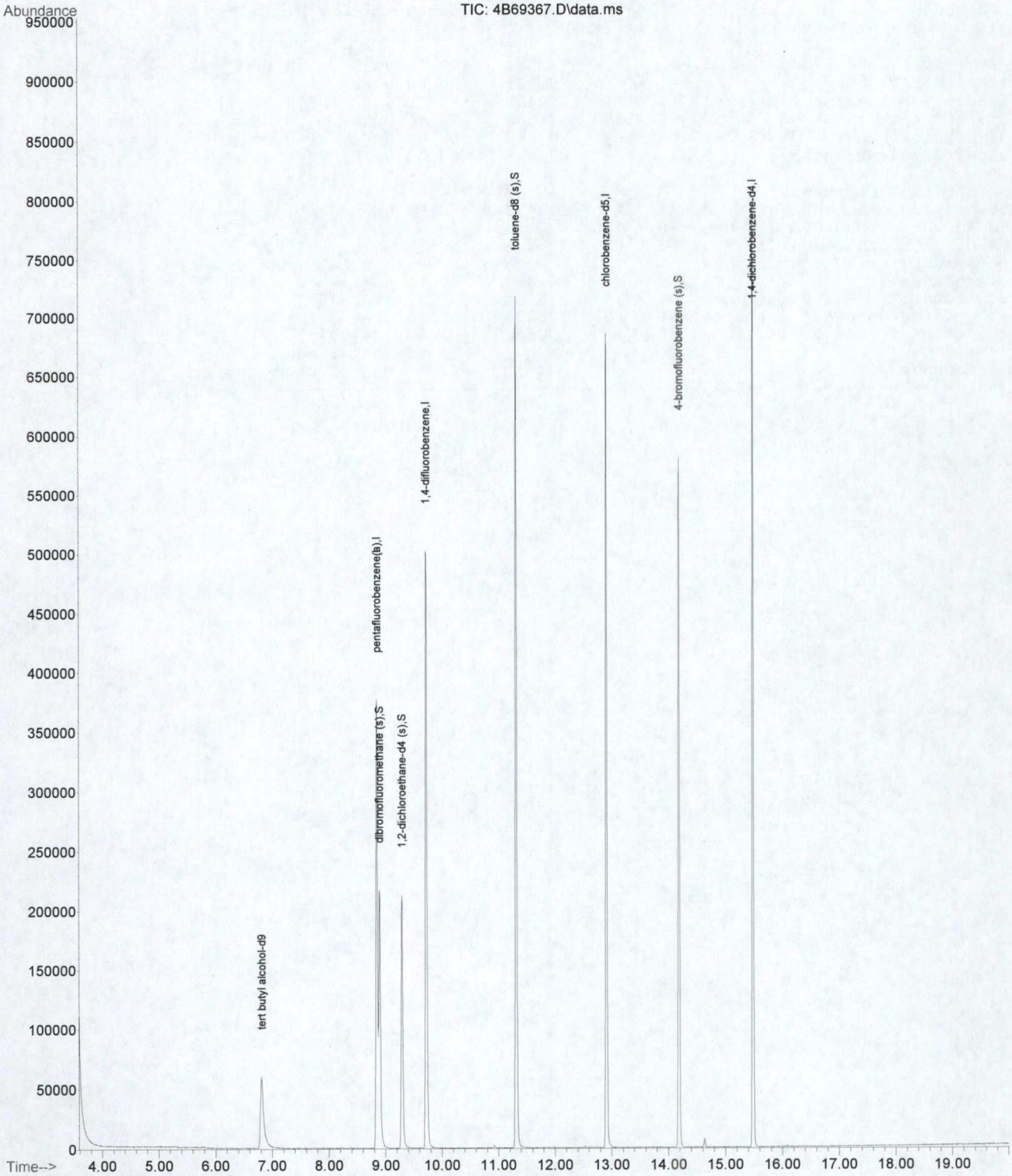
7.1.11

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2855\
Data File : 4B69367.D
Acq On : 16 Feb 2017 5:03 pm
Operator : Hueanht
Sample : jc37020-11
Misc : MS12539,V4B2855,5,,,,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Feb 17 12:26:56 2017
Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Thu Feb 16 08:29:28 2017
Response via : Initial Calibration



7.1.11
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2855\
Data File : 4B69366.D
Acq On : 16 Feb 2017 4:35 pm
Operator : Hueanht
Sample : jc37020-12
Misc : MS12539,V4B2855,5,,,,1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Feb 17 12:25:01 2017
Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Thu Feb 16 08:29:28 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) tert butyl alcohol-d9	6.812	65	131117	500.00 ug/L	0.00
5) pentafluorobenzene	8.841	168	279550	50.00 ug/L	0.00
56) 1,4-difluorobenzene	9.715	114	391793	50.00 ug/L	0.00
88) chlorobenzene-d5	12.905	117	367736	50.00 ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.479	152	208617	50.00 ug/L	0.00
137) pentafluorobenzene(a)	8.841	168	279550	50.00 ug/L	# 0.00
System Monitoring Compounds					
49) dibromofluoromethane (s)	8.889	113	127039	53.81 ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 107.62%		
50) 1,2-dichloroethane-d4 (s)	9.286	65	147482	57.67 ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 115.34%		
80) toluene-d8 (s)	11.310	98	456317	50.43 ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 100.86%		
105) 4-bromofluorobenzene (s)	14.182	95	177341	51.91 ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 103.82%		
Target Compounds					Qvalue
35) 1,1-dichloroethane	7.733	63	5829	1.11 ug/L	96
53) 1,1,1-trichloroethane	8.951	97	18669	5.06 ug/L	93
69) trichloroethene	10.013	95	2869	1.02 ug/L	94
89) tetrachloroethene	11.959	164	34945	11.55 ug/L	97

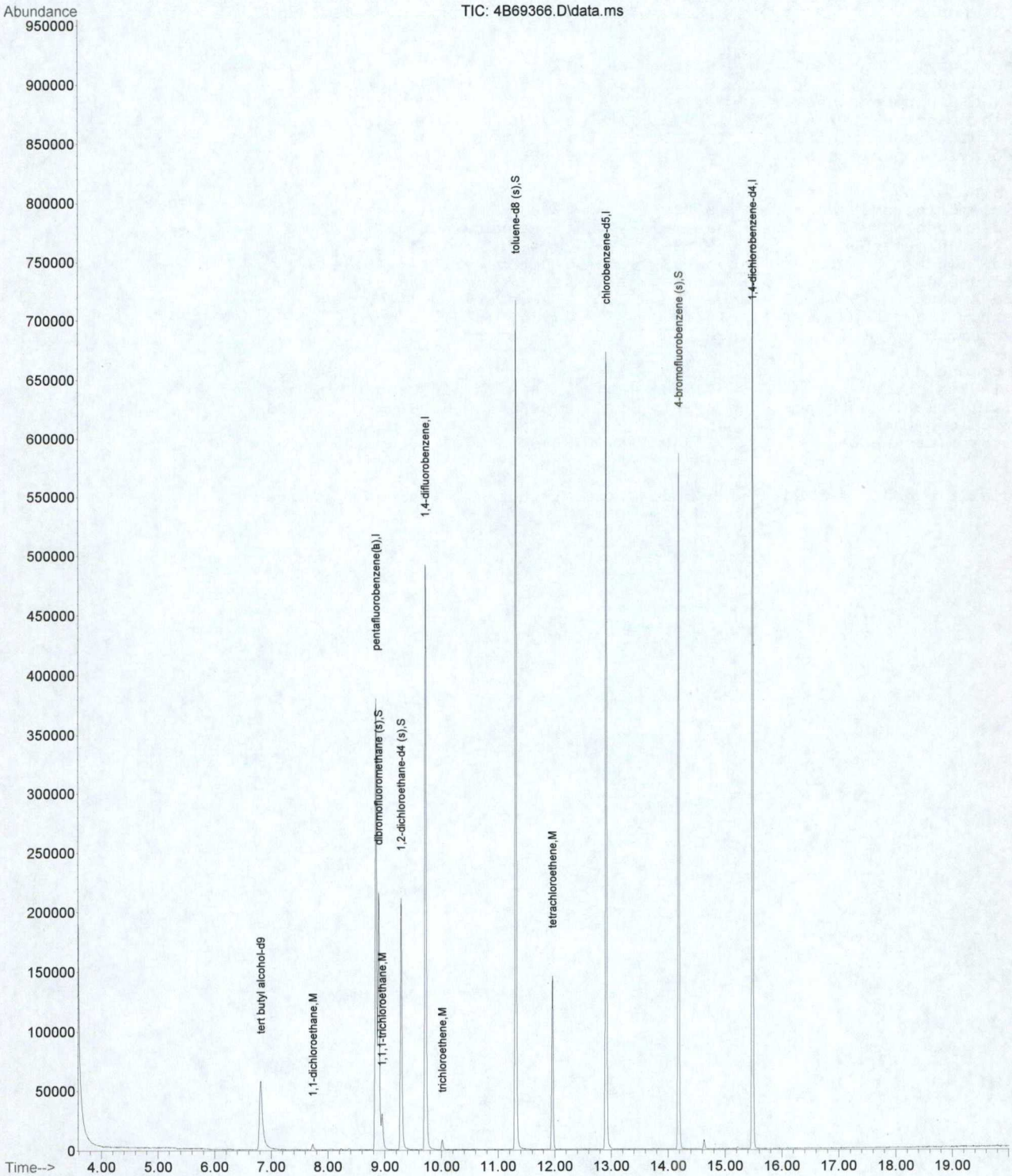
(#) = qualifier out of range (m) = manual integration (+) = signals summed

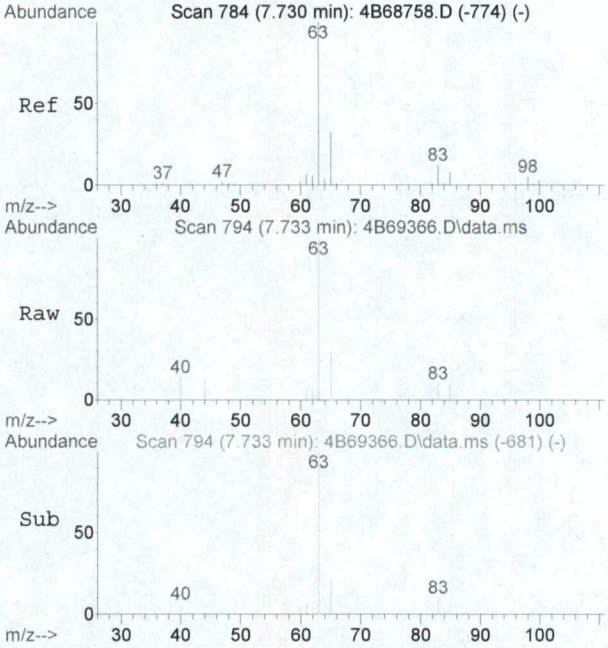
7.1.12 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2855\
Data File : 4B69366.D
Acq On : 16 Feb 2017 4:35 pm
Operator : Hueanht
Sample : jc37020-12
Misc : MS12539,V4B2855,5,,,,1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Feb 17 12:25:01 2017
Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Thu Feb 16 08:29:28 2017
Response via : Initial Calibration

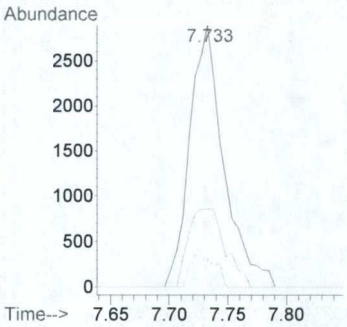


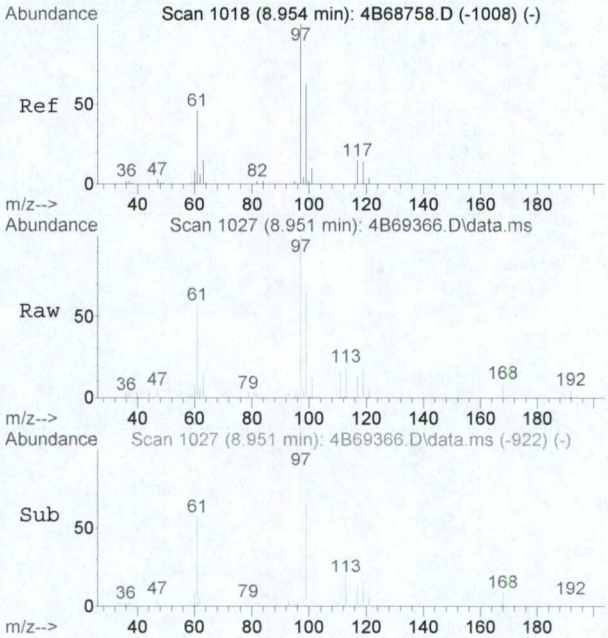


#35
1,1-dichloroethane
Concen: 1.11 ug/L
RT: 7.733 min Scan# 794
Delta R.T. 0.002 min
Lab File: 4B69366.D
Acq: 16 Feb 2017 4:35 pm

Tgt Ion: 63 Resp: 5829

Ion	Ratio	Lower	Upper
63	100		
65	29.5	1.8	61.8
83	10.3	0.0	42.3

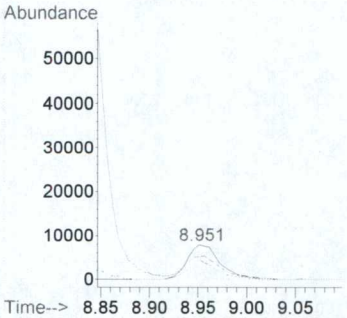




#53
1,1,1-trichloroethane
Concen: 5.06 ug/L
RT: 8.951 min Scan# 1027
Delta R.T. -0.003 min
Lab File: 4B69366.D
Acq: 16 Feb 2017 4:35 pm

Tgt Ion: 97 Resp: 18669

Ion	Ratio	Lower	Upper
97	100		
99	64.8	34.3	94.3
61	56.7	15.9	75.9



7.1.12

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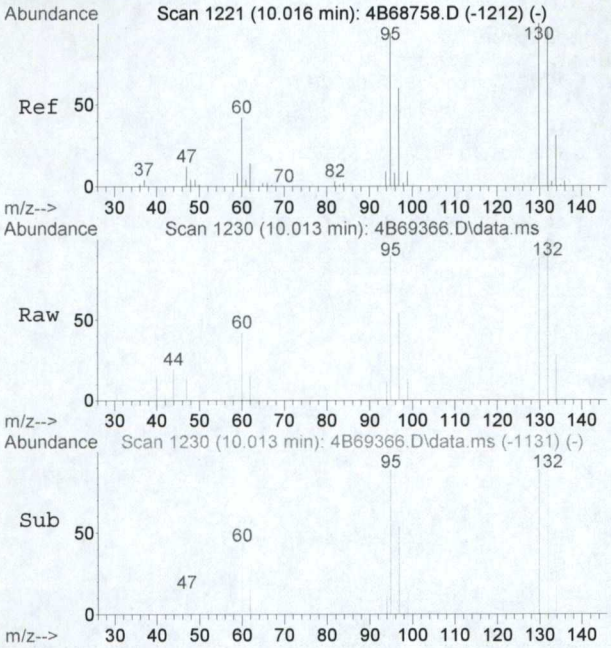
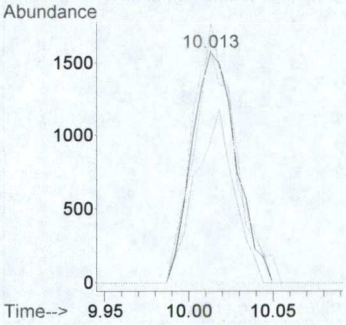
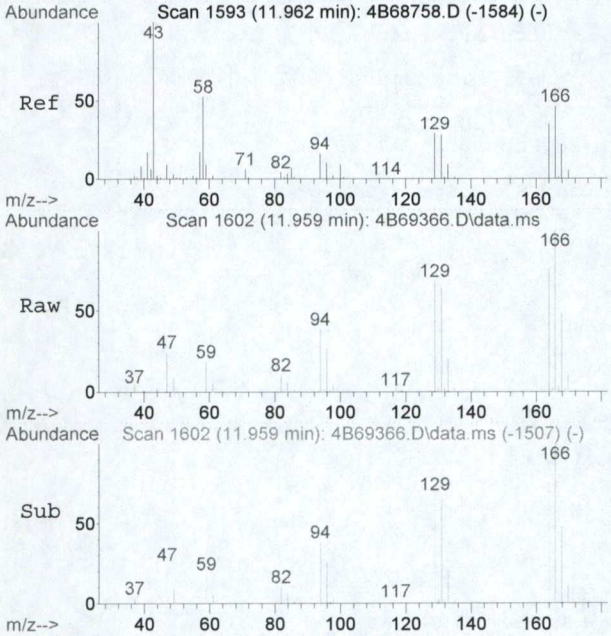


#69
trichloroethene
Concen: 1.02 ug/L
RT: 10.013 min Scan# 1230
Delta R.T. -0.003 min
Lab File: 4B69366.D
Acq: 16 Feb 2017 4:35 pm

Tgt Ion: 95 Resp: 2869

Ion	Ratio	Lower	Upper
95	100		
97	61.3	33.7	93.7
130	101.0	75.9	135.9
132	112.8	72.9	132.9

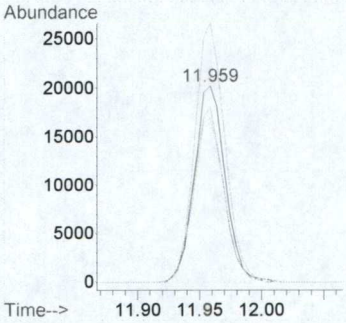




#89
tetrachloroethene
Concen: 11.55 ug/L
RT: 11.959 min Scan# 1602
Delta R.T. -0.003 min
Lab File: 4B69366.D
Acq: 16 Feb 2017 4:35 pm

Tgt Ion:164 Resp: 34945

Ion	Ratio	Lower	Upper
164	100		
129	89.6	53.9	113.9
131	83.9	50.4	110.4
166	131.5	101.4	161.4



SGS ACCUTEST JC37020

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2855\
Data File : 4B69378.D
Acq On : 16 Feb 2017 10:16 pm
Operator : Hueanht
Sample : jc37020-13
Misc : MS12539,V4B2855,5,,,,1
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Feb 17 12:34:11 2017
Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Thu Feb 16 08:29:28 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) tert butyl alcohol-d9	6.807	65	153988	500.00 ug/L	0.00
5) pentafluorobenzene	8.841	168	289591	50.00 ug/L	0.00
56) 1,4-difluorobenzene	9.715	114	401264	50.00 ug/L	0.00
88) chlorobenzene-d5	12.905	117	377893	50.00 ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.479	152	215581	50.00 ug/L	0.00
137) pentafluorobenzene(a)	8.841	168	289591	50.00 ug/L	# 0.00
System Monitoring Compounds					
49) dibromofluoromethane (s)	8.888	113	128779	52.66 ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 105.32%		
50) 1,2-dichloroethane-d4 (s)	9.286	65	145826	55.05 ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 110.10%		
80) toluene-d8 (s)	11.310	98	464378	50.11 ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 100.22%		
105) 4-bromofluorobenzene (s)	14.181	95	181149	51.32 ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 102.64%		
Target Compounds					Qvalue
82) toluene	11.383	92	1684	0.23 ug/L	98

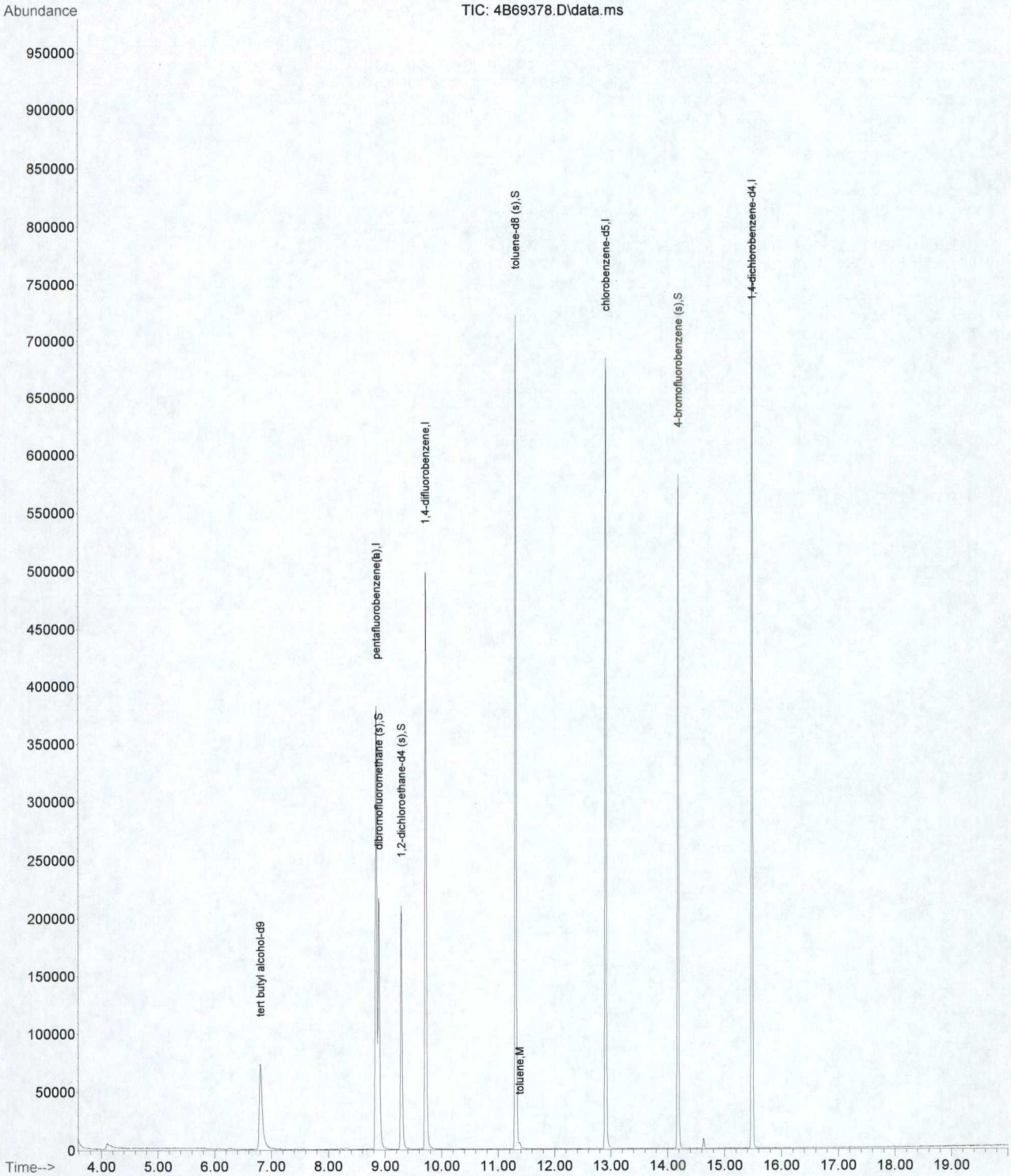
(#) = qualifier out of range (m) = manual integration (+) = signals summed

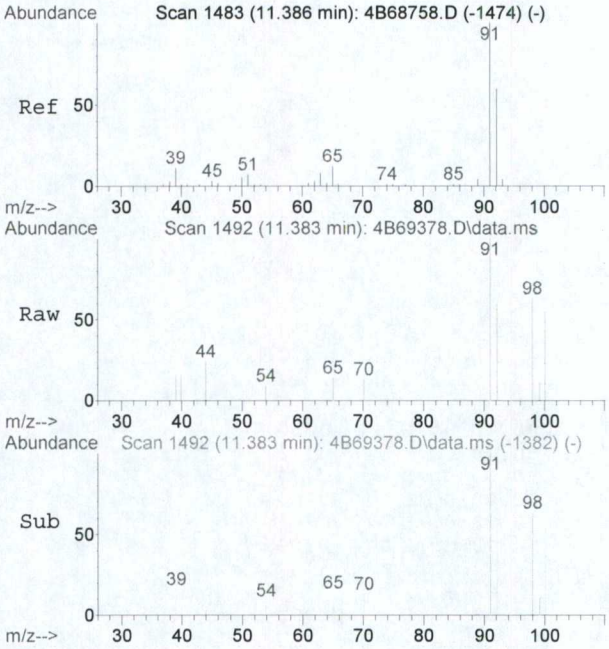
7.1.13 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2855\
Data File : 4B69378.D
Acq On : 16 Feb 2017 10:16 pm
Operator : Hueanht
Sample : jc37020-13
Misc : MS12539,V4B2855,5,,,,1
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Feb 17 12:34:11 2017
Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Thu Feb 16 08:29:28 2017
Response via : Initial Calibration

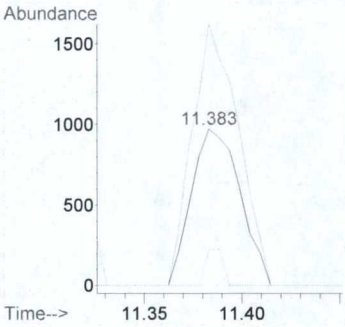




#82
toluene
Concen: 0.23 ug/L
RT: 11.383 min Scan# 1492
Delta R.T. -0.003 min
Lab File: 4B69378.D
Acq: 16 Feb 2017 10:16 pm

Tgt Ion: 92 Resp: 1684

Ion	Ratio	Lower	Upper
92	100		
91	167.4	136.1	196.1
65	23.0	0.0	49.7



7.1.13

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2855\
Data File : 4B69365.D
Acq On : 16 Feb 2017 4:07 pm
Operator : Hueanht
Sample : jc37020-14
Misc : MS12539,V4B2855,5,,,,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Feb 17 12:24:17 2017
Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Thu Feb 16 08:29:28 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	6.807	65	151550	500.00	ug/L	0.00
5) pentafluorobenzene	8.841	168	283702	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.715	114	394173	50.00	ug/L	0.00
88) chlorobenzene-d5	12.905	117	373224	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.478	152	205681	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.841	168	283702	50.00	ug/L	# 0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.888	113	127182	53.08	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 106.16%			
50) 1,2-dichloroethane-d4 (s)	9.286	65	149150	57.47	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 114.94%			
80) toluene-d8 (s)	11.310	98	461212	50.66	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 101.32%			
105) 4-bromofluorobenzene (s)	14.181	95	176996	52.55	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 105.10%			
Target Compounds						Qvalue
35) 1,1-dichloroethane	7.732	63	2463	0.46	ug/L	88
42) cis-1,2-dichloroethene	8.371	96	925	0.31	ug/L	98
53) 1,1,1-trichloroethane	8.951	97	2233	0.60	ug/L	97

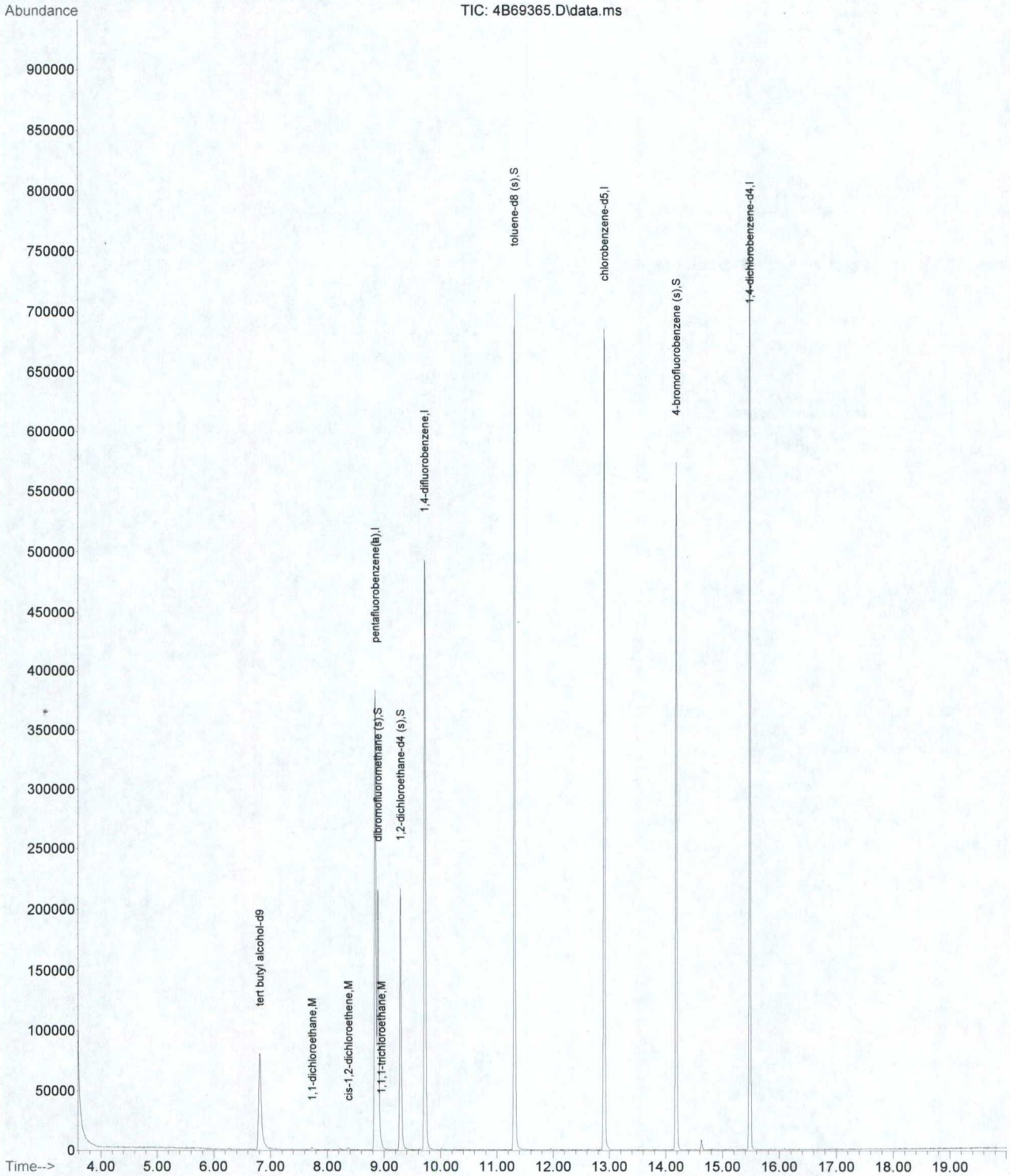
(#) = qualifier out of range (m) = manual integration (+) = signals summed

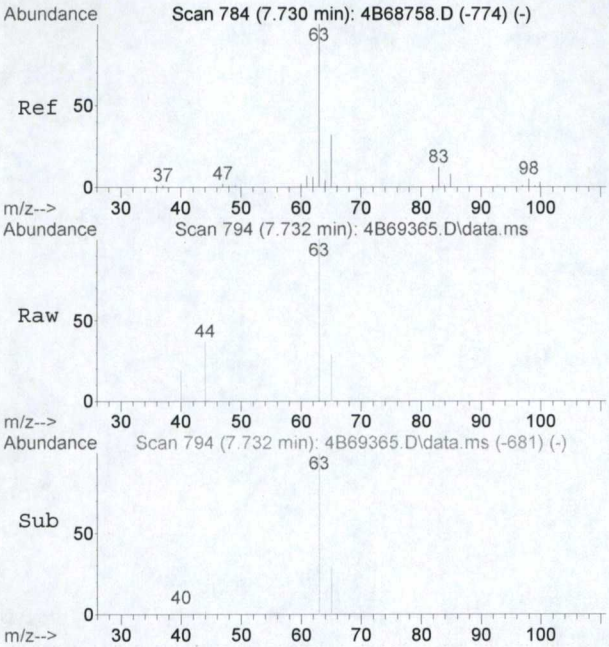
7.1.14 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2855\
Data File : 4B69365.D
Acq On : 16 Feb 2017 4:07 pm
Operator : Hueanht
Sample : jc37020-14
Misc : MS12539,V4B2855,5,,,,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Feb 17 12:24:17 2017
Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Thu Feb 16 08:29:28 2017
Response via : Initial Calibration

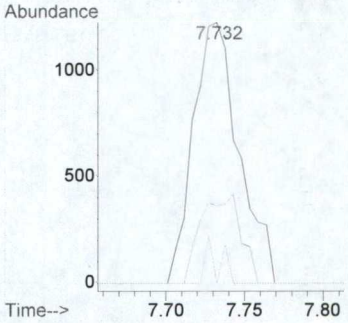


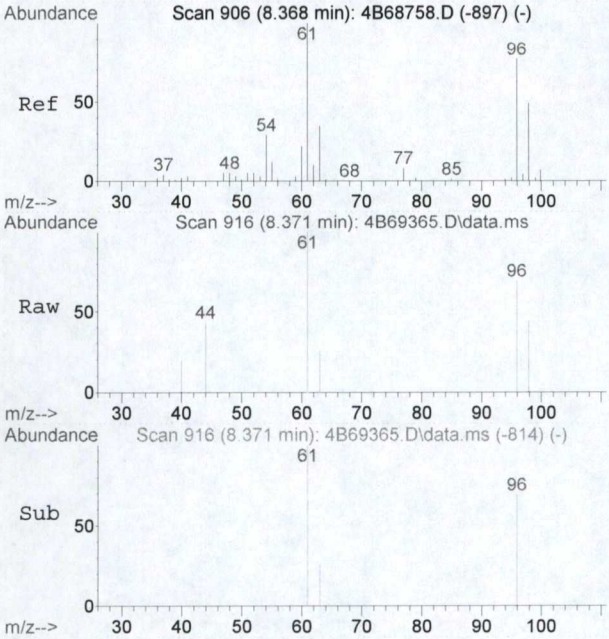


#35
1,1-dichloroethane
Concen: 0.46 ug/L
RT: 7.732 min Scan# 794
Delta R.T. 0.002 min
Lab File: 4B69365.D
Acq: 16 Feb 2017 4:07 pm

Tgt Ion: 63 Resp: 2463

Ion	Ratio	Lower	Upper
63	100		
65	29.4	1.8	61.8
83	0.0	0.0	42.3

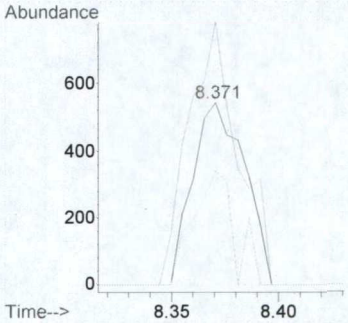




#42
cis-1,2-dichloroethene
Concen: 0.31 ug/L
RT: 8.371 min Scan# 916
Delta R.T. 0.002 min
Lab File: 4B69365.D
Acq: 16 Feb 2017 4:07 pm

Tgt Ion: 96 Resp: 925

Ion	Ratio	Lower	Upper
96	100		
61	143.9	110.8	170.8
98	62.7	34.1	94.1



7.1.14

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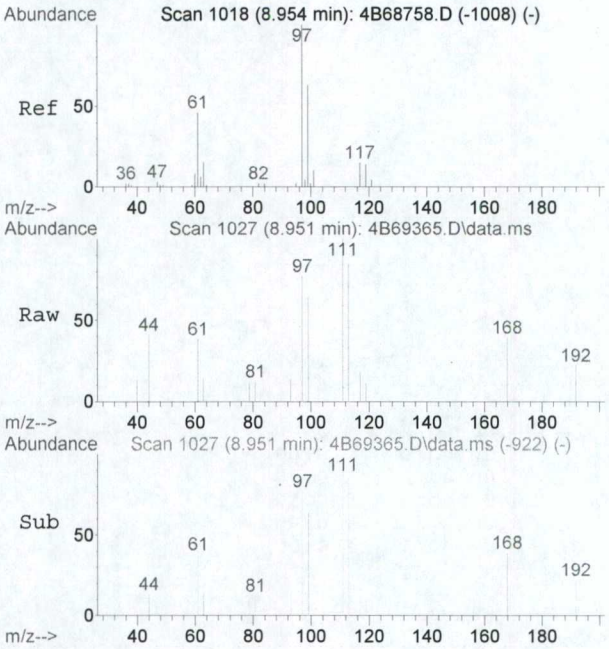
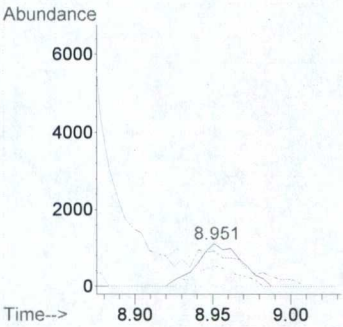
SGS ACCUTEST JC37020



#53
1,1,1-trichloroethane
Concen: 0.60 ug/L
RT: 8.951 min Scan# 1027
Delta R.T. -0.003 min
Lab File: 4B69365.D
Acq: 16 Feb 2017 4:07 pm

Tgt Ion: 97 Resp: 2233

Ion	Ratio	Lower	Upper
97	100		
99	65.5	34.3	94.3
61	48.7	15.9	75.9



7.1.14

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4B\v4b2855\
Data File : 4B69358.D
Acq On : 16 Feb 2017 12:45 pm
Operator : Hueanht
Sample : jc37020-15
Misc : MS12539,V4B2855,5,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Feb 17 12:10:12 2017
Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Thu Feb 16 08:29:28 2017
Response via : Initial Calibration

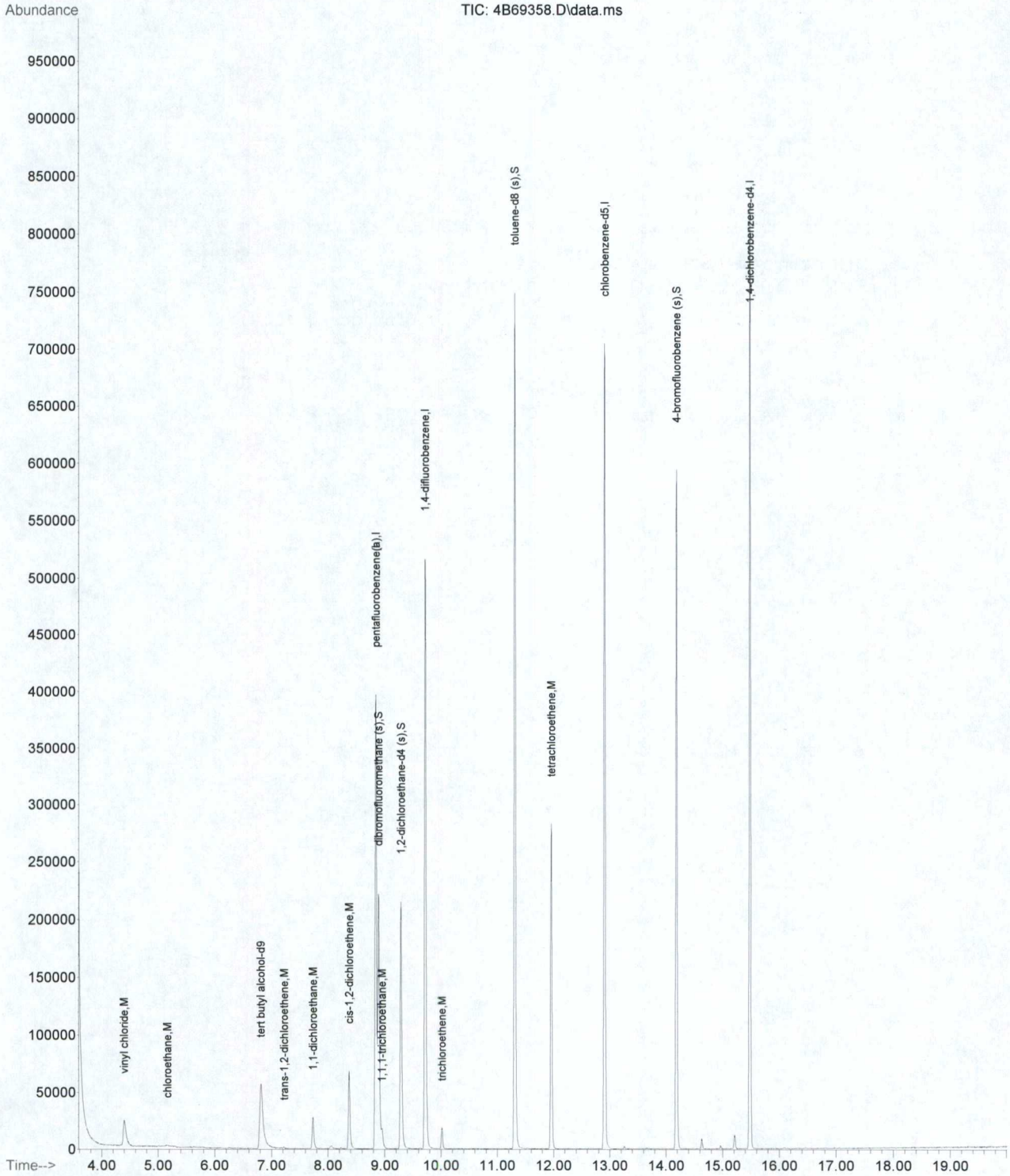
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	6.807	65	133577	500.00	ug/L	0.00
5) pentafluorobenzene	8.841	168	299739	50.00	ug/L	0.00
56) 1,4-difluorobenzene	9.715	114	413850	50.00	ug/L	0.00
88) chlorobenzene-d5	12.905	117	387485	50.00	ug/L	0.00
103) 1,4-dichlorobenzene-d4	15.479	152	217598	50.00	ug/L	0.00
137) pentafluorobenzene(a)	8.841	168	299739	50.00	ug/L	# 0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	8.889	113	131273	51.86	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 103.72%			
50) 1,2-dichloroethane-d4 (s)	9.286	65	150352	54.84	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 109.68%			
80) toluene-d8 (s)	11.310	98	481240	50.35	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 100.70%			
105) 4-bromofluorobenzene (s)	14.182	95	185654	52.10	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 104.20%			
Target Compounds						Qvalue
11) vinyl chloride	4.396	62	48479	8.84	ug/L	96
13) chloroethane	5.159	64	1609	0.66	ug/L #	58
32) trans-1,2-dichloroethene	7.220	96	580	0.21	ug/L #	80
35) 1,1-dichloroethane	7.733	63	30712	5.44	ug/L	100
42) cis-1,2-dichloroethene	8.371	96	30734	9.84	ug/L	98
53) 1,1,1-trichloroethane	8.951	97	9713	2.46	ug/L	94
69) trichloroethene	10.013	95	6348	2.14	ug/L	94
89) tetrachloroethene	11.959	164	69033	21.66	ug/L	98

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

Quantitation Report (QT Reviewed)

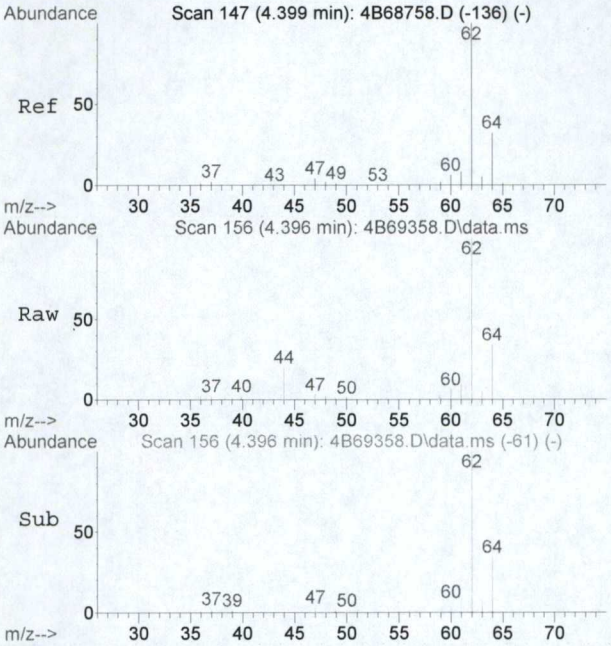
Data Path : C:\msdchem\1\data\4B\v4b2855\
Data File : 4B69358.D
Acq On : 16 Feb 2017 12:45 pm
Operator : Hueanht
Sample : jc37020-15
Misc : MS12539,V4B2855,5,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Feb 17 12:10:12 2017
Quant Method : C:\MSDCHEM\1\METHODS\M4B2825.M
Quant Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Thu Feb 16 08:29:28 2017
Response via : Initial Calibration



M4B2825.M Fri Feb 17 12:39:02 2017 11

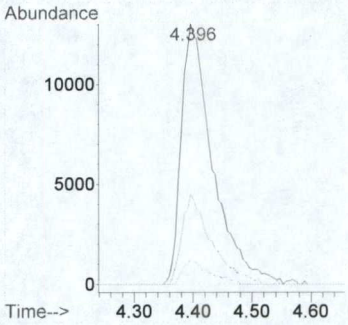
SGS ACCUTEST JC37020

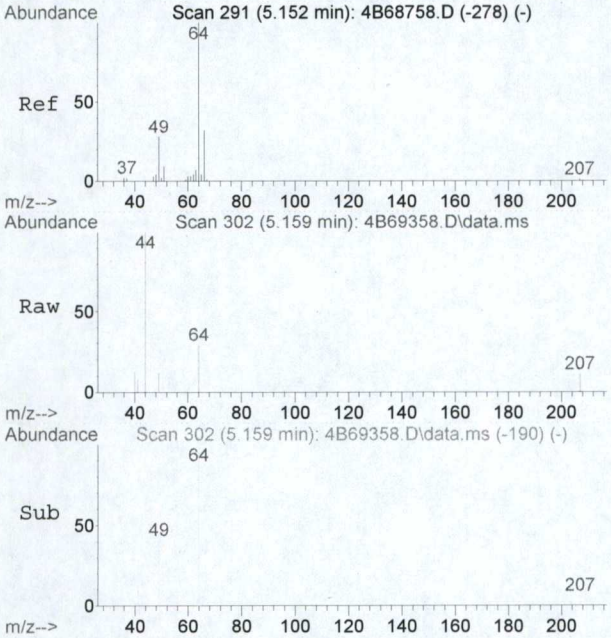


#11
vinyl chloride
Concen: 8.84 ug/L
RT: 4.396 min Scan# 156
Delta R.T. -0.003 min
Lab File: 4B69358.D
Acq: 16 Feb 2017 12:45 pm

Tgt Ion: 62 Resp: 48479

Ion	Ratio	Lower	Upper
62	100		
64	34.3	2.3	62.3
61	9.5	0.0	38.4

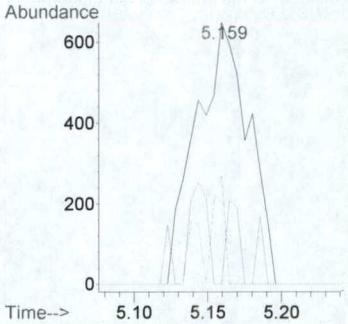




#13
chloroethane
Concen: 0.66 ug/L
RT: 5.159 min Scan# 302
Delta R.T. 0.008 min
Lab File: 4B69358.D
Acq: 16 Feb 2017 12:45 pm

Tgt Ion: 64 Resp: 1609

Ion	Ratio	Lower	Upper
64	100		
66	0.0	1.9	61.9#
49	41.3	0.0	58.4



7.1.15

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