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September 6, 2016

Second Quarter 2016 GMZ Monitoring and System Performance Report

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

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September 6, 2016

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Subject: Second Quarter 2016 GMZ Monitoring and System Performance Report
UTC Aerospace Systems Plants 1/2 Facility
Area 9/10 Remedial Action
Southeast Rockford Groundwater Contamination Superfund Site
2421 11th Street
Rockford, Illinois 61104
ILD981000417
AECOM Project No. 60480278

Dear Ms. Kirchner and Mr. Conrath:

This Quarterly Groundwater Management Zone (GMZ) Monitoring and System Performance Report has been prepared by AECOM Technical Services Inc. (AECOM) on behalf of UTC Aerospace Systems (UTAS, fka Hamilton Sundstrand Corporation or HSC). In accordance with the approved March 2007 Operation, Maintenance, and Monitoring Plan (OM&M Plan) and the United States Environmental Protection Agency (EPA) letter dated April 15, 2011 providing approval for combining project reporting documents, this report contains a summary of the following: 1) GMZ groundwater monitoring data; 2) the Phase 1 and Phase 2 air sparge/soil vapor extraction (AS/SVE) system performance data; 3) the Phase 1 and Phase 2 AS/SVE system process air analytical data; 4) GMZ wells that contain contaminants of concern (COCs) above Preliminary Remediation Goals (PRGs); and 5) Quarterly Progress Report for Third Quarter 2016.

As approved in the April 15, 2011 letter from Timothy Drexler, interpretation of collected groundwater quality and system performance data will be included in the Annual GMZ Monitoring and System Performance Report submitted in March of the subsequent year. This quarterly report provides the current environmental data including: tables and figures summarizing the results of second quarter 2016 GMZ monitoring and AS/SVE system performance data, supporting field data sheets and laboratory analytical reports, and the Quarterly Progress Report covering the period from June 1, 2016, to August 31, 2016.

The objective of AS/SVE system operation is to treat leachate-impacted groundwater at the HSC Plants 1/2 (Site) property. The implemented remedy was specifically targeted to address an area of the Site where COCs were originally present in leachate/groundwater at concentrations that were two or more orders of magnitude greater than their PRGs. Though the treatment area was not fully defined when the 2002 Record of Decision (ROD) for Operable Unit 3 (OU3) was issued, the entire Site was identified/defined in the ROD as a "source location" within the larger established "Source Area 9/10" (Area 9/10) based on data collected prior to the ROD[1]. The ROD further required that the Site remedy include the establishment of a GMZ for this "source location" (the Site) whose volume was defined by the Site property boundaries and a vertical limit of 45 feet below ground surface. Two Site GMZs, GMZ 1 (Site property north of railroad tracks) and GMZ 2 (Site property south of railroad tracks), were approved by the Illinois EPA in 2008. Monitoring wells within the Site GMZs are routinely sampled, and the groundwater analytical results are compared to OU3 PRGs to evaluate the effectiveness of the remedy.

During the second quarter 2016 reporting period, the following seven GMZ well locations along the Site boundary contained COCs at concentrations above PRGs:

GMZ Monitoring Well ID	COC[1] Concentrations > PRG (Increase (+) or Decrease (-) from Previous Quarter)
GMZ01	PCE (+)
GMZ04	1,1,1-TCA (+)
SMW04	PCE (-), Vinyl chloride (+)
SMW08	PCE (-)
SMW19	TCE (+)
PMW01	PCE (-)
PMW02	PCE (+)

[1] Trichloroethene (TCE), 1,1,1-Trichloroethane (TCA), cis-1,2-Dichloroethene (cis-1,2-DCE), Tetrachloroethene (PCE)

The above-noted decreases/increases in concentrations represent a relative change in COC concentrations (above the PRG) between the two most recent quarters of data. Such changes should not be viewed as an indication of a trend without further statistical evaluation.

There was a noted increase in concentrations at performance well RAMW07 this quarter. The performance well is within the zone of influence of the active Phase 2 AS/SVE system. The elevated concentrations are a departure from recent measured concentrations at the well, but they are below concentrations seen in the RAMW07 area prior to the Phase 2 system startup. No other performance well or GMZ well experienced a similar, sharp increase in COC concentrations during

[1] See EPA Superfund Record of Decision Southeast Rockford Ground Water Contamination, 2002. EPA/ROD/R05-02/077 2002.

this quarter. Preliminary groundwater data from the third quarter event (data will be provided as part of the third quarter report) show that COC concentrations measured at RAMW07 are more similar to previous events. The groundwater elevation at RAMW07 increased 1.75 feet since the December 2015 monitoring event. The increase in water table elevation may be a contributing factor to the observed localized and transient increase in COC concentrations at RAMW07. The measured groundwater elevation at RAMW07 during the third quarter event was within 0.16 feet of the second quarter, which along with the lowered measured concentrations, demonstrates the Phase 2 AS/SVE system is positively affecting this area.

While PRGs are used to assess on-going remedy effectiveness at the Site, the continued operation of the AS/SVE remedy will be dependent on the attainment of Alternate Cleanup Levels (ACLs) at the downgradient Site GMZ boundary. COC ACLs have not yet been established/approved for the Site, but the ACLs will represent the maximum allowable concentration at the Site boundary that will not result in a COC exceedance of a PRG at the Area 9/10 boundary downgradient of the Site. Achieving ACLs at the downgradient Site boundary will demonstrate that the Site is protective of human or environmental receptors at the downgradient Area 9/10 boundary, and that continued active remediation is no longer warranted. The downgradient Area 9/10 boundary is located at Harrison Avenue to the south and 6th Street to the west.

The formulation of ACLs is consistent with the attainment of the OU3 ROD Remedial Action Objective (RAO) for groundwater specified in the ROD[2] and the objectives analysis/Remedial Action Process Flow Diagram (RAPFD) developed and approved for use by the EPA and Illinois EPA at the Site. The RAPFD and the conditions for the performance of an objectives analysis and use of ACLs at the Site are provided in the Statement of Work attached to the HSC facility Consent Decree[3] and included in subsequent approved Remedial Design documents for the Site.

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

Prepared by:

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Ms. Diane Bellantoni – United Technologies Corporation
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[2] The OU3 ROD RAO for groundwater media is to: "Prevent the further migration of contamination from the source area that would result in degradation of site-wide groundwater or surface water to levels in excess of state or federal standards, or that pose a threat to human health or the environment."

[3] See the Statement of Work in Appendix C of the Consent Decree between Hamilton Sundstrand Corporation and the United States Environmental Protection Agency (Civil Action Number 08 C 50129), Section II.D.2, *Implementation of Remedial Action and Attainment of Performance Standards* (pages 9 and 10).

Attachments:

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Appendices

Appendix A	Second Quarter 2016 GMZ and Performance Monitoring Well Analytical Data
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Tables

Table 1
Third Quarter 2015 to Second Quarter 2016 Groundwater Elevations
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

Well ID	Top of Casing Elevation (ft)	Depth to Groundwater (ft BTOC)	Groundwater Elevation (ft AMSL)	Depth to Groundwater (ft BTOC)	Groundwater Elevation (ft AMSL)	Depth to Groundwater (ft BTOC)	Groundwater Elevation (ft AMSL)	Depth to Groundwater (ft BTOC)	Groundwater Elevation (ft AMSL)
		8/4/2015		12/7/2015		2/8/2016		5/16/2016	
MW07FGA	727.49	29.33	698.16	29.24	698.25	28.20	699.29	27.53	699.96
MW203	728.58	30.12	698.46	30.00	698.58	29.03	699.55	28.20	700.38
SMW01	729.71	32.08	697.63	32.01	697.70	30.90	698.81	30.25	699.46
SMW02	726.77	28.59	698.18	28.50	698.27	27.48	699.29	26.72	700.05
SMW04	728.51	31.22	697.29	31.20	697.31	30.10	698.41	29.46	699.05
SMW08	728.81	31.42	697.39	31.41	697.40	30.31	698.50	29.65	699.16
SMW19	728.49	30.31	698.18	30.21	698.28	29.18	699.31	28.40	700.09
SMW20	727.69	30.41	697.28	30.29	697.40	29.25	698.44	28.60	699.09
SMW21	727.25	29.88	697.37	29.81	697.44	28.72	698.53	28.08	699.17
GMZ01	731.41	34.02	697.39	33.97	697.44	32.86	698.55	32.23	699.18
GMZ02	728.76	31.56	697.20	31.55	697.21	30.30	698.46	29.80	698.96
GMZ03	728.22	30.95	697.27	30.94	697.28	29.84	698.38	29.19	699.03
GMZ04	726.84	29.27	697.57	29.21	697.63	28.14	698.70	27.47	699.37
BGW01	728.19	30.08	698.11	30.02	698.17	28.93	699.26	28.28	699.91
BGW02	728.81	30.57	698.24	30.44	698.37	29.43	699.38	28.75	700.06
BGW03	728.96	30.66	698.30	30.56	698.40	29.52	699.44	28.79	700.17
RAMW01	728.91	31.60	697.31	31.54	697.37	30.33	698.58	29.81	699.10
RAMW02	728.90	31.48	697.42	31.41	697.49	30.45	698.45	29.67	699.23
RAMW03	728.71	31.29	697.42	31.24	697.47	30.16	698.55	29.49	699.22
RAMW04	728.80	31.14	697.66	31.02	697.78	29.99	698.81	29.33	699.47
RAMW05	727.65	30.02	697.63	29.96	697.69	28.89	698.76	28.21	699.44
RAMW06	727.64	30.07	697.57	29.99	697.65	28.93	698.71	28.24	699.40
RAMW07	732.20	34.53	697.67	34.45	697.75	33.39	698.81	32.70	699.50
RAMW08	728.45	30.64	697.81	30.61	697.84	28.54	699.91	28.84	699.61
PMW01	728.88	31.71	697.17	31.65	697.23	30.54	698.34	29.91	698.97
PMW02	728.88	31.64	697.24	31.63	697.25	30.52	698.36	29.88	699.00
Ave. GW Elev. (ft AMSL)			697.65		697.72		698.83		699.46

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

Table 2
Third Quarter 2015 to Second Quarter 2016 Groundwater Analytical Results - GMZ Wells
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

Well	Sample ID	Sample Date	Sample Type	Trichloroethene (TCE)	Methylene Chloride (Dichloromethane)	1,1-Dichloroethene	1,1-Dichloroethane	1,2-Dichloroethane	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Ethylbenzene	Tetrachloroethene (PCE)	Toluene	Vinyl chloride
			Preliminary Remediation Goals (PRG)[A]	0.005[c,A]	0.005[c,A]	0.007[b,c,A]	0.7[A]	0.005[c,A]	0.07[c,A]	0.1[c,A]	0.2[b,c,A]	0.005[c,A]	0.7[c,A]	0.005[c,A]	1.0[c,A]	0.002[c,A]
				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
GMZ01	HS SER-GMZ01-080415	4-Aug-15		**0.0018**	0.0020 U	0.0010 U	**0.0066**	0.0010 U	**0.0037**	0.0010 U	**0.0064**	0.0010 U	0.0010 U	**0.0183[A]**	0.0010 U	0.0010 U
	HS SER-GMZ01-120815	8-Dec-15		**0.0018**	0.0020 U	0.0010 U	**0.0113**	0.0010 U	**0.0031**	0.0010 U	**0.0087**	0.0010 U	0.0010 U	**0.0191[A]**	0.0010 U	0.0010 U
	HS SER-GMZ01-020816	8-Feb-16		**0.0013**	0.0020 U	0.0010 U	**0.0089**	0.0010 U	**0.0021**	0.0010 U	**0.0049**	0.0010 U	0.0010 U	**0.0206[A]**	0.0010 U	0.0010 U
	HS SER-GMZ01-051616	16-May-16		**0.0023**	0.0020 U	0.00080 J	**0.0123**	0.0010 U	**0.0034**	0.00053 J	**0.0081**	0.0010 U	0.0010 U	**0.0424[A]**	0.0010 U	0.0010 U
GMZ02	HS SER-GMZ02-080515	5-Aug-15		0.00040 J	0.0020 U	0.0010 U	**0.0016**	0.0010 U	0.00057 J	0.0010 U	**0.0030**	0.0010 U	0.0010 U	0.00043 J	0.0010 U	0.0010 U
	HS SER-GMZ02-120915	9-Dec-15		0.0010 U	0.0020 U	0.0010 U	**0.0023**	0.0010 U	0.00059 J	0.0010 U	**0.0065**	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-GMZ02-020916	9-Feb-16		0.0010 U	0.0020 U	0.0010 U	**0.0011**	0.0010 U	0.0010 U	0.0010 U	**0.0012**	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-GMZ02-051816	18-May-16		0.0010 U	0.0020 U	0.0010 U	**0.0015**	0.0010 U	0.00042 J	0.0010 U	**0.0026**	0.0010 U	0.0010 U	0.00043 J	0.0010 U	0.0010 U
GMZ03	HS SER-GMZ03-080515	5-Aug-15		0.0010 U	0.0020 U	0.0010 U	0.00028 J	0.0010 U	0.0010 U	0.0010 U	0.00035 J	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-DUP01-080515	5-Aug-15	Field Duplicate	0.0010 U	0.0020 U	0.0010 U	0.00026 J	0.0010 U	0.0010 U	0.0010 U	0.00036 J	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-GMZ03-120915	9-Dec-15		0.0010 U	0.0020 U	0.0010 U	0.00034 J	0.0010 U	0.0010 U	0.0010 U	0.00039 J	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-DUP01-120915	9-Dec-15	Field Duplicate	0.0010 U	0.0020 U	0.0010 U	0.00035 J	0.0010 U	0.0010 U	0.0010 U	0.00039 J	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-GMZ03-021016	10-Feb-16		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.00060 J	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-DUP01-021016	10-Feb-16	Field Duplicate	0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.00055 J	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-GMZ03-051816	18-May-16		0.0010 U	0.0020 U	0.0010 U	0.00077 J	0.0010 U	0.00048 J	0.0010 U	**0.0011**	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-DUP01-051816	18-May-16	Field Duplicate	0.0010 U	0.0020 U	0.0010 U	0.00076 J	0.0010 U	0.00041 J	0.0010 U	**0.0011**	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
GMZ04	HS SER-GMZ04-080515	5-Aug-15		**0.0026**	0.0020 U	0.00093 J	**0.0011**	0.0010 U	**0.0035**	0.0010 U	**0.0536**	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-GMZ04-120915	9-Dec-15		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.00050 J	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-GMZ04-020916	9-Feb-16		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	**0.0018**	0.0010 U	**0.0035**	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-GMZ04-051716	17-May-16		0.0010 U	0.0020 U	**0.0067**	**0.0099**	0.0010 U	**0.0365**	0.0010 U	**0.21[A]**	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
MW07FGA	HS SER-MW07FGA-080515	5-Aug-15		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	**0.0011**	0.0010 U	0.0010 U	**0.0011**	0.0010 U	0.0010 U
	HS SER-MW07FGA-120815	8-Dec-15		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	**0.0016**	0.0010 U	0.0010 U	0.00090 J	0.0010 U	0.0010 U
	HS SER-MW07FGA-020916	9-Feb-16		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	**0.0017**	0.0010 U	0.0010 U	**0.0011**	0.0010 U	0.0010 U
	HS SER-MW07FGA-051716	17-May-16		0.0010 U	0.0020 U	0.0010 U	0.0000	0.0010 U	0.0010 U	0.0010 U	**0.0017**	0.0010 U	0.0010 U	**0.0010**	0.0010 U	0.0010 U
MW203	HS SER-MW203-080415	4-Aug-15		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	**0.0037**	0.0010 U	0.0010 U
	HS SER-MW203-120815	8-Dec-15		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	**0.0040**	0.0010 U	0.0010 U
	HS SER-MW203-020816	8-Feb-16		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	**0.0049**	0.0010 U	0.0010 U
	HS SER-MW203-051716	17-May-16		0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	**0.0046**	0.0010 U	0.0010 U
SMW01	HS SER-SMW01-080415	4-Aug-15		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	**0.0013**	0.0010 U	0.0010 U	**0.0013**	0.0010 U	0.0010 U
	HS SER-SMW01-120815	8-Dec-15		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	**0.0016**	0.0010 U	0.0010 U	**0.0017**	0.0010 U	0.0010 U
	HS SER-SMW01-020816	8-Feb-16		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	**0.0022**	0.0010 U	0.0010 U	**0.0040**	0.0010 U	0.0010 U
	HS SER-SMW01-051616	16-May-16		0.0010 U	0.0020 U	0.0010	0.0010 U	0.0010 U	0.0010 U	0.0010 U	**0.0014**	0.0010 U	0.0010 U	**0.0025**	0.0010 U	0.0010 U
SMW02	HS SER-SMW02-080415	4-Aug-15		0.0010 U	0.0020 U	0.0010 U	**0.0011**	0.0010 U	**0.0014**	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.00061 J	0.0010 U	0.0010 U
	HS SER-SMW02-120815	8-Dec-15		**0.0013**	0.0020 U	0.0010 U	**0.0041**	0.0010 U	**0.0468**	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.00098 J	0.0010 U	0.0010 U
	HS SER-SMW02-020816	8-Feb-16		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.00040 J	0.0010 U	0.0010 U	0.00071 J	0.0010 U	0.0010 U
	HS SER-SMW02-051716	17-May-16		0.0010 U	0.0020 U	0.0010 U	**0.0021**	0.0010 U	**0.0017**	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.00055 J	0.0010 U	0.0010 U
SMW04	HS SER-SMW04-080615	6-Aug-15		**0.0023**	0.0020 U	0.0010 U	**0.0121**	0.0010 U	**0.0756[A]**	0.0010 U	**0.0031**	0.0010 U	0.0010 U	**0.009[A]**	0.0010 U	**0.0163[A]**
	HS SER-SMW04-120915	9-Dec-15		**0.0028**	0.0020 U	0.00065 J	**0.0129**	0.0010 U	**0.0985[A]**	0.0010 U	**0.0027**	0.0010 U	0.0010 U	**0.0110[A]**	0.0010 U	**0.0115[A]**
	HS SER-SMW04-021016	10-Feb-16		**0.0024**	0.0020 U	0.0010 U	**0.0105**	0.0010 U	**0.0538**	0.0010 U	**0.0062**	0.0010 U	0.0010 U	**0.0246[A]**	0.0010 U	**0.0020**
	HS SER-SMW04-051716	17-May-16		**0.0044**	0.0020 U	0.00058 J	**0.0120**	0.0010 U	**0.0412**	0.0010 U	**0.0018**	0.0010 U	0.00010 U	**0.0235[A]**	0.0010 U	**0.0246[A]**

See next page for notes.

Table 2
Third Quarter 2015 to Second Quarter 2016 Groundwater Analytical Results - GMZ Wells
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

Well	Sample ID	Sample Date	Sample Type	Trichloroethene (TCE)	Methylene Chloride (Dichloromethane)	1,1-Dichloroethene	1,1-Dichloroethane	1,2-Dichloroethane	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Ethylbenzene	Tetrachloroethene (PCE)	Toluene	Vinyl chloride
			Preliminary Remediation Goals (PRG)[A]	0.005[c,A]	0.005[c,A]	0.007[b,c,A]	0.7[A]	0.005[c,A]	0.07[c,A]	0.1[c,A]	0.2[b,c,A]	0.005[c,A]	0.7[c,A]	0.005[c,A]	1.0[c,A]	0.002[c,A]
				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SMW08	HS SER-SMW08-080415	4-Aug-15		**0.0021**	0.0020 U	**0.0011**	**0.0165**	0.0010 U	**0.140[A]**	**0.0013**	**0.0040**	0.0010 U	0.0010 U	**0.0243[A]**	0.0010 U	0.0010 U
	HS SER-SMW08-120715	7-Dec-15		**0.0018**	0.0020 U	0.0010 U	**0.0143**	0.0010 U	**0.0878[A]**	0.00073 J	**0.0073**	0.0010 U	0.0010 U	**0.0180[A]**	0.0010 U	0.0010 U
	HS SER-SMW08-020816	8-Feb-16		**0.0059[A]**	0.0020 U	0.00052 J	**0.0101**	0.0010 U	**0.0713[A]**	0.00071 J	**0.0174**	0.0010 U	0.0010 U	**0.0521[A]**	0.0010 U	0.0010 U
	HS SER -SMW08-051616	16-May-16		**0.0025**	0.0020 U	0.00067 J	**0.0065**	0.0010 U	**0.0074**	0.0010 U	**0.0121**	0.0010 U	0.0010 U	**0.0371[A]**	0.0010 U	0.0010 U
SMW19	HS SER-SMW19-080515	5-Aug-15		**0.0106[A]**	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0007 J	0.0010 U	0.00034 J	0.0010 U	0.0010 U	0.00086 J	0.0010 U	0.0010 U
	HS SER-SMW19-120915	9-Dec-15		**0.0116[A]**	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.00048 J	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.00075 J	0.0010 U	0.0010 U
	HS SER-SMW19-020916	9-Feb-16		**0.0165[A]**	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.00063 J	0.0010 U	0.00029 J	0.0010 U	0.0010 U	**0.0011**	0.0010 U	0.0010 U
	HS SER-SMW19-051716	17-May-16		**0.0172[A]**	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.00040 J	0.0010 U	0.00025 J	0.0010 U	0.0010 U	0.00089 J	0.0010 U	0.0010 U
SMW20	HS SER-SMW20-080515	5-Aug-15		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-SMW20-120915	9-Dec-15		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-SMW20-021016	10-Feb-16		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-SMW20-051816	18-May-16		0.0010 U	0.0020 U	0.0010 U	0.00023 J	0.0010 U	0.0004 J	0.0010 U	0.00026 J	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
SMW21	HS SER-SMW21-080515	5-Aug-15		0.00084 J	0.0020 U	0.0010 U	0.00025 J	0.0010 U	0.00099 J	0.0010 U	**0.0100**	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-SMW21-120915	9-Dec-15		0.00028 J	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.00068 J	0.0010 U	**0.0052**	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-SMW21-021016	10-Feb-16		0.00029 J	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.00096 J	0.0010 U	**0.0105**	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-SMW21-051816	18-May-16		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.00059 J	0.0010 U	**0.0052**	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
PMW01	HS SER-PMW01-080615	6-Aug-15		**0.0013**	0.0020 U	**0.0018**	**0.0086**	0.0010 U	**0.0011**	0.0010 U	**0.0547**	0.0010 U	0.0010 U	**0.0192[A]**	0.0010 U	0.0010 U
	HS SER-PMW01-120915	9-Dec-15		0.00076 J	0.0020 U	0.0010 U	**0.0038**	0.0010 U	0.0010 U	0.0010 U	**0.0124**	0.0010 U	0.0010 U	**0.0115[A]**	0.0010 U	0.0010 U
	HS SER-PMW01-020916	9-Feb-16		0.00088 J	0.0020 U	0.0010 U	**0.0021**	0.0010 U	0.00040 J	0.0010 U	**0.0107**	0.0010 U	0.0010 U	**0.0122[A]**	0.0010 U	0.0010 U
	HS SER-PMW01-051716	17-May-16		**0.0013**	0.0020 U	0.00095 J	**0.0039**	0.0010 U	**0.0039**	0.0010 U	**0.0122**	0.0010 U	0.0010 U	**0.0104[A]**	0.0010 U	0.00092 J
PMW02	HS SER-PMW02-080615	6-Aug-15		**0.0018**	0.0020 U	0.0010 U	**0.0069**	0.0010 U	**0.0043**	0.0010 U	**0.0042**	0.0010 U	0.0010 U	**0.0088[A]**	0.0010 U	**0.0016**
	HS SER-PMW02-120915	9-Dec-15		**0.0014**	0.0020 U	0.00093 J	**0.0071**	0.0010 U	**0.0093**	0.0010 U	**0.0075**	0.0010 U	0.0010 U	**0.0142[A]**	0.0010 U	0.0010 U
	HS SER-PMW02-020916	9-Feb-16		**0.0013**	0.0020 U	0.0010 U	**0.0042**	0.0010 U	**0.0025**	0.0010 U	**0.0085**	0.0010 U	0.0010 U	**0.0126[A]**	0.0010 U	0.00093 J
	HS SER-PMW02-051816	18-May-16		**0.0018**	0.0020 U	0.00045 J	**0.0035**	0.0010 U	**0.0050**	0.0010 U	**0.0137**	0.0010 U	0.0010 U	**0.024[A]**	0.0010 U	0.0010 U

Notes:

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

Table 3
Third Quarter 2015 to Second Quarter 2016 Groundwater Analytical Results - Performance Wells
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

Well	Sample ID	Sample Date	Sample Type	Trichloroethene (TCE)	Methylene Chloride (Dichloromethane)	1,1-Dichloroethene	1,1-Dichloroethane	1,2-Dichloroethane	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Ethylbenzene	Tetrachloroethene (PCE)	Toluene	Vinyl chloride
			Preliminary Remediation Goals (PRG)[A]	0.005[c,A]	0.005[c,A]	0.007[b,c,A]	0.7[A]	0.005[c,A]	0.07[c,A]	0.1[c,A]	0.2[b,c,A]	0.005[c,A]	0.7[c,A]	0.005[c,A]	1.0[c,A]	0.002[c,A]
				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
RAMW01	HS SER-RAMW01-080615	6-Aug-15		**0.0012**	0.0020 U	0.0010 U	**0.0037**	0.0010 U	0.00070 J	0.0010 U	**0.0039**	0.00022 J	0.0010 U	**0.0052[A]**	0.0010 U	0.0010 U
	HS SER-RAMW01-120915	9-Dec-15		**0.0014**	0.0020 U	0.0010 U	**0.0025**	0.0010 U	0.00045 J	0.0010 U	**0.0042**	0.0010 U	0.0010 U	**0.0098[A]**	0.0010 U	0.0010 U
	HS SER-RAMW01-020916	9-Feb-16		**0.0018**	0.0020 U	0.0010 U	**0.0027**	0.0010 U	0.00069 J	0.0010 U	**0.0059**	0.00027 J	0.0010 U	**0.0094[A]**	0.0010 U	0.0010 U
	HS SER-RAMW01-051716	17-May-16		**0.0015**	0.0020 U	0.00049 J	**0.0018**	0.0010 U	0.0010 U	0.0010 U	**0.0059**	0.0010 U	0.0010 U	**0.0084[A]**	0.0010 U	0.0010 U
RAMW02	HS SER-RAMW02-080615	6-Aug-15		0.00041 J	0.0020 U	0.0010 U	**0.0029**	0.0010 U	0.0010 U	0.0010 U	**0.0032**	0.0010 U	0.0010 U	**0.0025**	0.0010 U	0.0010 U
	HS SER-RAMW02-120915	9-Dec-15		0.00049 J	0.0020 U	0.0010 U	**0.0035**	0.0010 U	0.0010 U	0.0010 U	**0.0041**	0.0010 U	0.0010 U	**0.0048**	0.0010 U	0.0010 U
	HS SER-RAMW02-020916	9-Feb-16		0.00079 J	0.0020 U	0.0010 U	**0.0045**	0.0010 U	0.00044 J	0.0010 U	**0.0058**	0.0010 U	0.0010 U	**0.0091[A]**	0.0010 U	0.0010 U
	HS SER RAMW02-051716	17-May-16		0.00043 J	0.0020 U	0.00024 J	**0.0041**	0.0010 U	0.0010 U	0.0010 U	**0.0039**	0.0010 U	0.0010 U	**0.0051[A]**	0.0010 U	0.0010 U
RAMW03	HS SER-RAMW03-080615	6-Aug-15		0.00043 J	0.0020 U	0.0010 U	0.00039 J	0.0010 U	0.0010 U	0.0010 U	0.00043 J	0.0010 U	0.0010 U	**0.0011**	0.0010 U	0.0010 U
	HS SER-DUP02-080615	6-Aug-15	Field Duplicate	0.00044 J	0.0020 U	0.0010 U	0.00041 J	0.0010 U	0.0010 U	0.0010 U	0.00041 J	0.0010 U	0.0010 U	**0.0011**	0.0010 U	0.0010 U
	HS SER-RAMW03-120815	8-Dec-15		0.00028 J	0.0020 U	0.0010 U	0.00043 J	0.0010 U	0.0010 U	0.0010 U	0.00049 J	0.0010 U	0.0010 U	**0.0012**	0.0010 U	0.0010 U
	HS SER-DUP02-120815	8-Dec-15	Field Duplicate	0.0010 U	0.0020 U	0.0010 U	0.00046 J	0.0010 U	0.0010 U	0.0010 U	0.00061 J	0.0010 U	0.0010 U	**0.0011**	0.0010 U	0.0010 U
	HS SER-RAMW03-020916	9-Feb-16		0.00033 J	0.0020 U	0.0010 U	0.00047 J	0.0010 U	0.0010 U	0.0010 U	**0.0011**	0.0010 U	0.0010 U	**0.0012**	0.0010 U	0.0010 U
	HS SER-DUP02-020916	9-Feb-16	Field Duplicate	0.00034 J	0.0020 U	0.0010 U	0.00048 J	0.0010 U	0.0010 U	0.0010 U	**0.0011**	0.0010 U	0.0010 U	**0.0012**	0.0010 U	0.0010 U
	HS SER-RAMW03-051716	17-May-16		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.00036 J	0.0010 U	0.0010 U	0.00028 J	0.0010 U	0.0010 U
	HS SER-DUP02-051716	17-May-16	Field Duplicate	0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.00043 J	0.00010 U	0.0010 U	0.00026 J	0.0010 U	0.0010 U
RAMW04	HS SER -RAMW04-080715	7-Aug-15		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.00039 J	0.0010 U	0.0010 U	0.00043 J	0.0010 U	0.0010 U
	HS SER -RAMW04-120815	8-Dec-15		0.0010 U	0.0020 U	0.0010 U	0.00053 J	0.0010 U	0.0010 U	0.0010 U	0.00055 J	0.0010 U	0.0010 U	0.00072 J	0.0010 U	0.0010 U
	HS SER -RAMW04-020916	9-Feb-16		0.00031 J	0.0020 U	0.0010 U	0.00082 J	0.0010 U	0.00065 J	0.0010 U	0.00075 J	0.0010 U	0.0010 U	0.00087 J	0.0010 U	0.0010 U
	HS SER-RAMW04-051716	17-May-16		0.0010 U	0.0020 U	0.0010 U	0.00049 J	0.0010 U	0.0010 U	0.0010 U	0.00079 J	0.0010 U	0.0010 U	0.00055 J	0.0010 U	0.0010 U
RAMW05	HS SER-RAMW05-080715	7-Aug-15		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.00052 J	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-RAMW05-120815	8-Dec-15		0.0010 U	0.0020 U	0.0010 U	**0.0016**	0.0010 U	**0.0040**	0.0010 U	**0.0265**	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-RAMW05-020916	9-Feb-16		0.00045 J	0.0020 U	0.0010 U	**0.0026**	0.0010 U	**0.0055**	0.0010 U	**0.0130**	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-RAMW05-051716	17-May-16		0.00079 J	0.0020 U	0.00099 J	0.00069 J	0.0010 U	0.00096 J	0.0010 U	**0.0143**	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
RAMW06	HS SER-RAMW06-080715	7-Aug-15		0.00061 J	0.0020 U	**0.0056**	**0.0026**	0.0010 U	**0.0068**	0.0010 U	**0.0596**	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-RAMW06-120815	8-Dec-15		0.00045 J	0.0020 U	0.00063 J	**0.0041**	0.0010 U	**0.0064**	0.0010 U	**0.0457**	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-RAMW06-020816	8-Feb-16		**0.0016**	0.0020 U	**0.0023**	**0.0032**	0.0010 U	**0.0175**	0.0010 U	**0.0981**	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-RAMW06-051616	16-May-16		**0.0016**	0.0020 U	**0.0153[A]**	**0.0044**	0.0010 U	**0.0047**	0.0010 U	**0.1540**	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
RAMW07	HS SER-RAMW07-080715	7-Aug-15		**0.0015**	0.0020 U	**0.0069**	**0.0072**	0.0010 U	**0.0016**	0.0010 U	**0.0762**	0.0010 U	0.0010 U	**0.0015**	0.0010 U	0.0010 U
	HS SER-RAMW07-120815	8-Dec-15		0.00083 J	0.0020 U	**0.0042**	**0.0226**	0.0010 U	**0.0307**	0.0010 U	**0.1800**	0.0010 U	0.0010 U	**0.0027**	0.0010 U	0.0010 U
	HS SER-RAMW07-020816	8-Feb-16		0.00089 J	0.0020 U	**0.0112[A]**	**0.0301**	0.0010 U	**0.0511**	0.0010 U	**0.255[A]**	0.0010 U	0.0010 U	**0.0026**	0.0010 U	0.0010 U
	HS SER-RAMW07-051616	16-May-16		***0.050 U***	***0.10 U***	**1.780[A]**	**0.170**	***0.050 U***	**0.622[A]**	0.050 U	**16.3[A]**	***0.050 U***	**0.0825**	***0.050 U***	0.050 U	***0.050 U***

See next page for notes.

Table 3
Third Quarter 2015 to Second Quarter 2016 Groundwater Analytical Results - Performance Wells
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

				Trichloroethene (TCE)	Methylene Chloride (Dichloromethane)	1,1-Dichloroethene	1,1-Dichloroethane	1,2-Dichloroethane	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Ethylbenzene	Tetrachloroethene (PCE)	Toluene	Vinyl chloride
			Preliminary Remediation Goals (PRG)[A]	0.005[c,A]	0.005[c,A]	0.007[b,c,A]	0.7[A]	0.005[c,A]	0.07[c,A]	0.1[c,A]	0.2[b,c,A]	0.005[c,A]	0.7[c,A]	0.005[c,A]	1.0[c,A]	0.002[c,A]
Well	**Sample ID**	**Sample Date**	**Sample Type**	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
RAMW08	HS SER-RAMW08-080615	6-Aug-15		0.0010 U	0.0020 U	0.0010 U	0.00025 J	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-RAMW08-120715	7-Dec-15		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-RAMW08-020816	8-Feb-16		0.0010 U	0.0020 U	0.0010 U	0.00024 J	0.0010 U	0.0010 U	0.0010 U	0.00026 J	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-RAMW08-051616	16-May-16		0.0010 U	0.0020 U	0.0010 U	0.00048 J	0.0010 U	0.0010 U	0.0010 U	0.00026 J	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U

Notes:

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

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

Table 4.1
Cell 1 - Phase 1 SVE System Effluent Data
December 2009 - May 2016
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

CELL 1 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 1 Run Time (hr)	SVE Flow Rate (scfm)	1,1,1-Trichloroethane		1,1,2-Trichloroethane		1,1-Dichloroethane		1,2-Dichloroethane		1,1-Dichloroethene		cis-1,2-Dichloroethene		trans-1,2-Dichloroethene		Tetrachloroethene		Trichloroethene		Vinyl chloride		Methylene Chloride	
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)
12/10/2009		159	53	140	13000	3.76E-02	140 U	0.00E+00	45000	9.67E-02	140 U	0.00E+00	910	1.91E-03	18000	3.79E-02	140 U	0.00E+00	940	3.38E-03	260	7.41E-04	8100	1.10E-02	140 U	0.00E+00
12/22/2009		372	124	140	980	2.84E-03	26 U	0.00E+00	11000	2.36E-02	26 U	0.00E+00	130	2.74E-04	7300	1.54E-02	26 U	0.00E+00	390	1.40E-03	41	1.17E-04	470	6.38E-04	26 U	0.00E+00
2/24/2010		1893	631	150	640	1.99E-03	6.0 U	0.00E+00	1900	4.37E-03	6.0 U	0.00E+00	28	6.31E-05	630	1.42E-03	6.0 U	0.00E+00	150	5.78E-04	24	7.33E-05	33	4.80E-05	6.0 U	0.00E+00
3/15/2010		2345	782	140	1100	3.19E-03	8.4 U	0.00E+00	2800	6.01E-03	8.4 U	0.00E+00	37	7.79E-05	1300	2.74E-03	8.4 U	0.00E+00	180	6.49E-04	30	8.56E-05	32	4.34E-05	8.4 U	0.00E+00
4/14/2010		2804	935	150	1400	4.34E-03	12 U	0.00E+00	4100	9.44E-03	12 U	0.00E+00	31	6.99E-05	1400	3.16E-03	12 U	0.00E+00	790	3.05E-03	86	2.63E-04	91	1.32E-04	12 U	0.00E+00
5/13/2010		3495	1165	140	590	1.71E-03	7.0 U	0.00E+00	2600	5.58E-03	7.0 U	0.00E+00	13	2.74E-05	1100	2.31E-03	7.0 U	0.00E+00	300	1.08E-03	32	9.13E-05	10	1.36E-05	7.0 U	0.00E+00
6/21/2010		4430	1477	108	710	1.59E-03	8.6 U	0.00E+00	2600	4.31E-03	8.6 U	0.00E+00	16 J	2.60E-05	570	9.25E-04	8.6 U	0.00E+00	290	8.05E-04	30	6.60E-05	8.6 U	0.00E+00	8.6 UJ	0.00E+00
7/21/2010		5058	1686	140	480	1.39E-03	7.0 U	0.00E+00	2600	5.58E-03	7.0 U	0.00E+00	10	2.10E-05	630	1.33E-03	7.0 U	0.00E+00	710	2.56E-03	42	1.20E-04	7.0 U	0.00E+00	7.0 U	0.00E+00
8/23/2010		5784	1928	0	370	0.00E+00	8.2 U	0.00E+00	2400	0.00E+00	8.2 U	0.00E+00	8.2 U	0.00E+00	540	0.00E+00	8.2 U	0.00E+00	500	0.00E+00	48	0.00E+00	8.2 U	0.00E+00	8.2 U	0.00E+00
9/23/2010		6523	2174	145	480	1.44E-03	7.2 U	0.00E+00	2000	4.45E-03	7.2 U	0.00E+00	7.2 U	0.00E+00	250	5.45E-04	7.2 U	0.00E+00	380	1.42E-03	31	9.16E-05	7.2 U	0.00E+00	7.2 U	0.00E+00
10/22/2010		7219	2406	140	390	1.13E-03	5.0 U	0.00E+00	1600	3.44E-03	5.0 U	0.00E+00	5.0 U	0.00E+00	160	3.37E-04	5.0 U	0.00E+00	240	8.64E-04	21	5.99E-05	5.0 U	0.00E+00	5.0 U	0.00E+00
10/22/2010	Dup	7219	2406	140	2600	7.53E-03	10 U	0.00E+00	960	2.06E-03	10 U	0.00E+00	120	2.53E-04	490	1.03E-03	10 U	0.00E+00	140	5.04E-04	49	1.40E-04	10 U	0.00E+00	10 U	0.00E+00
11/15/2010		7794	2598	140	420	1.22E-03	4.3 U	0.00E+00	1700	3.65E-03	4.3 U	0.00E+00	4.3 U	0.00E+00	140	2.95E-04	4.3 U	0.00E+00	140	5.04E-04	16	4.56E-05	4.3 U	0.00E+00	4.3 U	0.00E+00
12/22/2010		8508	2777	150	600	1.86E-03	4.2 U	0.00E+00	1600	3.68E-03	4.2 U	0.00E+00	8.5	1.92E-05	510	1.15E-03	4.2 U	0.00E+00	75	2.89E-04	11	3.36E-05	4.2 U	0.00E+00	4.2 U	0.00E+00
1/24/2011		9302	2975	170	360	1.27E-03	5.2 U	0.00E+00	1700	4.43E-03	5.2 U	0.00E+00	5.2 U	0.00E+00	140	3.58E-04	5.2 U	0.00E+00	45	1.97E-04	8.6	2.98E-05	5.2 U	0.00E+00	5.2 U	0.00E+00
2/25/2011		10071	3167	165	280	9.56E-04	4.0 U	0.00E+00	1600	4.05E-03	4.0 U	0.00E+00	4.5	1.12E-05	120	2.98E-04	4.0 U	0.00E+00	34	1.44E-04	7.4	2.49E-05	4.0 U	0.00E+00	4.0 U	0.00E+00
3/18/2011		10573	3293	165	200	6.83E-04	6.3 U	0.00E+00	1900	4.81E-03	6.3 U	0.00E+00	6.3 U	0.00E+00	130	3.22E-04	6.3 U	0.00E+00	32	1.36E-04	6.4	2.15E-05	6.3 U	0.00E+00	6.3 U	0.00E+00
4/15/2011		11241	3460	160	180 J B	5.96E-04	4.5 U	0.00E+00	1700	4.17E-03	4.5 U	0.00E+00	4.5 U	0.00E+00	110	2.65E-04	4.5 U	0.00E+00	43	1.77E-04	8.6	2.80E-05	4.5 U	0.00E+00	4.5 U	0.00E+00
5/19/2011		12061	3665	160	110	3.64E-04	4.3 U	0.00E+00	1100	2.70E-03	4.3 U	0.00E+00	4.3 U	0.00E+00	85	2.04E-04	4.3 U	0.00E+00	55	2.26E-04	8	2.61E-05	4.3 U	0.00E+00	4.3 U	0.00E+00
6/16/2011		12722	3830	170	150	5.27E-04	2.3 U	0.00E+00	730	1.90E-03	2.3 U	0.00E+00	2.8	7.15E-06	63	1.61E-04	2.3 U	0.00E+00	110	4.81E-04	12	4.16E-05	2.3 U	0.00E+00	2.3 U	0.00E+00
7/15/2011		13417	4472	170	140	4.92E-04	1.2 U	0.00E+00	390	1.02E-03	1.2 U	0.00E+00	2.2	5.62E-06	47	1.20E-04	1.2	3.07E-06	170	7.43E-04	14	4.85E-05	1.2 U	0.00E+00	1.2 U	0.00E+00
8/22/2011		14324	4775	170	150	5.27E-04	1.1 U	0.00E+00	210	5.48E-04	1.1 U	0.00E+00	2.1	5.37E-06	36	9.20E-05	1.1 U	0.00E+00	180	7.87E-04	16	5.54E-05	1.1 U	0.00E+00	2.3 UJ B	0.00E+00
9/15/2011		14905	4968	170	130	4.57E-04	1.1 U	0.00E+00	130	3.39E-04	1.1 U	0.00E+00	1.5	3.83E-06	40	1.02E-04	1.1 U	0.00E+00	180	7.87E-04	14	4.85E-05	1.5	2.47E-06	1.1 U	0.00E+00
10/14/2011		15598	5199	160	65	2.15E-04	0.74 U	0.00E+00	100	2.45E-04	0.74 U	0.00E+00	1.4	3.37E-06	43	1.03E-04	0.86	2.07E-06	130	5.35E-04	9.8	3.19E-05	3.5	5.43E-06	1.3	2.74E-06
11/21/2011		16510	5503	170	49 J B	1.72E-04	0.74 U	0.00E+00	68		0.74 U	0.00E+00	2.9	7.41E-06	28	7.15E-05	1.1	2.81E-06	61	2.67E-04	7.3	2.53E-05	1	1.65E-06	7.4 U	0.00E+00
12/14/2011		17010	5670	170	53	1.86E-04	0.78 U	0.00E+00	45	1.17E-04	0.78 U	0.00E+00	2.7	6.90E-06	18	4.60E-05	0.78 U	0.00E+00	57	2.49E-04	5.8	2.01E-05	0.78 U	0.00E+00	7.8 U	0.00E+00
1/19/2012		17923	5974	170	51	1.79E-04	0.79 U	0.00E+00	41	1.07E-04	0.79 U	0.00E+00	1	2.56E-06	12	3.07E-05	0.79 U	0.00E+00	39	1.70E-04	5	1.73E-05	0.79 U	0.00E+00	1.9	4.25E-06
2/15/2012		18566	6189	170	46	1.62E-04	0.78 U	0.00E+00	30	7.82E-05	0.78 U	0.00E+00	9.4	2.40E-05	10	2.56E-05	0.78 U	0.00E+00	37	1.62E-04	4.3	1.49E-05	0.89	1.47E-06	0.78 U	0.00E+00
3/15/2012		19262	6421	170	38 J B	1.34E-04	0.71 U	0.00E+00	34	8.87E-05	0.71 U	0.00E+00	0.8	2.04E-06	7.8	1.99E-05	0.71 U	0.00E+00	32	1.40E-04	3.9	1.35E-05	0.71 U	0.00E+00	0.71 U	0.00E+00
4/19/2012		20102	6701	160	55	1.82E-04	0.76 U	0.00E+00	38	9.33E-05	0.76 U	0.00E+00	0.76 U	0.00E+00	7.4	1.78E-05	0.76 U	0.00E+00	58	2.39E-04	5.7	1.86E-05	0.76 U	0.00E+00	0.76 U	0.00E+00
5/16/2012		20748	6916	160	51	1.69E-04	0.76 U	0.00E+00	36	8.84E-05	0.76 U	0.00E+00	0.76 U	0.00E+00	7.1	1.71E-05	0.76 U	0.00E+00	77	3.17E-04	6.1	1.99E-05	0.76 U	0.00E+00	0.76 U	0.00E+00
Pulse -off period June 1, 2012 to August 14, 2012																										
8/14/2012		21282	7094	160	120	3.97E-04	1.3 U	0.00E+00	51	1.25E-04	1.3 U	0.00E+00	1.3 U	0.00E+00	8.3	2.00E-05	1.3 U	0.00E+00	350	1.44E-03	15	4.89E-05	1.3 U	0.00E+00	13 U	0.00E+00
9/17/2012		21952	7317	160	190	6.29E-04	1.1 U	0.00E+00	77	1.89E-04	1.1 U	0.00E+00	2	4.81E-06	9.8	2.36E-05	1.1 U	0.00E+00	270	1.11E-03	25	8.15E-05	1.1 U	0.00E+00	11 U	0.00E+00
Pulse -off period September 17, 2012 to November 15, 2012																										
11/15/2012		21959	7320	160	160	5.29E-04	1.0 U	0.00E+00	56	1.37E-04	1.0 U	0.00E+00	7.2	1.73E-05	9.1	2.19E-05	1.0 U	0.00E+00	220	9.05E-04	18	5.87E-05	1.0 U	0.00E+00	10 U	0.00E+00
12/14/2012		22554	7518	170	140	4.92E-04	1.2 U	0.00E+00	99	2.58E-04	1.2 U	0.00E+00	3.5	8.94E-06	7.4	1.89E-05	1.2 U	0.00E+00	87	3.80E-04	13	4.50E-05	1.2 U	0.00E+00	12 U	0.00E+00
Pulse -off period December 14, 2012 to February 26, 2013																										
2/26/2013		22556	7518	160	110	3.64E-04	0.99 U	0.00E+00	83	2.04E-04	0.99 U	0.00E+00	0.99 U	1.73E-05	5.6	1.35E-05	0.99 U	0.00E+00	62	2.55E-04	6.7	2.18E-05	0.99 U	0.00E+00	9.9 U	0.00E+00
4/11/2013		23581	7723	160	85	2.81E-04	1.2 U	0.00E+00	54	1.33E-04	1.2 U	0.00E+00	3.8	1.26E-05	7.4	1.78E-05	1.2 U	0.00E+00	38	1.56E-04	8.2	2.67E-05	1.2 U	0.00E+00	12 U	0.00E+00
Pulse -off period April 11, 2013 to May 10, 2013																										
5/10/2013		23583	7724	160	71	2.35E-04	1.1 U	0.00E+00	55	1.35E-04	1.1 U	0.00E+00	1.7	5.63E-06	6	1.44E-05	1.1 U	0.00E+00	37	1.52E-04	6.1	1.99E-05	1.1 U	0.00E+00	11 U	0.00E+00
7/15/2013		25160	8039	160	190	6.29E-04	1.2 U	0.00E+00	79	1.94E-04	1.2 U	0.00E+00	4.7	1.56E-05	11	2.65E-05	1.2 U	0.00E+00	190	7.82E-04	23	7.50E-05	1.2 U	0.00E+00	12 U	0.00E+00
Pulse -off period July 15, 2013 to September 9, 2013																										
9/9/2013		25162	8040	160	180	5.96E-04	1.3 U	0.00E+00	67	1.64E-04	1.3 U	0.00E+00	1.6	3.85E-06	9.3	2.24E-05	1.3 U	0.00E+00	270	1.11E-03	21	6.84E-05	1.3 U	0.00E+00	13 U	0.00E+00
11/18/2013		26825	8372	160	120	3.97E-04	1.1 U	0.00E+00	35	8.59E-05	1.1 U	0.00E+00	3.2	7.70E-06	7.3	1.76E-05	1.1 U	0.00E+00	81	3.33E-04	12	3.91E-05	1.1 U	0.00E+00	11 U	0.00E+00
Pulse -off period November 18, 2013 to January 15, 2014																										
1/15/2014		28218	8651	160	100	3.31E-04	1.1 U	0.00E+00	30	7.36E-05	1.1 U	0.00E+00	1.3	3.13E-06	4.7	1.13E-05	1.1 U	0.00E+00	69	2.84E-04	9.1	2.97E-05	1.1 U	0.00E+00	11 U	0.00E+00
3/14/2014		29432	8894	160	78	2.58E-04	1.1 U	0.00E+00	34	8.35E-05	1.1 U	0.00E+00	3.8	9.14E-06	6.1	1.47E-05	1.1 U	0.00E+00	30	1.23E-04	7	2.28E-05	1.1 U	0.00E+00	11 U	0.00E+00
Pulse -off period March 14, 2014 to May 15, 2014																										
5/15/2014		29914	8990	160	95	3.14E-04	1.2 U	0.00E+00	32	7.86E-05	1.2 U	0.00E+00	1.9	4.57E-06	6	1.44E-05	1.2 U	0.00E+00	55	2.26E-04	6.8	2.22E-05	1.2 U	0.00E+00	12 U	0.00E+00
7/23/2014		31567	9321	160	160	5.29E-04	1.2 U	0.00E+00	41	1.01E-04	1.2 U	0.00E+00	3.6	8.66E-06	9.3	2.24E-05	1.2 U	0.00E+00	170	6.99E-04	18	5.87E-05	1.2 U	0.00E+00	12 U	0.00E+00
Pulse -off period July 23, 2014 to September 16, 2014																										
9/16/2014		32432	9494	160	480	1.59E-03	2.2 U	0.00E+00	11	2.70E-05	2.2 U	0.00E+00	4	9.62E-06	8.7	2.09E-05	2.2 U	0.00E+00	14	5.76E-05	13	4.24E-05	2.2 U	0.00E+00	22 U	0.00E+00
11/14/2014		33847	9777	160	60	1.99E-04	1.1 U	0.00E+00	14	3.44E-05	1.1 U	0.00E+00	1.6	3.85E-06	3.6	8.66E-06	1.1 U	0.00E+00	50	2.06E-04	6.9	2.25E-05	1.1 U	0.00E+00	11 U	0.00E+00
Pulse -off period November 14, 2014 to January 9, 2015																										
1/9/2015		33855	9778	160	86	2.85E-04	1.1 U	0.00E+00	20	4.91E-05	1.1 U	0.00E+00	1.1	2.65E-06	4.0	9.62E-06	1.1 U	0.00E+00	55	2.26E-04	8.2	2.67E-05	1.1 U	0.00E+00	11 U	0.00E+00
1/9/2015	Dup	-	-	160	84	2.78E-04	1.2 U	0.00E+00	20	4.91E-05	1.2 U	0.00E+00	1.2 U	0.00E+00	4.6	1.11E-05	1.2 U	0.00E+00	80	3.29E-04	8.6	2.80E-05	1.2 U	0.00E+00	12 U	0.00E+00
3/13/2015		35189	10045	160	58	1.92E-04	1.3 U	0.00E+00	17	4.17E-05	1.3 U	0.00E+00	2.4	5.77E-06	3.6	8.66E-06	1.3 U	0.00E+00	32	1.32E-04	5.8	1.89E-05	1.3 U	0.00E+00	13 U	0.00E+00
Pulse -off period March 13, 2015 to May 15, 2015																										
5/15/2015		35194	10048	160	63	2.08E-04	2.3 U	0.00E+00	15	3.68E-05	2.3 U	0.00E+00	2.3 U	0.00E+00	2.7	6.49E-06	2.3 U	0.00E+00	67	2.76E-04	7.1	2.31E-05	2.3 U	0.00E+00	23 U	0.00E+00
7/16/2015		36677	10343	160	110	3.64E-04	1.1 U	0.00E+00	32	7.86E-05	1.1 U	0.00E+00	3.1	7.45E-06	6.7	1.61E-05	1.1 U	0.00E+00	170	6.99E-04	19	6.19E-05	1.1 U	0.00E+00	11 U	0.00E+00
Pulse -off period July 16, 2015 to September 22, 2015																										
9/22/2015		36680	10343	160	150	4.96E-04	1.4 U	0.00E+00	29	7.12E-05	1.4 U	0.00E+00	1.4 U	0.00E+00	5.6	1.35E-05	1.4 U	0.00E+00	250	1.03E-03	20	6.52E-05	1.4 U	0.00E+00	14 U	0.00E+00
11/20/2015		38094	10626	160	41	1.36E-04	1.0 U	0.00E+00	9.5	2.33E-05	1.0 U	0.00E+00	1.3	3.13E-06	2.5	6.01E-06	1.0 U	0.00E+00	46	1.89E-04	7.7	2.51E-05	1.0 U	0.00E+00	10 U	0.00E+00
Pulse -off period November 20, 2015 to January 19, 2016																										
1/19/2016		38101	10627	160	80	2.65E-04	1.1 U	0.00E+00	15	3.68E-05	1.1 U	0.00E+00	1.1 U	0.00E+00	2.8	6.73E-06	1.1 U	0.00E+00	100	4.11E-04	11	3.59E-05	1.1 U	0.00E+00	11 U	0.00E+00
3/18/2016		39377	10883	160	48	1.59E-04	1.1 U	0.00E+00	14	3.44E-05	1.1 U	0.00E+00	1.9	4.57E-06	3.6	8.66E-06	1.1 U	0.00E+00	43	1.77E-04	7.7	2.51E-05	1.1 U	0.00E+00	11 U	0.00E+00
Pulse -off period March 18, 2016 to May 19, 2016																										
5/19/2016		39382	10884	160	55	1.82E-04	0.98 U	0.00E+00	14	3.44E-05	0.98 U	0.00E+00	0.98 U	0.00E+00	2.8	6.73E-06	0.98 U	0.00E+00	70	2.88E-04	8.3	2.71E-05	0.98 U	0.00E+00	9.8 U	0.00E+00

Notes:

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

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

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

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

Table 4.1
Cell 1 - Phase 1 SVE System Effluent Data
December 2009 - May 2016
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

CELL 1 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 1 Run Time (hr)	SVE Flow Rate (scfm)	Carbon Tetrachloride		Chloroform		Chloroethane		Benzene		Toluene		Ethylbenzene		m&p-Xylenes		o-Xylenes		Acetone		Methyl Ethyl Ketone (MEK)		Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)		
12/10/2009		159	53	140	140 U	0.00E+00	140 U	0.00E+00	17000	2.38E-02	140 U	0.00E+00	560	1.12E-03	250	5.76E-04	1800	4.15E-03	470	1.08E-03	3800	4.79E-03	140 U	0.00E+00	2.25E-01	11.91
12/22/2009		372	124	140	26 U	0.00E+00	26 U	0.00E+00	1700	2.38E-03	26 U	0.00E+00	32	6.40E-05	26 U	0.00E+00	26 U	0.00E+00	26 U	0.00E+00	100 U	0.00E+00	26 U	0.00E+00	4.67E-02	15.23
2/24/2010		1893	631	150	6.0 U	0.00E+00	6.0 U	0.00E+00	130	1.95E-04	19	3.45E-05	6.0 U	0.00E+00	6.0 U	0.00E+00	6.0 U	0.00E+00	6.0 U	0.00E+00	98	1.32E-04	370	6.20E-04	9.52E-03	20.06
3/15/2010		2345	782	140	8.4 U	0.00E+00	8.4 U	0.00E+00	170	2.38E-04	8.4 U	0.00E+00	8.4 U	0.00E+00	8.4 U	0.00E+00	8.4 U	0.00E+00	8.4 U	0.00E+00	34 U	0.00E+00	8.4 U	0.00E+00	1.30E-02	22.02
4/14/2010		2804	935	150	12 U	0.00E+00	12 U	0.00E+00	320	4.80E-04	14	2.54E-05	12 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	50 U	0.00E+00	12 U	0.00E+00	2.10E-02	25.22
5/13/2010		3495	1165	140	7.0 U	0.00E+00	7.0 U	0.00E+00	100	1.40E-04	12	2.03E-05	7.0 U	0.00E+00	7.0 U	0.00E+00	7.0 U	0.00E+00	7.0 U	0.00E+00	28 U	0.00E+00	7.0 U	0.00E+00	1.10E-02	27.75
6/21/2010		4430	1477	108	8.6 U	0.00E+00	8.6 U	0.00E+00	87 J	9.40E-05	10	1.31E-05	8.6 U	0.00E+00	8.6 U	0.00E+00	8.6 U	0.00E+00	8.6 U	0.00E+00	34 J	3.31E-05	8.6 U	0.00E+00	7.86E-03	30.20
7/21/2010		5058	1686	140	7.0 U	0.00E+00	7.0 U	0.00E+00	60	8.40E-05	7.0 U	0.00E+00	7.0 U	0.00E+00	7.0 U	0.00E+00	7.0 U	0.00E+00	7.0 U	0.00E+00	28 U	0.00E+00	7.0 U	0.00E+00	1.11E-02	32.52
8/23/2010		5784	1928	0	8.2 U	0.00E+00	8.2 U	0.00E+00	38	0.00E+00	24	0.00E+00	8.2 U	0.00E+00	8.2 U	0.00E+00	8.2 U	0.00E+00	8.2 U	0.00E+00	53	0.00E+00	8.2 U	0.00E+00	0.00E+00	32.52
9/23/2010		6523	2174	145	7.2 U	0.00E+00	7.2 U	0.00E+00	15	2.18E-05	17	2.99E-05	7.2 U	0.00E+00	7.2 U	0.00E+00	7.2 U	0.00E+00	7.2 U	0.00E+00	29 U	0.00E+00	7.2 U	0.00E+00	7.99E-03	34.49
10/22/2010		7219	2406	140	5.0 U	0.00E+00	5.0 U	0.00E+00	11	1.54E-05	7.1	1.20E-05	5.0 U	0.00E+00	5.0 U	0.00E+00	5.0 U	0.00E+00	5.0 U	0.00E+00	45	5.67E-05	5.0 U	0.00E+00	5.91E-03	35.86
10/22/2010	Dup	7219	2406	140	10 U	0.00E+00	10 U	0.00E+00	10 U	0.00E+00	10 U	0.00E+00	10 U	0.00E+00	10 U	0.00E+00	10 U	0.00E+00	10 U	0.00E+00	41 U	0.00E+00	10 U	0.00E+00	1.15E-02	37.16
11/15/2010		7794	2598	140	4.3 U	0.00E+00	4.3 U	0.00E+00	12	1.68E-05	4.3 U	0.00E+00	4.3 U	0.00E+00	4.3 U	0.00E+00	4.3 U	0.00E+00	4.3 U	0.00E+00	17 U	0.00E+00	4.3 U	0.00E+00	5.73E-03	36.96
12/22/2010		8508	2777	150	4.2 U	0.00E+00	4.2 U	0.00E+00	10	1.50E-05	5.3	9.63E-06	4.2 U	0.00E+00	4.2 U	0.00E+00	4.2 U	0.00E+00	4.2 U	0.00E+00	16 NJ	2.16E-05	4.2 U	0.00E+00	7.08E-03	38.22
1/24/2011		9302	2975	170	5.2 U	0.00E+00	5.2 U	0.00E+00	5.2 U	0.00E+00	5.2 U	0.00E+00	5.2 U	0.00E+00	5.2 U	0.00E+00	5.2 U	0.00E+00	5.2 U	0.00E+00	21 U	0.00E+00	5.2 U	0.00E+00	6.28E-03	39.47
2/25/2011		10071	3167	165	4.0 U	0.00E+00	4.0 U	0.00E+00	16 U	0.00E+00	4.0 U	0.00E+00	4.0 U	0.00E+00	4.0 U	0.00E+00	4.0 U	0.00E+00	4.0 U	0.00E+00	16 U	0.00E+00	16 U	0.00E+00	5.48E-03	40.53
3/18/2011		10573	3293	165	6.3 U	0.00E+00	6.3 U	0.00E+00	25 U	0.00E+00	6.3 U	0.00E+00	6.3 U	0.00E+00	6.3 U	0.00E+00	6.3 U	0.00E+00	6.3 U	0.00E+00	25 U	0.00E+00	25 U	0.00E+00	5.97E-03	41.27
4/15/2011		11241	3460	160	4.5 U	0.00E+00	4.5 U	0.00E+00	18 U	0.00E+00	4.5 U	0.00E+00	4.5 U	0.00E+00	4.5 U	0.00E+00	4.5 U	0.00E+00	4.5 U	0.00E+00	18 U	0.00E+00	18 U	0.00E+00	5.24E-03	42.15
5/19/2011		12061	3665	160	4.3 U	0.00E+00	4.3 U	0.00E+00	17 U	0.00E+00	4.3 U	0.00E+00	4.3 U	0.00E+00	4.3 U	0.00E+00	4.3 U	0.00E+00	4.3 U	0.00E+00	17 U	0.00E+00	17 U	0.00E+00	3.52E-03	42.87
6/16/2011		12722	3830	170	2.3 U	0.00E+00	2.3 U	0.00E+00	9.2 U	0.00E+00	2.3 U	0.00E+00	2.3 U	0.00E+00	2.3 U	0.00E+00	2.3 U	0.00E+00	2.3 U	0.00E+00	9.2 U	0.00E+00	9.2 U	0.00E+00	3.12E-03	43.39
7/15/2011		13417	4472	170	1.2 U	0.00E+00	1.2 U	0.00E+00	4.6 U	0.00E+00	1.5	3.09E-06	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	7.4	1.13E-05	4.6 U	0.00E+00	2.44E-03	44.96
8/22/2011		14324	4775	170	1.1 U	0.00E+00	1.1 U	0.00E+00	4.5 U	0.00E+00	6.7	1.38E-05	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	44 J B	6.74E-05	4.5 U	0.00E+00	2.10E-03	45.59
9/15/2011		14905	4968	170	1.1 U	0.00E+00	1.1 U	0.00E+00	4.5 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	5.6	8.57E-06	4.5 U	0.00E+00	1.75E-03	45.93
10/14/2011		15598	5199	160	0.74 U	0.00E+00	0.74 U	0.00E+00	3.0 U	0.00E+00	0.74 U	0.00E+00	1.8	4.11E-06	0.74 U	0.00E+00	0.74 U	0.00E+00	0.74 U	0.00E+00	18	2.59E-05	3.0 U	0.00E+00	1.17E-03	46.20
11/21/2011		16510	5503	170	0.74 U	0.00E+00	0.74 U	0.00E+00	3.0 U	0.00E+00	0.74 U	0.00E+00	0.74 U	0.00E+00	0.74 U	0.00E+00	0.74 U	0.00E+00	0.74 U	0.00E+00	14	2.14E-05	3.0 U	0.00E+00	5.69E-04	46.37
12/14/2011		17010	5670	170	0.78 U	0.00E+00	0.78 U	0.00E+00	3.1 U	0.00E+00	0.78 U	0.00E+00	0.78 U	0.00E+00	0.78 U	0.00E+00	0.78 U	0.00E+00	0.78 U	0.00E+00	7.8 UJ	0.00E+00	3.1 U	0.00E+00	6.26E-04	46.48
1/19/2012		17923	5974	170	0.79 U	0.00E+00	0.79 U	0.00E+00	3.2 U	0.00E+00	0.79 U	0.00E+00	0.79 U	0.00E+00	0.79 U	0.00E+00	0.79 U	0.00E+00	0.79 U	0.00E+00	3.2	4.90E-06	3.2 U	0.00E+00	5.16E-04	46.63
2/15/2012		18566	6189	170	0.78 U	0.00E+00	0.78 U	0.00E+00	3.1 U	0.00E+00	1.2	2.47E-06	0.78 U	0.00E+00	0.78 U	0.00E+00	0.78 U	0.00E+00	0.78 U	0.00E+00	20	3.06E-05	3.1 U	0.00E+00	5.01E-04	46.74
3/15/2012		19262	6421	170	0.71 U	0.00E+00	0.71 U	0.00E+00	2.8 U	0.00E+00	0.71 U	0.00E+00	1.8	4.37E-06	0.71 U	0.00E+00	0.71 U	0.00E+00	0.71 U	0.00E+00	2.8 U	0.00E+00	2.8 U	0.00E+00	4.02E-04	46.84
4/19/2012		20102	6701	160	0.76 U	0.00E+00	0.76 U	0.00E+00	3.0 U	0.00E+00	0.76 U	0.00E+00	0.76 U	0.00E+00	0.76 U	0.00E+00	0.76 U	0.00E+00	0.76 U	0.00E+00	3.0 U	0.00E+00	3.0 U	0.00E+00	5.59E-04	46.99
5/16/2012		20748	6916	160	0.76 U	0.00E+00	0.76 U	0.00E+00	3.0 U	0.00E+00	0.76 U	0.00E+00	0.76 U	0.00E+00	0.76 U	0.00E+00	0.76 U	0.00E+00	0.76 U	0.00E+00	3.0 U	0.00E+00	3.0 U	0.00E+00	6.11E-04	47.12
Pulse -off period: June 1, 2012 to August 14, 2012																										
8/14/2012		21282	7094	160	1.3 U	0.00E+00	1.3 U	0.00E+00	5.2 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	13 U	0.00E+00	5.2 U	0.00E+00	2.03E-03	47.48
9/17/2012		21952	7317	160	1.1 U	0.00E+00	1.1 U	0.00E+00	4.3 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.3 U	0.00E+00	2.04E-03	47.94
Pulse -off period: September 17, 2012 to November 15, 2012																										
11/15/2012		21959	7320	160	1.0 U	0.00E+00	1.0 U	0.00E+00	4.1 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00	10 U	0.00E+00	4.1 U	0.00E+00	1.67E-03	47.94
12/14/2012		22554	7518	170	1.2 U	0.00E+00	1.2 U	0.00E+00	4.8 U	0.00E+00	2.1	4.32E-06	7	1.70E-05	1.2 U	0.00E+00	1.5	4.20E-06	1.2 U	0.00E+00	12 U	0.00E+00	4.8 U	0.00E+00	1.23E-03	48.19
Pulse -off period: December 14, 2012 to February 26, 2013																										
2/26/2013		22556	7518	160	0.99 U	0.00E+00	0.99 U	0.00E+00	4.0 U	0.00E+00	0.99 U	0.00E+00	0.99 U	0.00E+00	0.99 U	0.00E+00	0.99 U	0.00E+00	0.99 U	0.00E+00	9.9 U	0.00E+00	4.0 U	0.00E+00	8.75E-04	48.19
4/11/2013		23581	7723	160	1.2 U	0.00E+00	1.2 U	0.00E+00	4.6 U	0.00E+00	1.2 U	0.00E+00	1.4	3.20E-06	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.6 U	0.00E+00	6.30E-04	48.32
Pulse -off period: April 11, 2013 to May 10, 2013																										
5/10/2013		23583	7724	160	1.1 U	0.00E+00	1.1 U	0.00E+00	4.5 U	0.00E+00	1.1 U	0.00E+00	1.7	3.89E-06	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.5 U	0.00E+00	5.66E-04	48.32
7/15/2013		25160	8039	160	1.2 U	0.00E+00	1.2 U	0.00E+00	4.7 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.7 U	0.00E+00	1.72E-03	48.86
Pulse -off period: July 15, 2013 to September 9, 2013																										
9/9/2013		25162	8040	160	1.3 U	0.00E+00	1.3 U	0.00E+00	5.1 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	13 U	0.00E+00	5.1 U	0.00E+00	1.97E-03	48.86
11/18/2013		26825	8372	160	1.1 U	0.00E+00	1.1 U	0.00E+00	4.5 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.5 U	0.00E+00	8.81E-04	49.15
Pulse -off period: November 18, 2013 to January 15, 2014																										
1/15/2014		28218	8651	160	1.1 U	0.00E+00	1.1 U	0.00E+00	4.5 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.5 U	0.00E+00	7.32E-04	49.36
3/14/2014		29432	8894	160	1.1 U	0.00E+00	1.1 U	0.00E+00	4.4 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.4 U	0.00E+00	5.12E-04	49.48
Pulse -off period: March 14, 2014 to May 15, 2014																										
5/15/2014		29914	8990	160	1.2 U	0.00E+00	1.2 U	0.00E+00	4.8 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.8 U	0.00E+00	6.60E-04	49.54
7/23/2014		31567	9321	160	1.2 U	0.00E+00	1.2 U	0.00E+00	4.7 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.7 U	0.00E+00	1.42E-03	50.01
Pulse -off period: July 23, 2014 to September 16, 2014																										
9/16/2014		32432	9494	160	2.2 U	0.00E+00	2.2 U	0.00E+00	9.0 U	0.00E+00	2.2 U	0.00E+00	2.2 U	0.00E+00	2.2 U	0.00E+00	2.2 U	0.00E+00	2.2 U	0.00E+00	22 U	0.00E+00	9.0 U	0.00E+00	1.75E-03	50.32
11/14/2014		33847	9777	160	1.1 U	0.00E+00	1.1 U	0.00E+00	4.6 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.6 U	0.00E+00	4.74E-04	50.45
Pulse -off period: November 14, 2014 to January 9, 2015																										
1/9/2015		33855	9778	160	1.1 U	0.00E+00	1.1 U	0.00E+00	4.5 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.5 U	0.00E+00	5.99E-04	50.45
1/9/2015	Dup	-	-	160	1.2 U	0.00E+00	1.2 U	0.00E+00	4.7 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.7 U	0.00E+00	6.95E-04	-
3/13/2015		35189	10045	160	1.3 U	0.00E+00	1.3 U	0.00E+00	5.2 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	13 U	0.00E+00	5.2 U	0.00E+00	3.99E-04	50.56
Pulse -off period: March 13, 2015 to May 15, 2015																										
5/15/2015		35194	10046	160	2.3 U	0.00E+00	2.3 U	0.00E+00	9.2 U	0.00E+00	2.3 U	0.00E+00	2.3 U	0.00E+00	2.3 U	0.00E+00	2.3 U	0.00E+00	2.3 U	0.00E+00	23 U	0.00E+00	9.2 U	0.00E+00	5.51E-04	50.56
7/16/2015		36677	10343	160	1.1 U	0.00E+00	1.1 U	0.00E+00	4.5 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.5 U	0.00E+00	1.23E-03	50.92
Pulse -off period: July 16, 2015 to September 22, 2015																										
9/22/2015		36680	10343	160	1.4 U	0.00E+00	1.4 U	0.00E+00	5.5 U	0.00E+00	1.4 U	0.00E+00	1.4 U	0.00E+00	2.2	5.79E-06	3.4	8.95E-06	1.4 U	0.00E+00	14 U	0.00E+00	5.5 U	0.00E+00	1.69E-03	50.92
11/20/2015		38094	10626	160	1.0 U	0.00E+00	1.0 U	0.00E+00	4.0 U	0.00E+00	1.0 U	0.00E+00	1.5	3.43E-06	1.0 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00	10 U	0.00E+00	4.0 U	0.00E+00	3.86E-04	51.03
Pulse -off period: November 20, 2015 to January 19, 2016																										
1/19/2016		38101	10627	160	1.1 U	0.00E+00	1.1 U	0.00E+00	4.2 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.2 U	0.00E+00	7.56E-04	51.03
3/18/2016		39377	10883	160	1.1 U	0.00E+00	1.1 U	0.00E+00	4.5 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	3.8	1.00E-05	1.1 U	0.00E+00	11 U	0.00E+00	4.5 U	0.00E+00	4.18E-04	51.14
Pulse -off period: March 18, 2016 to May 19, 2016																										
5/19/2016		39382	10884	160	0.98 U	0.00E+00	0.98 U	0.00E+00	3.9 U	0.00E+00	0.98 U	0.00E+00	0.98 U	0.00E+00	0.98 U	0.00E+00	0.98 U	0.00E+00	0.98 U	0.00E+00	9.8 U	0.00E+00	3.8 U	0.00E+00	5.38E-04	51.14

Notes:

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

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

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

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

Table 4.2
Cell 2 - Phase 1 SVE System Effluent Data
December 2009 - May 2016
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

CELL 2 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 2 Run Time (hr)	SVE Flow Rate (scfm)	1,1,1-Trichloroethane		1,1,2-Trichloroethane		1,1-Dichloroethane		1,2-Dichloroethane		1,1-Dichloroethene		cis-1,2-Dichloroethene		trans-1,2-Dichloroethene		Tetrachloroethene	
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)
12/11/2009		178	59	150	40000	1.24E-01	86 U	0.00E+00	21000	4.83E-02	86 U	0.00E+00	4500	1.01E-02	25000	5.64E-02	86 U	0.00E+00	1500	5.78E-03
12/15/2009		205	68	140	27000	7.82E-02	110 U	0.00E+00	14000	3.01E-02	110 U	0.00E+00	3100	6.52E-03	16000	3.37E-02	110 U	0.00E+00	950	3.42E-03
12/29/2009		539	180	140	24000	6.95E-02	100 U	0.00E+00	9100	1.95E-02	100 U	0.00E+00	2100	4.42E-03	9200	1.94E-02	100 U	0.00E+00	1000	3.60E-03
1/13/2010		903	301	150	9100	2.82E-02	35 U	0.00E+00	3700	8.52E-03	35 U	0.00E+00	880	1.98E-03	3200	7.21E-03	35 U	0.00E+00	610	2.35E-03
1/27/2010		1224	408	150	13000	4.03E-02	40 U	0.00E+00	4300	9.90E-03	40 U	0.00E+00	1100	2.48E-03	3900	8.79E-03	40 U	0.00E+00	600	2.31E-03
1/27/2010	Dup	1224	408	150	14000	4.34E-02	40 U	0.00E+00	4800	1.10E-02	40 U	0.00E+00	1200	2.71E-03	4400	9.92E-03	40 U	0.00E+00	630	2.43E-03
2/24/2010		1893	631	150	8000	2.48E-02	22 U	0.00E+00	3000	6.90E-03	22 U	0.00E+00	520	1.17E-03	2300	5.19E-03	22 U	0.00E+00	200	7.71E-04
3/15/2010		2345	782	140	17000	4.92E-02	48 U	0.00E+00	8000	1.72E-02	48 U	0.00E+00	1100	2.31E-03	6300	1.33E-02	48 U	0.00E+00	860	3.10E-03
4/14/2010		2804	935	150	8400	2.61E-02	23 U	0.00E+00	2200	5.06E-03	23 U	0.00E+00	480	1.08E-03	2000	4.51E-03	23 U	0.00E+00	1300	5.01E-03
5/13/2010		3495	1165	140	8000	2.32E-02	11 U	0.00E+00	3100	6.66E-03	11 U	0.00E+00	480	1.01E-03	2800	5.89E-03	11 U	0.00E+00	380	1.37E-03
6/21/2010		4430	1477	108	5800	1.30E-02	23 U	0.00E+00	3000 J	4.97E-03	23 U	0.00E+00	360 J	5.84E-04	2100	3.41E-03	23 U	0.00E+00	300	8.33E-04
7/21/2010		5058	1686	140	4500	1.30E-02	14 U	0.00E+00	1600	3.44E-03	14 U	0.00E+00	280	5.89E-04	1200	2.53E-03	14 U	0.00E+00	260	9.36E-04
8/23/2010		5784	1928	0	7100	0.00E+00	20 U	0.00E+00	2700	0.00E+00	20 U	0.00E+00	290	0.00E+00	1400	0.00E+00	20 U	0.00E+00	620	0.00E+00
9/23/2010		6523	2174	145	4300	1.29E-02	12 U	0.00E+00	1600	3.56E-03	12 U	0.00E+00	270	5.88E-04	940	2.05E-03	12 U	0.00E+00	290	1.08E-03
10/22/2010		7219	2406	140	2500	7.24E-03	10 U	0.00E+00	890	1.91E-03	10 U	0.00E+00	110	2.31E-04	470	9.89E-04	10 U	0.00E+00	180	6.48E-04
11/15/2010		7794	2598	140	3200	9.27E-03	11 U	0.00E+00	1100	2.36E-03	11 U	0.00E+00	130	2.74E-04	440	9.26E-04	11 U	0.00E+00	120	4.32E-04
12/22/2010		8508	2955	150	4000	1.24E-02	14 U	0.00E+00	1500	3.45E-03	14 U	0.00E+00	240	5.41E-04	730	1.65E-03	14 U	0.00E+00	72	2.78E-04
1/24/2011		9302	3352	170	780	2.74E-03	2.7 U	0.00E+00	800	2.09E-03	2.7 U	0.00E+00	22	5.62E-05	390	9.96E-04	2.7 U	0.00E+00	26	1.14E-04
2/25/2011		10071	3737	165	1500	5.12E-03	4.0 U	0.00E+00	1100	2.78E-03	4.0 U	0.00E+00	44	1.09E-04	560	1.39E-03	4.0 U	0.00E+00	32	1.36E-04
3/18/2011		10573	3988	165	370	1.26E-03	1.0 U	0.00E+00	160	4.05E-04	1.0 U	0.00E+00	11	2.73E-05	62	1.54E-04	1.0 U	0.00E+00	19	8.06E-05
4/15/2011		11241	4322	160	300 J.B	9.93E-04	1.0 U	0.00E+00	95	2.33E-04	1.0 U	0.00E+00	12	2.89E-05	41	9.86E-05	1.0 U	0.00E+00	20	8.23E-05
5/19/2011		12061	4732	160	93	3.08E-04	1.1 U	0.00E+00	39	9.57E-05	1.1 U	0.00E+00	3.5	8.42E-06	21	5.05E-05	1.1 U	0.00E+00	14	5.76E-05
6/16/2011		12722	5062	170	99	3.48E-04	1.2 U	0.00E+00	48	1.25E-04	1.2 U	0.00E+00	2.4	6.13E-06	21	5.37E-05	1.2 U	0.00E+00	30	1.31E-04
7/15/2011		13417	4472	170	77	2.71E-04	1.2 U	0.00E+00	25	6.52E-05	1.2 U	0.00E+00	1.7	4.34E-06	18	4.60E-05	1.2 U	0.00E+00	30	1.31E-04
8/22/2011		14324	4775	170	78	2.74E-04	1.2 U	0.00E+00	31	8.09E-05	1.2 U	0.00E+00	1.2	3.07E-06	17	4.34E-05	1.2 U	0.00E+00	54	2.36E-04
9/15/2011		14905	4968	170	69	2.43E-04	1.1 U	0.00E+00	20	5.22E-05	1.1 U	0.00E+00	1.1 U	0.00E+00	12	3.07E-05	1.1 U	0.00E+00	32	1.40E-04
10/14/2011		15598	5199	160	43	1.42E-04	0.82 U	0.00E+00	12	2.95E-05	0.82 U	0.00E+00	0.82 U	0.00E+00	6.3	1.52E-05	0.82 U	0.00E+00	8.4	3.46E-05
11/21/2011		16510	5503	170	28 J.B	9.85E-05	1.6 U	0.00E+00	7.7	2.01E-05	1.6 U	0.00E+00	1.6 U	0.00E+00	4.1	1.05E-05	1.6 U	0.00E+00	7	3.06E-05
12/14/2011		17010	5670	170	26	9.14E-05	0.76 U	0.00E+00	5.2	1.36E-05	0.76 U	0.00E+00	2.4	6.13E-06	4.2	1.07E-05	0.76 U	0.00E+00	6.9	3.02E-05
1/19/2012		17923	5974	170	25	8.79E-05	0.74 U	0.00E+00	6.9	1.80E-05	0.74 U	0.00E+00	0.74 U	0.00E+00	3	7.67E-06	0.74 U	0.00E+00	4.4	1.92E-05
2/15/2012		18566	6189	170	31	1.09E-04	0.73 U	0.00E+00	7.6	1.98E-05	0.73 U	0.00E+00	1.9	4.85E-06	3.5	8.94E-06	0.73 U	0.00E+00	4.8	2.10E-05
3/15/2012		19262	6421	170	29 J.B	1.02E-04	0.71 U	0.00E+00	8.1	2.11E-05	0.71 U	0.00E+00	0.71 U	0.00E+00	3.7	9.45E-06	0.71 U	0.00E+00	3.9	1.70E-05
4/19/2012		20102	6701	160	31	1.03E-04	0.76 U	0.00E+00	11	2.70E-05	0.76 U	0.00E+00	0.76 U	0.00E+00	4.6	1.11E-05	0.76 U	0.00E+00	8.2	3.37E-05
5/16/2012		20748	6916	160	28	9.27E-05	0.78 U	0.00E+00	11	2.70E-05	0.78 U	0.00E+00	0.78 U	0.00E+00	5	1.20E-05	0.78 U	0.00E+00	11	4.53E-05

Table 4.2
Cell 2 - Phase 1 SVE System Effluent Data
December 2009 - May 2016
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

CELL 2 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 2 Run Time (hr)	SVE Flow Rate (scfm)	Trichloroethene		Vinyl chloride		Methylene Chloride		Carbon Tetrachloride		Chloroform		Chloroethane		Benzene		Toluene	
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)
12/11/2009		178	59	150	330	1.01E-03	4400	6.40E-03	86 U	0.00E+00	86 U	0.00E+00	86 U	0.00E+00	210	3.15E-04	86 U	0.00E+00	200	4.29E-04
12/15/2009		205	68	140	240	6.84E-04	3500	4.75E-03	110 U	0.00E+00	110 U	0.00E+00	110 U	0.00E+00	370	5.18E-04	110 U	0.00E+00	140	2.80E-04
12/29/2009		539	180	140	240	6.84E-04	1500	2.03E-03	100 U	0.00E+00	100 U	0.00E+00	100 U	0.00E+00	120	1.68E-04	100 U	0.00E+00	100 U	0.00E+00
1/13/2010		903	301	150	130	3.97E-04	250	3.63E-04	35 U	0.00E+00	35 U	0.00E+00	35 U	0.00E+00	170	2.55E-04	35 U	0.00E+00	35 U	0.00E+00
1/27/2010		1224	408	150	150	4.58E-04	200	2.91E-04	40 U	0.00E+00	40 U	0.00E+00	40 U	0.00E+00	120	1.80E-04	40 U	0.00E+00	40 U	0.00E+00
1/27/2010	Dup	1224	408	150	180	5.50E-04	240	3.49E-04	40 U	0.00E+00	40 U	0.00E+00	40 U	0.00E+00	130	1.95E-04	40 U	0.00E+00	40 U	0.00E+00
2/24/2010		1893	631	150	98	2.99E-04	73	1.06E-04	22 U	0.00E+00	22 U	0.00E+00	22 U	0.00E+00	38	5.70E-05	22 U	0.00E+00	22 U	0.00E+00
3/15/2010		2345	782	140	210	5.99E-04	62	8.41E-05	48 U	0.00E+00	48 U	0.00E+00	48 U	0.00E+00	180	2.52E-04	48 U	0.00E+00	48 U	0.00E+00
4/14/2010		2804	935	150	190	5.81E-04	69	1.00E-04	23 U	0.00E+00	23 U	0.00E+00	23 U	0.00E+00	23 U	0.00E+00	23 U	0.00E+00	23 U	0.00E+00
5/13/2010		3495	1165	140	78	2.22E-04	42	5.70E-05	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	20	2.80E-05	11 U	0.00E+00	11 U	0.00E+00
6/21/2010		4430	1477	108	88	1.94E-04	23 U	0.00E+00	23 UJ	0.00E+00	23 U	0.00E+00	23 U	0.00E+00	33 J	3.56E-05	23 U	0.00E+00	23 U	0.00E+00
7/21/2010		5058	1686	140	80	2.28E-04	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00
8/23/2010		5784	1928	0	150	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	21	0.00E+00	20 U	0.00E+00	20 U	0.00E+00
9/23/2010		6523	2174	145	74	2.19E-04	12	1.69E-05	12 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00
10/22/2010		7219	2406	140	42	1.20E-04	10 U	0.00E+00	10 U	0.00E+00	10 U	0.00E+00	10 U	0.00E+00	10 U	0.00E+00	10 U	0.00E+00	10 U	0.00E+00
11/15/2010		7794	2598	140	35	9.98E-05	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00
12/22/2010		8508	2955	150	27	8.25E-05	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00
1/24/2011		9302	3352	170	9	3.12E-05	2.7 U	0.00E+00	2.7 U	0.00E+00	2.7 U	0.00E+00	2.7 U	0.00E+00	2.7 U	0.00E+00	2.7 U	0.00E+00	3.1	7.53E-06
2/25/2011		10071	3737	165	15	5.04E-05	4.0 U	0.00E+00	4.0 U	0.00E+00	4.0 U	0.00E+00	4.0 U	0.00E+00	16 U	0.00E+00	4.0 U	0.00E+00	4.0 U	0.00E+00
3/18/2011		10573	3988	165	7.3	2.45E-05	1.0 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00	4.0 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00
4/15/2011		11241	4322	160	8.5	2.77E-05	1.0 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00	4.1 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00
5/19/2011		12061	4732	160	11	3.59E-05	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.5 U	0.00E+00	8.1	1.57E-05	1.1 U	0.00E+00
6/16/2011		12722	5062	170	15	5.19E-05	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.7 U	0.00E+00	1.9	3.91E-06	1.2 U	0.00E+00
7/15/2011		13417	4472	170	21	7.27E-05	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.6 U	0.00E+00	5.3	1.09E-05	1.2 U	0.00E+00
8/22/2011		14324	4775	170	22	7.62E-05	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.7 U	0.00E+00	1.6	3.29E-06	1.2 U	0.00E+00
9/15/2011		14905	4968	170	18	6.23E-05	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.5 U	0.00E+00	4.6	9.47E-06	1.1 U	0.00E+00
10/14/2011		15598	5199	160	9.1	2.97E-05	0.82 U	0.00E+00	0.82 U	0.00E+00	0.82 U	0.00E+00	0.82 U	0.00E+00	3.3 U	0.00E+00	0.82 U	0.00E+00	0.82 U	0.00E+00
11/21/2011		16510	5503	170	5.1	1.77E-05	1.6 U	0.00E+00	1.6 UJ	0.00E+00	1.6 U	0.00E+00	1.6 U	0.00E+00	6.4 U	0.00E+00	1.6 U	0.00E+00	1.6 U	0.00E+00
12/14/2011		17010	5670	170	3.4	1.18E-05	0.76 U	0.00E+00	7.6 U	0.00E+00	0.76 U	0.00E+00	0.76 U	0.00E+00	3.0 U	0.00E+00	0.78	1.61E-06	0.76 U	0.00E+00
1/19/2012		17923	5974	170	2.9	1.00E-05	0.74 U	0.00E+00	1.9	4.25E-06	0.74 U	0.00E+00	0.74 U	0.00E+00	3.0 U	0.00E+00	0.74 U	0.00E+00	1	2.43E-06
2/15/2012		18566	6189	170	2.2	7.62E-06	0.73 U	0.00E+00	0.73 U	0.00E+00	0.73 U	0.00E+00	0.73 U	0.00E+00	2.9 U	0.00E+00	0.73 U	0.00E+00	0.73 U	0.00E+00
3/15/2012		19262	6421	170	2.4	8.31E-06	0.71 U	0.00E+00	0.71 U	0.00E+00	0.71 U	0.00E+00	0.71 U	0.00E+00	2.8 U	0.00E+00	0.71 U	0.00E+00	1.6	3.89E-06
4/19/2012		20102	6701	160	4.3	1.40E-05	0.76 U	0.00E+00	0.76 U	0.00E+00	0.76 U	0.00E+00	0.76 U	0.00E+00	3.0 U	0.00E+00	0.76 U	0.00E+00	0.76 U	0.00E+00
5/16/2012		20748	6916	160	5.3	1.73E-05	0.78 U	0.00E+00	0.78 U	0.00E+00	0.78 U	0.00E+00	0.78 U	0.00E+00	3.1 U	0.00E+00	0.78 U	0.00E+00	0.78 U	0.00E+00

Table 4.2
Cell 2 - Phase 1 SVE System Effluent Data
December 2009 - May 2016
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

CELL 2 SVE EFFLUENT

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

Table 4.2
Cell 2 - Phase 1 SVE System Effluent Data
December 2009 - May 2016
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

CELL 2 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 2 Run Time (hr)	SVE Flow Rate (scfm)	1,1,1-Trichloroethane		1,1,2-Trichloroethane		1,1-Dichloroethane		1,2-Dichloroethane		1,1-Dichloroethene		cis-1,2-Dichloroethene		trans-1,2-Dichloroethene		Tetrachloroethene	
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)
Pulse -off period June 1, 2012 to August 14, 2012																				
8/14/2012		21282	7094	160	370	1.22E-03	1.3 U	0.00E+00	160	3.93E-04	1.3 U	0.00E+00	4.5	1.08E-05	11	2.65E-05	1.3 U	0.00E+00	16	6.58E-05
9/17/2012		21952	7317	160	180	5.96E-04	1.1 U	0.00E+00	36	8.84E-05	1.1 U	0.00E+00	1.1 U	0.00E+00	10	2.40E-05	1.1 U	0.00E+00	20	8.23E-05
Pulse -off period September 17, 2012 to November 15, 2012																				
11/15/2012		21959	7320	160	430	1.42E-03	1.1 U	0.00E+00	140	3.44E-04	1.1 U	0.00E+00	12	2.89E-05	13	3.13E-05	1.1 U	0.00E+00	41	1.69E-04
12/14/2012		22554	7518	170	610	2.14E-03	1.9 U	0.00E+00	11	2.87E-05	1.9 U	0.00E+00	12	3.07E-05	4	1.02E-05	1.9 U	0.00E+00	5.3	2.32E-05
Pulse -off period December 14, 2012 to February 26, 2013																				
2/26/2013		22556	7518	160	1.9	6.29E-06	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
4/11/2013		23581	7723	160	140	4.63E-04	1.2 U	0.00E+00	10	2.45E-05	1.2 U	0.00E+00	4	9.62E-06	3.3	7.94E-06	1.2 U	0.00E+00	5.4	2.22E-05
Pulse -off period April 11, 2013 to May 10, 2013																				
5/10/2013		23583	7724	160	210	6.95E-04	1.1 U	0.00E+00	62	1.52E-04	1.2 U	0.00E+00	3.9	9.38E-06	5.4	1.30E-05	1.1 U	0.00E+00	6.4	2.63E-05
7/15/2013		25160	8039	160	160	5.29E-04	1.1 U	0.00E+00	20	4.91E-05	1.1 U	0.00E+00	3.7	8.90E-06	3.7	8.90E-06	1.1 U	0.00E+00	21	8.64E-05
7/15/2013	Dup	25160	8039	160	160	5.29E-04	1.2 U	0.00E+00	20	4.91E-05	1.2 U	0.00E+00	3.2	7.70E-06	3.5	8.42E-06	1.2 U	0.00E+00	17	6.99E-05
Pulse -off period July 15, 2013 to September 9, 2013																				
9/9/2013		25162	8040	160	380	1.26E-03	2.0 U	0.00E+00	110	2.70E-04	2.0 U	0.00E+00	3.4	8.18E-06	7	1.68E-05	2.0 U	0.00E+00	49	2.02E-04
11/18/2013		26825	8372	160	44	1.46E-04	1.1 U	0.00E+00	11	2.70E-05	1.1 U	0.00E+00	1.3	3.13E-06	2.3	5.53E-06	1.1 U	0.00E+00	14	5.76E-05
Pulse -off period November 18, 2013 to January 15, 2014																				
1/15/2014		28218	8651	160	160	5.29E-04	1.2 U	0.00E+00	55	1.35E-04	1.2 U	0.00E+00	3.3	7.94E-06	2.9	6.97E-06	1.2 U	0.00E+00	7.2	2.96E-05
3/14/2014		29432	8894	160	16	5.29E-05	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.9	4.57E-06	1.2 U	0.00E+00	1.2 U	0.00E+00
3/14/2014	Dup	29432	8894	160	19	6.29E-05	1.2 U	0.00E+00	1.6	3.93E-06	1.2 U	0.00E+00	1.2 U	0.00E+00	1.8	4.33E-06	1.2 U	0.00E+00	1.7	6.99E-06
Pulse -off period March 14, 2014 to May 15, 2014																				
5/15/2014		29914	8990	160	240	7.94E-04	1.1 U	0.00E+00	99	2.43E-04	1.1 U	0.00E+00	4.8	1.15E-05	7.8	1.88E-05	1.1 U	0.00E+00	14	5.76E-05
7/23/2014		31567	9321	160	89	2.95E-04	1.2 U	0.00E+00	20	4.91E-05	1.2 U	0.00E+00	1.8	4.33E-06	3.7	8.90E-06	1.2 U	0.00E+00	11	4.52E-05
Pulse -off period July 23, 2014 to September 16, 2014																				
9/16/2014		32432	9494	160	310	1.03E-03	2.1 U	0.00E+00	120	2.95E-04	2.1 U	0.00E+00	3.9	9.38E-06	6	1.44E-05	2.1 U	0.00E+00	19	7.82E-05
11/14/2014		33847	9777	160	42	1.39E-04	1.1 U	0.00E+00	7.8	1.91E-05	1.1 U	0.00E+00	1.1 U	0.00E+00	1.6	3.85E-06	1.1 U	0.00E+00	11	4.52E-05
Pulse -off period November 14, 2014 to January 9, 2015																				
1/9/2015		33855	9778	160	210	6.95E-04	1.2 U	0.00E+00	69	1.69E-04	1.2 U	0.00E+00	3.7	8.90E-06	3.4	8.18E-06	1.2 U	0.00E+00	8.2	3.37E-05
3/13/2015		35189	10045	160	18	5.96E-05	1.3 U	0.00E+00	5.4	1.33E-05	1.3 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	3.5	1.44E-05
Pulse -off period March 13, 2015 to May 15, 2015																				
5/15/2015		35194	10046	160	240	7.94E-04	1.2 U	0.00E+00	76	1.87E-04	1.2 U	0.00E+00	3.0	7.21E-06	3.5	8.42E-06	1.2 U	0.00E+00	8.2	3.37E-05
7/16/2015		36677	10343	160	64	2.12E-04	1.2 U	0.00E+00	17	4.17E-05	1.2 U	0.00E+00	1.7	4.09E-06	4.2	1.01E-05	1.2 U	0.00E+00	8.6	3.54E-05
Pulse -off period July 16, 2015 to September 22, 2015																				
9/22/2015		36680	10343	160	450	1.49E-03	1.1 U	0.00E+00	210	5.16E-04	1.1 U	0.00E+00	3.4	8.18E-06	9.6	2.31E-05	1.1 U	0.00E+00	28	1.15E-04
11/20/2015		38094	10626	160	43	1.42E-04	1.2 U	0.00E+00	12	2.95E-05	1.2 U	0.00E+00	1.2 U	0.00E+00	1.5	3.61E-06	1.2 U	0.00E+00	14	5.76E-05
Pulse -off period November 20, 2015 to January 19, 2016																				
1/19/2016		38101	10627	160	260	8.60E-04	1.1 U	0.00E+00	89	2.18E-04	1.1 U	0.00E+00	2.5	6.01E-06	3.2	7.70E-06	1.1 U	0.00E+00	14	5.76E-05
3/18/2016		39377	10883	160	23	7.61E-05	1.1 U	0.00E+00	9.5	2.33E-05	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	3.6	1.48E-05
Pulse -off period March 18, 2016 to May 19, 2016																				
5/19/2016		39382	10884	160	210	6.95E-04	1.2 U	0.00E+00	96	2.36E-04	1.2 U	0.00E+00	2.7	6.49E-06	3.1	7.46E-06	1.2 U	0.00E+00	7	2.88E-05

Notes:

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

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

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

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

Table 4.2
Cell 2 - Phase 1 SVE System Effluent Data
December 2009 - May 2016
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

CELL 2 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 2 Run Time (hr)	SVE Flow Rate (scfm)	Trichloroethene		Vinyl chloride		Methylene Chloride		Carbon Tetrachloride		Chloroform		Chloroethane		Benzene		Toluene	
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)
Pulse -off period June 1, 2012 to August 14, 2012																				
8/14/2012		21282	7094	160	12	3.91E-05	1.3 U	0.00E+00	13 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	5.3 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00
9/17/2012		21952	7317	160	29	9.45E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.3 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00
Pulse -off period September 17, 2012 to November 15, 2012																				
11/15/2012		21959	7320	160	26	8.47E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.5 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00
12/14/2012		22554	7518	170	17	5.89E-05	1.9 U	0.00E+00	19 U	0.00E+00	1.9 U	0.00E+00	1.9 U	0.00E+00	7.4 U	0.00E+00	1.9 U	0.00E+00	1.9 U	0.00E+00
Pulse -off period December 14, 2012 to February 26, 2013																				
2/26/2013		22556	7518	160	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	5 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
4/11/2013		23581	7723	160	8	2.61E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.7 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
Pulse -off period April 11, 2013 to May 10, 2013																				
5/10/2013		23583	7724	160	9.5	3.10E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	18	2.88E-05	1.1 U	0.00E+00	1.1 U	0.00E+00
7/15/2013		25160	8039	160	24	7.82E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.6 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00
7/15/2013	Dup	25160	8039	160	24	7.82E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.7 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
Pulse -off period July 15, 2013 to September 9, 2013																				
9/9/2013		25162	8040	160	31	1.01E-04	2.0 U	0.00E+00	20 U	0.00E+00	2.0 U	0.00E+00	2.0 U	0.00E+00	8.0 U	0.00E+00	2.0 U	0.00E+00	2.0 U	0.00E+00
11/18/2013		26825	8372	160	8.4	2.74E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.6 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00
Pulse -off period November 18, 2013 to January 15, 2014																				
1/15/2014		28218	8651	160	7.2	2.35E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.7 U	0.00E+00	1.2 U	0.00E+00	4.9	1.12E-05
3/14/2014		29432	8894	160	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.9 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
3/14/2014	Dup	29432	8894	160	1.5	4.89E-06	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	5.0 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
Pulse -off period March 14, 2014 to May 15, 2014																				
5/15/2014		29914	8990	160	6.6	2.15E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	16	2.56E-05	1.1 U	0.00E+00	1.1 U	0.00E+00
7/23/2014		31567	9321	160	19	6.19E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.6 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
Pulse -off period July 23, 2014 to September 16, 2014																				
9/16/2014		32432	9494	160	26	8.47E-05	2.1 U	0.00E+00	21 U	0.00E+00	2.1 U	0.00E+00	2.1 U	0.00E+00	8.3 U	0.00E+00	3.5	6.78E-06	2.1 U	0.00E+00
11/14/2014		33847	9777	160	7.3	2.38E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.6 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00
Pulse -off period November 14, 2014 to January 9, 2015																				
1/9/2015		33855	9778	160	9.3	3.03E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.8 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
3/13/2015		35189	10045	160	3.0	9.78E-06	1.3 U	0.00E+00	13 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	5.0 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00
Pulse -off period March 13, 2015 to May 15, 2015																				
5/15/2015		35194	10046	160	5.4	1.76E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	7.0	1.12E-05	1.2 U	0.00E+00	1.2 U	0.00E+00
7/16/2015		36677	10343	160	18.0	5.87E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.6 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
Pulse -off period July 16, 2015 to September 22, 2015																				
9/22/2015		36680	10343	160	30	9.78E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.5 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00
11/20/2015		38094	10626	160	9.7	3.16E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.6 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
Pulse -off period November 20, 2015 to January 19, 2016																				
1/19/2016		38101	10627	160	8.5	2.77E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.3 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00
3/18/2016		39377	10883	160	3	9.78E-06	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.5 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00
Pulse -off period March 18, 2016 to May 19, 2016																				
5/19/2016		39382	10884	160	4.2	1.37E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.7 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00

Notes:

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

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

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

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

Table 4.2
Cell 2 - Phase 1 SVE System Effluent Data
December 2009 - May 2016
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

CELL 2 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 2 Run Time (hr)	SVE Flow Rate (scfm)	Ethylbenzene		m&p-Xylenes		o-Xylenes		Acetone		Methyl Ethyl Ketone (MEK)		Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)		
Pulse -off period June 1, 2012 to August 14, 2012																
8/14/2012		21282	7094	160	1.3 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	21	3.03E-05	5.3 U	0.00E+00	1.79E-03	116.20
9/17/2012		21952	7317	160	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.3 U	0.00E+00	8.85E-04	116.40
Pulse -off period September 17, 2012 to November 15, 2012																
11/15/2012		21959	7320	160	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.5 U	0.00E+00	2.08E-03	116.40
12/14/2012		22554	7518	170	1.9 U	0.00E+00	1.9 U	0.00E+00	1.9 U	0.00E+00	19 U	0.00E+00	7.4 U	0.00E+00	2.30E-03	116.86
Pulse -off period December 14, 2012 to February 26, 2013																
2/26/2013		22556	7518	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	5 U	0.00E+00	6.29E-06	116.86
4/11/2013		23581	7723	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.7 U	0.00E+00	5.54E-04	116.97
Pulse -off period April 11, 2013 to May 10, 2013																
5/10/2013		23583	7724	160	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.5 U	0.00E+00	9.56E-04	116.97
7/15/2013		25160	8039	160	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.6 U	0.00E+00	7.61E-04	117.21
7/15/2013	Dup	25160	8039	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.7 U	0.00E+00	7.43E-04	-
Pulse -off period July 15, 2013 to September 9, 2013																
9/9/2013		25162	8040	160	2.0 U	0.00E+00	2.0 U	0.00E+00	2.0 U	0.00E+00	20 U	0.00E+00	8.0 U	0.00E+00	1.86E-03	117.21
11/18/2013		26825	8372	160	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.6 U	0.00E+00	2.66E-04	117.30
Pulse -off period November 18, 2013 to January 15, 2014																
1/15/2014		28218	8651	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	7.44E-04	117.51
3/14/2014		29432	8894	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	5.75E-05	117.52
3/14/2014	Dup	29432	8894	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	5.0 U	0.00E+00	8.30E-05	-
Pulse -off period March 14, 2014 to May 15, 2014																
5/15/2014		29914	8990	160	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	25	3.60E-05	11 U	0.00E+00	1.21E-03	117.64
7/23/2014		31567	9321	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.6 U	0.00E+00	4.64E-04	117.79
Pulse -off period July 23, 2014 to September 16, 2014																
9/16/2014		32432	9494	160	2.1 U	0.00E+00	2.1 U	0.00E+00	2.1 U	0.00E+00	21 U	0.00E+00	21 U	0.00E+00	1.51E-03	118.05
11/14/2014		33847	9777	160	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.6 U	0.00E+00	2.31E-04	118.12
Pulse -off period November 14, 2014 to January 9, 2015																
1/9/2015		33855	9778	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.8 U	0.00E+00	9.45E-04	118.12
3/13/2015		35189	10045	160	1.3 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	13 U	0.00E+00	5.0 U	0.00E+00	9.70E-05	118.15
Pulse -off period March 13, 2015 to May 15, 2015																
5/15/2015		35194	10046	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.6 U	0.00E+00	1.06E-03	118.15
7/16/2015		36677	10343	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.6 U	0.00E+00	3.62E-04	118.25
Pulse -off period July 16, 2015 to September 22, 2015																
9/22/2015		36680	10343	160	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.5 U	0.00E+00	2.25E-03	118.26
11/20/2015		38094	10626	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.6 U	0.00E+00	2.65E-04	118.33
Pulse -off period November 20, 2015 to January 19, 2016																
1/19/2016		38101	10627	160	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.3 U	0.00E+00	1.18E-03	118.33
3/18/2016		39377	10883	160	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.5 U	0.00E+00	1.24E-04	118.36
Pulse -off period March 18, 2016 to May 19, 2016																
5/19/2016		39382	10884	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.7 U	0.00E+00	9.87E-04	118.36

Notes:

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

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

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

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

Table 4.3
Cell 3 - Phase 1 SVE System Effluent Data
December 2009 - May 2016
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

CELL 3 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 3 Run Time (hr)	SVE Flow Rate (scfm)	1,1,1-Trichloroethane		1,1,2-Trichloroethane		1,1-Dichloroethane		1,2-Dichloroethane		1,1-Dichloroethene		cis-1,2-Dichloroethene		trans-1,2-Dichloroethene		Tetrachloroethene	
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)
12/14/2009		181	60	140	94000	2.72E-01	270 U	0.00E+00	1100	2.36E-03	270 U	0.00E+00	2300	4.84E-03	8100	1.70E-02	270 U	0.00E+00	750	2.70E-03
12/16/2009		229	76	150	46000	1.43E-01	110 U	0.00E+00	710	1.63E-03	110 U	0.00E+00	1100	2.48E-03	5500	1.24E-02	110 U	0.00E+00	400	1.54E-03
1/5/2010		707	236	140	42000	1.22E-01	150 U	0.00E+00	290	6.23E-04	150 U	0.00E+00	980	2.06E-03	1500	3.16E-03	150 U	0.00E+00	240	8.64E-04
1/21/2010		1084	361	150	15000	4.65E-02	42 U	0.00E+00	260	5.98E-04	42 U	0.00E+00	280	6.31E-04	1600	3.61E-03	42 U	0.00E+00	170	6.56E-04
1/21/2010	Dup	1084	361	150	16000	4.96E-02	43 U	0.00E+00	280	6.44E-04	43 U	0.00E+00	290	6.54E-04	1700	3.83E-03	43 U	0.00E+00	170	6.56E-04
2/24/2010		1893	631	150	11000	3.41E-02	28 U	0.00E+00	240	5.52E-04	28 U	0.00E+00	280	6.31E-04	1100	2.48E-03	28 U	0.00E+00	140	5.40E-04
3/15/2010		2345	782	140	20000	5.79E-02	21 U	0.00E+00	400	8.59E-04	21 U	0.00E+00	510	1.07E-03	1900	4.00E-03	21 U	0.00E+00	280	1.01E-03
4/14/2010		2804	935	150	31000	9.62E-02	100 U	0.00E+00	380	8.75E-04	100 U	0.00E+00	1100	2.48E-03	1200	2.71E-03	100 U	0.00E+00	820	3.16E-03
5/13/2010		3495	1165	140	8300	2.40E-02	12 U	0.00E+00	220	4.73E-04	12 U	0.00E+00	190	4.00E-04	960	2.02E-03	12 U	0.00E+00	200	7.20E-04
6/21/2010		4430	1477	108	7200	1.61E-02	21 U	0.00E+00	220	3.65E-04	21 U	0.00E+00	150	2.43E-04	660	1.07E-03	21 U	0.00E+00	160	4.44E-04
7/21/2010		5058	1686	140	6100	1.77E-02	20 U	0.00E+00	120	2.58E-04	20 U	0.00E+00	130	2.74E-04	460	9.68E-04	20 U	0.00E+00	120	4.32E-04
8/23/2010		5784	1928	0	8000	0.00E+00	20 U	0.00E+00	200	0.00E+00	20 U	0.00E+00	120	0.00E+00	490	0.00E+00	20 U	0.00E+00	220	0.00E+00
9/23/2010		6523	2174	145	6600	1.98E-02	11 U	0.00E+00	140	3.11E-04	11 U	0.00E+00	140	3.05E-04	440	9.59E-04	11 U	0.00E+00	160	5.96E-04
10/22/2010		7219	2406	140	3700	1.07E-02	14 U	0.00E+00	91	1.95E-04	14 U	0.00E+00	66	1.39E-04	210	4.42E-04	14 U	0.00E+00	110	3.96E-04
11/15/2010		7794	2598	140	4600	1.33E-02	15 U	0.00E+00	120	2.58E-04	15 U	0.00E+00	64	1.35E-04	170	3.58E-04	15 U	0.00E+00	88	3.17E-04
12/22/2010		8508	2777	150	5600	1.74E-02	20 U	0.00E+00	150	3.45E-04	20 U	0.00E+00	120	2.71E-04	330	7.44E-04	20 U	0.00E+00	56	2.16E-04
1/24/2011		9302	2975	170	2200	7.74E-03	8.3 U	0.00E+00	130	3.39E-04	8.3 U	0.00E+00	27	6.90E-05	200	5.11E-04	8.3 U	0.00E+00	35	1.53E-04
2/25/2011		10071	3167	165	1300	4.44E-03	4.0 U	0.00E+00	45	1.14E-04	4.0 U	0.00E+00	25	6.20E-05	72	1.79E-04	4.0 U	0.00E+00	28	1.19E-04
3/18/2011		10573	3293	165	360	1.23E-03	1.3 U	0.00E+00	24	6.08E-05	1.3 U	0.00E+00	5.4	1.34E-05	35	8.68E-05	1.3 U	0.00E+00	13	5.51E-05
4/15/2011		11241	3460	160	160 J,B	5.29E-04	1.0 U	0.00E+00	17	4.17E-05	1.0 U	0.00E+00	2.8	6.73E-06	28	6.73E-05	1.0 U	0.00E+00	15	6.17E-05
5/19/2011		12061	3665	160	64	2.12E-04	1.2 U	0.00E+00	10	2.45E-05	1.2 U	0.00E+00	1.4	3.37E-06	12	2.89E-05	1.2 U	0.00E+00	9.6	3.95E-05
6/16/2011		12722	3830	170	160	5.63E-04	1.2 U	0.00E+00	280	7.30E-04	1.2 U	0.00E+00	2.5	6.39E-06	34	8.69E-05	1.2 U	0.00E+00	61	2.67E-04
7/15/2011		13417	4472	170	190	6.68E-04	1.2 U	0.00E+00	8.3	2.16E-05	1.2 U	0.00E+00	2.8	7.15E-06	23	5.88E-05	1.2 U	0.00E+00	22	9.62E-05
8/22/2011		14324	4775	170	1600	5.63E-03	4.3 U	0.00E+00	19	4.96E-05	4.3 U	0.00E+00	21	5.37E-05	130	3.32E-04	4.3 U	0.00E+00	39	1.70E-04
9/15/2011		14905	4968	170	800	2.81E-03	3.7 U	0.00E+00	9.5	2.48E-05	3.7 U	0.00E+00	12	3.07E-05	62	1.58E-04	3.7 U	0.00E+00	24	1.05E-04
10/14/2011		15598	5199	160	750	2.48E-03	3.0 U	0.00E+00	10	2.45E-05	3.0 U	0.00E+00	13	3.13E-05	37	8.90E-05	3.0 U	0.00E+00	15	6.17E-05
11/21/2011		16510	5503	170	380	1.34E-03	1.4 U	0.00E+00	6.6	1.72E-05	1.4 U	0.00E+00	5.6	1.43E-05	24	6.13E-05	1.4 U	0.00E+00	7.9	3.45E-05
12/14/2011		17010	5670	170	830	2.92E-03	3.5 U	0.00E+00	8.7	2.27E-05	3.5 U	0.00E+00	70	1.79E-04	33	8.43E-05	3.5 U	0.00E+00	6.9	3.02E-05
1/19/2012		17923	5974	170	800	2.81E-03	3.0 U	0.00E+00	12	3.13E-05	3.0 U	0.00E+00	13	3.32E-05	33	8.43E-05	3.0 U	0.00E+00	6.4	2.80E-05
2/15/2012		18566	6189	170	1600	5.63E-03	4.5 U	0.00E+00	22	5.74E-05	4.5 U	0.00E+00	260	6.64E-04	95	2.43E-04	4.5 U	0.00E+00	6.7	2.93E-05
3/15/2012		19262	6421	170	1600	5.63E-03	5.1 U	0.00E+00	28	7.30E-05	5.1 U	0.00E+00	22	5.62E-05	59	1.51E-04	5.1 U	0.00E+00	7.3	3.19E-05
4/19/2012		20102	6701	160	580	1.92E-03	1.8 U	0.00E+00	14	3.44E-05	1.8 U	0.00E+00	5.8	1.39E-05	23	5.53E-05	1.8 U	0.00E+00	11	4.53E-05
5/16/2012		20748	6916	160	300	9.93E-04	0.80 U	0.00E+00	9.3	2.28E-05	0.80 U	0.00E+00	3.7	8.90E-06	21	5.05E-05	0.80 U	0.00E+00	7.5	3.09E-05

See notes on last page.

Table 4.3
Cell 3 - Phase 1 SVE System Effluent Data
December 2009 - May 2016
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

CELL 3 SVE EFFLUENT																				
					Trichloroethene		Vinyl chloride		Methylene Chloride		Carbon Tetrachloride		Chloroform		Chloroethane		Benzene		Toluene	
Date	Sample Type	SVE Run Time (hr)	Cell 3 Run Time (hr)	SVE Flow Rate (scfm)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)
12/14/2009		181	60	140	1000	2.85E-03	270 U	0.00E+00	270 U	0.00E+00	270 U	0.00E+00	270 U	0.00E+00	270 U	0.00E+00	270 U	0.00E+00	270 U	0.00E+00
12/16/2009		229	76	150	550	1.68E-03	110 U	0.00E+00	110 U	0.00E+00	110 U	0.00E+00	110 U	0.00E+00	110 U	0.00E+00	110 U	0.00E+00	110 U	0.00E+00
1/5/2010		707	236	140	250	7.13E-04	150 U	0.00E+00	220	4.06E-04	150 U	0.00E+00	150 U	0.00E+00	150 U	0.00E+00	150 U	0.00E+00	150 U	0.00E+00
1/21/2010		1084	361	150	140	4.28E-04	42 U	0.00E+00	42 U	0.00E+00	42 U	0.00E+00	42 U	0.00E+00	42 U	0.00E+00	42 U	0.00E+00	42 U	0.00E+00
1/21/2010	Dup	1084	361	150	140	4.28E-04	43 U	0.00E+00	43 U	0.00E+00	43 U	0.00E+00	43 U	0.00E+00	43 U	0.00E+00	43 U	0.00E+00	43 U	0.00E+00
2/24/2010		1893	631	150	66	2.02E-04	28 U	0.00E+00	28 U	0.00E+00	28 U	0.00E+00	28 U	0.00E+00	28 U	0.00E+00	28 U	0.00E+00	28 U	0.00E+00
3/15/2010		2345	782	140	120	3.42E-04	51	6.92E-05	21 U	0.00E+00	21 U	0.00E+00	21 U	0.00E+00	21 U	0.00E+00	21 U	0.00E+00	21 U	0.00E+00
4/14/2010		2804	935	150	190	5.81E-04	100 U	0.00E+00	100 U	0.00E+00	100 U	0.00E+00	100 U	0.00E+00	100 U	0.00E+00	100 U	0.00E+00	100 U	0.00E+00
5/13/2010		3495	1165	140	43	1.23E-04	12 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00
6/21/2010		4430	1477	108	55	1.21E-04	21 U	0.00E+00	21 U	0.00E+00	21 U	0.00E+00	21 U	0.00E+00	21 U	0.00E+00	21 U	0.00E+00	21 U	0.00E+00
7/21/2010		5058	1686	140	44	1.25E-04	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00
8/23/2010		5784	1928	0	66	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00
9/23/2010		6523	2174	145	50	1.48E-04	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00
10/22/2010		7219	2406	140	31	8.84E-05	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00
11/15/2010		7794	2598	140	29	8.27E-05	15 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00
12/22/2010		8508	2777	150	21	6.42E-05	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00
1/24/2011		9302	2975	170	17	5.89E-05	8.3 U	0.00E+00	8.3 U	0.00E+00	8.3 U	0.00E+00	8.3 U	0.00E+00	8.3 U	0.00E+00	8.3 U	0.00E+00	8.3 U	0.00E+00
2/25/2011		10071	3167	165	16	5.38E-05	4.0 U	0.00E+00	4.0 U	0.00E+00	4.0 U	0.00E+00	4.0 U	0.00E+00	16 U	0.00E+00	4.0 U	0.00E+00	4.0 U	0.00E+00
3/18/2011		10573	3293	165	5.9	1.98E-05	1.3 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	5.4 U	0.00E+00	1.9	3.80E-06	1.3 U	0.00E+00
4/15/2011		11241	3460	160	7.7	2.51E-05	1.0 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00	4.1 U	0.00E+00	2.6	5.04E-06	1.0 U	0.00E+00
5/19/2011		12061	3665	160	6.9	2.25E-05	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.8 U	0.00E+00	1.9	3.68E-06	1.2 U	0.00E+00
6/16/2011		12722	3830	170	9.8	3.39E-05	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.7 U	0.00E+00	1.6	3.29E-06	1.2 U	0.00E+00
7/15/2011		13417	4472	170	9.3	3.22E-05	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.8 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
8/22/2011		14324	4775	170	21	7.27E-05	4.3 U	0.00E+00	4.3 U	0.00E+00	4.3 U	0.00E+00	4.3 U	0.00E+00	17 U	0.00E+00	4.3 U	0.00E+00	4.3 U	0.00E+00
9/15/2011		14905	4968	170	14	4.85E-05	3.7 U	0.00E+00	3.7 U	0.00E+00	3.7 U	0.00E+00	3.7 U	0.00E+00	15 U	0.00E+00	4.1	8.44E-06	3.7 U	0.00E+00
10/14/2011		15598	5199	160	13	4.24E-05	3.0 U	0.00E+00	3.0 U	0.00E+00	3.0 U	0.00E+00	3.0 U	0.00E+00	12 U	0.00E+00	3.0 U	0.00E+00	3.0 U	0.00E+00
11/21/2011		16510	5503	170	9.2	3.19E-05	1.4 U	0.00E+00	1.4 UJ	0.00E+00	1.4 U	0.00E+00	1.4 U	0.00E+00	5.5 U	0.00E+00	1.4 U	0.00E+00	1.4 U	0.00E+00
12/14/2011		17010	5670	170	22	7.62E-05	3.5 U	0.00E+00	35 U	0.00E+00	3.5 U	0.00E+00	3.5 U	0.00E+00	14 U	0.00E+00	3.5 U	0.00E+00	3.5 U	0.00E+00
1/19/2012		17923	5974	170	12	4.16E-05	3.0 U	0.00E+00	3.0 U	0.00E+00	3.0 U	0.00E+00	3.0 U	0.00E+00	12 U	0.00E+00	3.0 U	0.00E+00	3.0 U	0.00E+00
2/15/2012		18566	6189	170	24	8.31E-05	4.5 U	0.00E+00	4.5 U	0.00E+00	4.5 U	0.00E+00	4.5 U	0.00E+00	18 U	0.00E+00	4.5 U	0.00E+00	4.5 U	0.00E+00
3/15/2012		19262	6421	170	30	1.04E-04	5.1 U	0.00E+00	5.1 U	0.00E+00	5.1 U	0.00E+00	5.1 U	0.00E+00	20 U	0.00E+00	5.1 U	0.00E+00	5.1 U	0.00E+00
4/19/2012		20102	6701	160	19	6.19E-05	1.8 U	0.00E+00	1.8 U	0.00E+00	1.8 U	0.00E+00	1.8 U	0.00E+00	7.3 U	0.00E+00	1.8 U	0.00E+00	1.8 U	0.00E+00
5/16/2012		20748	6916	160	18	5.87E-05	0.80 U	0.00E+00	0.80 U	0.00E+00	0.80 U	0.00E+00	0.80 U	0.00E+00	3.2 U	0.00E+00	0.80 U	0.00E+00	0.80 U	0.00E+00

See notes on last page.

Table 4.3
Cell 3 - Phase 1 SVE System Effluent Data
December 2009 - May 2016
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

CELL 3 SVE EFFLUENT																
					Ethylbenzene		m&p-Xylenes		o-Xylenes		Acetone		Methyl Ethyl Ketone (MEK)			
Date	Sample Type	SVE Run Time (hr)	Cell 3 Run Time (hr)	SVE Flow Rate (scfm)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)
12/14/2009		181	60	140	270 U	0.00E+00	1600	3.69E-03	510	1.18E-03	1100 U	0.00E+00	270 U	0.00E+00	3.07E-01	18.51
12/16/2009		229	76	150	110 U	0.00E+00	540	1.33E-03	240	5.93E-04	590	7.97E-04	110 U	0.00E+00	1.65E-01	21.16
1/5/2010		707	236	140	150 U	0.00E+00	150 U	0.00E+00	150 U	0.00E+00	590 U	0.00E+00	150 U	0.00E+00	1.29E-01	41.78
1/21/2010		1084	361	150	42 U	0.00E+00	42 U	0.00E+00	42 U	0.00E+00	170 U	0.00E+00	42 U	0.00E+00	5.25E-02	48.37
1/21/2010	Dup	1084	361	150	43 U	0.00E+00	43 U	0.00E+00	43 U	0.00E+00	170 U	0.00E+00	43 U	0.00E+00	5.59E-02	48.80
2/24/2010		1893	631	150	28 U	0.00E+00	28 U	0.00E+00	28 U	0.00E+00	110 U	0.00E+00	28 U	0.00E+00	3.85E-02	58.76
3/15/2010		2345	782	140	21 U	0.00E+00	21 U	0.00E+00	21 U	0.00E+00	83 U	0.00E+00	21 U	0.00E+00	6.53E-02	68.60
4/14/2010		2804	935	150	100 U	0.00E+00	100 U	0.00E+00	100 U	0.00E+00	420 U	0.00E+00	100 U	0.00E+00	1.06E-01	84.81
5/13/2010		3495	1165	140	12 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	48 U	0.00E+00	12 U	0.00E+00	2.78E-02	91.21
6/21/2010		4430	1477	108	21 U	0.00E+00	21 U	0.00E+00	21 U	0.00E+00	83 U	0.00E+00	21 U	0.00E+00	1.83E-02	96.92
7/21/2010		5058	1686	140	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	79 U	0.00E+00	20 U	0.00E+00	1.97E-02	101.05
8/23/2010		5784	1928	0	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	81 U	0.00E+00	20 U	0.00E+00	0.00E+00	101.05
9/23/2010		6523	2174	145	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	43 U	0.00E+00	11 U	0.00E+00	2.21E-02	106.49
10/22/2010		7219	2406	140	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00	55 U	0.00E+00	14 U	0.00E+00	1.20E-02	109.27
11/15/2010		7794	2598	140	15 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00	59 U	0.00E+00	15 U	0.00E+00	1.45E-02	112.05
12/22/2010		8508	2777	150	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	82 U	0.00E+00	20 U	0.00E+00	1.90E-02	115.44
1/24/2011		9302	2975	170	8.3 U	0.00E+00	8.3 U	0.00E+00	8.3 U	0.00E+00	33 U	0.00E+00	8.3 U	0.00E+00	8.87E-03	117.20
2/25/2011		10071	3167	165	4.0 U	0.00E+00	4.0 U	0.00E+00	4.0 U	0.00E+00	16 U	0.00E+00	16 U	0.00E+00	4.96E-03	118.15
3/18/2011		10573	3293	165	1.3 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	10	1.49E-05	5.4 U	0.00E+00	1.48E-03	118.34
4/15/2011		11241	3460	160	1.0 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00	7.3 J,B	1.05E-05	4.1 U	0.00E+00	7.48E-04	118.47
5/19/2011		12061	3665	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.8 U	0.00E+00	4.8 U	0.00E+00	3.34E-04	118.53
6/16/2011		12722	3830	170	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	6.8	1.04E-05	4.7 U	0.00E+00	1.70E-03	118.81
7/15/2011		13417	4472	170	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	7.7	1.18E-05	4.8 U	0.00E+00	8.96E-04	119.39
8/22/2011		14324	4775	170	4.3 U	0.00E+00	4.3 U	0.00E+00	4.3 U	0.00E+00	17 U	0.00E+00	17 U	0.00E+00	6.30E-03	121.30
9/15/2011		14905	4968	170	3.7 U	0.00E+00	3.7 U	0.00E+00	3.7 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00	3.19E-03	121.91
10/14/2011		15598	5199	160	3.0 U	0.00E+00	3.0 U	0.00E+00	3.0 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	2.73E-03	122.54
11/21/2011		16510	5503	170	1.4 U	0.00E+00	1.4 U	0.00E+00	1.4 U	0.00E+00	5.5 UJ	0.00E+00	5.5 U	0.00E+00	1.50E-03	123.00
12/14/2011		17010	5670	170	3.5 U	0.00E+00	3.5 U	0.00E+00	3.5 U	0.00E+00	380 J	5.82E-04	58	1.10E-04	4.00E-03	123.67
1/19/2012		17923	5974	170	3.0 U	0.00E+00	3.0 U	0.00E+00	3.0 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	3.03E-03	124.59
2/15/2012		18566	6189	170	4.5 U	0.00E+00	4.5 U	0.00E+00	4.5 U	0.00E+00	18 U	0.00E+00	18 U	0.00E+00	6.70E-03	126.03
3/15/2012		19262	6421	170	5.1 U	0.00E+00	5.1 U	0.00E+00	5.1 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	6.04E-03	127.43
4/19/2012		20102	6701	160	1.8 U	0.00E+00	1.8 U	0.00E+00	1.8 U	0.00E+00	7.3 U	0.00E+00	7.3 U	0.00E+00	2.13E-03	128.02
5/16/2012		20748	6916	160	0.80 U	0.00E+00	0.80 U	0.00E+00	0.80 U	0.00E+00	3.2 U	0.00E+00	3.2 U	0.00E+00	1.16E-03	128.27

See notes on last page.

Table 4.3
Cell 3 - Phase 1 SVE System Effluent Data
December 2009 - May 2016
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

CELL 3 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 3 Run Time (hr)	SVE Flow Rate (scfm)	1,1,1-Trichloroethane		1,1,2-Trichloroethane		1,1-Dichloroethane		1,2-Dichloroethane		1,1-Dichloroethene		cis-1,2-Dichloroethene		trans-1,2-Dichloroethene		Tetrachloroethene	
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)
Pulse -off period June 1, 2012 to August 14, 2012																				
8/14/2012		21282	7094	160	1200	3.97E-03	4.7 U	0.00E+00	20	4.91E-05	4.7 U	0.00E+00	17	4.09E-05	8.4	2.02E-05	4.7 U	0.00E+00	26	1.07E-04
9/17/2012		21952	7317	160	5000	1.65E-02	16 U	0.00E+00	38	9.33E-05	16 U	0.00E+00	16 U	0.00E+00	130	3.13E-04	16 U	0.00E+00	100	4.11E-04
Pulse -off period September 17, 2012 to November 15, 2012																				
11/15/2012		21959	7320	160	640	2.12E-03	2.1 U	0.00E+00	130	3.19E-04	2.1 U	0.00E+00	22	5.29E-05	18	4.33E-05	2.1 U	0.00E+00	18	7.40E-05
12/14/2012		22554	7518	170	1100	3.87E-03	4.6 U	0.00E+00	17 J	4.43E-05	4.6 U	0.00E+00	15	3.83E-05	70 J	1.79E-04	4.6 U	0.00E+00	7.1 J	3.10E-05
12/14/2012	Dup	22554	7518	170	1100 J	3.87E-03	4.5 U	0.00E+00	25 J	6.52E-05	4.5 U	0.00E+00	17 J	4.34E-05	36 J	9.20E-05	4.5 U	0.00E+00	49 J	2.14E-04
Pulse -off period December 14, 2012 to February 26, 2013																				
2/26/2013		22556	7519	160	640	2.12E-03	2.4 U	0.00E+00	12	2.95E-05	2.4 U	0.00E+00	8	1.92E-05	23	5.53E-05	2.4 U	0.00E+00	15	6.17E-05
4/11/2013		23581	8134	160	180	5.96E-04	1.2 U	0.00E+00	7	1.72E-05	1.2 U	0.00E+00	2.8	6.73E-06	28	6.73E-05	1.2 U	0.00E+00	4.6	1.89E-05
Pulse -off period April 11, 2013 to May 10, 2013																				
5/10/2013		23583	8135	160	200	6.62E-04	1.1 U	0.00E+00	5.5	1.35E-05	1.1 U	0.00E+00	3.3	7.94E-06	22	5.29E-05	1.1 U	0.00E+00	4.4	1.81E-05
7/15/2013		25160	9082	160	64	2.12E-04	1.2 U	0.00E+00	3.6	8.84E-06	1.2 U	0.00E+00	1.2 U	0.00E+00	1.9	4.57E-06	1.2 U	0.00E+00	14	5.76E-05
Pulse -off period July 15, 2013 to September 9, 2013																				
9/9/2013		25162	9083	160	390	1.29E-03	1.7 U	0.00E+00	5.6	1.37E-05	1.7 U	0.00E+00	3	9.93E-06	2	4.81E-06	1.7 U	0.00E+00	21	8.64E-05
11/18/2013		26825	10081	160	350	1.16E-03	1.2 U	0.00E+00	8.2	2.01E-05	1.2 U	0.00E+00	6.6	2.18E-05	45	1.08E-04	1.2 U	0.00E+00	5.7	2.34E-05
Pulse -off period November 18, 2013 to January 15, 2014																				
1/15/2014		28218	10916	160	240	7.94E-04	1.2 U	0.00E+00	5	1.23E-05	1.2 U	0.00E+00	4.1	1.36E-05	16	3.85E-05	1.2 U	0.00E+00	18	7.40E-05
3/14/2014		29432	11645	160	72	2.38E-04	1.2 U	0.00E+00	8.7	2.14E-05	1.2 U	0.00E+00	2.4	7.94E-06	6.4	1.54E-05	1.2 U	0.00E+00	9.5	3.91E-05
Pulse -off period March 14, 2014 to May 15, 2014																				
5/15/2014		29914	11934	160	770	2.55E-03	2.3 U	0.00E+00	15	3.68E-05	2.3 U	0.00E+00	12	3.97E-05	86	2.07E-04	2.3 U	0.00E+00	6.9	2.84E-05
7/23/2014		31567	12926	160	130	4.30E-04	1.4 U	0.00E+00	5	1.23E-05	1.4 U	0.00E+00	1.4	4.63E-06	10	2.40E-05	1.4 U	0.00E+00	10	4.11E-05
Pulse -off period July 23, 2014 to September 16, 2014																				
9/16/2014		32432	13445	160	390	1.29E-03	2.4 U	0.00E+00	15	3.68E-05	2.4 U	0.00E+00	3	7.21E-06	8.4	2.02E-05	2.4 U	0.00E+00	17	6.99E-05
11/14/2014		33847	14294	160	180	5.96E-04	1.2 U	0.00E+00	5.2	1.28E-05	1.2 U	0.00E+00	3	9.93E-06	25	6.01E-05	1.2 U	0.00E+00	18	7.40E-05
Pulse -off period November 14, 2014 to January 9, 2015																				
1/9/2015		33855	14299	160	220	7.28E-04	1.1 U	0.00E+00	4.7	1.15E-05	1.1 U	0.00E+00	2.2	5.29E-06	18	4.33E-05	1.1 U	0.00E+00	11	4.52E-05
3/13/2015		35189	15099	160	200	6.62E-04	1.2 U	0.00E+00	4.4	1.08E-05	1.2 U	0.00E+00	3.1	1.03E-05	14	3.37E-05	1.2 U	0.00E+00	4.2	1.73E-05
Pulse -off period March 13, 2015 to May 15, 2015																				
5/15/2015		35194	15102	160	300	9.93E-04	1.2 U	0.00E+00	5.6	1.37E-05	1.2 U	0.00E+00	3.1	7.45E-06	10	2.40E-05	1.2 U	0.00E+00	8.1	3.33E-05
7/16/2015		36677	15992	160	180	5.96E-04	1.2 U	0.00E+00	6.5	1.60E-05	1.2 U	0.00E+00	2.3	7.61E-06	19	4.57E-05	1.2 U	0.00E+00	6	2.47E-05
Pulse -off period July 16, 2015 to September 22, 2015																				
9/22/2015		36680	15994	160	530	1.75E-03	2.3 U	0.00E+00	11	2.70E-05	2.3 U	0.00E+00	2.6	6.25E-06	10	2.40E-05	2.3 U	0.00E+00	18	7.40E-05
11/20/2015		38094	16842	160	64	2.12E-04	1.1 U	0.00E+00	3.2	7.86E-06	1.1 U	0.00E+00	1.2	2.89E-06	5.4	1.30E-05	1.1 U	0.00E+00	7.3	3.00E-05
Pulse -off period November 20, 2015 to January 19, 2016																				
1/19/2016		38101	16846	160	68	2.25E-04	1.1 U	0.00E+00	2.6	6.38E-06	1.1 U	0.00E+00	1.1 U	0.00E+00	1.3	3.13E-06	1.1 U	0.00E+00	12	4.94E-05
3/18/2016		39377	17612	160	66	2.18E-04	1.1 U	0.00E+00	2.4	5.89E-06	1.1 U	0.00E+00	1.1 U	0.00E+00	3.8	9.14E-06	1.1 U	0.00E+00	2.7	1.11E-05
Pulse -off period March 18, 2016 to May 19, 2016																				
5/19/2016		39382	17615	160	240	7.94E-04	1.1 U	0.00E+00	110	2.70E-04	1.1 U	0.00E+00	2.7	6.49E-06	3.7	8.90E-06	1.1 U	0.00E+00	6.4	2.63E-05

Notes:

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

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

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

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

See notes on last page.

Table 4.3
Cell 3 - Phase 1 SVE System Effluent Data
December 2009 - May 2016
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

CELL 3 SVE EFFLUENT																				
					Trichloroethene		Vinyl chloride		Methylene Chloride		Carbon Tetrachloride		Chloroform		Chloroethane		Benzene		Toluene	
Date	Sample Type	SVE Run Time (hr)	Cell 3 Run Time (hr)	SVE Flow Rate (scfm)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)
Pulse -off period June 1, 2012 to August 14, 2012																				
8/14/2012		21282	7094	160	25	8.15E-05	4.7 U	0.00E+00	47 U	0.00E+00	4.7 U	0.00E+00	4.7 U	0.00E+00	19 U	0.00E+00	4.7 U	0.00E+00	4.7 U	0.00E+00
9/17/2012		21952	7317	160	180	5.87E-04	16 U	0.00E+00	160 U	0.00E+00	16 U	0.00E+00	16 U	0.00E+00	65 U	0.00E+00	16 U	0.00E+00	16 U	0.00E+00
Pulse -off period September 17, 2012 to November 15, 2012																				
11/15/2012		21959	7320	160	39	1.27E-04	2.1 U	0.00E+00	21 U	0.00E+00	2.1 U	0.00E+00	2.1 U	0.00E+00	8.5 U	0.00E+00	2.1 U	0.00E+00	2.1 U	0.00E+00
12/14/2012		22554	7518	170	90 J	3.12E-04	4.6 U	0.00E+00	46 U	0.00E+00	4.6 U	0.00E+00	4.6 U	0.00E+00	18 U	0.00E+00	4.6 U	0.00E+00	4.6 U	0.00E+00
12/14/2012	Dup	22554	7518	170	52 J	1.80E-04	4.5 U	0.00E+00	45 U	0.00E+00	4.5 U	0.00E+00	4.5 U	0.00E+00	18 U	0.00E+00	4.5 U	0.00E+00	4.5 U	0.00E+00
Pulse -off period December 14, 2012 to February 26, 2013																				
2/26/2013		22556	7519	160	36	1.17E-04	2.4 U	0.00E+00	24 U	0.00E+00	2.4 U	0.00E+00	2.4 U	0.00E+00	9.5 U	0.00E+00	2.4 U	0.00E+00	2.4 U	0.00E+00
4/11/2013		23581	8134	160	15	4.89E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.7 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
Pulse -off period April 11, 2013 to May 10, 2013																				
5/10/2013		23583	8135	160	13	4.24E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.3 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00
7/15/2013		25160	9082	160	10	3.26E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.7 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
Pulse -off period July 15, 2013 to September 9, 2013																				
9/9/2013		25162	9083	160	12	3.91E-05	1.7 U	0.00E+00	17 U	0.00E+00	1.7 U	0.00E+00	1.7 U	0.00E+00	6.8 U	0.00E+00	1.7 U	0.00E+00	1.7 U	0.00E+00
11/18/2013		26825	10081	160	14	4.56E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.7 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
Pulse -off period November 18, 2013 to January 15, 2014																				
1/15/2014		28218	10916	160	7.6	2.48E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.6 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
3/14/2014		29432	11645	160	8.1	2.64E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.9 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
Pulse -off period March 14, 2014 to May 15, 2014																				
5/15/2014		29914	11934	160	20	6.52E-05	2.3 U	0.00E+00	23 U	0.00E+00	2.3 U	0.00E+00	2.3 U	0.00E+00	9.3 U	0.00E+00	2.3 U	0.00E+00	2.3 U	0.00E+00
7/23/2014		31567	12926	160	9	2.93E-05	1.4 U	0.00E+00	14 U	0.00E+00	1.4 U	0.00E+00	1.4 U	0.00E+00	5.6 U	0.00E+00	1.4 U	0.00E+00	1.4 U	0.00E+00
Pulse -off period July 23, 2014 to September 16, 2014																				
9/16/2014		32432	13445	160	14	4.56E-05	2.4 U	0.00E+00	24 U	0.00E+00	2.4 U	0.00E+00	2.4 U	0.00E+00	9.5 U	0.00E+00	3	5.81E-06	2.4 U	0.00E+00
11/14/2014		33847	14294	160	6.2	2.02E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.6 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
Pulse -off period November 14, 2014 to January 9, 2015																				
1/9/2015		33855	14299	160	6	1.96E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.3 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00
3/13/2015		35189	15099	160	14	4.56E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.6 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
Pulse -off period March 13, 2015 to May 15, 2015																				
5/15/2015		35194	15102	160	10	3.26E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.7 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
7/16/2015		36677	15992	160	12	3.91E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.9 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
Pulse -off period July 16, 2015 to September 22, 2015																				
9/22/2015		36680	15994	160	14	4.56E-05	2.3 U	0.00E+00	23 U	0.00E+00	2.3 U	0.00E+00	2.3 U	0.00E+00	9.3 U	0.00E+00	2.3 U	0.00E+00	2.3 U	0.00E+00
11/20/2015		38094	16842	160	14	4.56E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.5 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00
Pulse -off period November 20, 2015 to January 19, 2016																				
1/19/2016		38101	16846	160	7	2.15E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.3 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00
3/18/2016		39377	17612	160	11	3.59E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.5 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00
Pulse -off period March 18, 2016 to May 19, 2016																				
5/19/2016		39382	17615	160	4.2	1.37E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.6 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00

Notes:

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

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

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

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

See notes on last page.

Table 4.3
Cell 3 - Phase 1 SVE System Effluent Data
December 2009 - May 2016
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

CELL 3 SVE EFFLUENT																
					Ethylbenzene		m&p-Xylenes		o-Xylenes		Acetone		Methyl Ethyl Ketone (MEK)			
Date	Sample Type	SVE Run Time (hr)	Cell 3 Run Time (hr)	SVE Flow Rate (scfm)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)
Pulse -off period June 1, 2012 to August 14, 2012																
8/14/2012		21282	7094	160	4.7 U	0.00E+00	4.7 U	0.00E+00	4.7 U	0.00E+00	47 U	0.00E+00	19 U	0.00E+00	4.27E-03	129.03
9/17/2012		21952	7317	160	16 U	0.00E+00	16 U	0.00E+00	16 U	0.00E+00	160 U	0.00E+00	65 U	0.00E+00	1.80E-02	133.04
Pulse -off period September 17, 2012 to November 15, 2012																
11/15/2012		21959	7320	160	2.1 U	0.00E+00	2.1 U	0.00E+00	2.1 U	0.00E+00	21 U	0.00E+00	8.5 U	0.00E+00	2.73E-03	133.05
12/14/2012		22554	7518	170	4.6 U	0.00E+00	4.6 U	0.00E+00	4.6 U	0.00E+00	46 U	0.00E+00	18 U	0.00E+00	4.47E-03	133.94
12/14/2012	Dup	22554	7518	170	4.5 U	0.00E+00	4.5 U	0.00E+00	4.5 U	0.00E+00	45 U	0.00E+00	18 U	0.00E+00	4.46E-03	-
Pulse -off period December 14, 2012 to February 26, 2013																
2/26/2013		22556	7519	160	2.4 U	0.00E+00	2.4 U	0.00E+00	2.4 U	0.00E+00	24 U	0.00E+00	9.5 U	0.00E+00	2.40E-03	133.94
4/11/2013		23581	8134	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.7 U	0.00E+00	7.55E-04	134.40
Pulse -off period April 11, 2013 to May 10, 2013																
5/10/2013		23583	8135	160	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.3 U	0.00E+00	7.97E-04	134.40
7/15/2013		25160	9082	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.7 U	0.00E+00	3.15E-04	134.70
Pulse -off period July 15, 2013 to September 9, 2013																
9/9/2013		25162	9083	160	1.7 U	0.00E+00	1.7 U	0.00E+00	1.7 U	0.00E+00	17 U	0.00E+00	6.8 U	0.00E+00	1.44E-03	134.70
11/18/2013		26825	10081	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.7 U	0.00E+00	1.38E-03	136.08
Pulse -off period November 18, 2013 to January 15, 2014																
1/15/2014		28218	10916	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.6 U	0.00E+00	9.57E-04	136.88
3/14/2014		29432	11645	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.9 U	0.00E+00	3.48E-04	137.13
Pulse -off period March 14, 2014 to May 15, 2014																
5/15/2014		29914	11934	160	2.3 U	0.00E+00	2.3 U	0.00E+00	2.3 U	0.00E+00	23 U	0.00E+00	9.3 U	0.00E+00	2.92E-03	137.98
7/23/2014		31567	12926	160	1.4 U	0.00E+00	1.4 U	0.00E+00	1.4 U	0.00E+00	14 U	0.00E+00	5.6 U	0.00E+00	5.42E-04	138.52
Pulse -off period July 23, 2014 to September 16, 2014																
9/16/2014		32432	13445	160	2.4 U	0.00E+00	2.4 U	0.00E+00	2.4 U	0.00E+00	24 U	0.00E+00	9.5 U	0.00E+00	1.48E-03	139.28
11/14/2014		33847	14294	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12	1.73E-05	4.6 U	0.00E+00	7.90E-04	139.95
Pulse -off period November 14, 2014 to January 9, 2015																
1/9/2015		33855	14299	160	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.3 U	0.00E+00	8.53E-04	139.96
3/13/2015		35189	15099	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.6 U	0.00E+00	7.79E-04	140.58
Pulse -off period March 13, 2015 to May 15, 2015																
5/15/2015		35194	15102	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.7 U	0.00E+00	1.10E-03	140.58
7/16/2015		36677	15992	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.9 U	0.00E+00	7.29E-04	141.23
Pulse -off period July 16, 2015 to September 22, 2015																
9/22/2015		36680	15994	160	2.3 U	0.00E+00	2.3 U	0.00E+00	2.3 U	0.00E+00	23 U	0.00E+00	9.3 U	0.00E+00	1.93E-03	141.24
11/20/2015		38094	16842	160	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.5 U	0.00E+00	3.11E-04	141.50
Pulse -off period November 20, 2015 to January 19, 2016																
1/19/2016		38101	16846	160	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.3 U	0.00E+00	3.05E-04	141.50
3/18/2016		39377	17612	160	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.5 U	0.00E+00	2.80E-04	141.72
Pulse -off period March 18, 2016 to May 19, 2016																
5/19/2016		39382	17615	160	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.6 U	0.00E+00	1.12E-03	141.72

Notes:

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

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

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

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

See notes on last page.

Table 4.4
Cell 4 - Phase 2 SVE System Effluent Data
March 2011 - May 2016
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

CELL 4 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 4 Run Time (hr)	SVE Flow Rate (scfm)	1,1,1-Trichloroethane		1,1,2-Trichloroethane		1,1-Dichloroethane		1,2-Dichloroethane		1,1-Dichloroethene		cis-1,2-Dichloroethene		trans-1,2-Dichloroethene	
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)
3/11/2011		222	222	500	150000	1.55E+00	600 U	0.00E+00	1800	1.38E-02	600 U	0.00E+00	860	6.46E-03	1400	1.05E-02	600 U	0.00E+00
3/18/2011		366	366	500	41000	4.24E-01	150 U	0.00E+00	1000	7.67E-03	150 U	0.00E+00	250	1.88E-03	460	3.46E-03	150 U	0.00E+00
3/18/2011	Dup	366	366	500	40000	4.14E-01	130 U	0.00E+00	1000	7.67E-03	130 U	0.00E+00	300	2.25E-03	480	3.61E-03	130 U	0.00E+00
3/25/2011		463	463	500	22000	2.28E-01	62 U	0.00E+00	980	7.52E-03	62 U	0.00E+00	87	6.54E-04	290	2.18E-03	62 U	0.00E+00
3/30/2011		558	558	500	25000	2.59E-01	68 U	0.00E+00	820	6.29E-03	68 U	0.00E+00	190	1.43E-03	290	2.18E-03	68 U	0.00E+00
4/8/2011		764	764	500	22000	2.28E-01	80 U	0.00E+00	1000	7.67E-03	80 U	0.00E+00	170	1.28E-03	340	2.56E-03	80 U	0.00E+00
4/15/2011		924	924	500	18000	1.86E-01	84 U	0.00E+00	930	7.13E-03	84 U	0.00E+00	110	8.27E-04	280	2.10E-03	84 U	0.00E+00
4/15/2011	Dup	924	924	500	16000 J	1.65E-01	60 U	0.00E+00	820 J	6.29E-03	60 U	0.00E+00	60 UJ	0.00E+00	260 J	1.95E-03	60 U	0.00E+00
5/19/2011		1685	1685	500	11000	1.14E-01	11 U	0.00E+00	640	4.91E-03	11 U	0.00E+00	100	7.52E-04	190	1.43E-03	11 U	0.00E+00
6/16/2011		2191	2191	420	10000	8.69E-02	11 U	0.00E+00	630	3.42E-03	11 U	0.00E+00	110 J	6.94E-04	160	1.01E-03	11 U	0.00E+00
6/16/2011	Dup	2191	2191	420	9600	8.34E-02	11 U	0.00E+00	510	3.29E-03	11 U	0.00E+00	110 J	6.94E-04	160	1.01E-03	11 U	0.00E+00
7/15/2011		2750	2750	420	7600	6.60E-02	24 U	0.00E+00	290	1.87E-03	24 U	0.00E+00	58	3.66E-04	79	4.99E-04	24 U	0.00E+00
8/22/2011		3133	3133	420	9000	7.82E-02	27 U	0.00E+00	410	2.64E-03	27 U	0.00E+00	92	5.81E-04	160	1.01E-03	27 U	0.00E+00
8/22/2011	Dup	3133	3133	420	9000	7.82E-02	22 U	0.00E+00	400	2.58E-03	22 U	0.00E+00	80	5.05E-04	150	9.47E-04	22 U	0.00E+00
9/15/2011		3630	3630	420	7000	6.08E-02	22 U	0.00E+00	250	1.61E-03	22 U	0.00E+00	55	3.47E-04	97	6.12E-04	22 U	0.00E+00
10/14/2011		4226	4226	420	4400	3.82E-02	19 U	0.00E+00	180	1.16E-03	19 U	0.00E+00	59	3.72E-04	60	3.79E-04	19 U	0.00E+00
11/21/2011		5019	5019	380	3700	2.91E-02	16 U	0.00E+00	170	9.91E-04	16 U	0.00E+00	320	1.83E-03	63	3.60E-04	16 U	0.00E+00
12/14/2011		5343	5343	260	4000	2.15E-02	19 U	0.00E+00	140	5.58E-04	19 U	0.00E+00	300	1.17E-03	55	2.15E-04	19 U	0.00E+00
1/19/2012		5993	5993	0	5200	0.00E+00	24 U	0.00E+00	160	0.00E+00	24 U	0.00E+00	58	0.00E+00	38	0.00E+00	24 U	0.00E+00
2/15/2012		6368	6368	260	4200	2.26E-02	19 U	0.00E+00	100	3.99E-04	19 U	0.00E+00	700	2.74E-03	53	2.07E-04	19 U	0.00E+00
3/15/2012		6946	6946	350	4000	2.90E-02	15 U	0.00E+00	120	6.44E-04	15 U	0.00E+00	38	2.00E-04	38	2.00E-04	15 U	0.00E+00
4/19/2012		7629	7629	380	5200	4.09E-02	16 U	0.00E+00	160	9.33E-04	16 U	0.00E+00	42	2.40E-04	43	2.46E-04	16 U	0.00E+00
5/16/2012		8143	8143	420	4100	3.56E-02	15 U	0.00E+00	110	7.09E-04	15 U	0.00E+00	43	2.71E-04	40	2.53E-04	15 U	0.00E+00

See notes on last page.

Table 4.4
Cell 4 - Phase 2 SVE System Effluent Data
March 2011 - May 2016
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

CELL 4 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 4 Run Time (hr)	SVE Flow Rate (scfm)	Tetrachloroethene		Trichloroethene		Vinyl chloride		Methylene Chloride		Carbon Tetrachloride		Chloroform		Chloroethane		Benzene	
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)
3/11/2011		222	222	500	7200	9.26E-02	3900	3.97E-02	600 U	0.00E+00	600 U	0.00E+00	600 U	0.00E+00	600 U	0.00E+00	2400 U	0.00E+00	600 U	0.00E+00
3/18/2011		366	366	500	2900	3.73E-02	1600	1.63E-02	150 U	0.00E+00	150 U	0.00E+00	150 U	0.00E+00	150 U	0.00E+00	750 J	3.75E-03	150 U	0.00E+00
3/18/2011	Dup	366	366	500	3000	3.86E-02	1600	1.63E-02	130 UJ	0.00E+00	130 U	0.00E+00	130 U	0.00E+00	130 U	0.00E+00	1100 J	5.50E-03	130 U	0.00E+00
3/25/2011		463	463	500	3200	4.11E-02	970	9.88E-03	62 U	0.00E+00	61 NJ	4.02E-04	62 U	0.00E+00	62 U	0.00E+00	610	3.05E-03	62 U	0.00E+00
3/30/2011		558	558	500	2500	3.21E-02	1000	1.02E-02	68 U	0.00E+00	68 U	0.00E+00	68 U	0.00E+00	68 U	0.00E+00	470	2.35E-03	68 U	0.00E+00
4/8/2011		764	764	500	2400	3.09E-02	1000	1.02E-02	80 U	0.00E+00	80 U	0.00E+00	80 U	0.00E+00	80 U	0.00E+00	430	2.15E-03	80 U	0.00E+00
4/15/2011		924	924	500	1700	2.19E-02	920	9.37E-03	84 U	0.00E+00	84 U	0.00E+00	84 U	0.00E+00	84 U	0.00E+00	340 U	0.00E+00	84 U	0.00E+00
4/15/2011	Dup	924	924	500	1500 J	1.93E-02	830 J	8.45E-03	60 U	0.00E+00	60 U	0.00E+00	60 U	0.00E+00	60 U	0.00E+00	260 J	1.30E-03	60 U	0.00E+00
5/19/2011		1685	1685	500	1400	1.80E-02	530	5.40E-03	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	67	3.35E-04	26	1.57E-04
6/16/2011		2191	2191	420	1000	1.08E-02	410	3.51E-03	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	46 U	0.00E+00	14	7.12E-05
6/16/2011	Dup	2191	2191	420	960	1.04E-02	400	3.42E-03	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	45 U	0.00E+00	12	6.10E-05
7/15/2011		2750	2750	420	570	6.16E-03	250	2.14E-03	24 U	0.00E+00	28	1.55E-04	24 U	0.00E+00	24 U	0.00E+00	95 U	0.00E+00	24 U	0.00E+00
8/22/2011		3133	3133	420	920	9.93E-03	380	3.25E-03	27 U	0.00E+00	27 U	0.00E+00	27 U	0.00E+00	27 U	0.00E+00	110 U	0.00E+00	27 U	0.00E+00
8/22/2011	Dup	3133	3133	420	940	1.02E-02	360	3.08E-03	22 U	0.00E+00	22 U	0.00E+00	22 U	0.00E+00	22 U	0.00E+00	90 U	0.00E+00	22 U	0.00E+00
9/15/2011		3630	3630	420	660	7.13E-03	270	2.31E-03	22 U	0.00E+00	22 U	0.00E+00	22 U	0.00E+00	22 U	0.00E+00	90 U	0.00E+00	22 U	0.00E+00
10/14/2011		4226	4226	420	390	4.21E-03	180	1.54E-03	19 U	0.00E+00	19 U	0.00E+00	19 U	0.00E+00	19 U	0.00E+00	77 U	0.00E+00	19 U	0.00E+00
11/21/2011		5019	5019	380	360	3.52E-03	180	1.39E-03	16 U	0.00E+00	160 U	0.00E+00	16 U	0.00E+00	16 U	0.00E+00	63 U	0.00E+00	16 U	0.00E+00
12/14/2011		5343	5343	260	360	2.41E-03	160	8.47E-04	19 U	0.00E+00	190 U	0.00E+00	19 U	0.00E+00	19 U	0.00E+00	74 U	0.00E+00	19 U	0.00E+00
1/19/2012		5993	5993	0	320	0.00E+00	180	0.00E+00	24 U	0.00E+00	24 U	0.00E+00	24 U	0.00E+00	24 U	0.00E+00	97 U	0.00E+00	24 U	0.00E+00
2/15/2012		6368	6368	260	280	1.87E-03	150	7.94E-04	19 U	0.00E+00	19 U	0.00E+00	19 U	0.00E+00	19 U	0.00E+00	78 U	0.00E+00	19 U	0.00E+00
3/15/2012		6946	6946	350	240	2.16E-03	140	9.98E-04	15 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00	58 U	0.00E+00	15 U	0.00E+00
4/19/2012		7629	7629	380	400	3.91E-03	180	1.39E-03	16 U	0.00E+00	16 U	0.00E+00	16 U	0.00E+00	16 U	0.00E+00	62 U	0.00E+00	16 U	0.00E+00
5/16/2012		8143	8143	420	320	3.46E-03	150	1.28E-03	15 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00	61 U	0.00E+00	15 U	0.00E+00

See notes on last page.

Table 4.4
Cell 4 - Phase 2 SVE System Effluent Data
March 2011 - May 2016
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

CELL 4 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 4 Run Time (hr)	SVE Flow Rate (scfm)	Toluene		Ethylbenzene		m&p-Xylenes		o-Xylenes		Acetone		Methyl Ethyl Ketone (MEK)		Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)		
3/11/2011		222	222	500	600 U	0.00E+00	600 U	0.00E+00	710	5.84E-03	600 U	0.00E+00	2400 U	0.00E+00	2400 U	0.00E+00	1.72E+00	381.87
3/18/2011		366	366	500	620 J	4.43E-03	150 U	0.00E+00	240	1.98E-03	200	1.65E-03	1500 J	6.75E-03	590 U	0.00E+00	5.09E-01	453.50
3/18/2011	Dup	366	366	500	380 J	2.71E-03	130 U	0.00E+00	250	2.06E-03	240	1.98E-03	690 J	3.11E-03	540 U	0.00E+00	4.97E-01	453.50
3/25/2011		463	463	500	140	1.00E-03	62 U	0.00E+00	78	6.42E-04	67	5.51E-04	250 U	0.00E+00	250 U	0.00E+00	2.95E-01	482.07
3/30/2011		558	558	500	190	1.36E-03	68 U	0.00E+00	250	2.06E-03	140	1.15E-03	270 U	0.00E+00	270 U	0.00E+00	3.18E-01	512.25
4/8/2011		764	764	500	200	1.43E-03	120	9.88E-04	560	4.61E-03	260	2.14E-03	320 U	0.00E+00	320 U	0.00E+00	2.91E-01	572.27
4/15/2011		924	924	500	170	1.21E-03	110	9.05E-04	540	4.44E-03	260	2.14E-03	340 U	0.00E+00	340 U	0.00E+00	2.36E-01	610.05
4/15/2011	Dup	924	924	500	140 J	1.00E-03	99 J	8.15E-04	540 J	4.44E-03	230 J	1.89E-03	240 J,B	1.08E-03	240 U	0.00E+00	2.12E-01	610.05
5/19/2011		1685	1685	500	100	7.14E-04	140	1.15E-03	920	7.57E-03	420	3.46E-03	81	3.65E-04	43 U	0.00E+00	1.58E-01	730.28
6/16/2011		2191	2191	420	51	3.06E-04	83	5.74E-04	600	4.15E-03	280	1.94E-03	46 J,B	1.74E-04	46 U	0.00E+00	1.14E-01	753.86
6/16/2011	Dup	2191	2191	420	53	3.18E-04	78	5.39E-04	580	4.01E-03	270	1.87E-03	69 J,B	2.61E-04	45 U	0.00E+00	1.09E-01	785.55
7/15/2011		2750	2750	420	28	1.68E-04	41	2.83E-04	270	1.87E-03	120	8.30E-04	180	6.81E-04	95 U	0.00E+00	8.10E-02	830.85
8/22/2011		3133	3133	420	35 J	2.10E-04	59 J	4.08E-04	340	2.35E-03	140	9.68E-04	110 U	0.00E+00	110 U	0.00E+00	9.95E-02	868.97
8/22/2011	Dup	3133	3133	420	22 UJ	0.00E+00	30 J	2.07E-04	310	2.14E-03	130	8.99E-04	90 U	0.00E+00	90 U	0.00E+00	9.87E-02	868.65
9/15/2011		3630	3630	420	22 U	0.00E+00	31	2.14E-04	340	2.35E-03	130	8.99E-04	90 U	0.00E+00	90 U	0.00E+00	7.63E-02	906.88
10/14/2011		4226	4226	420	38	2.28E-04	19 U	0.00E+00	170	1.18E-03	70	4.84E-04	77 U	0.00E+00	77 U	0.00E+00	4.78E-02	935.35
11/21/2011		5019	5019	380	16 U	0.00E+00	17	1.06E-04	220	1.38E-03	100	6.25E-04	160 U	0.00E+00	63 U	0.00E+00	3.93E-02	966.50
12/14/2011		5343	5343	260	19 U	0.00E+00	19 U	0.00E+00	76	3.25E-04	55	2.35E-04	190 UJ	0.00E+00	74 U	0.00E+00	2.73E-02	975.34
1/19/2012		5993	5993	0	36	0.00E+00	24 U	0.00E+00	78	0.00E+00	50	0.00E+00	97 U	0.00E+00	97 U	0.00E+00	0.00E+00	975.34
2/15/2012		6368	6368	260	19 U	0.00E+00	19 U	0.00E+00	58	2.48E-04	40	1.71E-04	300	7.02E-04	78 U	0.00E+00	2.97E-02	986.48
3/15/2012		6946	6946	350	15 U	0.00E+00	15 U	0.00E+00	44	2.53E-04	31	1.79E-04	58 U	0.00E+00	58 U	0.00E+00	3.36E-02	1005.89
4/19/2012		7629	7629	380	16 U	0.00E+00	16 U	0.00E+00	48	3.00E-04	33	2.06E-04	62 U	0.00E+00	62 U	0.00E+00	4.81E-02	1038.74
5/16/2012		8143	8143	420	15 U	0.00E+00	15 U	0.00E+00	28	1.94E-04	23	1.59E-04	61 U	0.00E+00	61 U	0.00E+00	4.19E-02	1060.30

See notes on last page.

Table 4.4
Cell 4 - Phase 2 SVE System Effluent Data
March 2011 - May 2016
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

CELL 4 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 4 Run Time (hr)	SVE Flow Rate (scfm)	1,1,1-Trichloroethane		1,1,2-Trichloroethane		1,1-Dichloroethane		1,2-Dichloroethane		1,1-Dichloroethene		cis-1,2-Dichloroethene		trans-1,2-Dichloroethene	
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)
Pulse -off period June 1, 2012 to August 14, 2012																		
8/14/2012		8546	8546	420	5000	4.34E-02	16 U	0.00E+00	98	6.32E-04	16 U	0.00E+00	66	4.17E-04	27	1.70E-04	16 U	0.00E+00
9/17/2012		9033	9033	470	3700	3.60E-02	15 U	0.00E+00	140	1.01E-03	15 U	0.00E+00	15 U	0.00E+00	26	1.84E-04	15 U	0.00E+00
Pulse -off period September 17, 2012 to November 15, 2012																		
11/15/2012		9037	9037	420	4900 J	4.26E-02	28 U	0.00E+00	74 J	4.77E-04	28 U	0.00E+00	110 J	6.94E-04	29 J	1.83E-04	28 U	0.00E+00
11/15/2012	Dup	9037	9037	420	8700	7.56E-02	24 U	0.00E+00	200 J	1.29E-03	24 U	0.00E+00	220	1.39E-03	360 J	2.27E-03	24 U	0.00E+00
12/14/2012		9439	9439	150	500	1.55E-03	1.9 U	0.00E+00	14	3.22E-05	1.9 U	0.00E+00	6.8	1.53E-05	18	4.06E-05	1.9 U	0.00E+00
Pulse -off period December 14, 2012 to February 26, 2013																		
2/26/2013		9439	9439	0	520	0.00E+00	2.2 U	0.00E+00	23	0.00E+00	2.2 U	0.00E+00	5.7	0.00E+00	28	0.00E+00	2.2 U	0.00E+00
4/11/2013		9876	9876	340	430	3.02E-03	1.8 U	0.00E+00	26	1.36E-04	1.8 U	0.00E+00	7.1	3.63E-05	28	1.43E-04	1.8 U	0.00E+00
Pulse -off period April 11, 2013 to May 10, 2013																		
5/10/2013		9882	9882	340	270	1.90E-03	1.1 U	0.00E+00	23	1.20E-04	1.1 U	0.00E+00	3.4	1.74E-05	30	1.53E-04	1.1 U	0.00E+00
7/15/2013		10907	10907	340	100	7.03E-04	1.1 U	0.00E+00	13	6.78E-05	1.1 U	0.00E+00	1.7	8.69E-06	14	7.15E-05	1.1 U	0.00E+00
Pulse -off period July 15, 2013 to September 9, 2013																		
9/9/2013		10914	10914	340	170	1.20E-03	1.2 U	0.00E+00	17	8.87E-05	1.2 U	0.00E+00	2.2	1.12E-05	27	1.38E-04	1.2	6.13E-06
11/18/2013		11992	11992	260	330	1.77E-03	1.1 U	0.00E+00	7.9	3.15E-05	1.1 U	0.00E+00	5.2	2.03E-05	14	5.47E-05	1.1 U	0.00E+00
Pulse -off period November 18, 2013 to March 14, 2014																		
1/15/2014		11997	11997	320	200	1.32E-03	1.2 U	0.00E+00	5.5	2.70E-05	1.2 U	0.00E+00	3.3	1.59E-05	9.6	4.62E-05	1.2 U	0.00E+00
3/14/2014		12980	12980	180	430	1.60E-03	2.6 U	0.00E+00	6.2	1.71E-05	2.6 U	0.00E+00	8.2	2.22E-05	18	4.87E-05	2.6 U	0.00E+00
Pulse -off period March 14, 2014 to May 15, 2014																		
5/15/2014		12986	12986	180	470	1.75E-03	1.1 U	0.00E+00	10	2.76E-05	1.1 U	0.00E+00	6.9	1.87E-05	22	5.95E-05	1.1 U	0.00E+00
7/23/2014		14627	14627	300	14	8.69E-05	1.3 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	1.6	0.00E+00	1.3 U	0.00E+00
Pulse -off period July 23, 2014 to September 16, 2014																		
9/16/2014		14634	14628	320	150	9.93E-04	1.2 U	0.00E+00	9	4.42E-05	1.2 U	0.00E+00	1.7	8.18E-06	15	7.21E-05	1.2 U	0.00E+00
11/14/2014		16008	16008	320	220	1.46E-03	0.96 U	0.00E+00	5	2.45E-05	0.96 U	0.00E+00	3.6	1.73E-05	8.9	4.28E-05	0.96 U	0.00E+00
Pulse -off period November 14, 2014 to January 9, 2015																		
1/9/2015		16015	16015	260	150	8.07E-04	1.1 U	0.00E+00	4.1	1.64E-05	1.1 U	0.00E+00	2.2	8.60E-06	7.4	2.89E-05	1.1 U	0.00E+00
3/13/2015		17178	17178	220	190	8.65E-04	1.2 U	0.00E+00	4.9	1.65E-05	1.2 U	0.00E+00	3.1	1.03E-05	5.5	1.82E-05	1.2 U	0.00E+00
Pulse -off period March 13, 2015 to May 15, 2015																		
5/15/2015		17186	17186	320	180	1.19E-03	2.6 U	0.00E+00	4.3	2.11E-05	2.6 U	0.00E+00	2.8	1.35E-05	5.2	2.50E-05	2.6 U	0.00E+00
7/16/2015		18436	18436	310	270	1.73E-03	1.2 U	0.00E+00	7.7	3.66E-05	1.2 U	0.00E+00	4	1.86E-05	13	6.06E-05	1.2 U	0.00E+00
Pulse -off period July 16, 2015 to September 22, 2015																		
9/22/2015		18439	18439	300	200	1.24E-03	1.1 U	0.00E+00	6.3	2.90E-05	1.1 U	0.00E+00	2.1	9.47E-06	11	4.96E-05	1.1 U	0.00E+00
11/20/2015		19832	19832	530	170	1.86E-03	1.2 U	0.00E+00	7	5.69E-05	1.2 U	0.00E+00	2.6	2.07E-05	12	9.56E-05	1.2 U	0.00E+00
Pulse -off period November 20, 2015 to January 19, 2016																		
1/19/2016		19841	19841	380	39	3.07E-04	1.1 U	0.00E+00	1.7	9.91E-06	1.1 U	0.00E+00	1.1 U	0.00E+00	3.4	1.94E-05	1.1 U	0.00E+00
3/18/2016		21088	21088	420	88	7.64E-04	1.1 U	0.00E+00	5	3.22E-05	1.1 U	0.00E+00	1.2	7.57E-06	6.8	4.29E-05	1.1 U	0.00E+00
Pulse -off period March 18, 2016 to May 19, 2016																		
5/19/2016		21092	21092	180	9.3	3.46E-05	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00
5/19/2016	Dup	21092	21092	180	14	5.21E-05	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.6	4.33E-06	1.1 U	0.00E+00

Notes:

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

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

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

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

See notes on last page.

Table 4.4
Cell 4 - Phase 2 SVE System Effluent Data
March 2011 - May 2016
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

CELL 4 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 4 Run Time (hr)	SVE Flow Rate (scfm)	Tetrachloroethene		Trichloroethene		Vinyl chloride		Methylene Chloride		Carbon Tetrachloride		Chloroform		Chloroethane		Benzene	
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)
Pulse -off period June 1, 2012 to August 14, 2012																				
8/14/2012		8546	8546	420	490	5.29E-03	180	1.54E-03	16 U	0.00E+00	160 U	0.00E+00	16 U	0.00E+00	16 U	0.00E+00	63 U	0.00E+00	16 U	0.00E+00
9/17/2012		9033	9033	470	410	4.95E-03	220	2.11E-03	15 U	0.00E+00	150 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00	61 U	0.00E+00	15 U	0.00E+00
Pulse -off period September 17, 2012 to November 15, 2012																				
11/15/2012		9037	9037	420	260 J	2.81E-03	150 J	1.28E-03	28 U	0.00E+00	280 U	0.00E+00	28 U	0.00E+00	28 U	0.00E+00	110 U	0.00E+00	28 U	0.00E+00
11/15/2012	Dup	9037	9037	420	1200 J	1.30E-02	390 J	3.34E-03	24 U	0.00E+00	240 U	0.00E+00	24 U	0.00E+00	24 U	0.00E+00	94 U	0.00E+00	24 U	0.00E+00
12/14/2012		9439	9439	150	62	2.39E-04	28	8.56E-05	1.9 U	0.00E+00	19 U	0.00E+00	1.9 U	0.00E+00	1.9 U	0.00E+00	7.5 U	0.00E+00	1.9 U	0.00E+00
Pulse -off period December 14, 2012 to February 26, 2013																				
2/26/2013		9439	9439	0	130	0.00E+00	27	0.00E+00	2.2 U	0.00E+00	22 U	0.00E+00	2.2 U	0.00E+00	2.2 U	0.00E+00	8.7 U	0.00E+00	2.2 U	0.00E+00
4/11/2013		9876	9876	340	98	8.57E-04	25	1.73E-04	1.8 U	0.00E+00	18 U	0.00E+00	1.8 U	0.00E+00	1.8 U	0.00E+00	7.1 U	0.00E+00	1.8 U	0.00E+00
Pulse -off period April 11, 2013 to May 10, 2013																				
5/10/2013		9882	9882	340	120	1.05E-03	23	1.59E-04	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.5 U	0.00E+00	1.1 U	0.00E+00
7/15/2013		10907	10907	340	180	1.57E-03	30	2.08E-04	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.6 U	0.00E+00	1.1 U	0.00E+00
Pulse -off period July 15, 2013 to September 9, 2013																				
9/9/2013		10914	10914	340	350	3.06E-03	50	3.46E-04	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.6 U	0.00E+00	1.2 U	0.00E+00
11/18/2013		11992	11992	260	50	3.34E-04	13	6.89E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.4 U	0.00E+00	1.1 U	0.00E+00
Pulse -off period November 18, 2013 to March 14, 2014																				
1/15/2014		11997	11997	320	51	4.20E-04	11	7.17E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.8 U	0.00E+00	1.2 U	0.00E+00
3/14/2014		12980	12980	180	7.8	3.61E-05	14	5.13E-05	2.6 U	0.00E+00	26 U	0.00E+00	2.6 U	0.00E+00	2.6 U	0.00E+00	10 U	0.00E+00	2.6 U	0.00E+00
Pulse -off period March 14, 2014 to May 15, 2014																				
5/15/2014		12986	12986	180	38	1.76E-04	17	6.23E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.6 U	0.00E+00	1.1 U	0.00E+00
7/23/2014		14627	14627	300	15	1.16E-04	2.4	1.47E-05	1.3 U	0.00E+00	13 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	5.2 U	0.00E+00	1.3 U	0.00E+00
Pulse -off period July 23, 2014 to September 16, 2014																				
9/16/2014		14634	14628	320	200	1.65E-03	39	2.54E-04	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.9 U	0.00E+00	2	7.75E-06
11/14/2014		16008	16008	320	69	5.68E-04	12	7.82E-05	0.96 U	0.00E+00	9.6 U	0.00E+00	0.96 U	0.00E+00	0.96 U	0.00E+00	3.8 U	0.00E+00	0.96 U	0.00E+00
Pulse -off period November 14, 2014 to January 9, 2015																				
1/9/2015		16015	16015	260	50	3.34E-04	11	5.83E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.4 U	0.00E+00	1.1 U	0.00E+00
3/13/2015		17178	17178	220	27	1.53E-04	6.9	3.09E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.8 U	0.00E+00	1.2 U	0.00E+00
Pulse -off period March 13, 2015 to May 15, 2015																				
5/15/2015		17186	17186	320	45	3.70E-04	9.8	6.39E-05	2.6 U	0.00E+00	26 U	0.00E+00	2.6 U	0.00E+00	2.6 U	0.00E+00	10 U	0.00E+00	2.6 U	0.00E+00
7/16/2015		18436	18436	310	130	1.04E-03	27	1.71E-04	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.9 U	0.00E+00	1.2 U	0.00E+00
Pulse -off period July 16, 2015 to September 22, 2015																				
9/22/2015		18439	18439	300	200	1.54E-03	36	2.20E-04	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.3 U	0.00E+00	1.1 U	0.00E+00
11/20/2015		19832	19832	530	120	1.64E-03	23	2.48E-04	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	5.0 U	0.00E+00	1.2 U	0.00E+00
Pulse -off period November 20, 2015 to January 19, 2016																				
1/19/2016		19841	19841	380	62	6.06E-04	11	8.51E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.3 U	0.00E+00	1.1 U	0.00E+00
3/18/2016		21088	21088	420	52	5.62E-04	11	9.41E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.5 U	0.00E+00	1.1 U	0.00E+00
Pulse -off period March 18, 2016 to May 19, 2016																				
5/19/2016		21092	21092	180	14	6.48E-05	2.4	8.80E-06	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.3 U	0.00E+00	1.1 U	0.00E+00
5/19/2016	Dup	21092	21092	180	21	9.72E-05	3.9	1.43E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.3 U	0.00E+00	1.1 U	0.00E+00

Notes:

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

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

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

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

See notes on last page.

Table 4.4
Cell 4 - Phase 2 SVE System Effluent Data
March 2011 - May 2016
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

CELL 4 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 4 Run Time (hr)	SVE Flow Rate (scfm)	Toluene		Ethylbenzene		m&p-Xylenes		o-Xylenes		Acetone		Methyl Ethyl Ketone (MEK)		Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)		
Pulse -off period June 1, 2012 to August 14, 2012																		
8/14/2012		8546	8546	420	16 U	0.00E+00	16 U	0.00E+00	16 U	0.00E+00	16 U	0.00E+00	160 U	0.00E+00	63 U	0.00E+00	5.15E-02	1081.05
9/17/2012		9033	9033	470	15 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00	150 U	0.00E+00	61 U	0.00E+00	4.42E-02	1102.58
Pulse -off period September 17, 2012 to November 15, 2012																		
11/15/2012		9037	9037	420	28 U	0.00E+00	28 U	0.00E+00	28 U	0.00E+00	28 U	0.00E+00	280 U	0.00E+00	110 U	0.00E+00	4.80E-02	1102.78
11/15/2012	Dup	9037	9037	420	24 U	0.00E+00	24 U	0.00E+00	24 U	0.00E+00	24 U	0.00E+00	240 U	0.00E+00	94 U	0.00E+00	9.68E-02	-
12/14/2012		9439	9439	150	1.9 U	0.00E+00	1.9 U	0.00E+00	1.9 U	0.00E+00	1.9 U	0.00E+00	19 U	0.00E+00	7.5 U	0.00E+00	1.96E-03	1103.57
Pulse -off period December 14, 2012 to February 26, 2013																		
2/26/2013		9439	9439	0	2.2 U	0.00E+00	2.2 U	0.00E+00	2.2 U	0.00E+00	2.2 U	0.00E+00	22 U	0.00E+00	8.7 U	0.00E+00	0.00E+00	1103.57
4/11/2013		9876	9876	340	1.8 U	0.00E+00	1.8 U	0.00E+00	1.8 U	0.00E+00	1.8 U	0.00E+00	18 U	0.00E+00	7.1 U	0.00E+00	4.37E-03	1105.48
Pulse -off period April 11, 2013 to May 10, 2013																		
5/10/2013		9882	9882	340	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.5 U	0.00E+00	3.40E-03	1105.50
7/15/2013		10907	10907	340	19	9.23E-05	1.2	6.72E-06	2.2	1.23E-05	1.1 U	0.00E+00	24	7.35E-05	4.9	1.86E-05	2.84E-03	1108.40
Pulse -off period July 15, 2013 to September 9, 2013																		
9/9/2013		10914	10914	340	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	14	4.29E-05	4.6 U	0.00E+00	4.89E-03	1108.44
11/18/2013		11992	11992	260	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.4 U	0.00E+00	2.28E-03	1110.90
Pulse -off period November 18, 2013 to March 14, 2014																		
1/15/2014		11997	11997	320	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.8 U	0.00E+00	1.90E-03	1110.91
3/14/2014		12980	12980	180	2.6 U	0.00E+00	2.6 U	0.00E+00	2.6 U	0.00E+00	2.6 U	0.00E+00	26 U	0.00E+00	10 U	0.00E+00	1.78E-03	1112.65
Pulse -off period March 14, 2014 to May 15, 2014																		
5/15/2014		12986	12986	180	3.9	1.00E-05	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.6 U	0.00E+00	2.10E-03	1112.67
7/23/2014		14627	14627	300	1.3 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	13 U	0.00E+00	5.2 U	0.00E+00	2.17E-04	1113.02
Pulse -off period July 23, 2014 to September 16, 2014																		
9/16/2014		14634	14628	320	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	21	6.05E-05	4.9 U	0.00E+00	3.09E-03	1113.03
11/14/2014		16008	16008	320	0.96 U	0.00E+00	0.96 U	0.00E+00	0.96 U	0.00E+00	0.96 U	0.00E+00	9.6 U	0.00E+00	3.8 U	0.00E+00	2.19E-03	1116.04
Pulse -off period November 14, 2014 to January 9, 2015																		
1/9/2015		16015	16015	260	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.4 U	0.00E+00	1.25E-03	1116.05
3/13/2015		17178	17178	220	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.8 U	0.00E+00	1.09E-03	1117.32
Pulse -off period March 13, 2015 to May 15, 2015																		
5/15/2015		17186	17186	320	2.6 U	0.00E+00	2.6 U	0.00E+00	2.6 U	0.00E+00	2.6 U	0.00E+00	26 U	0.00E+00	10 U	0.00E+00	1.68E-03	1117.34
7/16/2015		18436	18436	310	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.9 U	0.00E+00	3.05E-03	1121.16
Pulse -off period July 16, 2015 to September 22, 2015																		
9/22/2015		18439	18439	300	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.3 U	0.00E+00	3.09E-03	1121.16
11/20/2015		19832	19832	530	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	5.0 U	0.00E+00	3.92E-03	1126.63
Pulse -off period November 20, 2015 to January 19, 2016																		
1/19/2016		19841	19841	380	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.3 U	0.00E+00	1.03E-03	1126.63
3/18/2016		21088	21088	420	2.7	1.62E-05	1.1 U	0.00E+00	9.7	6.71E-05	4.1	2.83E-05	11 U	0.00E+00	4.5 U	0.00E+00	1.61E-03	1128.65
Pulse -off period March 18, 2016 to May 19, 2016																		
5/19/2016		21092	21092	180	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.3 U	0.00E+00	1.08E-04	1128.65
5/19/2016	Dup	21092	21092	180	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.3 U	0.00E+00	1.68E-04	-

Notes:

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

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

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

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

See notes on last page.

Table 4.5
Cell 5 - Phase 2 SVE System Effluent Data
March 2011 - May 2016
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

CELL 5 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 5 Run Time (hr)	SVE Flow Rate (scfm)	1,1,1-Trichloroethane		1,1,2-Trichloroethane		1,1-Dichloroethane		1,2-Dichloroethane		1,1-Dichloroethene		cis-1,2-Dichloroethene		trans-1,2-Dichloroethene		Tetrachloroethene	
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)
3/11/2011		218	218	360	28000	2.08E-01	100 U	0.00E+00	2400	1.33E-02	100 U	0.00E+00	740	4.00E-03	10000	5.41E-02	100 U	0.00E+00	5900	5.46E-02
3/18/2011		362	362	360	13000	9.68E-02	52 U	0.00E+00	1100	6.08E-03	52 U	0.00E+00	280	1.52E-03	4800	2.60E-02	52 U	0.00E+00	6800	6.29E-02
3/25/2011		459	459	360	8900	6.63E-02	30 U	0.00E+00	650	3.59E-03	30 U	0.00E+00	200	1.08E-03	2600	1.41E-02	30 U	0.00E+00	5400	5.00E-02
3/30/2011		553	553	360	4600	3.43E-02	13 U	0.00E+00	310	1.71E-03	13 U	0.00E+00	100	5.41E-04	1300	7.03E-03	13 U	0.00E+00	4000	3.70E-02
4/8/2011		759	759	360	4600	3.43E-02	20 U	0.00E+00	330	1.82E-03	20 U	0.00E+00	95	5.14E-04	1100	5.95E-03	20 U	0.00E+00	5700	5.28E-02
4/15/2011		920	920	360	4600	3.43E-02	20 U	0.00E+00	370	2.04E-03	20 U	0.00E+00	69	3.73E-04	980	5.30E-03	20 U	0.00E+00	4600	4.26E-02
5/19/2011		1681	1681	330	2800	1.91E-02	12 U	0.00E+00	250	1.27E-03	12 U	0.00E+00	34	1.69E-04	730	3.62E-03	12 U	0.00E+00	7800	6.62E-02
6/16/2011		2187	2187	300	1800	1.12E-02	7.8 U	0.00E+00	170	7.82E-04	7.8 U	0.00E+00	23 J	1.04E-04	520	2.34E-03	7.8 U	0.00E+00	2400	1.85E-02
7/15/2011		2745	2745	220	2400	1.09E-02	7.6 U	0.00E+00	180	6.08E-04	7.6 U	0.00E+00	27	8.93E-05	840	2.78E-03	7.6 U	0.00E+00	2700	1.53E-02
8/22/2011		3129	3129	260	1700	9.14E-03	5.0 U	0.00E+00	150	5.98E-04	5.0 U	0.00E+00	21	8.21E-05	690	2.70E-03	5.0 U	0.00E+00	2000	1.34E-02
9/15/2011		3626	3626	220	1400	6.37E-03	4.5 U	0.00E+00	69	2.33E-04	4.5 U	0.00E+00	22	7.27E-05	380	1.26E-03	4.5 U	0.00E+00	1100	6.22E-03
10/14/2011		4222	4222	220	980	4.46E-03	3.9 U	0.00E+00	57	1.92E-04	3.9 U	0.00E+00	19	6.28E-05	310	1.03E-03	3.9 U	0.00E+00	760	4.30E-03
11/21/2011		5015	5015	200	690	2.85E-03	3.2 U	0.00E+00	55	1.69E-04	3.2 U	0.00E+00	45	1.35E-04	290	8.72E-04	3.2 U	0.00E+00	380	1.95E-03
11/21/2011	Dup	5015	5015	200	700	2.90E-03	3.1 U	0.00E+00	57	1.75E-04	3.1 U	0.00E+00	59	1.77E-04	300	9.02E-04	3.1 U	0.00E+00	390	2.01E-03
12/14/2011		5339	5339	200	890	3.68E-03	3.2 U	0.00E+00	62	1.90E-04	3.2 U	0.00E+00	64	1.92E-04	270	8.12E-04	3.2 U	0.00E+00	350	1.80E-03
1/19/2012		5958	5958	0	540	0.00E+00	2.8 U	0.00E+00	17	0.00E+00	2.8 U	0.00E+00	9.9	0.00E+00	69	0.00E+00	2.8 U	0.00E+00	78	0.00E+00
2/15/2012		6364	6364	0	990	0.00E+00	4.1 U	0.00E+00	24	0.00E+00	4.1 U	0.00E+00	100	0.00E+00	230	0.00E+00	4.1 U	0.00E+00	150	0.00E+00
3/15/2012		6942	6942	0	1100	0.00E+00	3.8 U	0.00E+00	43	0.00E+00	3.8 U	0.00E+00	20	0.00E+00	220	0.00E+00	3.8 U	0.00E+00	140	0.00E+00
4/19/2012		7625	7625	80	650	1.08E-03	2.4 U	0.00E+00	28	3.44E-05	2.4 U	0.00E+00	8.1	9.74E-06	130	1.56E-04	2.4 U	0.00E+00	100	2.06E-04
5/16/2012		8138	8138	200	650	2.69E-03	2.0 U	0.00E+00	28	8.59E-05	2.0 U	0.00E+00	8.9	2.68E-05	110	3.31E-04	2.0 U	0.00E+00	130	6.68E-04

See notes on last page.

Table 4.5
Cell 5 - Phase 2 SVE System Effluent Data
March 2011 - May 2016
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

CELL 5 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 5 Run Time (hr)	SVE Flow Rate (scfm)	Trichloroethene		Vinyl chloride		Methylene Chloride		Carbon Tetrachloride		Chloroform		Chloroethane		Benzene		Toluene	
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)
3/11/2011		218	218	360	1400	1.03E-02	100 U	0.00E+00	100 U	0.00E+00	100 U	0.00E+00	100 U	0.00E+00	420 U	0.00E+00	100 U	0.00E+00	350	1.80E-03
3/18/2011		362	362	360	1100	8.07E-03	52 U	0.00E+00	52 U	0.00E+00	52 U	0.00E+00	52 U	0.00E+00	210 U	0.00E+00	52 U	0.00E+00	120 JB	6.17E-04
3/25/2011		459	459	360	760	5.57E-03	30 U	0.00E+00	33	1.56E-04	30 U	0.00E+00	30 U	0.00E+00	120 U	0.00E+00	30 U	0.00E+00	73	3.75E-04
3/30/2011		553	553	360	420	3.08E-03	13 U	0.00E+00	13 U	0.00E+00	13 U	0.00E+00	13 U	0.00E+00	51 U	0.00E+00	13 U	0.00E+00	37	1.90E-04
4/8/2011		759	759	360	560	4.11E-03	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	81 U	0.00E+00	20 U	0.00E+00	57	2.93E-04
4/15/2011		920	920	360	560	4.11E-03	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	81 U	0.00E+00	20 U	0.00E+00	85	4.37E-04
5/19/2011		1681	1681	330	360	2.42E-03	12 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	47 U	0.00E+00	12 U	0.00E+00	120	5.66E-04
6/16/2011		2187	2187	300	180	1.10E-03	7.8 U	0.00E+00	7.8 U	0.00E+00	7.8 U	0.00E+00	7.8 U	0.00E+00	31 U	0.00E+00	12	4.36E-05	7.8 U	0.00E+00
7/15/2011		2745	2745	220	280	1.25E-03	7.6 U	0.00E+00	20	5.79E-05	7.6 U	0.00E+00	7.6 U	0.00E+00	30 U	0.00E+00	7.6 U	0.00E+00	49	1.54E-04
8/22/2011		3129	3129	260	160	8.47E-04	5.0 U	0.00E+00	5.0 U	0.00E+00	5.0 U	0.00E+00	5.0 U	0.00E+00	20 U	0.00E+00	7.6	2.39E-05	5.0 U	0.00E+00
9/15/2011		3626	3626	220	83	3.72E-04	4.5 U	0.00E+00	4.5 U	0.00E+00	4.5 U	0.00E+00	4.5 U	0.00E+00	18 U	0.00E+00	5	1.33E-05	4.5 U	0.00E+00
10/14/2011		4222	4222	220	50	2.24E-04	3.9 U	0.00E+00	3.9 U	0.00E+00	3.9 U	0.00E+00	3.9 U	0.00E+00	16 U	0.00E+00	3.9 U	0.00E+00	3.9 U	0.00E+00
11/21/2011		5015	5015	200	27	1.10E-04	3.2 U	0.00E+00	32 U	0.00E+00	3.2 U	0.00E+00	3.2 U	0.00E+00	13 U	0.00E+00	3.2 U	0.00E+00	3.2 U	0.00E+00
11/21/2011	Dup	5015	5015	200	28	1.14E-04	3.1 U	0.00E+00	31 U	0.00E+00	3.1 U	0.00E+00	3.1 U	0.00E+00	12 U	0.00E+00	3.1 U	0.00E+00	3.1 U	0.00E+00
12/14/2011		5339	5339	200	24	9.78E-05	3.2 U	0.00E+00	32 U	0.00E+00	3.2 U	0.00E+00	3.2 U	0.00E+00	13 U	0.00E+00	3.2 U	0.00E+00	3.2 U	0.00E+00
1/19/2012		5958	5958	0	10	0.00E+00	2.8 U	0.00E+00	2.8 U	0.00E+00	2.8 U	0.00E+00	2.8 U	0.00E+00	11 U	0.00E+00	2.8 U	0.00E+00	2.8 U	0.00E+00
2/15/2012		6364	6364	0	19	0.00E+00	4.1 U	0.00E+00	4.1 U	0.00E+00	4.1 U	0.00E+00	4.1 U	0.00E+00	16 U	0.00E+00	4.1 U	0.00E+00	4.1 U	0.00E+00
3/15/2012		6942	6942	0	25	0.00E+00	3.8 U	0.00E+00	3.8 U	0.00E+00	3.8 U	0.00E+00	3.8 U	0.00E+00	15 U	0.00E+00	3.8 U	0.00E+00	3.8 U	0.00E+00
4/19/2012		7625	7625	80	19	3.10E-05	2.4 U	0.00E+00	2.4 U	0.00E+00	2.4 U	0.00E+00	2.4 U	0.00E+00	9.4 U	0.00E+00	2.4 U	0.00E+00	2.4 U	0.00E+00
5/16/2012		8138	8138	200	24	9.78E-05	2.0 U	0.00E+00	2.0 U	0.00E+00	2.0 U	0.00E+00	2.0 U	0.00E+00	7.9 U	0.00E+00	2.0 U	0.00E+00	2.0 U	0.00E+00

See notes on last page.

Table 4.5
Cell 5 - Phase 2 SVE System Effluent Data
March 2011 - May 2016
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

CELL 5 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 5 Run Time (hr)	SVE Flow Rate (scfm)	Ethylbenzene		m&p-Xylenes		o-Xylenes		Acetone		Methyl Ethyl Ketone (MEK)		Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)		
3/11/2011		218	218	360	100 U	0.00E+00	100 U	0.00E+00	100 U	0.00E+00	420 U	0.00E+00	420 U	0.00E+00	3.47E-01	75.54
3/18/2011		362	362	360	52 U	0.00E+00	59	3.50E-04	110	6.52E-04	210 U	0.00E+00	210 U	0.00E+00	2.03E-01	104.77
3/25/2011		459	459	360	30 U	0.00E+00	30 U	0.00E+00	47	2.79E-04	130	4.21E-04	120 U	0.00E+00	1.42E-01	118.53
3/30/2011		553	553	360	16	9.48E-05	23	1.36E-04	46	2.73E-04	99	3.21E-04	51 U	0.00E+00	8.47E-02	126.48
4/8/2011		759	759	360	38	2.25E-04	84	4.98E-04	120	7.11E-04	81 U	0.00E+00	81 U	0.00E+00	1.01E-01	147.32
4/15/2011		920	920	360	45	2.67E-04	160	9.48E-04	140	8.30E-04	180 J,B	5.83E-04	81 U	0.00E+00	9.17E-02	162.08
5/19/2011		1681	1681	330	12 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	360	1.07E-03	47 U	0.00E+00	9.44E-02	233.92
6/16/2011		2187	2187	300	15	7.41E-05	54	2.67E-04	64	3.16E-04	69 J,B	1.86E-04	31 U	0.00E+00	3.49E-02	251.58
7/15/2011		2745	2745	220	13	4.71E-05	120	4.35E-04	140	5.07E-04	94	1.86E-04	30 U	0.00E+00	3.23E-02	269.61
8/22/2011		3129	3129	260	5.9	2.52E-05	19	8.13E-05	29	1.24E-04	62 J,B	1.45E-04	20 U	0.00E+00	2.71E-02	280.03
9/15/2011		3626	3626	220	4.5 U	0.00E+00	14	5.07E-05	17	6.16E-05	49	9.71E-05	18 U	0.00E+00	1.47E-02	287.36
10/14/2011		4222	4222	220	3.9 U	0.00E+00	7.1	2.57E-05	10	3.62E-05	16 U	0.00E+00	16 U	0.00E+00	1.03E-02	293.51
11/21/2011		5015	5015	200	3.2 U	0.00E+00	4.5	1.48E-05	6.1	2.01E-05	36	6.48E-05	13 U	0.00E+00	6.19E-03	298.43
11/21/2011	Dup	5015	5015	200	3.1 U	0.00E+00	4.2	1.38E-05	6.2	2.04E-05	31 U	0.00E+00	12 U	0.00E+00	6.30E-03	298.51
12/14/2011		5339	5339	200	3.2 U	0.00E+00	3.2 U	0.00E+00	3.2 U	0.00E+00	32 UJ	0.00E+00	13 U	0.00E+00	6.77E-03	300.62
1/19/2012		5958	5958	0	2.8 U	0.00E+00	2.8 U	0.00E+00	2.8 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	0.00E+00	300.62
2/15/2012		6364	6364	0	4.1 U	0.00E+00	4.1 U	0.00E+00	4.1 U	0.00E+00	16 U	0.00E+00	16 U	0.00E+00	0.00E+00	300.62
3/15/2012		6942	6942	0	3.8 U	0.00E+00	3.8 U	0.00E+00	3.8 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00	0.00E+00	300.62
4/19/2012		7625	7625	80	2.4 U	0.00E+00	2.4 U	0.00E+00	2.4 U	0.00E+00	9.4 U	0.00E+00	9.4 U	0.00E+00	1.51E-03	301.65
5/16/2012		8138	8138	200	2.0 U	0.00E+00	2.0 U	0.00E+00	2.0 U	0.00E+00	7.9 U	0.00E+00	7.9 U	0.00E+00	3.90E-03	303.65

See notes on last page.

Table 4.5
Cell 5 - Phase 2 SVE System Effluent Data
March 2011 - May 2016
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

CELL 5 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 5 Run Time (hr)	SVE Flow Rate (scfm)	1,1,1-Trichloroethane		1,1,2-Trichloroethane		1,1-Dichloroethane		1,2-Dichloroethane		1,1-Dichloroethene		cis-1,2-Dichloroethene		trans-1,2-Dichloroethene		Tetrachloroethene	
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)
Pulse -off period June 1, 2012 to August 14, 2012																				
8/14/2012		8541	8541	360	710	3.23E-03	2.5 U	0.00E+00	44	1.49E-04	2.5 U	0.00E+00	11	3.64E-05	110	3.64E-04	2.5 U	0.00E+00	540	3.05E-03
9/17/2012		9029	9029	360	2000	8.27E-03	8.0 U	0.00E+00	29	8.90E-05	8.0 U	0.00E+00	19	5.71E-05	42	1.26E-04	8.0 U	0.00E+00	190	9.77E-04
Pulse -off period September 17, 2012 to November 15, 2012																				
11/15/2012		9033	9033	220	1200	5.46E-03	4.4 U	0.00E+00	19	6.41E-05	4.4 U	0.00E+00	33	1.09E-04	8	2.65E-05	4.4 U	0.00E+00	55	3.11E-04
12/14/2012		9436	9436	200	1200	4.96E-03	4.8 U	0.00E+00	35	1.07E-04	4.8 U	0.00E+00	16	4.81E-05	37	1.11E-04	4.8 U	0.00E+00	61	3.14E-04
Pulse -off period December 14, 2012 to February 26, 2013																				
2/26/2013		9511	9511	440	70	6.37E-04	6.8 U	0.00E+00	6.8 U	0.00E+00	6.8 U	0.00E+00	6.8 U	0.00E+00	6.8 U	0.00E+00	6.8 U	0.00E+00	6.8 U	0.00E+00
4/11/2013		9952	9952	420	1600	1.39E-02	8	6.95E-05	160	1.03E-03	5.1 U	0.00E+00	20	1.26E-04	88	5.56E-04	5.1 U	0.00E+00	320	3.46E-03
Pulse -off period April 11, 2013 to May 10, 2013																				
5/10/2013		9958	9958	420	1200	1.04E-02	5.4 U	0.00E+00	86	5.54E-04	5.4 U	0.00E+00	12	7.57E-05	45	2.84E-04	5.4 U	0.00E+00	220	2.38E-03
7/15/2013		10984	10984	360	1600	1.19E-02	12	8.93E-05	100	5.52E-04	4.7 U	0.00E+00	25	1.35E-04	38	2.06E-04	4.7 U	0.00E+00	310	2.87E-03
Pulse -off period July 15, 2013 to September 9, 2013																				
9/9/2013		10991	10991	380	810	6.37E-03	4 U	0.00E+00	30	1.75E-04	4 U	0.00E+00	6.3	3.60E-05	16	9.14E-05	4 U	0.00E+00	170	1.66E-03
11/18/2013		12069	12069	380	1600	1.26E-02	7.6 U	0.00E+00	87	5.07E-04	7.6 U	0.00E+00	23	1.31E-04	50	2.86E-04	7.6 U	0.00E+00	180	1.76E-03
Pulse -off period November 18, 2013 to January 15, 2014																				
1/15/2014		12074	12074	380	950	7.47E-03	3.5 U	0.00E+00	24	1.40E-04	3.5 U	0.00E+00	10	5.71E-05	23	1.31E-04	3.5 U	0.00E+00	82	8.01E-04
3/14/2014		13057	13057	380	1400	1.10E-02	7.8 U	0.00E+00	32	1.87E-04	7.8 U	0.00E+00	24	1.37E-04	88	5.03E-04	7.8 U	0.00E+00	30	2.93E-04
Pulse -off period March 14, 2014 to May 15, 2014																				
5/15/2014		13063	13063	300	1000	6.20E-03	3.0 U	0.00E+00	20	9.21E-05	3.0 U	0.00E+00	14	6.31E-05	65	2.93E-04	3.0 U	0.00E+00	71	5.48E-04
7/23/2014		14714	14714	100	670	1.39E-03	2.2 U	0.00E+00	19	2.92E-05	2.2 U	0.00E+00	9.6	1.44E-05	12	1.80E-05	2.2 U	0.00E+00	47	1.21E-04
Pulse -off period July 23, 2014 to September 16, 2014																				
9/16/2014		14721	14715	120	470	1.17E-03	2.3 U	0.00E+00	10	1.84E-05	2.3 U	0.00E+00	4.8	8.66E-06	6.9	1.24E-05	2.3 U	0.00E+00	79	2.44E-04
11/14/2014		16095	16095	290	660	3.96E-03	2.4 U	0.00E+00	15	6.67E-05	2.4 U	0.00E+00	8.5	3.70E-05	19	8.28E-05	2.4 U	0.00E+00	32	2.39E-04
Pulse -off period November 14, 2014 to January 9, 2015																				
1/9/2015		16102	16102	180	360	1.34E-03	1.1 U	0.00E+00	4.6	1.27E-05	1.1 U	0.00E+00	4.0	1.08E-05	7.2	1.95E-05	1.1 U	0.00E+00	12	5.55E-05
3/13/2015		17322	17322	260	660	3.55E-03	2.4 U	0.00E+00	22	8.78E-05	2.4 U	0.00E+00	8.0	3.13E-05	16	6.25E-05	2.4 U	0.00E+00	29	1.94E-04
Pulse -off period March 13, 2015 to May 15, 2015																				
5/15/2015		17329	17329	260	360	1.94E-03	1.1 U	0.00E+00	7.3	2.91E-05	1.1 U	0.00E+00	2.5	9.77E-06	5.9	2.31E-05	1.1 U	0.00E+00	31	2.07E-04
7/16/2015		18578	18578	180	260	9.68E-04	1.2 U	0.00E+00	22	6.08E-05	1.2 U	0.00E+00	3.5	9.47E-06	12	3.25E-05	1.2 U	0.00E+00	54	2.50E-04
Pulse -off period July 16, 2015 to September 22, 2015																				
9/22/2015		18580	18580	160	150	4.96E-04	1.2 U	0.00E+00	4.2	1.03E-05	1.2 U	0.00E+00	1.2	2.89E-06	2.4	5.77E-06	1.2 U	0.00E+00	47	1.93E-04
11/20/2015		19973	19973	230	320	1.52E-03	1.2 U	0.00E+00	26	9.17E-05	1.2 U	0.00E+00	5.5	1.90E-05	13	4.49E-05	1.2 U	0.00E+00	50	2.96E-04
Pulse -off period November 20, 2015 to January 19, 2016																				
1/19/2016		19982	19982	180	78	2.90E-04	1.1 U	0.00E+00	1.9	5.25E-06	1.1 U	0.00E+00	1.1 U	0.00E+00	1.3	3.52E-06	1.1 U	0.00E+00	10	4.63E-05
3/18/2016		21229	21229	260	340	1.83E-03	1.1 U	0.00E+00	21	8.38E-05	1.1 U	0.00E+00	5.4	2.11E-05	11	4.30E-05	1.1 U	0.00E+00	30	2.01E-04
Pulse -off period March 18, 2016 to May 19, 2016																				
5/19/2016		21233	21233	140	100	2.90E-04	1.2 U	0.00E+00	2.9	6.23E-06	1.2 U	0.00E+00	1.4	2.95E-06	2.2	4.63E-06	1.2 U	0.00E+00	9.3	3.35E-05

Notes:

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

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

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

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

See notes on last page.

Table 4.5
Cell 5 - Phase 2 SVE System Effluent Data
March 2011 - May 2016
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

CELL 5 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 5 Run Time (hr)	SVE Flow Rate (scfm)	Trichloroethene		Vinyl chloride		Methylene Chloride		Carbon Tetrachloride		Chloroform		Chloroethane		Benzene		Toluene	
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)
Pulse -off period June 1, 2012 to August 14, 2012																				
8/14/2012		8541	8541	360	64	2.87E-04	2.5 U	0.00E+00	25 U	0.00E+00	2.5 U	0.00E+00	2.5 U	0.00E+00	9.9 U	0.00E+00	2.5 U	0.00E+00	2.5 U	0.00E+00
9/17/2012		9029	9029	360	71	2.89E-04	8.0 U	0.00E+00	80 U	0.00E+00	8.0 U	0.00E+00	8.0 U	0.00E+00	32 U	0.00E+00	8.0 U	0.00E+00	8.0 U	0.00E+00
Pulse -off period September 17, 2012 to November 15, 2012																				
11/15/2012		9033	9033	220	39	1.75E-04	4.4 U	0.00E+00	44 U	0.00E+00	4.4 U	0.00E+00	4.4 U	0.00E+00	18 U	0.00E+00	4.4 U	0.00E+00	4.4 U	0.00E+00
12/14/2012		9436	9436	200	60	2.44E-04	4.8 U	0.00E+00	48 U	0.00E+00	4.8 U	0.00E+00	4.8 U	0.00E+00	19 U	0.00E+00	4.8 U	0.00E+00	4.8 U	0.00E+00
Pulse -off period December 14, 2012 to February 26, 2013																				
2/26/2013		9511	9511	440	6.8 U	0.00E+00	6.8 U	0.00E+00	68 U	0.00E+00	6.8 U	0.00E+00	6.8 U	0.00E+00	27 U	0.00E+00	12	6.39E-05	6.8 U	0.00E+00
4/11/2013		9952	9952	420	110	9.41E-04	5.1 U	0.00E+00	51 U	0.00E+00	5.1 U	0.00E+00	5.1 U	0.00E+00	20 U	0.00E+00	5.1 U	0.00E+00	5.1 U	0.00E+00
Pulse -off period April 11, 2013 to May 10, 2013																				
5/10/2013		9958	9958	420	79	6.76E-04	5.4 U	0.00E+00	54 U	0.00E+00	5.4 U	0.00E+00	5.4 U	0.00E+00	22 U	0.00E+00	5.4 U	0.00E+00	5.4 U	0.00E+00
7/15/2013		10984	10984	360	100	7.33E-04	4.7 U	0.00E+00	47 U	0.00E+00	4.7 U	0.00E+00	4.7 U	0.00E+00	19 U	0.00E+00	4.7 U	0.00E+00	4.7 U	0.00E+00
Pulse -off period July 15, 2013 to September 9, 2013																				
9/9/2013		10991	10991	380	62	4.80E-04	4 U	0.00E+00	40 U	0.00E+00	4 U	0.00E+00	4 U	0.00E+00	16 U	0.00E+00	4 U	0.00E+00	4 U	0.00E+00
11/18/2013		12069	12069	380	71	5.50E-04	7.6 U	0.00E+00	76 U	0.00E+00	7.6 U	0.00E+00	7.6 U	0.00E+00	31 U	0.00E+00	7.6 U	0.00E+00	7.6 U	0.00E+00
Pulse -off period November 18, 2013 to January 15, 2014																				
1/15/2014		12074	12074	380	37	2.86E-04	3.5 U	0.00E+00	35 U	0.00E+00	3.5 U	0.00E+00	3.5 U	0.00E+00	14 U	0.00E+00	3.5 U	0.00E+00	3.5 U	0.00E+00
3/14/2014		13057	13057	380	41	3.17E-04	7.8 U	0.00E+00	78 U	0.00E+00	7.8 U	0.00E+00	7.8 U	0.00E+00	31 U	0.00E+00	7.8 U	0.00E+00	7.8 U	0.00E+00
Pulse -off period March 14, 2014 to May 15, 2014																				
5/15/2014		13063	13063	300	33	2.02E-04	3.0 U	0.00E+00	30 U	0.00E+00	3.0 U	0.00E+00	3.0 U	0.00E+00	12 U	0.00E+00	3.0 U	0.00E+00	3.0 U	0.00E+00
7/23/2014		14714	14714	100	14	2.85E-05	2.2 U	0.00E+00	22 U	0.00E+00	2.2 U	0.00E+00	2.2 U	0.00E+00	9.0 U	0.00E+00	2.2 U	0.00E+00	2.2 U	0.00E+00
Pulse -off period July 23, 2014 to September 16, 2014																				
9/16/2014		14721	14715	120	22	5.38E-05	2.3 U	0.00E+00	23 U	0.00E+00	2.3 U	0.00E+00	2.3 U	0.00E+00	9.4 U	0.00E+00	6.4	9.30E-06	2.3 U	0.00E+00
11/14/2014		16095	16095	290	11	6.50E-05	2.4 U	0.00E+00	24 U	0.00E+00	2.4 U	0.00E+00	2.4 U	0.00E+00	9.7 U	0.00E+00	2.4 U	0.00E+00	2.4 U	0.00E+00
Pulse -off period November 14, 2014 to January 9, 2015																				
1/9/2015		16102	16102	180	4.9	1.80E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.6 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00
3/13/2015		17322	17322	260	12	6.36E-05	2.4 U	0.00E+00	24 U	0.00E+00	2.4 U	0.00E+00	2.4 U	0.00E+00	9.5 U	0.00E+00	2.4 U	0.00E+00	2.4 U	0.00E+00
Pulse -off period March 13, 2015 to May 15, 2015																				
5/15/2015		17329	17329	260	8.2	4.34E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.5 U	0.00E+00	1.1 U	0.00E+00	1.4	5.20E-06
7/16/2015		18578	18578	180	14	5.13E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.7 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
Pulse -off period July 16, 2015 to September 22, 2015																				
9/22/2015		18580	18580	160	11	3.59E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.9 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
11/20/2015		19973	19973	230	11	5.15E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.7 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
Pulse -off period November 20, 2015 to January 19, 2016																				
1/19/2016		19982	19982	180	2	7.33E-06	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.3 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00
3/18/2016		21229	21229	260	8.5	4.50E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.3 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00
Pulse -off period March 18, 2016 to May 19, 2016																				
5/19/2016		21233	21233	140	2.1	5.99E-06	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.7 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00

Notes:

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

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

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

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

See notes on last page.

Table 4.5
Cell 5 - Phase 2 SVE System Effluent Data
March 2011 - May 2016
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

CELL 5 SVE EFFLUENT

Date	Sample Type	SVE Run Time (hr)	Cell 5 Run Time (hr)	SVE Flow Rate (scfm)	Ethylbenzene		m&p-Xylenes		o-Xylenes		Acetone		Methyl Ethyl Ketone (MEK)		Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)		
Pulse -off period June 1, 2012 to August 14, 2012																
8/14/2012		8541	8541	360	2.5 U	0.00E+00	2.5 U	0.00E+00	2.5 U	0.00E+00	25 U	0.00E+00	9.9 U	0.00E+00	7.12E-03	306.52
9/17/2012		9029	9029	360	8.0 U	0.00E+00	8.0 U	0.00E+00	8.0 U	0.00E+00	80 U	0.00E+00	32 U	0.00E+00	9.81E-03	311.31
Pulse -off period September 17, 2012 to November 15, 2012																
11/15/2012		9033	9033	220	4.4 U	0.00E+00	4.4 U	0.00E+00	4.4 U	0.00E+00	44 U	0.00E+00	18 U	0.00E+00	6.15E-03	311.34
12/14/2012		9436	9436	200	4.8 U	0.00E+00	4.8 U	0.00E+00	4.8 U	0.00E+00	48 U	0.00E+00	19 U	0.00E+00	5.79E-03	313.67
Pulse -off period December 14, 2012 to February 26, 2013																
2/26/2013		9511	9511	440	6.8 U	0.00E+00	6.8 U	0.00E+00	6.8 U	0.00E+00	68 U	0.00E+00	27 U	0.00E+00	7.01E-04	313.72
4/11/2013		9952	9952	420	5.1 U	0.00E+00	5.1 U	0.00E+00	5.1 U	0.00E+00	51 U	0.00E+00	20 U	0.00E+00	2.01E-02	322.58
Pulse -off period April 11, 2013 to May 10, 2013																
5/10/2013		9958	9958	420	5.4 U	0.00E+00	5.4 U	0.00E+00	5.4 U	0.00E+00	54 U	0.00E+00	22 U	0.00E+00	1.44E-02	322.66
7/15/2013		10984	10984	360	4.7 U	0.00E+00	4.7 U	0.00E+00	4.7 U	0.00E+00	47 U	0.00E+00	19 U	0.00E+00	1.65E-02	339.59
Pulse -off period July 15, 2013 to September 9, 2013																
9/9/2013		10991	10991	380	4 U	0.00E+00	4 U	0.00E+00	4 U	0.00E+00	40 U	0.00E+00	40 U	0.00E+00	8.81E-03	339.65
11/18/2013		12069	12069	380	7.6 U	0.00E+00	7.6 U	0.00E+00	7.6 U	0.00E+00	76 U	0.00E+00	31 U	0.00E+00	1.58E-02	356.69
Pulse -off period November 18, 2013 to January 15, 2014																
1/15/2014		12074	12074	380	3.5 U	0.00E+00	3.5 U	0.00E+00	3.5 U	0.00E+00	35 U	0.00E+00	14 U	0.00E+00	8.88E-03	356.73
3/14/2014		13057	13057	380	7.8 U	0.00E+00	7.8 U	0.00E+00	7.8 U	0.00E+00	78 U	0.00E+00	31 U	0.00E+00	1.24E-02	368.96
Pulse -off period March 14, 2014 to May 15, 2014																
5/15/2014		13063	13063	300	3.0 U	0.00E+00	3.0 U	0.00E+00	3.0 U	0.00E+00	30 U	0.00E+00	12 U	0.00E+00	7.40E-03	369.01
7/23/2014		14714	14714	100	2.2 U	0.00E+00	2.2 U	0.00E+00	2.2 U	0.00E+00	22 U	0.00E+00	9.0 U	0.00E+00	1.60E-03	371.61
Pulse -off period July 23, 2014 to September 16, 2014																
9/16/2014		14721	14715	120	2.3 U	0.00E+00	2.3 U	0.00E+00	2.3 U	0.00E+00	32	3.46E-05	9.4 U	0.00E+00	1.55E-03	371.61
11/14/2014		16095	16095	290	2.4 U	0.00E+00	2.4 U	0.00E+00	2.8	1.34E-05	24 U	0.00E+00	9.7 U	0.00E+00	4.46E-03	377.77
Pulse -off period November 14, 2014 to January 9, 2015																
1/9/2015		16102	16102	180	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.6 U	0.00E+00	1.46E-03	377.78
3/13/2015		17322	17322	260	2.4 U	0.00E+00	2.4 U	0.00E+00	2.4 U	0.00E+00	24 U	0.00E+00	9.5 U	0.00E+00	3.99E-03	382.64
Pulse -off period March 13, 2015 to May 15, 2015																
5/15/2015		17329	17329	260	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.5 U	0.00E+00	2.25E-03	382.66
7/16/2015		18578	18578	180	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.7 U	0.00E+00	1.37E-03	384.37
Pulse -off period July 16, 2015 to September 22, 2015																
9/22/2015		18580	18580	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.9 U	0.00E+00	7.45E-04	384.37
11/20/2015		19973	19973	230	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.7 U	0.00E+00	2.03E-03	387.19
Pulse -off period November 20, 2015 to January 19, 2016																
1/19/2016		19982	19982	180	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.3 U	0.00E+00	3.53E-04	387.20
3/18/2016		21229	21229	260	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.3 U	0.00E+00	2.22E-03	389.97
Pulse -off period March 18, 2016 to May 19, 2016																
5/19/2016		21233	21233	140	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.7 U	0.00E+00	3.43E-04	389.97

Notes:

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

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

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

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

See notes on last page.

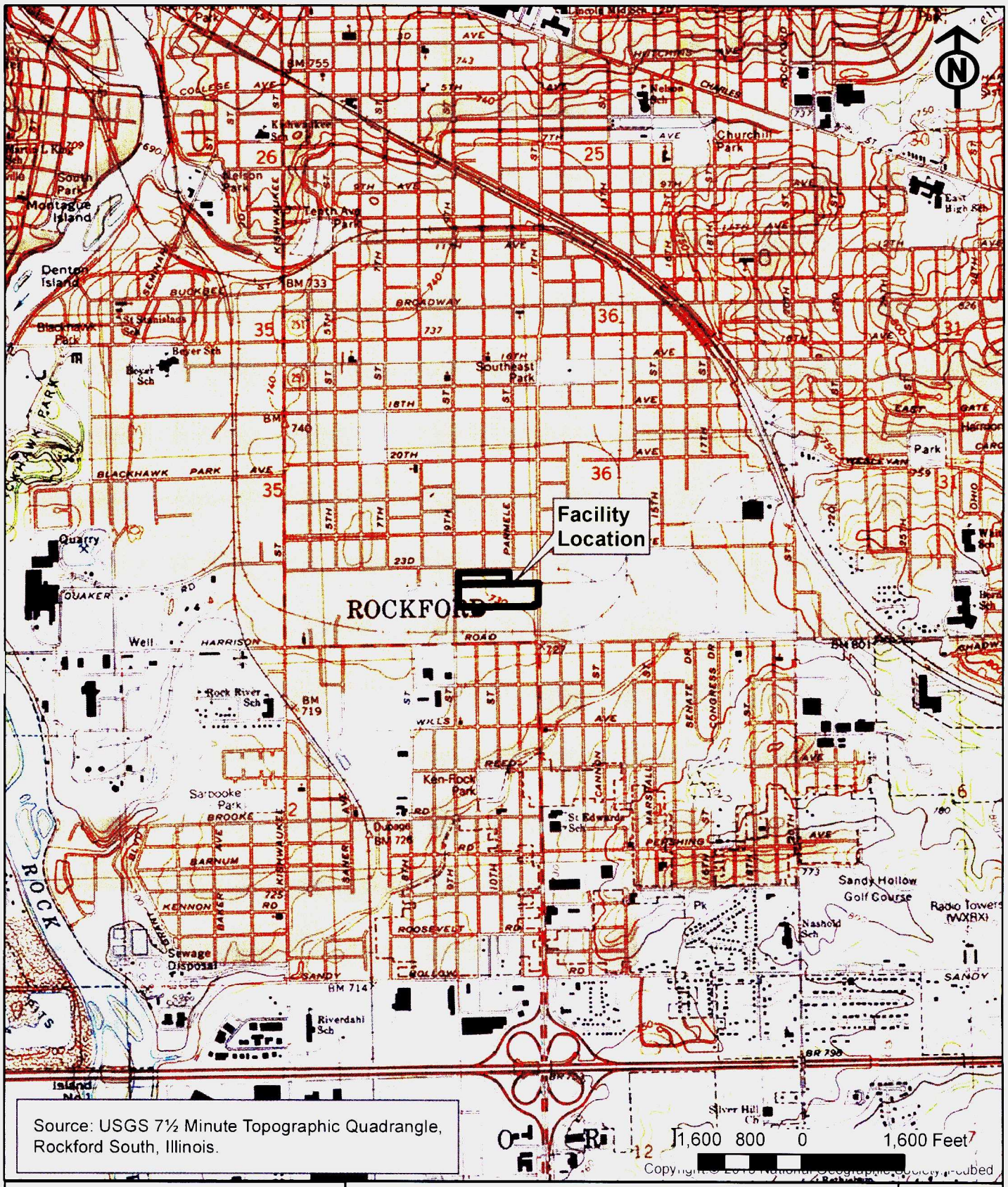
Table 4.6
Mass Removal - Phase 1 and Phase 2 AS/SVE Systems
December 2009 - May 2016
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

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

Table 4.6
Mass Removal - Phase 1 and Phase 2 AS/SVE Systems
December 2009 - May 2016
Hamilton Sundstrand Corporation
Plants 1/2 Facility
Rockford, Illinois

Date	Cell 1			Cell 2			Cell 3			Cell 4			Cell 5			Total Cumulative Mass Removal (lb)
	Total Run Time (hr)	Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)	Run Time (hr)	Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)	Run Time (hr)	Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)	Run Time (hr)	Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)	Run Time (hr)	Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)	
Pulse -off period June 1, 2012 to August 14, 2012																
8/14/2012	7094	0.00	47.54	7094	0.00	116.20	7094	0.00	129.03	8546	0.05	1081.05	8541	0.01	306.52	1680.34
9/17/2012	7317	0.00	47.99	7317	0.00	116.40	7317	0.02	133.04	9033	0.04	1102.58	9029	0.01	311.31	1711.33
Pulse -off period September 17, 2012 to November 14, 2012																
11/15/2012	7320	0.00	48.00	7320	0.00	116.40	7320	0.00	133.05	9037	0.05	1102.78	9033	0.01	311.34	1711.56
12/14/2012	7518	0.00	48.24	7518	0.00	116.86	7518	0.00	133.94	9439	0.00	1103.57	9436	0.01	313.67	1716.27
Pulse -off period December 14, 2012 to February 26, 2013																
2/26/2013	7518	0.00	48.19	7518	0.00	116.86	7519	0.00	133.94	9439	0.00	1103.57	9511	0.00	313.72	1716.32
4/11/2013	7723	0.00	48.32	7723	0.00	116.97	8134	0.00	134.40	9876	0.00	1105.48	9952	0.02	322.58	1727.74
Pulse -off period April 11, 2013 to May 10, 2013																
5/10/2013	7724	0.00	48.32	7724	0.00	116.97	8135	0.00	134.40	9882	0.00	1105.50	9958	0.01	322.66	1727.85
7/15/2013	8039	0.00	48.86	8039	0.00	117.21	9082	0.00	134.70	10907	0.00	1108.40	10984	0.02	339.59	1748.76
Pulse -off period July 15, 2013 to September 9, 2013																
9/9/2013	8040	0.00	48.86	8040	0.00	117.21	9083	0.00	134.70	10914	0.00	1108.44	10991	0.01	339.65	1748.86
11/18/2013	8372	0.00	49.15	8372	0.00	117.30	10081	0.00	136.08	11992	0.00	1110.90	12069	0.02	356.69	1770.12
Pulse -off period November 18, 2013 to January 15, 2014																
1/15/2014	8651	0.00	49.36	8651	0.00	117.51	10916	0.00	136.88	11997	0.00	1110.91	12074	0.01	356.73	1771.39
3/14/2014	8894	0.00	49.48	8894	0.00	117.52	11645	0.00	137.13	12980	0.00	1112.65	13057	0.01	368.96	1785.75
Pulse -off period March 14, 2014 to May 15, 2014																
5/15/2014	8990	0.00	49.54	8990	0.00	117.64	11934	0.00	137.98	12986	0.00	1112.67	13063	0.01	369.01	1786.83
7/23/2014	9321	0.00	50.01	9321	0.00	117.79	12926	0.00	138.52	14627	0.00	1113.02	14714	0.00	371.61	1790.95
Pulse -off period July 23, 2014 to September 16, 2014																
9/16/2014	9494	0.00	50.32	9494	0.00	118.05	13445	0.00	139.28	14628	0.00	1113.03	14715	0.00	371.61	1792.29
11/14/2014	9777	0.00	50.45	9777	0.00	118.12	14294	0.00	139.95	16008	0.00	1116.04	16095	0.00	377.77	1802.33
Pulse -off period November 14, 2014 to January 9, 2015																
1/9/2015	9778	0.00	50.45	9778	0.00	118.12	14299	0.00	139.96	16015	0.00	1116.05	16102	0.00	377.78	1802.36
3/13/2015	10045	0.00	50.56	10045	0.00	118.15	15099	0.00	140.58	17178	0.00	1117.32	17322	0.00	382.64	1809.25
Pulse -off period March 13, 2015 to May 15, 2015																
5/15/2015	10046	0.00	50.56	10046	0.00	118.15	15102	0.00	140.58	17186	0.00	1117.34	17329	0.00	382.66	1809.28
7/16/2015	10343	0.00	50.92	10343	0.00	118.25	15992	0.00	141.23	18436	0.00	1121.16	18578	0.00	384.37	1815.93
Pulse -off period July 16, 2015 to September 22, 2015																
9/22/2015	10343	0.00	50.92	10343	0.00	118.26	15994	0.00	141.24	18439	0.00	1121.16	18580	0.00	384.37	1815.95
11/20/2015	10626	0.00	51.03	10626	0.00	118.33	16842	0.00	141.50	19832	0.00	1126.63	19973	0.00	387.19	1824.68
Pulse -off period November 20, 2015 to January 19, 2016																
1/19/2016	10627	0.00	51.03	10627	0.00	118.33	16846	0.00	141.50	19841	0.00	1126.63	19982	0.00	387.20	1824.70
3/18/2016	10883	0.00	51.14	10883	0.00	118.36	17612	0.00	141.72	21088	0.00	1128.65	21229	0.00	389.97	1829.83
Pulse -off period March 18, 2016 to May 19, 2016																
5/19/2016	10884	0.00	51.14	10884	0.00	118.36	17615	0.00	141.72	21092	0.00	1128.65	21233	0.00	389.97	1829.84

Figures



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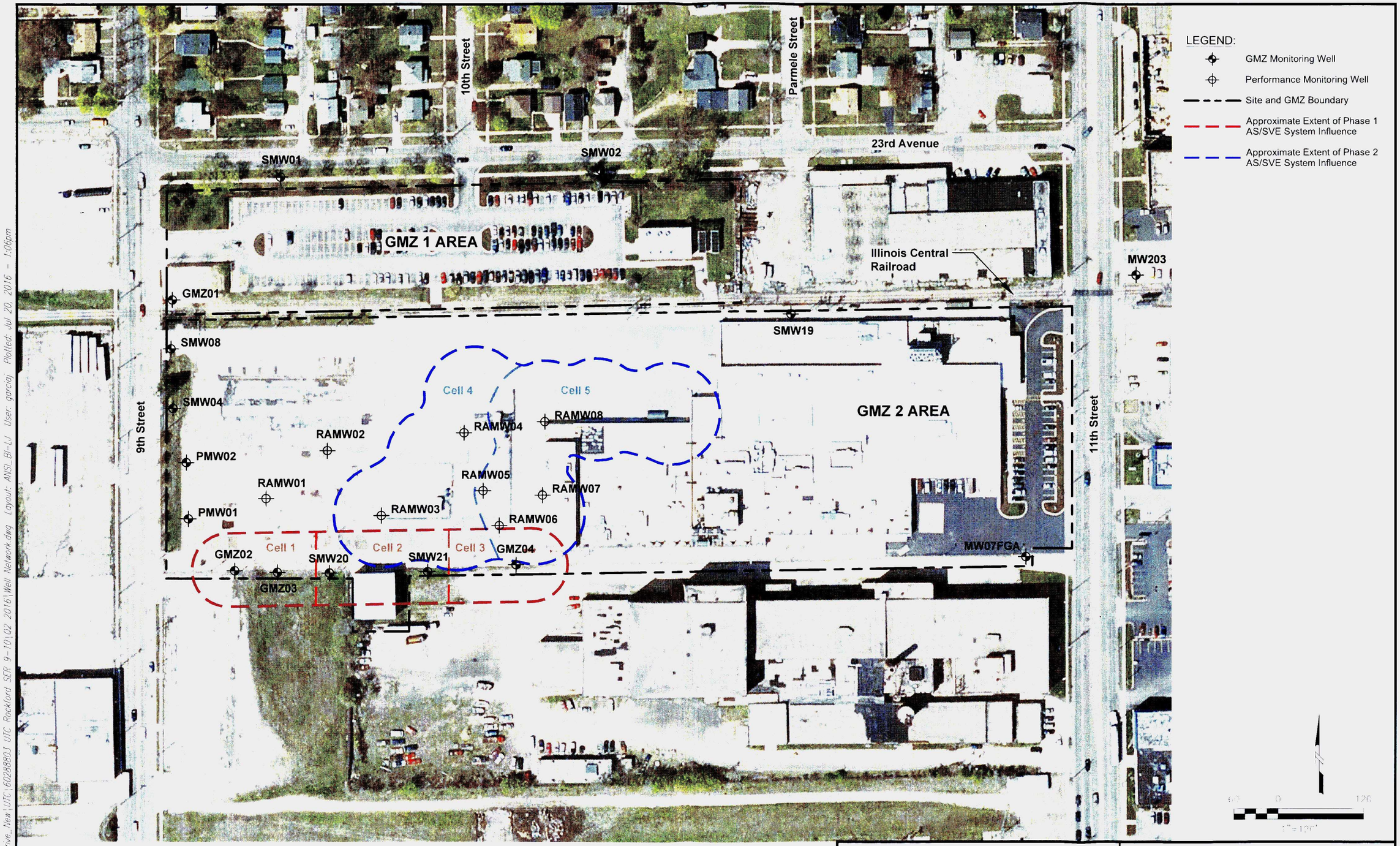
Facility Location Map
Area 9/10 Remedial Action
Southeast Rockford Groundwater
Contamination Superfund Site
Rockford, IL

FIGURE NUMBER	
1	

DRAWN BY:	DATE:	PROJECT NUMBER:	SHEET NUMBER:
JG	07/20/16	60480278.4213	1 of 1

Path: U:\Cad_Drive_New\UTC\60288803 UTC Rockford SER 9-10\Q2 2016\GIS\Site Location Map.mxd



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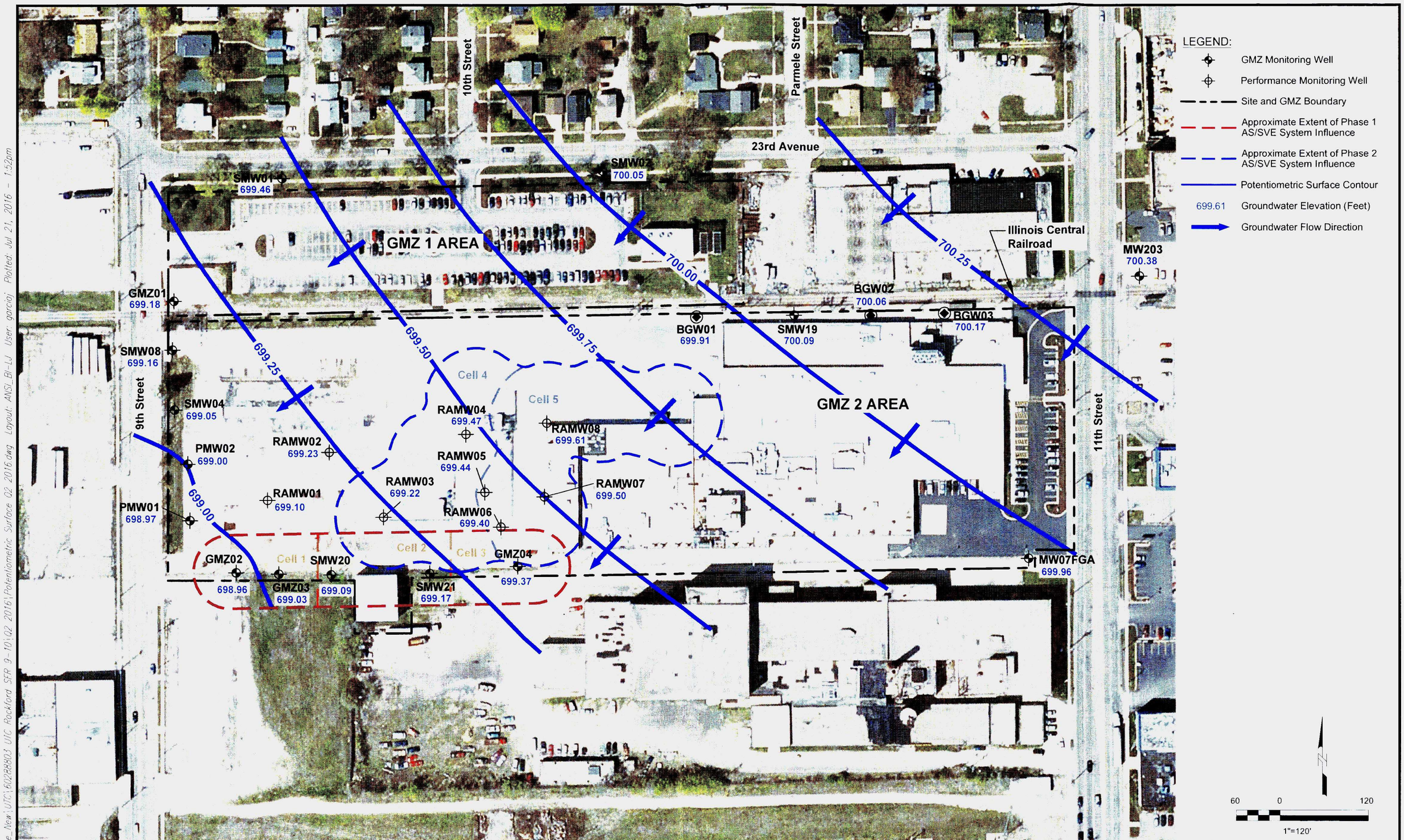
AREA 9/10 REMEDIAL ACTION
ROCKFORD, ILLINOIS
PROJECT NO. 60480278.4213

DATE 07/20/16 | DRWN JG

GMZ / PERFORMANCE WELL NETWORK

FIGURE 2

File: U:\Cad_Drive_New\UTC\60288803 UTC Rockford SER 9-10\02 2016\Well Network.dwg Layout: ANSI_B(-L) User: gorciaj Plotted: Jul 20, 2016 - 1:06pm



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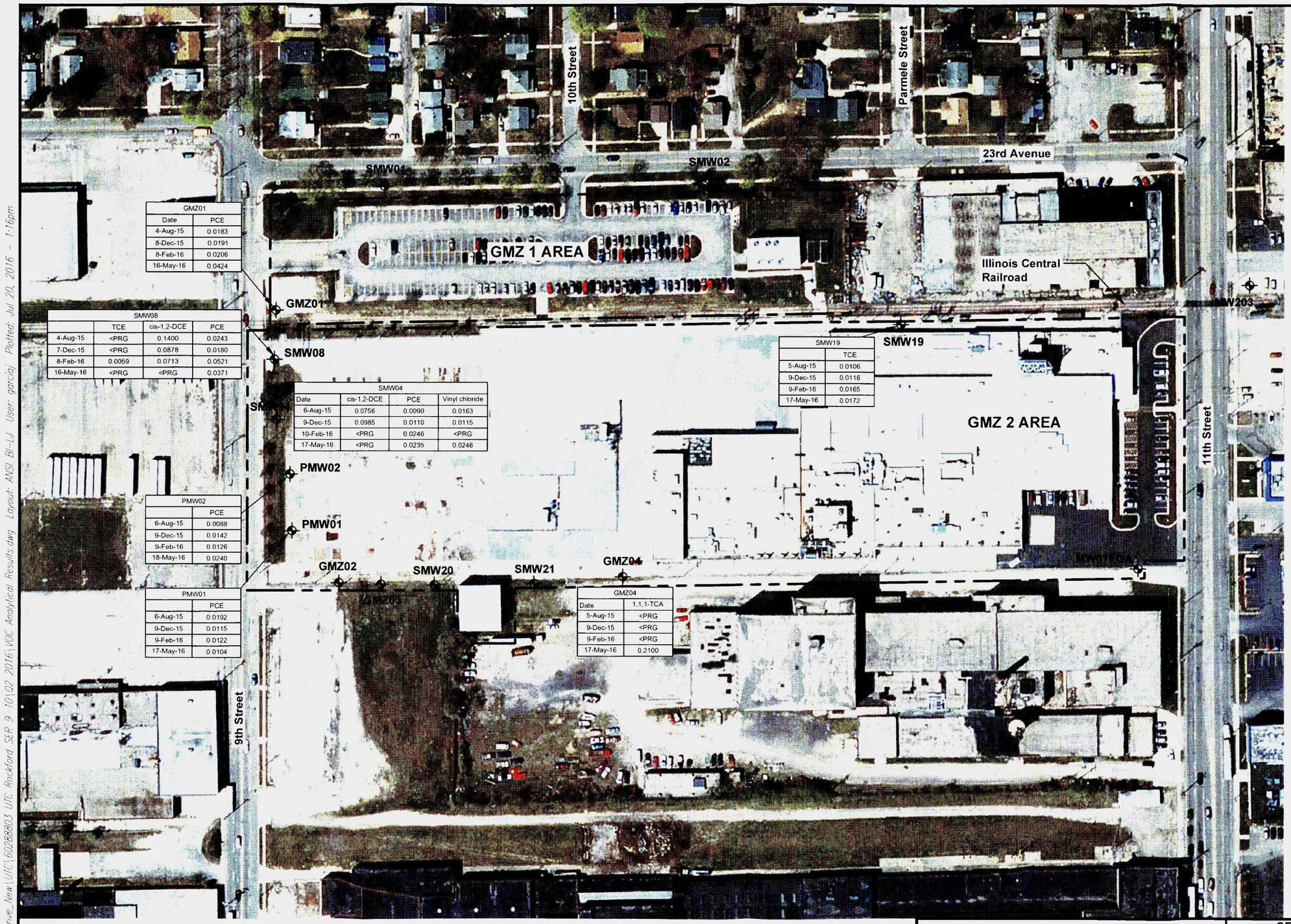
AREA 9/10 REMEDIAL ACTION
ROCKFORD, ILLINOIS
PROJECT NO. 60480278.4213

DATE: 07/20/16 | DRWN: JG

SECOND QUARTER 2016
POTENTIOMETRIC SURFACE MAP

FIGURE 3

File: U:\Cad_Drive_New\UTC\60288803 UIC Rockford SFR 9-10\Q2 2016\Potentiometric Surface Q2 2016.dwg Layout: ANSI_B(-LJ User: gorcia) Plotted: Jul 21, 2016 - 1:52pm



GMZ01	
Date	PCE
4-Aug-15	0.0183
8-Dec-15	0.0191
8-Feb-16	0.0206
16-May-16	0.0424

SMW08			
	TCE	cis-1,2-DCE	PCE
4-Aug-15	<PRG	0.1400	0.0243
7-Dec-15	<PRG	0.0878	0.0180
8-Feb-16	0.0059	0.0713	0.0521
16-May-16	<PRG	<PRG	0.0371

SMW04			
Date	cis-1,2-DCE	PCE	Vinyl chloride
6-Aug-15	0.0756	0.0090	0.0163
9-Dec-15	0.0985	0.0110	0.0115
10-Feb-16	<PRG	0.0246	<PRG
17-May-16	<PRG	0.0235	0.0246

SMW19	
	TCE
5-Aug-15	0.0106
9-Dec-15	0.0116
9-Feb-16	0.0165
17-May-16	0.0172

PMW02	
	PCE
6-Aug-15	0.0088
9-Dec-15	0.0142
9-Feb-16	0.0126
18-May-16	0.0240

PMW01	
	PCE
6-Aug-15	0.0192
9-Dec-15	0.0115
9-Feb-16	0.0122
17-May-16	0.0104

GMZ04	
Date	1,1,1-TCA
5-Aug-15	<PRG
9-Dec-15	<PRG
9-Feb-16	<PRG
17-May-16	0.2100

LEGEND:

GMZ Monitoring Well

Site and GMZ Boundary

NOTES:

1. Values are listed only for those wells in which a Volatile Organic Compound (VOC) was identified above the Preliminary Remediation Goal (PRG) for the previous four events.

2. mg/L milligrams per liter

Preliminary Remediation Goals (PRG)	
Trichloroethene (TCE)	0.005 mg/L
cis-1,2-Dichloroethene (DCE)	0.07 mg/L
1,1,1-Trichloroethane (TCA)	0.2 mg/L
Tetrachloroethene (PCE)	0.005 mg/L
Vinyl chloride	0.002 mg/L

N

65 0 130

1"=130'

AECOM

AREA 9/10 REMEDIAL ACTION
ROCKFORD, ILLINOIS

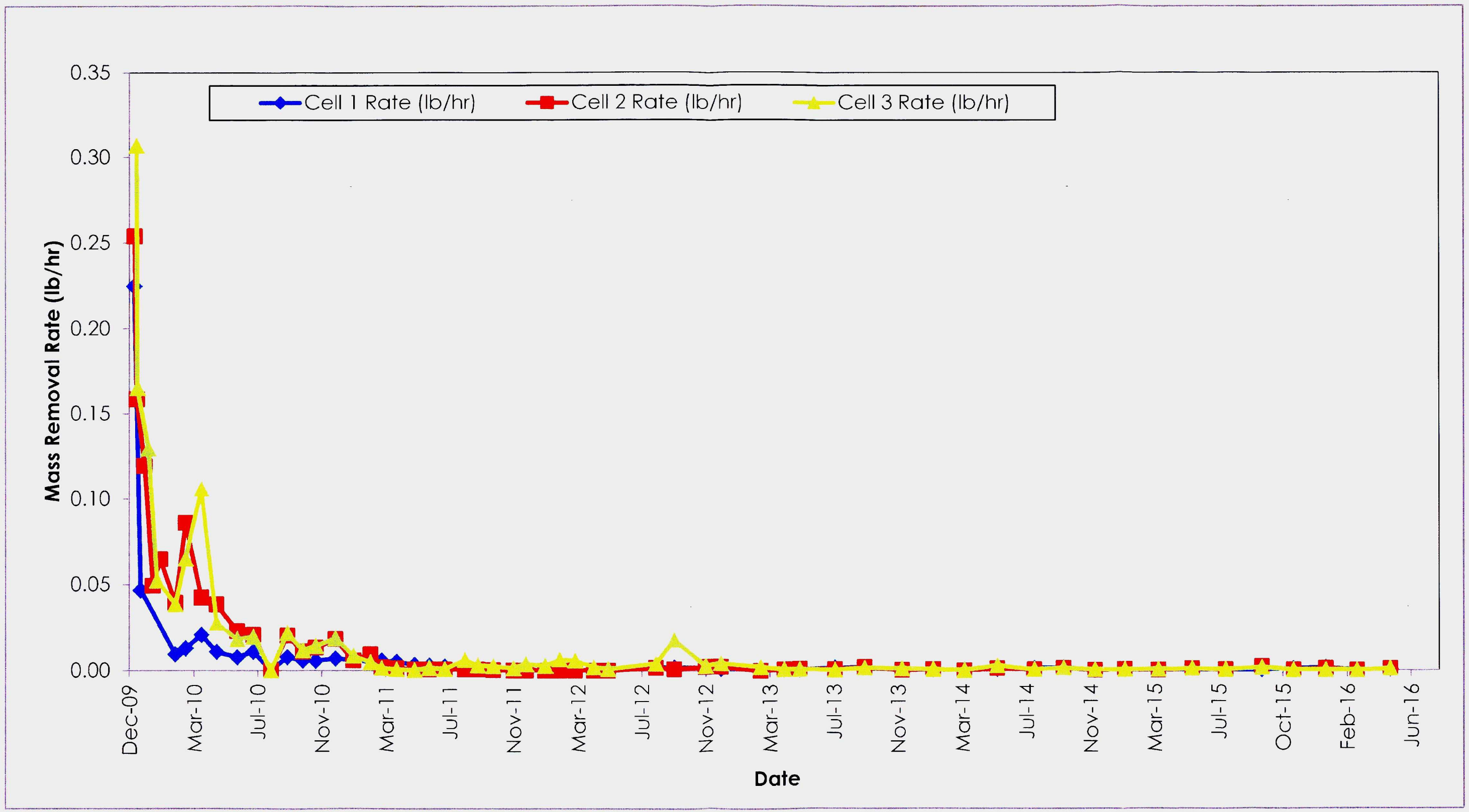
PROJECT NO. 60480278.4213

DATE 07/20/16 | DRWN JC

SECOND QUARTER 2016 ROLLING
12 MONTH GMZ WELL GROUNDWATER
ANALYTICAL RESULTS EXCEEDING THE PRG

FIGURE 4

File: U:\Cad_Drive_New\UTC\60288803 UTC Rockford SEP 9 10\02 2016\VOC Analytical Results.dwg Layout: ANSI B(-LJ User: garcia) Plotted: Jul 20, 2016 - 1:16pm



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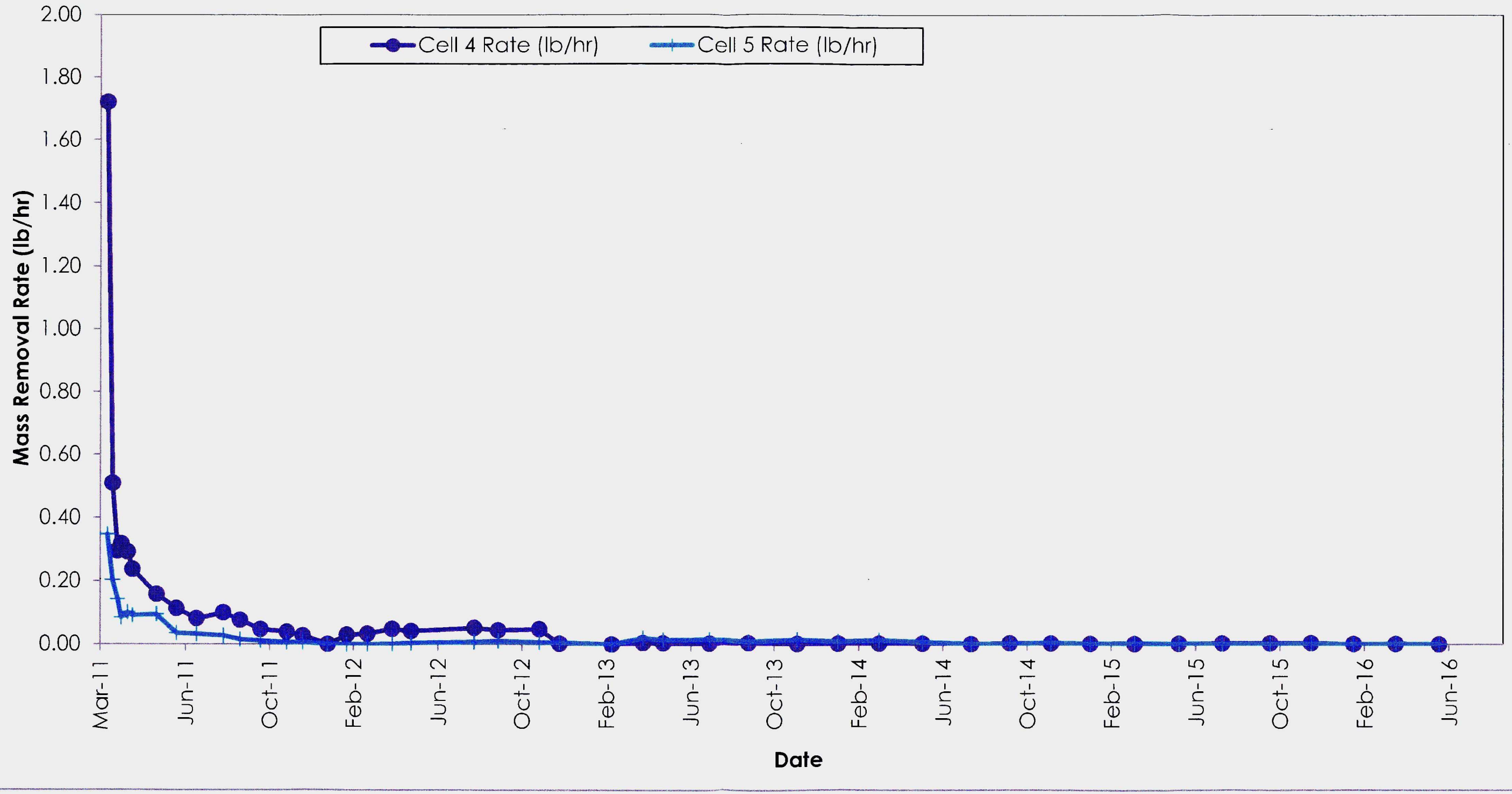
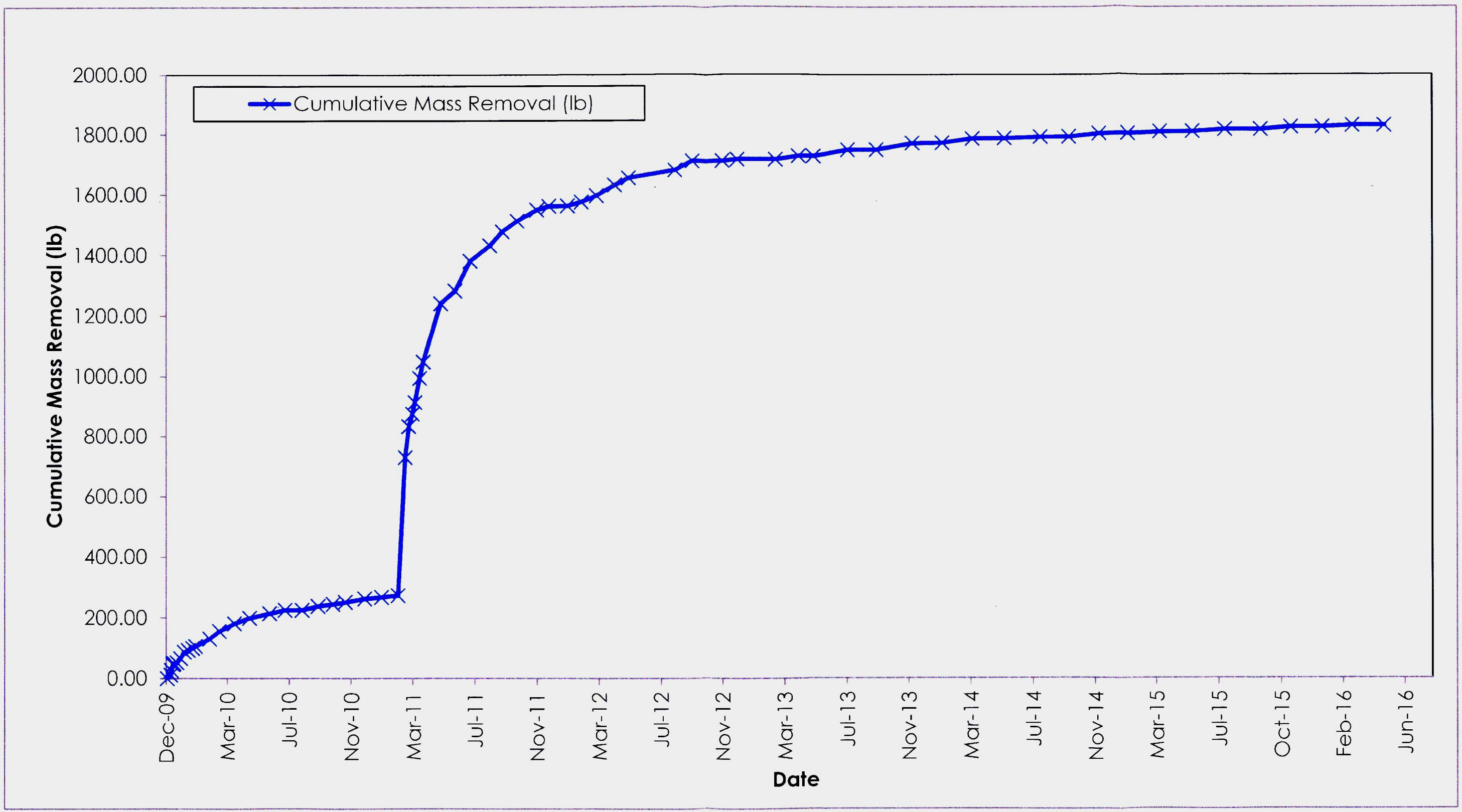
AREA 9/10 REMEDIAL ACTION ROCKFORD, ILLINOIS PROJECT NO. 60480278.4213	AVERAGE VOC MASS REMOVAL RATE VS TIME PHASE 1 AS/SVE SYSTEM
DATE: 07/20/16 DRWN: JG	FIGURE 7



AECOM

AREA 9/10 REMEDIAL ACTION ROCKFORD, ILLINOIS PROJECT NO. 60480278.4213	AVERAGE VOC MASS REMOVAL RATE VS TIME PHASE 2 AS/SVE SYSTEM
DATE 07/20/16 DRWN JG	FIGURE 8

File: U:\Cad_Drive_New\UTC\60288803 UTC Rockford SER 9-10\02 2016\VOC vs Time Phase 2.dwg Layout: ANSI B(-LJ User: garciaj Plotted: Jul 27, 2016 - 7:55am



AECOM

AREA 9/10 REMEDIAL ACTION ROCKFORD, ILLINOIS PROJECT NO. 60480278.4213	CUMULATIVE MASS REMOVAL PHASE 1/ PHASE 2 AS/SVE SYSTEM
DATE 07/20/16 DRWN JG	FIGURE 9

File: U:\Cad Drive New\UTC\60288803 UTC Rockford SER 9 10\02 2016\Cumulative Phase 1 & 2.dwg Layout: ANSI B1-LJ User: garciaj Plotted: Jul 27, 2016 7:56am

Appendix A

First Quarter 2016 GMZ and Performance Monitoring Well Analytical Data

SGS ACCUTEST
New Jersey

06/02/16

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Automated Report

Technical Report for

United Technologies Corporation

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

60480278

SGS Accutest Job Number: JC20563

Sampling Dates: 05/16/16 - 05/17/16

Report to:

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Total number of pages in report: **193**

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

Nancy Cole
Laboratory Director

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

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Test results relate only to samples analyzed.

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Sample Summary

United Technologies Corporation

Job No: JC20563

ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Project No: 60480278

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
JC20563-1	05/16/16	13:20 AH	05/19/16	AQ	Ground Water	HSSER-RAMW08-051616
JC20563-2	05/16/16	14:45 AH	05/19/16	AQ	Ground Water	HSSER-RAMW07-051616
JC20563-3	05/16/16	15:50 AH	05/19/16	AQ	Ground Water	HSSER-RAMW06-051616
JC20563-4	05/17/16	09:10 AH	05/19/16	AQ	Ground Water	HSSER-RAMW05-051716
JC20563-5	05/17/16	09:30 AH	05/19/16	AQ	Ground Water	HSSER-EBLK02-051716
JC20563-6	05/17/16	10:10 AH	05/19/16	AQ	Ground Water	HSSER-RAMW04-051716
JC20563-7	05/17/16	11:35 AH	05/19/16	AQ	Ground Water	HSSER-RAMW03-051716
JC20563-8	05/17/16	13:05 AH	05/19/16	AQ	Ground Water	HSSER-RAMW02-051716
JC20563-8D	05/17/16	13:05 AH	05/19/16	AQ	Water Dup/MSD	HSSER-MSD02-051716
JC20563-8S	05/17/16	13:05 AH	05/19/16	AQ	Water Matrix Spike	HSSER-MS02-051716
JC20563-9	05/17/16	13:30 AH	05/19/16	AQ	Field Blank Water	HSSER-FBLK02-051716
JC20563-10	05/17/16	14:20 AH	05/19/16	AQ	Ground Water	HSSER-RAMW01-051716
JC20563-11	05/17/16	00:00 AH	05/19/16	AQ	Ground Water	HSSER-DUP02-051716

Sample Summary
(continued)

United Technologies Corporation

Job No: JC20563

ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Project No: 60480278

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
JC20563-12	05/17/16	14:20 AH	05/19/16	AQ	Trip Blank Water	HSSER-TRIP02-051816

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	United Technologies Corporation	**Job No**	JC20563
Site:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL	**Report Date**	6/2/2016 8:40:41 AM

On 05/19/2016, 10 Sample(s), 1 Trip Blank(s) and 1 Field Blank(s) were received at SGS Accutest at a maximum corrected temperature of 4 C. Samples were intact and chemically preserved, unless noted below. A SGS Accutest Job Number of JC20563 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

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

Volatiles by GCMS By Method SW846 8260C

Matrix: AQ	**Batch ID:** V3A6509

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC20563-8MS, JC20563-8MSD were used as the QC samples indicated.

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

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

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

Summary of Hits

Job Number: JC20563
Account: United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Collected: 05/16/16 thru 05/17/16

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JC20563-1	**HSSER-RAMW08-051616**					
1,1-Dichloroethane		0.00048 J	0.0010	0.00021	mg/l	SW846 8260C
1,1,1-Trichloroethane		0.00026 J	0.0010	0.00022	mg/l	SW846 8260C
JC20563-2	**HSSER-RAMW07-051616**					
1,1-Dichloroethane		0.170	0.050	0.010	mg/l	SW846 8260C
1,1-Dichloroethene		1.78	0.050	0.010	mg/l	SW846 8260C
cis-1,2-Dichloroethene		0.622	0.050	0.015	mg/l	SW846 8260C
Ethylbenzene		0.0825	0.050	0.0098	mg/l	SW846 8260C
1,1,1-Trichloroethane		16.3	0.50	0.11	mg/l	SW846 8260C
JC20563-3	**HSSER-RAMW06-051616**					
1,1-Dichloroethane		0.0044	0.0010	0.00021	mg/l	SW846 8260C
1,1-Dichloroethene		0.0153	0.0010	0.00020	mg/l	SW846 8260C
cis-1,2-Dichloroethene		0.0047	0.0010	0.00031	mg/l	SW846 8260C
1,1,1-Trichloroethane		0.154	0.0010	0.00022	mg/l	SW846 8260C
Trichloroethene		0.0016	0.0010	0.00026	mg/l	SW846 8260C
JC20563-4	**HSSER-RAMW05-051716**					
1,1-Dichloroethane		0.00069 J	0.0010	0.00021	mg/l	SW846 8260C
1,1-Dichloroethene		0.00099 J	0.0010	0.00020	mg/l	SW846 8260C
cis-1,2-Dichloroethene		0.00096 J	0.0010	0.00031	mg/l	SW846 8260C
1,1,1-Trichloroethane		0.0143	0.0010	0.00022	mg/l	SW846 8260C
Trichloroethene		0.00079 J	0.0010	0.00026	mg/l	SW846 8260C
JC20563-5	**HSSER-EBLK02-051716**					
Methylene chloride		0.00086 J	0.0020	0.00035	mg/l	SW846 8260C
JC20563-6	**HSSER-RAMW04-051716**					
1,1-Dichloroethane		0.00049 J	0.0010	0.00021	mg/l	SW846 8260C
Tetrachloroethene		0.00055 J	0.0010	0.00023	mg/l	SW846 8260C
1,1,1-Trichloroethane		0.00079 J	0.0010	0.00022	mg/l	SW846 8260C
JC20563-7	**HSSER-RAMW03-051716**					
Tetrachloroethene		0.00028 J	0.0010	0.00023	mg/l	SW846 8260C
1,1,1-Trichloroethane		0.00036 J	0.0010	0.00022	mg/l	SW846 8260C

Summary of Hits

Job Number: JC20563
Account: United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Collected: 05/16/16 thru 05/17/16

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JC20563-8	**HSSER-RAMW02-051716**					
1,1-Dichloroethane		0.0041	0.0010	0.00021	mg/l	SW846 8260C
1,1-Dichloroethene		0.00024 J	0.0010	0.00020	mg/l	SW846 8260C
Tetrachloroethene		0.0051	0.0010	0.00023	mg/l	SW846 8260C
1,1,1-Trichloroethane		0.0039	0.0010	0.00022	mg/l	SW846 8260C
Trichloroethene		0.00043 J	0.0010	0.00026	mg/l	SW846 8260C
JC20563-9	**HSSER-FBLK02-051716**					
Methylene chloride		0.00090 J	0.0020	0.00035	mg/l	SW846 8260C
JC20563-10	**HSSER-RAMW01-051716**					
1,1-Dichloroethane		0.0018	0.0010	0.00021	mg/l	SW846 8260C
1,1-Dichloroethene		0.00049 J	0.0010	0.00020	mg/l	SW846 8260C
Tetrachloroethene		0.0084	0.0010	0.00023	mg/l	SW846 8260C
1,1,1-Trichloroethane		0.0059	0.0010	0.00022	mg/l	SW846 8260C
Trichloroethene		0.0015	0.0010	0.00026	mg/l	SW846 8260C
JC20563-11	**HSSER-DUP02-051716**					
Tetrachloroethene		0.00026 J	0.0010	0.00023	mg/l	SW846 8260C
1,1,1-Trichloroethane		0.00043 J	0.0010	0.00022	mg/l	SW846 8260C
JC20563-12	**HSSER-TRIP02-051816**					

No hits reported in this sample.

Sample Results

Report of Analysis

SGS Accutest

Report of Analysis

Client Sample ID:	HSSER-RAMW08-051616		
Lab Sample ID:	JC20563-1	**Date Sampled:**	05/16/16
Matrix:	AQ - Ground Water	**Date Received:**	05/19/16
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	3A150977.D	1	05/25/16	TK	n/a	n/a	V3A6509
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	0.00048	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	0.00035	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	0.00026	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	100%		76-120%
17060-07-0	1,2-Dichloroethane-D4	98%		73-122%
2037-26-5	Toluene-D8	100%		84-119%
460-00-4	4-Bromofluorobenzene	100%		78-117%

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

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

SGS Accutest

Report of Analysis

Client Sample ID:	HSSER-RAMW07-051616		
Lab Sample ID:	JC20563-2	**Date Sampled:**	05/16/16
Matrix:	AQ - Ground Water	**Date Received:**	05/19/16
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	3A150997.D	50	05/25/16	TK	n/a	n/a	V3A6509
Run #2	3A150998.D	500	05/25/16	TK	n/a	n/a	V3A6509

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

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	0.170	0.050	0.010	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.050	0.020	mg/l	
75-35-4	1,1-Dichloroethene	1.78	0.050	0.010	mg/l	
156-59-2	cis-1,2-Dichloroethene	0.622	0.050	0.015	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.050	0.018	mg/l	
100-41-4	Ethylbenzene	0.0825	0.050	0.0098	mg/l	
75-09-2	Methylene chloride	ND	0.10	0.018	mg/l	
127-18-4	Tetrachloroethene	ND	0.050	0.012	mg/l	
108-88-3	Toluene	ND	0.050	0.011	mg/l	
71-55-6	1,1,1-Trichloroethane	16.3 [a]	0.50	0.11	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.050	0.014	mg/l	
79-01-6	Trichloroethene	ND	0.050	0.013	mg/l	
75-01-4	Vinyl chloride	ND	0.050	0.016	mg/l	

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

(a) Result is from Run# 2

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

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

SGS Accutest

Report of Analysis

Client Sample ID:	HSSER-RAMW06-051616		
Lab Sample ID:	JC20563-3	**Date Sampled:**	05/16/16
Matrix:	AQ - Ground Water	**Date Received:**	05/19/16
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	3A150978.D	1	05/25/16	TK	n/a	n/a	V3A6509
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	0.0044	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	0.0153	0.0010	0.00020	mg/l	
156-59-2	cis-1,2-Dichloroethene	0.0047	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	0.00035	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	0.154	0.0010	0.00022	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	0.0016	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	100%		76-120%
17060-07-0	1,2-Dichloroethane-D4	99%		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

SGS Accutest

Report of Analysis

Client Sample ID:	HSSER-RAMW05-051716		
Lab Sample ID:	JC20563-4	**Date Sampled:**	05/17/16
Matrix:	AQ - Ground Water	**Date Received:**	05/19/16
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	3A150979.D	1	05/25/16	TK	n/a	n/a	V3A6509
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	0.00069	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	0.00099	0.0010	0.00020	mg/l	J
156-59-2	cis-1,2-Dichloroethene	0.00096	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	0.00035	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	0.0143	0.0010	0.00022	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	0.00079	0.0010	0.00026	mg/l	J
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	101%		76-120%
17060-07-0	1,2-Dichloroethane-D4	99%		73-122%
2037-26-5	Toluene-D8	101%		84-119%
460-00-4	4-Bromofluorobenzene	100%		78-117%

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

SGS Accutest

Report of Analysis

4.5 4

Client Sample ID:	HSSER-EBLK02-051716		
Lab Sample ID:	JC20563-5	**Date Sampled:**	05/17/16
Matrix:	AQ - Ground Water	**Date Received:**	05/19/16
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	3A150980.D	1	05/25/16	TK	n/a	n/a	V3A6509
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	0.00086	0.0020	0.00035	mg/l	J
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	100%		76-120%
17060-07-0	1,2-Dichloroethane-D4	98%		73-122%
2037-26-5	Toluene-D8	100%		84-119%
460-00-4	4-Bromofluorobenzene	99%		78-117%

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

SGS Accutest

Report of Analysis

4.6 4

Client Sample ID:	HSSER-RAMW04-051716		
Lab Sample ID:	JC20563-6	**Date Sampled:**	05/17/16
Matrix:	AQ - Ground Water	**Date Received:**	05/19/16
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	3A151003.D	1	05/25/16	TK	n/a	n/a	V3A6509
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	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	0.00035	mg/l	
127-18-4	Tetrachloroethene	0.00055	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	0.00079	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	100%		76-120%
17060-07-0	1,2-Dichloroethane-D4	101%		73-122%
2037-26-5	Toluene-D8	101%		84-119%
460-00-4	4-Bromofluorobenzene	98%		78-117%

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

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

SGS Accutest

Report of Analysis

4.7 4

Client Sample ID:	HSSER-RAMW03-051716		
Lab Sample ID:	JC20563-7	**Date Sampled:**	05/17/16
Matrix:	AQ - Ground Water	**Date Received:**	05/19/16
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	3A151001.D	1	05/25/16	TK	n/a	n/a	V3A6509
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	0.00035	mg/l	
127-18-4	Tetrachloroethene	0.00028	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	0.00036	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	97%		76-120%
17060-07-0	1,2-Dichloroethane-D4	99%		73-122%
2037-26-5	Toluene-D8	101%		84-119%
460-00-4	4-Bromofluorobenzene	100%		78-117%

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

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

SGS Accutest

Report of Analysis

Client Sample ID:	HSSER-RAMW02-051716		
Lab Sample ID:	JC20563-8	**Date Sampled:**	05/17/16
Matrix:	AQ - Ground Water	**Date Received:**	05/19/16
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	3A150996.D	1	05/25/16	TK	n/a	n/a	V3A6509
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	0.0041	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	0.00024	0.0010	0.00020	mg/l	J
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	0.00035	mg/l	
127-18-4	Tetrachloroethene	0.0051	0.0010	0.00023	mg/l	
108-88-3	Toluene	ND	0.0010	0.00023	mg/l	
71-55-6	1,1,1-Trichloroethane	0.0039	0.0010	0.00022	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	0.00043	0.0010	0.00026	mg/l	J
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	99%		76-120%
17060-07-0	1,2-Dichloroethane-D4	98%		73-122%
2037-26-5	Toluene-D8	100%		84-119%
460-00-4	4-Bromofluorobenzene	102%		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-FBLK02-051716		
Lab Sample ID:	JC20563-9	**Date Sampled:**	05/17/16
Matrix:	AQ - Field Blank Water	**Date Received:**	05/19/16
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	3A150983.D	1	05/25/16	TK	n/a	n/a	V3A6509
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	0.00090	0.0020	0.00035	mg/l	J
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	101%		76-120%
17060-07-0	1,2-Dichloroethane-D4	100%		73-122%
2037-26-5	Toluene-D8	100%		84-119%
460-00-4	4-Bromofluorobenzene	100%		78-117%

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

SGS Accutest

Report of Analysis

Client Sample ID:	HSSER-RAMW01-051716		
Lab Sample ID:	JC20563-10	**Date Sampled:**	05/17/16
Matrix:	AQ - Ground Water	**Date Received:**	05/19/16
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	3A151004.D	1	05/25/16	TK	n/a	n/a	V3A6509
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	0.0018	0.0010	0.00021	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00039	mg/l	
75-35-4	1,1-Dichloroethene	0.00049	0.0010	0.00020	mg/l	J
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	0.00035	mg/l	
127-18-4	Tetrachloroethene	0.0084	0.0010	0.00023	mg/l	
108-88-3	Toluene	ND	0.0010	0.00023	mg/l	
71-55-6	1,1,1-Trichloroethane	0.0059	0.0010	0.00022	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	0.0015	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	102%		76-120%
17060-07-0	1,2-Dichloroethane-D4	101%		73-122%
2037-26-5	Toluene-D8	100%		84-119%
460-00-4	4-Bromofluorobenzene	98%		78-117%

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

SGS Accutest

Report of Analysis

Client Sample ID:	HSSER-DUP02-051716		
Lab Sample ID:	JC20563-11	**Date Sampled:**	05/17/16
Matrix:	AQ - Ground Water	**Date Received:**	05/19/16
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	3A151002.D	1	05/25/16	TK	n/a	n/a	V3A6509
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	0.00035	mg/l	
127-18-4	Tetrachloroethene	0.00026	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	0.00043	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	100%		76-120%
17060-07-0	1,2-Dichloroethane-D4	100%		73-122%
2037-26-5	Toluene-D8	101%		84-119%
460-00-4	4-Bromofluorobenzene	98%		78-117%

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

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

SGS Accutest

Report of Analysis

Client Sample ID:	HSSER-TRIP02-051816		
Lab Sample ID:	JC20563-12	**Date Sampled:**	05/17/16
Matrix:	AQ - Trip Blank Water	**Date Received:**	05/19/16
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	3A150976.D	1	05/25/16	TK	n/a	n/a	V3A6509
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	0.00035	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	99%		76-120%
17060-07-0	1,2-Dichloroethane-D4	99%		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

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 # 6514 9168 7159
Bottle Order Control #
SGS Accutest Quote #
SGS Accutest Job # JC20563

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 Fax #:
Sampler(s) Name(s): N. PINS / A. HOLLATZ Phone #:

Project Information

Project Name: UTAS PLANTS 1/2 FACILITY
Street:
City / State:
Project #: 60480278
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	DI Water	MEOH	ENCORE	VOCs	LAB USE ONLY
1	HSSER-RAMW08-051616		5/16/16	1320	AH	GW	3	3								X	
2	HSSER-RAMW07-051616		5/16/16	1445	AH	GW	3	3								X	0144
3	HSSER-RAMW06-051616		5/16/16	1550	AH	GW	3	3								X	
4	HSSER-RAMW05-051716		5/17/16	0910	AH	GW	3	3								X	
5	HSSER-EBLK02-051716		5/17/16	0930	AH	GW	3	3								X	
6	HSSER-RAMW04-051716		5/17/16	1010	AH	GW	3	3								X	
7	HSSER-RAMW03-051716		5/17/16	1135	AH	GW	3	3								X	
	HSSER-RAMW02-051716		5/17/16	1305	AH	GW	3	3								X	
8	HSSER-MS02-051716		5/17/16	1305	AH	GW	3	3								X	
	HSSER-MSD02-051716		5/17/16	1305	AH	GW	3	3								X	
9	HSSER-EBLK02-051716		5/17/16	1330	AH	GW	3	3								X	
10	HSSER-RAMW01-051716	*	5/17/16	1420	AH	GW	3	3								X	

INITIAL ASSESSMENT
LABEL VERIFICATION

Turnaround Time (Business days)

Approved By (SGS Accutest PM): / Date:

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

Emergency & Rush T/A data available VIA Labtrk

Data Deliverable Information

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

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

Comments / Special Instructions

LIST OF 13 VOCs
LEVEL IV DATA
* 4 VOA 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 Nick P. (AECOM)	5/18/16 1400	1 [signature]	2 [signature]	5/19/16 940	2 [signature]
Relinquished by Sampler 3	Date Time:	Received By: 3	Relinquished By 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal # 58L [ ] Intact [ ] Not intact	Preserved where applicable [ ]	On Ice [x] Cooler Temp. 3.6°C

JC20563: Chain of Custody
Page 1 of 3

CHAIN OF CUSTODY

SGS ACCUTEST

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

FED-EX Tracking # 6514 9168 7159
Bottle Order Control #
SGS Accutest Quote #
SGS Accutest Job # JC20563

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 Fax #:
Sampler(s) Name(s): N. PINS / A. HOLLATZ Phone #:

Project Information

Project Name: UTAS PLANTS 1/2 FACILITY
Street:
City / State: ROCKFORD IL
Project #: 60480278
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	DI Water	MEOH	ENCORE	VOCs	LAB USE ONLY
11	HSSER-DUP02-051716		5/17/16	0000	AH	GW	3	3								X	
12	HSSER-TRIP02-051816		5/18/16	-	-	GW	2	2								X	

INITIAL ASESSMENT
LABEL VERIFICATION

Turnaround Time (Business days)

Approved By (SGS Accutest PM): / Date:

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

Emergency & Rush T/A data available VIA Lablink

Date 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 DATA

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)	5/18/16 1400	1 [illegible]	2 [illegible]	5/19/16 840	2 [illegible]
3		3	4		4
5		5			

Custody Seal # 582 [ ] Intact [ ] Not Intact
Preserved where applicable [ ]
On Ice [ ]
Cooler Temp. 3.6°C

5.1 5

JC20563: Chain of Custody
Page 2 of 3

SGS Accutest Sample Receipt Summary

Job Number: JC20563 **Client:** _____ **Project:** _____

Date / Time Received: 5/19/2016 9:40:00 AM **Delivery Method:** _____ **Airbill #'s:** _____

Cooler Temps (Raw Measured) °C: Cooler 1: (3.6);

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

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

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

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

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

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

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

Comments

5.1

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JC20563: Chain of Custody
Page 3 of 3

Internal Sample Tracking Chronicle

United Technologies Corporation

Job No: JC20563

ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Project No: 60480278

5.2 5

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JC20563-1	Collected: 16-MAY-16 13:20 By: AH		Received: 19-MAY-16 By: AL			
HSSER-RAMW08-051616						
JC20563-1	SW846 8260C	25-MAY-16 03:15	TK			V8260SL
JC20563-2	Collected: 16-MAY-16 14:45 By: AH		Received: 19-MAY-16 By: AL			
HSSER-RAMW07-051616						
JC20563-2	SW846 8260C	25-MAY-16 14:33	TK			V8260SL
JC20563-2	SW846 8260C	25-MAY-16 15:03	TK			V8260SL
JC20563-3	Collected: 16-MAY-16 15:50 By: AH		Received: 19-MAY-16 By: AL			
HSSER-RAMW06-051616						
JC20563-3	SW846 8260C	25-MAY-16 03:45	TK			V8260SL
JC20563-4	Collected: 17-MAY-16 09:10 By: AH		Received: 19-MAY-16 By: AL			
HSSER-RAMW05-051716						
JC20563-4	SW846 8260C	25-MAY-16 04:15	TK			V8260SL
JC20563-5	Collected: 17-MAY-16 09:30 By: AH		Received: 19-MAY-16 By: AL			
HSSER-EBLK02-051716						
JC20563-5	SW846 8260C	25-MAY-16 04:44	TK			V8260SL
JC20563-6	Collected: 17-MAY-16 10:10 By: AH		Received: 19-MAY-16 By: AL			
HSSER-RAMW04-051716						
JC20563-6	SW846 8260C	25-MAY-16 17:43	TK			V8260SL
JC20563-7	Collected: 17-MAY-16 11:35 By: AH		Received: 19-MAY-16 By: AL			
HSSER-RAMW03-051716						
JC20563-7	SW846 8260C	25-MAY-16 16:43	TK			V8260SL
JC20563-8	Collected: 17-MAY-16 13:05 By: AH		Received: 19-MAY-16 By: AL			
HSSER-RAMW02-051716						
JC20563-8	SW846 8260C	25-MAY-16 14:03	TK			V8260SL

Internal Sample Tracking Chronicle

United Technologies Corporation

Job No: JC20563

ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Project No: 60480278

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JC20563-9 Collected: 17-MAY-16 13:30 By: AH Received: 19-MAY-16 By: AL HSSER-FBLK02-051716						
JC20563-9	SW846 8260C	25-MAY-16 06:14	TK			V8260SL
JC20563-10 Collected: 17-MAY-16 14:20 By: AH Received: 19-MAY-16 By: AL HSSER-RAMW01-051716						
JC20563-10	SW846 8260C	25-MAY-16 18:13	TK			V8260SL
JC20563-11 Collected: 17-MAY-16 00:00 By: AH Received: 19-MAY-16 By: AL HSSER-DUP02-051716						
JC20563-11	SW846 8260C	25-MAY-16 17:13	TK			V8260SL
JC20563-12 Collected: 17-MAY-16 14:20 By: AH Received: 19-MAY-16 By: AL HSSER-TRIP02-051816						
JC20563-12	SW846 8260C	25-MAY-16 02:45	TK			V8260SL

SGS Accutest Internal Chain of Custody

Job Number: JC20563
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Received: 05/19/16

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC20563-1.1	Secured Storage	Tracy Karpinski	05/24/16 16:07	Retrieve from Storage
JC20563-1.1	Tracy Karpinski	GCMS3A	05/24/16 16:07	Load on Instrument
JC20563-1.1	GCMS3A	Tracy Karpinski	05/25/16 09:26	Unload from Instrument
JC20563-1.1	Tracy Karpinski	Secured Storage	05/25/16 09:26	Return to Storage
JC20563-2.1	Tracy Karpinski	Secured Storage	05/24/16 16:03	Return to Storage
JC20563-2.1	Secured Storage	Tracy Karpinski	05/24/16 16:03	Retrieve from Storage
JC20563-2.2	Secured Storage	Tracy Karpinski	05/25/16 12:31	Retrieve from Storage
JC20563-2.2	Tracy Karpinski	Secured Storage	05/25/16 12:31	Return to Storage
JC20563-3.1	Secured Storage	Tracy Karpinski	05/24/16 16:07	Retrieve from Storage
JC20563-3.1	Tracy Karpinski	GCMS3A	05/24/16 16:07	Load on Instrument
JC20563-3.1	GCMS3A	Tracy Karpinski	05/25/16 09:26	Unload from Instrument
JC20563-3.1	Tracy Karpinski	Secured Storage	05/25/16 09:26	Return to Storage
JC20563-4.1	Secured Storage	Tracy Karpinski	05/24/16 16:07	Retrieve from Storage
JC20563-4.1	Tracy Karpinski	GCMS3A	05/24/16 16:07	Load on Instrument
JC20563-4.1	GCMS3A	Tracy Karpinski	05/25/16 09:26	Unload from Instrument
JC20563-4.1	Tracy Karpinski	Secured Storage	05/25/16 09:26	Return to Storage
JC20563-5.1	Secured Storage	Tracy Karpinski	05/24/16 16:07	Retrieve from Storage
JC20563-5.1	Tracy Karpinski	GCMS3A	05/24/16 16:07	Load on Instrument
JC20563-5.1	GCMS3A	Tracy Karpinski	05/25/16 09:26	Unload from Instrument
JC20563-5.1	Tracy Karpinski	Secured Storage	05/25/16 09:26	Return to Storage
JC20563-6.1	Secured Storage	Tracy Karpinski	05/25/16 15:02	Retrieve from Storage
JC20563-6.1	Tracy Karpinski	GCMS3A	05/25/16 15:03	Load on Instrument
JC20563-6.1	GCMS3A	Tracy Karpinski	05/26/16 08:47	Unload from Instrument
JC20563-6.1	Tracy Karpinski	Secured Storage	05/26/16 08:47	Return to Storage
JC20563-6.2	Secured Storage	Tracy Karpinski	05/24/16 16:07	Retrieve from Storage
JC20563-6.2	Tracy Karpinski	GCMS3A	05/24/16 16:07	Load on Instrument
JC20563-6.2	GCMS3A	Tracy Karpinski	05/25/16 09:26	Unload from Instrument
JC20563-6.2	Tracy Karpinski	Secured Storage	05/25/16 09:26	Return to Storage
JC20563-7.1	Secured Storage	Tracy Karpinski	05/25/16 15:02	Retrieve from Storage
JC20563-7.1	Tracy Karpinski	GCMS3A	05/25/16 15:03	Load on Instrument
JC20563-7.1	GCMS3A	Tracy Karpinski	05/26/16 08:47	Unload from Instrument
JC20563-7.1	Tracy Karpinski	Secured Storage	05/26/16 08:47	Return to Storage
JC20563-7.2	Secured Storage	Tracy Karpinski	05/24/16 16:07	Retrieve from Storage
JC20563-7.2	Tracy Karpinski	GCMS3A	05/24/16 16:07	Load on Instrument
JC20563-7.2	GCMS3A	Tracy Karpinski	05/25/16 09:26	Unload from Instrument

SGS Accutest Internal Chain of Custody

Job Number: JC20563
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Received: 05/19/16

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC20563-7.2	Tracy Karpinski	Secured Storage	05/25/16 09:26	Return to Storage
JC20563-8.1	Secured Storage	Tracy Karpinski	05/25/16 12:31	Retrieve from Storage
JC20563-8.1	Tracy Karpinski	GCMS3A	05/25/16 12:31	Load on Instrument
JC20563-8.1	GCMS3A	Tracy Karpinski	05/26/16 08:47	Unload from Instrument
JC20563-8.1	Tracy Karpinski	Secured Storage	05/26/16 08:47	Return to Storage
JC20563-8.2	Secured Storage	Tracy Karpinski	05/25/16 12:20	Retrieve from Storage
JC20563-8.2	Tracy Karpinski	GCMS3A	05/25/16 12:20	Load on Instrument
JC20563-8.2	GCMS3A	Tracy Karpinski	05/26/16 08:47	Unload from Instrument
JC20563-8.2	Tracy Karpinski	Secured Storage	05/26/16 08:47	Return to Storage
JC20563-8.3	Secured Storage	Tracy Karpinski	05/25/16 12:20	Retrieve from Storage
JC20563-8.3	Tracy Karpinski	GCMS3A	05/25/16 12:20	Load on Instrument
JC20563-8.3	GCMS3A	Tracy Karpinski	05/26/16 08:47	Unload from Instrument
JC20563-8.3	Tracy Karpinski	Secured Storage	05/26/16 08:47	Return to Storage
JC20563-8.4	Secured Storage	Tracy Karpinski	05/24/16 16:07	Retrieve from Storage
JC20563-8.4	Tracy Karpinski	GCMS3A	05/24/16 16:07	Load on Instrument
JC20563-8.4	GCMS3A	Tracy Karpinski	05/25/16 09:26	Unload from Instrument
JC20563-8.4	Tracy Karpinski	Secured Storage	05/25/16 09:26	Return to Storage
JC20563-8.5	Secured Storage	Tracy Karpinski	05/24/16 16:07	Retrieve from Storage
JC20563-8.5	Tracy Karpinski	GCMS3A	05/24/16 16:07	Load on Instrument
JC20563-8.5	GCMS3A	Tracy Karpinski	05/25/16 09:26	Unload from Instrument
JC20563-8.5	Tracy Karpinski	Secured Storage	05/25/16 09:26	Return to Storage
JC20563-8.6	Secured Storage	Tracy Karpinski	05/24/16 16:07	Retrieve from Storage
JC20563-8.6	Tracy Karpinski	GCMS3A	05/24/16 16:07	Load on Instrument
JC20563-8.6	GCMS3A	Tracy Karpinski	05/25/16 09:26	Unload from Instrument
JC20563-8.6	Tracy Karpinski	Secured Storage	05/25/16 09:26	Return to Storage
JC20563-9.1	Secured Storage	Tracy Karpinski	05/24/16 16:07	Retrieve from Storage
JC20563-9.1	Tracy Karpinski	GCMS3A	05/24/16 16:07	Load on Instrument
JC20563-9.1	GCMS3A	Tracy Karpinski	05/25/16 09:26	Unload from Instrument
JC20563-9.1	Tracy Karpinski	Secured Storage	05/25/16 09:26	Return to Storage
JC20563-10.1	Secured Storage	Tracy Karpinski	05/25/16 15:02	Retrieve from Storage
JC20563-10.1	Tracy Karpinski	GCMS3A	05/25/16 15:03	Load on Instrument
JC20563-10.1	GCMS3A	Tracy Karpinski	05/26/16 08:47	Unload from Instrument
JC20563-10.1	Tracy Karpinski	Secured Storage	05/26/16 08:47	Return to Storage
JC20563-10.4	Secured Storage	Tracy Karpinski	05/24/16 16:07	Retrieve from Storage
JC20563-10.4	Tracy Karpinski	GCMS3A	05/24/16 16:07	Load on Instrument

SGS Accutest Internal Chain of Custody

Job Number: JC20563
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Received: 05/19/16

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC20563-10.4	GCMS3A	Tracy Karpinski	05/25/16 09:26	Unload from Instrument
JC20563-10.4	Tracy Karpinski	Secured Storage	05/25/16 09:26	Return to Storage
JC20563-11.1	Secured Storage	Tracy Karpinski	05/24/16 16:07	Retrieve from Storage
JC20563-11.1	Tracy Karpinski	GCMS3A	05/24/16 16:07	Load on Instrument
JC20563-11.1	GCMS3A	Tracy Karpinski	05/25/16 09:26	Unload from Instrument
JC20563-11.1	Tracy Karpinski	Secured Storage	05/25/16 09:26	Return to Storage
JC20563-11.2	Secured Storage	Tracy Karpinski	05/25/16 15:02	Retrieve from Storage
JC20563-11.2	Tracy Karpinski	GCMS3A	05/25/16 15:03	Load on Instrument
JC20563-11.2	GCMS3A	Tracy Karpinski	05/26/16 08:47	Unload from Instrument
JC20563-11.2	Tracy Karpinski	Secured Storage	05/26/16 08:47	Return to Storage
JC20563-12.1	Secured Storage	Tracy Karpinski	05/24/16 16:07	Retrieve from Storage
JC20563-12.1	Tracy Karpinski	GCMS3A	05/24/16 16:07	Load on Instrument
JC20563-12.1	GCMS3A	Tracy Karpinski	05/25/16 09:26	Unload from Instrument
JC20563-12.1	Tracy Karpinski	Secured Storage	05/25/16 09:26	Return to Storage

GC/MS Volatiles

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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: JC20563
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
V3A6509-MB1	3A150970.D	1	05/24/16	TK	n/a	n/a	V3A6509

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

JC20563-1, JC20563-3, JC20563-4, JC20563-5, JC20563-9, JC20563-12

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	0.35	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	100%	76-120%
17060-07-0	1,2-Dichloroethane-D4	98%	73-122%
2037-26-5	Toluene-D8	101%	84-119%
460-00-4	4-Bromofluorobenzene	101%	78-117%

Method Blank Summary

Job Number: JC20563
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
V3A6509-MB2	3A150991.D	1	05/25/16	TK	n/a	n/a	V3A6509

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

JC20563-2, JC20563-6, JC20563-7, JC20563-8, JC20563-10, JC20563-11

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	0.35	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	102%	76-120%
17060-07-0	1,2-Dichloroethane-D4	102%	73-122%
2037-26-5	Toluene-D8	101%	84-119%
460-00-4	4-Bromofluorobenzene	100%	78-117%

Blank Spike Summary

Job Number: JC20563
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
V3A6509-BS	3A150971.D	1	05/25/16	TK	n/a	n/a	V3A6509

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

JC20563-1, JC20563-3, JC20563-4, JC20563-5, JC20563-9, JC20563-12

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
75-34-3	1,1-Dichloroethane	50	47.8	96	80-125
107-06-2	1,2-Dichloroethane	50	50.9	102	78-131
75-35-4	1,1-Dichloroethene	50	46.5	93	73-127
156-59-2	cis-1,2-Dichloroethene	50	47.7	95	77-118
156-60-5	trans-1,2-Dichloroethene	50	47.0	94	75-118
100-41-4	Ethylbenzene	50	48.4	97	80-118
75-09-2	Methylene chloride	50	45.3	91	75-122
127-18-4	Tetrachloroethene	50	66.8	134	69-138
108-88-3	Toluene	50	47.1	94	80-122
71-55-6	1,1,1-Trichloroethane	50	51.7	103	80-131
79-00-5	1,1,2-Trichloroethane	50	47.1	94	78-122
79-01-6	Trichloroethene	50	49.7	99	83-122
75-01-4	Vinyl chloride	50	36.7	73	57-138

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	100%	76-120%
17060-07-0	1,2-Dichloroethane-D4	98%	73-122%
2037-26-5	Toluene-D8	99%	84-119%
460-00-4	4-Bromofluorobenzene	96%	78-117%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JC20563
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
V3A6509-BS2	3A150992.D	1	05/25/16	TK	n/a	n/a	V3A6509

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

JC20563-2, JC20563-6, JC20563-7, JC20563-8, JC20563-10, JC20563-11

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
75-34-3	1,1-Dichloroethane	50	52.6	105	80-125
107-06-2	1,2-Dichloroethane	50	55.6	111	78-131
75-35-4	1,1-Dichloroethene	50	51.3	103	73-127
156-59-2	cis-1,2-Dichloroethene	50	51.7	103	77-118
156-60-5	trans-1,2-Dichloroethene	50	52.2	104	75-118
100-41-4	Ethylbenzene	50	52.5	105	80-118
75-09-2	Methylene chloride	50	49.8	100	75-122
127-18-4	Tetrachloroethene	50	44.4	89	69-138
108-88-3	Toluene	50	52.8	106	80-122
71-55-6	1,1,1-Trichloroethane	50	57.3	115	80-131
79-00-5	1,1,2-Trichloroethane	50	52.2	104	78-122
79-01-6	Trichloroethene	50	53.3	107	83-122
75-01-4	Vinyl chloride	50	38.0	76	57-138

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

* = Outside of Control Limits.

Raw Data: 3A150993.D 3A150994.D

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JC20563
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
JC20563-8MS	3A150993.D	1	05/25/16	TK	n/a	n/a	V3A6509
JC20563-8MSD	3A150994.D	1	05/25/16	TK	n/a	n/a	V3A6509
JC20563-8	3A150996.D	1	05/25/16	TK	n/a	n/a	V3A6509

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

JC20563-1, JC20563-2, JC20563-3, JC20563-4, JC20563-5, JC20563-6, JC20563-7, JC20563-8, JC20563-9, JC20563-10, JC20563-11, JC20563-12

CAS No.	Compound	JC20563-8 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
75-34-3	1,1-Dichloroethane	4.1		50	62.4	117	50	59.1	110	5	60-129/13
107-06-2	1,2-Dichloroethane	ND		50	56.7	113	50	54.5	109	4	72-133/12
75-35-4	1,1-Dichloroethene	0.24	J	50	62.7	125	50	60.5	121	4	40-137/17
156-59-2	cis-1,2-Dichloroethene	ND		50	56.9	114	50	53.9	108	5	57-128/13
156-60-5	trans-1,2-Dichloroethene	ND		50	58.7	117	50	55.6	111	5	53-128/15
100-41-4	Ethylbenzene	ND		50	56.3	113	50	55.5	111	1	38-139/12
75-09-2	Methylene chloride	ND		50	53.6	107	50	51.5	103	4	63-128/13
127-18-4	Tetrachloroethene	5.1		50	53.0	96	50	51.2	92	3	43-145/15
108-88-3	Toluene	ND		50	53.4	107	50	54.5	109	2	51-136/13
71-55-6	1,1,1-Trichloroethane	3.9		50	69.3	131	50	65.9	124	5	51-141/16
79-00-5	1,1,2-Trichloroethane	ND		50	47.1	94	50	50.8	102	8	71-127/12
79-01-6	Trichloroethene	0.43	J	50	57.6	114	50	57.4	114	0	55-136/14
75-01-4	Vinyl chloride	ND		50	47.0	94	50	44.0	88	7	34-147/17

CAS No.	Surrogate Recoveries	MS	MSD	JC20563-8	Limits
1868-53-7	Dibromofluoromethane	103%	99%	99%	76-120%
17060-07-0	1,2-Dichloroethane-D4	103%	99%	98%	73-122%
2037-26-5	Toluene-D8	98%	100%	100%	84-119%
460-00-4	4-Bromofluorobenzene	88%	96%	102%	78-117%

* = Outside of Control Limits.

Instrument Performance Check (BFB)

Job Number: JC20563
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample:	V3A6507-BFB	**Injection Date:**	05/23/16
Lab File ID:	3A150927.D	**Injection Time:**	14:34
Instrument ID:	GCMS3A		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	14147	17.6		Pass
75	30.0 - 60.0% of mass 95	37709	46.9		Pass
95	Base peak, 100% relative abundance	80429	100.0		Pass
96	5.0 - 9.0% of mass 95	5314	6.61		Pass
173	Less than 2.0% of mass 174	240	0.30	(0.35) [a]	Pass
174	50.0 - 120.0% of mass 95	68650	85.4		Pass
175	5.0 - 9.0% of mass 174	5070	6.30	(7.39) [a]	Pass
176	95.0 - 101.0% of mass 174	66085	82.2	(96.3) [a]	Pass
177	5.0 - 9.0% of mass 176	4461	5.55	(6.75) [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
V3A6507-IC6507	3A150928.D	05/23/16	15:13	00:39	Initial cal 0.2
V3A6507-IC6507	3A150929.D	05/23/16	15:43	01:09	Initial cal 0.5
V3A6507-IC6507	3A150930.D	05/23/16	16:13	01:39	Initial cal 1
V3A6507-IC6507	3A150931.D	05/23/16	16:43	02:09	Initial cal 2
V3A6507-IC6507	3A150932.D	05/23/16	17:14	02:40	Initial cal 5
V3A6507-IC6507	3A150933.D	05/23/16	17:44	03:10	Initial cal 10
V3A6507-IC6507	3A150934.D	05/23/16	18:14	03:40	Initial cal 20
V3A6507-ICC6507	3A150935.D	05/23/16	18:44	04:10	Initial cal 50
V3A6507-IC6507	3A150936.D	05/23/16	19:14	04:40	Initial cal 100
V3A6507-IC6507	3A150937.D	05/23/16	19:44	05:10	Initial cal 200
V3A6507-ICV6507	3A150940.D	05/23/16	21:15	06:41	Initial cal verification 50

Instrument Performance Check (BFB)

Job Number: JC20563
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample:	V3A6509-BFB	**Injection Date:**	05/24/16
Lab File ID:	3A150967.D	**Injection Time:**	22:17
Instrument ID:	GCMS3A		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	14693	17.7		Pass
75	30.0 - 60.0% of mass 95	38490	46.4		Pass
95	Base peak, 100% relative abundance	82976	100.0		Pass
96	5.0 - 9.0% of mass 95	5367	6.47		Pass
173	Less than 2.0% of mass 174	691	0.83	(0.94) [a]	Pass
174	50.0 - 120.0% of mass 95	73776	88.9		Pass
175	5.0 - 9.0% of mass 174	5534	6.67	(7.50) [a]	Pass
176	95.0 - 101.0% of mass 174	71194	85.8	(96.5) [a]	Pass
177	5.0 - 9.0% of mass 176	4715	5.68	(6.62) [b]	Pass

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

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

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V3A6509-CC6507	3A150968.D	05/24/16	22:47	00:30	Continuing cal 50
V3A6509-MB1	3A150970.D	05/24/16	23:47	01:30	Method Blank
V3A6509-BS	3A150971.D	05/25/16	00:17	02:00	Blank Spike
JC20563-12	3A150976.D	05/25/16	02:45	04:28	HSSER-TRIP02-051816
JC20563-1	3A150977.D	05/25/16	03:15	04:58	HSSER-RAMW08-051616
JC20563-3	3A150978.D	05/25/16	03:45	05:28	HSSER-RAMW06-051616
JC20563-4	3A150979.D	05/25/16	04:15	05:58	HSSER-RAMW05-051716
JC20563-5	3A150980.D	05/25/16	04:44	06:27	HSSER-EBLK02-051716
JC20563-9	3A150983.D	05/25/16	06:14	07:57	HSSER-FBLK02-051716

Instrument Performance Check (BFB)

Job Number: JC20563
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V3A6509-BFB2 **Injection Date:** 05/25/16
Lab File ID: 3A150988.D **Injection Time:** 09:44
Instrument ID: GCMS3A

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	14785	18.1		Pass
75	30.0 - 60.0% of mass 95	38162	46.7		Pass
95	Base peak, 100% relative abundance	81661	100.0		Pass
96	5.0 - 9.0% of mass 95	5402	6.62		Pass
173	Less than 2.0% of mass 174	586	0.72	(0.80) [a]	Pass
174	50.0 - 120.0% of mass 95	73701	90.3		Pass
175	5.0 - 9.0% of mass 174	5340	6.54	(7.25) [a]	Pass
176	95.0 - 101.0% of mass 174	70760	86.7	(96.0) [a]	Pass
177	5.0 - 9.0% of mass 176	4504	5.52	(6.37) [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
V3A6509-CC6507	3A150989.D	05/25/16	10:21	00:37	Continuing cal 20
V3A6509-MB2	3A150991.D	05/25/16	11:25	01:41	Method Blank
V3A6509-BS2	3A150992.D	05/25/16	11:55	02:11	Blank Spike
JC20563-8MS	3A150993.D	05/25/16	12:33	02:49	Matrix Spike
JC20563-8MSD	3A150994.D	05/25/16	13:03	03:19	Matrix Spike Duplicate
JC20563-8	3A150996.D	05/25/16	14:03	04:19	HSSER-RAMW02-051716
JC20563-2	3A150997.D	05/25/16	14:33	04:49	HSSER-RAMW07-051616
JC20563-2	3A150998.D	05/25/16	15:03	05:19	HSSER-RAMW07-051616
JC20563-7	3A151001.D	05/25/16	16:43	06:59	HSSER-RAMW03-051716
JC20563-11	3A151002.D	05/25/16	17:13	07:29	HSSER-DUP02-051716
JC20563-6	3A151003.D	05/25/16	17:43	07:59	HSSER-RAMW04-051716
JC20563-10	3A151004.D	05/25/16	18:13	08:29	HSSER-RAMW01-051716

Volatile Internal Standard Area Summary

Job Number: JC20563
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Check Std:	V3A6509-CC6507	**Injection Date:**	05/24/16
Lab File ID:	3A150968.D	**Injection Time:**	22:47
Instrument ID:	GCMS3A	**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	147543	8.51	210653	11.03	313901	12.01	298367	15.34	178817	17.86
Upper Limit [a]	295086	9.01	421306	11.53	627802	12.51	596734	15.84	357634	18.36
Lower Limit [b]	73772	8.01	105327	10.53	156951	11.51	149184	14.84	89409	17.36

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
V3A6509-MB1	166976	8.52	207397	11.03	299532	12.01	293441	15.35	174415	17.86
V3A6509-BS	148358	8.52	205649	11.03	311582	12.01	290097	15.34	177508	17.86
JC20563-12	161303	8.52	203149	11.03	294312	12.01	292496	15.34	170690	17.86
JC20563-1	177918	8.52	209630	11.03	304533	12.01	295076	15.34	175542	17.86
JC20563-3	128249	8.51	200088	11.03	291056	12.01	285846	15.34	169521	17.86
JC20563-4	176322	8.52	200863	11.03	287203	12.01	284707	15.34	170597	17.86
JC20563-5	164166	8.52	197898	11.03	285103	12.01	276981	15.34	167994	17.86
JC20563-9	175932	8.51	198556	11.03	292534	12.01	285260	15.34	170864	17.86

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

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

Volatile Internal Standard Area Summary

Job Number: JC20563
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Check Std:	V3A6509-CC6507	**Injection Date:**	05/25/16
Lab File ID:	3A150989.D	**Injection Time:**	10:21
Instrument ID:	GCMS3A	**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	149260	8.52	187875	11.03	274916	12.01	246075	15.34	164440	17.86
Upper Limit [a]	298520	9.02	375750	11.53	549832	12.51	492150	15.84	328880	18.36
Lower Limit [b]	74630	8.02	93938	10.53	137458	11.51	123038	14.84	82220	17.36

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
V3A6509-MB2	175821	8.51	197188	11.03	290456	12.01	286172	15.34	168065	17.86
V3A6509-BS2	132192	8.52	198356	11.03	299740	12.01	286629	15.34	173176	17.86
JC20563-8MS	148455	8.52	192425	11.03	294507	12.01	261258	15.34	172603	17.86
JC20563-8MSD	119891	8.51	203650	11.03	308758	12.01	289838	15.34	177546	17.86
JC20563-8	132859	8.51	206311	11.03	301203	12.01	290193	15.34	168517	17.86
JC20563-2	159692	8.52	200097	11.03	292979	12.01	283299	15.34	170897	17.86
JC20563-2	166136	8.52	198679	11.03	294938	12.01	285221	15.34	167480	17.86
JC20563-7	169720	8.51	206568	11.03	320747	12.01	302796	15.34	169480	17.86
JC20563-11	158992	8.52	194619	11.03	288276	12.01	278267	15.34	167299	17.86
JC20563-6	173099	8.52	201102	11.03	297847	12.01	287073	15.34	168718	17.86
JC20563-10	146135	8.52	193808	11.04	288117	12.01	274879	15.34	167549	17.86

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

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

6.5.2 6

Volatile Surrogate Recovery Summary

Job Number: JC20563
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
JC20563-1	3A150977.D	100	98	100	100
JC20563-2	3A150997.D	100	99	101	98
JC20563-2	3A150998.D	100	101	101	101
JC20563-3	3A150978.D	100	99	101	102
JC20563-4	3A150979.D	101	99	101	100
JC20563-5	3A150980.D	100	98	100	99
JC20563-6	3A151003.D	100	101	101	98
JC20563-7	3A151001.D	97	99	101	100
JC20563-8	3A150996.D	99	98	100	102
JC20563-9	3A150983.D	101	100	100	100
JC20563-10	3A151004.D	102	101	100	98
JC20563-11	3A151002.D	100	100	101	98
JC20563-12	3A150976.D	99	99	101	102
JC20563-8MS	3A150993.D	103	103	98	88
JC20563-8MSD	3A150994.D	99	99	100	96
V3A6509-BS	3A150971.D	100	98	99	96
V3A6509-BS2	3A150992.D	100	100	102	98
V3A6509-MB1	3A150970.D	100	98	101	101
V3A6509-MB2	3A150991.D	102	102	101	100

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

6.6.1

6

Initial Calibration Summary

Job Number: JC20563
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Sample: V3A6507-ICC6507
Lab FileID: 3A150935.D

Response Factor Report MS3A

Method : C:\MSDCHEM\1\METHODS\M3A6507.M (RTE Integrator)
Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
Last Update : Tue May 24 09:06:14 2016
Response via : Initial Calibration

Calibration Files
1 =3a150930.D 2 =3a150931.D 100 =3a150936.D 50 =3a150935.D
20 =3a150934.D 200 =3a150937.D 5 =3a150932.D 0.5 =3a150929.D
10 =3a150933.D 0.2 =3a150928.D = =

Compound

	1	2	100	50	20	200	5	0.5	10	0.2	Avg	%RSD
1) I Tert Butyl Alcohol-d9 ----------ISTD----------												
2) tertiary butyl alcohol	1.284	1.646	1.642	1.589	1.444	1.617	1.504		1.604		1.541	8.14
3) ethanol											0.000#	-1.00
4) 1,4-dioxane****This compound did not meet initial calibration criteria			0.095	0.094	0.083	0.141	0.069		0.071		0.092	28.55
5) I pentafluorobenzene ----------ISTD----------												
6) FREON 115											0.000#	-1.00
7) FREON 152A											0.000#	-1.00
8) chlorodifluoromethane			0.378	0.414	0.411	0.418	0.419	0.363	0.403		0.401	5.52
9) dichlorodifluoromethane	0.592	0.662	0.823	0.822	0.820	0.802	0.756		0.806		0.760	11.48
10) chloromethane	0.709	0.718	0.865	0.861	0.858	0.861	0.823	0.600	0.869		0.796	12.21
11) vinyl chloride	0.707	0.709	0.905	0.890	0.887	0.882	0.832		0.871		0.835	9.74
12) bromomethane	0.259	0.319	0.409	0.396	0.392	0.296	0.363		0.385		0.352	15.53
13) FREON 123A											0.000#	-1.00
14) FREON 123											0.000#	-1.00
15) 2-CHLOROPROPANE	0.818	0.745	0.722	0.740	0.770	0.638	0.673		0.711		0.727	7.66
16) chloroethane	0.310	0.357	0.465	0.451	0.449	0.436	0.409		0.446		0.415	13.10
17) trichlorofluoromethane	0.517	0.612	0.943	0.893	0.845	0.934	0.734		0.788		0.783	19.71
18) Pentane											0.000#	-1.00
19) 1-chloropropane											0.000#	-1.00
20) ethyl ether	0.311	0.310	0.379	0.382	0.386	0.393	0.352		0.360		0.359	9.15
21) acrolein	0.206	0.204	0.190	0.200	0.190	0.200	0.198		0.198		0.198	2.87
22) 1,1-dichloroethene	0.875	0.883	0.948	0.985	0.974	1.034	0.888	0.808	0.947		0.927	7.46
23) acetone												

Initial Calibration Summary

Job Number: JC20563 **Sample:** V3A6507-ICC6507
Account: UTC United Technologies Corporation **Lab FileID:** 3A150935.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

```
                0.114 0.144 0.112 0.166 0.126       0.135        0.133   15.35
24) allyl chloride
 0.306 0.311 0.363 0.359 0.362 0.368 0.323       0.341        0.342    7.39
25) acetonitrile****This compound did not meet initial calibration criteria
        0.057 0.027 0.052 0.032 0.050 0.044       0.044        0.043   24.99
26) iodomethane
 0.982 0.963 1.074 1.097 1.100 1.100 0.964 0.991 1.050        1.036    5.82
27) iso-butyl alcohol
        0.009 0.009 0.011 0.009 0.012 0.008       0.009        0.010#  12.43
28) carbon disulfide
 1.793 1.784 1.876 1.938 1.939 1.916 1.740 1.832 1.860        1.853    3.85
29) methylene chloride
 0.630 0.640 0.664 0.669 0.659 0.693 0.621 0.766 0.651        0.666    6.48
30) methyl acetate
 0.665 0.666 0.633 0.698 0.661 0.756 0.652       0.723        0.682    6.00
31) methyl tert butyl ether
 1.809 1.887 2.067 2.089 2.075 2.093 1.887 1.881 1.991 1.665  1.944    7.35
32) trans-1,2-dichloroethene
 0.747 0.775 0.827 0.847 0.853 0.845 0.776 0.804 0.815        0.810    4.60
33) di-isopropyl ether
 1.702 1.727 1.962 1.951 2.001 1.977 1.779 1.607 1.959 1.656  1.832    8.32
34) 2-butanone
        0.098 0.115 0.141 0.124 0.159 0.114       0.133        0.126   15.91
35) 1,1-dichloroethane
 1.002 1.042 1.068 1.100 1.109 1.096 1.003 0.990 1.052        1.051    4.33
36) chloroprene
 0.805 0.785 0.891 0.894 0.899 0.904 0.791 0.716 0.871        0.840    8.01
37) acrylonitrile
 0.305 0.322 0.329 0.357 0.334 0.377 0.321 0.297 0.343        0.332    7.52
38) vinyl acetate
        0.086 0.138 0.134 0.138 0.137 0.112       0.138        0.126   15.82
39) ethyl tert-butyl ether
 1.736 1.784 2.061 2.048 2.073 2.083 1.829 1.572 2.036 1.549  1.877   11.24
40) ethyl acetate
        0.079 0.110 0.111 0.104 0.124 0.096       0.112        0.105   13.46
41) 2,2-dichloropropane
 0.557 0.526 0.430 0.483 0.512 0.382 0.468 0.482 0.492        0.481   10.77
42) cis-1,2-dichloroethene
 0.662 0.663 0.704 0.712 0.710 0.719 0.644 0.694 0.702        0.690    3.87
43) methylacrylate
        0.099 0.131 0.129 0.125 0.150 0.108       0.125        0.124   13.23
44) propionitrile
 0.116 0.116 0.110 0.131 0.113 0.150 0.112 0.104 0.128        0.120   11.65
45) bromochloromethane
 0.312 0.347 0.355 0.355 0.361 0.367 0.326 0.274 0.346        0.338    8.79
46) tetrahydrofuran
        0.281 0.251 0.279 0.256 0.306 0.267       0.279        0.274    6.66
47) chloroform
 0.665 0.675 0.740 0.751 0.753 0.762 0.670 0.716 0.724 0.578  0.703    8.08
48) t-butyl formate****This compound did not meet initial calibration criteria
                0.674 0.616 0.575 0.724 0.424       0.544        0.593   17.73
49) dibromofluoromethane (s)
 0.493 0.493 0.479 0.485 0.486 0.474 0.486 0.499 0.490 0.489  0.487    1.49
50) 1,2-dichloroethane-d4 (s)
 0.567 0.563 0.556 0.566 0.556 0.563 0.568 0.566 0.569 0.581  0.565    1.30
51) freon 113
 0.359 0.390 0.401 0.428 0.436 0.405 0.375       0.426        0.402    6.76
52) methacrylonitrile
 0.309 0.303 0.359 0.366 0.350 0.409 0.320       0.346        0.345   10.05
53) 1,1,1-trichloroethane
```

6.7.1

6

Initial Calibration Summary

Job Number: JC20563 **Sample:** V3A6507-ICC6507
Account: UTC United Technologies Corporation **Lab FileID:** 3A150935.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

```
      0.748 0.721 0.792 0.785 0.787 0.749 0.706 0.768 0.741        0.755    3.98
54)  Cyclohexane
      0.829 0.882 0.886 0.920 0.925 0.930 0.834 0.934 0.884        0.892    4.46

55) I   1,4-difluorobenzene   ----------------ISTD--------------------
56)  epichlorohydrin
      0.061 0.063 0.057 0.063 0.062 0.077 0.061       0.070        0.064    9.80
57)  n-butyl alcohol
      0.020 0.021 0.015 0.021 0.018 0.025 0.019       0.022        0.020   14.87
58)  carbon tetrachloride
      0.475 0.456 0.499 0.506 0.528 0.506 0.455 0.489 0.490        0.489    4.95
59)  1,1-dichloropropene
      0.466 0.493 0.509 0.526 0.529 0.525 0.478 0.518 0.503        0.505    4.42
60)  Tert Amyl Alcohol
                                                                   0.000#  -1.00
61)  hexane
      0.436 0.401 0.392 0.408 0.433 0.399 0.389 0.394 0.422        0.408    4.32
62)  2,2,4-TRIMETHYLPENTANE
      1.340 1.290 1.326 1.412 1.446 1.337 1.248 1.178 1.389        1.330    6.26
63)  benzene
      1.496 1.487 1.567 1.610 1.651 1.605 1.486 1.532 1.562 1.439  1.543    4.35
64)  tert-amyl methyl ether
      0.264 0.282 0.319 0.319 0.335 0.313 0.294 0.263 0.330        0.302    9.08
65)  heptane
      0.270 0.220 0.234 0.241 0.251 0.240 0.226 0.190 0.253        0.236    9.68
66)  isopropyl acetate
            0.088 0.114 0.114 0.116 0.123 0.101       0.120        0.111   11.07
67)  1,2-dichloroethane
      0.506 0.523 0.573 0.586 0.599 0.587 0.538 0.474 0.572        0.551    7.76
68)  Ethyl acrylate
                                                                   0.000#  -1.00
69)  trichloroethene
      0.366 0.399 0.426 0.432 0.430 0.455 0.392 0.384 0.413 0.354  0.405    7.85
70)  tert-Amyl Ethyl Ether
                                                                   0.000#  -1.00
71)  methyl methacrylate
      0.115 0.107 0.137 0.135 0.133 0.154 0.118       0.137        0.129   11.71
72)  2-nitropropane
            0.227 0.207 0.213 0.220 0.234 0.209       0.230        0.220    4.83
73)  2-chloroethyl vinyl ether
      0.247 0.252 0.284 0.271 0.284 0.314 0.249       0.287        0.274    8.49
74)  1,2-dichloropropane
      0.332 0.363 0.401 0.403 0.405 0.420 0.369 0.389 0.395        0.386    7.01
75)  dibromomethane
      0.260 0.259 0.290 0.293 0.299 0.303 0.273 0.226 0.288 0.228  0.272   10.28
76)  methylcyclohexane
      0.571 0.560 0.596 0.612 0.630 0.604 0.561 0.569 0.604        0.590    4.26
77)  bromodichloromethane
      0.501 0.521 0.593 0.591 0.594 0.619 0.524 0.540 0.559 0.504  0.554    7.63
78)  cis-1,3-dichloropropene
      0.574 0.583 0.686 0.672 0.670 0.746 0.599 0.665 0.647 0.671  0.651    8.08
79)  toluene-d8 (s)
      1.133 1.109 1.104 1.108 1.122 1.126 1.108 1.145 1.118 1.124  1.120    1.16
80)  4-methyl-2-pentanone
      0.199 0.219 0.233 0.242 0.240 0.261 0.220       0.240        0.232    8.07
81)  toluene
      1.608 1.500 1.664 1.673 1.720 1.740 1.500 1.663 1.612 1.862  1.654    6.58
82)  3-methyl-1-butanol
      0.033 0.037 0.026 0.036 0.030 0.039 0.033       0.037        0.034   12.48
83)  trans-1,3-dichloropropene
```

6.7.1 6

Initial Calibration Summary

Job Number: JC20563 **Sample:** V3A6507-ICC6507
Account: UTC United Technologies Corporation **Lab FileID:** 3A150935.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

```
      0.583 0.613 0.643 0.635 0.646 0.702 0.587 0.647 0.623        0.631    5.71
 84)  ethyl methacrylate
      0.583 0.597 0.626 0.619 0.638 0.695 0.572 0.597 0.612        0.615    5.90
 85)  1,1,2-trichloroethane
      0.304 0.302 0.336 0.334 0.339 0.368 0.306 0.320 0.328        0.326    6.52
 86)  2-hexanone
      0.243 0.288 0.242 0.249 0.265 0.275 0.258       0.271        0.261    6.33

 87) I   chlorobenzene-d5       ----------------ISTD--------------------
 88)  tetrachloroethene
      0.432 0.560 0.643 0.666 0.634 0.686 0.537       0.573        0.591   14.11
 89)  BUTYL ACRYLATE
                                                                   0.000#  -1.00
 90)  1,3-dichloropropane
      0.582 0.604 0.694 0.682 0.670 0.745 0.621 0.663 0.634 0.687  0.658    7.36
 91)  butyl acetate
      0.345 0.391 0.365 0.351 0.379 0.397 0.357 0.337 0.402        0.369    6.46
 92)  3,3-dimethyl-1-butanol
      0.082 0.095 0.067 0.092 0.075 0.096 0.081 0.070 0.089        0.083   13.05
 93)  dibromochloromethane
      0.447 0.465 0.537 0.527 0.511 0.562 0.455 0.412 0.489 0.408  0.481   10.94
 94)  1,2-dibromoethane
      0.412 0.434 0.496 0.480 0.485 0.532 0.442 0.453 0.464 0.431  0.463    7.78
 95)  chlorobenzene
      1.090 1.156 1.255 1.243 1.253 1.304 1.113 1.185 1.170 1.322  1.209    6.49
 96)  1,1,1,2-tetrachloroethane
      0.405 0.459 0.500 0.506 0.494 0.500 0.444 0.439 0.472 0.412  0.463    8.08
 97)  ethylbenzene
      1.961 1.950 2.154 2.175 2.170 2.201 1.906 2.094 2.067 2.183  2.086    5.28
 98)  m,p-xylene
      0.742 0.766 0.838 0.851 0.853 0.859 0.754 0.821 0.805 0.823  0.811    5.33
 99)  o-xylene
      1.584 1.673 1.832 1.904 1.848 1.879 1.630 1.749 1.737 1.943  1.778    6.87
100)  styrene
      1.301 1.401 1.503 1.544 1.538 1.557 1.357 1.425 1.447 1.587  1.466    6.47
101)  bromoform
      0.377 0.455 0.473 0.480 0.462 0.506 0.403 0.388 0.438        0.442    9.98

102) I   1,4-dichlorobenzene-d ----------------ISTD--------------------
103)  isopropylbenzene
      3.420 3.457 4.053 3.751 3.779 3.999 3.318 3.645 3.524 4.021  3.697    7.23
104)  4-bromofluorobenzene (s)
      0.912 0.907 0.941 0.856 0.878 0.922 0.899 0.919 0.879 0.922  0.903    2.84
105)  cyclohexanone
      0.080 0.093 0.063 0.072 0.067 0.101 0.079       0.076        0.079   16.29
106)  bromobenzene
      0.978 1.081 1.149 1.061 1.105 1.141 1.015 1.151 1.055 1.238  1.097    6.91
107)  1,1,2,2-tetrachloroethane
      1.228 1.489 1.428 1.334 1.361 1.375 1.261 1.318 1.313 1.534  1.364    7.05
108)  trans-1,4-dichloro-2-butene
      0.345 0.376 0.424 0.379 0.399 0.428 0.349       0.383        0.385    7.97
109)  1,2,3-trichloropropane
      0.330 0.432 0.403 0.375 0.386 0.416 0.357       0.384        0.386    8.40
110)  n-propylbenzene
      4.215 4.277 4.652 4.449 4.552 4.718 4.062 4.573 4.300 5.005  4.480    6.20
111)  2-chlorotoluene
      0.900 0.954 1.025 0.977 0.986 1.028 0.885 0.901 0.914 1.006  0.958    5.69
112)  4-chlorotoluene
      2.764 3.019 3.112 2.928 3.018 3.175 2.681 3.115 2.819 3.272  2.990    6.36
113)  1,3,5-trimethylbenzene
```

6.7.1 6

Initial Calibration Summary

Job Number: JC20563
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V3A6507-ICC6507
Lab FileID: 3A150935.D

```
      3.004 3.196 3.362 3.335 3.377 3.423 2.925 3.400 3.139 3.445  3.261    5.66
114)  tert-butylbenzene
      0.558 0.638 0.689 0.685 0.683 0.737 0.610 0.613 0.634 0.534  0.638    9.82
115)  pentachloroethane
      0.488 0.567 0.443 0.410 0.443 0.389 0.482 0.581 0.468        0.475   13.68
116)  1,2,4-trimethylbenzene
      3.088 3.408 3.437 3.503 3.513 3.566 3.130 3.438 3.348 3.947  3.438    6.94
117)  sec-butylbenzene
      3.911 4.066 4.219 4.332 4.327 4.423 3.798 4.222 3.998 4.361  4.166    5.08
118)  1,3-dichlorobenzene
      1.932 2.198 2.145 2.160 2.223 2.185 1.991 2.097 2.099 2.524  2.155    7.36
119)  p-isopropyltoluene
      3.209 3.556 3.523 3.739 3.704 3.756 3.237 3.604 3.515 3.778  3.562    5.70
120)  1,4-dichlorobenzene
      2.039 2.302 2.165 2.192 2.221 2.225 1.968 2.201 2.087        2.155    4.86
121)  1,2-dichlorobenzene
      1.818 2.195 2.003 2.091 2.125 2.097 1.930 2.137 2.031 2.416  2.084    7.69
122)  benzyl chloride
      2.813 3.202 2.980 2.978 3.084 2.978 2.861 2.627 3.160        2.965    6.05
123)  n-butylbenzene
      1.615 1.797 1.809 1.956 1.906 1.985 1.656 1.846 1.789        1.818    6.85
124)  1,2-dibromo-3-chloropropane
      0.227 0.297 0.259 0.291 0.281 0.311 0.257       0.290        0.277    9.81
125)  1,3,5-TRICHLOROBENZENE
      1.293 1.567 1.260 1.536 1.468 1.591 1.354 1.395 1.459        1.436    8.27
126)  1,2,4-trichlorobenzene
      1.018 1.341 1.125 1.384 1.280 1.488 1.165 1.164 1.281        1.249   11.64
127)  hexachlorobutadiene
      0.547 0.612 0.509 0.618 0.591 0.662 0.543 0.557 0.596        0.582    8.06
128)  naphthalene
      2.836 3.681 3.109 3.877 3.657 4.097 3.229 2.959 3.657        3.456   12.62
129)  1,2,3-trichlorobenzene
      0.922 1.188 0.959 1.206 1.128 1.299 1.013 0.868 1.128        1.079   13.47
130)  hexachloroethane
      0.524 0.620 0.576 0.627 0.617 0.668 0.539 0.569 0.599        0.593    7.67
 ---------------------------------------------------------------------------
 (#) = Out of Range  ###  Number of calibration levels exceeded format  ###

          M3A6507.M         Tue May 24 09:56:34 2016   ACCUNJ
```

6.7.1 6

Initial Calibration Verification

Job Number: JC20563
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V3A6507-ICV6507
Lab FileID: 3A150940.D

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\3A150940.D Vial: 14
Acq On : 23 May 2016 9:15 pm Operator: tracyk
Sample : icv6507-50 Inst : MS3A
Misc : MS2264,V3A6507,5,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\M3A6507.M (RTE Integrator)
Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
Last Update : Tue May 24 09:06:14 2016
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	Tert Butyl Alcohol-d9	1.000	1.000	0.0	93	0.00	8.52
2	M	tertiary butyl alcohol	1.541	1.576	-2.3	93	0.00	8.66
3		ethanol		----------NA----------				
4	M	1,4-dioxane	0.092	0.089	3.3	88	0.00	12.69
5	I	pentafluorobenzene	1.000	1.000	0.0	107	0.00	11.03
6		FREON 115		----------NA----------				
7		FREON 152A		----------NA----------				
8	M	chlorodifluoromethane	0.401	0.438	-9.2	114	0.00	4.51
9	M	dichlorodifluoromethane	0.760	0.657	13.6	85	0.00	4.46
10	M	chloromethane	0.796	0.783	1.6	97	0.00	4.90
11	M	vinyl chloride	0.835	0.740	11.4	89	0.00	5.20
12	M	bromomethane	0.352	0.419	-19.0	113	0.00	5.98
13		FREON 123A		----------NA----------				
14		FREON 123		----------NA----------				
15		2-CHLOROPROPANE	0.727	0.785	-8.0	113	0.00	7.51
16	M	chloroethane	0.415	0.445	-7.2	106	0.00	6.22
17	M	trichlorofluoromethane	0.783	0.843	-7.7	101	0.00	6.76
18	M	Pentane		----------NA----------				
19		1-chloropropane		----------NA----------				
20	M	ethyl ether	0.359	0.390	-8.6	109	0.00	7.26
21	M	acrolein	0.198	0.213	-7.6	114	0.00	7.53
22	M	1,1-dichloroethene	0.927	1.017	-9.7	110	0.00	7.74
23	M	acetone	0.133	0.142	-6.8	105	0.00	7.77
24	M	allyl chloride	0.342	0.376	-9.9	112	0.00	8.37
25	M	acetonitrile	0.043	0.040	7.0	82	0.00	8.27
26	M	iodomethane	1.036	1.129	-9.0	110	0.00	8.04
27	M	iso-butyl alcohol	0.010	0.011	-10.0	107	0.00	11.30
28	M	carbon disulfide	1.853	2.045	-10.4	113	0.00	8.19
29	M	methylene chloride	0.666	0.666	0.0	107	0.00	8.58
30	M	methyl acetate	0.682	0.637	6.6	97	0.00	8.30
31	M	methyl tert butyl ether	1.944	2.089	-7.4	107	0.00	8.98
32	M	trans-1,2-dichloroethene	0.810	0.862	-6.4	109	0.00	9.02
33	M	di-isopropyl ether	1.832	1.950	-6.4	107	0.00	9.65
34	M	2-butanone	0.126	0.146	-15.9	110	0.00	10.39
35	M	1,1-dichloroethane	1.051	1.136	-8.1	110	0.00	9.67
36	M	chloroprene	0.840	0.889	-5.8	106	0.00	9.78
37	M	acrylonitrile	0.332	0.352	-6.0	106	0.00	8.93
38	M	vinyl acetate	0.126	0.128	-1.6	102	0.00	9.61
39	M	ethyl tert-butyl ether	1.877	2.065	-10.0	108	0.00	10.15
40	M	ethyl acetate	0.105	0.106	-1.0	102	0.00	10.41
41	M	2,2-dichloropropane	0.481	0.502	-4.4	111	0.00	10.47

Initial Calibration Verification

Job Number: JC20563
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V3A6507-ICV6507
Lab FileID: 3A150940.D

42	M	cis-1,2-dichloroethene	0.690	0.727	-5.4	109	0.00	10.45
43		methylacrylate	0.124	0.132	-6.5	110	0.00	10.49
44	M	propionitrile	0.120	0.133	-10.8	108	0.00	10.49
45	M	bromochloromethane	0.338	0.365	-8.0	110	0.00	10.77
46	M	tetrahydrofuran	0.274	0.268	2.2	103	0.00	10.78
47	M	chloroform	0.703	0.781	-11.1	111	0.00	10.86
48		t-butyl formate	0.593	0.375	36.8#	65	0.00	10.90
49	S	dibromofluoromethane (s)	0.487	0.481	1.2	106	0.00	11.07
50	S	1,2-dichloroethane-d4 (s)	0.565	0.553	2.1	104	0.00	11.52
51	M	freon 113	0.402	0.465	-15.7	116	0.00	7.74
52	M	methacrylonitrile	0.345	0.354	-2.6	103	0.00	10.69
53	M	1,1,1-trichloroethane	0.755	0.855	-13.2	117	0.00	11.13
54	M	Cyclohexane	0.892	0.905	-1.5	105	0.00	11.24
55	I	1,4-difluorobenzene	1.000	1.000	0.0	106	0.00	12.01
56	M	epichlorohydrin	0.064	0.061	4.7	102	0.00	13.26
57	M	n-butyl alcohol	0.020	0.019	5.0	94	0.00	12.06
58	M	carbon tetrachloride	0.489	0.539	-10.2	113	0.00	11.33
59	M	1,1-dichloropropene	0.505	0.572	-13.3	116	0.00	11.31
60		Tert Amyl Alcohol		----------NA----------				
61	M	hexane	0.408	0.403	1.2	105	0.00	9.41
62		2,2,4-TRIMETHYLPENTANE	1.330	1.327	0.2	100	0.00	11.67
63	M	benzene	1.543	1.658	-7.5	109	0.00	11.58
64	M	tert-amyl methyl ether	0.302	0.312	-3.3	104	0.00	11.65
65	M	heptane	0.236	0.218	7.6	96	0.00	11.83
66	M	isopropyl acetate	0.111	0.115	-3.6	107	0.00	11.49
67	M	1,2-dichloroethane	0.551	0.592	-7.4	107	0.00	11.61
68	m	Ethyl acrylate		----------NA----------				
69	M	trichloroethene	0.405	0.446	-10.1	110	0.00	12.33
70		tert-Amyl Ethyl Ether		----------NA----------				
71	M	methyl methacrylate	0.129	0.135	-4.7	106	0.00	12.59
72	M	2-nitropropane	0.220	0.217	1.4	108	0.00	13.14
73	M	2-chloroethyl vinyl ether	0.274	0.284	-3.6	111	0.00	13.16
74	M	1,2-dichloropropane	0.386	0.398	-3.1	105	0.00	12.65
75	M	dibromomethane	0.272	0.286	-5.1	104	0.00	12.76
76	M	methylcyclohexane	0.590	0.610	-3.4	106	0.00	12.63
77	M	bromodichloromethane	0.554	0.592	-6.9	107	0.00	12.92
78	M	cis-1,3-dichloropropene	0.651	0.675	-3.7	107	0.00	13.40
79	S	toluene-d8 (s)	1.120	1.098	2.0	105	0.00	13.72
80	M	4-methyl-2-pentanone	0.232	0.246	-6.0	108	0.00	13.51
81	M	toluene	1.654	1.717	-3.8	109	0.00	13.80
82	M	3-methyl-1-butanol	0.034	0.032	5.9	96	0.00	13.50
83	M	trans-1,3-dichloropropene	0.631	0.618	2.1	103	0.00	14.00
84	M	ethyl methacrylate	0.615	0.620	-0.8	106	0.00	13.98
85	M	1,1,2-trichloroethane	0.326	0.328	-0.6	105	0.00	14.24
86	M	2-hexanone	0.261	0.248	5.0	106	0.00	14.41
87	I	chlorobenzene-d5	1.000	1.000	0.0	104	0.00	15.35
88	M	tetrachloroethene	0.591	0.758	-28.3	119	0.00	14.39
89		BUTYL ACRYLATE		----------NA----------				
90	M	1,3-dichloropropane	0.658	0.676	-2.7	103	0.00	14.43
91	M	butyl acetate	0.369	0.376	-1.9	112	0.00	14.48
92		3,3-dimethyl-1-butanol	0.083	0.080	3.6	91	0.00	14.59
93	M	dibromochloromethane	0.481	0.527	-9.6	104	0.00	14.70
94	M	1,2-dibromoethane	0.463	0.485	-4.8	105	0.00	14.87
95	M	chlorobenzene	1.209	1.291	-6.8	108	0.00	15.38
96	M	1,1,1,2-tetrachloroethane	0.463	0.511	-10.4	105	0.00	15.45
97	M	ethylbenzene	2.086	2.231	-7.0	107	0.00	15.43
98	M	m,p-xylene	0.811	0.873	-7.6	107	0.00	15.57
99	M	o-xylene	1.778	1.996	-12.3	109	0.00	16.00

Initial Calibration Verification

Job Number: JC20563
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V3A6507-ICV6507
Lab FileID: 3A150940.D

100	M	styrene	1.466	1.564	-6.7	106	0.00	16.01
101	M	bromoform	0.442	0.481	-8.8	105	0.00	16.27
102	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	99	0.00	17.86
103	M	isopropylbenzene	3.697	3.994	-8.0	105	0.00	16.37
104	S	4-bromofluorobenzene (s)	0.903	0.882	2.3	102	0.00	16.59
105		cyclohexanone	0.079	0.065	17.7	89	0.00	16.54
106	M	bromobenzene	1.097	1.114	-1.5	104	0.00	16.80
107	M	1,1,2,2-tetrachloroethane	1.364	1.350	1.0	100	0.00	16.68
108	M	trans-1,4-dichloro-2-bute	0.385	0.425	-10.4	111	0.00	16.71
109	M	1,2,3-trichloropropane	0.386	0.385	0.3	102	0.00	16.78
110	M	n-propylbenzene	4.480	4.831	-7.8	107	0.00	16.82
111	M	2-chlorotoluene	0.958	1.017	-6.2	103	0.00	16.97
112	M	4-chlorotoluene	2.990	3.114	-4.1	105	0.00	17.09
113	M	1,3,5-trimethylbenzene	3.261	3.531	-8.3	105	0.00	16.98
114	M	tert-butylbenzene	0.638	0.725	-13.6	105	0.00	17.35
115	M	pentachloroethane	0.475	0.335	29.5	81	0.00	17.44
116	M	1,2,4-trimethylbenzene	3.438	3.682	-7.1	104	0.00	17.41
117	M	sec-butylbenzene	4.166	4.497	-7.9	103	0.00	17.59
118	M	1,3-dichlorobenzene	2.155	2.192	-1.7	100	0.00	17.79
119	M	p-isopropyltoluene	3.562	3.897	-9.4	103	0.00	17.73
120	M	1,4-dichlorobenzene	2.155	2.238	-3.9	101	0.00	17.89
121	M	1,2-dichlorobenzene	2.084	2.112	-1.3	100	0.00	18.31
122	M	benzyl chloride	2.965	2.847	4.0	95	0.00	17.99
123	M	n-butylbenzene	1.818	1.961	-7.9	99	0.00	18.18
124	M	1,2-dibromo-3-chloropropa	0.277	0.284	-2.5	96	0.00	19.16
125		1,3,5-TRICHLOROBENZENE	1.436	1.508	-5.0	97	0.00	19.35
126	M	1,2,4-trichlorobenzene	1.249	1.311	-5.0	94	0.00	20.06
127	M	hexachlorobutadiene	0.582	0.584	-0.3	94	0.00	20.18
128	M	naphthalene	3.456	3.603	-4.3	92	0.00	20.41
129	M	1,2,3-trichlorobenzene	1.079	1.112	-3.1	91	0.00	20.66
130	M	hexachloroethane	0.593	0.661	-11.5	104	0.00	18.63

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3a150935.D M3A6507.M Tue May 24 09:57:29 2016 ACCUNJ

6.7.2

Continuing Calibration Summary

Job Number: JC20563
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V3A6509-CC6507
Lab FileID: 3A150968.D

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\3A150968.D Vial: 26
Acq On : 24 May 2016 10:47 pm Operator: tracyk
Sample : cc6507-50 Inst : MS3A
Misc : MS2256,V3A6509,5,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\M3A6507.M (RTE Integrator)
Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
Last Update : Tue May 24 09:06:14 2016
Response via : Multiple Level Calibration

Min. RRF : 0.010 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	Tert Butyl Alcohol-d9	1.000	1.000	0.0	91	0.00	8.51
2	M	tertiary butyl alcohol	1.541	1.543	-0.1	88	0.00	8.65
3		ethanol		----------NA----------				
4	M	1,4-dioxane	0.092	0.089	3.3	86	0.00	12.69
5	I	pentafluorobenzene	1.000	1.000	0.0	106	0.00	11.03
6		FREON 115		----------NA----------				
7		FREON 152A		----------NA----------				
8	M	chlorodifluoromethane	0.401	0.386	3.7	100	0.00	4.50
9	M	dichlorodifluoromethane	0.760	0.635	16.4	82	0.00	4.46
10	M	chloromethane	0.796	0.753	5.4	93	0.00	4.89
11	M	vinyl chloride	0.835	0.763	8.6	91	0.00	5.20
12	M	bromomethane	0.352	0.387	-9.9	104	0.00	5.98
13		FREON 123A		----------NA----------				
14		FREON 123		----------NA----------				
15		2-CHLOROPROPANE	0.727	0.758	-4.3	109	0.00	7.50
16	M	chloroethane	0.415	0.415	0.0	98	0.00	6.21
17	M	trichlorofluoromethane	0.783	0.766	2.2	91	0.00	6.76
18	M	Pentane		----------NA----------				
19		1-chloropropane		----------NA----------				
20	M	ethyl ether	0.359	0.358	0.3	100	0.00	7.26
21	M	acrolein	0.198	0.178	10.1	95	0.00	7.53
22	M	1,1-dichloroethene	0.927	0.890	4.0	96	0.00	7.74
23	M	acetone	0.133	0.127	4.5	94	0.00	7.77
24	M	allyl chloride	0.342	0.321	6.1	95	0.00	8.37
25	M	acetonitrile	0.043	0.038	11.6	79	0.00	8.26
26	M	iodomethane	1.036	1.048	-1.2	102	0.00	8.04
27	M	iso-butyl alcohol	0.010	0.010#	0.0	96	0.01	11.31
28	M	carbon disulfide	1.853	1.825	1.5	100	0.00	8.19
29	M	methylene chloride	0.666	0.610	8.4	97	0.00	8.58
30	M	methyl acetate	0.682	0.649	4.8	99	0.00	8.31
31	M	methyl tert butyl ether	1.944	1.955	-0.6	100	0.00	8.98
32	M	trans-1,2-dichloroethene	0.810	0.797	1.6	100	0.00	9.02
33	M	di-isopropyl ether	1.832	1.862	-1.6	101	0.00	9.65
34	M	2-butanone	0.126	0.127	-0.8	96	0.00	10.39
35	M	1,1-dichloroethane	1.051	1.022	2.8	99	0.00	9.67
36	M	chloroprene	0.840	0.875	-4.2	104	0.00	9.78
37	M	acrylonitrile	0.332	0.311	6.3	93	0.00	8.93
38	M	vinyl acetate	0.126	0.118	6.3	94	0.00	9.61
39	M	ethyl tert-butyl ether	1.877	1.976	-5.3	103	0.00	10.15
40	M	ethyl acetate	0.105	0.102	2.9	97	0.00	10.40
41	M	2,2-dichloropropane	0.481	0.458	4.8	101	0.00	10.47

Continuing Calibration Summary

Job Number: JC20563 **Sample:** V3A6509-CC6507
Account: UTC United Technologies Corporation **Lab FileID:** 3A150968.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

42	M	cis-1,2-dichloroethene	0.690	0.670	2.9	100	0.00	10.45
43		methylacrylate	0.124	0.118	4.8	98	0.00	10.49
44	M	propionitrile	0.120	0.111	7.5	90	0.00	10.49
45	M	bromochloromethane	0.338	0.340	-0.6	102	0.00	10.77
46	M	tetrahydrofuran	0.274	0.241	12.0	92	0.00	10.78
47	M	chloroform	0.703	0.692	1.6	98	0.00	10.86
48		t-butyl formate	0.593	0.627	-5.7	108	0.00	10.90
49	S	dibromofluoromethane (s)	0.487	0.479	1.6	105	0.00	11.07
50	S	1,2-dichloroethane-d4 (s)	0.565	0.558	1.2	105	0.00	11.52
51	M	freon 113	0.402	0.425	-5.7	106	0.00	7.74
52	M	methacrylonitrile	0.345	0.327	5.2	95	0.00	10.69
53	M	1,1,1-trichloroethane	0.755	0.781	-3.4	106	0.00	11.13
54	M	Cyclohexane	0.892	0.852	4.5	99	0.00	11.24
55	I	1,4-difluorobenzene	1.000	1.000	0.0	103	0.00	12.01
56	M	epichlorohydrin	0.064	0.060	6.3	98	0.00	13.26
57	M	n-butyl alcohol	0.020	0.019	5.0	92	0.00	12.06
58	M	carbon tetrachloride	0.489	0.491	-0.4	100	0.00	11.33
59	M	1,1-dichloropropene	0.505	0.504	0.2	98	0.00	11.31
60		Tert Amyl Alcohol		----------NA----------				
61	M	hexane	0.408	0.419	-2.7	106	0.00	9.41
62		2,2,4-TRIMETHYLPENTANE	1.330	1.332	-0.2	97	0.00	11.66
63	M	benzene	1.543	1.541	0.1	98	0.00	11.58
64	M	tert-amyl methyl ether	0.302	0.325	-7.6	104	0.00	11.65
65	M	heptane	0.236	0.232	1.7	99	0.00	11.83
66	M	isopropyl acetate	0.111	0.115	-3.6	104	0.00	11.49
67	M	1,2-dichloroethane	0.551	0.568	-3.1	99	0.00	11.61
68	m	Ethyl acrylate		----------NA----------				
69	M	trichloroethene	0.405	0.421	-4.0	100	0.00	12.33
70		tert-Amyl Ethyl Ether		----------NA----------				
71	M	methyl methacrylate	0.129	0.131	-1.6	99	0.00	12.59
72	M	2-nitropropane	0.220	0.209	5.0	101	0.00	13.14
73	M	2-chloroethyl vinyl ether	0.274	0.274	0.0	104	0.00	13.16
74	M	1,2-dichloropropane	0.386	0.382	1.0	97	0.00	12.65
75	M	dibromomethane	0.272	0.279	-2.6	98	0.00	12.76
76	M	methylcyclohexane	0.590	0.621	-5.3	104	0.00	12.63
77	M	bromodichloromethane	0.554	0.563	-1.6	98	0.00	12.92
78	M	cis-1,3-dichloropropene	0.651	0.621	4.6	95	0.00	13.40
79	S	toluene-d8 (s)	1.120	1.133	-1.2	105	0.00	13.72
80	M	4-methyl-2-pentanone	0.232	0.229	1.3	97	0.00	13.51
81	M	toluene	1.654	1.624	1.8	100	0.00	13.80
82	M	3-methyl-1-butanol	0.034	0.032	5.9	90	0.00	13.49
83	M	trans-1,3-dichloropropene	0.631	0.591	6.3	95	0.00	14.00
84	M	ethyl methacrylate	0.615	0.599	2.6	99	0.00	13.98
85	M	1,1,2-trichloroethane	0.326	0.320	1.8	98	0.00	14.24
86	M	2-hexanone	0.261	0.232	11.1	96	0.00	14.41
87	I	chlorobenzene-d5	1.000	1.000	0.0	105	0.00	15.34
88	M	tetrachloroethene	0.591	0.752	-27.2#	118	0.00	14.39
89		BUTYL ACRYLATE		----------NA----------				
90	M	1,3-dichloropropane	0.658	0.630	4.3	97	0.00	14.43
91	M	butyl acetate	0.369	0.349	5.4	104	0.00	14.48
92		3,3-dimethyl-1-butanol	0.083	0.077	7.2	88	0.00	14.59
93	M	dibromochloromethane	0.481	0.494	-2.7	98	0.00	14.70
94	M	1,2-dibromoethane	0.463	0.455	1.7	99	0.00	14.87
95	M	chlorobenzene	1.209	1.171	3.1	99	0.00	15.38
96	M	1,1,1,2-tetrachloroethane	0.463	0.477	-3.0	99	0.00	15.45
97	M	ethylbenzene	2.086	2.047	1.9	98	0.00	15.43
98	M	m,p-xylene	0.811	0.805	0.7	99	0.00	15.57
99	M	o-xylene	1.778	1.767	0.6	97	0.00	16.00

Continuing Calibration Summary

Job Number: JC20563
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V3A6509-CC6507
Lab FileID: 3A150968.D

100	M	styrene	1.466	1.441	1.7	98	0.00	16.01
101	M	bromoform	0.442	0.436	1.4	95	0.00	16.27
102	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	99	0.00	17.86
103	M	isopropylbenzene	3.697	3.652	1.2	96	0.00	16.37
104	S	4-bromofluorobenzene (s)	0.903	0.884	2.1	102	0.00	16.59
105		cyclohexanone	0.079	0.082	-3.8	112	0.00	16.53
106	M	bromobenzene	1.097	1.052	4.1	98	0.00	16.80
107	M	1,1,2,2-tetrachloroethane	1.364	1.250	8.4	93	0.00	16.67
108	M	trans-1,4-dichloro-2-bute	0.385	0.289	24.9#	76	0.00	16.71
109	M	1,2,3-trichloropropane	0.386	0.371	3.9	98	0.00	16.77
110	M	n-propylbenzene	4.480	4.283	4.4	95	0.00	16.81
111	M	2-chlorotoluene	0.958	0.938	2.1	95	0.00	16.97
112	M	4-chlorotoluene	2.990	2.830	5.4	96	0.00	17.09
113	M	1,3,5-trimethylbenzene	3.261	3.170	2.8	94	0.00	16.98
114	M	tert-butylbenzene	0.638	0.648	-1.6	93	0.00	17.35
115	M	pentachloroethane	0.475	0.237	50.1#	57	0.00	17.44
116	M	1,2,4-trimethylbenzene	3.438	3.293	4.2	93	0.00	17.41
117	M	sec-butylbenzene	4.166	4.040	3.0	92	0.00	17.59
118	M	1,3-dichlorobenzene	2.155	2.044	5.2	94	0.00	17.78
119	M	p-isopropyltoluene	3.562	3.431	3.7	91	0.00	17.73
120	M	1,4-dichlorobenzene	2.155	2.040	5.3	92	0.00	17.89
121	M	1,2-dichlorobenzene	2.084	1.918	8.0	91	0.00	18.30
122	M	benzyl chloride	2.965	2.618	11.7	87	0.00	17.99
123	M	n-butylbenzene	1.818	1.725	5.1	87	0.00	18.18
124	M	1,2-dibromo-3-chloropropa	0.277	0.257	7.2	87	0.00	19.16
125		1,3,5-TRICHLOROBENZENE	1.436	1.287	10.4	83	0.00	19.35
126	M	1,2,4-trichlorobenzene	1.249	1.147	8.2	82	0.00	20.06
127	M	hexachlorobutadiene	0.582	0.509	12.5	81	0.00	20.18
128	M	naphthalene	3.456	3.223	6.7	82	0.00	20.41
129	M	1,2,3-trichlorobenzene	1.079	0.986	8.6	81	0.00	20.66
130	M	hexachloroethane	0.593	0.531	10.5	84	0.00	18.63

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3a150935.D M3A6507.M Wed May 25 09:49:14 2016 ACCUNJ

6.7.3 .6

Continuing Calibration Summary

Job Number: JC20563
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V3A6509-CC6507
Lab FileID: 3A150989.D

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\3A150989.D Vial: 2
Acq On : 25 May 2016 10:21 am Operator: tracyk
Sample : cc6507-20 Inst : MS3A
Misc : MS2365,V3A6509,5,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\M3A6507.M (RTE Integrator)
Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
Last Update : Tue May 24 09:06:14 2016
Response via : Multiple Level Calibration

Min. RRF : 0.010 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	Tert Butyl Alcohol-d9	1.000	1.000	0.0	126	0.00	8.52
2	M	tertiary butyl alcohol	1.541	1.398	9.3	122	0.00	8.66
3		ethanol		----------NA----------				
4	M	1,4-dioxane	0.092	0.085	7.6	128	0.00	12.69
5	I	pentafluorobenzene	1.000	1.000	0.0	98	0.00	11.03
6		FREON 115		----------NA----------				
7		FREON 152A		----------NA----------				
8	M	chlorodifluoromethane	0.401	0.341	15.0	79	0.00	4.51
9	M	dichlorodifluoromethane	0.760	0.737	3.0	88	0.00	4.46
10	M	chloromethane	0.796	0.833	-4.6	95	0.00	4.90
11	M	vinyl chloride	0.835	0.817	2.2	90	0.00	5.20
12	M	bromomethane	0.352	0.411	-16.8	102	0.00	5.98
13		FREON 123A		----------NA----------				
14		FREON 123		----------NA----------				
15		2-CHLOROPROPANE	0.727	0.861	-18.4	109	0.00	7.51
16	M	chloroethane	0.415	0.444	-7.0	96	0.00	6.22
17	M	trichlorofluoromethane	0.783	0.811	-3.6	94	0.00	6.76
18	M	Pentane		----------NA----------				
19		1-chloropropane		----------NA----------				
20	M	ethyl ether	0.359	0.385	-7.2	97	0.00	7.26
21	M	acrolein	0.198	0.206	-4.0	106	0.00	7.53
22	M	1,1-dichloroethene	0.927	0.905	2.4	91	0.00	7.74
23	M	acetone	0.133	0.159	-19.5	138	0.00	7.77
24	M	allyl chloride	0.342	0.352	-2.9	95	0.00	8.37
25	M	acetonitrile	0.043	0.047	-9.3	144	0.00	8.26
26	M	iodomethane	1.036	1.095	-5.7	97	-0.01	8.03
27	M	iso-butyl alcohol	0.010	0.010#	0.0	101	0.00	11.31
28	M	carbon disulfide	1.853	1.898	-2.4	96	0.00	8.19
29	M	methylene chloride	0.666	0.658	1.2	97	0.00	8.58
30	M	methyl acetate	0.682	0.647	5.1	95	0.00	8.31
31	M	methyl tert butyl ether	1.944	2.087	-7.4	98	0.00	8.98
32	M	trans-1,2-dichloroethene	0.810	0.839	-3.6	96	0.00	9.02
33	M	di-isopropyl ether	1.832	1.850	-1.0	90	0.00	9.65
34	M	2-butanone	0.126	0.136	-7.9	108	0.00	10.39
35	M	1,1-dichloroethane	1.051	1.079	-2.7	95	0.00	9.67
36	M	chloroprene	0.840	0.835	0.6	91	0.00	9.77
37	M	acrylonitrile	0.332	0.344	-3.6	101	0.00	8.93
38	M	vinyl acetate	0.126	0.129	-2.4	91	0.00	9.61
39	M	ethyl tert-butyl ether	1.877	1.957	-4.3	92	0.00	10.15
40	M	ethyl acetate	0.105	0.087	17.1	81	0.00	10.41
41	M	2,2-dichloropropane	0.481	0.556	-15.6	106	0.00	10.47

Continuing Calibration Summary

Job Number: JC20563
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V3A6509-CC6507
Lab FileID: 3A150989.D

42	M	cis-1,2-dichloroethene	0.690	0.704	-2.0	97	0.00	10.45
43		methylacrylate	0.124	0.111	10.5	87	0.00	10.50
44	M	propionitrile	0.120	0.120	0.0	103	0.00	10.49
45	M	bromochloromethane	0.338	0.360	-6.5	97	0.00	10.77
46	M	tetrahydrofuran	0.274	0.248	9.5	95	0.00	10.78
47	M	chloroform	0.703	0.724	-3.0	94	0.00	10.86
48		t-butyl formate	0.593	0.579	2.4	98	0.00	10.89
49	S	dibromofluoromethane (s)	0.487	0.508	-4.3	102	0.00	11.07
50	S	1,2-dichloroethane-d4 (s)	0.565	0.577	-2.1	101	0.00	11.52
51	M	freon 113	0.402	0.414	-3.0	93	0.00	7.74
52	M	methacrylonitrile	0.345	0.328	4.9	92	0.00	10.69
53	M	1,1,1-trichloroethane	0.755	0.829	-9.8	103	0.00	11.12
54	M	Cyclohexane	0.892	0.871	2.4	92	0.00	11.24
55	I	1,4-difluorobenzene	1.000	1.000	0.0	96	0.00	12.01
56	M	epichlorohydrin	0.064	0.054	15.6	82	0.00	13.26
57	M	n-butyl alcohol	0.020	0.019	5.0	103	0.00	12.06
58	M	carbon tetrachloride	0.489	0.546	-11.7	99	0.00	11.33
59	M	1,1-dichloropropene	0.505	0.511	-1.2	92	0.00	11.31
60		Tert Amyl Alcohol		----------NA----------				
61	M	hexane	0.408	0.400	2.0	88	0.00	9.41
62		2,2,4-TRIMETHYLPENTANE	1.330	1.347	-1.3	89	-0.01	11.66
63	M	benzene	1.543	1.606	-4.1	93	0.00	11.58
64	M	tert-amyl methyl ether	0.302	0.319	-5.6	91	0.00	11.65
65	M	heptane	0.236	0.220	6.8	84	0.00	11.83
66	M	isopropyl acetate	0.111	0.101	9.0	83	0.00	11.48
67	M	1,2-dichloroethane	0.551	0.588	-6.7	94	0.00	11.61
68	m	Ethyl acrylate		----------NA----------				
69	M	trichloroethene	0.405	0.403	0.5	90	0.00	12.33
70		tert-Amyl Ethyl Ether		----------NA----------				
71	M	methyl methacrylate	0.129	0.109	15.5	79	0.00	12.59
72	M	2-nitropropane	0.220	0.192	12.7	83	0.00	13.14
73	M	2-chloroethyl vinyl ether	0.274	0.203	25.9#	68	0.00	13.16
74	M	1,2-dichloropropane	0.386	0.387	-0.3	91	0.00	12.65
75	M	dibromomethane	0.272	0.286	-5.1	92	0.00	12.76
76	M	methylcyclohexane	0.590	0.596	-1.0	90	0.00	12.63
77	M	bromodichloromethane	0.554	0.568	-2.5	91	0.00	12.92
78	M	cis-1,3-dichloropropene	0.651	0.586	10.0	84	0.00	13.40
79	S	toluene-d8 (s)	1.120	1.104	1.4	94	0.00	13.72
80	M	4-methyl-2-pentanone	0.232	0.224	3.4	89	0.00	13.51
81	M	toluene	1.654	1.570	5.1	87	0.00	13.80
82	M	3-methyl-1-butanol	0.034	0.032	5.9	102	0.00	13.49
83	M	trans-1,3-dichloropropene	0.631	0.522	17.3	77	0.00	14.00
84	M	ethyl methacrylate	0.615	0.525	14.6	79	0.00	13.98
85	M	1,1,2-trichloroethane	0.326	0.296	9.2	83	0.00	14.24
86	M	2-hexanone	0.261	0.231	11.5	84	0.00	14.41
87	I	chlorobenzene-d5	1.000	1.000	0.0	90	0.00	15.34
88	M	tetrachloroethene	0.591	0.488	17.4	69	0.00	14.39
89		BUTYL ACRYLATE		----------NA----------				
90	M	1,3-dichloropropane	0.658	0.600	8.8	80	0.00	14.43
91	M	butyl acetate	0.369	0.309	16.3	73	0.00	14.48
92		3,3-dimethyl-1-butanol	0.083	0.089	-7.2	106	0.00	14.59
93	M	dibromochloromethane	0.481	0.497	-3.3	87	0.00	14.70
94	M	1,2-dibromoethane	0.463	0.423	8.6	78	0.00	14.87
95	M	chlorobenzene	1.209	1.159	4.1	83	0.00	15.38
96	M	1,1,1,2-tetrachloroethane	0.463	0.519	-12.1	94	0.00	15.45
97	M	ethylbenzene	2.086	2.104	-0.9	87	0.00	15.43
98	M	m,p-xylene	0.811	0.824	-1.6	87	0.00	15.56
99	M	o-xylene	1.778	1.841	-3.5	89	0.00	16.00

Continuing Calibration Summary

Job Number: JC20563
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Sample: V3A6509-CC6507
Lab FileID: 3A150989.D

100	M	styrene	1.466	1.423	2.9	83	0.00	16.01
101	M	bromoform	0.442	0.432	2.3	84	0.00	16.27
102	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	98	0.00	17.86
103	M	isopropylbenzene	3.697	3.470	6.1	90	0.00	16.37
104	S	4-bromofluorobenzene (s)	0.903	0.794	12.1	89	0.00	16.59
105		cyclohexanone	0.079	0.094	-19.0	138	0.00	16.53
106	M	bromobenzene	1.097	0.953	13.1	85	0.00	16.80
107	M	1,1,2,2-tetrachloroethane	1.364	1.224	10.3	88	0.00	16.67
108	M	trans-1,4-dichloro-2-bute	0.385	0.320	16.9	79	0.00	16.71
109	M	1,2,3-trichloropropane	0.386	0.345	10.6	88	0.00	16.78
110	M	n-propylbenzene	4.480	4.097	8.5	88	0.00	16.81
111	M	2-chlorotoluene	0.958	0.899	6.2	90	0.00	16.97
112	M	4-chlorotoluene	2.990	2.621	12.3	85	0.00	17.09
113	M	1,3,5-trimethylbenzene	3.261	3.146	3.5	91	0.00	16.98
114	M	tert-butylbenzene	0.638	0.634	0.6	91	0.00	17.35
115	M	pentachloroethane	0.475	0.626	-31.8#	139	0.00	17.44
116	M	1,2,4-trimethylbenzene	3.438	3.311	3.7	93	0.00	17.41
117	M	sec-butylbenzene	4.166	4.042	3.0	92	0.00	17.59
118	M	1,3-dichlorobenzene	2.155	2.040	5.3	90	0.00	17.78
119	M	p-isopropyltoluene	3.562	3.527	1.0	93	0.00	17.73
120	M	1,4-dichlorobenzene	2.155	2.050	4.9	91	0.00	17.89
121	M	1,2-dichlorobenzene	2.084	2.046	1.8	95	0.00	18.30
122	M	benzyl chloride	2.965	2.917	1.6	93	0.00	17.99
123	M	n-butylbenzene	1.818	1.833	-0.8	94	0.00	18.18
124	M	1,2-dibromo-3-chloropropa	0.277	0.284	-2.5	99	0.00	19.15
125		1,3,5-TRICHLOROBENZENE	1.436	1.503	-4.7	101	0.00	19.35
126	M	1,2,4-trichlorobenzene	1.249	1.282	-2.6	98	0.00	20.06
127	M	hexachlorobutadiene	0.582	0.643	-10.5	107	0.00	20.18
128	M	naphthalene	3.456	3.663	-6.0	98	0.00	20.41
129	M	1,2,3-trichlorobenzene	1.079	1.147	-6.3	100	0.00	20.66
130	M	hexachloroethane	0.593	0.608	-2.5	97	0.00	18.63

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3a150934.D M3A6507.M Wed May 25 15:16:03 2016 ACCUNJ

6.7.4 6

GC/MS Volatiles

Raw Data

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 3a150977.D
Acq On : 25 May 2016 3:15 am
Operator : tracyk
Sample : jc20563-1
Misc : MS2365,V3A6509,5,,,,1
ALS Vial : 35 Sample Multiplier: 1

Quant Time: May 25 09:52:17 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 09:06:14 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.52	65	177918	500.00 ug/L	0.00
5) pentafluorobenzene	11.03	168	209630	50.00 ug/L	0.00
55) 1,4-difluorobenzene	12.01	114	304533	50.00 ug/L	0.00
87) chlorobenzene-d5	15.34	117	295076	50.00 ug/L	0.00
102) 1,4-dichlorobenzene-d4	17.86	152	175542	50.00 ug/L	0.00
System Monitoring Compounds					
49) dibromofluoromethane (s)	11.07	113	101985	49.91 ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 99.82%		
50) 1,2-dichloroethane-d4 (s)	11.52	65	115917	48.90 ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 97.80%		
79) toluene-d8 (s)	13.72	98	339915	49.84 ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 99.68%		
104) 4-bromofluorobenzene (s)	16.59	95	158941	50.12 ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 100.24%		
Target Compounds					Qvalue
23) acetone	7.78	58	2136	3.83 ug/L	92
35) 1,1-dichloroethane	9.67	63	2097	0.48 ug/L	87
53) 1,1,1-trichloroethane	11.13	97	812	0.26 ug/L #	64

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

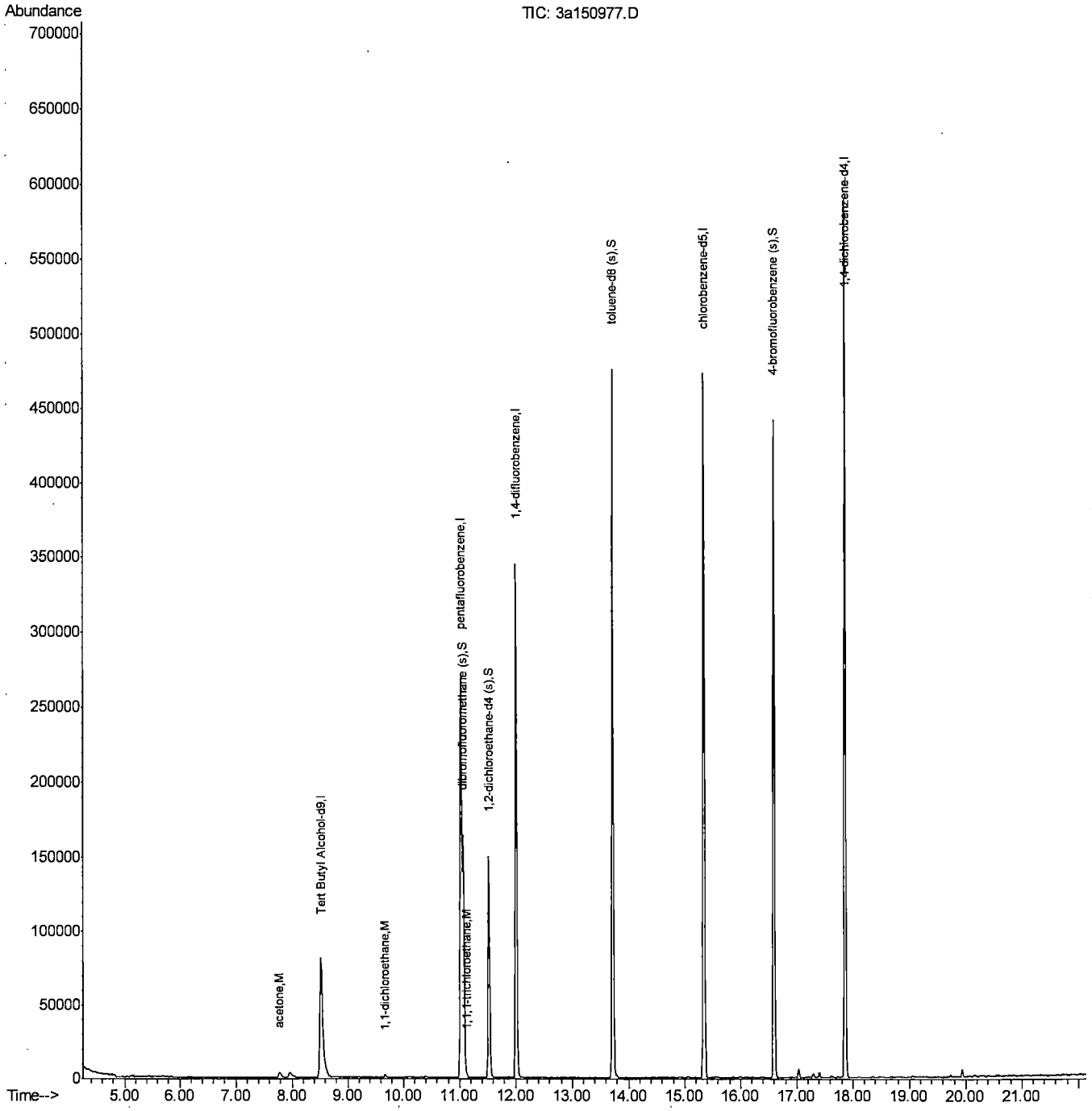
7.1.1

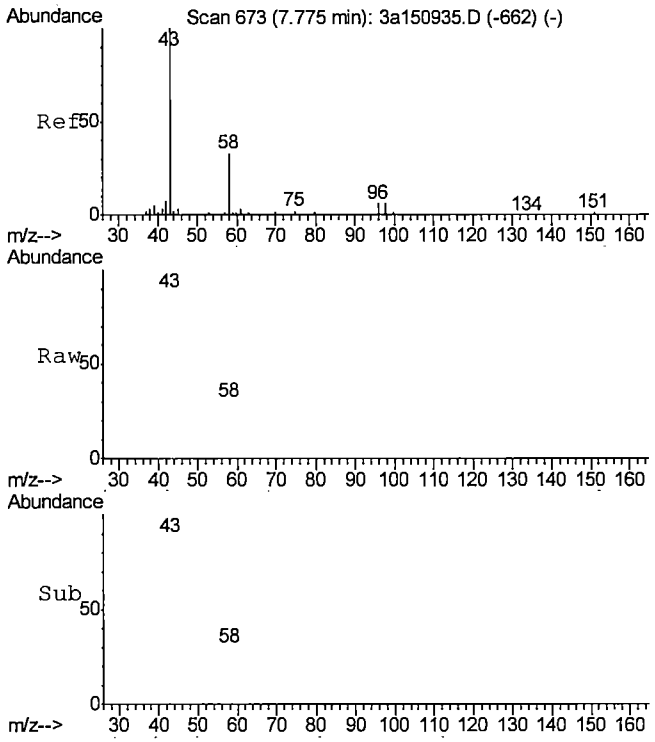
7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 3a150977.D
Acq On : 25 May 2016 3:15 am
Operator : tracyk
Sample : jc20563-1
Misc : MS2365,V3A6509,5,,,,1
ALS Vial : 35 Sample Multiplier: 1

Quant Time: May 25 09:52:17 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 09:06:14 2016
Response via : Initial Calibration

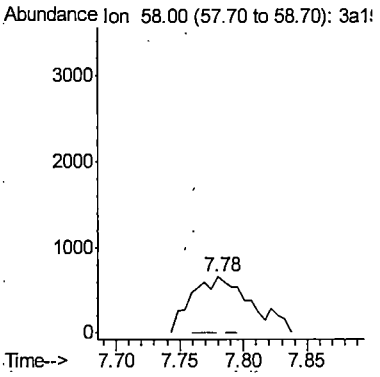


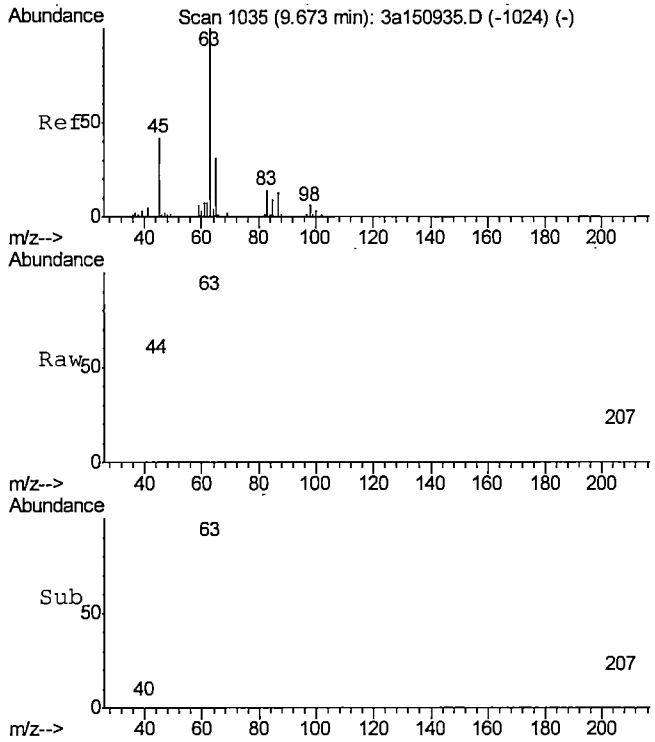


#23
acetone
Concen: 3.83 ug/L
RT: 7.78 min Scan# 674
Delta R.T. 0.01 min
Lab File: 3a150977.D
Acq: 25 May 2016 3:15 am

Tgt Ion: 58 Resp: 2136

Ion	Ratio	Lower	Upper
58	100		
43	296.0	276.4	336.4
42	0.0	0.0	52.5

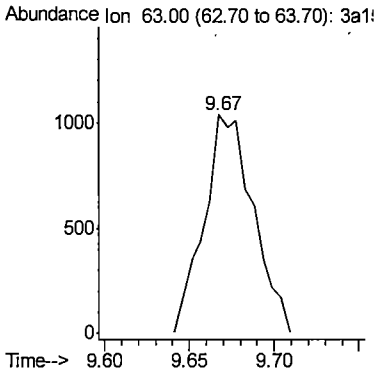




#35
1,1-dichloroethane
Concen: 0.48 ug/L
RT: 9.67 min Scan# 1034
Delta R.T. -0.01 min
Lab File: 3a150977.D
Acq: 25 May 2016 3:15 am

Tgt Ion: 63 Resp: 2097

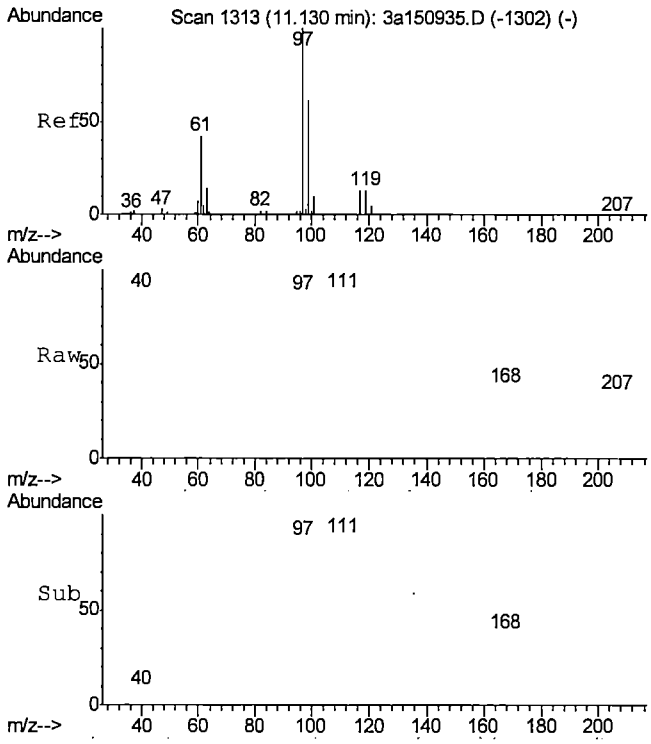
Ion	Ratio	Lower	Upper
63	100		
65	32.8	0.9	60.9
83	0.0	0.0	43.9



7.1.1

7

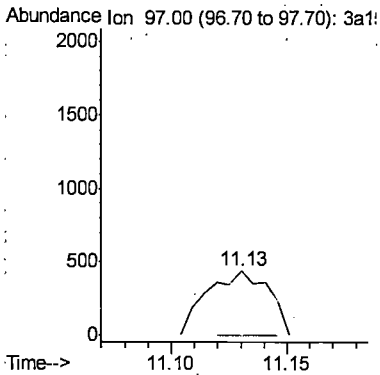
SGS ACCUTEST JC20563



#53
1,1,1-trichloroethane
Concen: 0.26 ug/L
RT: 11.13 min Scan# 1313
Delta R.T. 0.00 min
Lab File: 3a150977.D
Acq: 25 May 2016 3:15 am

Tgt Ion: 97 Resp: 812

Ion	Ratio	Lower	Upper
97	100		
99	76.4	33.9	93.9
61	0.0	11.7	71.7#



7.1.1

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a150997.D
Acq On : 25 May 2016 2:33 pm
Operator : tracyk
Sample : jc20563-2
Misc : MS2365,V3A6509,5,,,,50
ALS Vial : 10 Sample Multiplier: 1

Quant Time: May 25 15:25:13 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 09:06:14 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.52	65	159692	500.00 ug/L	0.00
5) pentafluorobenzene	11.03	168	200097	50.00 ug/L	0.00
55) 1,4-difluorobenzene	12.01	114	292979	50.00 ug/L	0.00
87) chlorobenzene-d5	15.34	117	283299	50.00 ug/L	0.00
102) 1,4-dichlorobenzene-d4	17.86	152	170897	50.00 ug/L	0.00
System Monitoring Compounds					
49) dibromofluoromethane (s)	11.07	113	97515	50.00 ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 100.00%		
50) 1,2-dichloroethane-d4 (s)	11.52	65	112196	49.58 ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 99.16%		
79) toluene-d8 (s)	13.72	98	331220	50.49 ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 100.98%		
104) 4-bromofluorobenzene (s)	16.59	95	151163	48.96 ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 97.92%		
Target Compounds					Qvalue
22) 1,1-dichloroethene	7.75	61	131908	35.57 ug/L	99
35) 1,1-dichloroethane	9.67	63	14324	3.40 ug/L	100
42) cis-1,2-dichloroethene	10.45	96	34374	12.45 ug/L	98
53) 1,1,1-trichloroethane	11.13	97	1066820	352.97 ug/L	99
97) ethylbenzene	15.43	91	19505	1.65 ug/L	95
98) m,p-xylene	15.57	106	22339	4.86 ug/L	98
99) o-xylene	16.00	91	60515	6.01 ug/L	99

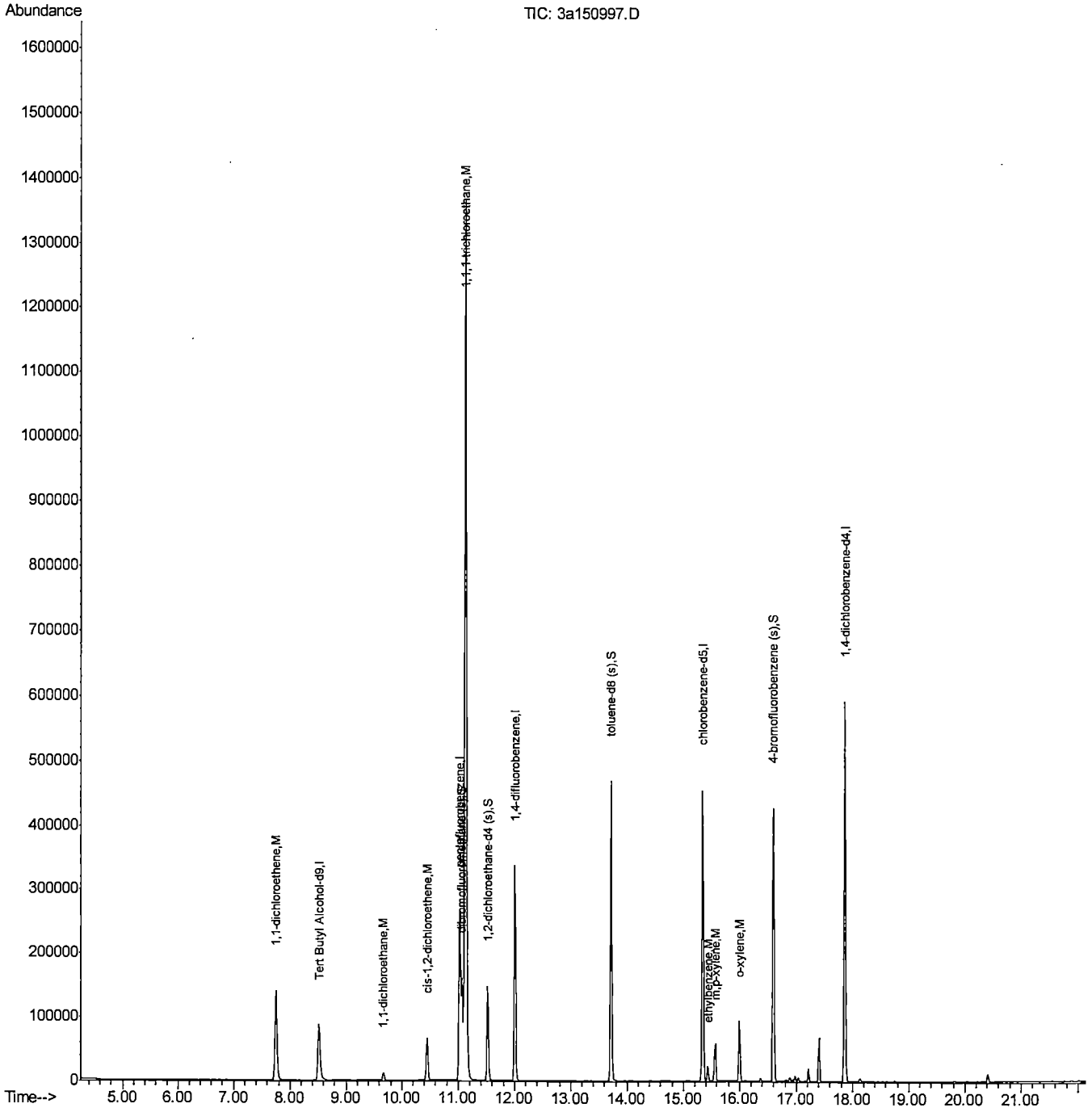
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.2 7

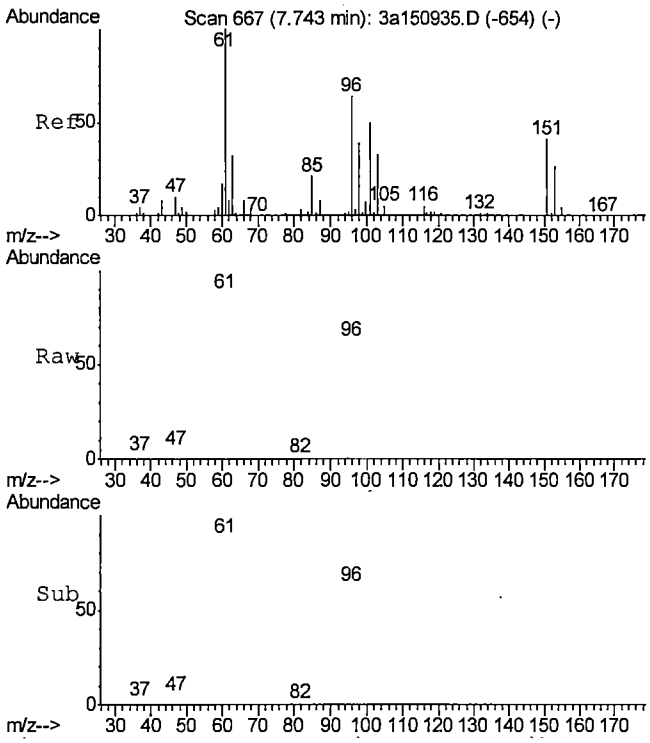
Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a150997.D
Acq On : 25 May 2016 2:33 pm
Operator : tracyk
Sample : jc20563-2
Misc : MS2365,V3A6509,5,,,,50
ALS Vial : 10 Sample Multiplier: 1

Quant Time: May 25 15:25:13 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 09:06:14 2016
Response via : Initial Calibration



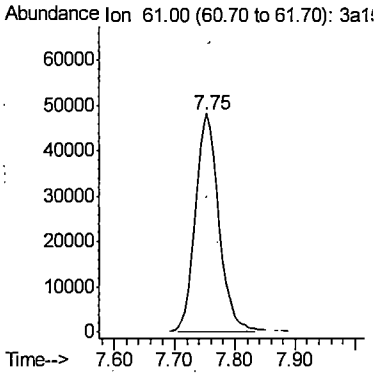
M3A6507.M Wed May 25 15:25:37 2016 ACCUNJ

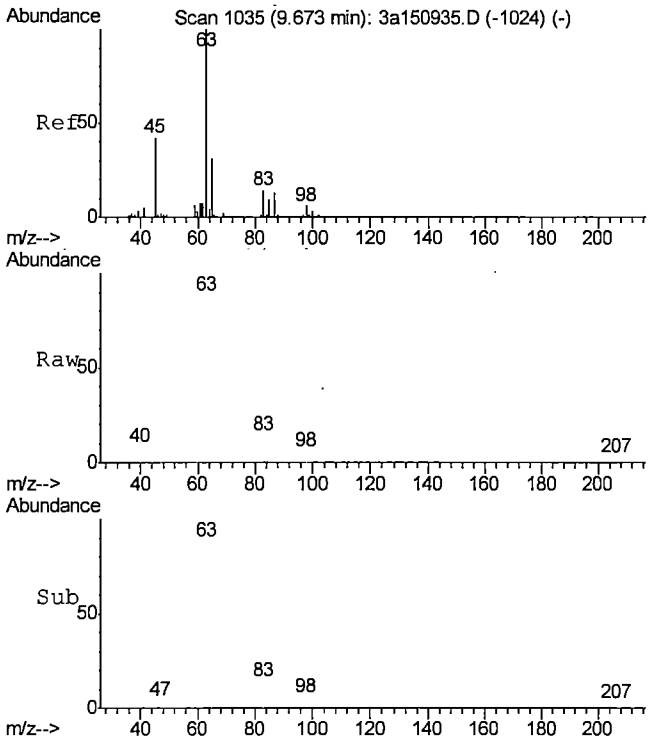


#22
1,1-dichloroethene
Concen: 35.57 ug/L
RT: 7.75 min Scan# 669
Delta R.T. 0.01 min
Lab File: 3a150997.D
Acq: 25 May 2016 2:33 pm

Tgt Ion: 61 Resp: 131908

Ion	Ratio	Lower	Upper
61	100		
96	63.0	33.6	93.6
63	32.5	1.9	61.9

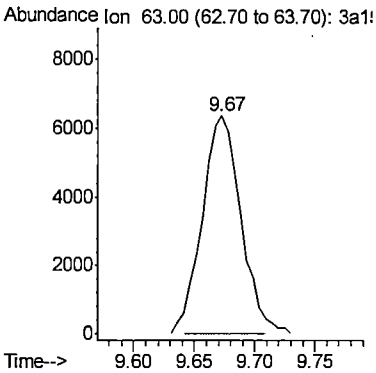




#35
1,1-dichloroethane
Concen: 3.40 ug/L
RT: 9.67 min Scan# 1035
Delta R.T. -0.00 min
Lab File: 3a150997.D
Acq: 25 May 2016 2:33 pm

Tgt Ion: 63 Resp: 14324

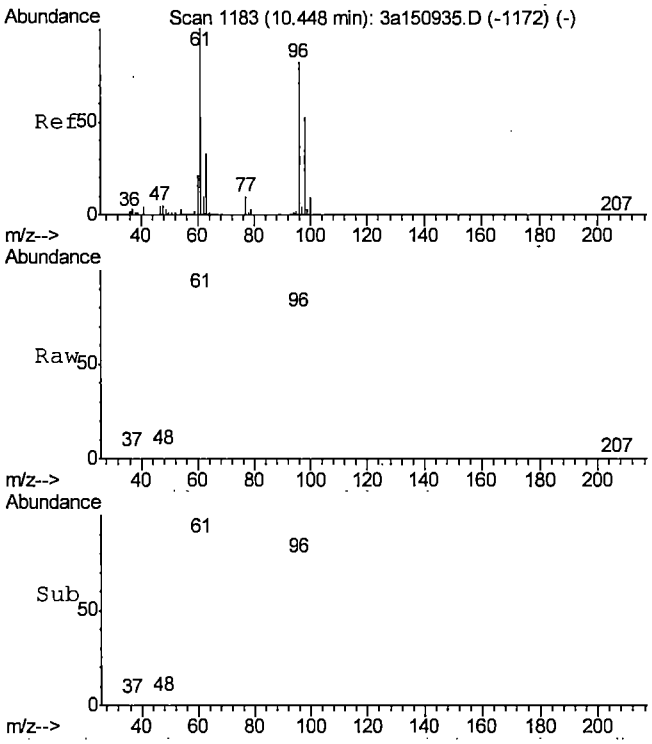
Ion	Ratio	Lower	Upper
63	100		
65	31.1	0.9	60.9
83	13.9	0.0	43.9



7.1.2

7

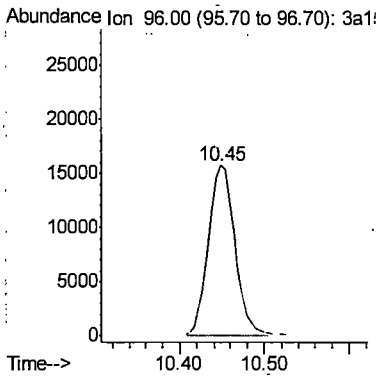
SGS ACCUTEST JC20563

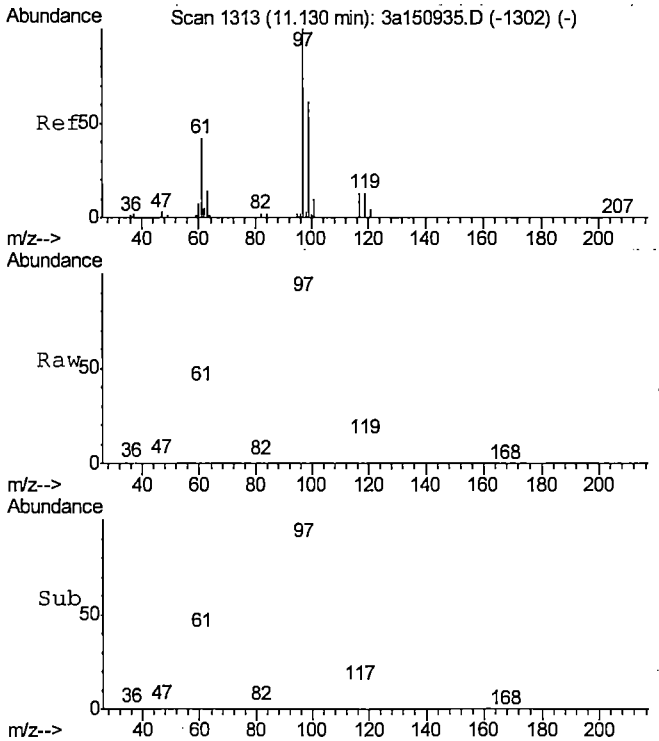


#42
cis-1,2-dichloroethene
Concen: 12.45 ug/L
RT: 10.45 min Scan# 1183
Delta R.T. -0.00 min
Lab File: 3a150997.D
Acq: 25 May 2016 2:33 pm

Tgt Ion: 96 Resp: 34374

Ion	Ratio	Lower	Upper
96	100		
61	128.4	98.9	158.9
98	66.7	33.4	93.4

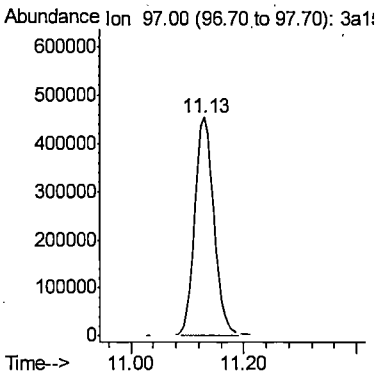




#53
1,1,1-trichloroethane
Concen: 352.97 ug/L
RT: 11.13 min Scan# 1313
Delta R.T. -0.00 min
Lab File: 3a150997.D
Acq: 25 May 2016 2:33 pm

Tgt Ion: 97 Resp: 1066820

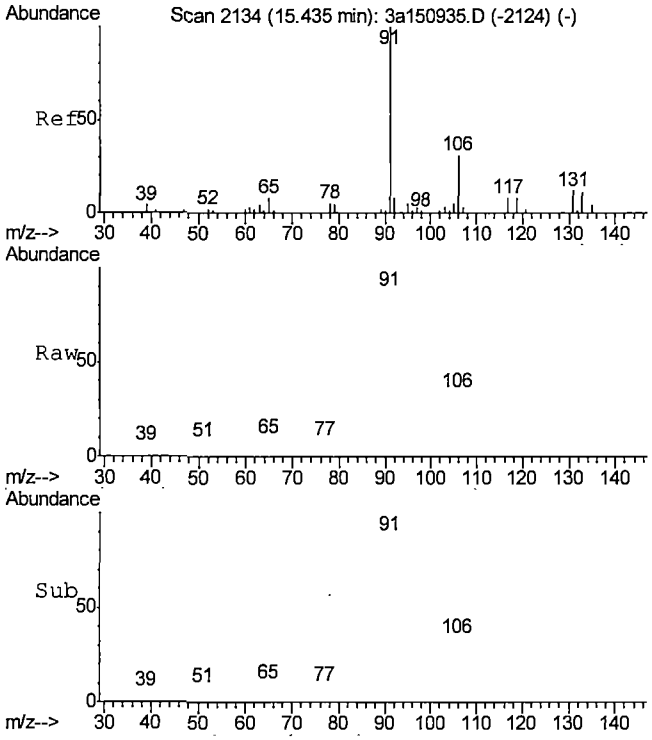
Ion	Ratio	Lower	Upper
97	100		
99	65.4	33.9	93.9
61	41.4	11.7	71.7



7.1.2

7

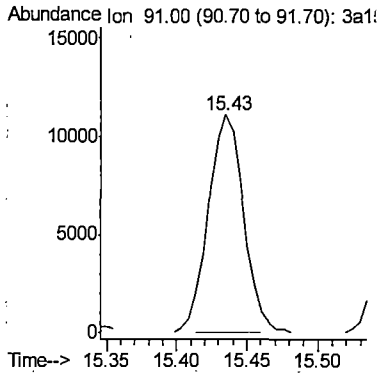
SGS ACCUTEST JC20563

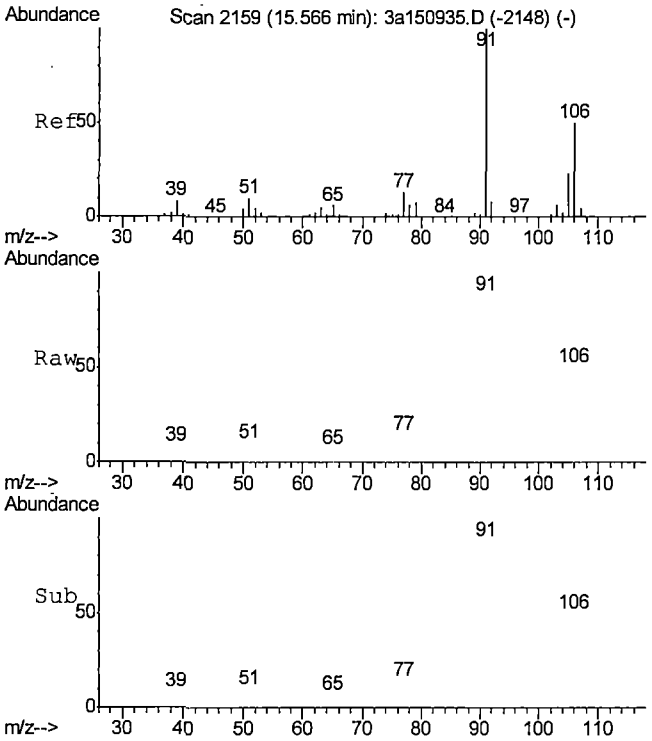


#97
ethylbenzene
Concen: 1.65 ug/L
RT: 15.43 min Scan# 2134
Delta R.T. -0.00 min
Lab File: 3a150997.D
Acq: 25 May 2016 2:33 pm

Tgt Ion: 91 Resp: 19505

Ion	Ratio	Lower	Upper
91	100		
106	33.5	0.9	60.9
65	10.5	0.0	38.4

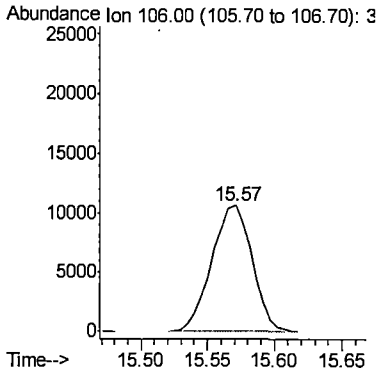




#98
m,p-xylene
Concen: 4.86 ug/L
RT: 15.57 min Scan# 2160
Delta R.T. 0.01 min
Lab File: 3a150997.D
Acq: 25 May 2016 2:33 pm

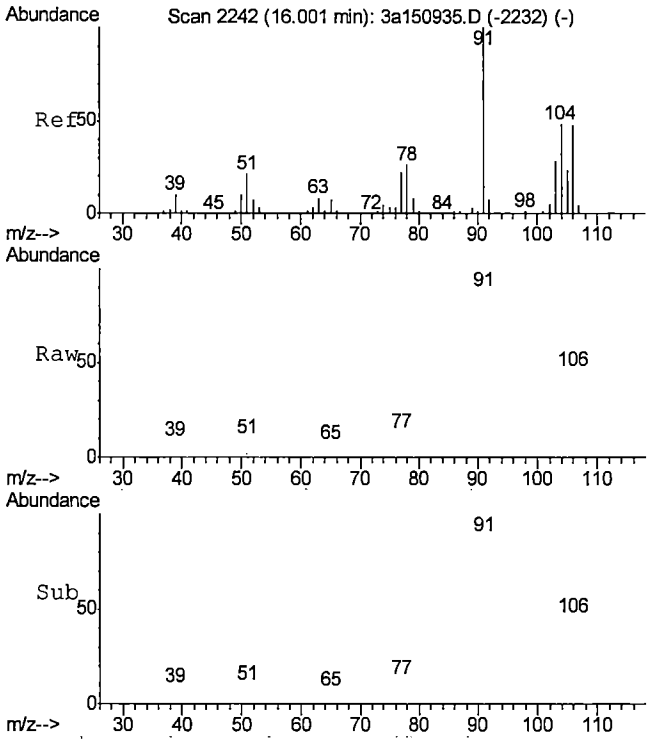
Tgt Ion:106 Resp: 22339

Ion	Ratio	Lower	Upper
106	100		
91	200.8	168.3	228.3



7.1.2 7

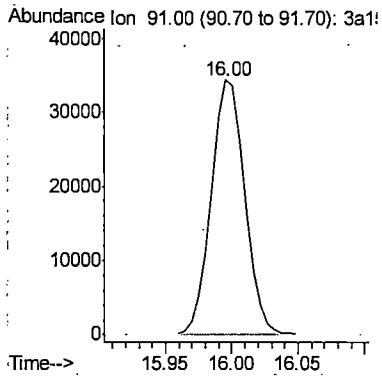
SGS ACCUTEST JC20563



#99
o-xylene
Concen: 6.01 ug/L
RT: 16.00 min Scan# 2241
Delta R.T. -0.01 min
Lab File: 3a150997.D
Acq: 25 May 2016 2:33 pm

Tgt Ion: 91 Resp: 60515

Ion	Ratio	Lower	Upper
91	100		
106	46.2	17.2	77.2



7.1.2

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a150998.D
Acq On : 25 May 2016 3:03 pm
Operator : tracyk
Sample : jc20563-2
Misc : MS2365,V3A6509,5,,,,500
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 25 15:28:42 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 09:06:14 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.52	65	166136	500.00 ug/L	0.00
5) pentafluorobenzene	11.03	168	198679	50.00 ug/L	0.00
55) 1,4-difluorobenzene	12.01	114	294938	50.00 ug/L	0.00
87) chlorobenzene-d5	15.34	117	285221	50.00 ug/L	0.00
102) 1,4-dichlorobenzene-d4	17.86	152	167480	50.00 ug/L	0.00
System Monitoring Compounds					
49) dibromofluoromethane (s)	11.07	113	96749	49.96 ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 99.92%		
50) 1,2-dichloroethane-d4 (s)	11.52	65	113080	50.33 ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 100.66%		
79) toluene-d8 (s)	13.72	98	332030	50.27 ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 100.54%		
104) 4-bromofluorobenzene (s)	16.59	95	153475	50.72 ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 101.44%		
Target Compounds					Qvalue
22) 1,1-dichloroethene	7.76	61	12548	3.41 ug/L	94
35) 1,1-dichloroethane	9.67	63	1243	0.30 ug/L	87
42) cis-1,2-dichloroethene	10.45	96	3323	1.21 ug/L	98
53) 1,1,1-trichloroethane	11.13	97	97959	32.64 ug/L	98
98) m,p-xylene	15.57	106	1944	0.42 ug/L	99
99) o-xylene	16.00	91	5819	0.57 ug/L	97

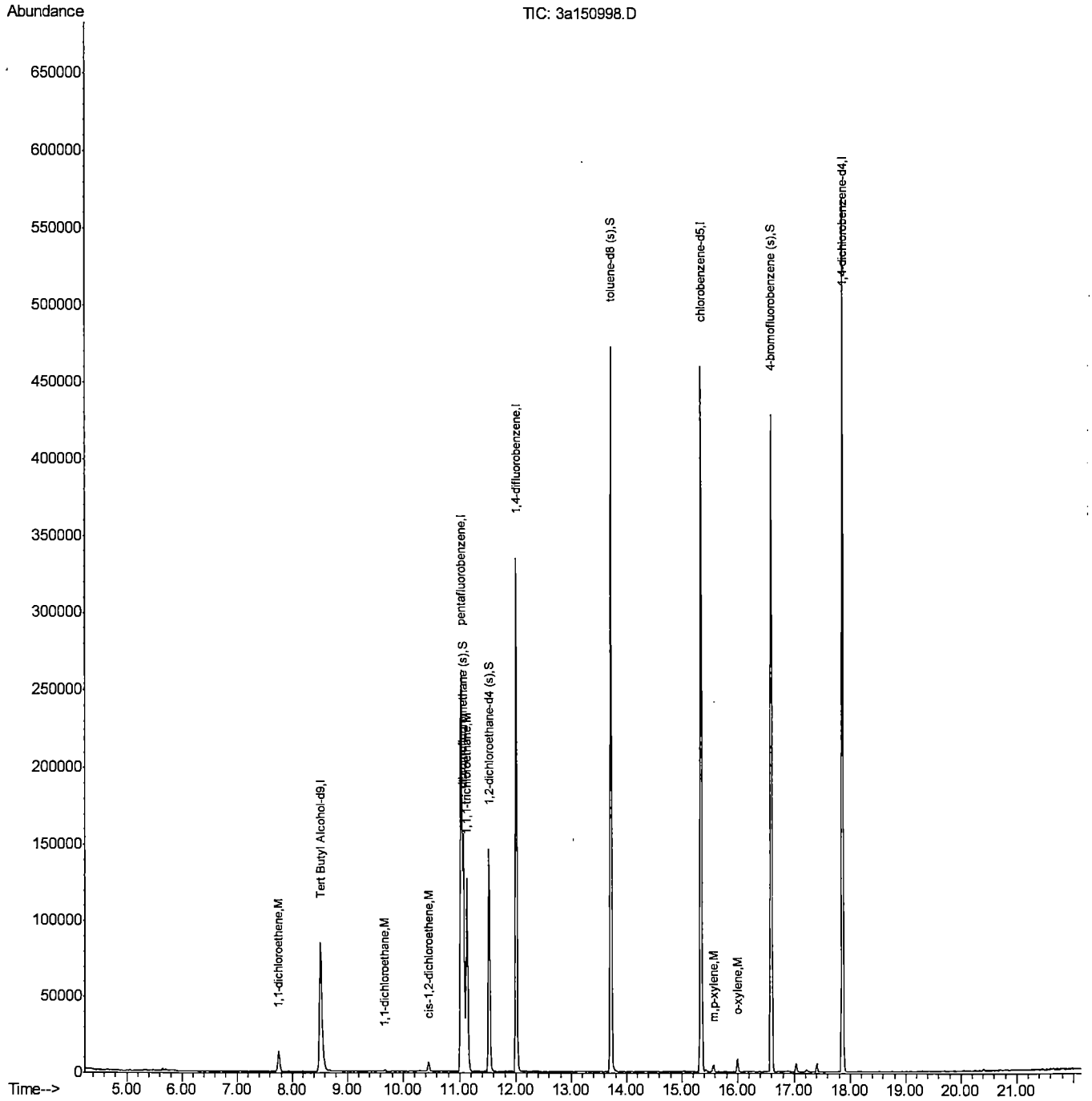
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.3 7

Quantitation Report (QT Reviewed)

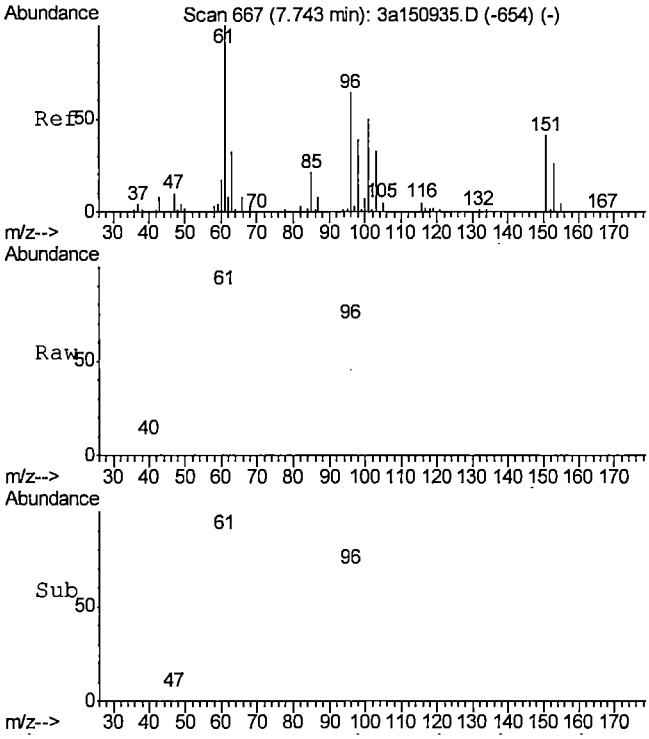
Data Path : C:\MSDChem\1\DATA\
Data File : 3a150998.D
Acq On : 25 May 2016 3:03 pm
Operator : tracyk
Sample : jc20563-2
Misc : MS2365,V3A6509,5,,,,500
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 25 15:28:42 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 09:06:14 2016
Response via : Initial Calibration



M3A6507.M Wed May 25 15:28:52 2016 ACCUNJ

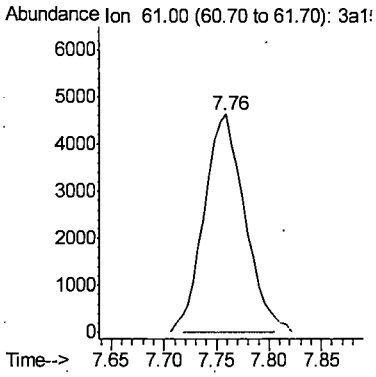
Page: 2

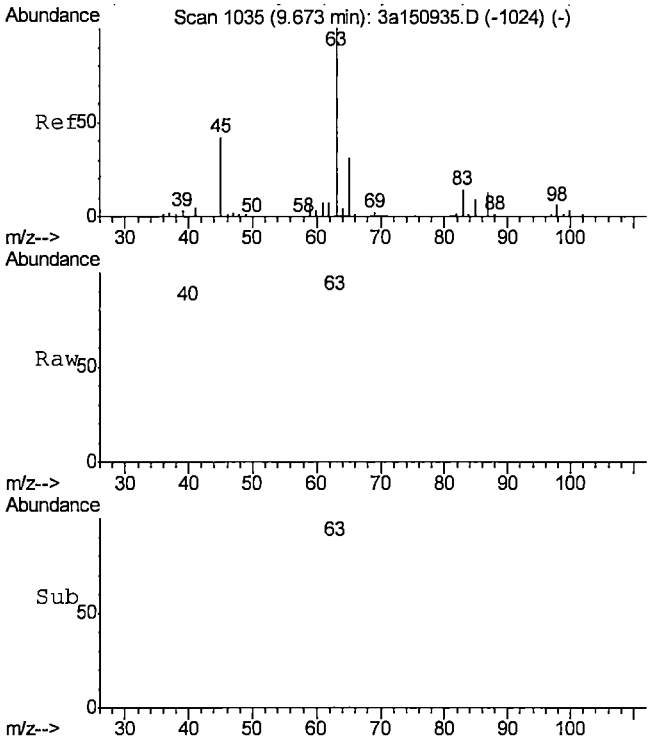


#22
1,1-dichloroethene
Concen: 3.41 ug/L
RT: 7.76 min Scan# 670
Delta R.T. 0.02 min
Lab File: 3a150998.D
Acq: 25 May 2016 3:03 pm

Tgt Ion: 61 Resp: 12548

Ion	Ratio	Lower	Upper
61	100		
96	70.1	33.6	93.6
63	31.6	1.9	61.9

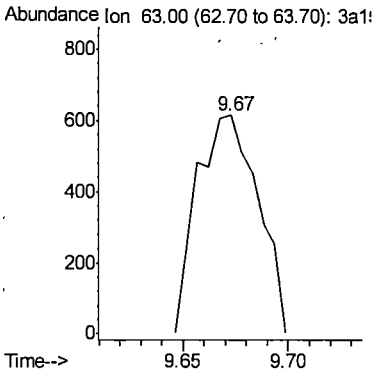




#35
1,1-dichloroethane
Concen: 0.30 ug/L
RT: 9.67 min Scan# 1035
Delta R.T. -0.00 min
Lab File: 3a150998.D
Acq: 25 May 2016 3:03 pm

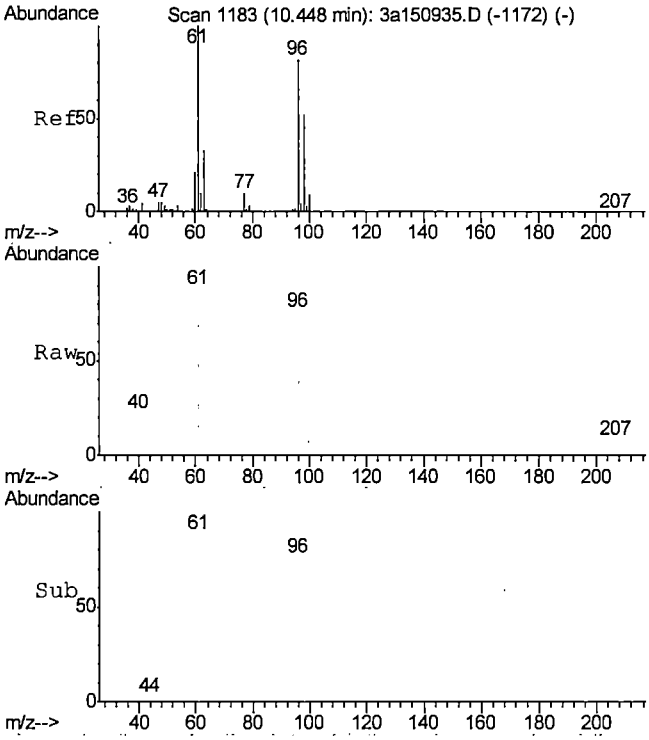
Tgt Ion: 63 Resp: 1243

Ion	Ratio	Lower	Upper
63	100		
65	32.5	0.9	60.9
83	0.0	0.0	43.9



7.1.3

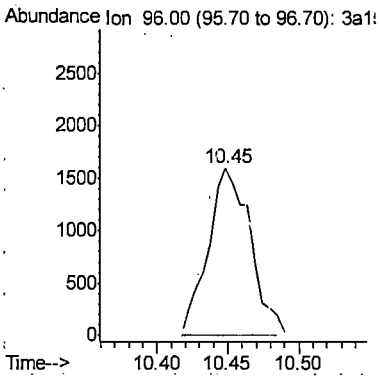
7

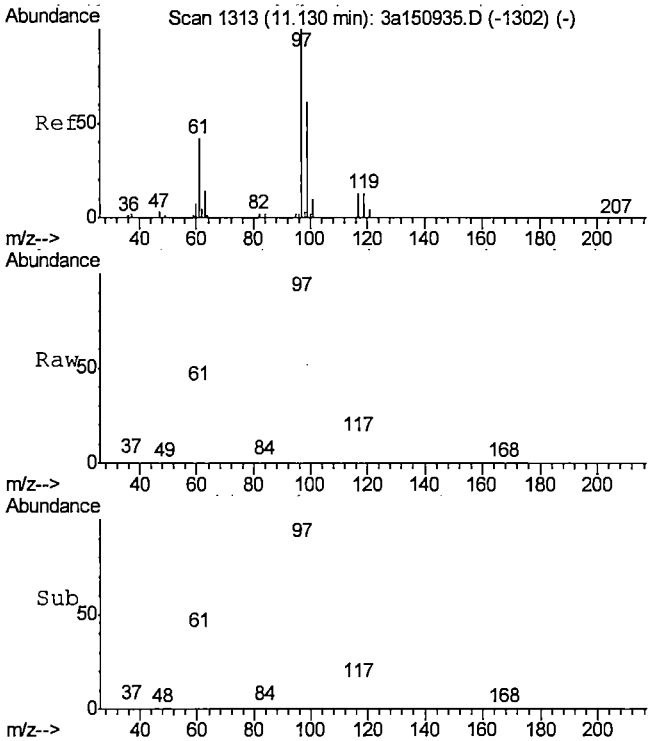


#42
cis-1,2-dichloroethene
Concen: 1.21 ug/L
RT: 10.45 min Scan# 1183
Delta R.T. -0.00 min
Lab File: 3a150998.D
Acq: 25 May 2016 3:03 pm

Tgt Ion: 96 Resp: 3323

Ion	Ratio	Lower	Upper
96	100		
61	130.9	98.9	158.9
98	61.8	33.4	93.4

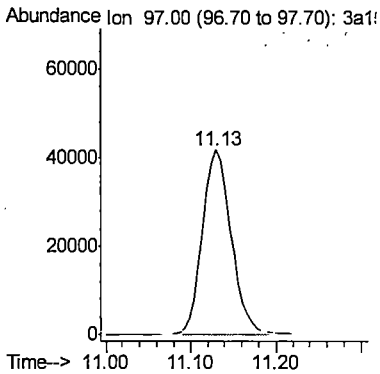




#53
1,1,1-trichloroethane
Concen: 32.64 ug/L
RT: 11.13 min Scan# 1313
Delta R.T. -0.00 min
Lab File: 3a150998.D
Acq: 25 May 2016 3:03 pm

Tgt Ion: 97 Resp: 97959

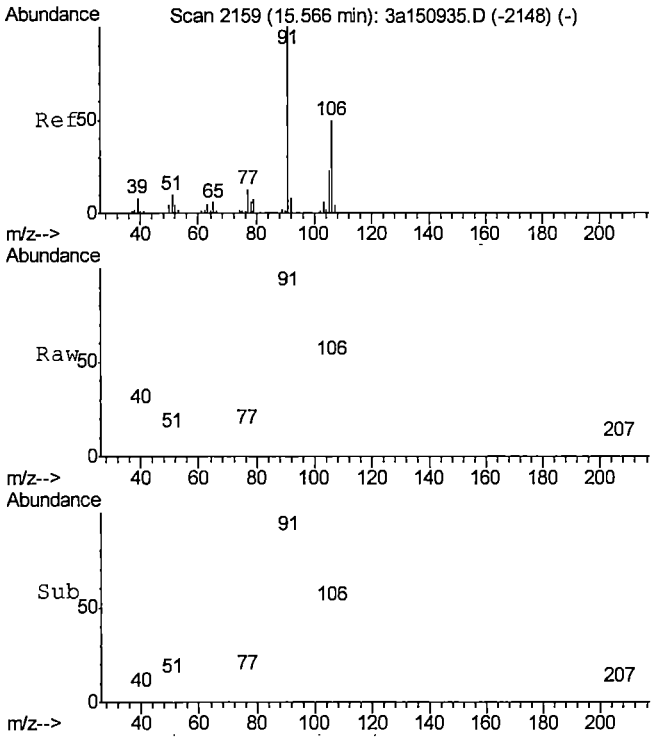
Ion	Ratio	Lower	Upper
97	100		
99	65.6	33.9	93.9
61	40.7	11.7	71.7



7.1.3

7

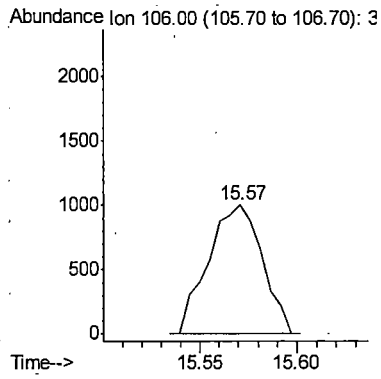
SGS ACCUTEST JC20563

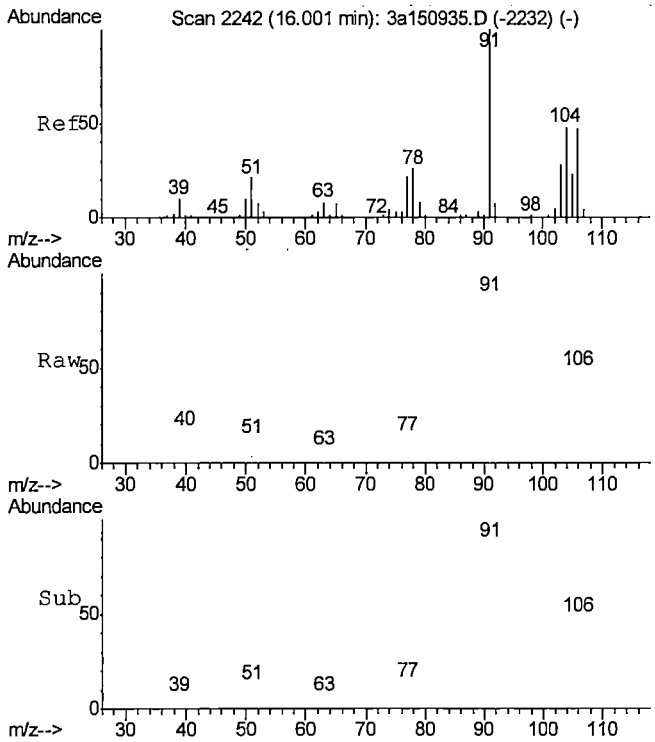


#98
m,p-xylene
Concen: 0.42 ug/L
RT: 15.57 min Scan# 2160
Delta R.T. 0.01 min
Lab File: 3a150998.D
Acq: 25 May 2016 3:03 pm

Tgt Ion:106 Resp: 1944

Ion	Ratio	Lower	Upper
106	100		
91	196.7	168.3	228.3

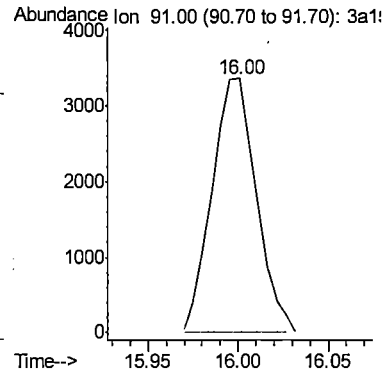




#99
o-xylene
Concen: 0.57 ug/L
RT: 16.00 min Scan# 2242
Delta R.T. -0.00 min
Lab File: 3a150998.D
Acq: 25 May 2016 3:03 pm

Tgt Ion: 91 Resp: 5819

Ion	Ratio	Lower	Upper
91	100		
106	49.5	17.2	77.2



7.1.3

7

SGS ACCUTEST JC20563

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 3a150978.D
Acq On : 25 May 2016 3:45 am
Operator : tracyk
Sample : jc20563-3
Misc : MS2365,V3A6509,5,,,,1
ALS Vial : 36 Sample Multiplier: 1

Quant Time: May 25 09:53:20 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 09:06:14 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.51	65	128249	500.00 ug/L	0.00
5) pentafluorobenzene	11.03	168	200088	50.00 ug/L	0.00
55) 1,4-difluorobenzene	12.01	114	291056	50.00 ug/L	0.00
87) chlorobenzene-d5	15.34	117	285846	50.00 ug/L	0.00
102) 1,4-dichlorobenzene-d4	17.86	152	169521	50.00 ug/L	0.00
System Monitoring Compounds					
49) dibromofluoromethane (s)	11.07	113	97923	50.21 ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 100.42%		
50) 1,2-dichloroethane-d4 (s)	11.52	65	111665	49.35 ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 98.70%		
79) toluene-d8 (s)	13.72	98	327586	50.26 ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 100.52%		
104) 4-bromofluorobenzene (s)	16.59	95	156636	51.14 ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 102.28%		
Target Compounds					Qvalue
22) 1,1-dichloroethene	7.75	61	56618	15.27 ug/L	99
35) 1,1-dichloroethane	9.67	63	18587	4.42 ug/L	98
42) cis-1,2-dichloroethene	10.45	96	12999	4.71 ug/L	97
53) 1,1,1-trichloroethane	11.13	97	465864	154.14 ug/L	98
69) trichloroethene	12.33	95	3744	1.59 ug/L	97

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

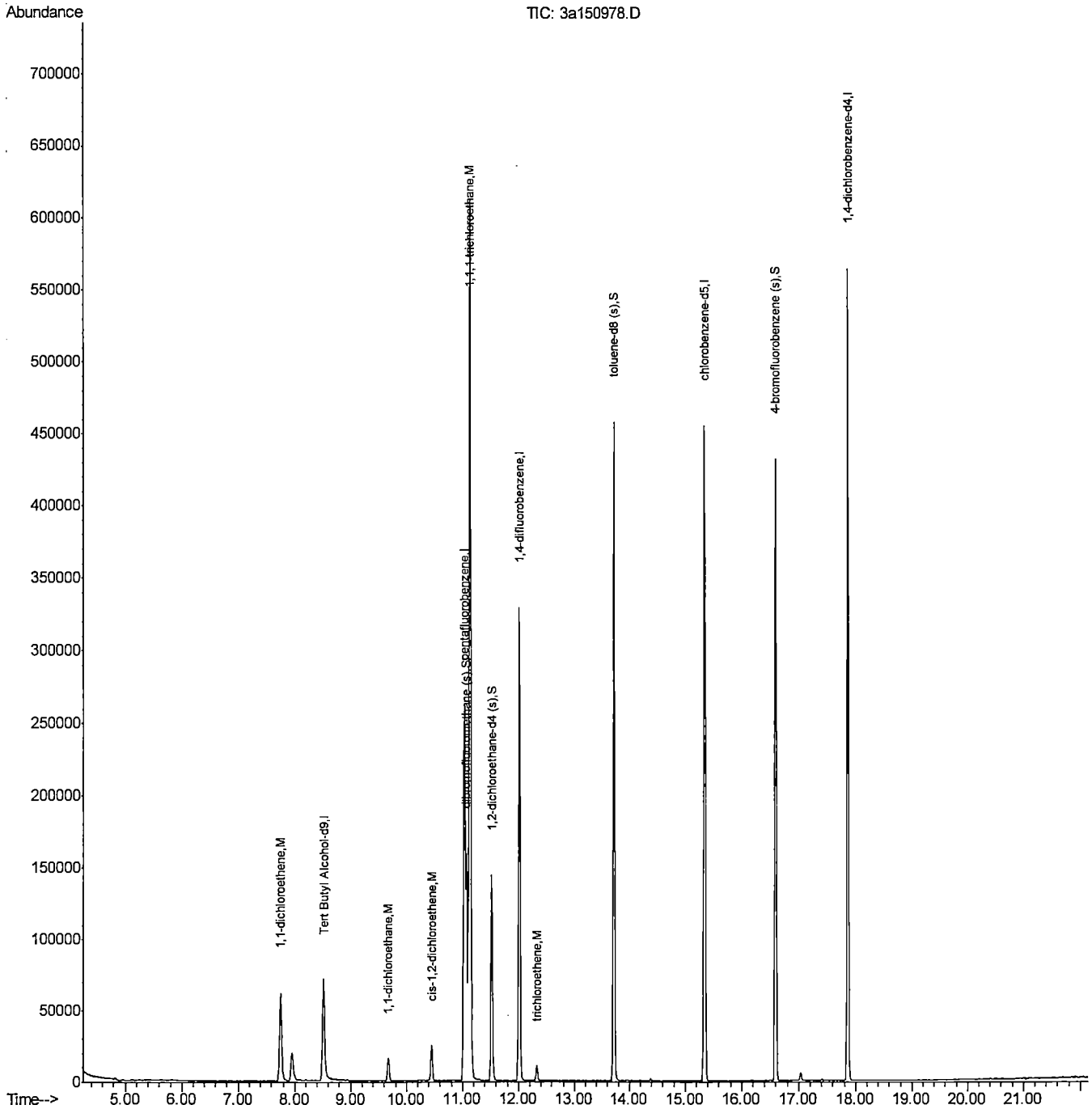
7.1.4

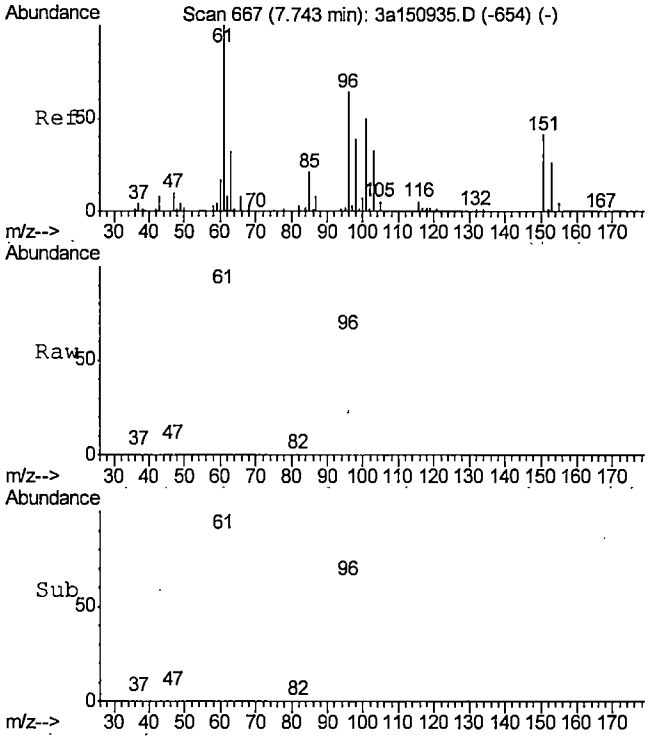
7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 3a150978.D
Acq On : 25 May 2016 3:45 am
Operator : tracyk
Sample : jc20563-3
Misc : MS2365,V3A6509,5,,,,1
ALS Vial : 36 Sample Multiplier: 1

Quant Time: May 25 09:53:20 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 09:06:14 2016
Response via : Initial Calibration

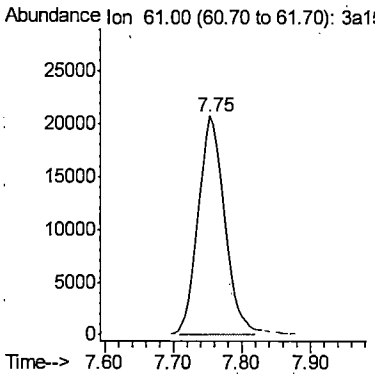


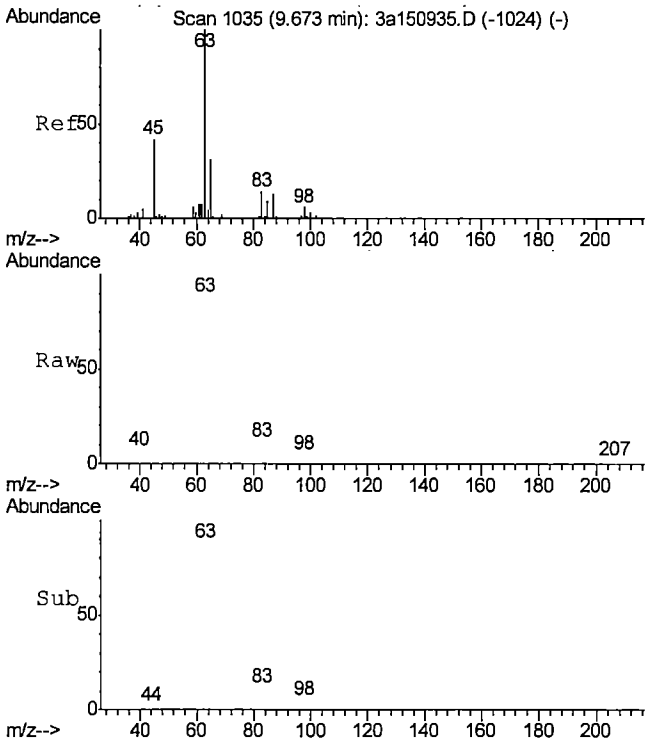


#22
1,1-dichloroethene
Concen: 15.27 ug/L
RT: 7.75 min Scan# 669
Delta R.T. 0.01 min
Lab File: 3a150978.D
Acq: 25 May 2016 3:45 am

Tgt Ion: 61 Resp: 56618

Ion	Ratio	Lower	Upper
61	100		
96	64.0	33.6	93.6
63	32.9	1.9	61.9

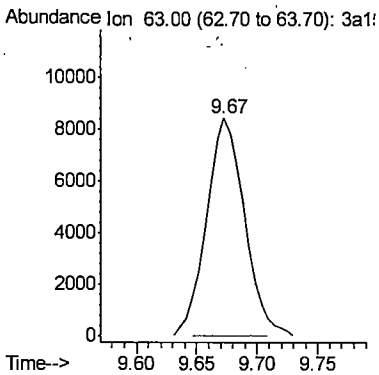




#35
1,1-dichloroethane
Concen: 4.42 ug/L
RT: 9.67 min Scan# 1035
Delta R.T. -0.00 min
Lab File: 3a150978.D
Acq: 25 May 2016 3:45 am

Tgt Ion: 63 Resp: 18587

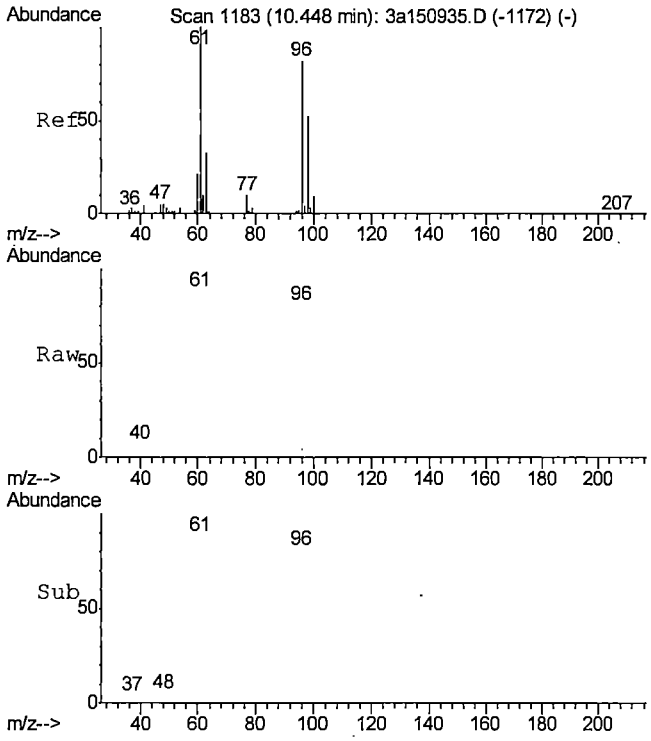
Ion	Ratio	Lower	Upper
63	100		
65	31.1	0.9	60.9
83	12.3	0.0	43.9



7.1.4

7

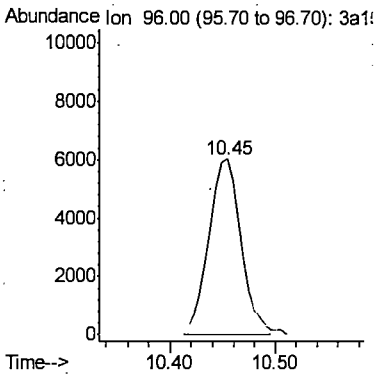
SGS ACCUTEST JC20563

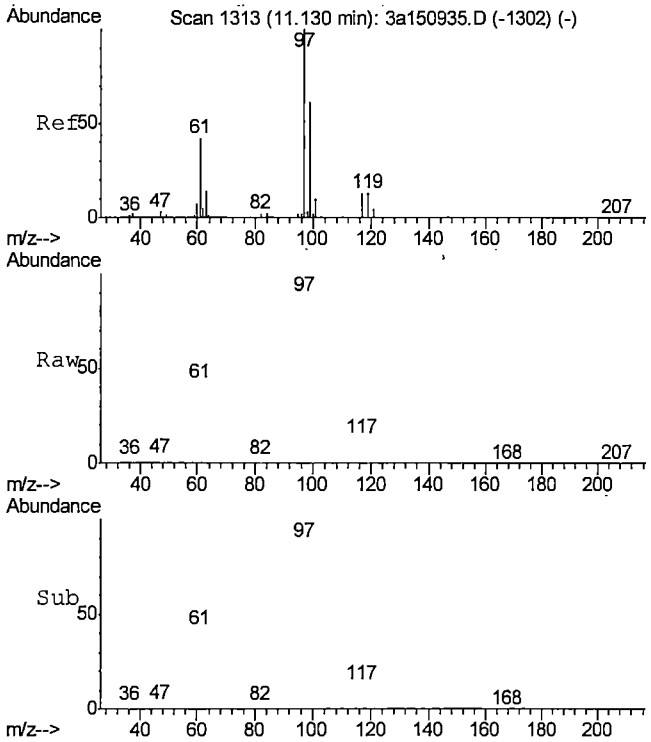


#42
cis-1,2-dichloroethene
Concen: 4.71 ug/L
RT: 10.45 min Scan# 1184
Delta R.T. 0.01 min
Lab File: 3a150978.D
Acq: 25 May 2016 3:45 am

Tgt Ion: 96 Resp: 12999

Ion	Ratio	Lower	Upper
96	100		
61	123.7	98.9	158.9
98	63.7	33.4	93.4

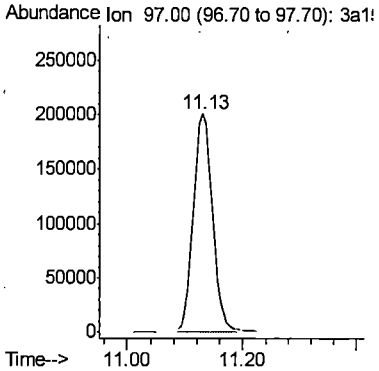




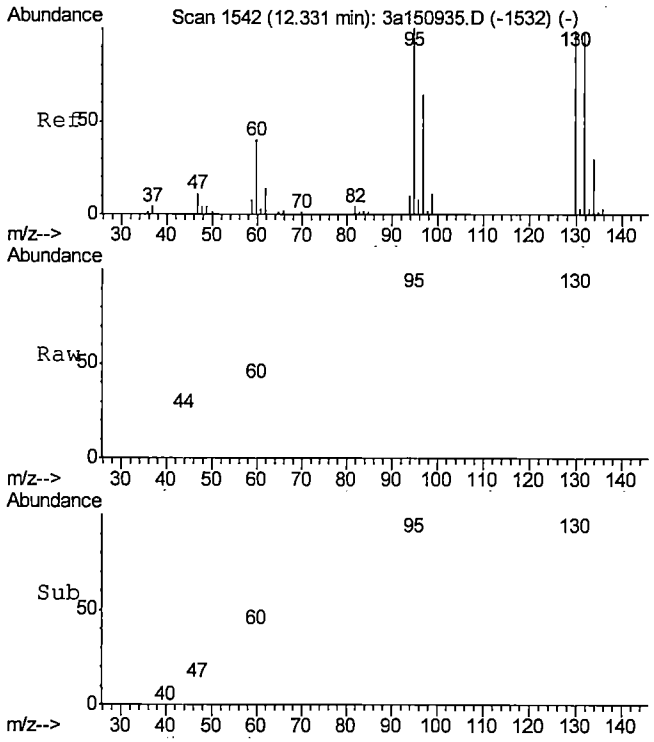
#53
1,1,1-trichloroethane
Concen: 154.14 ug/L
RT: 11.13 min Scan# 1313
Delta R.T. -0.00 min
Lab File: 3a150978.D
Acq: 25 May 2016 3:45 am

Tgt Ion: 97 Resp: 465864

Ion	Ratio	Lower	Upper
97	100		
99	66.4	33.9	93.9
61	42.1	11.7	71.7



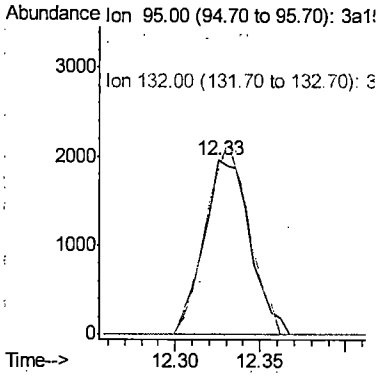
7.1.4 7



#69
trichloroethene
Concen: 1.59 ug/L
RT: 12.33 min Scan# 1541
Delta R.T. -0.01 min
Lab File: 3a150978.D
Acq: 25 May 2016 3:45 am

Tgt Ion: 95 Resp: 3744

Ion	Ratio	Lower	Upper
95	100		
97	60.7	33.6	93.6
130	96.2	69.4	129.4
132	94.5	67.1	127.1



7.1.4

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 3a150979.D
Acq On : 25 May 2016 4:15 am
Operator : tracyk
Sample : jc20563-4
Misc : MS2365,V3A6509,5,,,,1
ALS Vial : 37 Sample Multiplier: 1

Quant Time: May 25 09:54:46 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 09:06:14 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.52	65	176322	500.00 ug/L	0.00
5) pentafluorobenzene	11.03	168	200863	50.00 ug/L	0.00
55) 1,4-difluorobenzene	12.01	114	287203	50.00 ug/L	0.00
87) chlorobenzene-d5	15.34	117	284707	50.00 ug/L	0.00
102) 1,4-dichlorobenzene-d4	17.86	152	170597	50.00 ug/L	0.00
System Monitoring Compounds					
49) dibromofluoromethane (s)	11.07	113	99168	50.65 ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 101.30%		
50) 1,2-dichloroethane-d4 (s)	11.52	65	112207	49.40 ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 98.80%		
79) toluene-d8 (s)	13.72	98	325571	50.62 ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 101.24%		
104) 4-bromofluorobenzene (s)	16.59	95	153958	49.95 ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 99.90%		
Target Compounds					Qvalue
22) 1,1-dichloroethene	7.75	61	3697	0.99 ug/L	92
35) 1,1-dichloroethane	9.67	63	2921	0.69 ug/L	92
42) cis-1,2-dichloroethene	10.45	96	2660	0.96 ug/L	81
53) 1,1,1-trichloroethane	11.13	97	43296	14.27 ug/L	98
69) trichloroethene	12.33	95	1840	0.79 ug/L	97

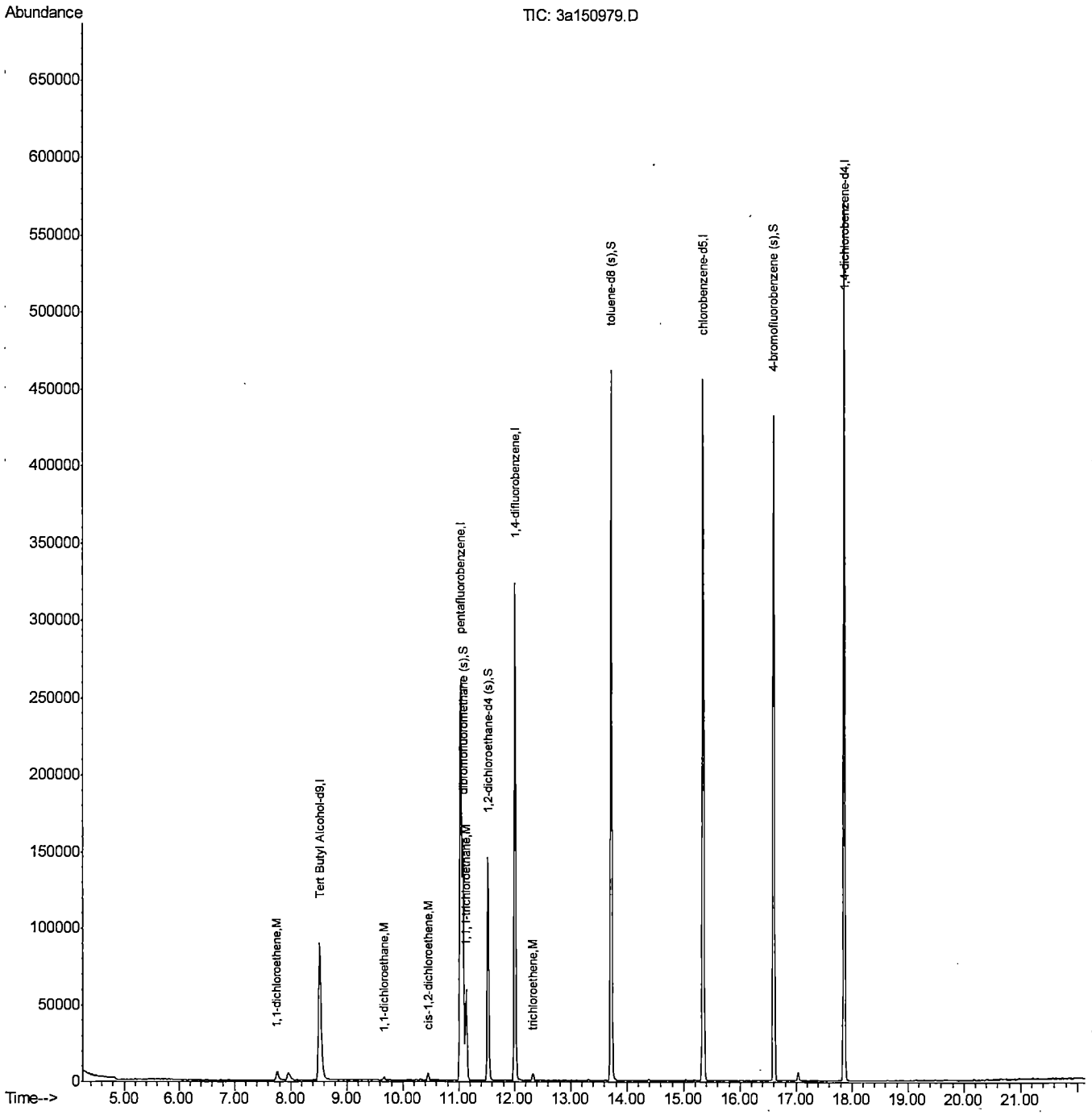
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.5 7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 3a150979.D
Acq On : 25 May 2016 4:15 am
Operator : tracyk
Sample : jc20563-4
Misc : MS2365,V3A6509,5,,,,1
ALS Vial : 37 Sample Multiplier: 1

Quant Time: May 25 09:54:46 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 09:06:14 2016
Response via : Initial Calibration



M3A6507.M Wed May 25 09:54:52 2016 ACCUNJ

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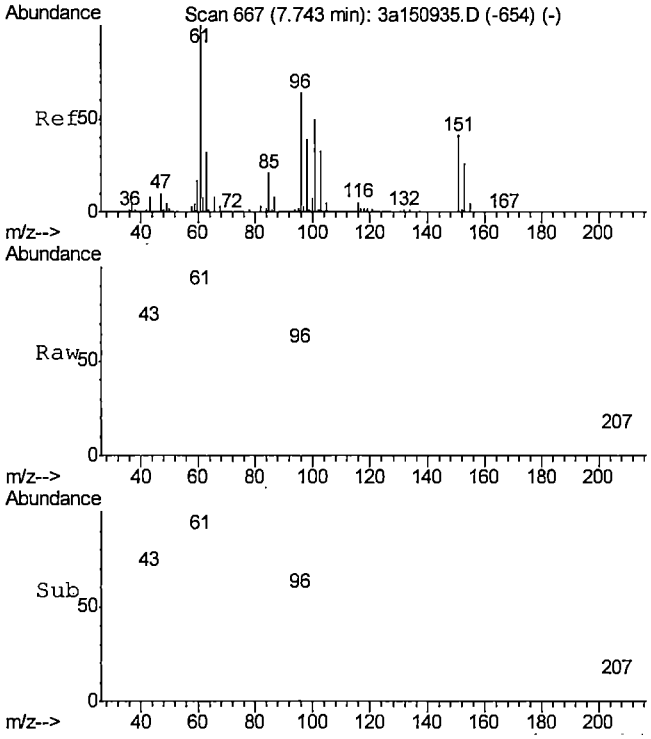
7.1.5

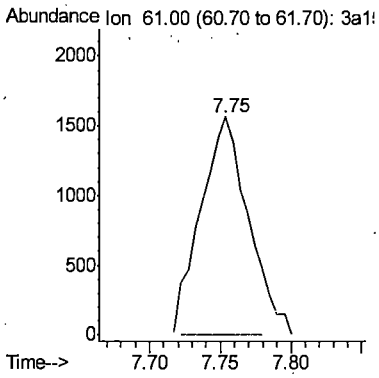
7

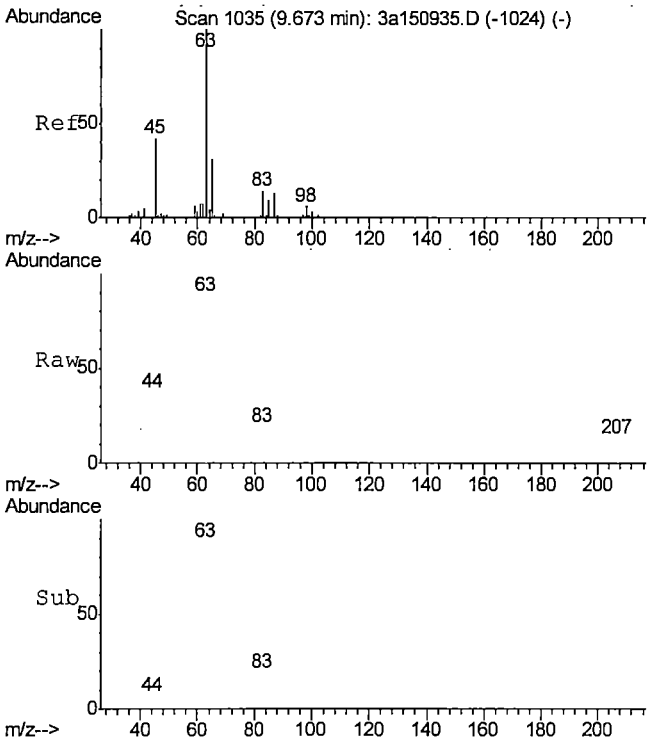


#22
1,1-dichloroethene
Concen: 0.99 ug/L
RT: 7.75 min Scan# 669
Delta R.T. 0.01 min
Lab File: 3a150979.D
Acq: 25 May 2016 4:15 am

Tgt Ion: 61 Resp: 3697

Ion	Ratio	Lower	Upper
61	100		
96	56.6	33.6	93.6
63	28.7	1.9	61.9

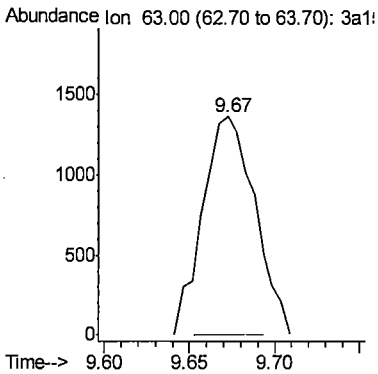




#35
1,1-dichloroethane
Concen: 0.69 ug/L
RT: 9.67 min Scan# 1035
Delta R.T. -0.00 min
Lab File: 3a150979.D
Acq: 25 May 2016 4:15 am

Tgt Ion: 63 Resp: 2921

Ion	Ratio	Lower	Upper
63	100		
65	33.9	0.9	60.9
83	19.4	0.0	43.9



7.1.5

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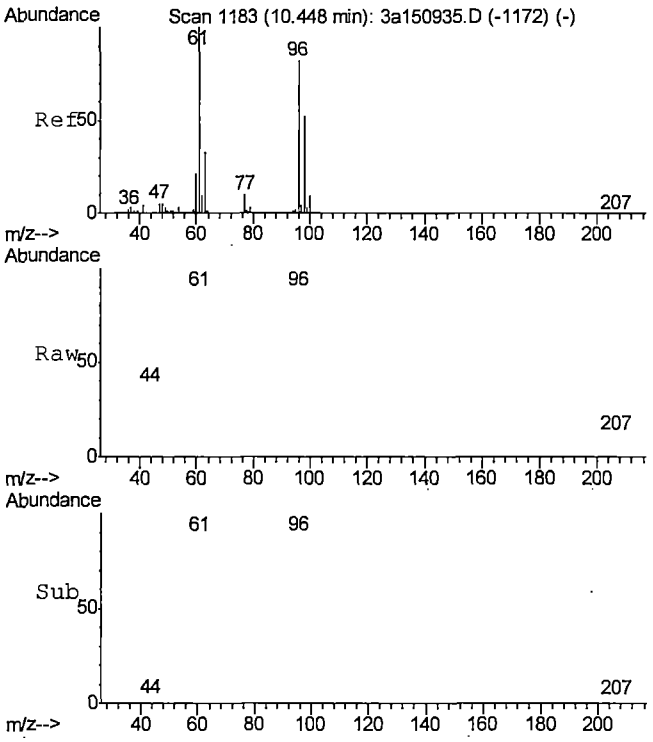
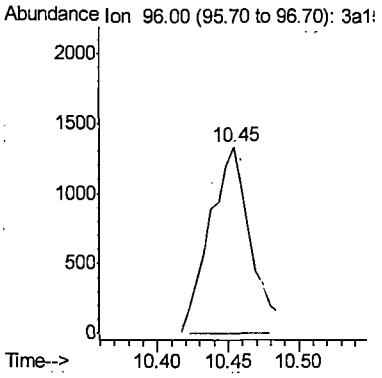
SGS ACCUTEST JC20563

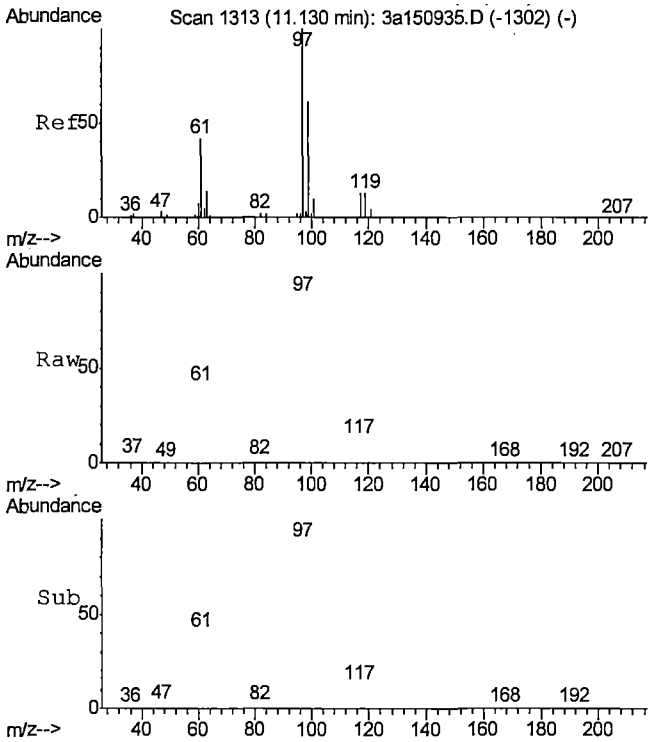


#42
cis-1,2-dichloroethene
Concen: 0.96 ug/L
RT: 10.45 min Scan# 1184
Delta R.T. 0.01 min
Lab File: 3a150979.D
Acq: 25 May 2016 4:15 am

Tgt Ion: 96 Resp: 2660

Ion	Ratio	Lower	Upper
96	100		
61	106.0	98.9	158.9
98	49.6	33.4	93.4

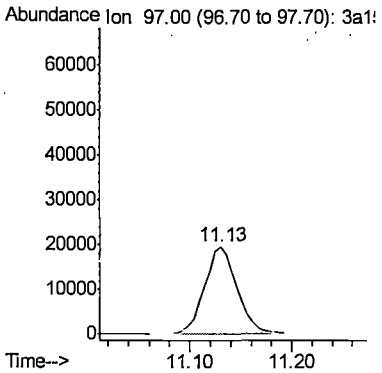




#53
1,1,1-trichloroethane
Concen: 14.27 ug/L
RT: 11.13 min Scan# 1313
Delta R.T. -0.00 min
Lab File: 3a150979.D
Acq: 25 May 2016 4:15 am

Tgt Ion: 97 Resp: 43296

Ion	Ratio	Lower	Upper
97	100		
99	61.8	33.9	93.9
61	41.4	11.7	71.7



7.1.5

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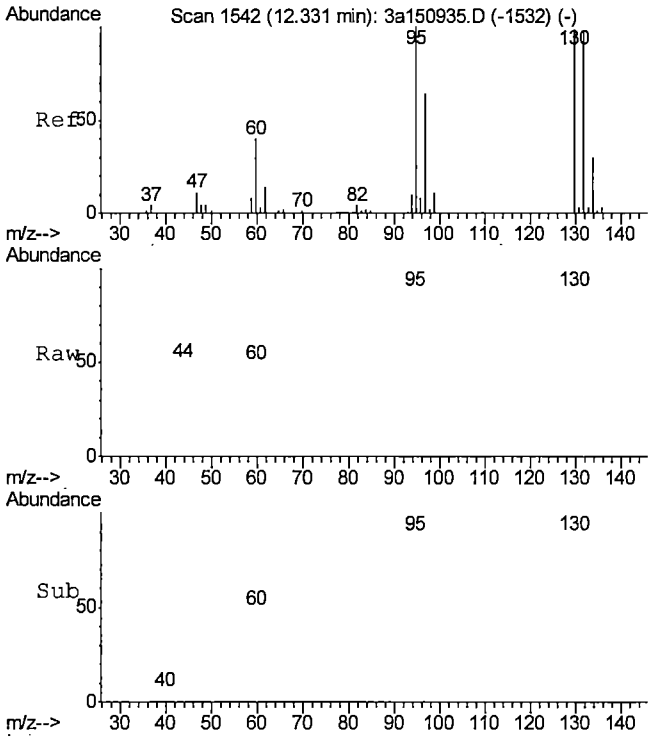
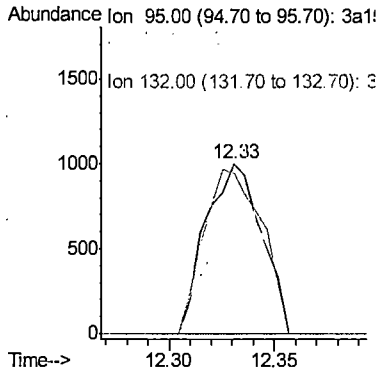
SGS ACCUTEST JC20563



#69
trichloroethene
Concen: 0.79 ug/L
RT: 12.33 min Scan# 1542
Delta R.T. -0.00 min
Lab File: 3a150979.D
Acq: 25 May 2016 4:15 am

Tgt Ion: 95 Resp: 1840

Ion	Ratio	Lower	Upper
95	100		
97	68.8	33.6	93.6
130	97.8	69.4	129.4
132	94.8	67.1	127.1



7.1.5

7

SGS ACCUTEST JC20563

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 3a150980.D
Acq On : 25 May 2016 4:44 am
Operator : tracyk
Sample : jc20563-5
Misc : MS2365,V3A6509,5,,,,1
ALS Vial : 38 Sample Multiplier: 1

Quant Time: May 25 09:55:30 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 09:06:14 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.52	65	164166	500.00 ug/L	0.00
5) pentafluorobenzene	11.03	168	197898	50.00 ug/L	0.00
55) 1,4-difluorobenzene	12.01	114	285103	50.00 ug/L	0.00
87) chlorobenzene-d5	15.34	117	276981	50.00 ug/L	0.00
102) 1,4-dichlorobenzene-d4	17.86	152	167994	50.00 ug/L	0.00

System Monitoring Compounds					
49) dibromofluoromethane (s)	11.07	113	96425	49.99 ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 99.98%		
50) 1,2-dichloroethane-d4 (s)	11.52	65	109733	49.04 ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 98.08%		
79) toluene-d8 (s)	13.72	98	318530	49.89 ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 99.78%		
104) 4-bromofluorobenzene (s)	16.59	95	150533	49.60 ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 99.20%		

Target Compounds					Qvalue
29) methylene chloride	8.58	84	2254	0.86 ug/L	93
47) chloroform	10.87	85	1854	0.67 ug/L	94

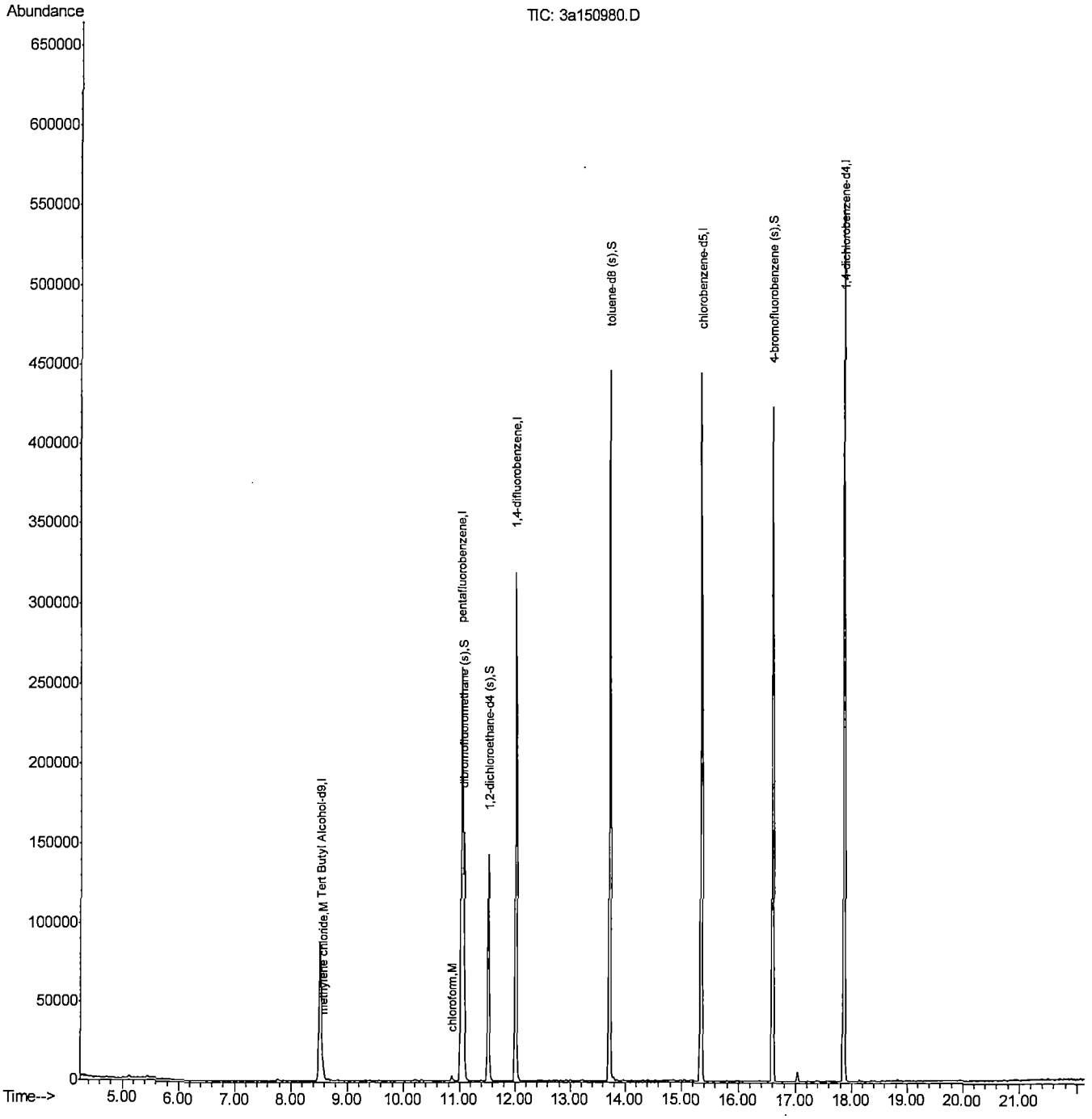
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.6 7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 3a150980.D
Acq On : 25 May 2016 4:44 am
Operator : tracyk
Sample : jc20563-5
Misc : MS2365,V3A6509,5,,,,1
ALS Vial : 38 Sample Multiplier: 1

Quant Time: May 25 09:55:30 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 09:06:14 2016
Response via : Initial Calibration



7.1.6

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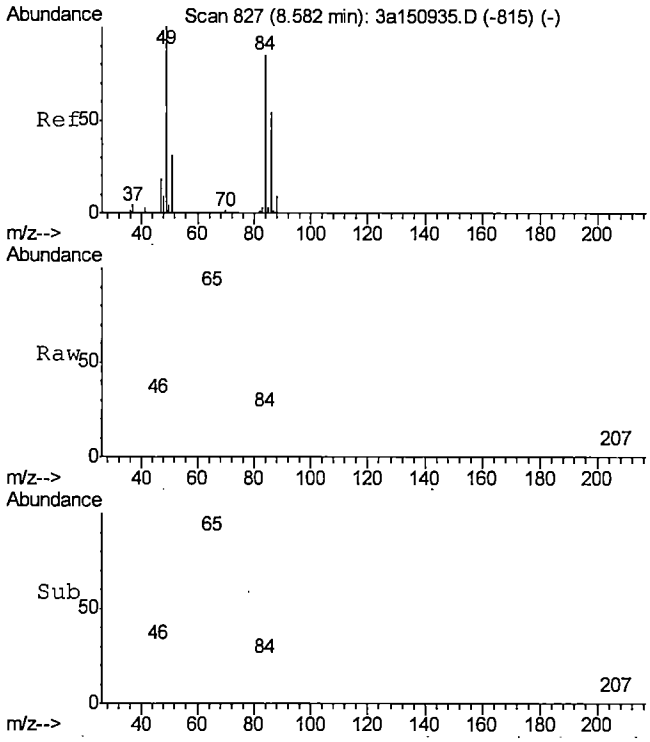
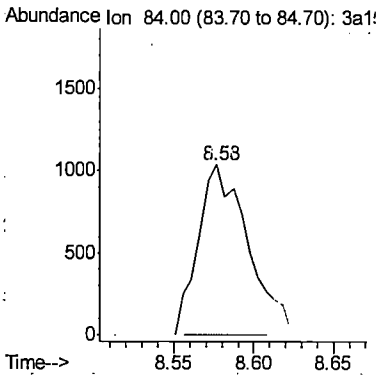
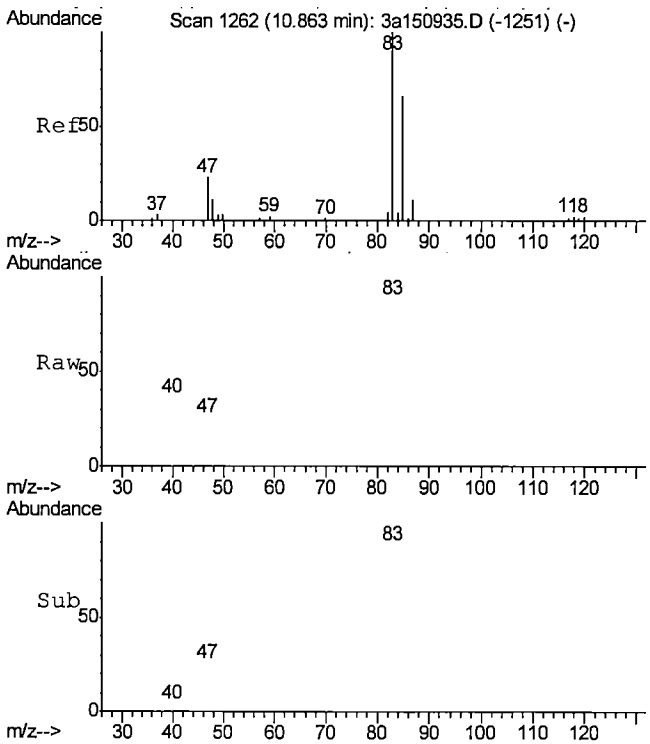


#29
methylene chloride
Concen: 0.86 ug/L
RT: 8.58 min Scan# 826
Delta R.T. -0.01 min
Lab File: 3a150980.D
Acq: 25 May 2016 4:44 am

Tgt Ion: 84 Resp: 2254

Ion	Ratio	Lower	Upper
84	100		
86	55.5	33.1	93.1
49	124.4	88.0	148.0

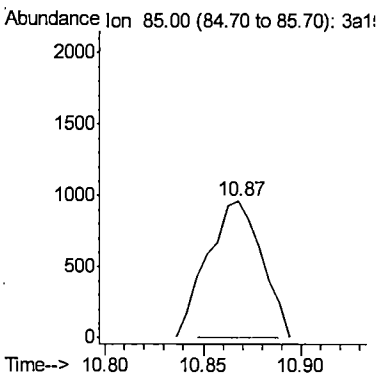




#47
chloroform
Concen: 0.67 ug/L
RT: 10.87 min Scan# 1263
Delta R.T. 0.01 min
Lab File: 3a150980.D
Acq: 25 May 2016 4:44 am

Tgt Ion: 85 Resp: 1854

Ion	Ratio	Lower	Upper
85	100		
83	143.5	121.7	181.7
47	37.4	5.2	65.2



7.1.6 7

SGS ACCUTEST JC20563

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a151003.D
Acq On : 25 May 2016 5:43 pm
Operator : tracyk
Sample : jc20563-6
Misc : MS2365,V3A6509,5,,,,1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: May 26 08:49:03 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 09:06:14 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.52	65	173099	500.00 ug/L	0.00
5) pentafluorobenzene	11.03	168	201102	50.00 ug/L	0.00
55) 1,4-difluorobenzene	12.01	114	297847	50.00 ug/L	0.00
87) chlorobenzene-d5	15.34	117	287073	50.00 ug/L	0.00
102) 1,4-dichlorobenzene-d4	17.86	152	168718	50.00 ug/L	0.00
System Monitoring Compounds					
49) dibromofluoromethane (s)	11.07	113	98251	50.12 ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 100.24%		
50) 1,2-dichloroethane-d4 (s)	11.52	65	114785	50.48 ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 100.96%		
79) toluene-d8 (s)	13.72	98	336166	50.40 ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 100.80%		
104) 4-bromofluorobenzene (s)	16.59	95	148965	48.87 ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 97.74%		
Target Compounds					Qvalue
23) acetone	7.77	58	25994	48.58 ug/L	87
35) 1,1-dichloroethane	9.67	63	2076	0.49 ug/L	80
53) 1,1,1-trichloroethane	11.12	97	2390	0.79 ug/L	98
88) tetrachloroethene	14.38	166	1883	0.55 ug/L	91

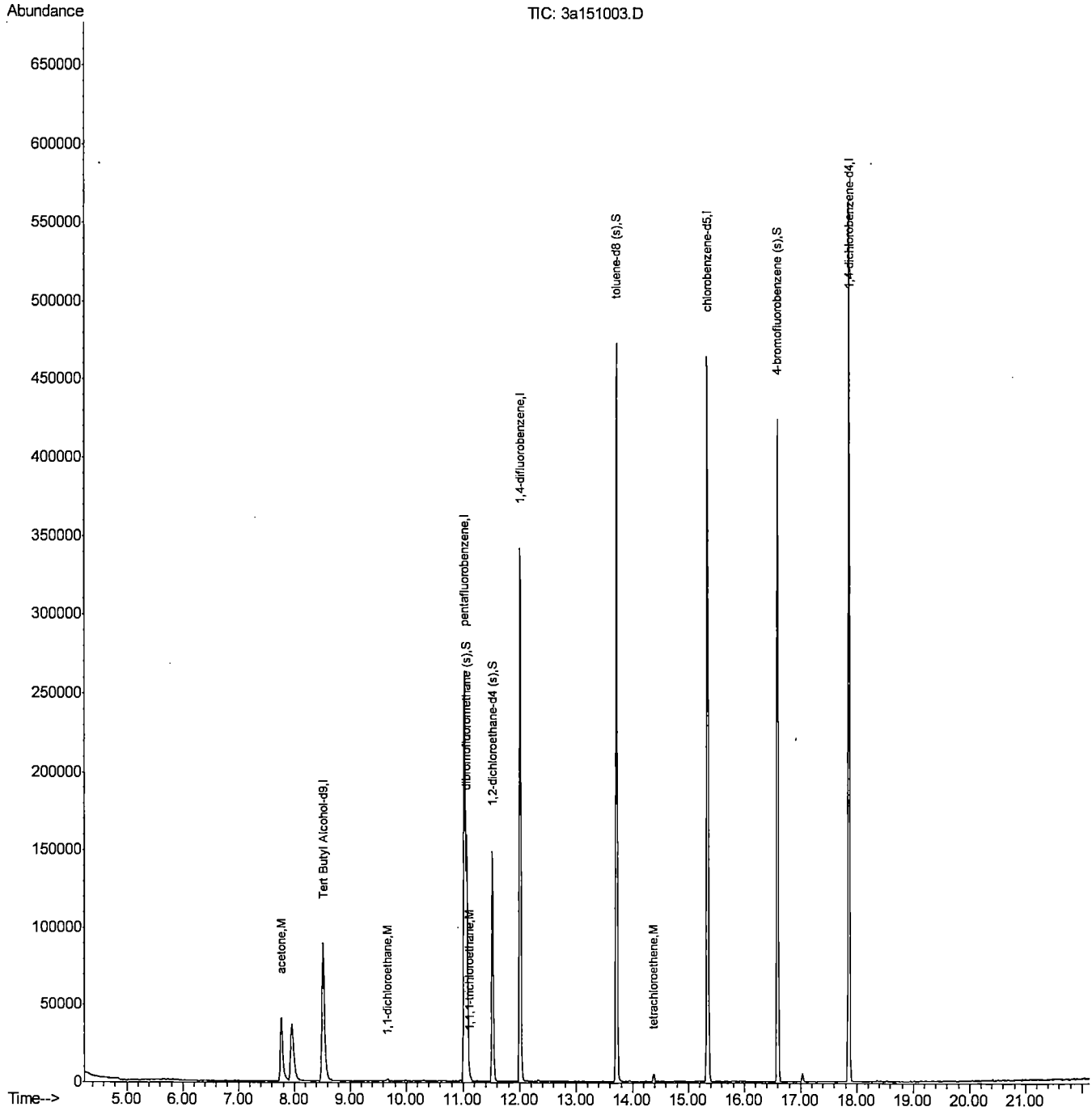
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a151003.D
Acq On : 25 May 2016 5:43 pm
Operator : tracyk
Sample : jc20563-6
Misc : MS2365,V3A6509,5,,,,1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: May 26 08:49:03 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 09:06:14 2016
Response via : Initial Calibration



M3A6507.M Thu May 26 08:49:40 2016 ACCUNJ

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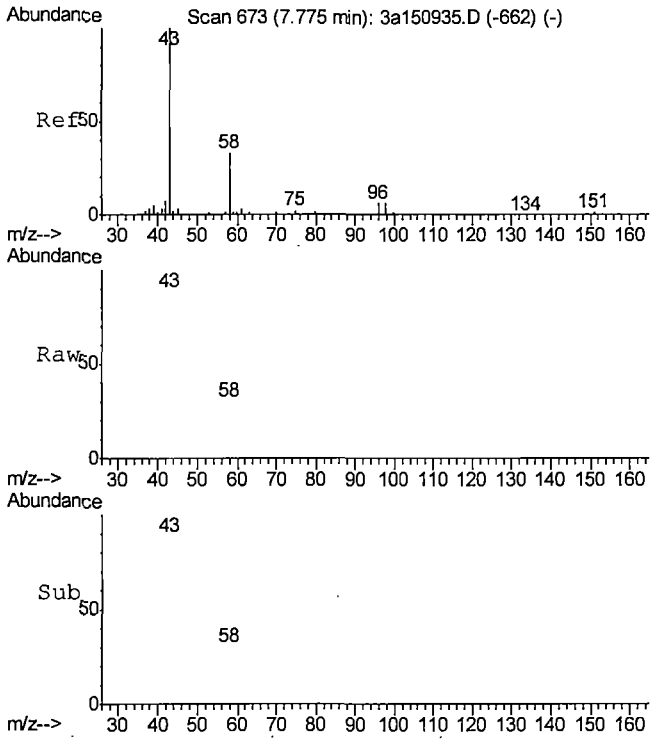
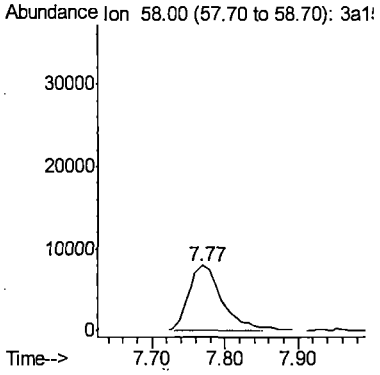
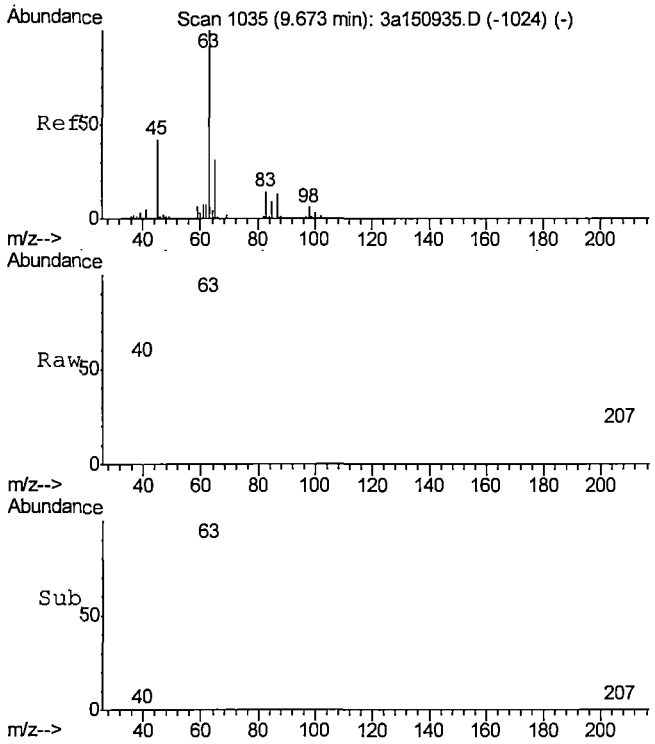


#23
acetone
Concen: 48.58 ug/L
RT: 7.77 min Scan# 672
Delta R.T. -0.01 min
Lab File: 3a151003.D
Acq: 25 May 2016 5:43 pm

Tgt Ion: 58 Resp: 25994

Ion	Ratio	Lower	Upper
58	100		
43	333.6	276.4	336.4
42	26.2	0.0	52.5

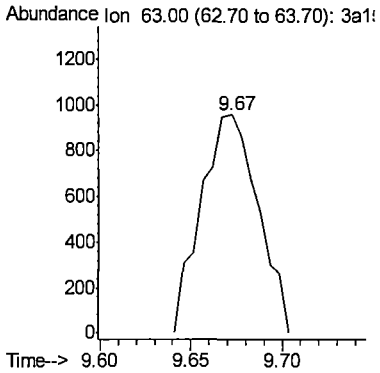




#35
1,1-dichloroethane
Concen: 0.49 ug/L
RT: 9.67 min Scan# 1035
Delta R.T. -0.00 min
Lab File: 3a151003.D
Acq: 25 May 2016 5:43 pm

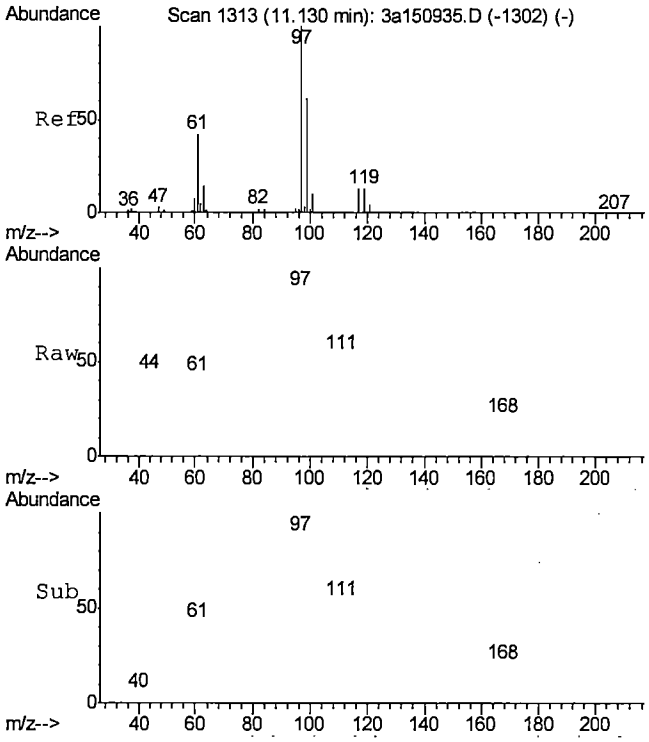
Tgt Ion: 63 Resp: 2076

Ion	Ratio	Lower	Upper
63	100		
65	38.6	0.9	60.9
83	0.0	0.0	43.9



7.1.7

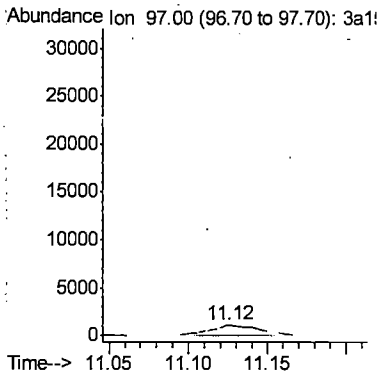
SGS ACCUTEST JC20563

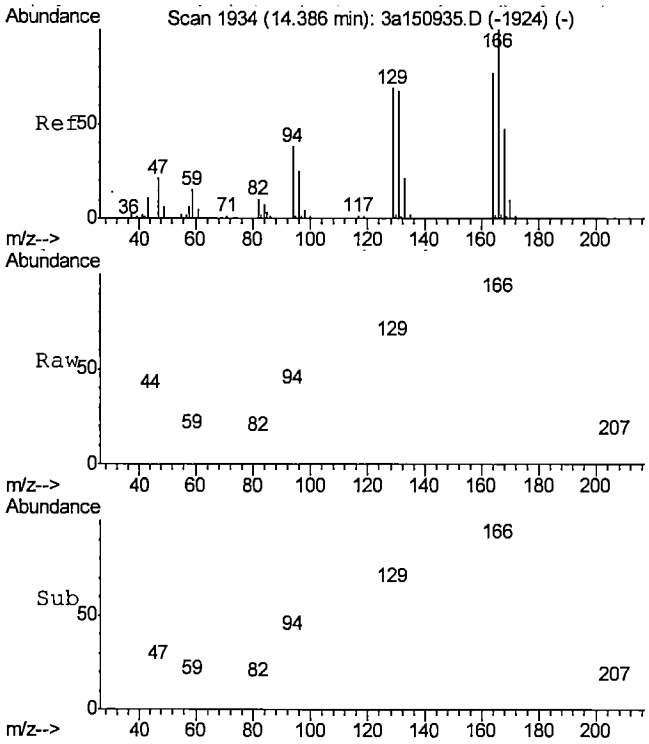


#53
1,1,1-trichloroethane
Concen: 0.79 ug/L
RT: 11.12 min Scan# 1312
Delta R.T. -0.01 min
Lab File: 3a151003.D
Acq: 25 May 2016 5:43 pm

Tgt Ion: 97 Resp: 2390

Ion	Ratio	Lower	Upper
97	100		
99	65.2	33.9	93.9
61	43.4	11.7	71.7

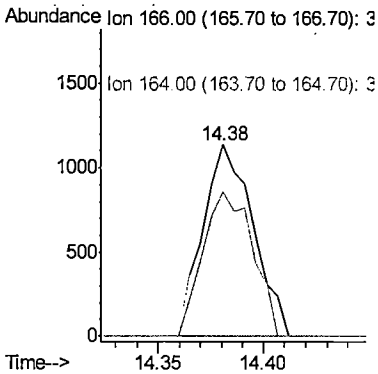




#88
tetrachloroethene
Concen: 0.55 ug/L
RT: 14.38 min Scan# 1933
Delta R.T. -0.01 min
Lab File: 3a151003.D
Acq: 25 May 2016 5:43 pm

Tgt Ion:166 Resp: 1883

Ion	Ratio	Lower	Upper
166	100		
129	64.9	38.9	98.9
131	49.6	37.1	97.1
164	75.4	47.4	107.4



7.1.7

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a151001.D
Acq On : 25 May 2016 4:43 pm
Operator : tracyk
Sample : jc20563-7
Misc : MS2365,V3A6509,5,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 26 08:45:52 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 09:06:14 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.51	65	169720	500.00 ug/L	0.00
5) pentafluorobenzene	11.03	168	206568	50.00 ug/L	0.00
55) 1,4-difluorobenzene	12.01	114	320747	50.00 ug/L	0.00
87) chlorobenzene-d5	15.34	117	302796	50.00 ug/L	0.00
102) 1,4-dichlorobenzene-d4	17.86	152	169480	50.00 ug/L	0.00
System Monitoring Compounds					
49) dibromofluoromethane (s)	11.07	113	97978	48.66 ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 97.32%		
50) 1,2-dichloroethane-d4 (s)	11.52	65	116159	49.73 ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 99.46%		
79) toluene-d8 (s)	13.72	98	361216	50.29 ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 100.58%		
104) 4-bromofluorobenzene (s)	16.59	95	152813	49.91 ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 99.82%		
Target Compounds					Qvalue
23) acetone	7.76	58	14685	26.72 ug/L	97
53) 1,1,1-trichloroethane	11.13	97	1136	0.36 ug/L	87
88) tetrachloroethene	14.38	166	1009	0.28 ug/L	93

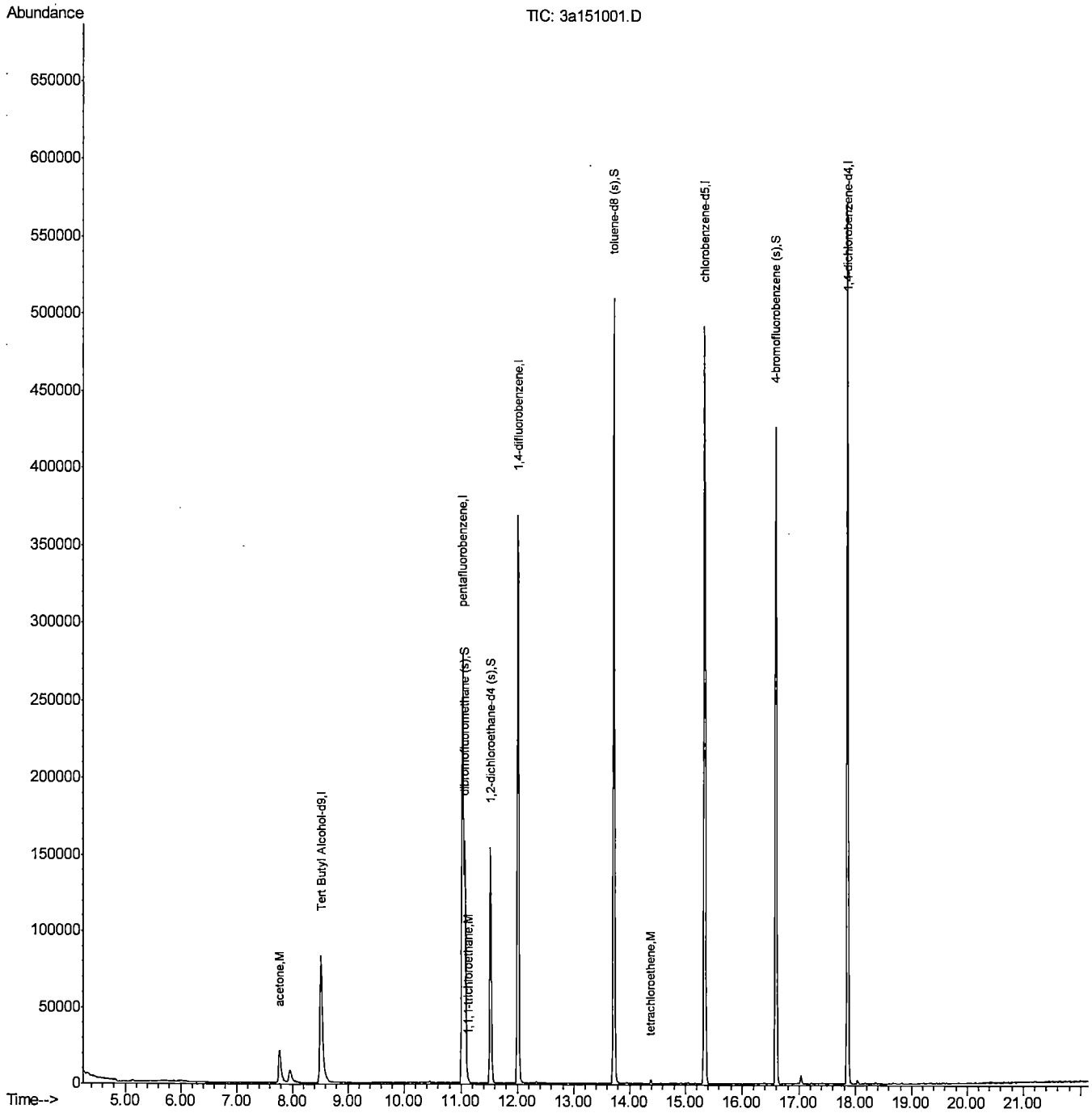
(#) = qualifier out of range (m) = manual integration (+) = signals summed

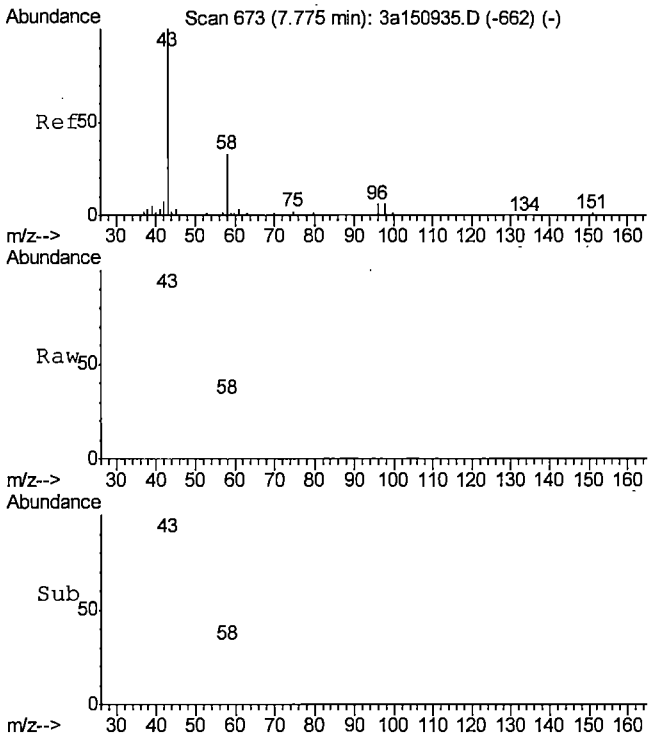
7.1.8 7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a151001.D
Acq On : 25 May 2016 4:43 pm
Operator : tracyk
Sample : jc20563-7
Misc : MS2365,V3A6509,5,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 26 08:45:52 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 09:06:14 2016
Response via : Initial Calibration

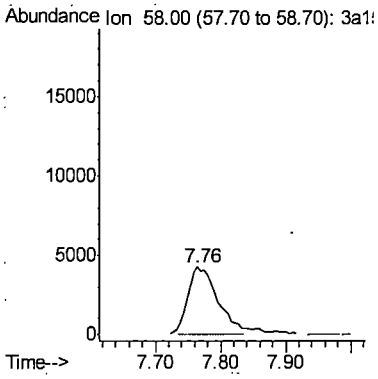


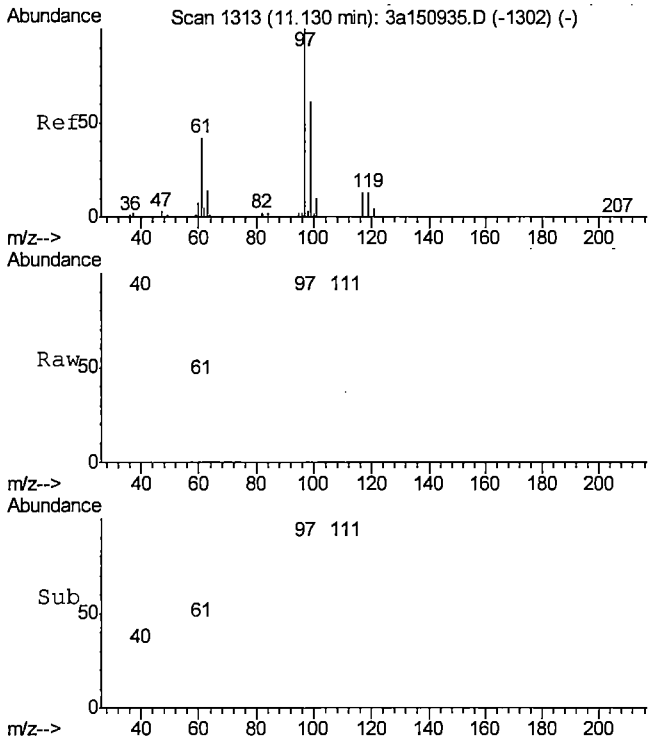


#23
acetone
Concen: 26.72 ug/L
RT: 7.76 min Scan# 671
Delta R.T. -0.01 min
Lab File: 3a151001.D
Acq: 25 May 2016 4:43 pm

Tgt Ion: 58 Resp: 14685

Ion	Ratio	Lower	Upper
58	100		
43	311.8	276.4	336.4
42	23.9	0.0	52.5

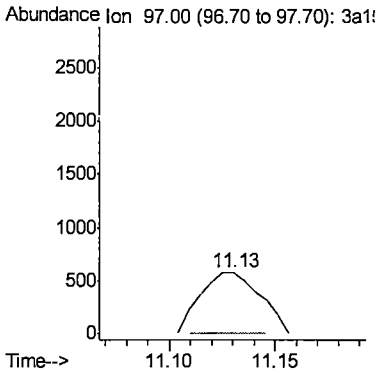




#53
1,1,1-trichloroethane
Concen: 0.36 ug/L
RT: 11.13 min Scan# 1313
Delta R.T. 0.00 min
Lab File: 3a151001.D
Acq: 25 May 2016 4:43 pm

Tgt Ion: 97 Resp: 1136

Ion	Ratio	Lower	Upper
97	100		
99	77.0	33.9	93.9
61	45.8	11.7	71.7



7.1.8

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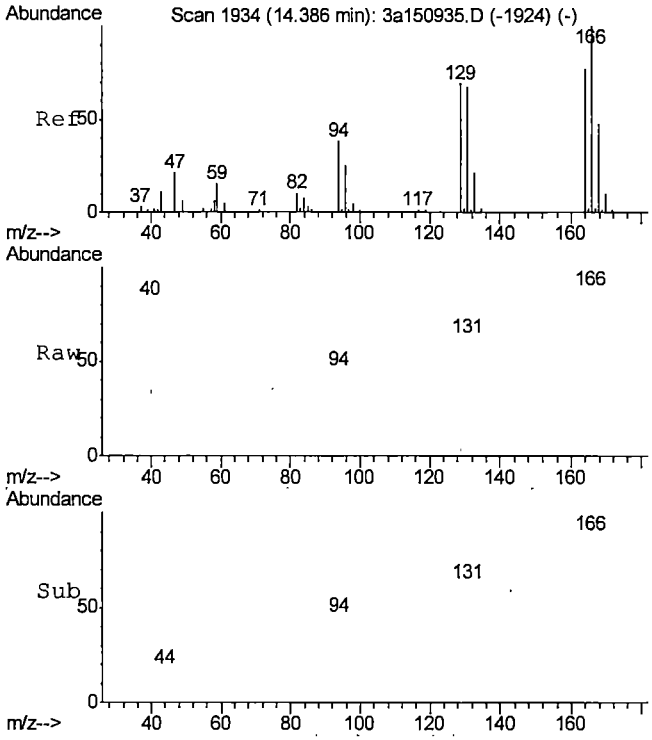
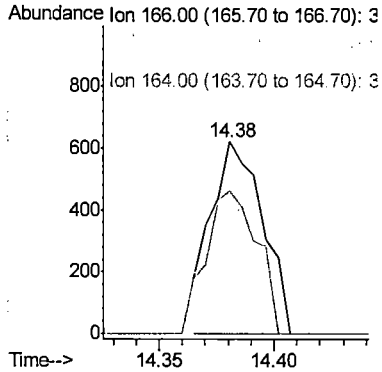


#88
tetrachloroethene
Concen: 0.28 ug/L
RT: 14.38 min Scan# 1933
Delta R.T. -0.01 min
Lab File: 3a151001.D
Acq: 25 May 2016 4:43 pm

Tgt Ion:166 Resp: 1009

Ion	Ratio	Lower	Upper
166	100		
129	60.0	38.9	98.9
131	62.5	37.1	97.1
164	74.4	47.4	107.4



7.1.8

7

SGS ACCUTEST JC20563

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a150996.D
Acq On : 25 May 2016 2:03 pm
Operator : tracyk
Sample : jc20563-8
Misc : MS2365,V3A6509,5,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 25 15:22:42 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 09:06:14 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.51	65	132859	500.00 ug/L	0.00
5) pentafluorobenzene	11.03	168	206311	50.00 ug/L	0.00
55) 1,4-difluorobenzene	12.01	114	301203	50.00 ug/L	0.00
87) chlorobenzene-d5	15.34	117	290193	50.00 ug/L	0.00
102) 1,4-dichlorobenzene-d4	17.86	152	168517	50.00 ug/L	0.00
System Monitoring Compounds					
49) dibromofluoromethane (s)	11.07	113	99817	49.64 ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 99.28%		
50) 1,2-dichloroethane-d4 (s)	11.52	65	113998	48.86 ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 97.72%		
79) toluene-d8 (s)	13.72	98	338310	50.16 ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 100.32%		
104) 4-bromofluorobenzene (s)	16.59	95	155745	51.16 ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 102.32%		
Target Compounds					Qvalue
22) 1,1-dichloroethene	7.75	61	913	0.24 ug/L #	68
23) acetone	7.77	58	7102	12.94 ug/L #	84
35) 1,1-dichloroethane	9.67	63	17677	4.08 ug/L	95
53) 1,1,1-trichloroethane	11.12	97	12191	3.91 ug/L	97
69) trichloroethene	12.33	95	1058	0.43 ug/L	94
88) tetrachloroethene	14.38	166	17475	5.09 ug/L	99
118) 1,3-dichlorobenzene	17.78	146	2488	0.34 ug/L	97

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

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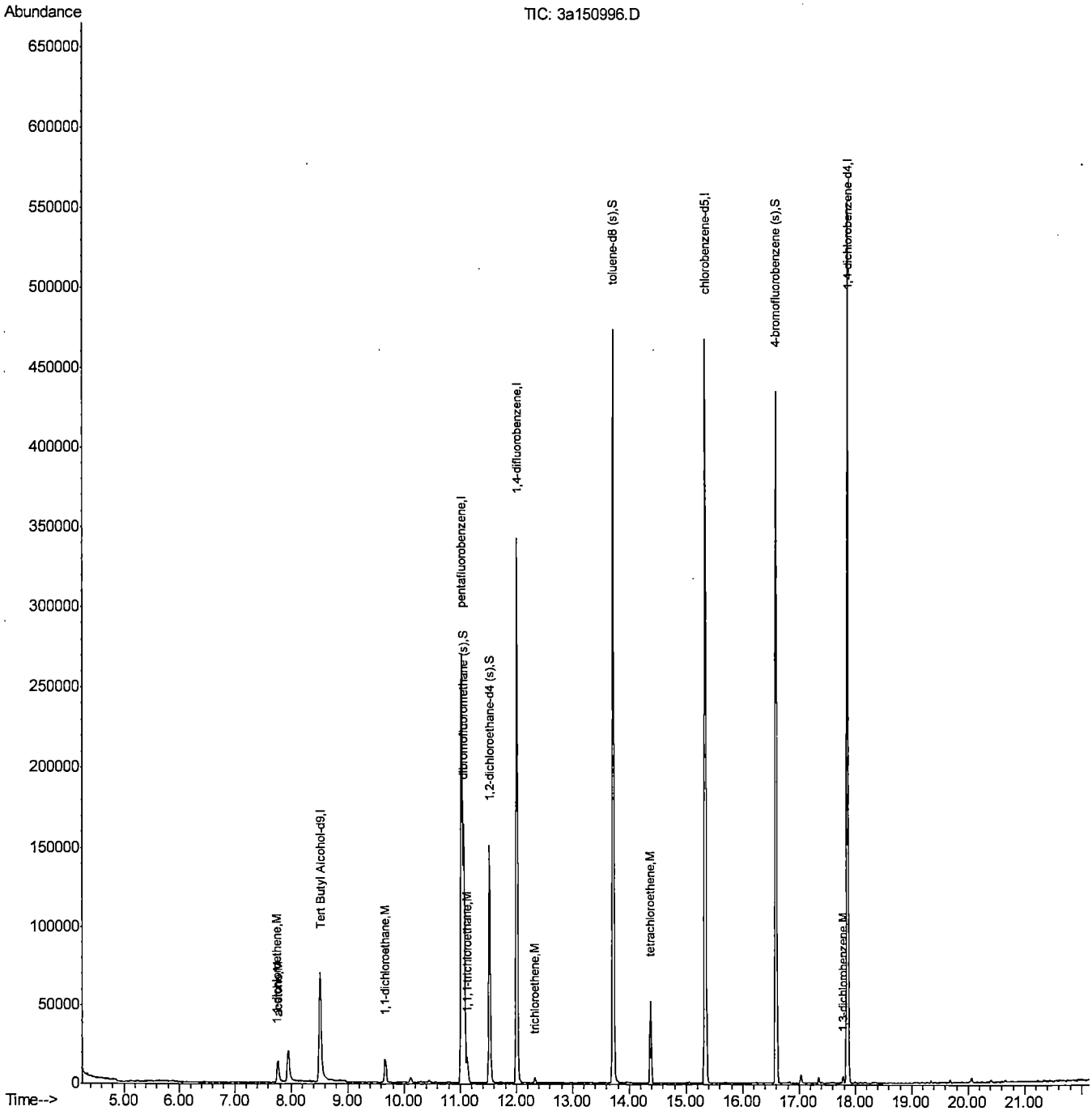
Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a150996.D
Acq On : 25 May 2016 2:03 pm
Operator : tracyk
Sample : jc20563-8
Misc : MS2365,V3A6509,5,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 25 15:22:42 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 09:06:14 2016
Response via : Initial Calibration



M3A6507.M Wed May 25 15:22:51 2016 ACCUNJ

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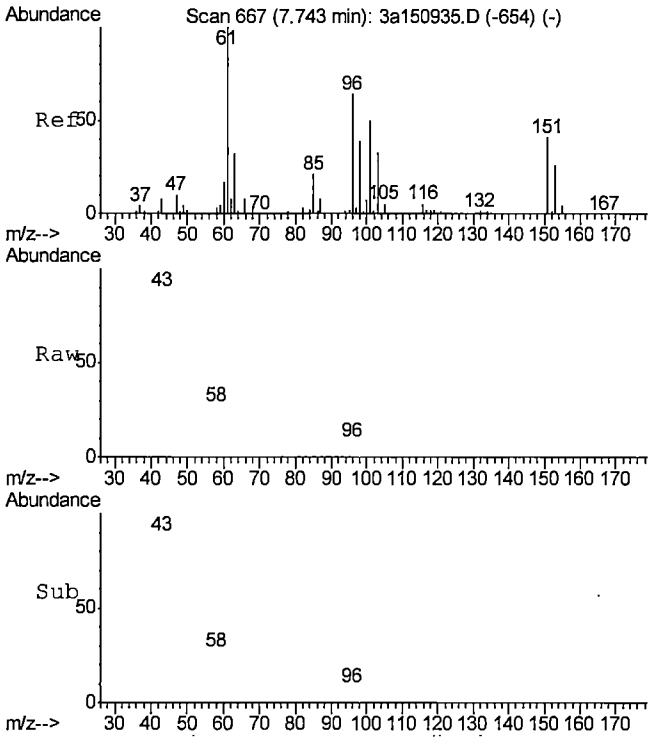
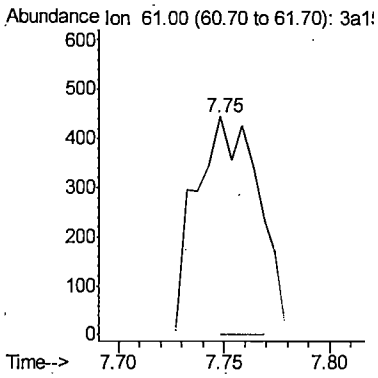
7
94 of 193
SGS ACCUTEST
JC20563
3A150996.D: JC20563-8 HSSER-RAMW02-051716 page 2 of 6

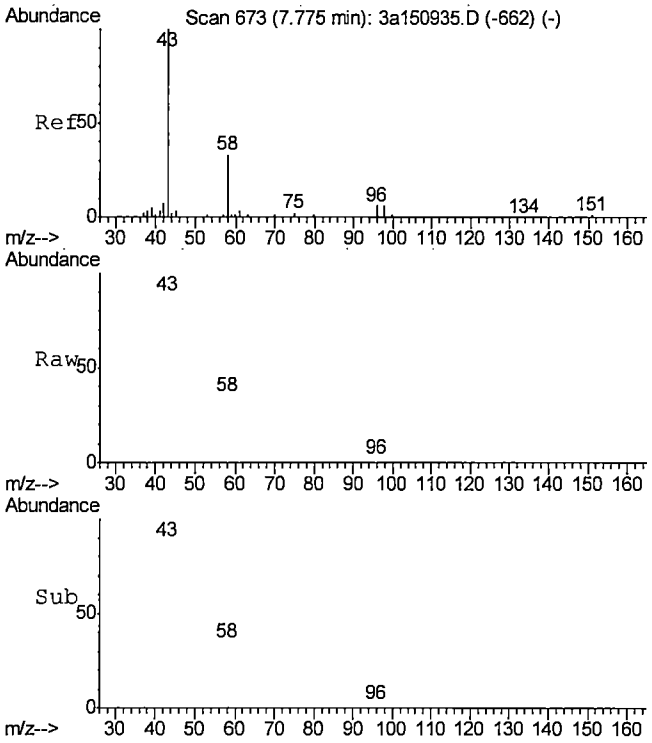


#22
1,1-dichloroethene
Concen: 0.24 ug/L
RT: 7.75 min Scan# 668
Delta R.T. 0.01 min
Lab File: 3a150996.D
Acq: 25 May 2016 2:03 pm

Tgt Ion: 61 Resp: 913

Ion	Ratio	Lower	Upper
61	100		
96	79.1	33.6	93.6
63	0.0	1.9	61.9#

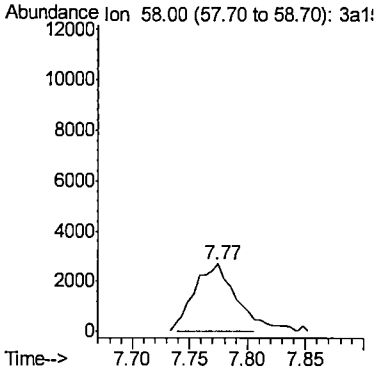




#23
acetone
Concen: 12.94 ug/L
RT: 7.77 min Scan# 673
Delta R.T. -0.00 min
Lab File: 3a150996.D
Acq: 25 May 2016 2:03 pm

Tgt Ion: 58 Resp: 7102

Ion	Ratio	Lower	Upper
58	100		
43	273.3	276.4	336.4#
42	25.5	0.0	52.5



7.1.9

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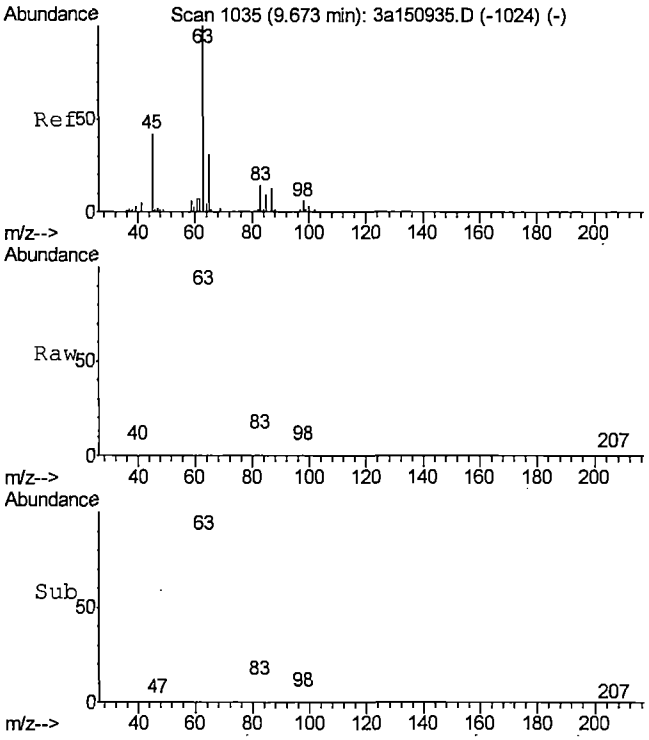
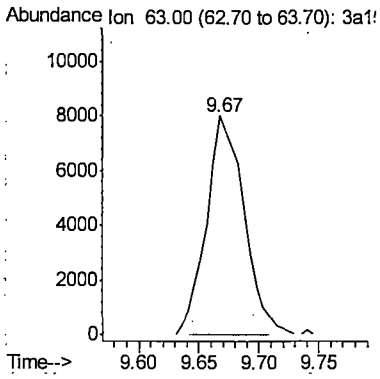
SGS ACCUTEST JC20563

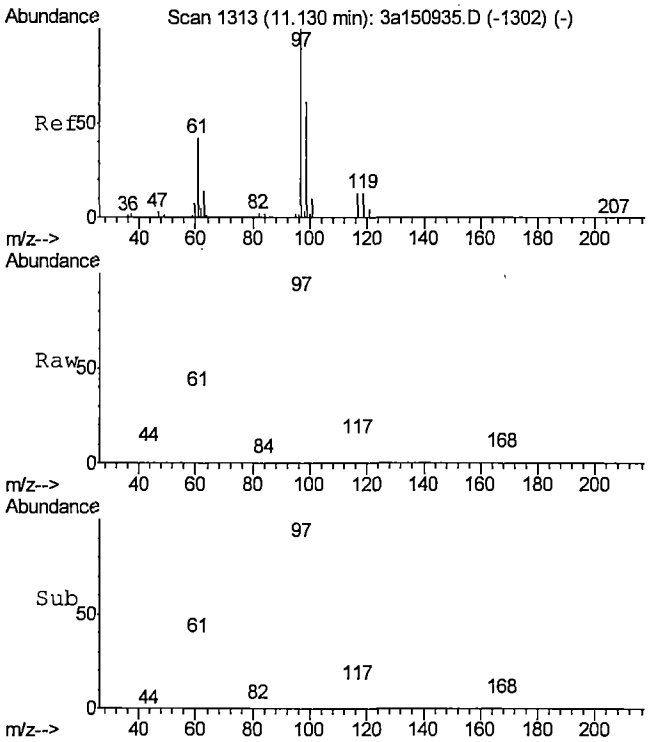


#35
1,1-dichloroethane
Concen: 4.08 ug/L
RT: 9.67 min Scan# 1034
Delta R.T. -0.01 min
Lab File: 3a150996.D
Acq: 25 May 2016 2:03 pm

Tgt Ion: 63 Resp: 17677

Ion	Ratio	Lower	Upper
63	100		
65	28.2	0.9	60.9
83	11.7	0.0	43.9

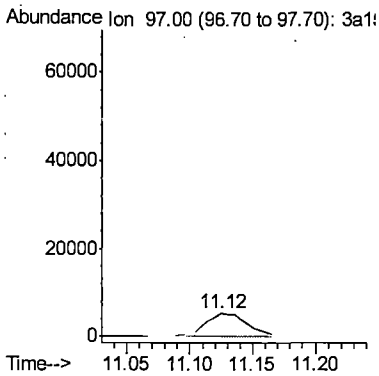




#53
1,1,1-trichloroethane
Concen: 3.91 ug/L
RT: 11.12 min Scan# 1312
Delta R.T. -0.01 min
Lab File: 3a150996.D
Acq: 25 May 2016 2:03 pm

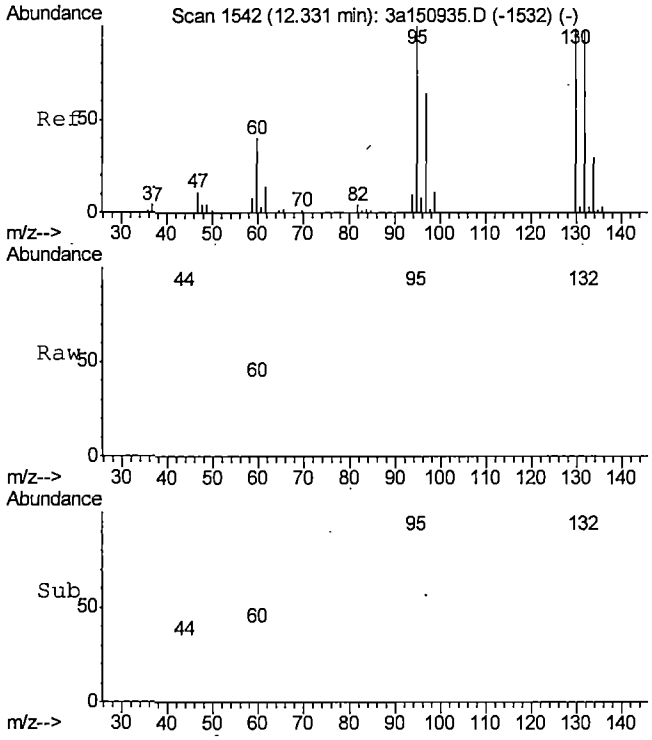
Tgt Ion: 97 Resp: 12191

Ion	Ratio	Lower	Upper
97	100		
99	64.2	33.9	93.9
61	37.5	11.7	71.7



7.1.9

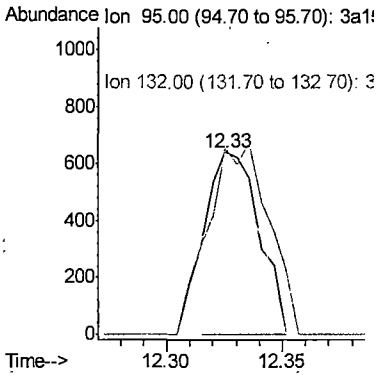
SGS ACCUTEST JC20563

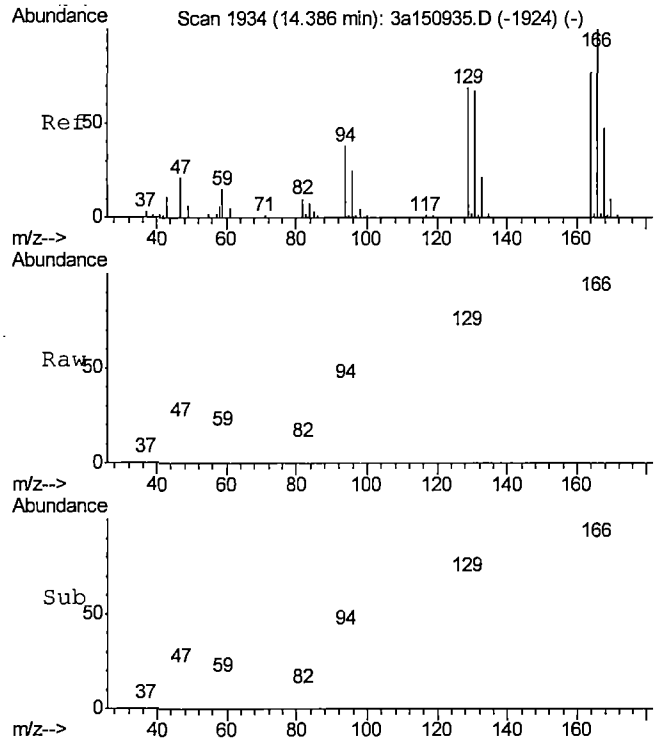


#69
trichloroethene
Concen: 0.43 ug/L
RT: 12.33 min Scan# 1541
Delta R.T. -0.01 min
Lab File: 3a150996.D
Acq: 25 May 2016 2:03 pm

Tgt Ion: 95 Resp: 1058

Ion	Ratio	Lower	Upper
95	100		
97	50.3	33.6	93.6
130	100.2	69.4	129.4
132	101.9	67.1	127.1

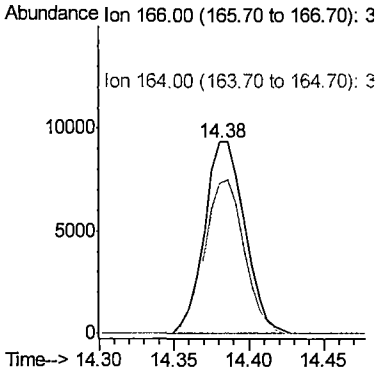




#88
tetrachloroethene
Concen: 5.09 ug/L
RT: 14.38 min Scan# 1933
Delta R.T. -0.01 min
Lab File: 3a150996.D
Acq: 25 May 2016 2:03 pm

Tgt Ion:166 Resp: 17475

Ion	Ratio	Lower	Upper
166	100		
129	70.2	38.9	98.9
131	67.6	37.1	97.1
164	78.7	47.4	107.4



7.1.9

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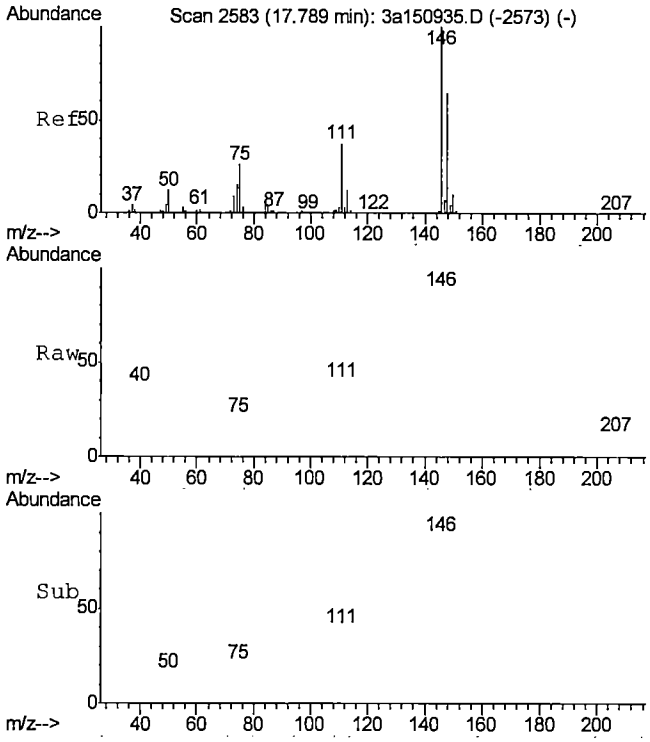
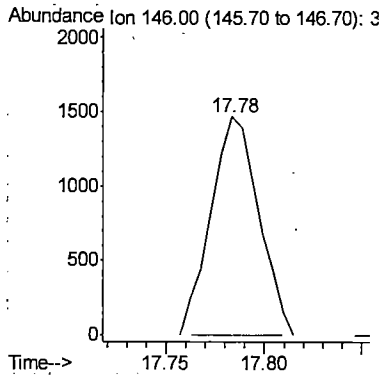


#118
1,3-dichlorobenzene
Concen: 0.34 ug/L
RT: 17.78 min Scan# 2582
Delta R.T. -0.01 min
Lab File: 3a150996.D
Acq: 25 May 2016 2:03 pm

Tgt Ion:146 Resp: 2488

Ion	Ratio	Lower	Upper
146	100		
111	40.3	7.3	67.3
148	63.5	34.5	94.5



7.1.9

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Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 3a150983.D
Acq On : 25 May 2016 6:14 am
Operator : tracyk
Sample : jc20563-9
Misc : MS2365,V3A6509,5,,,,1
ALS Vial : 41 Sample Multiplier: 1

Quant Time: May 25 09:57:15 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 09:06:14 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.51	65	175932	500.00 ug/L	0.00
5) pentafluorobenzene	11.03	168	198556	50.00 ug/L	0.00
55) 1,4-difluorobenzene	12.01	114	292534	50.00 ug/L	0.00
87) chlorobenzene-d5	15.34	117	285260	50.00 ug/L	0.00
102) 1,4-dichlorobenzene-d4	17.86	152	170864	50.00 ug/L	0.00
System Monitoring Compounds					
49) dibromofluoromethane (s)	11.07	113	98094	50.68 ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 101.36%		
50) 1,2-dichloroethane-d4 (s)	11.52	65	112760	50.22 ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 100.44%		
79) toluene-d8 (s)	13.72	98	328119	50.09 ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 100.18%		
104) 4-bromofluorobenzene (s)	16.59	95	153585	49.75 ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 99.50%		
Target Compounds					Qvalue
29) methylene chloride	8.58	84	2367	0.90 ug/L	96
47) chloroform	10.86	85	1762	0.63 ug/L	92

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

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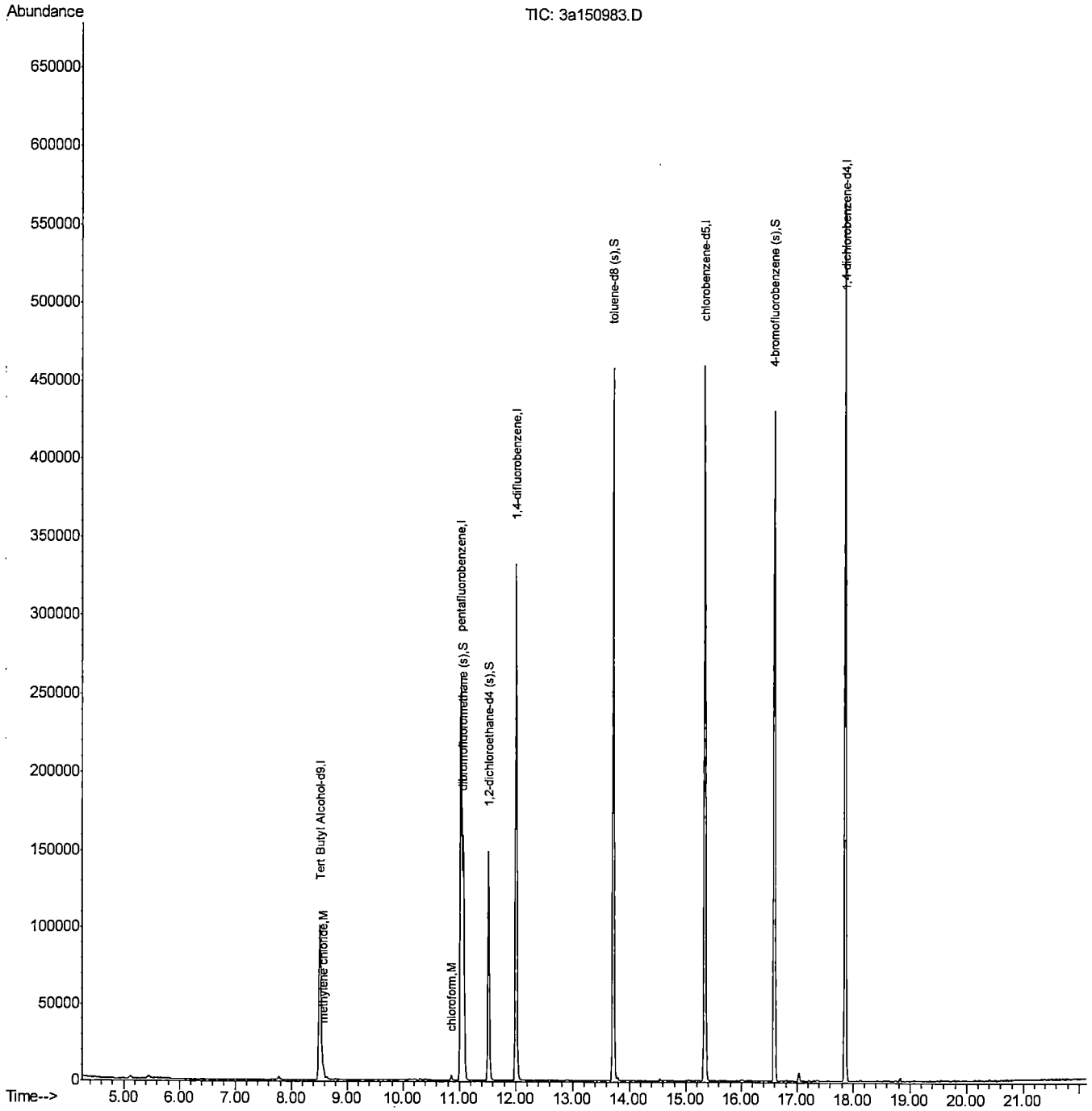
Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 3a150983.D
Acq On : 25 May 2016 6:14 am
Operator : tracyk
Sample : jc20563-9
Misc : MS2365,V3A6509,5,,,,1
ALS Vial : 41 Sample Multiplier: 1

Quant Time: May 25 09:57:15 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 09:06:14 2016
Response via : Initial Calibration



M3A6507.M Wed May 25 09:57:23 2016 ACCUNJ

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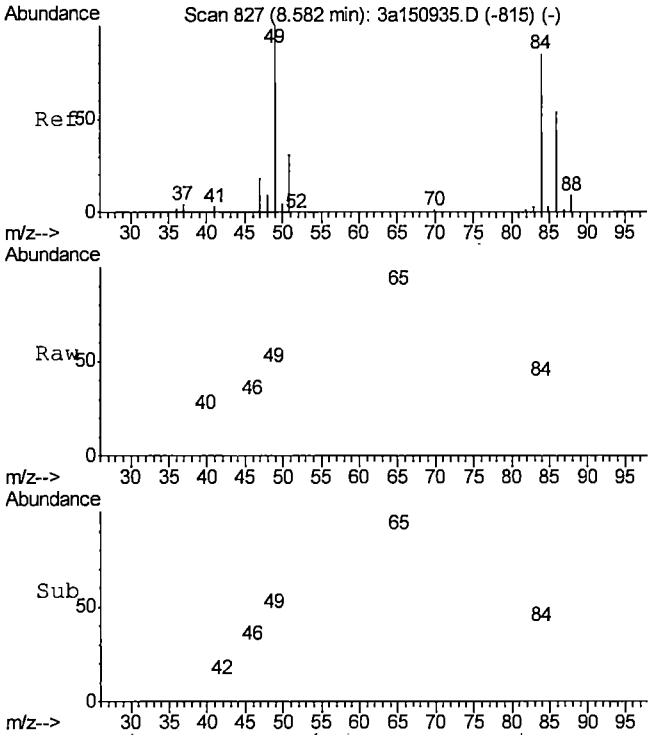
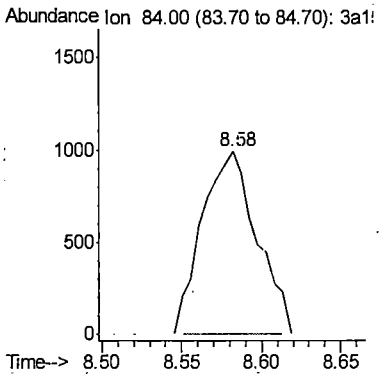
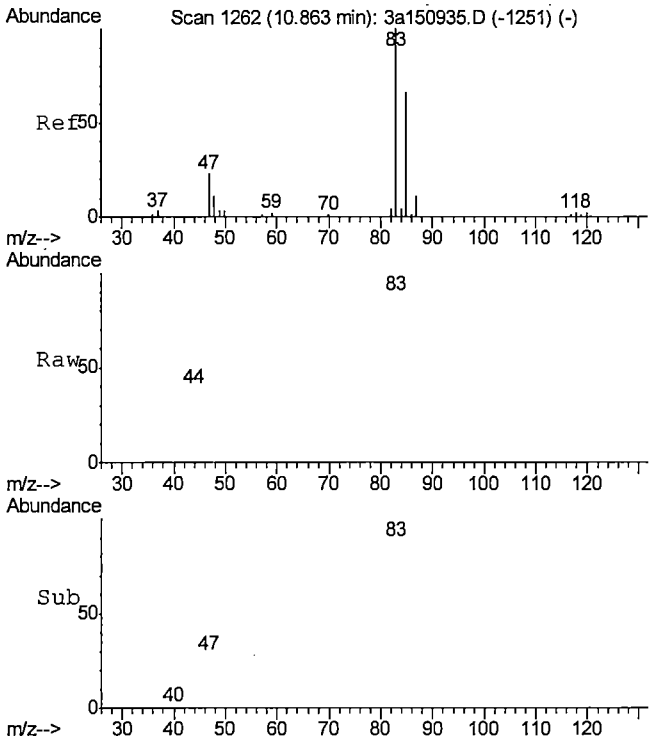


#29
methylene chloride
Concen: 0.90 ug/L
RT: 8.58 min Scan# 827
Delta R.T. -0.00 min
Lab File: 3a150983.D
Acq: 25 May 2016 6:14 am

Tgt Ion: 84 Resp: 2367

Ion	Ratio	Lower	Upper
84	100		
86	71.9	33.1	93.1
49	118.0	88.0	148.0

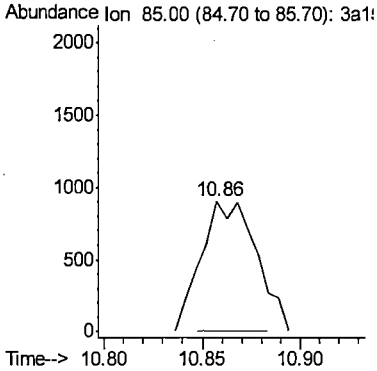




#47
chloroform
Concen: 0.63 ug/L
RT: 10.86 min Scan# 1261
Delta R.T. -0.01 min
Lab File: 3a150983.D
Acq: 25 May 2016 6:14 am

Tgt Ion: 85 Resp: 1762

Ion	Ratio	Lower	Upper
85	100		
83	141.9	121.7	181.7
47	39.5	5.2	65.2



7.1.10 7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a151004.D
Acq On : 25 May 2016 6:13 pm
Operator : tracyk
Sample : jc20563-10
Misc : MS2365,V3A6509,5,,,,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: May 26 08:50:28 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 09:06:14 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.52	65	146135	500.00 ug/L	0.00
5) pentafluorobenzene	11.04	168	193808	50.00 ug/L	0.00
55) 1,4-difluorobenzene	12.01	114	288117	50.00 ug/L	0.00
87) chlorobenzene-d5	15.34	117	274879	50.00 ug/L	0.00
102) 1,4-dichlorobenzene-d4	17.86	152	167549	50.00 ug/L	0.00
System Monitoring Compounds					
49) dibromofluoromethane (s)	11.07	113	96103	50.87 ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 101.74%		
50) 1,2-dichloroethane-d4 (s)	11.52	65	110738	50.53 ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 101.06%		
79) toluene-d8 (s)	13.72	98	324087	50.23 ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 100.46%		
104) 4-bromofluorobenzene (s)	16.59	95	148946	49.21 ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 98.42%		
Target Compounds					Qvalue
22) 1,1-dichloroethene	7.75	61	1762	0.49 ug/L	86
23) acetone	7.78	58	3084	5.98 ug/L	91
35) 1,1-dichloroethane	9.68	63	7396	1.82 ug/L	97
53) 1,1,1-trichloroethane	11.12	97	17344	5.92 ug/L	96
69) trichloroethene	12.33	95	3524	1.51 ug/L	91
88) tetrachloroethene	14.39	166	27323	8.40 ug/L	98

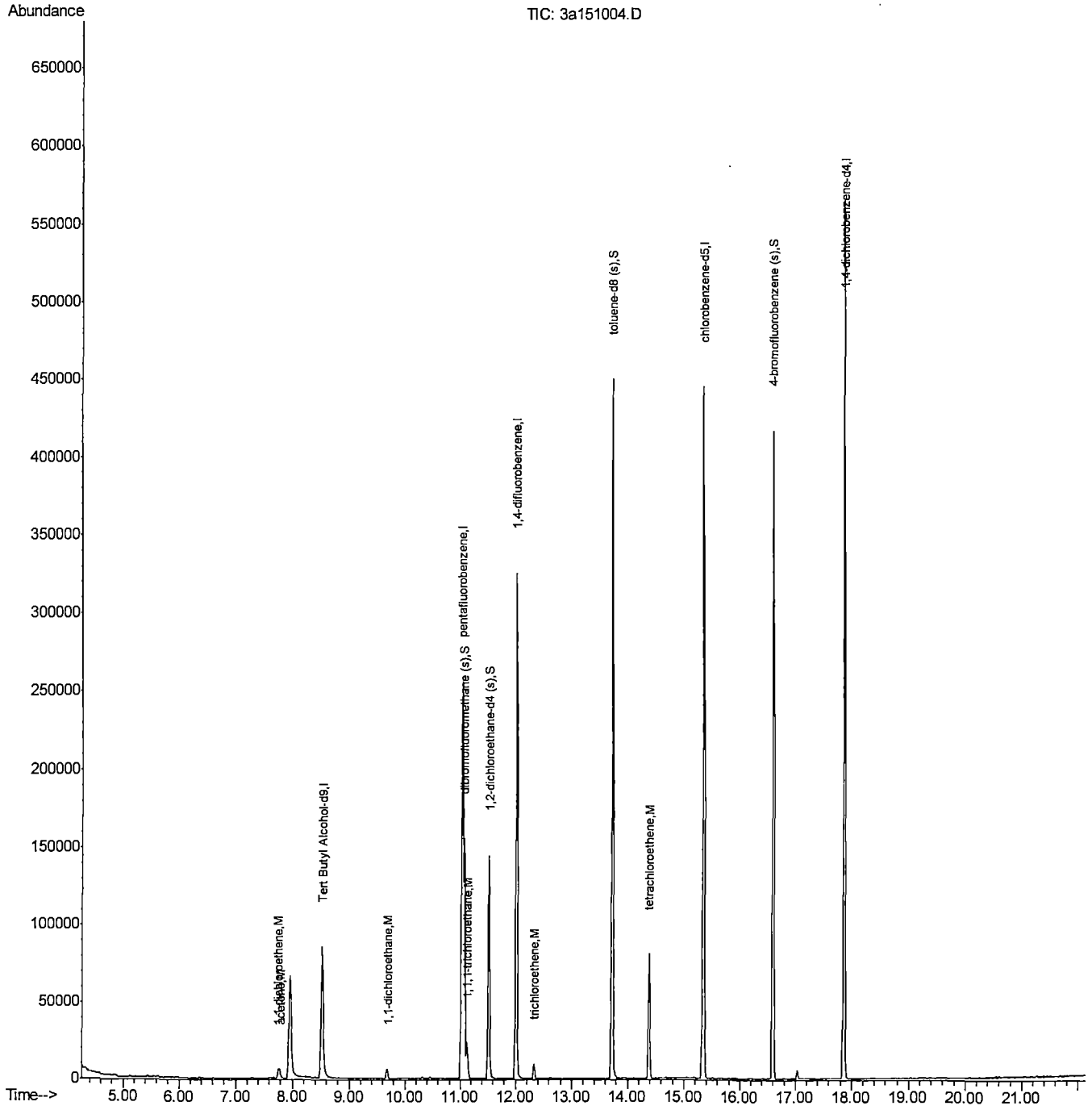
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.11 7

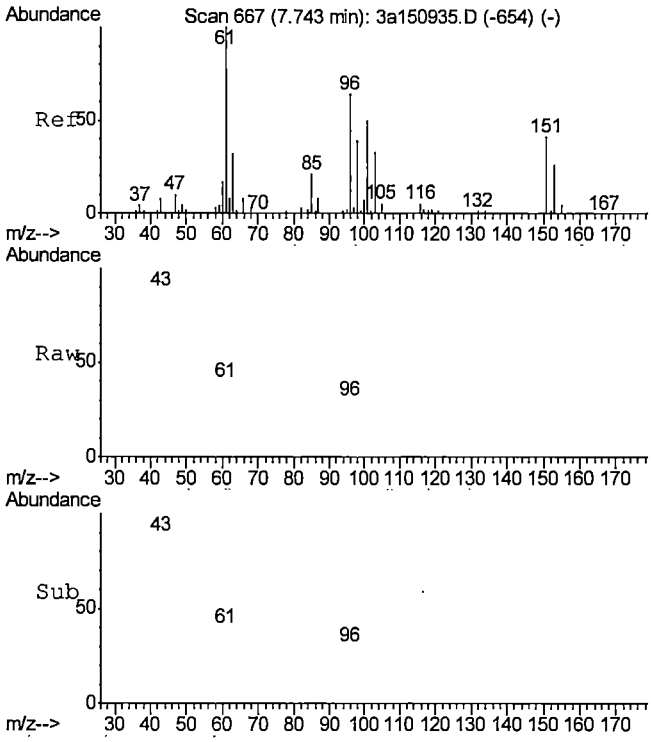
Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a151004.D
Acq On : 25 May 2016 6:13 pm
Operator : tracyk
Sample : jc20563-10
Misc : MS2365,V3A6509,5,,,,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: May 26 08:50:28 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 09:06:14 2016
Response via : Initial Calibration



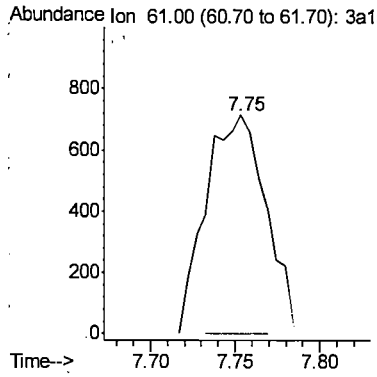
M3A6507.M Thu May 26 08:50:35 2016 ACCUNJ

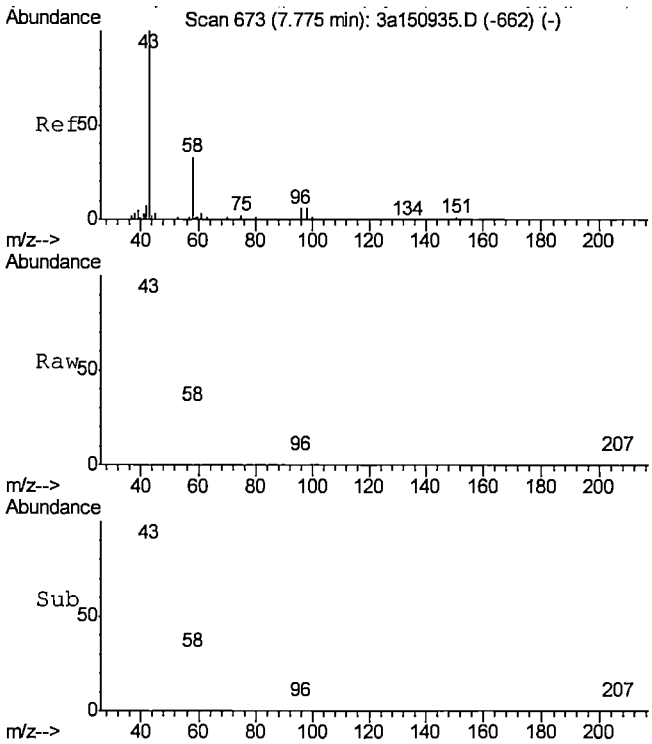


#22
1,1-dichloroethene
Concen: 0.49 ug/L
RT: 7.75 min Scan# 669
Delta R.T. 0.01 min
Lab File: 3a151004.D
Acq: 25 May 2016 6:13 pm

Tgt Ion: 61 Resp: 1762

Ion	Ratio	Lower	Upper
61	100		
96	73.8	33.6	93.6
63	41.5	1.9	61.9

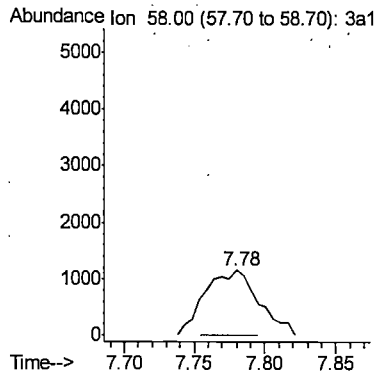




#23
acetone
Concen: 5.98 ug/L
RT: 7.78 min Scan# 674
Delta R.T. 0.01 min
Lab File: 3a151004.D
Acq: 25 May 2016 6:13 pm

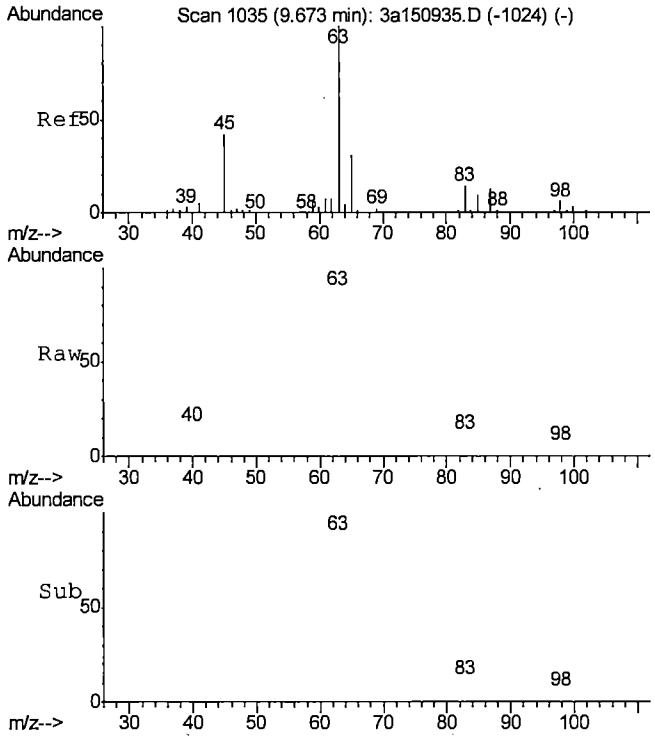
Tgt Ion: 58 Resp: 3084

Ion	Ratio	Lower	Upper
58	100		
43	324.2	276.4	336.4
42	20.6	0.0	52.5



7.1.11 7

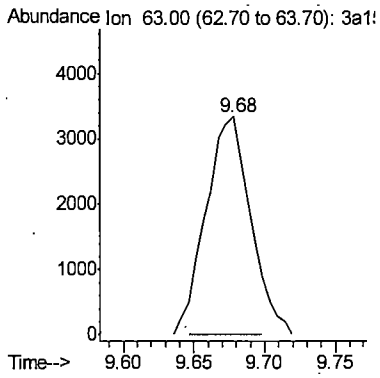
SGS ACCUTEST JC20563

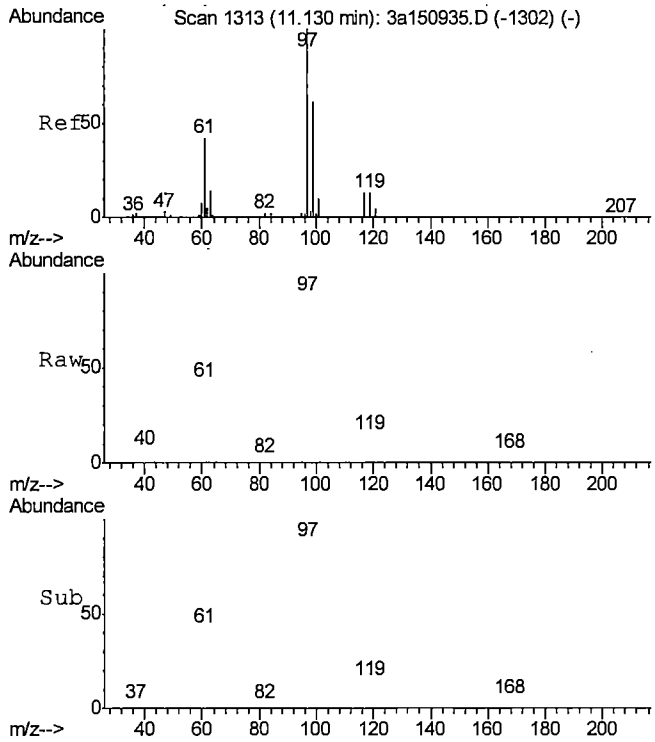


#35
1,1-dichloroethane
Concen: 1.82 ug/L
RT: 9.68 min Scan# 1036
Delta R.T. 0.01 min
Lab File: 3a151004.D
Acq: 25 May 2016 6:13 pm

Tgt Ion: 63 Resp: 7396

Ion	Ratio	Lower	Upper
63	100		
65	29.8	0.9	60.9
83	12.0	0.0	43.9

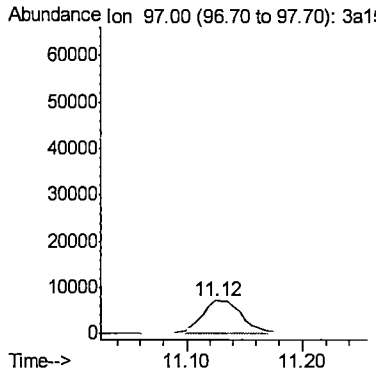




#53
1,1,1-trichloroethane
Concen: 5.92 ug/L
RT: 11.12 min Scan# 1312
Delta R.T. -0.01 min
Lab File: 3a151004.D
Acq: 25 May 2016 6:13 pm

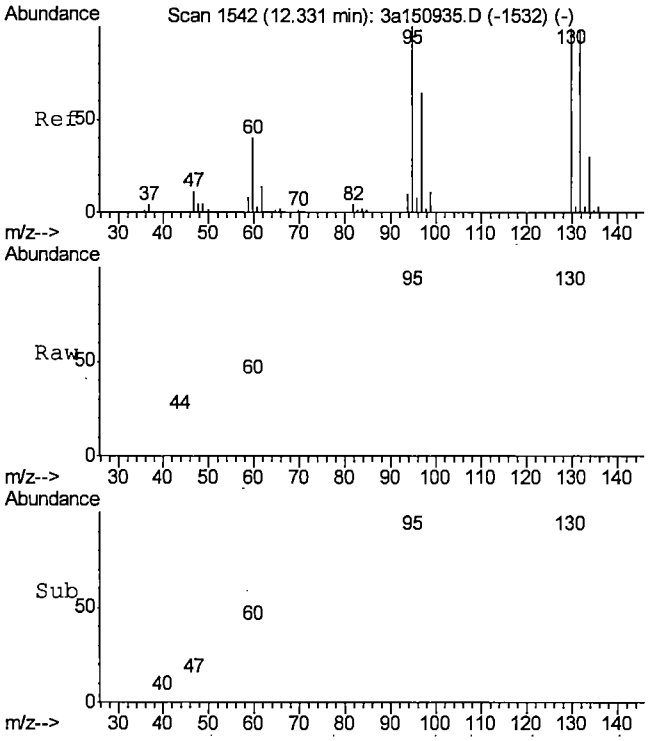
Tgt Ion: 97 Resp: 17344

Ion	Ratio	Lower	Upper
97	100		
99	67.9	33.9	93.9
61	43.4	11.7	71.7



7.1.11

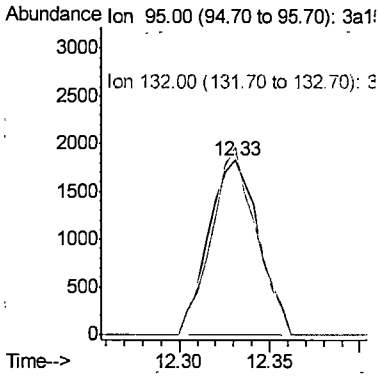
7

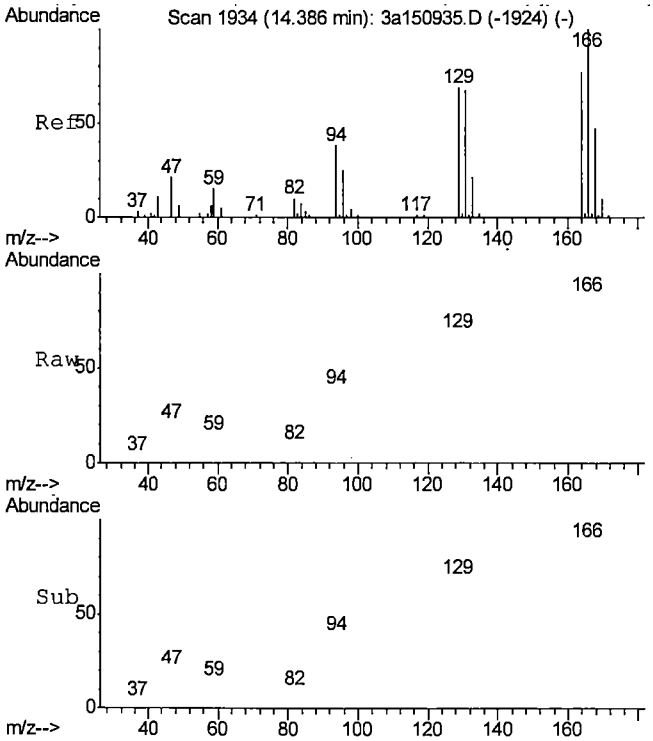


#69
trichloroethene
Concen: 1.51 ug/L
RT: 12.33 min Scan# 1542
Delta R.T. 0.00 min
Lab File: 3a151004.D
Acq: 25 May 2016 6:13 pm

Tgt Ion: 95 Resp: 3524

Ion	Ratio	Lower	Upper
95	100		
97	59.9	33.6	93.6
130	110.0	69.4	129.4
132	107.4	67.1	127.1

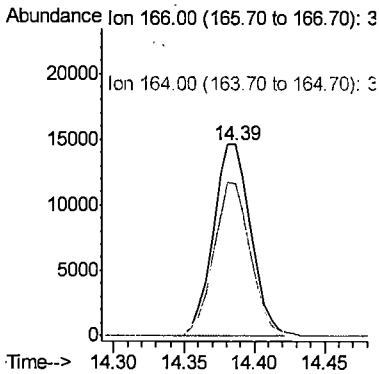




#88
tetrachloroethene
Concen: 8.40 ug/L
RT: 14.39 min Scan# 1934
Delta R.T. 0.00 min
Lab File: 3a151004.D
Acq: 25 May 2016 6:13 pm

Tgt Ion:166 Resp: 27323

Ion	Ratio	Lower	Upper
166	100		
129	69.1	38.9	98.9
131	66.1	37.1	97.1
164	81.4	47.4	107.4



7.1.11

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a151002.D
Acq On : 25 May 2016 5:13 pm
Operator : tracyk
Sample : jc20563-11
Misc : MS2365,V3A6509,5,,,,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: May 26 08:48:16 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 09:06:14 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.52	65	158992	500.00 ug/L	0.00
5) pentafluorobenzene	11.03	168	194619	50.00 ug/L	0.00
55) 1,4-difluorobenzene	12.01	114	288276	50.00 ug/L	0.00
87) chlorobenzene-d5	15.34	117	278267	50.00 ug/L	0.00
102) 1,4-dichlorobenzene-d4	17.86	152	167299	50.00 ug/L	0.00
System Monitoring Compounds					
49) dibromofluoromethane (s)	11.07	113	95239	50.20 ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 100.40%		
50) 1,2-dichloroethane-d4 (s)	11.52	65	110480	50.20 ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 100.40%		
79) toluene-d8 (s)	13.72	98	325288	50.39 ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 100.78%		
104) 4-bromofluorobenzene (s)	16.59	95	148117	49.00 ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 98.00%		
Target Compounds					Qvalue
23) acetone	7.77	58	13579	26.22 ug/L	99
35) 1,1-dichloroethane	9.66	63	632	0.15 ug/L #	51
53) 1,1,1-trichloroethane	11.12	97	1274	0.43 ug/L #	69
88) tetrachloroethene	14.39	166	847	0.26 ug/L	83

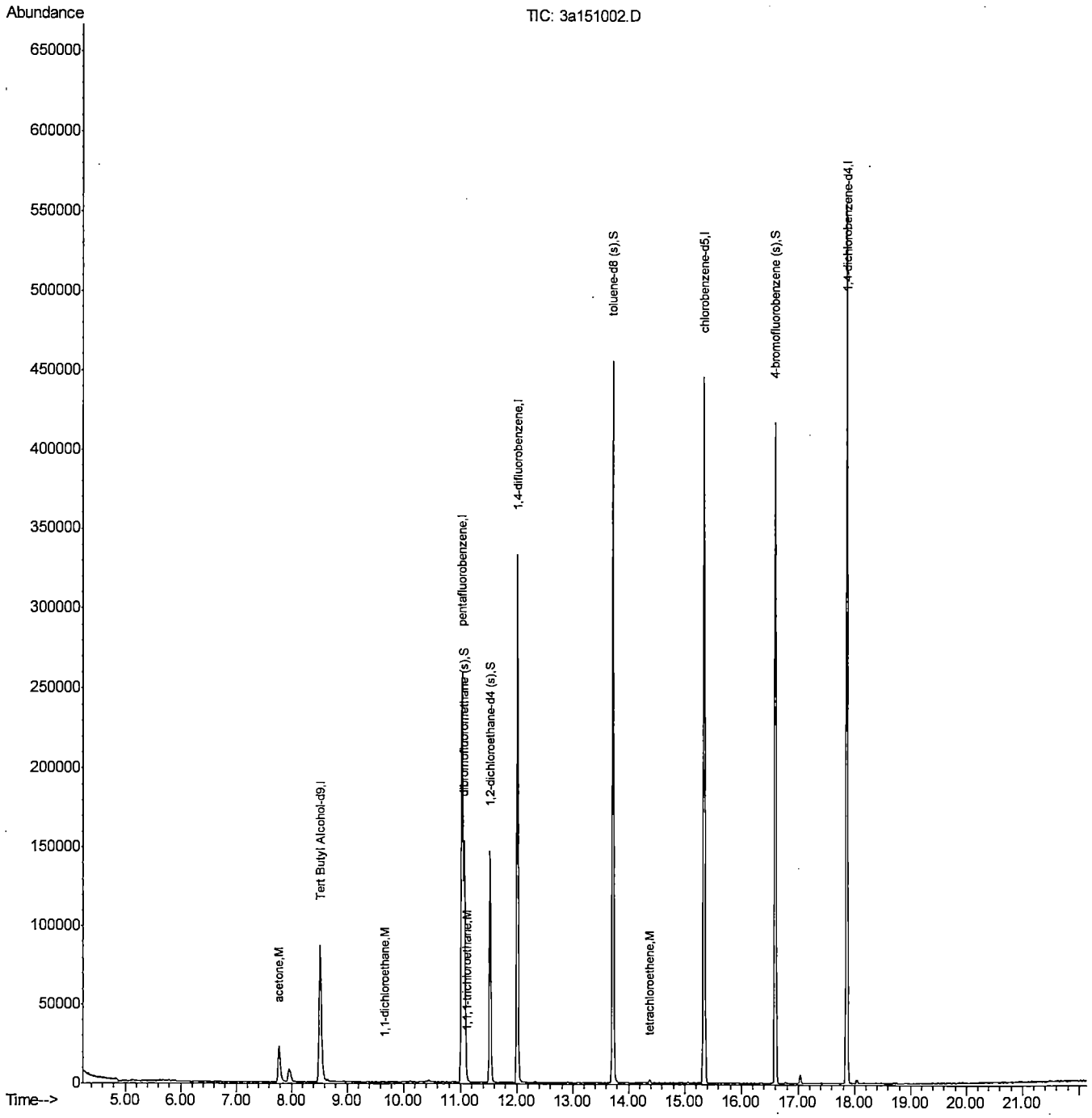
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.12 7

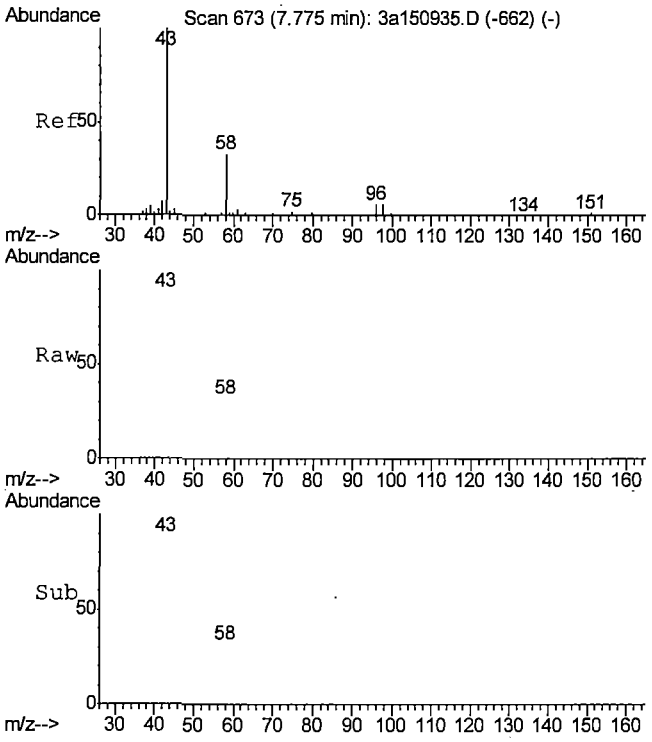
Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a151002.D
Acq On : 25 May 2016 5:13 pm
Operator : tracyk
Sample : jc20563-11
Misc : MS2365,V3A6509,5,,,,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: May 26 08:48:16 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 09:06:14 2016
Response via : Initial Calibration



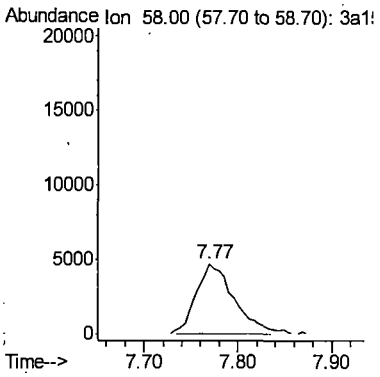
SGS ACCUTEST JC20563

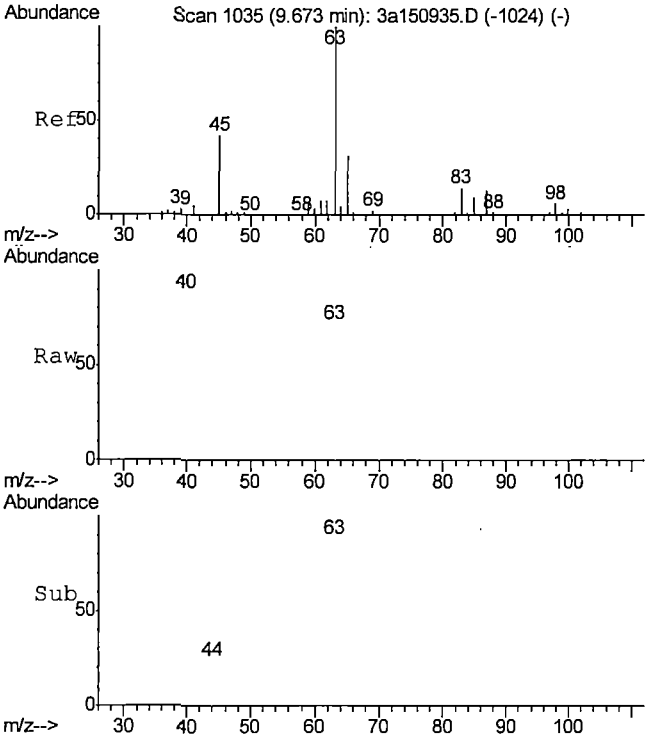


#23
acetone
Concen: 26.22 ug/L
RT: 7.77 min Scan# 672
Delta R.T. -0.01 min
Lab File: 3a151002.D
Acq: 25 May 2016 5:13 pm

Tgt Ion: 58 Resp: 13579

Ion	Ratio	Lower	Upper
58	100		
43	308.1	276.4	336.4
42	24.9	0.0	52.5

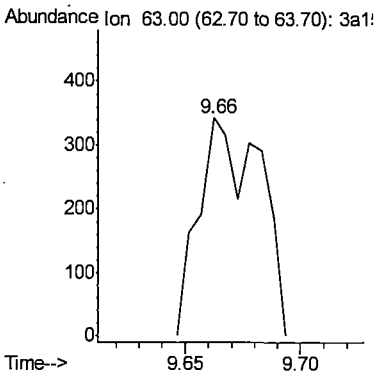




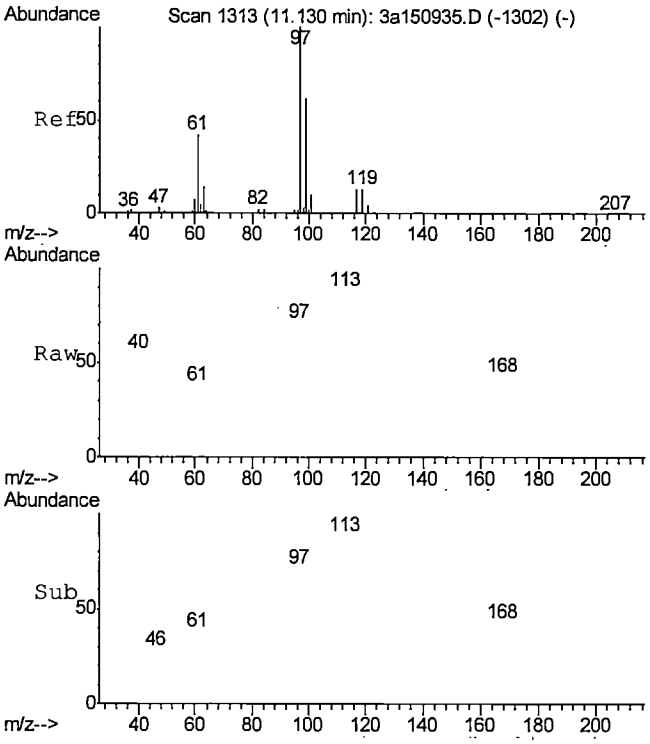
#35
1,1-dichloroethane
Concen: 0.15 ug/L
RT: 9.66 min Scan# 1033
Delta R.T. -0.01 min
Lab File: 3a151002.D
Acq: 25 May 2016 5:13 pm

Tgt Ion: 63 Resp: 632

Ion	Ratio	Lower	Upper
63	100		
65	0.0	0.9	60.9#
83	0.0	0.0	43.9



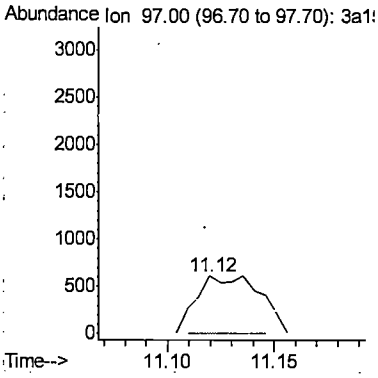
7.1.12 7

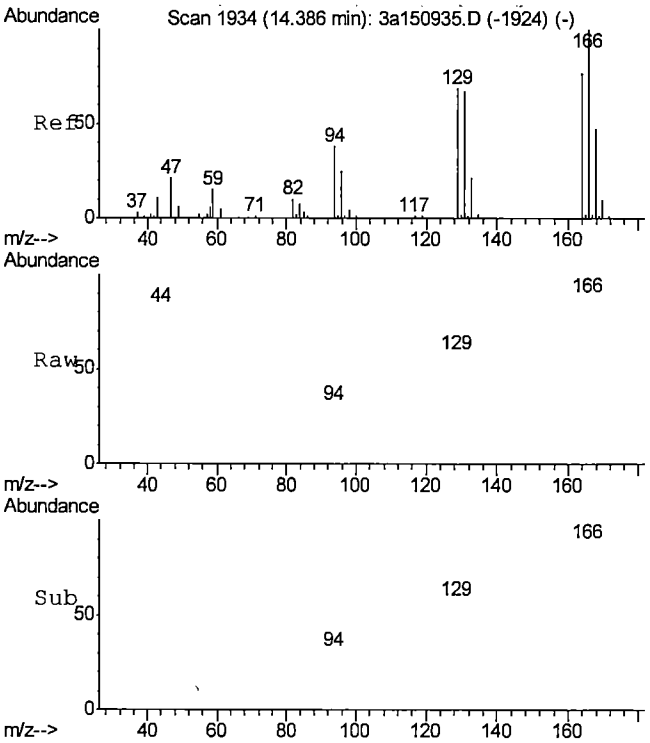


#53
1,1,1-trichloroethane
Concen: 0.43 ug/L
RT: 11.12 min Scan# 1311
Delta R.T. -0.01 min
Lab File: 3a151002.D
Acq: 25 May 2016 5:13 pm

Tgt Ion: 97 Resp: 1274

Ion	Ratio	Lower	Upper
97	100		
99	33.7	33.9	93.9#
61	53.8	11.7	71.7

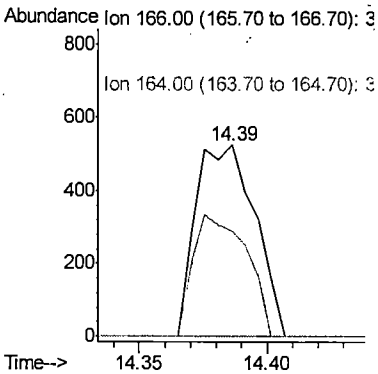




#88
tetrachloroethene
Concen: 0.26 ug/L
RT: 14.39 min Scan# 1934
Delta R.T. 0.00 min
Lab File: 3a151002.D
Acq: 25 May 2016 5:13 pm

Tgt Ion:166 Resp: 847

Ion	Ratio	Lower	Upper
166	100		
129	58.5	38.9	98.9
131	57.1	37.1	97.1
164	55.2	47.4	107.4



7.1.12 7

SGS ACCUTEST JC20563

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 3a150976.D
Acq On : 25 May 2016 2:45 am
Operator : tracyk
Sample : jc20563-12
Misc : MS2365,V3A6509,5,,,,1
ALS Vial : 34 Sample Multiplier: 1

Quant Time: May 25 09:51:19 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 09:06:14 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.52	65	161303	500.00 ug/L	0.00
5) pentafluorobenzene	11.03	168	203149	50.00 ug/L	0.00
55) 1,4-difluorobenzene	12.01	114	294312	50.00 ug/L	0.00
87) chlorobenzene-d5	15.34	117	292496	50.00 ug/L	0.00
102) 1,4-dichlorobenzene-d4	17.86	152	170690	50.00 ug/L	0.00

System Monitoring Compounds					
49) dibromofluoromethane (s)	11.07	113	98046	49.51 ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 99.02%		
50) 1,2-dichloroethane-d4 (s)	11.52	65	113514	49.41 ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 98.82%		
79) toluene-d8 (s)	13.72	98	332424	50.44 ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 100.88%		
104) 4-bromofluorobenzene (s)	16.59	95	157150	50.96 ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 101.92%		

Target Compounds	Qvalue

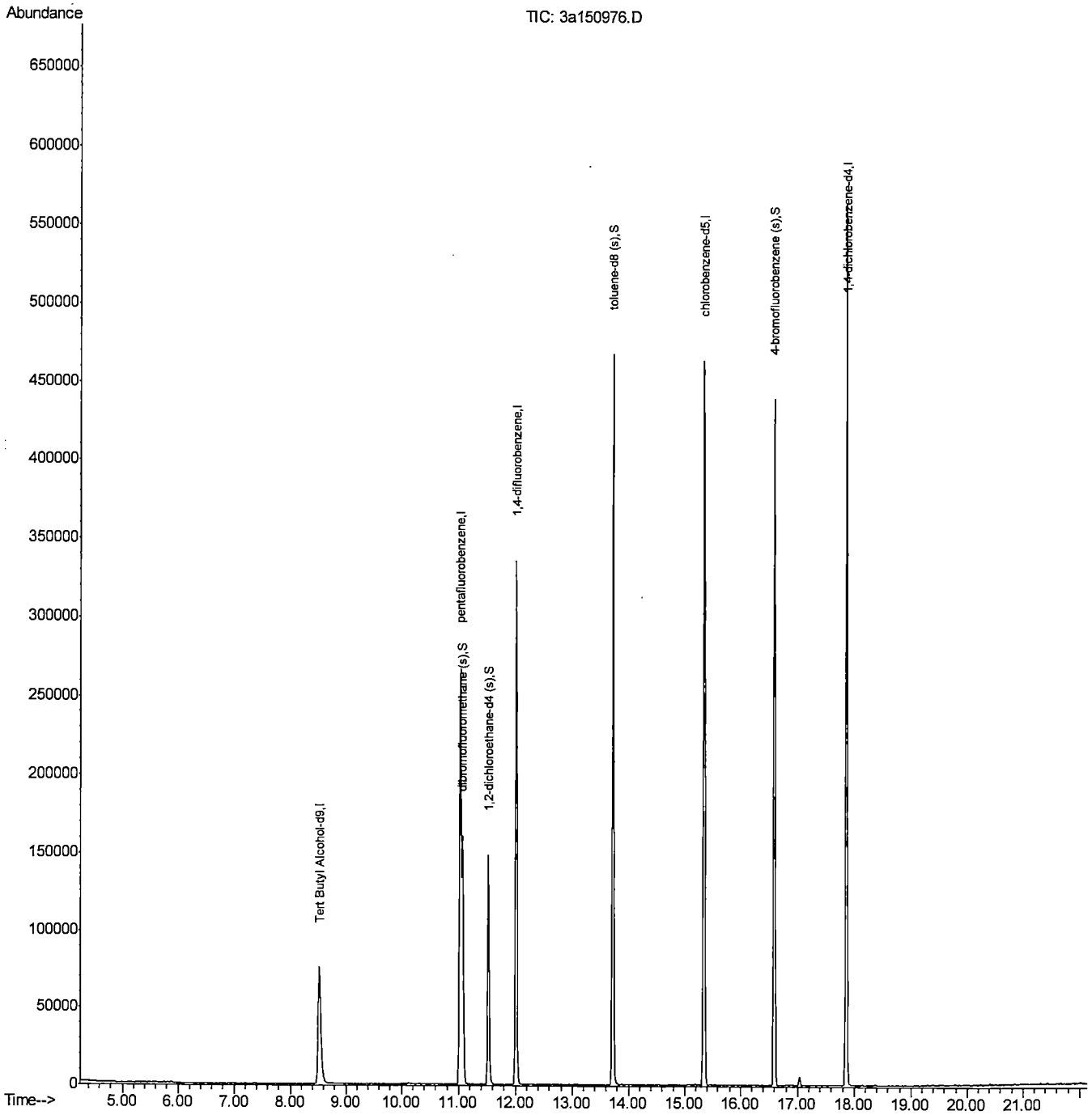
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.13 7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 3a150976.D
Acq On : 25 May 2016 2:45 am
Operator : tracyk
Sample : jc20563-12
Misc : MS2365,V3A6509,5,,,,1
ALS Vial : 34 Sample Multiplier: 1

Quant Time: May 25 09:51:19 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 09:06:14 2016
Response via : Initial Calibration



M3A6507.M Wed May 25 09:51:26 2016 ACCUNJ

SGS ACCUTEST JC20563

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 3a150970.D
Acq On : 24 May 2016 11:47 pm
Operator : tracyk
Sample : mb1
Misc : MS2365,V3A6509,5,,,,1
ALS Vial : 28 Sample Multiplier: 1

Quant Time: May 25 09:49:47 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 09:06:14 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.52	65	166976	500.00 ug/L	0.00
5) pentafluorobenzene	11.03	168	207397	50.00 ug/L	0.00
55) 1,4-difluorobenzene	12.01	114	299532	50.00 ug/L	0.00
87) chlorobenzene-d5	15.35	117	293441	50.00 ug/L	0.00
102) 1,4-dichlorobenzene-d4	17.86	152	174415	50.00 ug/L	0.00

System Monitoring Compounds					
49) dibromofluoromethane (s)	11.07	113	101467	50.19 ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 100.38%		
50) 1,2-dichloroethane-d4 (s)	11.52	65	115111	49.08 ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 98.16%		
79) toluene-d8 (s)	13.72	98	339741	50.65 ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 101.30%		
104) 4-bromofluorobenzene (s)	16.59	95	158892	50.42 ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 100.84%		

Target Compounds	Qvalue

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

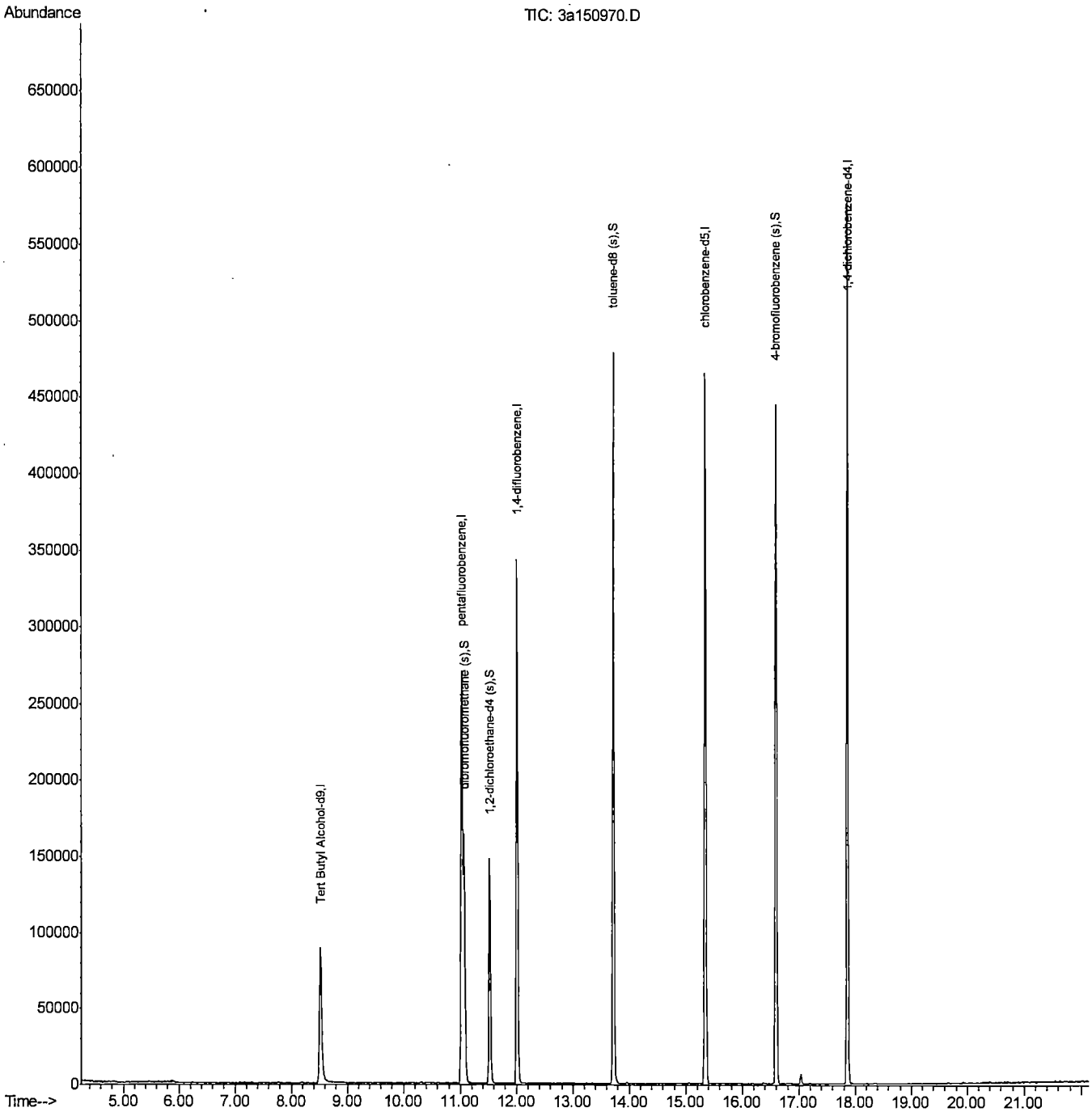
7.2.1

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 3a150970.D
Acq On : 24 May 2016 11:47 pm
Operator : tracyk
Sample : mb1
Misc : MS2365,V3A6509,5,,,,1
ALS Vial : 28 Sample Multiplier: 1

Quant Time: May 25 09:49:47 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 09:06:14 2016
Response via : Initial Calibration



M3A6507.M Wed May 25 09:49:54 2016 ACCUNJ

Page: 2

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a150991.D
Acq On : 25 May 2016 11:25 am
Operator : tracyk
Sample : mb2
Misc : MS2365,V3A6509,5,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 25 15:17:39 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 09:06:14 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.51	65	175821	500.00	ug/L	0.00
5) pentafluorobenzene	11.03	168	197188	50.00	ug/L	0.00
55) 1,4-difluorobenzene	12.01	114	290456	50.00	ug/L	0.00
87) chlorobenzene-d5	15.34	117	286172	50.00	ug/L	0.00
102) 1,4-dichlorobenzene-d4	17.86	152	168065	50.00	ug/L	0.00

System Monitoring Compounds						
49) dibromofluoromethane (s)	11.07	113	97715	50.84	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 101.68%			
50) 1,2-dichloroethane-d4 (s)	11.52	65	113500	50.90	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 101.80%			
79) toluene-d8 (s)	13.71	98	327776	50.39	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 100.78%			
104) 4-bromofluorobenzene (s)	16.59	95	152545	50.24	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 100.48%			

Target Compounds	Qvalue

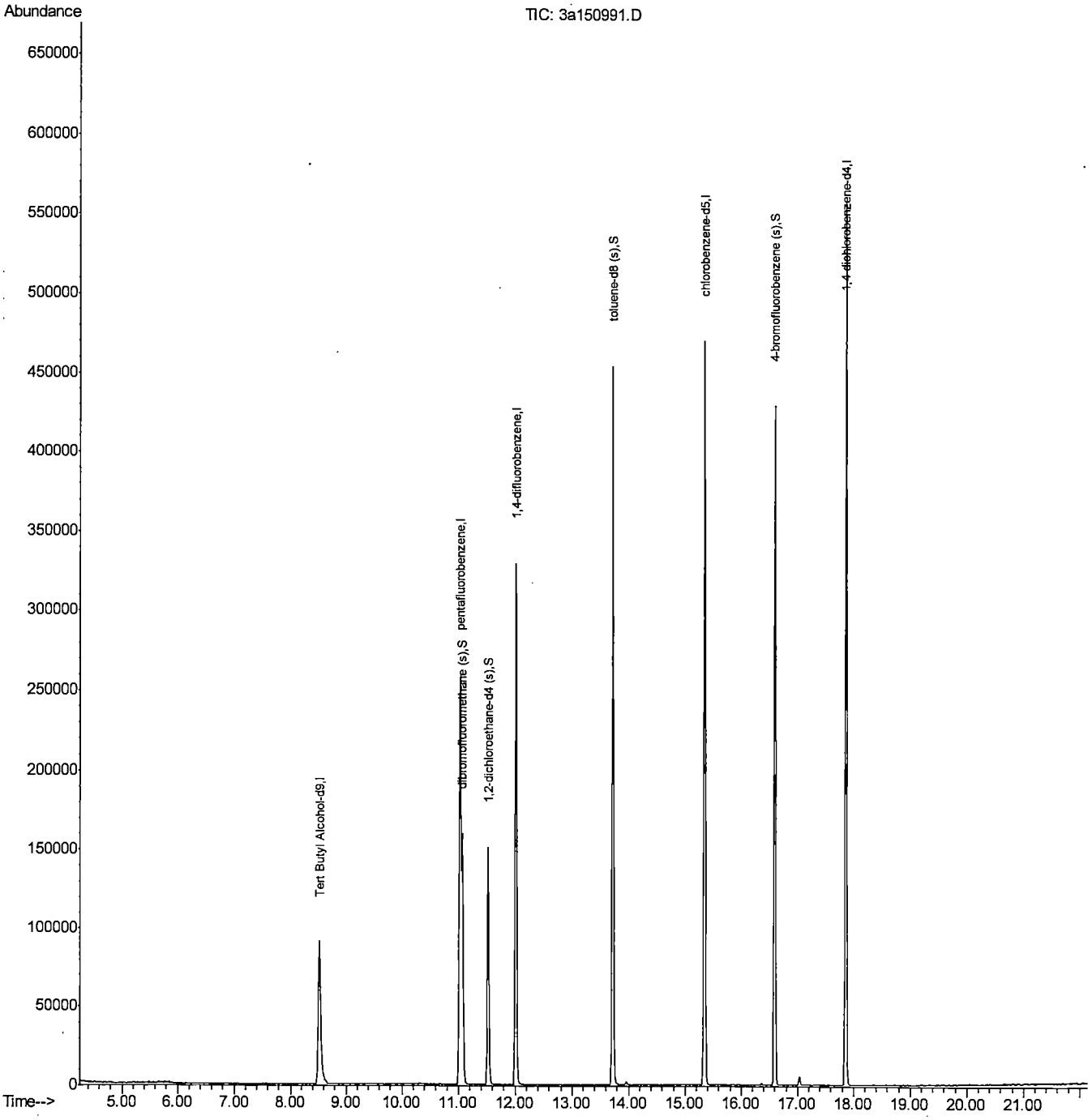
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.2.2 7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a150991.D
Acq On : 25 May 2016 11:25 am
Operator : tracyk
Sample : mb2
Misc : MS2365,V3A6509,5,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 25 15:17:39 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 09:06:14 2016
Response via : Initial Calibration



M3A6507.M Wed May 25 15:17:47 2016 ACCUNJ

SGS ACCUTEST JC20563

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 3a150971.D
Acq On : 25 May 2016 12:17 am
Operator : tracyk
Sample : bs
Misc : MS2256,V3A6509,5,,,,1
ALS Vial : 29 Sample Multiplier: 1

Quant Time: May 25 09:50:11 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 09:06:14 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.52	65	148358	500.00 ug/L	0.00
5) pentafluorobenzene	11.03	168	205649	50.00 ug/L	0.00
55) 1,4-difluorobenzene	12.01	114	311582	50.00 ug/L	0.00
87) chlorobenzene-d5	15.34	117	290097	50.00 ug/L	0.00
102) 1,4-dichlorobenzene-d4	17.86	152	177508	50.00 ug/L	0.00
System Monitoring Compounds					
49) dibromofluoromethane (s)	11.07	113	100289	50.03 ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 100.06%		
50) 1,2-dichloroethane-d4 (s)	11.52	65	114352	49.17 ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 98.34%		
79) toluene-d8 (s)	13.72	98	345832	49.57 ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 99.14%		
104) 4-bromofluorobenzene (s)	16.59	95	153578	47.89 ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 95.78%		
Target Compounds					Qvalue
2) tertiary butyl alcohol	8.65	59	112387	245.78 ug/L	97
4) 1,4-dioxane	12.69	88	30759	1121.68 ug/L	96
8) chlorodifluoromethane	4.51	51	61091	37.05 ug/L	98
9) dichlorodifluoromethane	4.46	85	101201	32.36 ug/L	98
10) chloromethane	4.89	50	134560	41.10 ug/L	97
11) vinyl chloride	5.19	62	125937	36.66 ug/L	99
12) bromomethane	5.97	96	78101	53.88 ug/L	98
15) 2-CHLOROPROPANE	7.50	43	142857	47.77 ug/L	96
16) chloroethane	6.21	64	80657	47.21 ug/L	98
17) trichlorofluoromethane	6.76	101	140100	43.48 ug/L	97
20) ethyl ether	7.25	74	72196	48.89 ug/L	97
21) acrolein	7.53	56	376443	461.48 ug/L	97
22) 1,1-dichloroethene	7.74	61	177111	46.46 ug/L	100
23) acetone	7.77	58	16061	29.35 ug/L	85
24) allyl chloride	8.37	76	64945	46.23 ug/L	99
25) acetonitrile	8.26	40	79853	446.86 ug/L	96
26) iodomethane	8.04	142	205395	48.22 ug/L	98
27) iso-butyl alcohol	11.31	74	20022	506.37 ug/L #	17
28) carbon disulfide	8.19	76	356641	46.79 ug/L	99
29) methylene chloride	8.58	84	124000	45.28 ug/L	98
30) methyl acetate	8.30	43	122180	43.58 ug/L	99
31) methyl tert butyl ether	8.98	73	802095	100.29 ug/L	99
32) trans-1,2-dichloroethene	9.02	61	156494	46.98 ug/L	99
33) di-isopropyl ether	9.65	45	364349	48.35 ug/L	99
34) 2-butanone	10.39	72	21882	42.12 ug/L #	70
35) 1,1-dichloroethane	9.67	63	206582	47.78 ug/L	100
36) chloroprene	9.78	53	153607	44.49 ug/L	98
37) acrylonitrile	8.93	53	335737	246.06 ug/L	99
38) vinyl acetate	9.61	86	20133	38.80 ug/L	89
39) ethyl tert-butyl ether	10.15	59	390175	50.53 ug/L	99
40) ethyl acetate	10.40	45	20462	47.22 ug/L	82
41) 2,2-dichloropropane	10.47	77	89407	45.17 ug/L	98
42) cis-1,2-dichloroethene	10.45	96	135470	47.74 ug/L	96

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 3a150971.D
Acq On : 25 May 2016 12:17 am
Operator : tracyk
Sample : bs
Misc : MS2256,V3A6509,5,,,,1
ALS Vial : 29 Sample Multiplier: 1

Quant Time: May 25 09:50:11 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 09:06:14 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
43) methylacrylate	10.49	85	25202	49.52 ug/L	92
44) propionitrile	10.49	54	258893	524.19 ug/L	92
45) bromochloromethane	10.77	128	69503	49.96 ug/L	94
46) tetrahydrofuran	10.78	42	50496	44.81 ug/L	98
47) chloroform	10.86	85	143783	49.70 ug/L	97
48) t-butyl formate	10.90	59	66122	27.12 ug/L	94
51) freon 113	7.74	151	74897	45.27 ug/L	96
52) methacrylonitrile	10.69	67	66347	46.72 ug/L	98
53) 1,1,1-trichloroethane	11.13	97	160543	51.68 ug/L	98
54) Cyclohexane	11.24	84	153740	41.93 ug/L	93
56) epichlorohydrin	13.26	57	91419	228.32 ug/L	99
57) n-butyl alcohol	12.06	56	283924	2252.59 ug/L	99
58) carbon tetrachloride	11.33	117	152807	50.11 ug/L	98
59) 1,1-dichloropropene	11.31	75	158523	50.35 ug/L	99
61) hexane	9.41	57	98922	38.90 ug/L	97
62) 2,2,4-TRIMETHYLPENTANE	11.66	57	300884	36.31 ug/L	96
63) benzene	11.58	78	464125	48.25 ug/L	99
64) tert-amyl methyl ether	11.65	87	93021	49.40 ug/L	93
65) heptane	11.83	57	47777	32.47 ug/L	98
66) isopropyl acetate	11.49	87	34586	50.16 ug/L #	89
67) 1,2-dichloroethane	11.61	62	174668	50.89 ug/L	99
69) trichloroethene	12.33	95	125543	49.75 ug/L	96
71) methyl methacrylate	12.59	100	39402	48.83 ug/L	94
72) 2-nitropropane	13.14	41	64859	47.30 ug/L	98
73) 2-chloroethyl vinyl ether	13.16	63	420221	246.51 ug/L	99
74) 1,2-dichloropropane	12.65	63	112685	46.81 ug/L	99
75) dibromomethane	12.76	93	85026	50.18 ug/L	97
76) methylcyclohexane	12.63	83	145941	39.72 ug/L	98
77) bromodichloromethane	12.92	83	170304	49.29 ug/L	98
78) cis-1,3-dichloropropene	13.39	75	187096	46.10 ug/L	98
80) 4-methyl-2-pentanone	13.51	58	71428	49.46 ug/L	91
81) toluene	13.80	91	485064	47.06 ug/L	100
82) 3-methyl-1-butanol	13.50	55	194152	914.31 ug/L	99
83) trans-1,3-dichloropropene	14.00	75	176198	44.80 ug/L	95
84) ethyl methacrylate	13.98	69	181167	47.24 ug/L	99
85) 1,1,2-trichloroethane	14.24	83	95850	47.14 ug/L	99
86) 2-hexanone	14.41	58	65115	39.99 ug/L	99
88) tetrachloroethene	14.39	166	229143	66.78 ug/L	99
90) 1,3-dichloropropane	14.43	76	180005	47.14 ug/L	97
91) butyl acetate	14.48	56	102614	47.88 ug/L	99
92) 3,3-dimethyl-1-butanol	14.59	57	217750	451.62 ug/L	99
93) dibromochloromethane	14.70	129	142358	50.98 ug/L	100
94) 1,2-dibromoethane	14.87	107	130029	48.41 ug/L	99
95) chlorobenzene	15.38	112	337930	48.17 ug/L	99
96) 1,1,1,2-tetrachloroethane	15.44	131	138251	51.45 ug/L	99
97) ethylbenzene	15.43	91	586361	48.45 ug/L	100
98) m,p-xylene	15.57	106	460750	97.88 ug/L	100
99) o-xylene	16.00	91	520644	50.47 ug/L	100
100) styrene	16.01	104	413767	48.65 ug/L	99
101) bromoform	16.27	173	126801	49.41 ug/L	99

7.3.1

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 3a150971.D
Acq On : 25 May 2016 12:17 am
Operator : tracyk
Sample : bs
Misc : MS2256,V3A6509,5,,,,1
ALS Vial : 29 Sample Multiplier: 1

Quant Time: May 25 09:50:11 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 09:06:14 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
103) isopropylbenzene	16.37	105	624276	47.57 ug/L	100
105) cyclohexanone	16.53	98	30862	110.26 ug/L	97
106) bromobenzene	16.80	156	181466	46.58 ug/L	97
107) 1,1,2,2-tetrachloroethane	16.68	83	214385	44.27 ug/L	99
108) trans-1,4-dichloro-2-buten	16.71	53	56707	41.45 ug/L	99
109) 1,2,3-trichloropropane	16.78	110	64275	46.96 ug/L	97
110) n-propylbenzene	16.81	91	753080	47.35 ug/L	99
111) 2-chlorotoluene	16.97	126	161765	47.58 ug/L	96
112) 4-chlorotoluene	17.09	91	489168	46.08 ug/L	99
113) 1,3,5-trimethylbenzene	16.98	105	550367	47.54 ug/L	98
114) tert-butylbenzene	17.35	134	112723	49.75 ug/L	99
115) pentachloroethane	17.44	167	21489	12.76 ug/L	97
116) 1,2,4-trimethylbenzene	17.41	105	581818	47.67 ug/L	99
117) sec-butylbenzene	17.59	105	695326	47.02 ug/L	100
118) 1,3-dichlorobenzene	17.79	146	353200	46.16 ug/L	99
119) p-isopropyltoluene	17.73	119	605833	47.91 ug/L	99
120) 1,4-dichlorobenzene	17.89	146	359301	46.96 ug/L	99
121) 1,2-dichlorobenzene	18.30	146	340972	46.08 ug/L	99
122) benzyl chloride	17.99	91	423120	40.20 ug/L	100
123) n-butylbenzene	18.18	92	300240	46.53 ug/L	99
124) 1,2-dibromo-3-chloropropan	19.15	75	46169	47.02 ug/L	96
125) 1,3,5-TRICHLOROBENZENE	19.35	180	235348	46.17 ug/L	99
126) 1,2,4-trichlorobenzene	20.06	180	203866	45.96 ug/L	98
127) hexachlorobutadiene	20.18	225	88000	42.61 ug/L	97
128) naphthalene	20.41	128	582186	47.46 ug/L	100
129) 1,2,3-trichlorobenzene	20.66	180	177840	46.42 ug/L	98
130) hexachloroethane	18.63	201	99804	47.37 ug/L	96

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

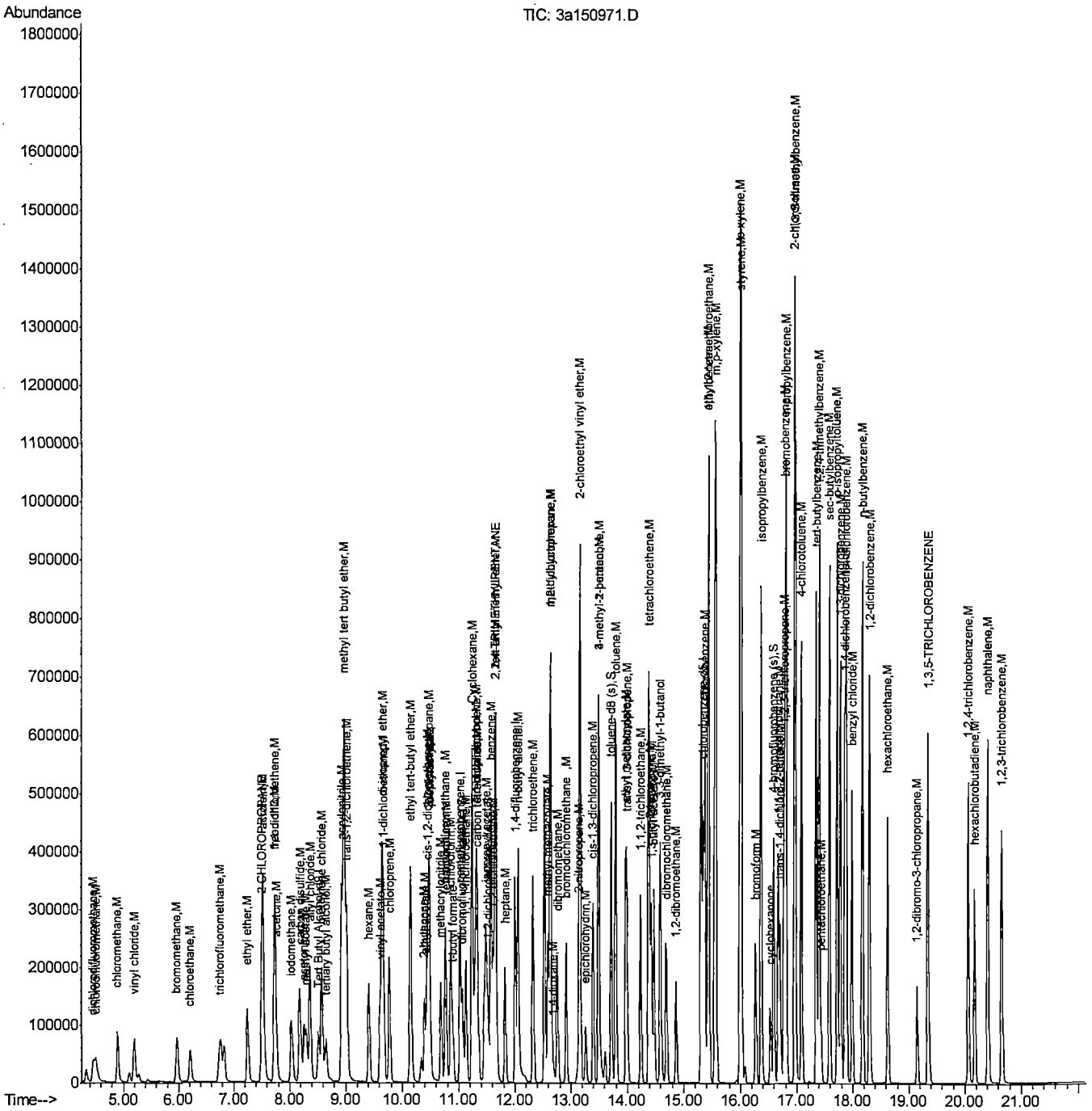
7.3.1

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 3a150971.D
Acq On : 25 May 2016 12:17 am
Operator : tracyk
Sample : bs
Misc : MS2256,V3A6509,5,,,,1
ALS Vial : 29 Sample Multiplier: 1

Quant Time: May 25 09:50:11 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 09:06:14 2016
Response via : Initial Calibration



SGS ACCUTEST JC20563

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a150992.D
Acq On : 25 May 2016 11:55 am
Operator : tracyk
Sample : bs2
Misc : MS2365,V3A6509,5,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 25 15:18:12 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 09:06:14 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.52	65	132192	500.00 ug/L	0.00
5) pentafluorobenzene	11.03	168	198356	50.00 ug/L	0.00
55) 1,4-difluorobenzene	12.01	114	299740	50.00 ug/L	0.00
87) chlorobenzene-d5	15.34	117	286629	50.00 ug/L	0.00
102) 1,4-dichlorobenzene-d4	17.86	152	173176	50.00 ug/L	0.00
System Monitoring Compounds					
49) dibromofluoromethane (s)	11.07	113	97073	50.21 ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 100.42%		
50) 1,2-dichloroethane-d4 (s)	11.52	65	112511	50.16 ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 100.32%		
79) toluene-d8 (s)	13.72	98	343013	51.10 ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 102.20%		
104) 4-bromofluorobenzene (s)	16.59	95	153249	48.98 ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 97.96%		

Target Compounds					Qvalue
2) tertiary butyl alcohol	8.65	59	102850	252.43 ug/L	95
4) 1,4-dioxane	12.69	88	28154	1152.24 ug/L	94
8) chlorodifluoromethane	4.50	51	67336	42.34 ug/L	99
9) dichlorodifluoromethane	4.46	85	104926	34.79 ug/L	98
10) chloromethane	4.90	50	135563	42.93 ug/L	96
11) vinyl chloride	5.20	62	125811	37.97 ug/L	99
12) bromomethane	5.98	96	78054	55.83 ug/L	97
15) 2-CHLOROPROPANE	7.51	43	161630	56.04 ug/L	96
16) chloroethane	6.22	64	82185	49.88 ug/L	98
17) trichlorofluoromethane	6.76	101	146487	47.14 ug/L	99
20) ethyl ether	7.26	74	78198	54.90 ug/L	97
21) acrolein	7.53	56	444554	565.02 ug/L	99
22) 1,1-dichloroethene	7.74	61	188475	51.26 ug/L	99
23) acetone	7.77	58	15806	29.95 ug/L	91
24) allyl chloride	8.37	76	72919	53.81 ug/L	98
25) acetonitrile	8.26	40	78574	455.87 ug/L	100
26) iodomethane	8.04	142	219166	53.34 ug/L	99
27) iso-butyl alcohol	11.30	74	20043	525.54 ug/L #	50
28) carbon disulfide	8.19	76	393039	53.46 ug/L	98
29) methylene chloride	8.58	84	131519	49.79 ug/L	98
30) methyl acetate	8.31	43	124291	45.96 ug/L	99
31) methyl tert butyl ether	8.98	73	837695	108.59 ug/L	99
32) trans-1,2-dichloroethene	9.02	61	167777	52.22 ug/L	98
33) di-isopropyl ether	9.65	45	386205	53.14 ug/L	98
34) 2-butanone	10.39	72	22068	44.04 ug/L #	63
35) 1,1-dichloroethane	9.67	63	219381	52.60 ug/L	99
36) chloroprene	9.78	53	167929	50.42 ug/L	99
37) acrylonitrile	8.93	53	353278	268.43 ug/L	98
38) vinyl acetate	9.61	86	29472	58.88 ug/L	96
39) ethyl tert-butyl ether	10.15	59	407842	54.76 ug/L	99
40) ethyl acetate	10.41	45	20631	49.36 ug/L	75
41) 2,2-dichloropropane	10.47	77	105699	55.36 ug/L	98
42) cis-1,2-dichloroethene	10.45	96	141537	51.71 ug/L	100

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a150992.D
Acq On : 25 May 2016 11:55 am
Operator : tracyk
Sample : bs2
Misc : MS2365,V3A6509,5,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 25 15:18:12 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 09:06:14 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
43) methylacrylate	10.49	85	26470	53.93 ug/L	97
44) propionitrile	10.49	54	266588	559.62 ug/L	93
45) bromochloromethane	10.77	128	72497	54.03 ug/L	99
46) tetrahydrofuran	10.78	42	52773	48.55 ug/L	99
47) chloroform	10.86	85	152120	54.51 ug/L	100
48) t-butyl formate	10.90	59	86509	36.78 ug/L	96
51) freon 113	7.74	151	86205	54.02 ug/L	96
52) methacrylonitrile	10.69	67	70551	51.51 ug/L	95
53) 1,1,1-trichloroethane	11.13	97	171694	57.31 ug/L	99
54) Cyclohexane	11.24	84	172498	48.77 ug/L	98
56) epichlorohydrin	13.26	57	95785	248.67 ug/L	98
57) n-butyl alcohol	12.06	56	277150	2285.72 ug/L	99
58) carbon tetrachloride	11.33	117	164287	56.00 ug/L	98
59) 1,1-dichloropropene	11.31	75	167393	55.27 ug/L	99
61) hexane	9.41	57	97919	40.03 ug/L	97
62) 2,2,4-TRIMETHYLPENTANE	11.66	57	395617	49.63 ug/L	98
63) benzene	11.58	78	494952	53.49 ug/L	99
64) tert-amyl methyl ether	11.65	87	94113	51.95 ug/L	99
65) heptane	11.83	57	64827	45.79 ug/L	100
66) isopropyl acetate	11.49	87	35227	53.11 ug/L	94
67) 1,2-dichloroethane	11.61	62	183505	55.58 ug/L	98
69) trichloroethene	12.33	95	129352	53.28 ug/L	97
71) methyl methacrylate	12.59	100	41048	52.88 ug/L	93
72) 2-nitropropane	13.14	41	69255	52.50 ug/L	98
73) 2-chloroethyl vinyl ether	13.16	63	446818	272.46 ug/L	99
74) 1,2-dichloropropane	12.65	63	121523	52.48 ug/L	99
75) dibromomethane	12.76	93	88608	54.35 ug/L	98
76) methylcyclohexane	12.63	83	176763	50.01 ug/L	99
77) bromodichloromethane	12.92	83	179973	54.14 ug/L	99
78) cis-1,3-dichloropropene	13.40	75	207962	53.26 ug/L	97
80) 4-methyl-2-pentanone	13.50	58	74664	53.74 ug/L	93
81) toluene	13.80	91	523482	52.79 ug/L	100
82) 3-methyl-1-butanol	13.49	55	189883	929.54 ug/L	97
83) trans-1,3-dichloropropene	14.00	75	195403	51.65 ug/L	97
84) ethyl methacrylate	13.98	69	194750	52.79 ug/L	99
85) 1,1,2-trichloroethane	14.24	83	102191	52.24 ug/L	99
86) 2-hexanone	14.41	58	68919	43.99 ug/L	99
88) tetrachloroethene	14.38	166	150393	44.36 ug/L	98
90) 1,3-dichloropropane	14.43	76	193308	51.24 ug/L	99
91) butyl acetate	14.48	56	109007	51.48 ug/L	99
92) 3,3-dimethyl-1-butanol	14.59	57	212321	445.69 ug/L	99
93) dibromochloromethane	14.70	129	150756	54.64 ug/L	99
94) 1,2-dibromoethane	14.87	107	138049	52.02 ug/L	99
95) chlorobenzene	15.38	112	358106	51.67 ug/L	99
96) 1,1,1,2-tetrachloroethane	15.45	131	144217	54.32 ug/L	99
97) ethylbenzene	15.43	91	628297	52.54 ug/L	99
98) m,p-xylene	15.57	106	494383	106.30 ug/L	100
99) o-xylene	16.00	91	551543	54.11 ug/L	100
100) styrene	16.01	104	440971	52.47 ug/L	98
101) bromoform	16.27	173	134381	53.00 ug/L	99

7.3.2 7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a150992.D
Acq On : 25 May 2016 11:55 am
Operator : tracyk
Sample : bs2
Misc : MS2365,V3A6509,5,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 25 15:18:12 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 09:06:14 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
103) isopropylbenzene	16.37	105	660114	51.56 ug/L	99
105) cyclohexanone	16.53	98	30959	113.37 ug/L	98
106) bromobenzene	16.80	156	190172	50.03 ug/L	97
107) 1,1,2,2-tetrachloroethane	16.67	83	235372	49.82 ug/L	100
108) trans-1,4-dichloro-2-buten	16.71	53	69024	51.71 ug/L	97
109) 1,2,3-trichloropropane	16.77	110	66260	49.62 ug/L	98
110) n-propylbenzene	16.81	91	801755	51.67 ug/L	99
111) 2-chlorotoluene	16.97	126	170480	51.40 ug/L	96
112) 4-chlorotoluene	17.09	91	517316	49.95 ug/L	99
113) 1,3,5-trimethylbenzene	16.98	105	581932	51.53 ug/L	99
114) tert-butylbenzene	17.35	134	118892	53.79 ug/L	96
115) pentachloroethane	17.43	167	111743	67.99 ug/L	97
116) 1,2,4-trimethylbenzene	17.41	105	615075	51.65 ug/L	100
117) sec-butylbenzene	17.59	105	738522	51.18 ug/L	99
118) 1,3-dichlorobenzene	17.78	146	373125	49.98 ug/L	98
119) p-isopropyltoluene	17.73	119	646066	52.37 ug/L	100
120) 1,4-dichlorobenzene	17.89	146	374996	50.23 ug/L	98
121) 1,2-dichlorobenzene	18.30	146	358865	49.71 ug/L	100
122) benzyl chloride	17.99	91	535790	52.18 ug/L	100
123) n-butylbenzene	18.18	92	324116	51.48 ug/L	98
124) 1,2-dibromo-3-chloropropan	19.15	75	47377	49.45 ug/L	96
125) 1,3,5-TRICHLOROBENZENE	19.35	180	249787	50.23 ug/L	99
126) 1,2,4-trichlorobenzene	20.06	180	211389	48.85 ug/L	97
127) hexachlorobutadiene	20.18	225	95563	47.43 ug/L	98
128) naphthalene	20.41	128	589984	49.29 ug/L	100
129) 1,2,3-trichlorobenzene	20.66	180	184327	49.32 ug/L	100
130) hexachloroethane	18.63	201	107161	52.14 ug/L	97

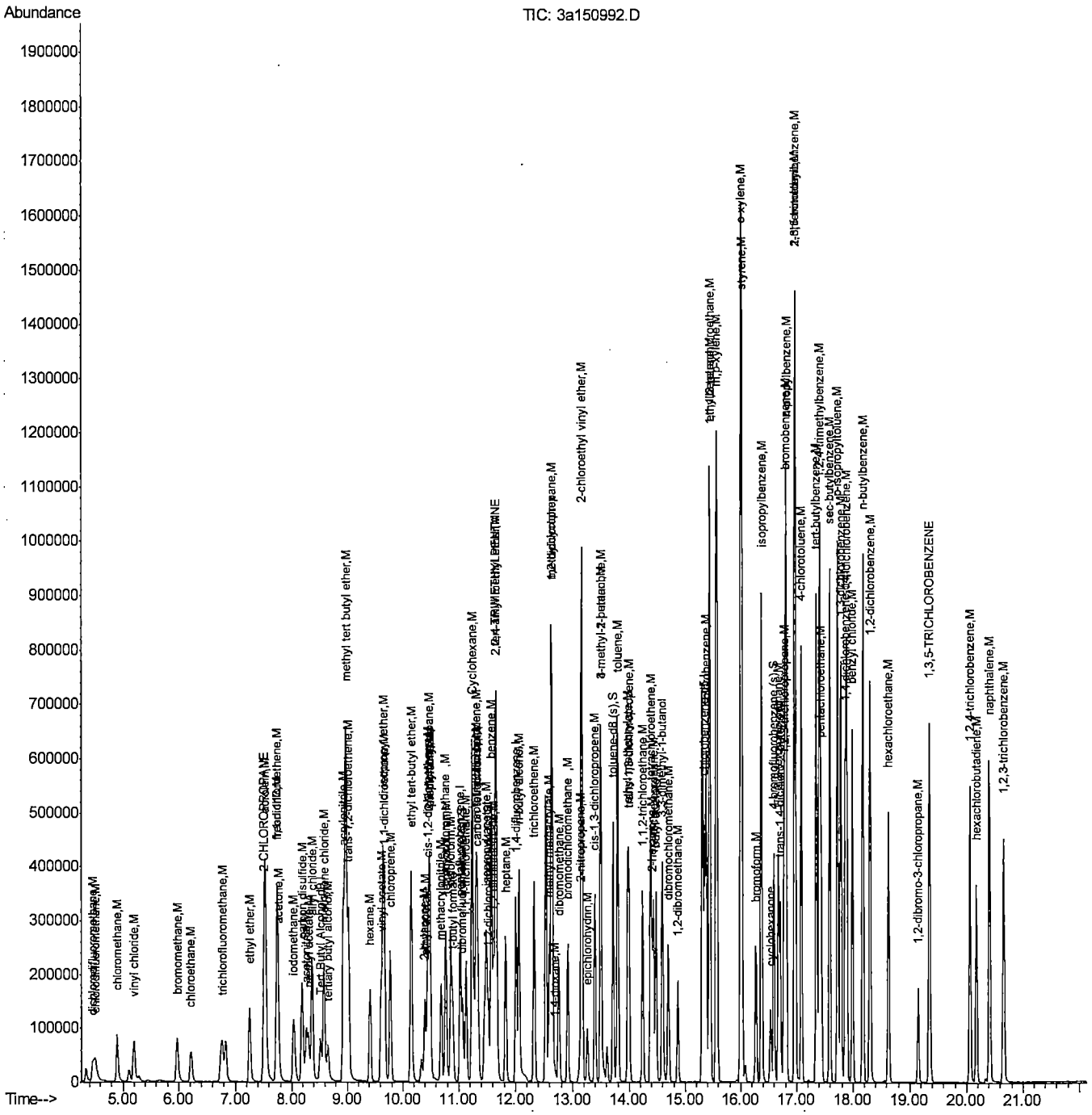
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.3.2 7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a150992.D
Acq On : 25 May 2016 11:55 am
Operator : tracyk
Sample : bs2
Misc : MS2365,V3A6509,5,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 25 15:18:12 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 09:06:14 2016
Response via : Initial Calibration



SGS ACCUTEST JC20563

7.3.2

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a150993.D
Acq On : 25 May 2016 12:33 pm
Operator : tracyk
Sample : jc20563-8ms
Misc : MS2365,V3A6509,5,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 25 15:19:15 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 09:06:14 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.52	65	148455	500.00 ug/L	0.00
5) pentafluorobenzene	11.03	168	192425	50.00 ug/L	0.00
55) 1,4-difluorobenzene	12.01	114	294507	50.00 ug/L	0.00
87) chlorobenzene-d5	15.34	117	261258	50.00 ug/L	0.00
102) 1,4-dichlorobenzene-d4	17.86	152	172603	50.00 ug/L	0.00
System Monitoring Compounds					
49) dibromofluoromethane (s)	11.07	113	96944	51.69 ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery	= 103.38%	
50) 1,2-dichloroethane-d4 (s)	11.52	65	111604	51.29 ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery	= 102.58%	
79) toluene-d8 (s)	13.72	98	323462	49.05 ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery	= 98.10%	
104) 4-bromofluorobenzene (s)	16.59	95	136705	43.84 ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery	= 87.68%	

Target Compounds					Qvalue
2) tertiary butyl alcohol	8.65	59	112448	245.75 ug/L	98
4) 1,4-dioxane	12.69	88	32257	1175.54 ug/L	96
8) chlorodifluoromethane	4.51	51	82750	53.63 ug/L	97
9) dichlorodifluoromethane	4.46	85	128278	43.84 ug/L	99
10) chloromethane	4.90	50	153360	50.07 ug/L	100
11) vinyl chloride	5.20	62	151032	46.98 ug/L	99
12) bromomethane	5.97	96	85893	63.33 ug/L	97
15) 2-CHLOROPROPANE	7.50	43	175779	62.82 ug/L	97
16) chloroethane	6.21	64	93872	58.72 ug/L	98
17) trichlorofluoromethane	6.76	101	180840	59.99 ug/L	99
20) ethyl ether	7.25	74	79005	57.18 ug/L	97
21) acrolein	7.53	56	444647	582.56 ug/L	99
22) 1,1-dichloroethene	7.74	61	223646	62.71 ug/L	99
23) acetone	7.77	58	24002	46.88 ug/L	92
24) allyl chloride	8.37	76	79128	60.20 ug/L	98
25) acetonitrile	8.26	40	86551	517.63 ug/L	97
26) iodomethane	8.04	142	235717	59.14 ug/L	97
27) iso-butyl alcohol	11.31	74	21197	572.92 ug/L #	8
28) carbon disulfide	8.19	76	448582	62.90 ug/L	98
29) methylene chloride	8.58	84	137358	53.60 ug/L	98
30) methyl acetate	8.30	43	118016	44.99 ug/L	99
31) methyl tert butyl ether	8.97	73	830020	110.92 ug/L	98
32) trans-1,2-dichloroethene	9.02	61	183125	58.75 ug/L	100
33) di-isopropyl ether	9.65	45	385690	54.70 ug/L	99
34) 2-butanone	10.39	72	20223	41.60 ug/L #	86
35) 1,1-dichloroethane	9.67	63	252406	62.39 ug/L	99
36) chloroprene	9.77	53	188378	58.31 ug/L	98
37) acrylonitrile	8.93	53	342653	268.38 ug/L	99
38) vinyl acetate	9.61	86	28218	58.12 ug/L	95
39) ethyl tert-butyl ether	10.15	59	409920	56.74 ug/L	99
40) ethyl acetate	10.40	45	18669	46.04 ug/L	81
41) 2,2-dichloropropane	10.47	77	113543	61.30 ug/L	98
42) cis-1,2-dichloroethene	10.45	96	150971	56.85 ug/L	98

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a150993.D
Acq On : 25 May 2016 12:33 pm
Operator : tracyk
Sample : jc20563-8ms
Misc : MS2365,V3A6509,5,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 25 15:19:15 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 09:06:14 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
43) methylacrylate	10.50	85	23983	50.37 ug/L	85
44) propionitrile	10.49	54	259524	561.58 ug/L	90
45) bromochloromethane	10.77	128	73978	56.84 ug/L	98
46) tetrahydrofuran	10.78	42	50056	47.47 ug/L	96
47) chloroform	10.86	85	156687	57.88 ug/L	97
48) t-butyl formate	10.90	59	63808	27.96 ug/L	95
51) freon 113	7.74	151	105638	68.24 ug/L	99
52) methacrylonitrile	10.69	67	65360	49.19 ug/L	99
53) 1,1,1-trichloroethane	11.13	97	201281	69.25 ug/L	99
54) Cyclohexane	11.24	84	209888	61.17 ug/L	96
56) epichlorohydrin	13.26	57	76091	201.05 ug/L	97
57) n-butyl alcohol	12.06	56	262546	2203.75 ug/L	99
58) carbon tetrachloride	11.33	117	186835	64.82 ug/L	97
59) 1,1-dichloropropene	11.31	75	188005	63.17 ug/L	100
61) hexane	9.41	57	120344	50.07 ug/L	97
62) 2,2,4-TRIMETHYLPENTANE	11.66	57	484443	61.86 ug/L	99
63) benzene	11.58	78	514574	56.60 ug/L	100
64) tert-amyl methyl ether	11.65	87	93089	52.30 ug/L	97
65) heptane	11.83	57	76862	55.26 ug/L	99
66) isopropyl acetate	11.48	87	31722	48.67 ug/L	98
67) 1,2-dichloroethane	11.61	62	184037	56.73 ug/L	99
69) trichloroethene	12.33	95	137376	57.59 ug/L	99
71) methyl methacrylate	12.59	100	34595	45.36 ug/L #	87
72) 2-nitropropane	13.14	41	43722	33.73 ug/L	98
74) 1,2-dichloropropane	12.64	63	120958	53.16 ug/L	99
75) dibromomethane	12.76	93	86076	53.74 ug/L	93
76) methylcyclohexane	12.63	83	211878	61.01 ug/L	99
77) bromodichloromethane	12.91	83	177918	54.48 ug/L	99
78) cis-1,3-dichloropropene	13.40	75	193762	50.51 ug/L	98
80) 4-methyl-2-pentanone	13.51	58	67564	49.50 ug/L	92
81) toluene	13.80	91	520083	53.38 ug/L	99
82) 3-methyl-1-butanol	13.49	55	189440	943.85 ug/L	99
83) trans-1,3-dichloropropene	14.00	75	166579	44.81 ug/L	95
84) ethyl methacrylate	13.98	69	163463	45.09 ug/L	98
85) 1,1,2-trichloroethane	14.24	83	90571	47.12 ug/L	99
86) 2-hexanone	14.41	58	54265	35.25 ug/L	99
88) tetrachloroethene	14.38	166	163873	53.03 ug/L	99
90) 1,3-dichloropropane	14.43	76	165812	48.22 ug/L	99
91) butyl acetate	14.48	56	85912	44.51 ug/L	96
92) 3,3-dimethyl-1-butanol	14.59	57	240976	554.97 ug/L	98
93) dibromochloromethane	14.70	129	136860	54.42 ug/L	100
94) 1,2-dibromoethane	14.87	107	115461	47.73 ug/L	98
95) chlorobenzene	15.38	112	337206	53.38 ug/L	100
96) 1,1,1,2-tetrachloroethane	15.45	131	145201	60.00 ug/L	99
97) ethylbenzene	15.43	91	613140	56.25 ug/L	100
98) m,p-xylene	15.57	106	481329	113.54 ug/L	99
99) o-xylene	16.00	91	556405	59.89 ug/L	99
100) styrene	16.01	104	408188	53.29 ug/L	99
101) bromoform	16.27	173	118333	51.20 ug/L	99
103) isopropylbenzene	16.37	105	695118	54.47 ug/L	100

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a150993.D
Acq On : 25 May 2016 12:33 pm
Operator : tracyk
Sample : jc20563-8ms
Misc : MS2365,V3A6509,5,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 25 15:19:15 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 09:06:14 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
105) cyclohexanone	16.53	98	25376	93.23 ug/L	98
106) bromobenzene	16.80	156	177288	46.80 ug/L	96
107) 1,1,2,2-tetrachloroethane	16.67	83	213926	45.43 ug/L	100
108) trans-1,4-dichloro-2-buten	16.71	53	59614	44.81 ug/L	99
109) 1,2,3-trichloropropane	16.77	110	58390	43.87 ug/L	99
110) n-propylbenzene	16.81	91	828432	53.56 ug/L	99
111) 2-chlorotoluene	16.97	126	171500	51.88 ug/L	98
112) 4-chlorotoluene	17.09	91	505031	48.93 ug/L	100
113) 1,3,5-trimethylbenzene	16.98	105	614609	54.60 ug/L	99
114) tert-butylbenzene	17.35	134	130794	59.37 ug/L	99
115) pentachloroethane	17.43	167	124645	76.09 ug/L	96
116) 1,2,4-trimethylbenzene	17.41	105	643295	54.20 ug/L	99
117) sec-butylbenzene	17.59	105	821541	57.13 ug/L	100
118) 1,3-dichlorobenzene	17.78	146	378257	50.84 ug/L	99
119) p-isopropyltoluene	17.73	119	714083	58.07 ug/L	99
120) 1,4-dichlorobenzene	17.89	146	383422	51.53 ug/L	99
121) 1,2-dichlorobenzene	18.30	146	376184	52.29 ug/L	98
122) benzyl chloride	17.99	91	523613	51.16 ug/L	99
123) n-butylbenzene	18.18	92	371884	59.26 ug/L	98
124) 1,2-dibromo-3-chloropropan	19.15	75	49944	52.31 ug/L	97
125) 1,3,5-TRICHLOROBENZENE	19.35	180	292133	58.94 ug/L	100
126) 1,2,4-trichlorobenzene	20.06	180	251638	58.35 ug/L	99
127) hexachlorobutadiene	20.18	225	126418	62.95 ug/L	98
128) naphthalene	20.41	128	676918	56.75 ug/L	99
129) 1,2,3-trichlorobenzene	20.66	180	221183	59.38 ug/L	98
130) hexachloroethane	18.63	201	123335	60.21 ug/L	98

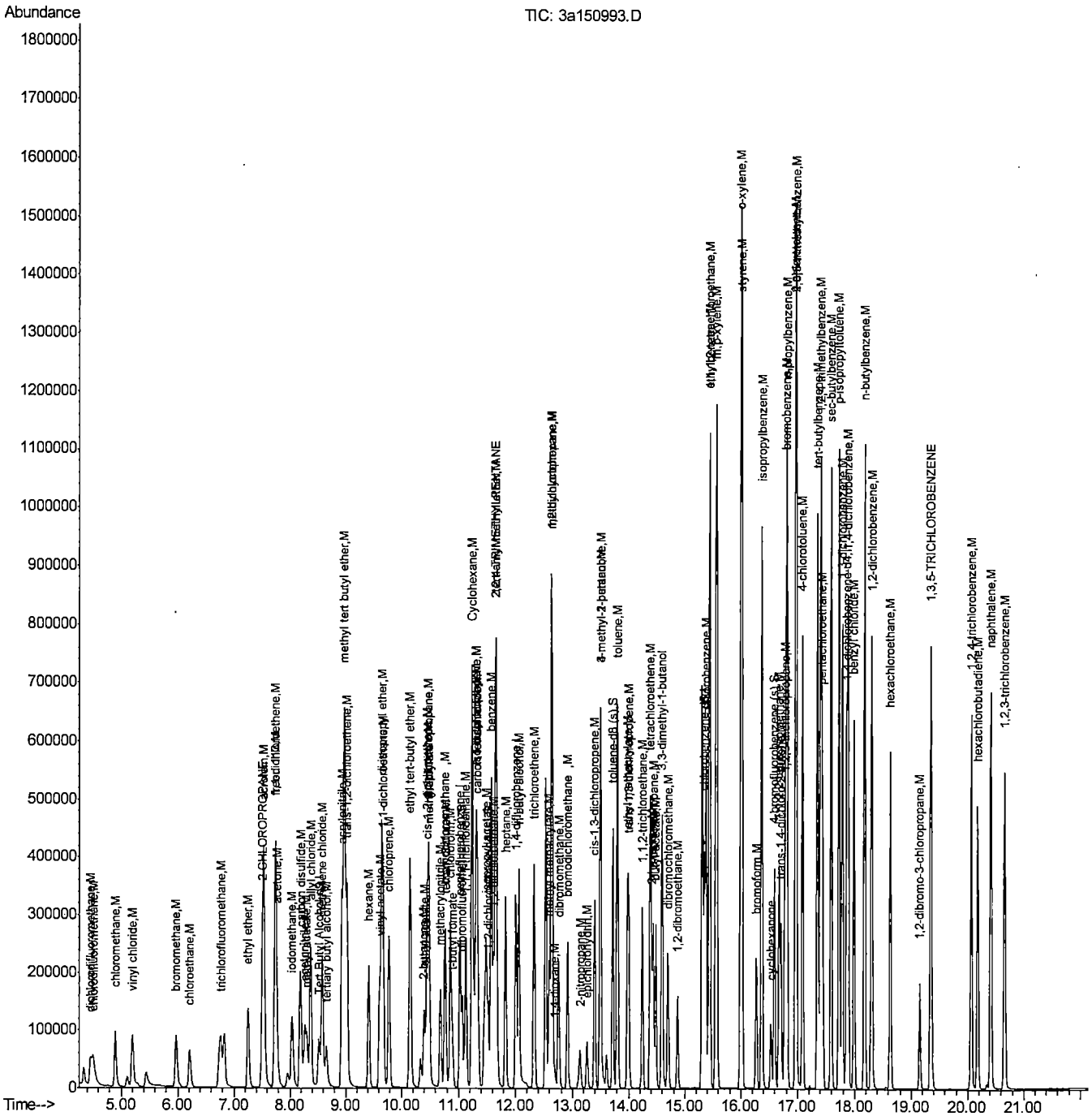
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.4.1 7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a150993.D
Acq On : 25 May 2016 12:33 pm
Operator : tracyk
Sample : jc20563-8ms
Misc : MS2365,V3A6509,5,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 25 15:19:15 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 09:06:14 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a150994.D
Acq On : 25 May 2016 1:03 pm
Operator : tracyk
Sample : jc20563-8msd
Misc : MS2365,V3A6509,5,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 25 15:19:54 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 09:06:14 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.51	65	119891	500.00 ug/L	0.00
5) pentafluorobenzene	11.03	168	203650	50.00 ug/L	0.00
55) 1,4-difluorobenzene	12.01	114	308758	50.00 ug/L	0.00
87) chlorobenzene-d5	15.34	117	289838	50.00 ug/L	0.00
102) 1,4-dichlorobenzene-d4	17.86	152	177546	50.00 ug/L	0.00

System Monitoring Compounds					
49) dibromofluoromethane (s)	11.07	113	98266	49.50 ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 99.00%		
50) 1,2-dichloroethane-d4 (s)	11.52	65	113649	49.35 ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 98.70%		
79) toluene-d8 (s)	13.72	98	346810	50.16 ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 100.32%		
104) 4-bromofluorobenzene (s)	16.59	95	153833	47.96 ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 95.92%		

Target Compounds					Qvalue
2) tertiary butyl alcohol	8.65	59	90408	244.66 ug/L	93
4) 1,4-dioxane	12.69	88	28528	1287.33 ug/L	95
8) chlorodifluoromethane	4.51	51	86826	53.17 ug/L	96
9) dichlorodifluoromethane	4.46	85	123579	39.91 ug/L	98
10) chloromethane	4.90	50	150737	46.50 ug/L	97
11) vinyl chloride	5.19	62	149826	44.04 ug/L	98
12) bromomethane	5.98	96	85218	59.37 ug/L	99
15) 2-CHLOROPROPANE	7.50	43	169868	57.36 ug/L	96
16) chloroethane	6.22	64	93986	55.55 ug/L	99
17) trichlorofluoromethane	6.76	101	174092	54.57 ug/L	97
20) ethyl ether	7.26	74	79247	54.19 ug/L	94
21) acrolein	7.53	56	400852	496.23 ug/L	99
22) 1,1-dichloroethene	7.74	61	228393	60.51 ug/L	99
23) acetone	7.76	58	19907	36.74 ug/L	86
24) allyl chloride	8.37	76	80950	58.19 ug/L	95
25) acetonitrile	8.26	40	62882	355.34 ug/L	100
26) iodomethane	8.04	142	240802	57.08 ug/L	98
27) iso-butyl alcohol	11.31	74	20826	531.87 ug/L #	1
28) carbon disulfide	8.19	76	457388	60.60 ug/L	99
29) methylene chloride	8.58	84	139534	51.45 ug/L	99
30) methyl acetate	8.30	43	113160	40.76 ug/L	100
31) methyl tert butyl ether	8.97	73	833984	105.30 ug/L	99
32) trans-1,2-dichloroethene	9.02	61	183376	55.59 ug/L	100
33) di-isopropyl ether	9.65	45	394804	52.91 ug/L	99
34) 2-butanone	10.39	72	18686	36.32 ug/L #	48
35) 1,1-dichloroethane	9.67	63	253241	59.14 ug/L	99
36) chloroprene	9.78	53	193672	56.64 ug/L	99
37) acrylonitrile	8.93	53	327118	242.09 ug/L	100
38) vinyl acetate	9.61	86	29783	57.96 ug/L	90
39) ethyl tert-butyl ether	10.15	59	414017	54.15 ug/L	100
40) ethyl acetate	10.40	45	19735	45.99 ug/L	86
41) 2,2-dichloropropane	10.47	77	113215	57.76 ug/L	99
42) cis-1,2-dichloroethene	10.45	96	151516	53.91 ug/L	96

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a150994.D
Acq On : 25 May 2016 1:03 pm
Operator : tracyk
Sample : jc20563-8msd
Misc : MS2365,V3A6509,5,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 25 15:19:54 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 09:06:14 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
43) methylacrylate	10.49	85	25912	51.42 ug/L	78
44) propionitrile	10.49	54	244282	499.46 ug/L	96
45) bromochloromethane	10.77	128	74279	53.92 ug/L	98
46) tetrahydrofuran	10.78	42	49240	44.13 ug/L	99
47) chloroform	10.86	85	160299	55.95 ug/L	98
48) t-butyl formate	10.90	59	55685	23.06 ug/L	95
51) freon 113	7.74	151	107524	65.63 ug/L	97
52) methacrylonitrile	10.69	67	68494	48.71 ug/L	96
53) 1,1,1-trichloroethane	11.13	97	202658	65.88 ug/L	99
54) Cyclohexane	11.24	84	211691	58.30 ug/L	100
56) epichlorohydrin	13.26	57	82839	208.78 ug/L	99
57) n-butyl alcohol	12.06	56	255973	2049.41 ug/L	99
58) carbon tetrachloride	11.33	117	190944	63.19 ug/L	98
59) 1,1-dichloropropene	11.31	75	192855	61.81 ug/L	99
61) hexane	9.41	57	119394	47.38 ug/L	99
62) 2,2,4-TRIMETHYLPENTANE	11.66	57	491942	59.91 ug/L	98
63) benzene	11.58	78	528859	55.49 ug/L	100
64) tert-amyl methyl ether	11.65	87	94789	50.80 ug/L	97
65) heptane	11.83	57	80073	54.91 ug/L	99
66) isopropyl acetate	11.48	87	34946	51.14 ug/L	97
67) 1,2-dichloroethane	11.61	62	185291	54.48 ug/L	98
69) trichloroethene	12.33	95	143459	57.37 ug/L	97
71) methyl methacrylate	12.59	100	40787	51.01 ug/L	98
72) 2-nitropropane	13.14	41	47737	35.13 ug/L	100
74) 1,2-dichloropropane	12.65	63	127751	53.56 ug/L	99
75) dibromomethane	12.76	93	89480	53.29 ug/L	99
76) methylcyclohexane	12.63	83	215418	59.17 ug/L	99
77) bromodichloromethane	12.92	83	187496	54.76 ug/L	99
78) cis-1,3-dichloropropene	13.40	75	214832	53.42 ug/L	97
80) 4-methyl-2-pentanone	13.51	58	74254	51.89 ug/L #	85
81) toluene	13.80	91	556216	54.46 ug/L	100
82) 3-methyl-1-butanol	13.49	55	179037	850.84 ug/L	100
83) trans-1,3-dichloropropene	14.00	75	196920	50.53 ug/L	93
84) ethyl methacrylate	13.98	69	196242	51.64 ug/L	98
85) 1,1,2-trichloroethane	14.24	83	102441	50.84 ug/L	98
86) 2-hexanone	14.41	58	67980	42.13 ug/L	96
88) tetrachloroethene	14.39	166	175465	51.18 ug/L	99
90) 1,3-dichloropropane	14.43	76	195151	51.15 ug/L	98
91) butyl acetate	14.48	56	109568	51.17 ug/L	97
92) 3,3-dimethyl-1-butanol	14.59	57	218819	454.25 ug/L	100
93) dibromochloromethane	14.70	129	151747	54.39 ug/L	98
94) 1,2-dibromoethane	14.87	107	136706	50.94 ug/L	99
95) chlorobenzene	15.38	112	378756	54.04 ug/L	99
96) 1,1,1,2-tetrachloroethane	15.45	131	149551	55.71 ug/L	99
97) ethylbenzene	15.43	91	671618	55.54 ug/L	99
98) m,p-xylene	15.56	106	528096	112.29 ug/L	99
99) o-xylene	16.00	91	582111	56.48 ug/L	99
100) styrene	16.01	104	459762	54.10 ug/L	99
101) bromoform	16.27	173	135711	52.93 ug/L	99
103) isopropylbenzene	16.37	105	722917	55.07 ug/L	100

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a150994.D
Acq On : 25 May 2016 1:03 pm
Operator : tracyk
Sample : jc20563-8msd
Misc : MS2365,V3A6509,5,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 25 15:19:54 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 09:06:14 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
105) cyclohexanone	16.54	98	22739	81.22 ug/L	94
106) bromobenzene	16.80	156	196983	50.55 ug/L	98
107) 1,1,2,2-tetrachloroethane	16.67	83	234592	48.43 ug/L	99
108) trans-1,4-dichloro-2-buten	16.71	53	70369	51.42 ug/L	98
109) 1,2,3-trichloropropane	16.77	110	65759	48.04 ug/L	99
110) n-propylbenzene	16.81	91	881119	55.38 ug/L	99
111) 2-chlorotoluene	16.97	126	179339	52.74 ug/L	98
112) 4-chlorotoluene	17.09	91	555179	52.29 ug/L	99
113) 1,3,5-trimethylbenzene	16.98	105	625765	54.05 ug/L	98
114) tert-butylbenzene	17.35	134	130157	57.44 ug/L	99
115) pentachloroethane	17.43	167	124953	74.15 ug/L	98
116) 1,2,4-trimethylbenzene	17.41	105	652713	53.47 ug/L	99
117) sec-butylbenzene	17.59	105	821763	55.55 ug/L	99
118) 1,3-dichlorobenzene	17.78	146	394378	51.53 ug/L	100
119) p-isopropyltoluene	17.73	119	713206	56.39 ug/L	99
120) 1,4-dichlorobenzene	17.89	146	396903	51.86 ug/L	99
121) 1,2-dichlorobenzene	18.30	146	374213	50.57 ug/L	100
122) benzyl chloride	17.99	91	544485	51.72 ug/L	99
123) n-butylbenzene	18.18	92	363842	56.37 ug/L	99
124) 1,2-dibromo-3-chloropropan	19.15	75	48174	49.05 ug/L	95
125) 1,3,5-TRICHLOROBENZENE	19.35	180	273739	53.69 ug/L	98
126) 1,2,4-trichlorobenzene	20.06	180	236778	53.37 ug/L	98
127) hexachlorobutadiene	20.18	225	115621	55.97 ug/L	98
128) naphthalene	20.41	128	630332	51.37 ug/L	100
129) 1,2,3-trichlorobenzene	20.66	180	204353	53.33 ug/L	97
130) hexachloroethane	18.63	201	118158	56.07 ug/L	99

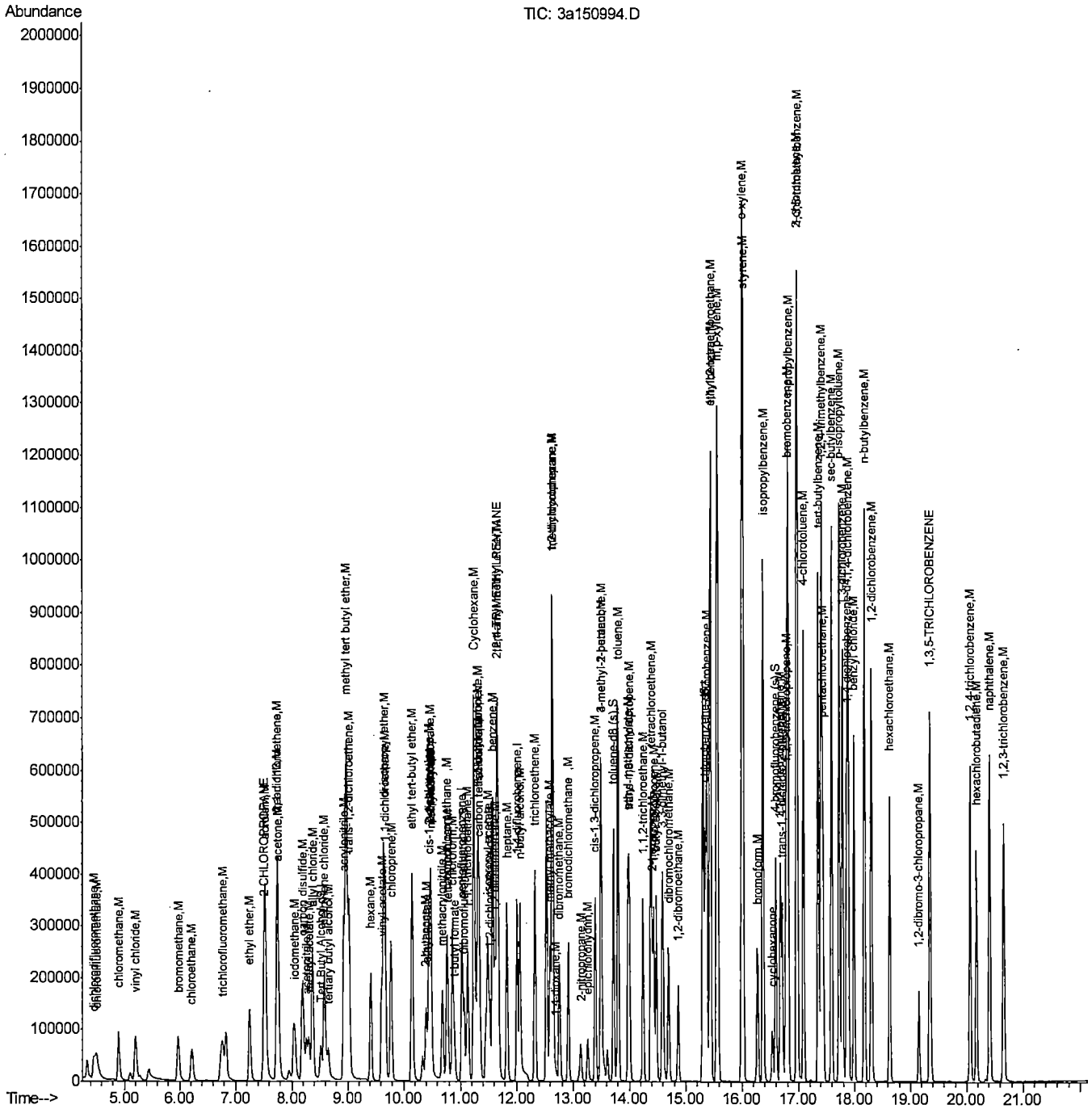
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.4.2 7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a150994.D
Acq On : 25 May 2016 1:03 pm
Operator : tracyk
Sample : jc20563-8msd
Misc : MS2365,V3A6509,5,,,,1
ALS Vial : 7 Sample Multiplier: 1

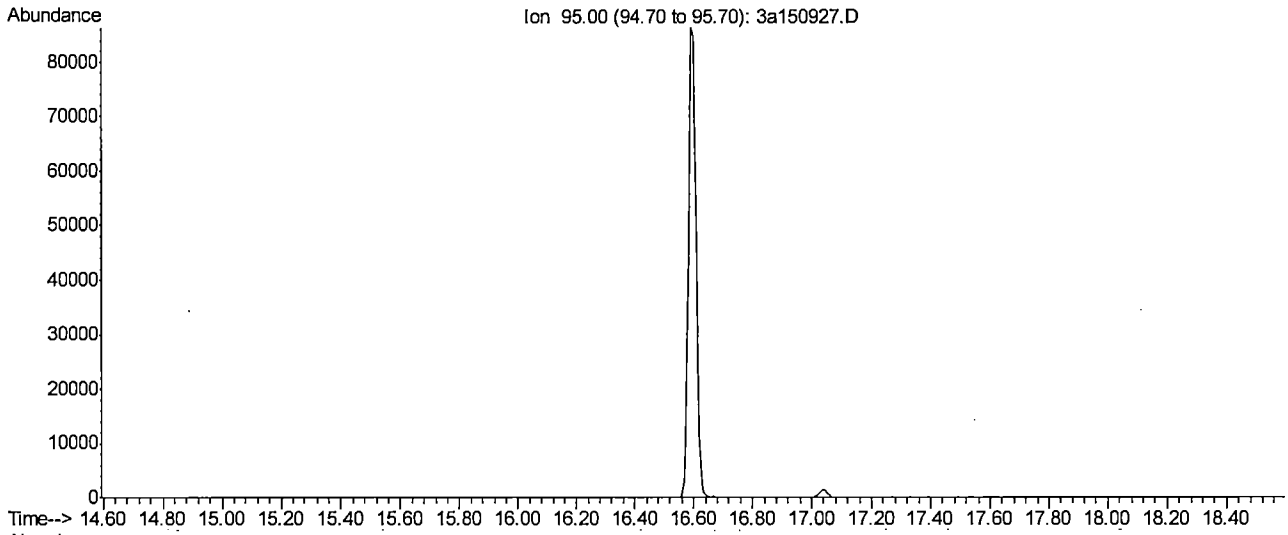
Quant Time: May 25 15:19:54 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 09:06:14 2016
Response via : Initial Calibration

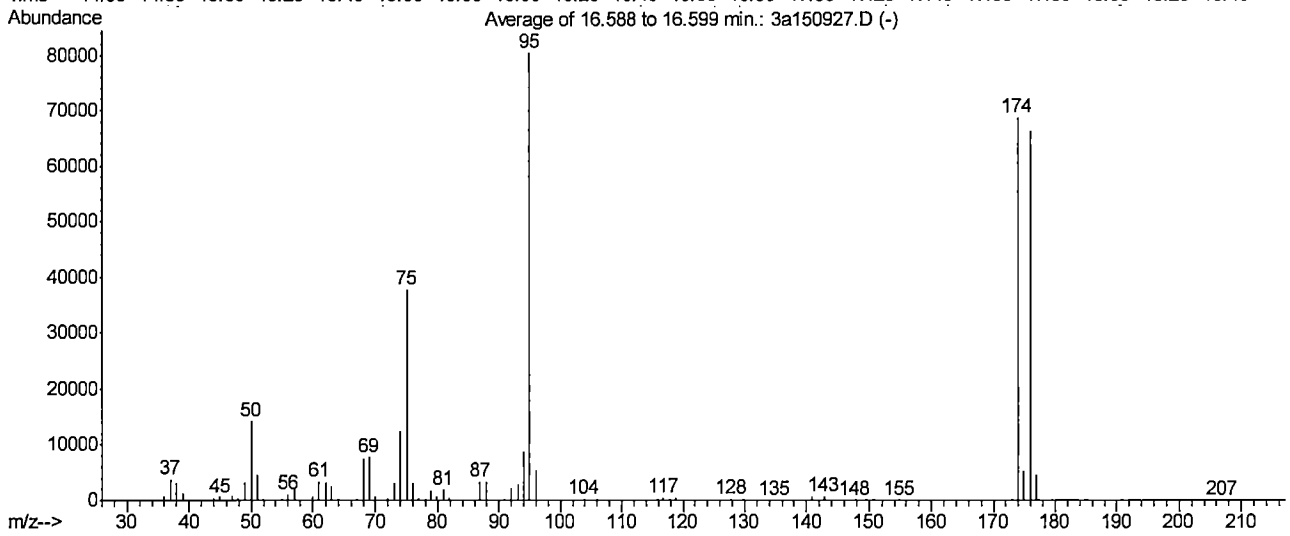


SW-846 Method 8260

Data File : C:\MSDChem\1\DATA\3a150927.D Vial: 1
Acq On : 23 May 2016 2:34 pm Operator: tracyk
Sample : bfb Inst : MS3A
Misc : MS2264,V3A6507,5,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\M3A6507.M (RTE Integrator)
Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um





AutoFind: Scans 2354, 2355, 2356; Background Corrected with Scan 2346

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.6	14147	PASS
75	95	30	60	46.9	37709	PASS
95	95	100	100	100.0	80429	PASS
96	95	5	9	6.6	5314	PASS
173	174	0.00	2	0.3	240	PASS
174	95	50	120	85.4	68650	PASS
175	174	5	9	7.4	5070	PASS
176	174	95	101	96.3	66085	PASS
177	176	5	9	6.8	4461	PASS

3a150927.D M3A6507.M Mon May 23 16:19:38 2016 ACCUNJ

Average of 16.588 to 16.599 min.: 3a150927.D
bfb
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.00	666	50.00	14147	67.00	232	78.90	1729
37.00	3710	51.00	4518	68.00	7365	79.85	541
38.00	3143	51.95	190	69.00	7789	80.90	1891
39.00	1263	54.95	196	70.00	580	81.85	440
39.90	46	56.00	1116	71.95	358	86.90	3358
41.00	52	57.00	1921	73.00	3182	87.90	3293
43.95	367	59.95	677	74.00	12345	90.95	240
44.95	579	61.00	3376	75.00	37709	91.90	1980
47.00	911	62.00	3155	76.00	3056	93.00	2983
47.95	421	63.00	2557	76.95	427	94.00	8753
49.00	3128	63.95	228	78.00	274	95.00	80429

Average of 16.588 to 16.599 min.: 3a150927.D
bfb
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
96.00	5314	134.90	53	176.90	4461		
97.00	66	136.80	51	177.90	85		
103.85	302	140.85	621	206.95	107		
105.70	77	142.80	686				
105.85	213	147.80	169				
115.85	208	154.85	172				
116.80	423	156.90	67				
117.85	246	173.00	240				
118.85	372	173.90	68650				
127.85	267	174.90	5070				
129.85	239	175.90	66085				

7.5.1

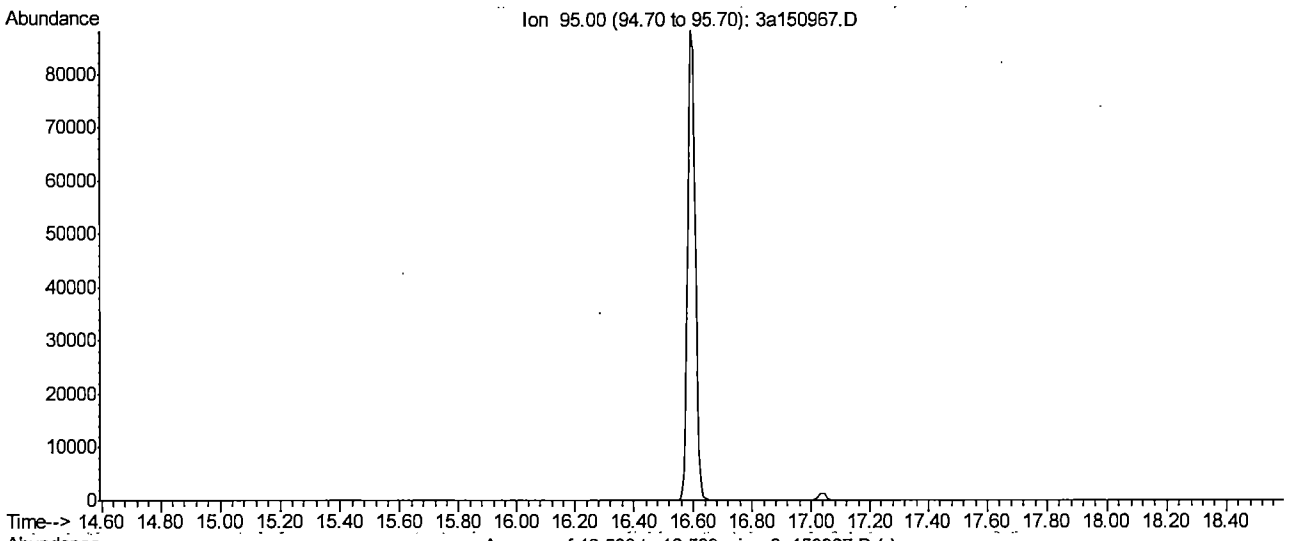
7

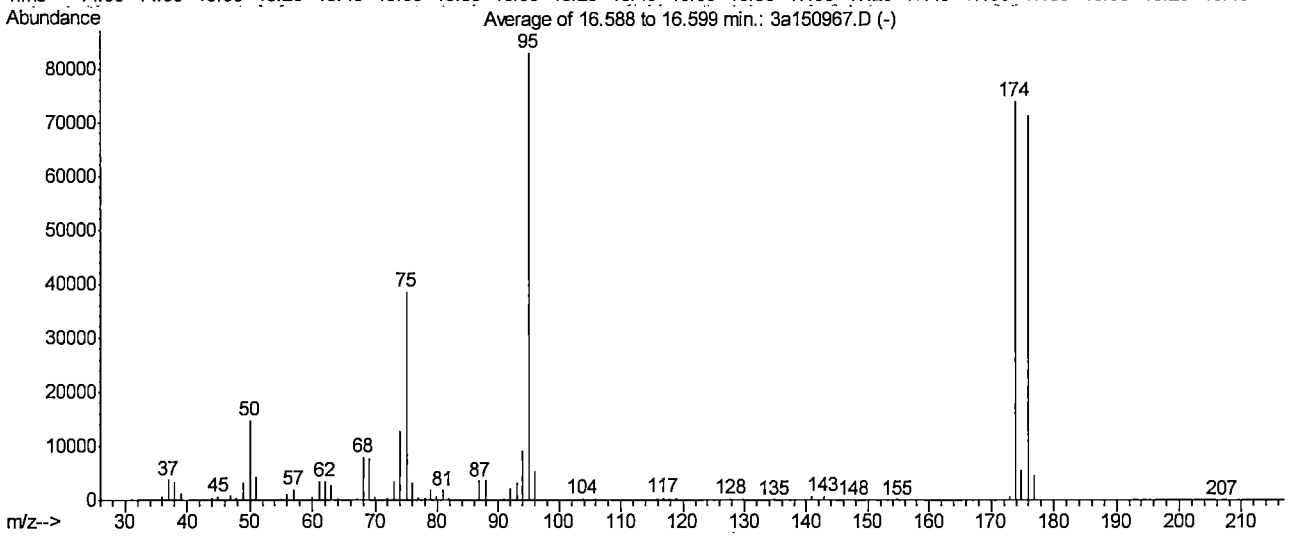
SW-846 Method 8260

Data File : C:\MSDCHEM\1\DATA\3a150967.D
Acq On : 24 May 2016 10:17 pm
Sample : bfb
Misc : MS2256,V3A6509,5,,,,1
MS Integration Params: RTEINT.P

Vial: 25
Operator: tracyk
Inst : MS3A
Multiplr: 1.00

Method : C:\MSDCHEM\1\METHODS\M3A6507.M (RTE Integrator)
Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um





AutoFind: Scans 2354, 2355, 2356; Background Corrected with Scan 2345

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.7	14693	PASS
75	95	30	60	46.4	38490	PASS
95	95	100	100	100.0	82976	PASS
96	95	5	9	6.5	5367	PASS
173	174	0.00	2	0.9	691	PASS
174	95	50	120	88.9	73776	PASS
175	174	5	9	7.5	5534	PASS
176	174	95	101	96.5	71194	PASS
177	176	5	9	6.6	4715	PASS

3a150967.D M3A6507.M Wed May 25 09:48:28 2016 ACCUNJ

7.5.2 7

Average of 16.588 to 16.599 min.: 3a150967.D
bfb
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.00	676	51.00	4298	68.00	7896	79.90	590
37.00	3731	52.00	68	69.00	7563	80.85	1910
38.00	3362	54.95	238	69.95	599	81.85	413
39.00	1265	56.00	1037	71.95	342	86.90	3592
39.90	64	57.00	1942	73.00	3375	87.90	3524
44.00	538	59.95	698	74.00	12654	90.85	311
45.00	648	61.00	3345	75.00	38490	92.00	2127
47.00	908	62.00	3506	76.00	3231	93.00	3155
47.95	438	63.00	2779	76.95	424	94.00	9048
49.00	3276	64.00	235	77.90	348	95.00	82976
50.00	14693	66.95	202	78.90	1904	96.00	5367

Average of 16.588 to 16.599 min.: 3a150967.D
bfb
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
96.90	107	140.90	596				
103.85	309	142.85	690				
105.85	309	147.80	115				
115.80	275	154.85	148				
116.90	514	156.90	54				
117.90	284	172.95	691				
118.90	345	173.90	73776				
127.85	293	174.90	5534				
128.80	113	175.90	71194				
129.75	255	176.90	4715				
134.80	124	206.90	116				

7.5.2

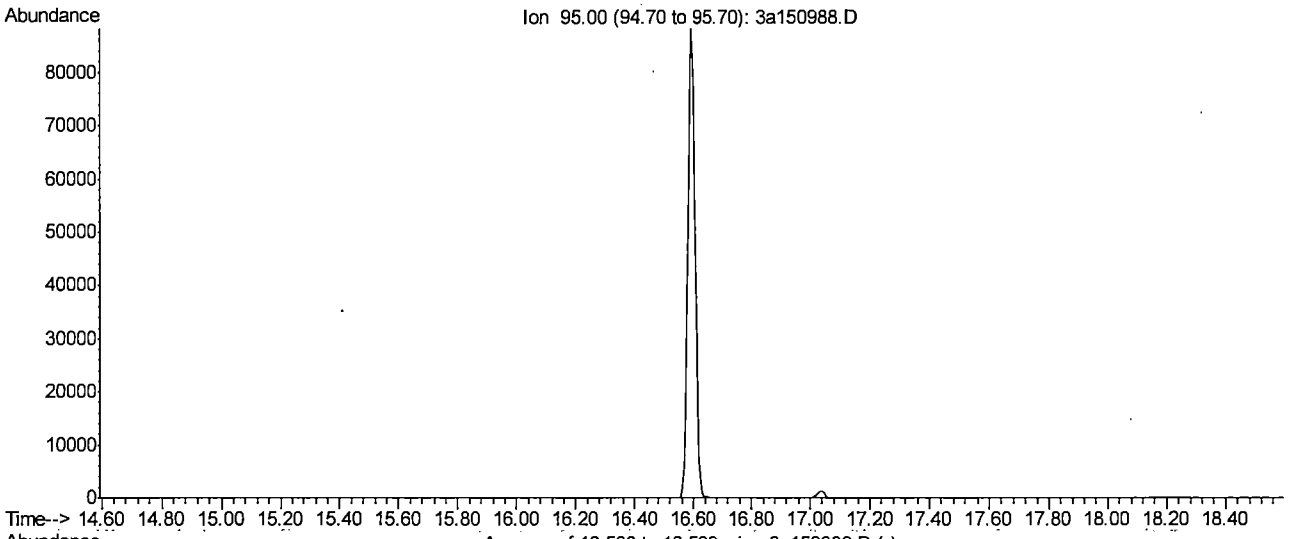
7

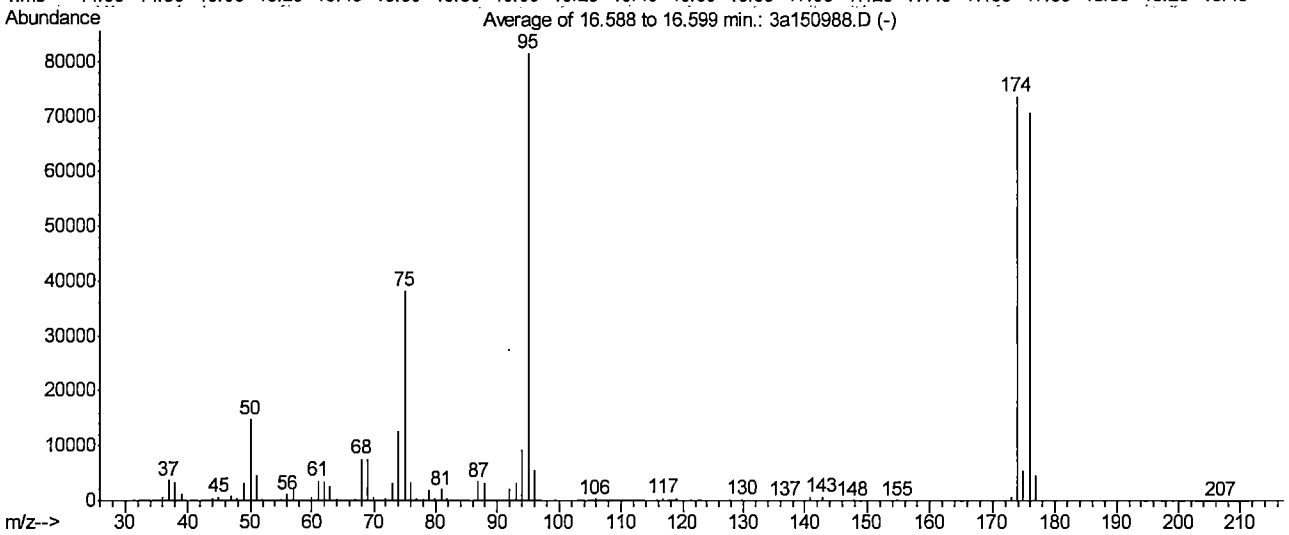
SW-846 Method 8260

Data File : C:\MSDChem\1\DATA\3a150988.D
Acq On : 25 May 2016 9:44 am
Sample : bfb2
Misc : MS2365,V3A6509,5,,,,1
MS Integration Params: RTEINT.P

Vial: 1
Operator: tracyk
Inst : MS3A
Multiplr: 1.00

Method : C:\MSDCHEM\1\METHODS\M3A6507.M (RTE Integrator)
Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um





AutoFind: Scans 2354, 2355, 2356; Background Corrected with Scan 2345

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	18.1	14785	PASS
75	95	30	60	46.7	38162	PASS
95	95	100	100	100.0	81661	PASS
96	95	5	9	6.6	5402	PASS
173	174	0.00	2	0.8	586	PASS
174	95	50	120	90.3	73701	PASS
175	174	5	9	7.2	5340	PASS
176	174	95	101	96.0	70760	PASS
177	176	5	9	6.4	4504	PASS

3a150988.D M3A6507.M Wed May 25 15:15:09 2016 ACCUNJ

Average of 16.588 to 16.599 min.: 3a150988.D
bfb2
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.00	665	51.90	219	69.00	7545	80.90	2089
37.00	3758	54.95	186	69.95	591	81.90	383
38.00	3442	56.00	1203	71.95	380	86.90	3510
39.00	1348	57.00	1962	72.95	3146	87.90	3185
44.00	474	59.90	681	74.00	12559	90.85	269
45.00	633	61.00	3639	75.00	38162	91.90	2063
46.95	866	62.00	3287	76.00	3283	93.00	3180
47.90	431	63.00	2524	76.95	417	94.00	9184
49.00	3160	64.00	278	77.95	321	95.00	81661
50.00	14785	66.95	212	78.90	1993	96.00	5402
51.00	4536	68.00	7598	79.90	525	96.95	115

Average of 16.588 to 16.599 min.: 3a150988.D
bfb2
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
103.85	266	136.95	110	176.90	4504		
104.90	53	140.85	663	177.80	52		
105.85	335	142.85	722	206.90	68		
115.90	281	147.80	171				
116.85	469	154.85	205				
117.90	273	156.80	50				
118.90	389	171.90	61				
127.80	273	173.00	586				
128.85	106	173.90	73701				
129.85	276	174.90	5340				
134.80	64	175.90	70760				

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a150928.D
Acq On : 23 May 2016 3:13 pm
Operator : tracyk
Sample : ic6507-0.2
Misc : MS2264,V3A6507,5,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 24 10:01:53 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Sat May 21 00:07:01 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.51	65	169014	500.00 ug/L	-0.02
5) pentafluorobenzene	11.03	168	196362	50.00 ug/L	0.02
55) 1,4-difluorobenzene	12.01	114	312364	50.00 ug/L	0.04
87) chlorobenzene-d5	15.34	117	302681	50.00 ug/L	0.02
102) 1,4-dichlorobenzene-d4	17.86	152	169792	50.00 ug/L	0.06
System Monitoring Compounds					
49) dibromofluoromethane (s)	11.07	113	95954	47.97 ug/L	0.01
Spiked Amount 50.000	Range 76 - 120		Recovery = 95.94%		
50) 1,2-dichloroethane-d4 (s)	11.52	65	114173	43.93 ug/L	0.02
Spiked Amount 50.000	Range 73 - 122		Recovery = 87.86%		
79) toluene-d8 (s)	13.72	98	351030	47.18 ug/L	0.02
Spiked Amount 50.000	Range 84 - 119		Recovery = 94.36%		
104) 4-bromofluorobenzene (s)	16.59	95	156580	44.45 ug/L	0.04
Spiked Amount 50.000	Range 78 - 117		Recovery = 88.90%		

Target Compounds					Qvalue
31) methyl tert butyl ether	8.98	73	1308	0.16 ug/L #	9
33) di-isopropyl ether	9.65	45	1301	0.15 ug/L #	33
39) ethyl tert-butyl ether	10.14	59	1217	0.15 ug/L	94
47) chloroform	10.86	85	454	0.16 ug/L #	78
63) benzene	11.57	78	1798	0.18 ug/L	96
69) trichloroethene	12.33	95	442	0.18 ug/L	86
75) dibromomethane	12.76	93	285	0.17 ug/L	85
77) bromodichloromethane	12.92	83	630	0.18 ug/L	90
78) cis-1,3-dichloropropene	13.40	75	839	0.19 ug/L	92
81) toluene	13.80	91	2326	0.22 ug/L	93
90) 1,3-dichloropropane	14.44	76	832	0.20 ug/L	96
93) dibromochloromethane	14.71	129	494	0.17 ug/L	84
94) 1,2-dibromoethane	14.87	107	522	0.19 ug/L	95
95) chlorobenzene	15.38	112	1601	0.24 ug/L	94
96) 1,1,1,2-tetrachloroethane	15.45	131	499	0.19 ug/L	94
97) ethylbenzene	15.43	91	2643	0.21 ug/L	90
98) m,p-xylene	15.57	106	1993	0.44 ug/L #	80
99) o-xylene	16.00	91	2353	0.22 ug/L	96
100) styrene	16.01	104	1922	0.24 ug/L	88
103) isopropylbenzene	16.37	105	2731	0.21 ug/L	90
106) bromobenzene	16.80	156	841	0.25 ug/L #	73
107) 1,1,2,2-tetrachloroethane	16.68	83	1042	0.21 ug/L	93
110) n-propylbenzene	16.82	91	3399	0.21 ug/L	95
111) 2-chlorotoluene	16.97	126	683	0.22 ug/L	68
112) 4-chlorotoluene	17.09	91	2222	0.20 ug/L	89
113) 1,3,5-trimethylbenzene	16.98	105	2340	0.20 ug/L	89
114) tert-butylbenzene	17.36	134	363	0.17 ug/L #	64
116) 1,2,4-trimethylbenzene	17.41	105	2681	0.22 ug/L	96
117) sec-butylbenzene	17.59	105	2962	0.20 ug/L	98
118) 1,3-dichlorobenzene	17.79	146	1714	0.25 ug/L	82
119) p-isopropyltoluene	17.73	119	2566	0.20 ug/L	91
121) 1,2-dichlorobenzene	18.31	146	1641	0.24 ug/L	91

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a150928.D
Acq On : 23 May 2016 3:13 pm
Operator : tracyk
Sample : ic6507-0.2
Misc : MS2264,V3A6507,5,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 24 10:01:53 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Sat May 21 00:07:01 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

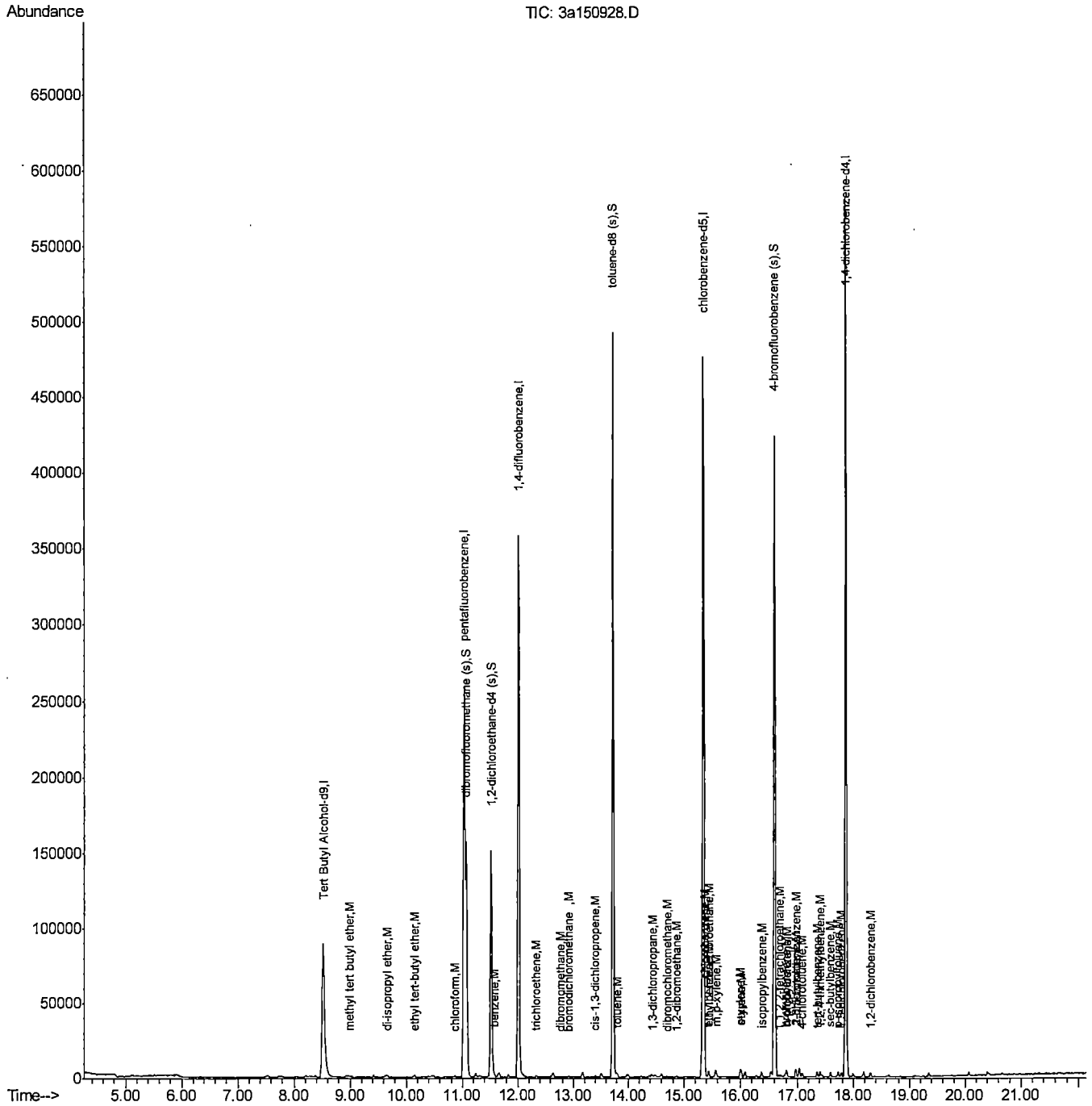
7.6.1

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a150928.D
Acq On : 23 May 2016 3:13 pm
Operator : tracyk
Sample : ic6507-0.2
Misc : MS2264,V3A6507,5,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 24 10:01:53 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Sat May 21 00:07:01 2016
Response via : Initial Calibration



Cal Report: 3A150929.D

Manual Integrations APPROVED (compounds with "m" flag)
Mei Chen
05/24/16 11:11

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a150929.D
Acq On : 23 May 2016 3:43 pm
Operator : tracyk
Sample : ic6507-0.5
Misc : MS2264,V3A6507,5,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 24 10:02:50 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Sat May 21 00:07:01 2016
Response via : Initial Calibration

7.6.2 7

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.52	65	145256	500.00	ug/L	-0.02
5) pentafluorobenzene	11.04	168	197247	50.00	ug/L	0.02
55) 1,4-difluorobenzene	12.01	114	289451	50.00	ug/L	0.04
87) chlorobenzene-d5	15.35	117	290556	50.00	ug/L	0.02
102) 1,4-dichlorobenzene-d4	17.86	152	172304	50.00	ug/L	0.06

System Monitoring Compounds

49) dibromofluoromethane (s)	11.07	113	98468	49.00	ug/L	0.01
Spiked Amount 50.000	Range 76 - 120		Recovery = 98.00%			
50) 1,2-dichloroethane-d4 (s)	11.52	65	111691	42.78	ug/L	0.02
Spiked Amount 50.000	Range 73 - 122		Recovery = 85.56%			
79) toluene-d8 (s)	13.72	98	331420	48.07	ug/L	0.02
Spiked Amount 50.000	Range 84 - 119		Recovery = 96.14%			
104) 4-bromofluorobenzene (s)	16.59	95	158333	44.29	ug/L	0.03
Spiked Amount 50.000	Range 78 - 117		Recovery = 88.58%			

Target Compounds

						Qvalue
10) chloromethane	4.89	50	1183	0.26	ug/L	83
22) 1,1-dichloroethene	7.74	61	1593	0.41	ug/L	97
26) iodomethane	8.04	142	1955	0.54	ug/L	87
28) carbon disulfide	8.19	76	3613	0.44	ug/L	93
29) methylene chloride	8.58	84	1510	0.60	ug/L	85
31) methyl tert butyl ether	8.98	73	3711	0.45	ug/L #	28
32) trans-1,2-dichloroethene	9.02	61	1585	0.45	ug/L	92
33) di-isopropyl ether	9.65	45	3169	0.37	ug/L #	60
35) 1,1-dichloroethane	9.67	63	1953	0.43	ug/L	84
36) chloroprene	9.77	53	1412	0.39	ug/L	78
37) acrylonitrile	8.93	53	2930	1.95	ug/L	87
39) ethyl tert-butyl ether	10.15	59	3101	0.37	ug/L	92
41) 2,2-dichloropropane	10.48	77	950	0.39	ug/L	77
42) cis-1,2-dichloroethene	10.45	96	1368	0.51	ug/L #	71
44) propionitrile	10.49	54	2058	3.36	ug/L	95
45) bromochloromethane	10.77	128	540	0.45	ug/L	70
47) chloroform	10.86	85	1412	0.49	ug/L #	76
53) 1,1,1-trichloroethane	11.13	97	1514	0.45	ug/L	97
54) Cyclohexane	11.24	84	1843	0.53	ug/L #	79
58) carbon tetrachloride	11.32	117	1416	0.48	ug/L	79
59) 1,1-dichloropropene	11.31	75	1499	0.52	ug/L	92
61) hexane	9.41	57	1141	0.48	ug/L	82
62) 2,2,4-TRIMETHYLPENTANE	11.66	57	3409	0.43	ug/L #	83
63) benzene	11.58	78	4433	0.48	ug/L	96
64) tert-amyl methyl ether	11.65	87	761	0.48	ug/L #	43
65) heptane	11.83	57	550	0.36	ug/L #	66
67) 1,2-dichloroethane	11.61	62	1372	0.41	ug/L	91
69) trichloroethene	12.33	95	1112	0.48	ug/L	97
74) 1,2-dichloropropane	12.65	63	1125	0.46	ug/L	99
75) dibromomethane	12.76	93	655	0.41	ug/L	89
76) methylcyclohexane	12.63	83	1647	0.51	ug/L	95
77) bromodichloromethane	12.92	83	1562	0.48	ug/L	91
78) cis-1,3-dichloropropene	13.40	75	1926	0.47	ug/L	95

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a150929.D
Acq On : 23 May 2016 3:43 pm
Operator : tracyk
Sample : ic6507-0.5
Misc : MS2264,V3A6507,5,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 24 10:02:50 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Sat May 21 00:07:01 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
81) toluene	13.80	91	4814	0.49 ug/L	93
83) trans-1,3-dichloropropene	14.00	75	1874	0.47 ug/L	96
84) ethyl methacrylate	13.98	69	1728	0.45 ug/L	89
85) 1,1,2-trichloroethane	14.24	83	926	0.46 ug/L	98
90) 1,3-dichloropropane	14.43	76	1926	0.48 ug/L	83
91) butyl acetate	14.49	56	978	0.42 ug/L #	76
92) 3,3-dimethyl-1-butanol	14.59	57	2029	4.16 ug/L	96
93) dibromochloromethane	14.71	129	1198	0.43 ug/L	81
94) 1,2-dibromoethane	14.88	107	1316	0.49 ug/L	88
95) chlorobenzene	15.38	112	3442	0.53 ug/L	97
96) 1,1,1,2-tetrachloroethane	15.45	131	1276	0.51 ug/L	89
97) ethylbenzene	15.43	91	6083	0.50 ug/L	98
98) m,p-xylene	15.57	106	4773	1.09 ug/L	85
99) o-xylene	16.00	91	5081	0.50 ug/L	97
100) styrene	16.02	104	4140	0.53 ug/L	85
101) bromoform	16.28	173	1128	0.49 ug/L	93
103) isopropylbenzene	16.37	105	6281	0.48 ug/L	95
106) bromobenzene	16.80	156	1983	0.58 ug/L #	60
107) 1,1,2,2-tetrachloroethane	16.68	83	2271	0.45 ug/L	93
110) n-propylbenzene	16.82	91	7880	0.47 ug/L	94
111) 2-chlorotoluene	16.97	126	1553	0.50 ug/L	92
112) 4-chlorotoluene	17.09	91	5367	0.48 ug/L	94
113) 1,3,5-trimethylbenzene	16.98	105	5859	0.50 ug/L	97
114) tert-butylbenzene	17.35	134	1056	0.50 ug/L #	73
115) pentachloroethane	17.44	167	1001	0.47 ug/L	95
116) 1,2,4-trimethylbenzene	17.41	105	5924	0.48 ug/L	93
117) sec-butylbenzene	17.59	105	7274	0.47 ug/L	96
118) 1,3-dichlorobenzene	17.79	146	3613	0.52 ug/L	94
119) p-isopropyltoluene	17.73	119	6209	0.49 ug/L	90
120) 1,4-dichlorobenzene	17.89	146	3792m	0.53 ug/L	
121) 1,2-dichlorobenzene	18.30	146	3682	0.54 ug/L	93
122) benzyl chloride	17.99	91	4526	0.43 ug/L	94
123) n-butylbenzene	18.18	92	3181	0.45 ug/L	87
125) 1,3,5-TRICHLOROBENZENE	19.35	180	2403	0.47 ug/L	99
126) 1,2,4-trichlorobenzene	20.06	180	2005	0.44 ug/L	89
127) hexachlorobutadiene	20.18	225	960	0.42 ug/L	95
128) naphthalene	20.41	128	5098	0.37 ug/L	96
129) 1,2,3-trichlorobenzene	20.66	180	1496	0.37 ug/L	97
130) hexachloroethane	18.63	201	981	0.48 ug/L	97

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

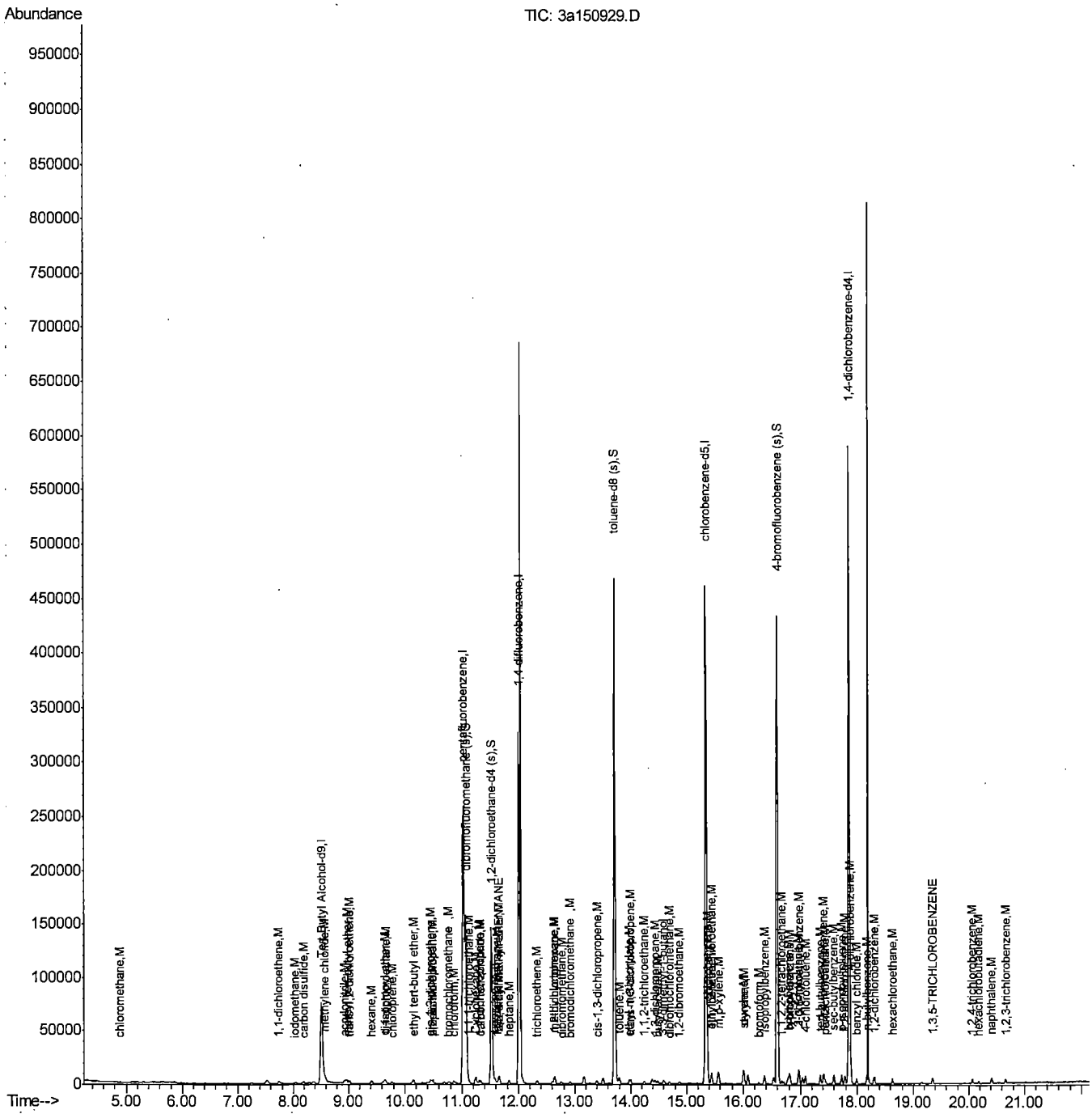
7.6.2

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a150929.D
Acq On : 23 May 2016 3:43 pm
Operator : tracyk
Sample : ic6507-0.5
Misc : MS2264,V3A6507,5,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 24 10:02:50 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Sat May 21 00:07:01 2016
Response via : Initial Calibration



SGS ACCUTEST JC20563

Manual Integration Approval Summary

Sample Number:	V3A6507-IC6507	**Method:**	SW846 8260C
Lab FileID:	3A150929.D	**Analyst approved:**	05/24/16 10:07 Ying Li
Injection Time:	05/23/16 15:43	**Supervisor approved:**	05/24/16 11:11 Mei Chen

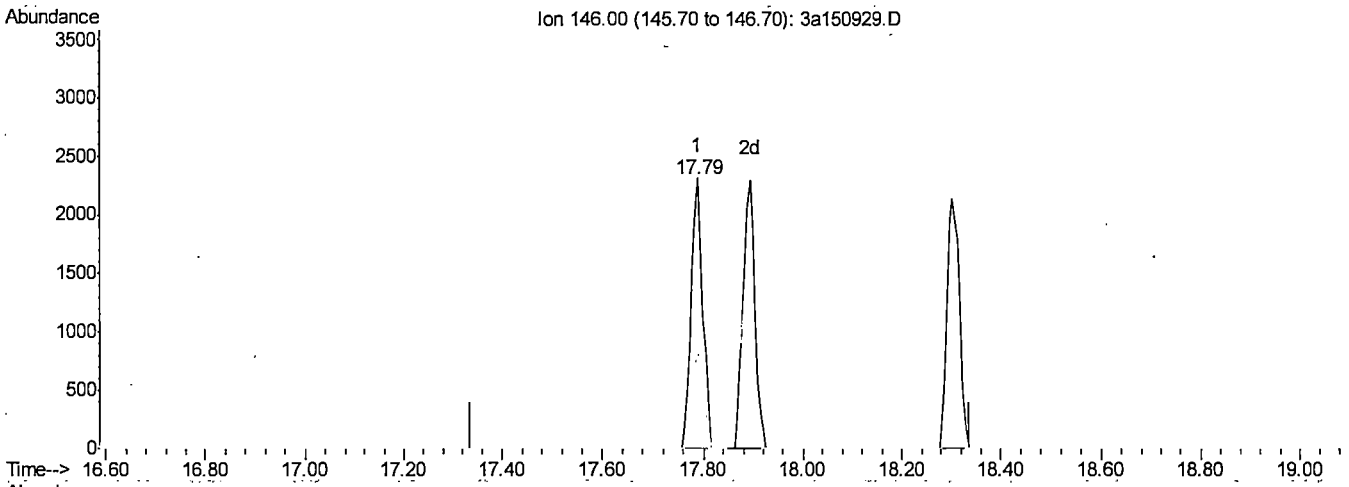
Parameter	CAS	Sig#	R.T. (min.)	Reason
1,4-Dichlorobenzene	106-46-7		17.89	Missed peak

Quantitation Report (Qedit)

Data File : C:\MSDChem\1\DATA\3a150929.D Vial: 3
Acq On : 23 May 2016 3:43 pm Operator: tracyk
Sample : ic6507-0.5 Inst : MS3A
Misc : MS2264,V3A6507,5,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Quant Time: May 23 16:23:19 2016 Results File: M3A6507.RES

Method : C:\MSDCHEM\1\METHODS\M3A6507.M (RTE Integrator)
Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
Last Update : Sat May 21 00:07:01 2016
Response via : Multiple Level Calibration



(120) 1,4-dichlorobenzene (M)

17.79min 0.51ug/L

response 3613

Ion	Exp%	Act%
146.00	100	100
111.00	38.90	36.48
148.00	65.20	67.63
0.00	0.00	0.00

3a150929.D M3A6507.M Mon May 23 16:29:16 2016 ACCUNJ

7.6.2.2

7

3A150929.D edits: 1,4-dichlorobenzene

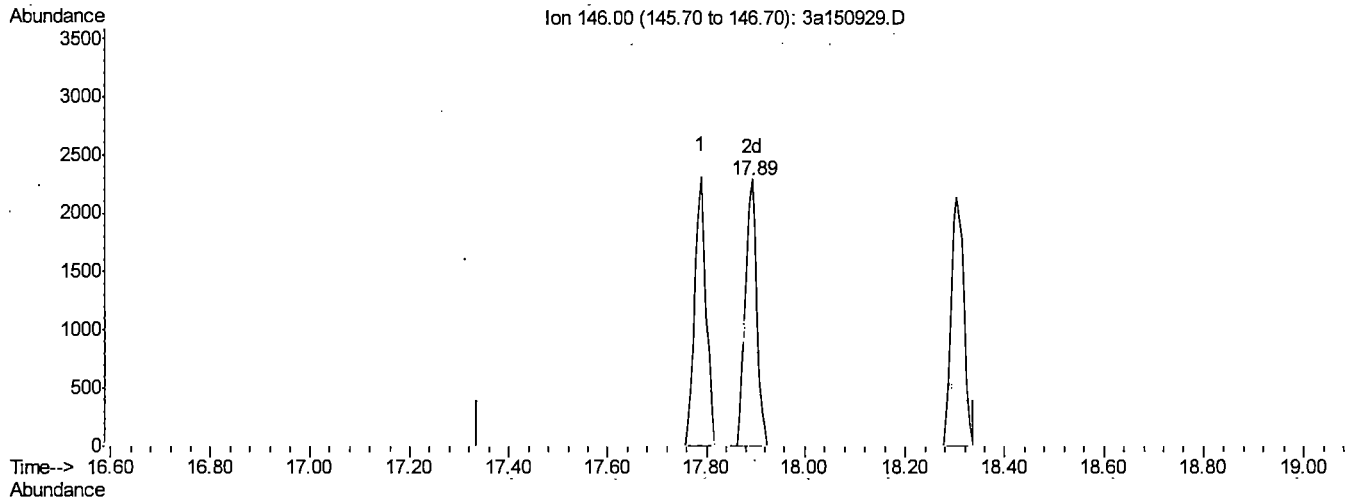
SGS ACCUTEST JC20563

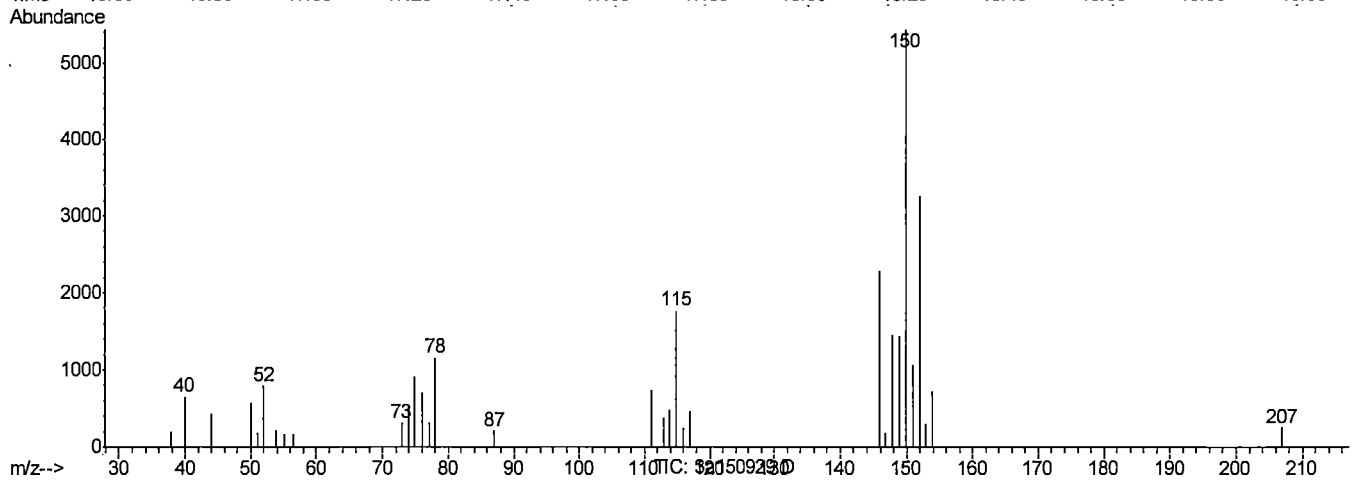
Quantitation Report (Qedit)

Data File : C:\MSDChem\1\DATA\3a150929.D Vial: 3
Acq On : 23 May 2016 3:43 pm Operator: tracyk
Sample : ic6507-0.5 Inst : MS3A
Misc : MS2264,V3A6507,5,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Quant Time: May 23 16:23:19 2016 Results File: M3A6507.RES

Method : C:\MSDCHEM\1\METHODS\M3A6507.M (RTE Integrator)
Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
Last Update : Sat May 21 00:07:01 2016
Response via : Multiple Level Calibration





(120) 1,4-dichlorobenzene (M)

17.89min 0.53ug/L m

response 3792

Ion	Exp%	Act%
146.00	100	100
111.00	38.90	31.93
148.00	65.20	63.30
0.00	0.00	0.00

3a150929.D M3A6507.M Mon May 23 16:29:26 2016 ACCUNJ

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a150930.D
Acq On : 23 May 2016 4:13 pm
Operator : tracyk
Sample : ic6507-1
Misc : MS2264,V3A6507,5,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 24 08:46:57 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 08:38:41 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.52	65	170311	500.00 ug/L	0.00
5) pentafluorobenzene	11.03	168	198293	50.00 ug/L	0.00
55) 1,4-difluorobenzene	12.01	114	293594	50.00 ug/L	0.00
87) chlorobenzene-d5	15.35	117	290479	50.00 ug/L	0.00
102) 1,4-dichlorobenzene-d4	17.86	152	171985	50.00 ug/L	0.00

System Monitoring Compounds					
49) dibromofluoromethane (s)	11.07	113	97672	48.35 ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 96.70%		
50) 1,2-dichloroethane-d4 (s)	11.52	65	112416	42.84 ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 85.68%		
79) toluene-d8 (s)	13.72	98	332654	47.57 ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 95.14%		
104) 4-bromofluorobenzene (s)	16.59	95	156800	43.95 ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 87.90%		

Target Compounds					Qvalue
2) tertiary butyl alcohol	8.64	59	2186	4.07 ug/L	76
9) dichlorodifluoromethane	4.45	85	2347	0.77 ug/L	92
10) chloromethane	4.90	50	2810	0.62 ug/L	87
11) vinyl chloride	5.19	62	2803	0.73 ug/L	92
12) bromomethane	5.98	96	1027	0.70 ug/L	75
15) 2-CHLOROPROPANE	7.51	43	3245	0.80 ug/L #	91
16) chloroethane	6.22	64	1230	0.67 ug/L	78
17) trichlorofluoromethane	6.76	101	2050	0.61 ug/L	89
20) ethyl ether	7.25	74	1233	0.83 ug/L #	79
21) acrolein	7.53	56	8168	9.55 ug/L	98
22) 1,1-dichloroethene	7.74	61	3470	0.90 ug/L	97
24) allyl chloride	8.37	76	1213	0.84 ug/L	88
26) iodomethane	8.04	142	3893	1.07 ug/L	97
28) carbon disulfide	8.20	76	7112	0.87 ug/L	89
29) methylene chloride	8.58	84	2497	0.99 ug/L	90
30) methyl acetate	8.30	43	2638	0.83 ug/L	93
31) methyl tert butyl ether	8.98	73	7175	0.87 ug/L	98
32) trans-1,2-dichloroethene	9.01	61	2964	0.83 ug/L	81
33) di-isopropyl ether	9.65	45	6751	0.78 ug/L	94
35) 1,1-dichloroethane	9.67	63	3972	0.86 ug/L	95
36) chloroprene	9.78	53	3191	0.87 ug/L	94
37) acrylonitrile	8.93	53	6039	4.00 ug/L	94
39) ethyl tert-butyl ether	10.15	59	6883	0.82 ug/L	98
41) 2,2-dichloropropane	10.47	77	2209	0.90 ug/L	91
42) cis-1,2-dichloroethene	10.45	96	2626	0.98 ug/L	97
44) propionitrile	10.49	54	4614	7.49 ug/L	89
45) bromochloromethane	10.77	128	1238	1.02 ug/L	88
47) chloroform	10.87	85	2639	0.92 ug/L	95
51) freon 113	7.75	151	1422	0.94 ug/L	93
52) methacrylonitrile	10.70	67	1225	0.80 ug/L #	77
53) 1,1,1-trichloroethane	11.12	97	2968	0.87 ug/L	92
54) Cyclohexane	11.24	84	3286	0.93 ug/L	91
56) epichlorohydrin	13.27	57	1805	4.07 ug/L	91

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a150930.D
Acq On : 23 May 2016 4:13 pm
Operator : tracyk
Sample : ic6507-1
Misc : MS2264,V3A6507,5,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 24 08:46:57 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 08:38:41 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
57) n-butyl alcohol	12.07	56	5919	41.44 ug/L	94
58) carbon tetrachloride	11.33	117	2789	0.93 ug/L	93
59) 1,1-dichloropropene	11.31	75	2739	0.93 ug/L	93
61) hexane	9.41	57	2558	1.06 ug/L	90
62) 2,2,4-TRIMETHYLPENTANE	11.66	57	7868	0.97 ug/L	93
63) benzene	11.58	78	8786	0.93 ug/L	99
64) tert-amyl methyl ether	11.65	87	1551	0.96 ug/L #	80
65) heptane	11.84	57	1583	1.02 ug/L #	72
67) 1,2-dichloroethane	11.61	62	2973	0.89 ug/L	87
69) trichloroethene	12.33	95	2149	0.91 ug/L	91
71) methyl methacrylate	12.60	100	673	0.90 ug/L #	51
73) 2-chloroethyl vinyl ether	13.16	63	7266	3.83 ug/L	92
74) 1,2-dichloropropane	12.65	63	1948	0.78 ug/L	93
75) dibromomethane	12.76	93	1528	0.95 ug/L	86
76) methylcyclohexane	12.63	83	3351	1.01 ug/L	98
77) bromodichloromethane	12.92	83	2940	0.89 ug/L	97
78) cis-1,3-dichloropropene	13.40	75	3372	0.82 ug/L	97
80) 4-methyl-2-pentanone	13.51	58	1170	0.77 ug/L	96
81) toluene	13.80	91	9440	0.95 ug/L	97
82) 3-methyl-1-butanol	13.51	55	3904	17.93 ug/L	87
83) trans-1,3-dichloropropene	14.00	75	3423	0.84 ug/L	94
84) ethyl methacrylate	13.98	69	3423	0.88 ug/L	88
85) 1,1,2-trichloroethane	14.24	83	1783	0.88 ug/L	93
86) 2-hexanone	14.41	58	1426	0.93 ug/L	85
88) tetrachloroethene	14.39	166	2509	1.03 ug/L	96
90) 1,3-dichloropropane	14.43	76	3381	0.85 ug/L	93
91) butyl acetate	14.49	56	2007	0.86 ug/L	92
92) 3,3-dimethyl-1-butanol	14.59	57	4789	9.82 ug/L	98
93) dibromochloromethane	14.70	129	2594	0.92 ug/L	83
94) 1,2-dibromoethane	14.87	107	2391	0.89 ug/L	97
95) chlorobenzene	15.38	112	6334	0.97 ug/L	91
96) 1,1,1,2-tetrachloroethane	15.45	131	2350	0.95 ug/L	94
97) ethylbenzene	15.43	91	11394	0.94 ug/L	98
98) m,p-xylene	15.57	106	8620	1.96 ug/L	97
99) o-xylene	16.00	91	9204	0.90 ug/L	95
100) styrene	16.01	104	7559	0.98 ug/L	96
101) bromoform	16.27	173	2193	0.96 ug/L	93
103) isopropylbenzene	16.37	105	11763	0.89 ug/L	98
105) cyclohexanone	16.54	98	2748	24.50 ug/L	97
106) bromobenzene	16.80	156	3365	0.99 ug/L	94
107) 1,1,2,2-tetrachloroethane	16.68	83	4224	0.84 ug/L	92
108) trans-1,4-dichloro-2-buten	16.70	53	1188	0.82 ug/L	80
109) 1,2,3-trichloropropane	16.78	110	1136	0.85 ug/L	76
110) n-propylbenzene	16.82	91	14499	0.87 ug/L	99
111) 2-chlorotoluene	16.97	126	3095	0.99 ug/L	79
112) 4-chlorotoluene	17.09	91	9508	0.85 ug/L	97
113) 1,3,5-trimethylbenzene	16.98	105	10334	0.88 ug/L	92
114) tert-butylbenzene	17.35	134	1919	0.90 ug/L #	71
115) pentachloroethane	17.44	167	1680	0.80 ug/L	95
116) 1,2,4-trimethylbenzene	17.41	105	10622	0.87 ug/L	97

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a150930.D
Acq On : 23 May 2016 4:13 pm
Operator : tracyk
Sample : ic6507-1
Misc : MS2264,V3A6507,5,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 24 08:46:57 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 08:38:41 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
117) sec-butylbenzene	17.59	105	13453	0.88 ug/L	98
118) 1,3-dichlorobenzene	17.78	146	6646	0.96 ug/L	95
119) p-isopropyltoluene	17.73	119	11038	0.87 ug/L	98
120) 1,4-dichlorobenzene	17.89	146	7012	0.99 ug/L	94
121) 1,2-dichlorobenzene	18.30	146	6252	0.92 ug/L	98
122) benzyl chloride	17.99	91	9676	0.91 ug/L	99
123) n-butylbenzene	18.18	92	5556	0.79 ug/L	97
124) 1,2-dibromo-3-chloropropan	19.16	75	781	0.63 ug/L #	72
125) 1,3,5-TRICHLOROBENZENE	19.35	180	4446	0.88 ug/L	96
126) 1,2,4-trichlorobenzene	20.06	180	3500	0.77 ug/L	96
127) hexachlorobutadiene	20.18	225	1882	0.82 ug/L	97
128) naphthalene	20.41	128	9756	0.70 ug/L	98
129) 1,2,3-trichlorobenzene	20.66	180	3171	0.79 ug/L	98
130) hexachloroethane	18.64	201	1804	0.88 ug/L	95

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

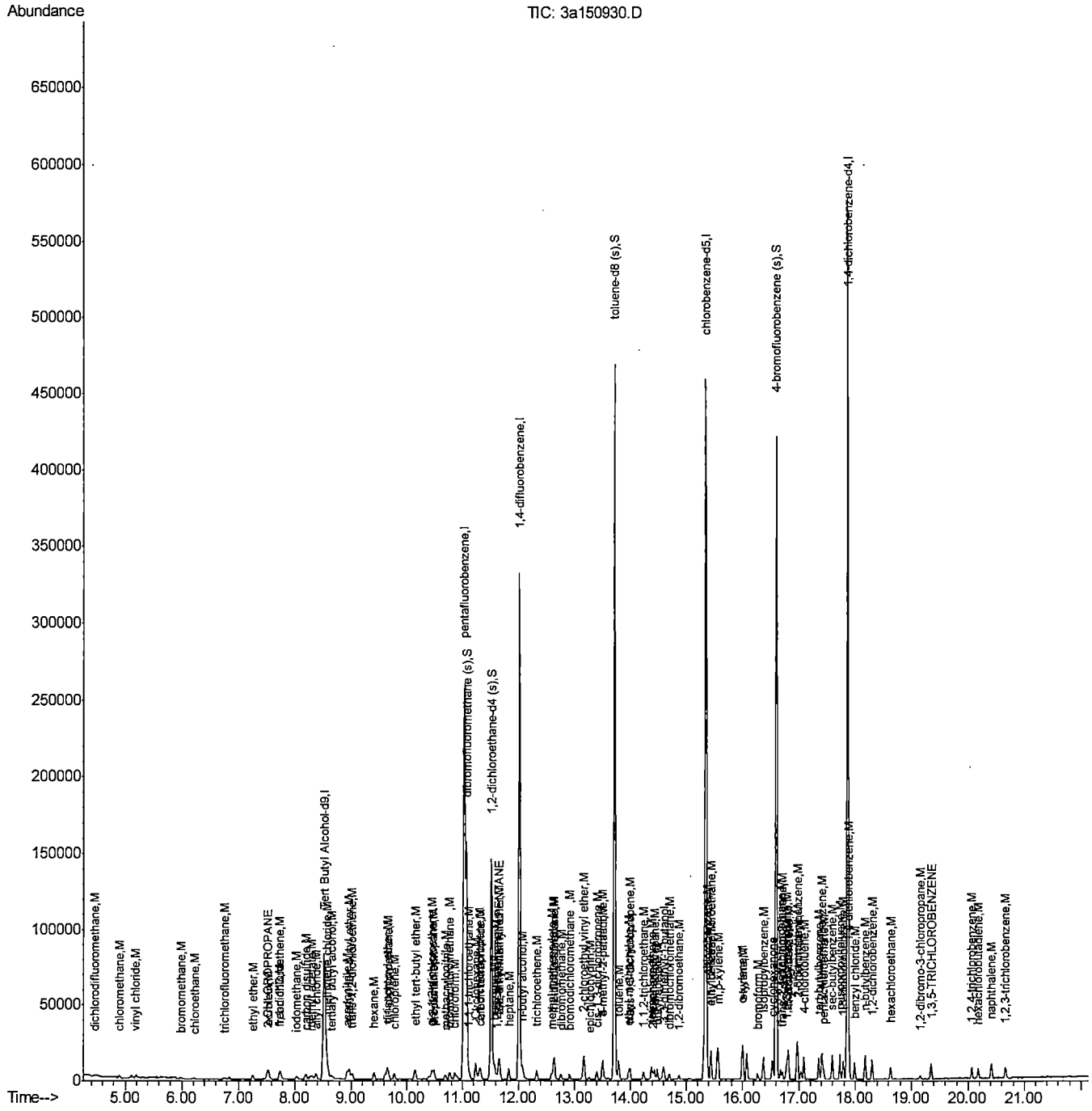
7.6.3

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a150930.D
Acq On : 23 May 2016 4:13 pm
Operator : tracyk
Sample : ic6507-1
Misc : MS2264,V3A6507,5,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 24 08:46:57 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 08:38:41 2016
Response via : Initial Calibration



SGS ACCUTEST JC20563

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a150931.D
Acq On : 23 May 2016 4:43 pm
Operator : tracyk
Sample : ic6507-2
Misc : MS2264,V3A6507,5,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 24 10:03:43 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 08:38:41 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.51	65	154965	500.00 ug/L	0.00
5) pentafluorobenzene	11.03	168	197944	50.00 ug/L	0.00
55) 1,4-difluorobenzene	12.01	114	295682	50.00 ug/L	0.00
87) chlorobenzene-d5	15.35	117	284283	50.00 ug/L	0.00
102) 1,4-dichlorobenzene-d4	17.86	152	171158	50.00 ug/L	0.00

System Monitoring Compounds					
49) dibromofluoromethane (s)	11.07	113	97682	48.44 ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 96.88%		
50) 1,2-dichloroethane-d4 (s)	11.52	65	111364	42.51 ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 85.02%		
79) toluene-d8 (s)	13.72	98	327859	46.55 ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 93.10%		
104) 4-bromofluorobenzene (s)	16.60	95	155184	43.70 ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 87.40%		

Target Compounds					Qvalue
2) tertiary butyl alcohol	8.65	59	5101	10.44 ug/L	90
8) chlorodifluoromethane	4.50	51	2989	1.43 ug/L	64
9) dichlorodifluoromethane	4.46	85	5238	1.72 ug/L	93
10) chloromethane	4.89	50	5681	1.26 ug/L	92
11) vinyl chloride	5.19	62	5616	1.47 ug/L	97
12) bromomethane	5.99	96	2527	1.72 ug/L	88
15) 2-CHLOROPROPANE	7.50	43	5895	1.46 ug/L	95
16) chloroethane	6.22	64	2828	1.55 ug/L	96
17) trichlorofluoromethane	6.75	101	4848	1.44 ug/L	94
20) ethyl ether	7.26	74	2455	1.66 ug/L	91
21) acrolein	7.53	56	16137	18.89 ug/L	99
22) 1,1-dichloroethene	7.75	61	6990	1.81 ug/L	100
24) allyl chloride	8.37	76	2460	1.70 ug/L #	84
25) acetonitrile	8.27	40	4475	13.10 ug/L	84
26) iodomethane	8.04	142	7626	2.10 ug/L	97
27) iso-butyl alcohol	11.30	74	696	14.29 ug/L #	48
28) carbon disulfide	8.19	76	14126	1.73 ug/L	94
29) methylene chloride	8.58	84	5069	2.01 ug/L	92
30) methyl acetate	8.31	43	5270	1.66 ug/L	97
31) methyl tert butyl ether	8.97	73	14943	1.82 ug/L	99
32) trans-1,2-dichloroethene	9.01	61	6136	1.72 ug/L	87
33) di-isopropyl ether	9.65	45	13672	1.59 ug/L	98
34) 2-butanone	10.40	72	775	1.61 ug/L	97
35) 1,1-dichloroethane	9.67	63	8248	1.79 ug/L	99
36) chloroprene	9.78	53	6216	1.70 ug/L	96
37) acrylonitrile	8.93	53	12767	8.48 ug/L	93
38) vinyl acetate	9.61	86	681	1.28 ug/L #	25
39) ethyl tert-butyl ether	10.15	59	14126	1.68 ug/L	98
40) ethyl acetate	10.41	45	629	1.15 ug/L #	12
41) 2,2-dichloropropane	10.47	77	4167	1.71 ug/L	97
42) cis-1,2-dichloroethene	10.45	96	5249	1.96 ug/L	92
43) methylacrylate	10.50	85	787	1.44 ug/L #	21
44) propionitrile	10.49	54	9149	14.89 ug/L	86

7.6.4 7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a150931.D
Acq On : 23 May 2016 4:43 pm
Operator : tracyk
Sample : ic6507-2
Misc : MS2264,V3A6507,5,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 24 10:03:43 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 08:38:41 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
45) bromochloromethane	10.77	128	2746	2.27 ug/L	90
46) tetrahydrofuran	10.79	42	2222	1.36 ug/L	91
47) chloroform	10.87	85	5348	1.86 ug/L	94
51) freon 113	7.74	151	3086	2.05 ug/L	91
52) methacrylonitrile	10.69	67	2401	1.58 ug/L	93
53) 1,1,1-trichloroethane	11.13	97	5712	1.68 ug/L	95
54) Cyclohexane	11.23	84	6983	1.99 ug/L #	81
56) epichlorohydrin	13.27	57	3724	8.34 ug/L	92
57) n-butyl alcohol	12.07	56	12511	86.96 ug/L	93
58) carbon tetrachloride	11.33	117	5391	1.79 ug/L	95
59) 1,1-dichloropropene	11.31	75	5829	1.97 ug/L	97
61) hexane	9.42	57	4738	1.96 ug/L	93
62) 2,2,4-TRIMETHYLPENTANE	11.66	57	15256	1.87 ug/L	98
63) benzene	11.58	78	17588	1.85 ug/L	98
64) tert-amyl methyl ether	11.66	87	3339	2.06 ug/L #	78
65) heptane	11.83	57	2605	1.66 ug/L	93
66) isopropyl acetate	11.49	87	1037	1.69 ug/L #	92
67) 1,2-dichloroethane	11.62	62	6186	1.83 ug/L	96
69) trichloroethene	12.34	95	4716	1.99 ug/L	94
71) methyl methacrylate	12.60	100	1266	1.67 ug/L #	90
72) 2-nitropropane	13.14	41	2683	1.92 ug/L	88
73) 2-chloroethyl vinyl ether	13.16	63	14878	7.78 ug/L	96
74) 1,2-dichloropropane	12.65	63	4297	1.70 ug/L	92
75) dibromomethane	12.76	93	3063	1.90 ug/L	90
76) methylcyclohexane	12.63	83	6629	1.99 ug/L	95
77) bromodichloromethane	12.92	83	6165	1.85 ug/L	98
78) cis-1,3-dichloropropene	13.40	75	6892	1.66 ug/L	94
80) 4-methyl-2-pentanone	13.51	58	2590	1.70 ug/L	91
81) toluene	13.80	91	17746	1.77 ug/L	99
82) 3-methyl-1-butanol	13.50	55	8826	40.26 ug/L	96
83) trans-1,3-dichloropropene	14.00	75	7245	1.78 ug/L	98
84) ethyl methacrylate	13.98	69	7060	1.80 ug/L	99
85) 1,1,2-trichloroethane	14.24	83	3572	1.75 ug/L	93
86) 2-hexanone	14.41	58	3412	2.22 ug/L	97
88) tetrachloroethene	14.38	166	6369	2.68 ug/L	91
90) 1,3-dichloropropane	14.44	76	6870	1.76 ug/L	90
91) butyl acetate	14.49	56	4445	1.95 ug/L	98
92) 3,3-dimethyl-1-butanol	14.60	57	10854	22.74 ug/L	97
93) dibromochloromethane	14.70	129	5286	1.92 ug/L	90
94) 1,2-dibromoethane	14.87	107	4934	1.87 ug/L	98
95) chlorobenzene	15.38	112	13143	2.06 ug/L	95
96) 1,1,1,2-tetrachloroethane	15.45	131	5219	2.15 ug/L	94
97) ethylbenzene	15.43	91	22177	1.88 ug/L	99
98) m,p-xylene	15.57	106	17412	4.05 ug/L	94
99) o-xylene	16.00	91	19029	1.91 ug/L	98
100) styrene	16.01	104	15930	2.10 ug/L	99
101) bromoform	16.27	173	5172	2.31 ug/L	91
103) isopropylbenzene	16.37	105	23671	1.81 ug/L	98
105) cyclohexanone	16.54	98	6374	57.10 ug/L	95
106) bromobenzene	16.80	156	7398	2.19 ug/L	96

7.6.4 7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a150931.D
Acq On : 23 May 2016 4:43 pm
Operator : tracyk
Sample : ic6507-2
Misc : MS2264,V3A6507,5,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 24 10:03:43 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 08:38:41 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
107) 1,1,2,2-tetrachloroethane	16.68	83	10191	2.05 ug/L	96
108) trans-1,4-dichloro-2-buten	16.71	53	2574	1.78 ug/L	91
109) 1,2,3-trichloropropane	16.78	110	2957	2.22 ug/L	92
110) n-propylbenzene	16.82	91	29279	1.77 ug/L	99
111) 2-chlorotoluene	16.97	126	6530	2.11 ug/L	98
112) 4-chlorotoluene	17.09	91	20667	1.85 ug/L	99
113) 1,3,5-trimethylbenzene	16.98	105	21880	1.88 ug/L	93
114) tert-butylbenzene	17.35	134	4368	2.07 ug/L	96
115) pentachloroethane	17.44	167	3884	1.85 ug/L	96
116) 1,2,4-trimethylbenzene	17.41	105	23335	1.92 ug/L	95
117) sec-butylbenzene	17.59	105	27834	1.83 ug/L	97
118) 1,3-dichlorobenzene	17.79	146	15048	2.18 ug/L	99
119) p-isopropyltoluene	17.73	119	24345	1.93 ug/L	98
120) 1,4-dichlorobenzene	17.89	146	15760	2.23 ug/L	99
121) 1,2-dichlorobenzene	18.30	146	15025	2.22 ug/L	99
122) benzyl chloride	17.99	91	21921	2.08 ug/L	99
123) n-butylbenzene	18.18	92	12304	1.75 ug/L	95
124) 1,2-dibromo-3-chloropropan	19.16	75	2031	1.65 ug/L	97
125) 1,3,5-TRICHLOROBENZENE	19.35	180	10729	2.13 ug/L	95
126) 1,2,4-trichlorobenzene	20.07	180	9179	2.02 ug/L	98
127) hexachlorobutadiene	20.18	225	4191	1.84 ug/L	90
128) naphthalene	20.41	128	25199	1.82 ug/L	98
129) 1,2,3-trichlorobenzene	20.66	180	8132	2.03 ug/L	91
130) hexachloroethane	18.63	201	4245	2.09 ug/L	96

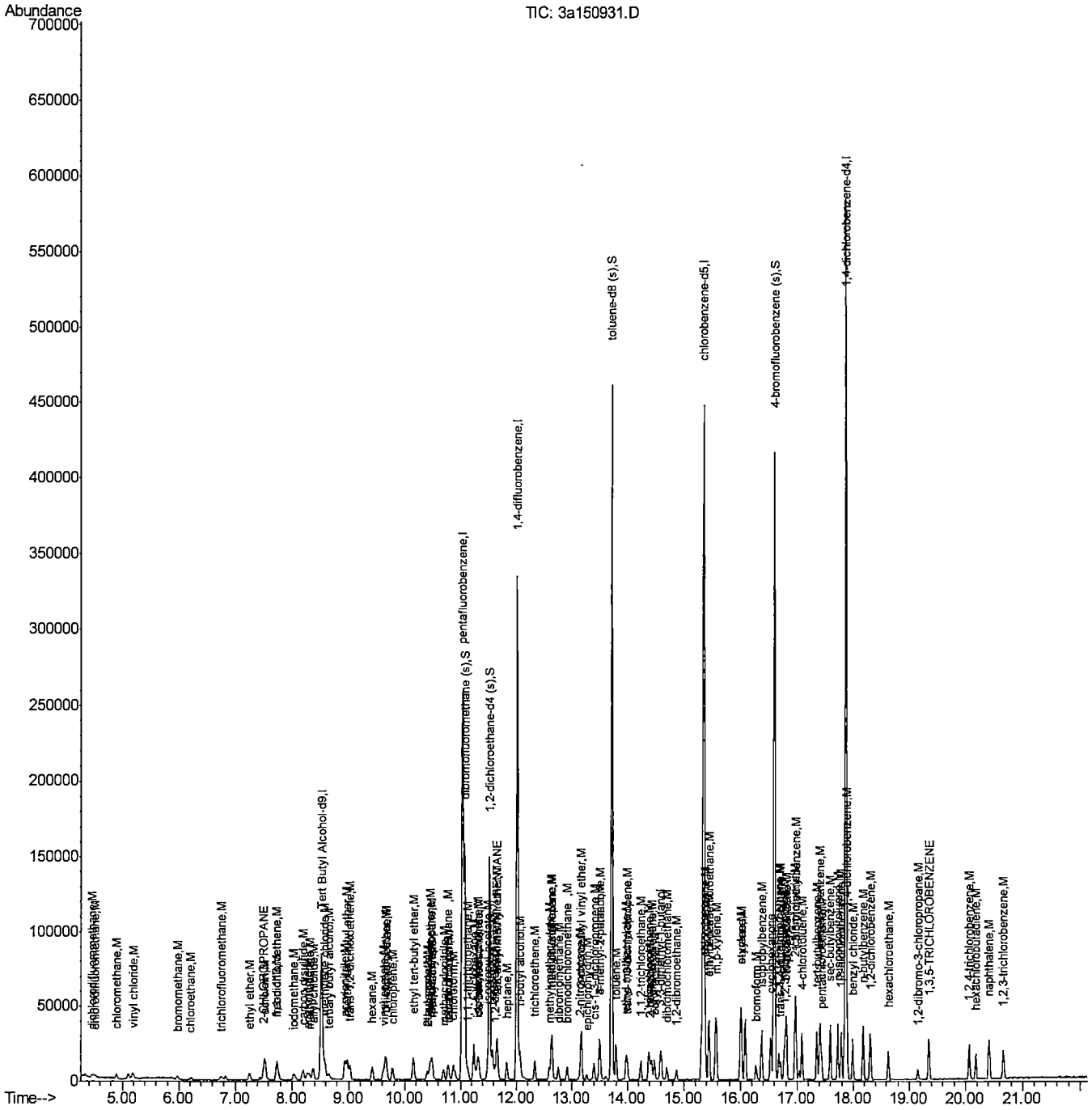
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.6.4 7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a150931.D
Acq On : 23 May 2016 4:43 pm
Operator : tracyk
Sample : ic6507-2
Misc : MS2264,V3A6507,5,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 24 10:03:43 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 08:38:41 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a150932.D
Acq On : 23 May 2016 5:14 pm
Operator : tracyk
Sample : ic6507-5
Misc : MS2264,V3A6507,5,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 24 08:32:07 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 08:26:38 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.51	65	142122	500.00	ug/L	0.00
5) pentafluorobenzene	11.03	168	198669	50.00	ug/L	0.00
55) 1,4-difluorobenzene	12.01	114	297965	50.00	ug/L	0.00
87) chlorobenzene-d5	15.35	117	281943	50.00	ug/L	0.00
102) 1,4-dichlorobenzene-d4	17.86	152	169718	50.00	ug/L	0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	11.07	113	96591	47.73	ug/L	0.00
Spiked Amount 50.000 Range 76 - 120 Recovery = 95.46%						
50) 1,2-dichloroethane-d4 (s)	11.52	65	112769	42.89	ug/L	0.00
Spiked Amount 50.000 Range 73 - 122 Recovery = 85.78%						
79) toluene-d8 (s)	13.72	98	330042	46.50	ug/L	0.00
Spiked Amount 50.000 Range 84 - 119 Recovery = 93.00%						
104) 4-bromofluorobenzene (s)	16.60	95	152540	43.32	ug/L	0.00
Spiked Amount 50.000 Range 78 - 117 Recovery = 86.64%						

Target Compounds						Qvalue
2) tertiary butyl alcohol	8.64	59	10685	23.84	ug/L	96
4) 1,4-dioxane	12.69	88	2452	64.42	ug/L	99
8) chlorodifluoromethane	4.50	51	7205	3.44	ug/L	95
9) dichlorodifluoromethane	4.46	85	15012	4.92	ug/L	94
10) chloromethane	4.89	50	16345	3.60	ug/L	97
11) vinyl chloride	5.19	62	16531	4.32	ug/L	97
12) bromomethane	5.98	96	7205	4.88	ug/L	97
15) 2-CHLOROPROPANE	7.51	43	13380	3.29	ug/L	96
16) chloroethane	6.22	64	8118	4.45	ug/L	97
17) trichlorofluoromethane	6.76	101	14573	4.31	ug/L	99
20) ethyl ether	7.25	74	6989	4.72	ug/L	91
21) acrolein	7.53	56	39259	45.80	ug/L	100
22) 1,1-dichloroethene	7.75	61	17646	4.56	ug/L	98
23) acetone	7.78	58	2512	6.53	ug/L	95
24) allyl chloride	8.37	76	6412	4.41	ug/L	95
25) acetonitrile	8.27	40	8731	25.46	ug/L	97
26) iodomethane	8.04	142	19154	5.26	ug/L	96
27) iso-butyl alcohol	11.31	74	1653	33.82	ug/L #	20
28) carbon disulfide	8.19	76	34567	4.23	ug/L	99
29) methylene chloride	8.58	84	12344	4.88	ug/L	97
30) methyl acetate	8.31	43	12944	4.06	ug/L	97
31) methyl tert butyl ether	8.98	73	37490	4.54	ug/L	98
32) trans-1,2-dichloroethene	9.02	61	15422	4.32	ug/L	99
33) di-isopropyl ether	9.65	45	35349	4.10	ug/L	99
34) 2-butanone	10.39	72	2272	4.69	ug/L #	70
35) 1,1-dichloroethane	9.67	63	19936	4.32	ug/L	99
36) chloroprene	9.78	53	15710	4.28	ug/L	97
37) acrylonitrile	8.93	53	31865	21.08	ug/L	97
38) vinyl acetate	9.61	86	2235	4.18	ug/L	100
39) ethyl tert-butyl ether	10.15	59	36338	4.31	ug/L	99
40) ethyl acetate	10.41	45	1917	3.50	ug/L	77
41) 2,2-dichloropropane	10.47	77	9299	3.80	ug/L	93
42) cis-1,2-dichloroethene	10.45	96	12796	4.77	ug/L	95

7.6.5 7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a150932.D
Acq On : 23 May 2016 5:14 pm
Operator : tracyk
Sample : ic6507-5
Misc : MS2264,V3A6507,5,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 24 08:32:07 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 08:26:38 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
43) methylacrylate	10.50	85	2138	3.90 ug/L	64
44) propionitrile	10.49	54	22306	36.16 ug/L	87
45) bromochloromethane	10.77	128	6477	5.35 ug/L	93
46) tetrahydrofuran	10.78	42	5307	3.23 ug/L	93
47) chloroform	10.86	85	13311	4.61 ug/L	97
48) t-butyl formate	10.90	59	8430	2.78 ug/L	97
51) freon 113	7.74	151	7441	4.92 ug/L	94
52) methacrylonitrile	10.69	67	6352	4.15 ug/L	96
53) 1,1,1-trichloroethane	11.13	97	14022	4.12 ug/L	94
54) Cyclohexane	11.24	84	16576	4.70 ug/L	89
56) epichlorohydrin	13.26	57	9021	20.04 ug/L	92
57) n-butyl alcohol	12.06	56	28459	196.30 ug/L	97
58) carbon tetrachloride	11.33	117	13553	4.46 ug/L	98
59) 1,1-dichloropropene	11.31	75	14238	4.78 ug/L	96
61) hexane	9.41	57	11596	4.76 ug/L	97
62) 2,2,4-TRIMETHYLPENTANE	11.66	57	37186	4.51 ug/L	95
63) benzene	11.58	78	44265	4.63 ug/L	99
64) tert-amyl methyl ether	11.66	87	8746	5.36 ug/L #	83
65) heptane	11.83	57	6724	4.25 ug/L	98
66) isopropyl acetate	11.49	87	3009	4.87 ug/L #	71
67) 1,2-dichloroethane	11.62	62	16018	4.70 ug/L	99
69) trichloroethene	12.33	95	11671	4.88 ug/L	99
71) methyl methacrylate	12.60	100	3527	4.62 ug/L	92
72) 2-nitropropane	13.14	41	6237	4.43 ug/L	96
73) 2-chloroethyl vinyl ether	13.16	63	37169	19.30 ug/L	97
74) 1,2-dichloropropane	12.65	63	10987	4.32 ug/L	98
75) dibromomethane	12.76	93	8135	5.01 ug/L	94
76) methylcyclohexane	12.63	83	16702	4.98 ug/L	99
77) bromodichloromethane	12.92	83	15627	4.66 ug/L	99
78) cis-1,3-dichloropropene	13.40	75	17836	4.25 ug/L	99
80) 4-methyl-2-pentanone	13.51	58	6564	4.28 ug/L #	78
81) toluene	13.80	91	44683	4.43 ug/L	98
82) 3-methyl-1-butanol	13.49	55	19855	89.87 ug/L	96
83) trans-1,3-dichloropropene	14.00	75	17486	4.25 ug/L	98
84) ethyl methacrylate	13.98	69	17044	4.32 ug/L	97
85) 1,1,2-trichloroethane	14.24	83	9117	4.42 ug/L	97
86) 2-hexanone	14.41	58	7685	4.95 ug/L	95
88) tetrachloroethene	14.39	166	15153	6.43 ug/L	99
90) 1,3-dichloropropane	14.43	76	17496	4.52 ug/L	98
91) butyl acetate	14.49	56	10079	4.47 ug/L	90
92) 3,3-dimethyl-1-butanol	14.59	57	22921	48.41 ug/L	93
93) dibromochloromethane	14.70	129	12821	4.70 ug/L	93
94) 1,2-dibromoethane	14.87	107	12472	4.77 ug/L	100
95) chlorobenzene	15.38	112	31375	4.97 ug/L	95
96) 1,1,1,2-tetrachloroethane	15.45	131	12527	5.20 ug/L	98
97) ethylbenzene	15.43	91	53734	4.58 ug/L	99
98) m,p-xylene	15.57	106	42528	9.97 ug/L	99
99) o-xylene	16.00	91	45965	4.64 ug/L	98
100) styrene	16.01	104	38257	5.09 ug/L	98
101) bromoform	16.27	173	11354	5.11 ug/L	94

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a150932.D
Acq On : 23 May 2016 5:14 pm
Operator : tracyk
Sample : ic6507-5
Misc : MS2264,V3A6507,5,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 24 08:32:07 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 08:26:38 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
103) isopropylbenzene	16.37	105	56309	4.34 ug/L	98
105) cyclohexanone	16.54	98	13389	120.96 ug/L	99
106) bromobenzene	16.80	156	17229	5.14 ug/L	99
107) 1,1,2,2-tetrachloroethane	16.68	83	21405	4.34 ug/L	97
108) trans-1,4-dichloro-2-buten	16.71	53	5917	4.12 ug/L	98
109) 1,2,3-trichloropropane	16.78	110	6067	4.59 ug/L	99
110) n-propylbenzene	16.82	91	68944	4.21 ug/L	98
111) 2-chlorotoluene	16.97	126	15019	4.89 ug/L	98
112) 4-chlorotoluene	17.09	91	45494	4.11 ug/L	98
113) 1,3,5-trimethylbenzene	16.98	105	49649	4.29 ug/L	94
114) tert-butylbenzene	17.35	134	10348	4.94 ug/L #	83
115) pentachloroethane	17.43	167	8173	3.92 ug/L	95
116) 1,2,4-trimethylbenzene	17.41	105	53129	4.40 ug/L	97
117) sec-butylbenzene	17.59	105	64463	4.27 ug/L	98
118) 1,3-dichlorobenzene	17.79	146	33796	4.94 ug/L	98
119) p-isopropyltoluene	17.73	119	54944	4.39 ug/L	79
120) 1,4-dichlorobenzene	17.89	146	33393	4.76 ug/L	99
121) 1,2-dichlorobenzene	18.31	146	32754	4.88 ug/L	97
122) benzyl chloride	17.99	91	48551	4.65 ug/L	99
123) n-butylbenzene	18.18	92	28113	4.04 ug/L	99
124) 1,2-dibromo-3-chloropropan	19.16	75	4364	3.57 ug/L	91
125) 1,3,5-TRICHLOROBENZENE	19.35	180	22976	4.60 ug/L	98
126) 1,2,4-trichlorobenzene	20.07	180	19775	4.39 ug/L	98
127) hexachlorobutadiene	20.18	225	9210	4.08 ug/L	94
128) naphthalene	20.41	128	54797	4.00 ug/L	100
129) 1,2,3-trichlorobenzene	20.66	180	17193	4.32 ug/L	99
130) hexachloroethane	18.63	201	9149	4.54 ug/L	97

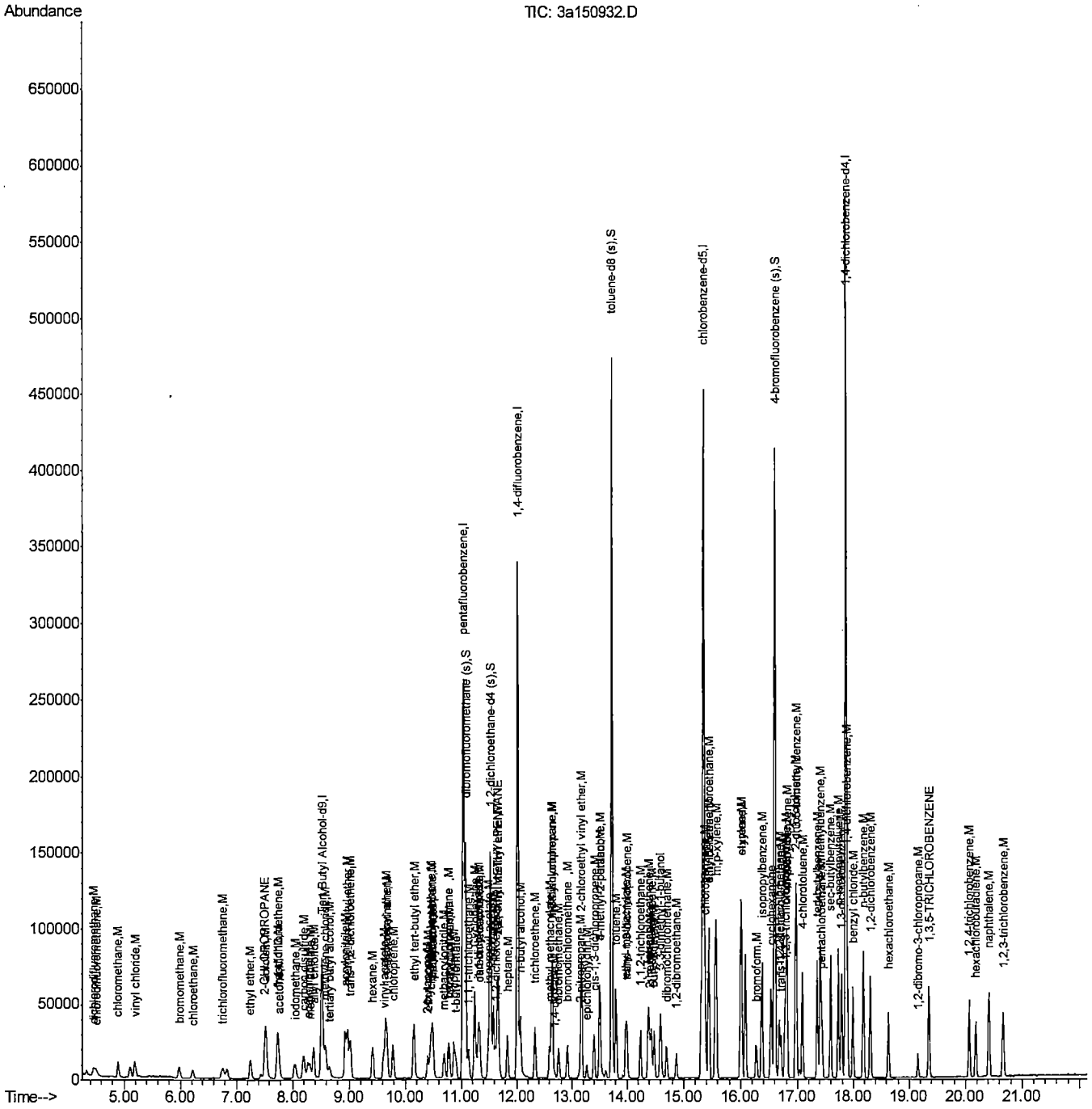
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.6.5 7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a150932.D
Acq On : 23 May 2016 5:14 pm
Operator : tracyk
Sample : ic6507-5
Misc : MS2264,V3A6507,5,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 24 08:32:07 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 08:26:38 2016
Response via : Initial Calibration



SGS ACCUTEST JC20563

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a150933.D
Acq On : 23 May 2016 5:44 pm
Operator : tracyk
Sample : ic6507-10
Misc : MS2264,V3A6507,5,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 24 08:34:37 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 08:26:38 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.52	65	142630	500.00 ug/L	0.00
5) pentafluorobenzene	11.03	168	194084	50.00 ug/L	0.00
55) 1,4-difluorobenzene	12.02	114	291128	50.00 ug/L	0.00
87) chlorobenzene-d5	15.35	117	279210	50.00 ug/L	0.00
102) 1,4-dichlorobenzene-d4	17.86	152	172011	50.00 ug/L	0.00

System Monitoring Compounds					
49) dibromofluoromethane (s)	11.07	113	95180	48.14 ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 96.28%		
50) 1,2-dichloroethane-d4 (s)	11.52	65	110373	42.97 ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 85.94%		
79) toluene-d8 (s)	13.72	98	325519	46.94 ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 93.88%		
104) 4-bromofluorobenzene (s)	16.59	95	151139	42.35 ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 84.70%		

Target Compounds					Qvalue
2) tertiary butyl alcohol	8.65	59	22876	50.85 ug/L	95
4) 1,4-dioxane	12.69	88	5081	133.01 ug/L	92
8) chlorodifluoromethane	4.51	51	15655	7.64 ug/L	95
9) dichlorodifluoromethane	4.46	85	31305	10.51 ug/L	98
10) chloromethane	4.90	50	33717	7.60 ug/L	98
11) vinyl chloride	5.19	62	33809	9.04 ug/L	98
12) bromomethane	5.98	96	14962	10.37 ug/L	99
15) 2-CHLOROPROPANE	7.50	43	27599	6.95 ug/L	97
16) chloroethane	6.22	64	17298	9.70 ug/L	98
17) trichlorofluoromethane	6.76	101	30607	9.27 ug/L	96
20) ethyl ether	7.25	74	13973	9.66 ug/L	93
21) acrolein	7.53	56	76994	91.94 ug/L	99
22) 1,1-dichloroethene	7.75	61	36744	9.72 ug/L	98
23) acetone	7.77	58	5256	13.99 ug/L	90
24) allyl chloride	8.37	76	13250	9.33 ug/L	91
25) acetonitrile	8.27	40	16931	50.54 ug/L	98
26) iodomethane	8.04	142	40753	11.45 ug/L	97
27) iso-butyl alcohol	11.31	74	3668	76.81 ug/L #	41
28) carbon disulfide	8.19	76	72181	9.03 ug/L	99
29) methylene chloride	8.58	84	25284	10.23 ug/L	96
30) methyl acetate	8.31	43	28060	9.02 ug/L	98
31) methyl tert butyl ether	8.98	73	77281	9.58 ug/L	96
32) trans-1,2-dichloroethene	9.02	61	31650	9.07 ug/L	98
33) di-isopropyl ether	9.65	45	76023	9.02 ug/L	99
34) 2-butanone	10.39	72	5177	10.94 ug/L	97
35) 1,1-dichloroethane	9.67	63	40818	9.05 ug/L	98
36) chloroprene	9.78	53	33819	9.44 ug/L	99
37) acrylonitrile	8.93	53	66654	45.13 ug/L	98
38) vinyl acetate	9.61	86	5345	10.24 ug/L	87
39) ethyl tert-butyl ether	10.15	59	79021	9.59 ug/L	99
40) ethyl acetate	10.41	45	4333	8.11 ug/L	77
41) 2,2-dichloropropane	10.47	77	19100	7.99 ug/L	95
42) cis-1,2-dichloroethene	10.45	96	27261	10.40 ug/L	96

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a150933.D
Acq On : 23 May 2016 5:44 pm
Operator : tracyk
Sample : ic6507-10
Misc : MS2264,V3A6507,5,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 24 08:34:37 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 08:26:38 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
43) methylacrylate	10.50	85	4846	9.04 ug/L	80
44) propionitrile	10.49	54	49580	82.28 ug/L	90
45) bromochloromethane	10.77	128	13439	11.35 ug/L	96
46) tetrahydrofuran	10.79	42	10814	6.74 ug/L	98
47) chloroform	10.87	85	28094	9.96 ug/L	99
48) t-butyl formate	10.90	59	21132	7.14 ug/L	95
51) freon 113	7.75	151	16543	11.19 ug/L	94
52) methacrylonitrile	10.69	67	13437	9.00 ug/L	88
53) 1,1,1-trichloroethane	11.13	97	28772	8.65 ug/L	95
54) Cyclohexane	11.24	84	34313	9.97 ug/L	92
56) epichlorohydrin	13.26	57	20471	46.54 ug/L	99
57) n-butyl alcohol	12.06	56	64985	458.78 ug/L	100
58) carbon tetrachloride	11.33	117	28510	9.61 ug/L	98
59) 1,1-dichloropropene	11.31	75	29269	10.07 ug/L	97
61) hexane	9.41	57	24552	10.31 ug/L	97
62) 2,2,4-TRIMETHYLPENTANE	11.66	57	80891	10.05 ug/L	98
63) benzene	11.58	78	90932	9.73 ug/L	99
64) tert-amyl methyl ether	11.65	87	19205	12.05 ug/L	94
65) heptane	11.83	57	14750	9.54 ug/L	94
66) isopropyl acetate	11.49	87	6959	11.53 ug/L #	84
67) 1,2-dichloroethane	11.62	62	33276	10.00 ug/L	98
69) trichloroethene	12.33	95	24065	10.30 ug/L	99
71) methyl methacrylate	12.59	100	7979	10.71 ug/L	93
72) 2-nitropropane	13.14	41	13392	9.73 ug/L	95
73) 2-chloroethyl vinyl ether	13.16	63	83570	44.40 ug/L	98
74) 1,2-dichloropropane	12.65	63	23003	9.25 ug/L	98
75) dibromomethane	12.76	93	16773	10.56 ug/L	97
76) methylcyclohexane	12.63	83	35180	10.74 ug/L	96
77) bromodichloromethane	12.92	83	32522	9.92 ug/L	99
78) cis-1,3-dichloropropene	13.40	75	37655	9.19 ug/L	97
80) 4-methyl-2-pentanone	13.51	58	13959	9.31 ug/L	97
81) toluene	13.80	91	93850	9.53 ug/L	99
82) 3-methyl-1-butanol	13.50	55	42791	198.22 ug/L	97
83) trans-1,3-dichloropropene	14.00	75	36297	9.03 ug/L	100
84) ethyl methacrylate	13.98	69	35650	9.24 ug/L	99
85) 1,1,2-trichloroethane	14.24	83	19110	9.49 ug/L	97
86) 2-hexanone	14.41	58	15770	10.40 ug/L	94
88) tetrachloroethene	14.39	166	31977	13.71 ug/L	99
90) 1,3-dichloropropane	14.44	76	35377	9.23 ug/L	98
91) butyl acetate	14.48	56	22459	10.05 ug/L	95
92) 3,3-dimethyl-1-butanol	14.60	57	49616	105.83 ug/L	98
93) dibromochloromethane	14.70	129	27318	10.11 ug/L	99
94) 1,2-dibromoethane	14.87	107	25929	10.01 ug/L	96
95) chlorobenzene	15.38	112	65342	10.45 ug/L	98
96) 1,1,1,2-tetrachloroethane	15.45	131	26336	11.04 ug/L	98
97) ethylbenzene	15.44	91	115403	9.94 ug/L	100
98) m,p-xylene	15.57	106	89898	21.29 ug/L	100
99) o-xylene	16.00	91	96975	9.89 ug/L	100
100) styrene	16.01	104	80820	10.85 ug/L	99
101) bromoform	16.27	173	24444	11.10 ug/L	95

7.6.6 7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a150933.D
Acq On : 23 May 2016 5:44 pm
Operator : tracyk
Sample : ic6507-10
Misc : MS2264,V3A6507,5,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 24 08:34:37 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 08:26:38 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
103) isopropylbenzene	16.37	105	121247	9.21 ug/L	99
105) cyclohexanone	16.54	98	26071	232.40 ug/L	97
106) bromobenzene	16.80	156	36300	10.69 ug/L	99
107) 1,1,2,2-tetrachloroethane	16.68	83	45168	9.03 ug/L	100
108) trans-1,4-dichloro-2-buten	16.71	53	13193	9.06 ug/L	93
109) 1,2,3-trichloropropane	16.78	110	13218	9.87 ug/L	96
110) n-propylbenzene	16.82	91	147926	8.91 ug/L	99
111) 2-chlorotoluene	16.97	126	31452	10.09 ug/L	96
112) 4-chlorotoluene	17.09	91	96972	8.65 ug/L	98
113) 1,3,5-trimethylbenzene	16.98	105	107994	9.21 ug/L	99
114) tert-butylbenzene	17.35	134	21809	10.27 ug/L	98
115) pentachloroethane	17.44	167	16102	7.63 ug/L	98
116) 1,2,4-trimethylbenzene	17.41	105	115183	9.42 ug/L	98
117) sec-butylbenzene	17.59	105	137550	8.98 ug/L	99
118) 1,3-dichlorobenzene	17.79	146	72211	10.42 ug/L	97
119) p-isopropyltoluene	17.73	119	120908	9.53 ug/L	79
120) 1,4-dichlorobenzene	17.89	146	71796	10.11 ug/L	99
121) 1,2-dichlorobenzene	18.31	146	69881	10.26 ug/L	98
122) benzyl chloride	17.99	91	108711	10.27 ug/L	99
123) n-butylbenzene	18.18	92	61534	8.73 ug/L	97
124) 1,2-dibromo-3-chloropropan	19.16	75	9976	8.06 ug/L	96
125) 1,3,5-TRICHLOROBENZENE	19.35	180	50186	9.91 ug/L	99
126) 1,2,4-trichlorobenzene	20.07	180	44064	9.65 ug/L	97
127) hexachlorobutadiene	20.18	225	20514	8.96 ug/L	94
128) naphthalene	20.41	128	125804	9.05 ug/L	99
129) 1,2,3-trichlorobenzene	20.66	180	38789	9.61 ug/L	97
130) hexachloroethane	18.63	201	20624	10.10 ug/L	99

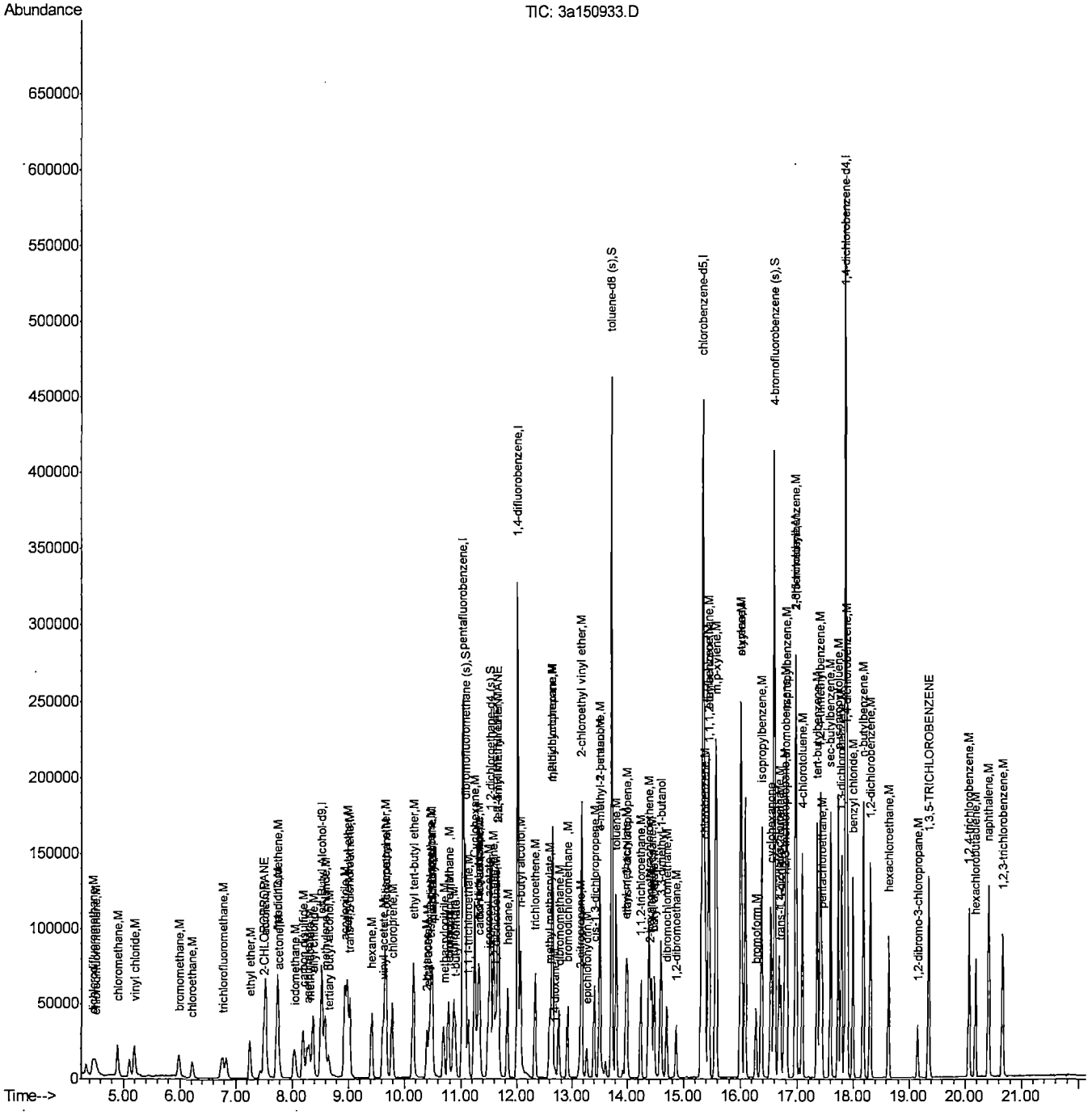
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.6.6 7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a150933.D
Acq On : 23 May 2016 5:44 pm
Operator : tracyk
Sample : ic6507-10
Misc : MS2264,V3A6507,5,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 24 08:34:37 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 08:26:38 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a150934.D
Acq On : 23 May 2016 6:14 pm
Operator : tracyk
Sample : ic6507-20
Misc : MS2264,V3A6507,5,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 24 08:44:02 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 08:38:41 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.51	65	118193	500.00 ug/L	0.00
5) pentafluorobenzene	11.03	168	192627	50.00 ug/L	0.00
55) 1,4-difluorobenzene	12.01	114	287464	50.00 ug/L	0.00
87) chlorobenzene-d5	15.35	117	274252	50.00 ug/L	0.00
102) 1,4-dichlorobenzene-d4	17.86	152	167472	50.00 ug/L	0.00

System Monitoring Compounds					
49) dibromofluoromethane (s)	11.07	113	93526	47.66 ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 95.32%		
50) 1,2-dichloroethane-d4 (s)	11.52	65	107031	41.98 ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 83.96%		
79) toluene-d8 (s)	13.72	98	322590	47.11 ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 94.22%		
104) 4-bromofluorobenzene (s)	16.60	95	146985	42.31 ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 84.62%		

Target Compounds					Qvalue
2) tertiary butyl alcohol	8.65	59	34137	91.57 ug/L	92
4) 1,4-dioxane	12.69	88	9859	311.44 ug/L	94
8) chlorodifluoromethane	4.50	51	32217	15.85 ug/L	98
9) dichlorodifluoromethane	4.46	85	63210	21.38 ug/L	100
10) chloromethane	4.90	50	66148	15.02 ug/L	100
11) vinyl chloride	5.19	62	68308	18.41 ug/L	97
12) bromomethane	5.98	96	30237	21.11 ug/L	97
15) 2-CHLOROPROPANE	7.50	43	59306	15.06 ug/L	97
16) chloroethane	6.22	64	34607	19.55 ug/L	97
17) trichlorofluoromethane	6.76	101	65125	19.87 ug/L	99
20) ethyl ether	7.26	74	29745	20.72 ug/L	96
21) acrolein	7.53	56	146497	176.26 ug/L	100
22) 1,1-dichloroethene	7.74	61	75031	20.01 ug/L	97
23) acetone	7.77	58	8659	23.22 ug/L	91
24) allyl chloride	8.37	76	27897	19.79 ug/L	98
25) acetonitrile	8.27	40	24432	73.48 ug/L	96
26) iodomethane	8.05	142	84762	24.00 ug/L	98
27) iso-butyl alcohol	11.31	74	7116	150.14 ug/L #	1
28) carbon disulfide	8.19	76	149366	18.83 ug/L	99
29) methylene chloride	8.58	84	50748	20.68 ug/L	94
30) methyl acetate	8.31	43	50938	16.49 ug/L	95
31) methyl tert butyl ether	8.98	73	159872	19.97 ug/L	100
32) trans-1,2-dichloroethene	9.02	61	65718	18.97 ug/L	99
33) di-isopropyl ether	9.65	45	154167	18.42 ug/L	100
34) 2-butanone	10.39	72	9530	20.30 ug/L	100
35) 1,1-dichloroethane	9.67	63	85424	19.09 ug/L	99
36) chloroprene	9.78	53	69255	19.47 ug/L	99
37) acrylonitrile	8.93	53	128654	87.77 ug/L	99
38) vinyl acetate	9.61	86	10659	20.58 ug/L	92
39) ethyl tert-butyl ether	10.15	59	159739	19.53 ug/L	99
40) ethyl acetate	10.40	45	8033	15.14 ug/L	81
41) 2,2-dichloropropane	10.48	77	39431	16.62 ug/L	98
42) cis-1,2-dichloroethene	10.45	96	54713	21.03 ug/L	97

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a150934.D
Acq On : 23 May 2016 6:14 pm
Operator : tracyk
Sample : ic6507-20
Misc : MS2264,V3A6507,5,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 24 08:44:02 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 08:38:41 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
43) methylacrylate	10.50	85	9613	18.07 ug/L	62
44) propionitrile	10.49	54	87416	146.17 ug/L	98
45) bromochloromethane	10.77	128	27844	23.70 ug/L	99
46) tetrahydrofuran	10.79	42	19729	12.39 ug/L	97
47) chloroform	10.87	85	57985	20.72 ug/L	99
48) t-butyl formate	10.90	59	44318	15.09 ug/L	93
51) freon 113	7.75	151	33558	22.88 ug/L	94
52) methacrylonitrile	10.69	67	26968	18.19 ug/L	97
53) 1,1,1-trichloroethane	11.13	97	60629	18.37 ug/L	99
54) Cyclohexane	11.25	84	71263	20.86 ug/L	93
56) epichlorohydrin	13.26	57	35674	82.14 ug/L	99
57) n-butyl alcohol	12.06	56	102252	731.08 ug/L	99
58) carbon tetrachloride	11.33	117	60769	20.74 ug/L	95
59) 1,1-dichloropropene	11.31	75	60883	21.21 ug/L	99
61) hexane	9.42	57	49739	21.15 ug/L	96
62) 2,2,4-TRIMETHYLPENTANE	11.66	57	166295	20.91 ug/L	96
63) benzene	11.58	78	189895	20.58 ug/L	100
64) tert-amyl methyl ether	11.65	87	38561	24.50 ug/L	97
65) heptane	11.83	57	28889	18.93 ug/L	98
66) isopropyl acetate	11.49	87	13320	22.35 ug/L #	92
67) 1,2-dichloroethane	11.61	62	68870	20.96 ug/L	97
69) trichloroethene	12.33	95	49411	21.41 ug/L	95
71) methyl methacrylate	12.60	100	15256	20.73 ug/L	98
72) 2-nitropropane	13.14	41	25333	18.64 ug/L	93
73) 2-chloroethyl vinyl ether	13.16	63	163143	87.79 ug/L	99
74) 1,2-dichloropropane	12.65	63	46621	19.00 ug/L	98
75) dibromomethane	12.76	93	34369	21.92 ug/L	95
76) methylcyclohexane	12.63	83	72452	22.40 ug/L	98
77) bromodichloromethane	12.92	83	68305	21.10 ug/L	98
78) cis-1,3-dichloropropene	13.40	75	77086	19.06 ug/L	98
80) 4-methyl-2-pentanone	13.51	58	27564	18.61 ug/L	91
81) toluene	13.80	91	197791	20.35 ug/L	99
82) 3-methyl-1-butanol	13.50	55	69380	325.49 ug/L	96
83) trans-1,3-dichloropropene	14.00	75	74294	18.73 ug/L	99
84) ethyl methacrylate	13.98	69	73376	19.27 ug/L	99
85) 1,1,2-trichloroethane	14.24	83	39013	19.62 ug/L	99
86) 2-hexanone	14.41	58	30442	20.34 ug/L	97
88) tetrachloroethene	14.39	166	69508	30.34 ug/L	99
90) 1,3-dichloropropane	14.44	76	73521	19.53 ug/L	98
91) butyl acetate	14.49	56	41601	18.96 ug/L	95
92) 3,3-dimethyl-1-butanol	14.59	57	82762	179.72 ug/L	98
93) dibromochloromethane	14.70	129	56077	21.13 ug/L	98
94) 1,2-dibromoethane	14.87	107	53193	20.91 ug/L	99
95) chlorobenzene	15.38	112	137422	22.36 ug/L	99
96) 1,1,1,2-tetrachloroethane	15.45	131	54203	23.14 ug/L	98
97) ethylbenzene	15.44	91	238018	20.88 ug/L	100
98) m,p-xylene	15.57	106	187157	45.13 ug/L	99
99) o-xylene	16.00	91	202776	21.05 ug/L	99
100) styrene	16.01	104	168688	23.05 ug/L	99
101) bromoform	16.27	173	50667	23.42 ug/L	98

7.6.7

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a150934.D
Acq On : 23 May 2016 6:14 pm
Operator : tracyk
Sample : ic6507-20
Misc : MS2264,V3A6507,5,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 24 08:44:02 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 08:38:41 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
103) isopropylbenzene	16.37	105	253146	19.76 ug/L	100
105) cyclohexanone	16.54	98	45088	412.80 ug/L	99
106) bromobenzene	16.80	156	74004	22.38 ug/L	99
107) 1,1,2,2-tetrachloroethane	16.68	83	91149	18.72 ug/L	98
108) trans-1,4-dichloro-2-buten	16.71	53	26725	18.84 ug/L	98
109) 1,2,3-trichloropropane	16.78	110	25861	19.82 ug/L	95
110) n-propylbenzene	16.82	91	304956	18.87 ug/L	99
111) 2-chlorotoluene	16.97	126	66055	21.77 ug/L	98
112) 4-chlorotoluene	17.09	91	202161	18.53 ug/L	99
113) 1,3,5-trimethylbenzene	16.98	105	226229	19.82 ug/L	99
114) tert-butylbenzene	17.35	134	45759	22.13 ug/L	97
115) pentachloroethane	17.44	167	29656	14.43 ug/L	94
116) 1,2,4-trimethylbenzene	17.41	105	235313	19.77 ug/L	98
117) sec-butylbenzene	17.59	105	289890	19.45 ug/L	99
118) 1,3-dichlorobenzene	17.79	146	148947	22.07 ug/L	99
119) p-isopropyltoluene	17.73	119	248126	20.08 ug/L	99
120) 1,4-dichlorobenzene	17.89	146	148796	21.51 ug/L	97
121) 1,2-dichlorobenzene	18.31	146	142335	21.47 ug/L	99
122) benzyl chloride	17.99	91	206589	20.04 ug/L	99
123) n-butylbenzene	18.18	92	127668	18.60 ug/L	98
124) 1,2-dibromo-3-chloropropan	19.16	75	18846	15.63 ug/L	97
125) 1,3,5-TRICHLOROBENZENE	19.35	180	98365	19.94 ug/L	100
126) 1,2,4-trichlorobenzene	20.07	180	85717	19.27 ug/L	100
127) hexachlorobutadiene	20.18	225	39610	17.77 ug/L	93
128) naphthalene	20.41	128	244951	18.10 ug/L	99
129) 1,2,3-trichlorobenzene	20.66	180	75530	19.23 ug/L	98
130) hexachloroethane	18.63	201	41363	20.80 ug/L	97

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

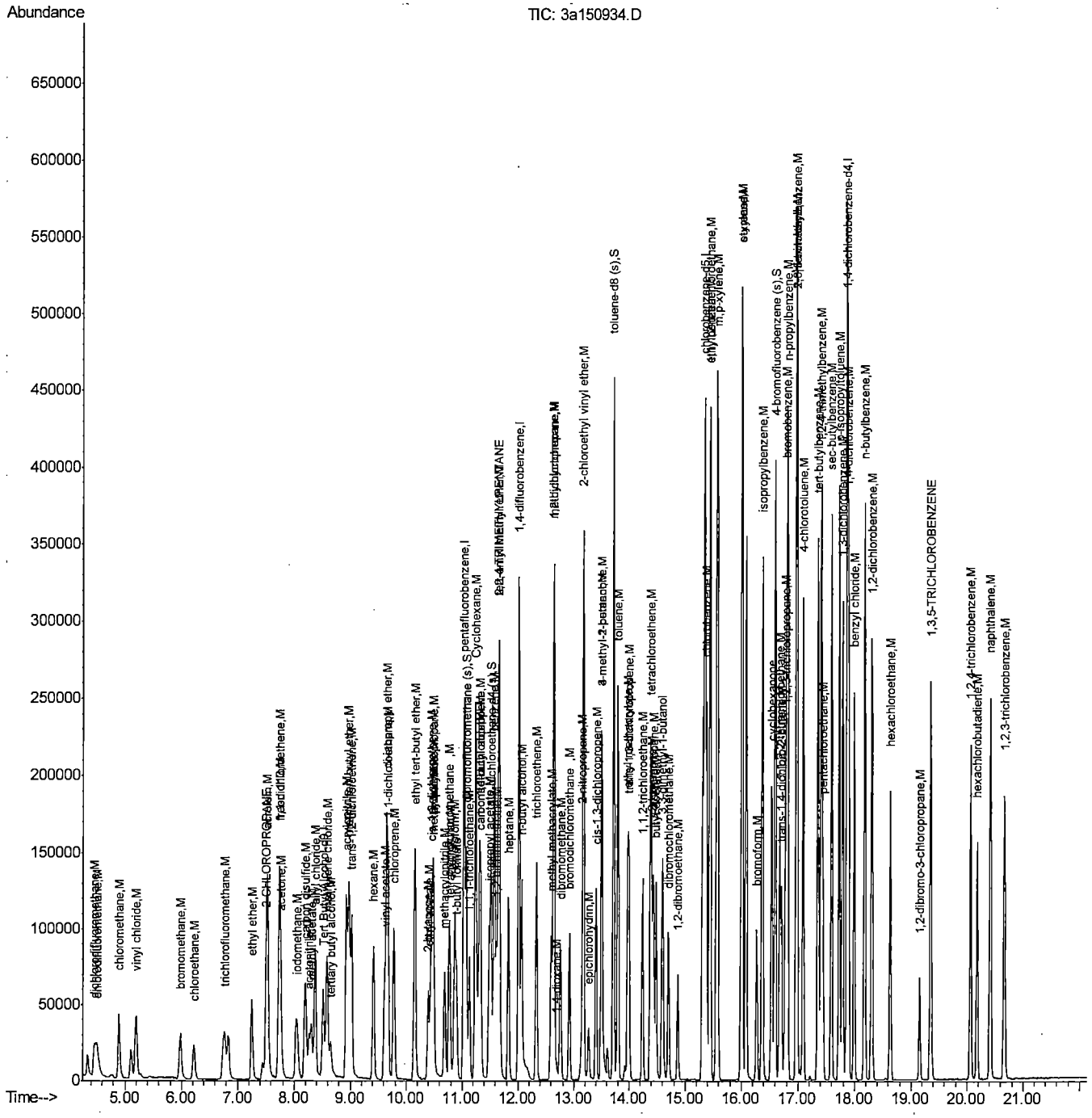
7.6.7

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a150934.D
Acq On : 23 May 2016 6:14 pm
Operator : tracyk
Sample : ic6507-20
Misc : MS2264,V3A6507,5,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 24 08:44:02 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 08:38:41 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a150935.D
Acq On : 23 May 2016 6:44 pm
Operator : tracyk
Sample : icc6507-50
Misc : MS2264,V3A6507,5,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 24 08:39:03 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 08:38:41 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.52	65	162280	500.00 ug/L	0.00
5) pentafluorobenzene	11.04	168	198096	50.00 ug/L	0.00
55) 1,4-difluorobenzene	12.01	114	305944	50.00 ug/L	0.00
87) chlorobenzene-d5	15.35	117	285320	50.00 ug/L	0.00
102) 1,4-dichlorobenzene-d4	17.86	152	180788	50.00 ug/L	0.00
System Monitoring Compounds					
49) dibromofluoromethane (s)	11.07	113	96007	47.58 ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 95.16%		
50) 1,2-dichloroethane-d4 (s)	11.52	65	112216	42.80 ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 85.60%		
79) toluene-d8 (s)	13.72	98	338850	46.50 ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 93.00%		
104) 4-bromofluorobenzene (s)	16.59	95	154776	41.27 ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 82.54%		
Target Compounds					Qvalue
2) tertiary butyl alcohol	8.66	59	128919	251.88 ug/L	100
4) 1,4-dioxane	12.69	88	38152	877.77 ug/L	100
8) chlorodifluoromethane	4.51	51	81458	38.96 ug/L	100
9) dichlorodifluoromethane	4.46	85	162746	53.52 ug/L	100
10) chloromethane	4.90	50	170613	37.67 ug/L	100
11) vinyl chloride	5.20	62	176290	46.19 ug/L	100
12) bromomethane	5.98	96	78420	53.23 ug/L	100
15) 2-CHLOROPROPANE	7.51	43	146506	36.17 ug/L	100
16) chloroethane	6.22	64	89357	49.08 ug/L	100
17) trichlorofluoromethane	6.76	101	176861	52.48 ug/L	100
20) ethyl ether	7.26	74	75649	51.24 ug/L	100
21) acrolein	7.53	56	396572	463.97 ug/L	100
22) 1,1-dichloroethene	7.74	61	195197	50.61 ug/L	100
23) acetone	7.77	58	28493	74.31 ug/L	100
24) allyl chloride	8.37	76	71080	49.04 ug/L	100
25) acetonitrile	8.27	40	102415	299.51 ug/L	100
26) iodomethane	8.04	142	217386	59.84 ug/L	100
27) iso-butyl alcohol	11.30	74	21017	431.19 ug/L	100
28) carbon disulfide	8.19	76	383960	47.07 ug/L	100
29) methylene chloride	8.58	84	132442	52.49 ug/L	100
30) methyl acetate	8.30	43	138319	43.54 ug/L	100
31) methyl tert butyl ether	8.98	73	413785	50.26 ug/L	100
32) trans-1,2-dichloroethene	9.02	61	167838	47.12 ug/L	100
33) di-isopropyl ether	9.65	45	386494	44.91 ug/L	100
34) 2-butanone	10.39	72	28013	58.01 ug/L	100
35) 1,1-dichloroethane	9.67	63	217949	47.36 ug/L	100
36) chloroprene	9.78	53	177193	48.45 ug/L	100
37) acrylonitrile	8.93	53	353652	234.60 ug/L	100
38) vinyl acetate	9.61	86	26562	49.88 ug/L	100
39) ethyl tert-butyl ether	10.15	59	405758	48.24 ug/L	100
40) ethyl acetate	10.40	45	22013	40.35 ug/L	100
41) 2,2-dichloropropane	10.47	77	95608	39.18 ug/L	100
42) cis-1,2-dichloroethene	10.45	96	141026	52.71 ug/L	100

7.6.8

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a150935.D
Acq On : 23 May 2016 6:44 pm
Operator : tracyk
Sample : icc6507-50
Misc : MS2264,V3A6507,5,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 24 08:39:03 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 08:38:41 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
43) methylacrylate	10.50	85	25514	46.64 ug/L	100
44) propionitrile	10.49	54	260254	423.16 ug/L	100
45) bromochloromethane	10.77	128	70378	58.25 ug/L	100
46) tetrahydrofuran	10.79	42	55276	33.75 ug/L	100
47) chloroform	10.86	85	148692	51.67 ug/L	100
48) t-butyl formate	10.90	59	122042	40.40 ug/L	100
51) freon 113	7.74	151	84777	56.20 ug/L	100
52) methacrylonitrile	10.69	67	72483	47.54 ug/L	100
53) 1,1,1-trichloroethane	11.13	97	155414	45.79 ug/L	100
54) Cyclohexane	11.24	84	182253	51.87 ug/L	100
56) epichlorohydrin	13.26	57	96497	208.78 ug/L	100
57) n-butyl alcohol	12.06	56	321924	2162.65 ug/L	100
58) carbon tetrachloride	11.33	117	154755	49.62 ug/L	100
59) 1,1-dichloropropene	11.31	75	161046	52.71 ug/L	100
61) hexane	9.41	57	124799	49.85 ug/L	100
62) 2,2,4-TRIMETHYLPENTANE	11.67	57	431990	51.05 ug/L	100
63) benzene	11.58	78	492693	50.18 ug/L	100
64) tert-amyl methyl ether	11.65	87	97600	58.26 ug/L	100
65) heptane	11.83	57	73719	45.39 ug/L	100
66) isopropyl acetate	11.49	87	34826	54.92 ug/L	100
67) 1,2-dichloroethane	11.62	62	179247	51.25 ug/L	100
69) trichloroethene	12.33	95	132147	53.80 ug/L	100
71) methyl methacrylate	12.60	100	41273	52.71 ug/L	100
72) 2-nitropropane	13.14	41	65238	45.11 ug/L	100
73) 2-chloroethyl vinyl ether	13.16	63	414630	209.63 ug/L	100
74) 1,2-dichloropropane	12.65	63	123199	47.17 ug/L	100
75) dibromomethane	12.76	93	89564	53.68 ug/L	100
76) methylcyclohexane	12.63	83	187150	54.38 ug/L	100
77) bromodichloromethane	12.92	83	180732	52.47 ug/L	100
78) cis-1,3-dichloropropene	13.40	75	205518	47.74 ug/L	100
80) 4-methyl-2-pentanone	13.51	58	74082	47.01 ug/L	100
81) toluene	13.80	91	511692	49.46 ug/L	100
82) 3-methyl-1-butanol	13.50	55	220824	973.40 ug/L	100
83) trans-1,3-dichloropropene	14.00	75	194397	46.04 ug/L	100
84) ethyl methacrylate	13.98	69	189285	46.70 ug/L	100
85) 1,1,2-trichloroethane	14.24	83	102111	48.25 ug/L	100
86) 2-hexanone	14.41	58	76134	47.79 ug/L	100
88) tetrachloroethene	14.39	166	190093	79.77 ug/L	100
90) 1,3-dichloropropane	14.43	76	194500	49.67 ug/L	100
91) butyl acetate	14.48	56	100120	43.86 ug/L	100
92) 3,3-dimethyl-1-butanol	14.59	57	263610	550.22 ug/L	100
93) dibromochloromethane	14.70	129	150376	54.46 ug/L	100
94) 1,2-dibromoethane	14.87	107	137007	51.76 ug/L	100
95) chlorobenzene	15.38	112	354645	55.48 ug/L	100
96) 1,1,1,2-tetrachloroethane	15.45	131	144346	59.22 ug/L	100
97) ethylbenzene	15.43	91	620655	52.33 ug/L	100
98) m,p-xylene	15.57	106	485830	112.60 ug/L	100
99) o-xylene	16.00	91	543213	54.19 ug/L	100
100) styrene	16.01	104	440505	57.86 ug/L	100
101) bromoform	16.27	173	136835	60.81 ug/L	100

7.6.8

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a150935.D
Acq On : 23 May 2016 6:44 pm
Operator : tracyk
Sample : icc6507-50
Misc : MS2264,V3A6507,5,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 24 08:39:03 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 08:38:41 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
103) isopropylbenzene	16.37	105	678198	49.03	ug/L	100
105) cyclohexanone	16.54	98	130104	1103.44	ug/L	100
106) bromobenzene	16.80	156	191755	53.71	ug/L	100
107) 1,1,2,2-tetrachloroethane	16.68	83	241214	45.89	ug/L	100
108) trans-1,4-dichloro-2-buten	16.71	53	68429	44.69	ug/L	100
109) 1,2,3-trichloropropane	16.78	110	67837	48.17	ug/L	100
110) n-propylbenzene	16.82	91	804402	46.10	ug/L	100
111) 2-chlorotoluene	16.97	126	176700	53.96	ug/L	100
112) 4-chlorotoluene	17.09	91	529428	44.95	ug/L	100
113) 1,3,5-trimethylbenzene	16.98	105	602929	48.94	ug/L	100
114) tert-butylbenzene	17.35	134	123900	55.50	ug/L	100
115) pentachloroethane	17.44	167	74039	33.37	ug/L	100
116) 1,2,4-trimethylbenzene	17.41	105	633346	49.28	ug/L	100
117) sec-butylbenzene	17.59	105	783223	48.67	ug/L	100
118) 1,3-dichlorobenzene	17.79	146	390499	53.61	ug/L	100
119) p-isopropyltoluene	17.73	119	675951	50.67	ug/L	100
120) 1,4-dichlorobenzene	17.89	146	396217	53.06	ug/L	100
121) 1,2-dichlorobenzene	18.31	146	377952	52.82	ug/L	100
122) benzyl chloride	17.99	91	538463	48.39	ug/L	100
123) n-butylbenzene	18.18	92	353661	47.72	ug/L	100
124) 1,2-dibromo-3-chloropropan	19.16	75	52656	40.46	ug/L	100
125) 1,3,5-TRICHLOROBENZENE	19.35	180	277695	52.15	ug/L	100
126) 1,2,4-trichlorobenzene	20.06	180	250136	52.09	ug/L	100
127) hexachlorobutadiene	20.18	225	111715	46.44	ug/L	100
128) naphthalene	20.41	128	700862	47.98	ug/L	100
129) 1,2,3-trichlorobenzene	20.66	180	218118	51.43	ug/L	100
130) hexachloroethane	18.63	201	113436	52.83	ug/L	100

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

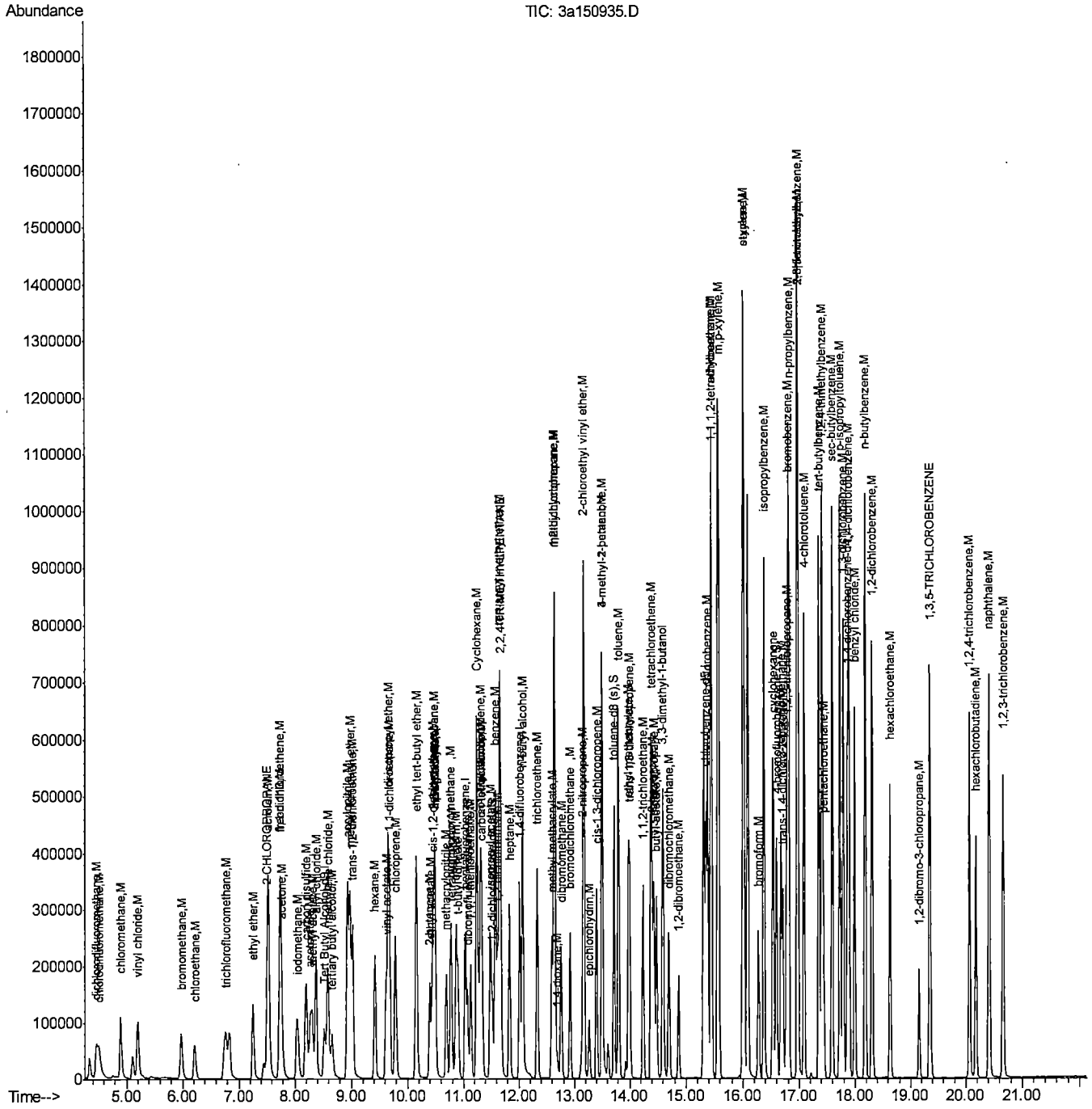
7.6.8

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a150935.D
Acq On : 23 May 2016 6:44 pm
Operator : tracyk
Sample : icc6507-50
Misc : MS2264,V3A6507,5,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 24 08:39:03 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 08:38:41 2016
Response via : Initial Calibration



SGS ACCUTEST JC20563

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a150936.D
Acq On : 23 May 2016 7:14 pm
Operator : tracyk
Sample : ic6507-100
Misc : MS2264,V3A6507,5,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: May 24 08:39:57 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 08:38:41 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.52	65	102944	500.00	ug/L	0.00
5) pentafluorobenzene	11.04	168	203338	50.00	ug/L	0.00
55) 1,4-difluorobenzene	12.02	114	322525	50.00	ug/L	0.00
87) chlorobenzene-d5	15.35	117	294575	50.00	ug/L	0.00
102) 1,4-dichlorobenzene-d4	17.86	152	163484	50.00	ug/L	0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	11.07	113	97330	46.99	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 93.98%			
50) 1,2-dichloroethane-d4 (s)	11.52	65	112974	41.98	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 83.96%			
79) toluene-d8 (s)	13.72	98	356198	46.37	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 92.74%			
104) 4-bromofluorobenzene (s)	16.60	95	153775	45.34	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 90.68%			

Target Compounds						Qvalue
2) tertiary butyl alcohol	8.66	59	169059	520.69	ug/L	91
4) 1,4-dioxane	12.69	88	49139	1782.19	ug/L	95
8) chlorodifluoromethane	4.50	51	168410	78.47	ug/L	100
9) dichlorodifluoromethane	4.46	85	334612	107.20	ug/L	100
10) chloromethane	4.90	50	351850	75.69	ug/L	98
11) vinyl chloride	5.21	62	367912	93.91	ug/L	99
12) bromomethane	5.97	96	166388	110.03	ug/L	99
15) 2-CHLOROPROPANE	7.51	43	293614	70.62	ug/L	99
16) chloroethane	6.21	64	189143	101.21	ug/L	99
17) trichlorofluoromethane	6.76	101	383553	110.87	ug/L	98
20) ethyl ether	7.26	74	154113	101.69	ug/L	96
21) acrolein	7.53	56	773966	882.16	ug/L	98
22) 1,1-dichloroethene	7.74	61	385404	97.35	ug/L	100
23) acetone	7.77	58	46238	117.48	ug/L	89
24) allyl chloride	8.37	76	147826	99.36	ug/L	93
25) acetonitrile	8.26	40	107913	307.46	ug/L	98
26) iodomethane	8.05	142	436702	117.12	ug/L	98
27) iso-butyl alcohol	11.31	74	36961	738.76	ug/L #	14
28) carbon disulfide	8.20	76	763002	91.12	ug/L	99
29) methylene chloride	8.58	84	270162	104.31	ug/L	99
30) methyl acetate	8.31	43	257308	78.90	ug/L	99
31) methyl tert butyl ether	8.98	73	840632	99.47	ug/L	100
32) trans-1,2-dichloroethene	9.02	61	336165	91.95	ug/L	99
33) di-isopropyl ether	9.65	45	798051	90.35	ug/L	98
34) 2-butanone	10.39	72	46661	94.13	ug/L #	91
35) 1,1-dichloroethane	9.67	63	434307	91.95	ug/L	99
36) chloroprene	9.78	53	362389	96.54	ug/L	99
37) acrylonitrile	8.93	53	669706	432.81	ug/L	100
38) vinyl acetate	9.61	86	56082	102.59	ug/L	97
39) ethyl tert-butyl ether	10.15	59	838289	97.10	ug/L	100
40) ethyl acetate	10.41	45	44851	80.09	ug/L	88
41) 2,2-dichloropropane	10.47	77	174787	69.78	ug/L	98
42) cis-1,2-dichloroethene	10.45	96	286285	104.25	ug/L	99

7.6.9 7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a150936.D
Acq On : 23 May 2016 7:14 pm
Operator : tracyk
Sample : ic6507-100
Misc : MS2264,V3A6507,5,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: May 24 08:39:57 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 08:38:41 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
43) methylacrylate	10.50	85	53250	94.83 ug/L #	62
44) propionitrile	10.49	54	446508	707.28 ug/L	93
45) bromochloromethane	10.77	128	144359	116.40 ug/L	98
46) tetrahydrofuran	10.78	42	101995	60.67 ug/L	99
47) chloroform	10.87	85	301063	101.91 ug/L	99
48) t-butyl formate	10.90	59	273976	88.35 ug/L	98
51) freon 113	7.74	151	162938	105.23 ug/L	98
52) methacrylonitrile	10.69	67	146137	93.38 ug/L	97
53) 1,1,1-trichloroethane	11.13	97	322087	92.44 ug/L	100
54) Cyclohexane	11.24	84	360211	99.88 ug/L	98
56) epichlorohydrin	13.26	57	183247	376.08 ug/L	99
57) n-butyl alcohol	12.06	56	487406	3106.00 ug/L	99
58) carbon tetrachloride	11.33	117	321978	97.92 ug/L	99
59) 1,1-dichloropropene	11.31	75	328370	101.95 ug/L	99
61) hexane	9.41	57	252901	95.84 ug/L	98
62) 2,2,4-TRIMETHYLPENTANE	11.67	57	855465	95.89 ug/L	99
63) benzene	11.58	78	1010592	97.63 ug/L	99
64) tert-amyl methyl ether	11.65	87	205944	116.62 ug/L	94
65) heptane	11.83	57	150947	88.16 ug/L	97
66) isopropyl acetate	11.49	87	73273	109.60 ug/L	98
67) 1,2-dichloroethane	11.62	62	369499	100.22 ug/L	98
69) trichloroethene	12.33	95	274553	106.04 ug/L	99
71) methyl methacrylate	12.60	100	88367	107.05 ug/L	99
72) 2-nitropropane	13.14	41	133367	87.48 ug/L	99
73) 2-chloroethyl vinyl ether	13.16	63	916205	439.41 ug/L	100
74) 1,2-dichloropropane	12.65	63	258794	93.99 ug/L	99
75) dibromomethane	12.76	93	186931	106.28 ug/L	99
76) methylcyclohexane	12.63	83	384285	105.92 ug/L	99
77) bromodichloromethane	12.92	83	382266	105.27 ug/L	100
78) cis-1,3-dichloropropene	13.40	75	442559	97.52 ug/L	100
80) 4-methyl-2-pentanone	13.51	58	150115	90.36 ug/L #	85
81) toluene	13.80	91	1073107	98.39 ug/L	100
82) 3-methyl-1-butanol	13.50	55	339694	1420.40 ug/L	99
83) trans-1,3-dichloropropene	14.00	75	414628	93.15 ug/L	99
84) ethyl methacrylate	13.98	69	404020	94.55 ug/L	98
85) 1,1,2-trichloroethane	14.24	83	216642	97.11 ug/L	99
86) 2-hexanone	14.41	58	156027	92.91 ug/L	95
88) tetrachloroethene	14.39	166	378658	153.90 ug/L	98
90) 1,3-dichloropropane	14.44	76	409045	101.18 ug/L	98
91) butyl acetate	14.48	56	214809	91.15 ug/L	97
92) 3,3-dimethyl-1-butanol	14.60	57	392145	792.79 ug/L	99
93) dibromochloromethane	14.70	129	316652	111.08 ug/L	99
94) 1,2-dibromoethane	14.87	107	292377	106.98 ug/L	98
95) chlorobenzene	15.38	112	739248	112.01 ug/L	99
96) 1,1,1,2-tetrachloroethane	15.45	131	294766	117.13 ug/L	99
97) ethylbenzene	15.44	91	1268914	103.63 ug/L	99
98) m,p-xylene	15.57	106	987944	221.79 ug/L	97
99) o-xylene	16.00	91	1079299	104.29 ug/L	100
100) styrene	16.01	104	885584	112.68 ug/L	98
101) bromoform	16.27	173	278496	119.87 ug/L	99

7.6.9

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a150936.D
Acq On : 23 May 2016 7:14 pm
Operator : tracyk
Sample : ic6507-100
Misc : MS2264,V3A6507,5,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: May 24 08:39:57 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 08:38:41 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
103) isopropylbenzene	16.37	105	1325318	105.96 ug/L	100
105) cyclohexanone	16.54	98	204873	1921.48 ug/L	99
106) bromobenzene	16.80	156	375604	116.34 ug/L	99
107) 1,1,2,2-tetrachloroethane	16.68	83	466806	98.22 ug/L	100
108) trans-1,4-dichloro-2-buten	16.71	53	138743	100.20 ug/L	98
109) 1,2,3-trichloropropane	16.78	110	131624	103.36 ug/L	100
110) n-propylbenzene	16.82	91	1520932	96.40 ug/L	100
111) 2-chlorotoluene	16.97	126	335153	113.18 ug/L	98
112) 4-chlorotoluene	17.09	91	1017452	95.53 ug/L	100
113) 1,3,5-trimethylbenzene	16.98	105	1099163	98.67 ug/L	99
114) tert-butylbenzene	17.35	134	225323	111.62 ug/L	97
115) pentachloroethane	17.44	167	144975	72.25 ug/L	98
116) 1,2,4-trimethylbenzene	17.41	105	1123790	96.70 ug/L	100
117) sec-butylbenzene	17.59	105	1379598	94.81 ug/L	100
118) 1,3-dichlorobenzene	17.79	146	701290	106.46 ug/L	99
119) p-isopropyltoluene	17.73	119	1152005	95.50 ug/L	99
120) 1,4-dichlorobenzene	17.89	146	707878	104.83 ug/L	98
121) 1,2-dichlorobenzene	18.31	146	654769	101.20 ug/L	100
122) benzyl chloride	17.99	91	974249	96.82 ug/L	100
123) n-butylbenzene	18.18	92	591363	88.25 ug/L	100
124) 1,2-dibromo-3-chloropropan	19.16	75	84531	71.82 ug/L	99
125) 1,3,5-TRICHLOROBENZENE	19.35	180	412120	85.58 ug/L	99
126) 1,2,4-trichlorobenzene	20.06	180	367770	84.70 ug/L	99
127) hexachlorobutadiene	20.18	225	166520	76.54 ug/L	98
128) naphthalene	20.41	128	1016704	76.98 ug/L	99
129) 1,2,3-trichlorobenzene	20.66	180	313724	81.81 ug/L	99
130) hexachloroethane	18.63	201	188306	96.98 ug/L	98

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

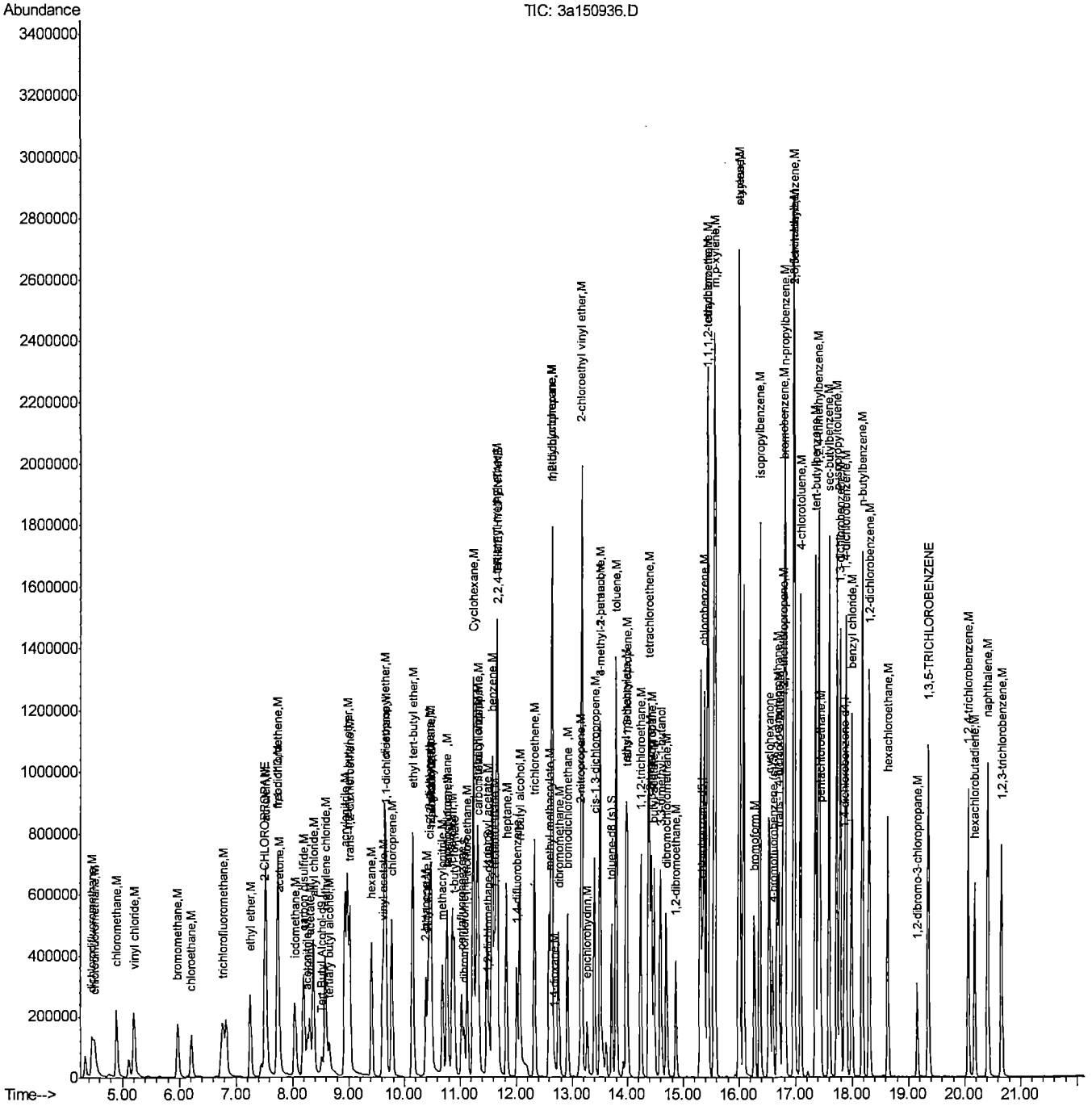
7.6.9

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a150936.D
Acq On : 23 May 2016 7:14 pm
Operator : tracyk
Sample : ic6507-100
Misc : MS2264,V3A6507,5,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: May 24 08:39:57 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 08:38:41 2016
Response via : Initial Calibration



SGS ACCUTEST JC20563

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a150937.D
Acq On : 23 May 2016 7:44 pm
Operator : tracyk
Sample : ic6507-200
Misc : MS2264,V3A6507,5,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 24 08:41:09 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 08:38:41 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.55	65	177820	500.00	ug/L	0.03
5) pentafluorobenzene	11.04	168	197516	50.00	ug/L	0.00
55) 1,4-difluorobenzene	12.01	114	318240	50.00	ug/L	0.00
87) chlorobenzene-d5	15.35	117	299599	50.00	ug/L	0.00
102) 1,4-dichlorobenzene-d4	17.86	152	174290	50.00	ug/L	0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	11.07	113	93692	46.56	ug/L	0.00
Spiked Amount 50.000 Range 76 - 120 Recovery = 93.12%						
50) 1,2-dichloroethane-d4 (s)	11.52	65	111158	42.52	ug/L	0.00
Spiked Amount 50.000 Range 73 - 122 Recovery = 85.04%						
79) toluene-d8 (s)	13.72	98	358357	47.28	ug/L	0.00
Spiked Amount 50.000 Range 84 - 119 Recovery = 94.56%						
104) 4-bromofluorobenzene (s)	16.60	95	160683	44.44	ug/L	0.00
Spiked Amount 50.000 Range 78 - 117 Recovery = 88.88%						

Target Compounds						Qvalue
2) tertiary butyl alcohol	8.68	59	574914	1025.09	ug/L	96
4) 1,4-dioxane	12.70	88	251325	5276.97	ug/L	97
8) chlorodifluoromethane	4.50	51	331363	158.95	ug/L	99
9) dichlorodifluoromethane	4.46	85	633821	209.04	ug/L	99
10) chloromethane	4.90	50	680496	150.69	ug/L	98
11) vinyl chloride	5.21	62	697099	183.18	ug/L	99
12) bromomethane	5.95	96	233577	159.02	ug/L	99
15) 2-CHLOROPROPANE	7.50	43	503867	124.76	ug/L	97
16) chloroethane	6.20	64	344473	189.76	ug/L	98
17) trichlorofluoromethane	6.75	101	738084	219.65	ug/L	99
20) ethyl ether	7.26	74	310266	210.75	ug/L	98
21) acrolein	7.53	56	1582203	1856.54	ug/L	99
22) 1,1-dichloroethene	7.74	61	816693	212.37	ug/L	100
23) acetone	7.79	58	131540	344.06	ug/L	96
24) allyl chloride	8.37	76	290369	200.93	ug/L	91
25) acetonitrile	8.28	40	395859	1161.09	ug/L	99
26) iodomethane	8.05	142	869120	239.96	ug/L	98
27) iso-butyl alcohol	11.31	74	93238	1918.53	ug/L #	1
28) carbon disulfide	8.19	76	1513998	186.14	ug/L	99
29) methylene chloride	8.58	84	547407	217.59	ug/L	99
30) methyl acetate	8.31	43	597107	188.50	ug/L	100
31) methyl tert butyl ether	8.98	73	1653585	201.43	ug/L	99
32) trans-1,2-dichloroethene	9.02	61	667796	188.04	ug/L	99
33) di-isopropyl ether	9.65	45	1562199	182.07	ug/L	98
34) 2-butanone	10.40	72	125456	260.56	ug/L #	54
35) 1,1-dichloroethane	9.67	63	866122	188.77	ug/L	99
36) chloroprene	9.78	53	714020	195.81	ug/L	98
37) acrylonitrile	8.93	53	1489326	990.88	ug/L	100
38) vinyl acetate	9.61	86	107941	203.28	ug/L	95
39) ethyl tert-butyl ether	10.15	59	1645967	196.27	ug/L	100
40) ethyl acetate	10.41	45	98195	180.52	ug/L	97
41) 2,2-dichloropropane	10.47	77	301853	124.06	ug/L	97
42) cis-1,2-dichloroethene	10.45	96	567947	212.91	ug/L	99

7.6.10 7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a150937.D
Acq On : 23 May 2016 7:44 pm
Operator : tracyk
Sample : ic6507-200
Misc : MS2264,V3A6507,5,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 24 08:41:09 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 08:38:41 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
43) methylacrylate	10.50	85	118285	216.86 ug/L	90
44) propionitrile	10.50	54	1184033	1930.82 ug/L	89
45) bromochloromethane	10.77	128	290226	240.90 ug/L	98
46) tetrahydrofuran	10.79	42	241454	147.85 ug/L	99
47) chloroform	10.87	85	602142	209.84 ug/L	98
48) t-butyl formate	10.90	59	571761	189.80 ug/L	96
51) freon 113	7.74	151	319806	212.63 ug/L	99
52) methacrylonitrile	10.70	67	323035	212.50 ug/L	95
53) 1,1,1-trichloroethane	11.13	97	591981	174.92 ug/L	100
54) Cyclohexane	11.24	84	734960	209.79 ug/L	99
56) epichlorohydrin	13.27	57	488572	1016.21 ug/L	100
57) n-butyl alcohol	12.08	56	1599363	10329.19 ug/L	99
58) carbon tetrachloride	11.33	117	644274	198.58 ug/L	99
59) 1,1-dichloropropene	11.31	75	667710	210.09 ug/L	100
61) hexane	9.41	57	507812	195.02 ug/L	99
62) 2,2,4-TRIMETHYLPENTANE	11.67	57	1702482	193.40 ug/L	99
63) benzene	11.58	78	2043100	200.04 ug/L	100
64) tert-amyl methyl ether	11.65	87	398741	228.83 ug/L	98
65) heptane	11.83	57	305768	180.98 ug/L	98
66) isopropyl acetate	11.49	87	156728	237.59 ug/L	98
67) 1,2-dichloroethane	11.62	62	747293	205.41 ug/L	97
69) trichloroethene	12.33	95	578711	226.52 ug/L	99
71) methyl methacrylate	12.60	100	196244	240.92 ug/L	99
72) 2-nitropropane	13.14	41	297839	197.99 ug/L	99
73) 2-chloroethyl vinyl ether	13.17	63	1998324	971.29 ug/L	99
74) 1,2-dichloropropane	12.65	63	534128	196.59 ug/L	100
75) dibromomethane	12.76	93	385958	222.39 ug/L	96
76) methylcyclohexane	12.63	83	768423	214.64 ug/L	99
77) bromodichloromethane	12.92	83	787592	219.80 ug/L	99
78) cis-1,3-dichloropropene	13.40	75	949225	211.98 ug/L	99
80) 4-methyl-2-pentanone	13.51	58	332402	202.77 ug/L	98
81) toluene	13.80	91	2214329	205.77 ug/L	99
82) 3-methyl-1-butanol	13.51	55	1003048	4250.63 ug/L	99
83) trans-1,3-dichloropropene	14.00	75	893858	203.53 ug/L	98
84) ethyl methacrylate	13.98	69	884216	209.72 ug/L	99
85) 1,1,2-trichloroethane	14.24	83	468550	212.86 ug/L	99
86) 2-hexanone	14.41	58	350049	211.26 ug/L	97
88) tetrachloroethene	14.39	166	822627	328.74 ug/L	97
90) 1,3-dichloropropane	14.43	76	892469	217.05 ug/L	99
91) butyl acetate	14.48	56	475864	198.53 ug/L	98
92) 3,3-dimethyl-1-butanol	14.60	57	1146315	2278.62 ug/L	98
93) dibromochloromethane	14.70	129	672956	232.12 ug/L	98
94) 1,2-dibromoethane	14.87	107	637540	229.36 ug/L	100
95) chlorobenzene	15.38	112	1563017	232.85 ug/L	97
96) 1,1,1,2-tetrachloroethane	15.45	131	599292	234.15 ug/L	99
97) ethylbenzene	15.44	91	2637594	211.79 ug/L	99
98) m,p-xylene	15.57	106	2059644	454.62 ug/L	97
99) o-xylene	16.00	91	2251469	213.91 ug/L	99
100) styrene	16.01	104	1865555	233.38 ug/L	96
101) bromoform	16.27	173	606029	256.46 ug/L	99

7.6.10 7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a150937.D
Acq On : 23 May 2016 7:44 pm
Operator : tracyk
Sample : ic6507-200
Misc : MS2264,V3A6507,5,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 24 08:41:09 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 08:38:41 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
103) isopropylbenzene	16.37	105	2787765	209.06 ug/L	98
105) cyclohexanone	16.54	98	705285	6204.66 ug/L	98
106) bromobenzene	16.80	156	795704	231.18 ug/L	96
107) 1,1,2,2-tetrachloroethane	16.68	83	958556	189.18 ug/L	100
108) trans-1,4-dichloro-2-buten	16.71	53	298364	202.12 ug/L	98
109) 1,2,3-trichloropropane	16.78	110	290348	213.86 ug/L	99
110) n-propylbenzene	16.82	91	3289133	195.54 ug/L	99
111) 2-chlorotoluene	16.97	126	716761	227.03 ug/L	99
112) 4-chlorotoluene	17.09	91	2213754	194.97 ug/L	100
113) 1,3,5-trimethylbenzene	16.98	105	2386135	200.91 ug/L	99
114) tert-butylbenzene	17.35	134	514015	238.84 ug/L	97
115) pentachloroethane	17.44	167	271227	126.78 ug/L	98
116) 1,2,4-trimethylbenzene	17.41	105	2485988	200.64 ug/L	99
117) sec-butylbenzene	17.59	105	3083820	198.78 ug/L	98
118) 1,3-dichlorobenzene	17.79	146	1523036	216.87 ug/L	99
119) p-isopropyltoluene	17.73	119	2618328	203.60 ug/L	97
120) 1,4-dichlorobenzene	17.89	146	1550901	215.44 ug/L	98
121) 1,2-dichlorobenzene	18.31	146	1461945	211.94 ug/L	98
122) benzyl chloride	17.99	91	2076490	193.57 ug/L	100
123) n-butylbenzene	18.18	92	1384114	193.74 ug/L	99
124) 1,2-dibromo-3-chloropropan	19.16	75	216719	172.72 ug/L	99
125) 1,3,5-TRICHLOROBENZENE	19.35	180	1109296	216.08 ug/L	99
126) 1,2,4-trichlorobenzene	20.07	180	1037683	224.17 ug/L	99
127) hexachlorobutadiene	20.18	225	461621	199.03 ug/L	97
128) naphthalene	20.41	128	2856059	202.83 ug/L	99
129) 1,2,3-trichlorobenzene	20.66	180	905825	221.57 ug/L	99
130) hexachloroethane	18.63	201	465426	224.85 ug/L	98

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

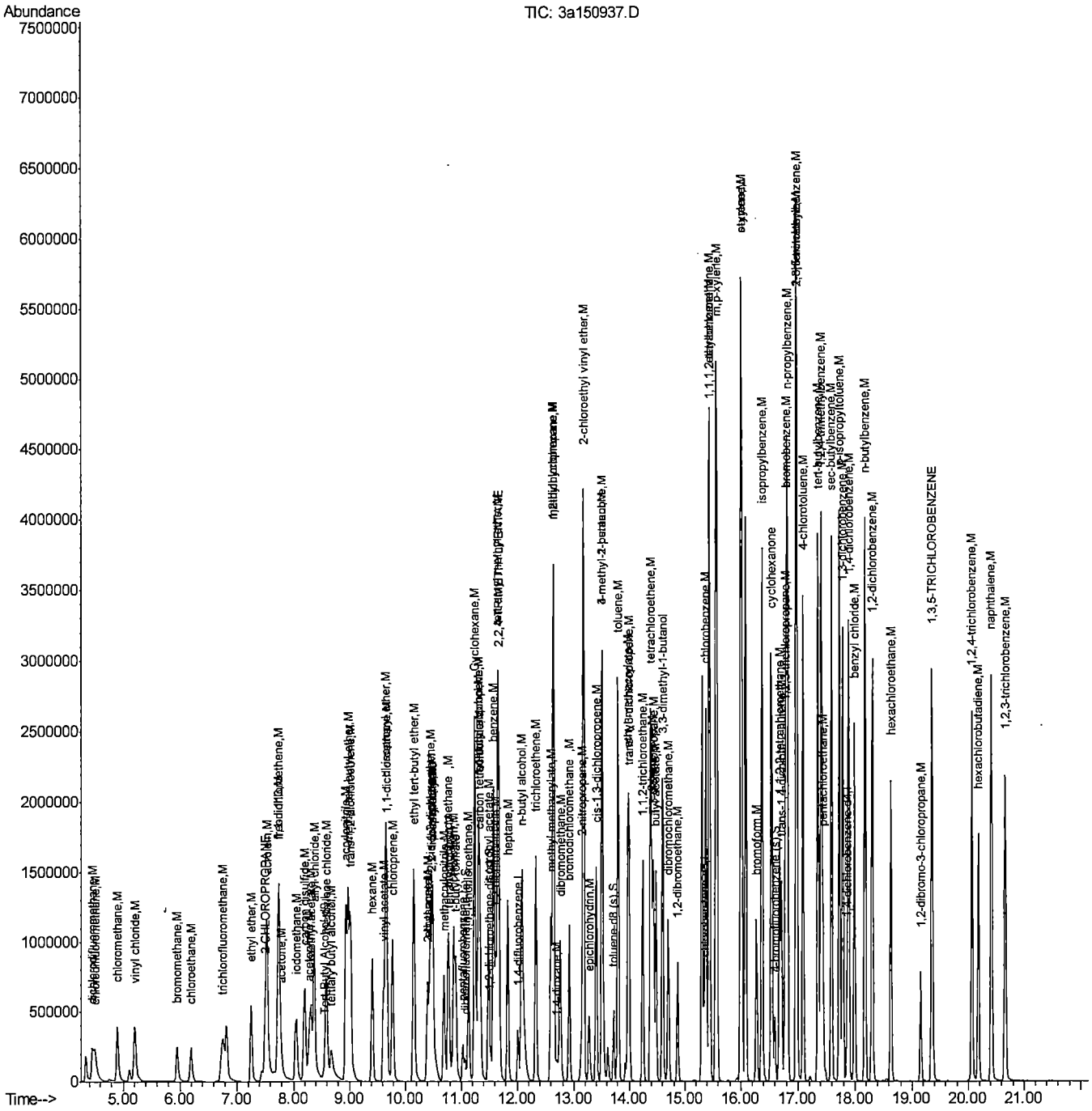
7.6.10

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a150937.D
Acq On : 23 May 2016 7:44 pm
Operator : tracyk
Sample : ic6507-200
Misc : MS2264,V3A6507,5,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 24 08:41:09 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 08:38:41 2016
Response via : Initial Calibration



SGS ACCUTEST JC20563

Quantitation Report (Not Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a150940.D
Acq On : 23 May 2016 9:15 pm
Operator : tracyk
Sample : icv6507-50
Misc : MS2264,V3A6507,5,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 24 09:54:07 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 09:06:14 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.52	65	151411	500.00 ug/L	0.00
5) pentafluorobenzene	11.03	168	211821	50.00 ug/L	0.00
55) 1,4-difluorobenzene	12.01	114	325002	50.00 ug/L	0.00
87) chlorobenzene-d5	15.35	117	297468	50.00 ug/L	0.00
102) 1,4-dichlorobenzene-d4	17.86	152	178966	50.00 ug/L	0.00
System Monitoring Compounds					
49) dibromofluoromethane (s)	11.07	113	101794	49.30 ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 98.60%		
50) 1,2-dichloroethane-d4 (s)	11.52	65	117050	48.87 ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 97.74%		
79) toluene-d8 (s)	13.72	98	356860	49.03 ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 98.06%		
104) 4-bromofluorobenzene (s)	16.59	95	157927	48.84 ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 97.68%		

Target Compounds					Qvalue
2) tertiary butyl alcohol	8.66	59	119305	255.65 ug/L	99
4) 1,4-dioxane	12.69	88	33571	1199.54 ug/L	94
8) chlorodifluoromethane	4.51	51	92700	54.58 ug/L	97
9) dichlorodifluoromethane	4.46	85	139081	43.18 ug/L	99
10) chloromethane	4.90	50	165768	49.16 ug/L	98
11) vinyl chloride	5.20	62	156761	44.30 ug/L	99
12) bromomethane	5.98	96	88725	59.43 ug/L	100
15) 2-CHLOROPROPANE	7.51	43	166231	53.97 ug/L	98
16) chloroethane	6.22	64	94277	53.58 ug/L	98
17) trichlorofluoromethane	6.76	101	178524	53.80 ug/L	98
20) ethyl ether	7.26	74	82670	54.35 ug/L	96
21) acrolein	7.53	56	450520	536.20 ug/L	99
22) 1,1-dichloroethene	7.74	61	215327	54.84 ug/L	100
23) acetone	7.77	58	30056	53.33 ug/L	94
24) allyl chloride	8.37	76	79638	55.04 ug/L	95
25) acetonitrile	8.27	40	83995	456.34 ug/L	99
26) iodomethane	8.04	142	239215	54.52 ug/L	98
27) iso-butyl alcohol	11.30	74	22474	551.82 ug/L #	59
28) carbon disulfide	8.19	76	433171	55.18 ug/L	99
29) methylene chloride	8.58	84	141053	50.01 ug/L	99
30) methyl acetate	8.30	43	134847	46.70 ug/L	99
31) methyl tert butyl ether	8.98	73	884679	107.39 ug/L	99
32) trans-1,2-dichloroethene	9.02	61	182579	53.21 ug/L	99
33) di-isopropyl ether	9.65	45	412961	53.20 ug/L	100
34) 2-butanone	10.39	72	30941	57.82 ug/L	93
35) 1,1-dichloroethane	9.67	63	240599	54.02 ug/L	99
36) chloroprene	9.78	53	188392	52.97 ug/L	100
37) acrylonitrile	8.93	53	373332	265.64 ug/L	99
38) vinyl acetate	9.61	86	27154	50.80 ug/L	99
39) ethyl tert-butyl ether	10.15	59	437332	54.99 ug/L	100
40) ethyl acetate	10.41	45	22550	50.52 ug/L	83
41) 2,2-dichloropropane	10.47	77	106366	52.17 ug/L	99
42) cis-1,2-dichloroethene	10.45	96	154027	52.69 ug/L	99

7.6.11

7

Quantitation Report (Not Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a150940.D
Acq On : 23 May 2016 9:15 pm
Operator : tracyk
Sample : icv6507-50
Misc : MS2264,V3A6507,5,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 24 09:54:07 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 09:06:14 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
43) methylacrylate	10.49	85	28046	53.51 ug/L	90
44) propionitrile	10.49	54	282321	554.97 ug/L	93
45) bromochloromethane	10.77	128	77225	53.90 ug/L	97
46) tetrahydrofuran	10.78	42	56790	48.93 ug/L	97
47) chloroform	10.86	85	165415	55.51 ug/L	98
48) t-butyl formate	10.90	59	79526	31.66 ug/L	99
51) freon 113	7.74	151	98471	57.79 ug/L	99
52) methacrylonitrile	10.69	67	74998	51.27 ug/L	97
53) 1,1,1-trichloroethane	11.13	97	181089	56.60 ug/L	99
54) Cyclohexane	11.24	84	191656	50.74 ug/L	99
56) epichlorohydrin	13.26	57	98474	235.78 ug/L	98
57) n-butyl alcohol	12.06	56	302114	2297.93 ug/L	99
58) carbon tetrachloride	11.33	117	175192	55.08 ug/L	98
59) 1,1-dichloropropene	11.31	75	186036	56.65 ug/L	99
61) hexane	9.41	57	130855	49.33 ug/L	98
62) 2,2,4-TRIMETHYLPENTANE	11.67	57	431257	49.90 ug/L	99
63) benzene	11.58	78	538932	53.72 ug/L	100
64) tert-amyl methyl ether	11.65	87	101391	51.62 ug/L	98
65) heptane	11.83	57	70736	46.08 ug/L	99
66) isopropyl acetate	11.49	87	37284	51.84 ug/L #	93
67) 1,2-dichloroethane	11.61	62	192379	53.73 ug/L	99
69) trichloroethene	12.33	95	145054	55.11 ug/L	97
71) methyl methacrylate	12.59	100	43901	52.16 ug/L	98
72) 2-nitropropane	13.14	41	70595	49.35 ug/L	99
73) 2-chloroethyl vinyl ether	13.16	63	462008	259.83 ug/L	100
74) 1,2-dichloropropane	12.65	63	129340	51.51 ug/L	98
75) dibromomethane	12.76	93	92992	52.61 ug/L	97
76) methylcyclohexane	12.63	83	198285	51.74 ug/L	99
77) bromodichloromethane	12.92	83	192510	53.41 ug/L	100
78) cis-1,3-dichloropropene	13.40	75	219351	51.81 ug/L	99
80) 4-methyl-2-pentanone	13.51	58	79802	52.98 ug/L	89
81) toluene	13.80	91	557925	51.89 ug/L	100
82) 3-methyl-1-butanol	13.50	55	211112	953.13 ug/L	99
83) trans-1,3-dichloropropene	14.00	75	200788	48.95 ug/L	94
84) ethyl methacrylate	13.98	69	201476	50.36 ug/L	98
85) 1,1,2-trichloroethane	14.24	83	106730	50.32 ug/L	99
86) 2-hexanone	14.41	58	80724	47.52 ug/L	99
88) tetrachloroethene	14.39	166	225483	64.09 ug/L	99
90) 1,3-dichloropropane	14.43	76	201176	51.38 ug/L	99
91) butyl acetate	14.48	56	111905	50.92 ug/L	98
92) 3,3-dimethyl-1-butanol	14.59	57	239305	484.03 ug/L	99
93) dibromochloromethane	14.70	129	156659	54.71 ug/L	100
94) 1,2-dibromoethane	14.87	107	144299	52.39 ug/L	98
95) chlorobenzene	15.38	112	383979	53.38 ug/L	100
96) 1,1,1,2-tetrachloroethane	15.45	131	152017	55.17 ug/L	99
97) ethylbenzene	15.43	91	663774	53.48 ug/L	100
98) m,p-xylene	15.57	106	519430	107.61 ug/L	98
99) o-xylene	16.00	91	593753	56.13 ug/L	99
100) styrene	16.01	104	465208	53.34 ug/L	99
101) bromoform	16.27	173	143197	54.42 ug/L	98

7.6.11 7

Quantitation Report (Not Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a150940.D
Acq On : 23 May 2016 9:15 pm
Operator : tracyk
Sample : icv6507-50
Misc : MS2264,V3A6507,5,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 24 09:54:07 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 09:06:14 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
103) isopropylbenzene	16.37	105	714746	54.02 ug/L	99
105) cyclohexanone	16.54	98	115914	410.73 ug/L	96
106) bromobenzene	16.80	156	199309	50.74 ug/L	98
107) 1,1,2,2-tetrachloroethane	16.68	83	241656	49.50 ug/L	100
108) trans-1,4-dichloro-2-buten	16.71	53	76069	55.14 ug/L	99
109) 1,2,3-trichloropropane	16.78	110	68935	49.96 ug/L	98
110) n-propylbenzene	16.82	91	864537	53.91 ug/L	100
111) 2-chlorotoluene	16.97	126	182020	53.10 ug/L	96
112) 4-chlorotoluene	17.09	91	557372	52.08 ug/L	100
113) 1,3,5-trimethylbenzene	16.98	105	631969	54.15 ug/L	99
114) tert-butylbenzene	17.35	134	129741	56.80 ug/L	97
115) pentachloroethane	17.44	167	59932	35.28 ug/L	98
116) 1,2,4-trimethylbenzene	17.41	105	658962	53.55 ug/L	99
117) sec-butylbenzene	17.59	105	804763	53.97 ug/L	100
118) 1,3-dichlorobenzene	17.79	146	392318	50.85 ug/L	99
119) p-isopropyltoluene	17.73	119	697396	54.70 ug/L	99
120) 1,4-dichlorobenzene	17.89	146	400499	51.91 ug/L	99
121) 1,2-dichlorobenzene	18.31	146	377915	50.66 ug/L	99
122) benzyl chloride	17.99	91	509554	48.02 ug/L	99
123) n-butylbenzene	18.18	92	350864	53.93 ug/L	99
124) 1,2-dibromo-3-chloropropan	19.16	75	50798	51.31 ug/L	97
125) 1,3,5-TRICHLOROBENZENE	19.35	180	269965	52.53 ug/L	100
126) 1,2,4-trichlorobenzene	20.06	180	234556	52.45 ug/L	99
127) hexachlorobutadiene	20.18	225	104483	50.17 ug/L	99
128) naphthalene	20.41	128	644843	52.13 ug/L	100
129) 1,2,3-trichlorobenzene	20.66	180	199071	51.54 ug/L	99
130) hexachloroethane	18.63	201	118228	55.66 ug/L	99

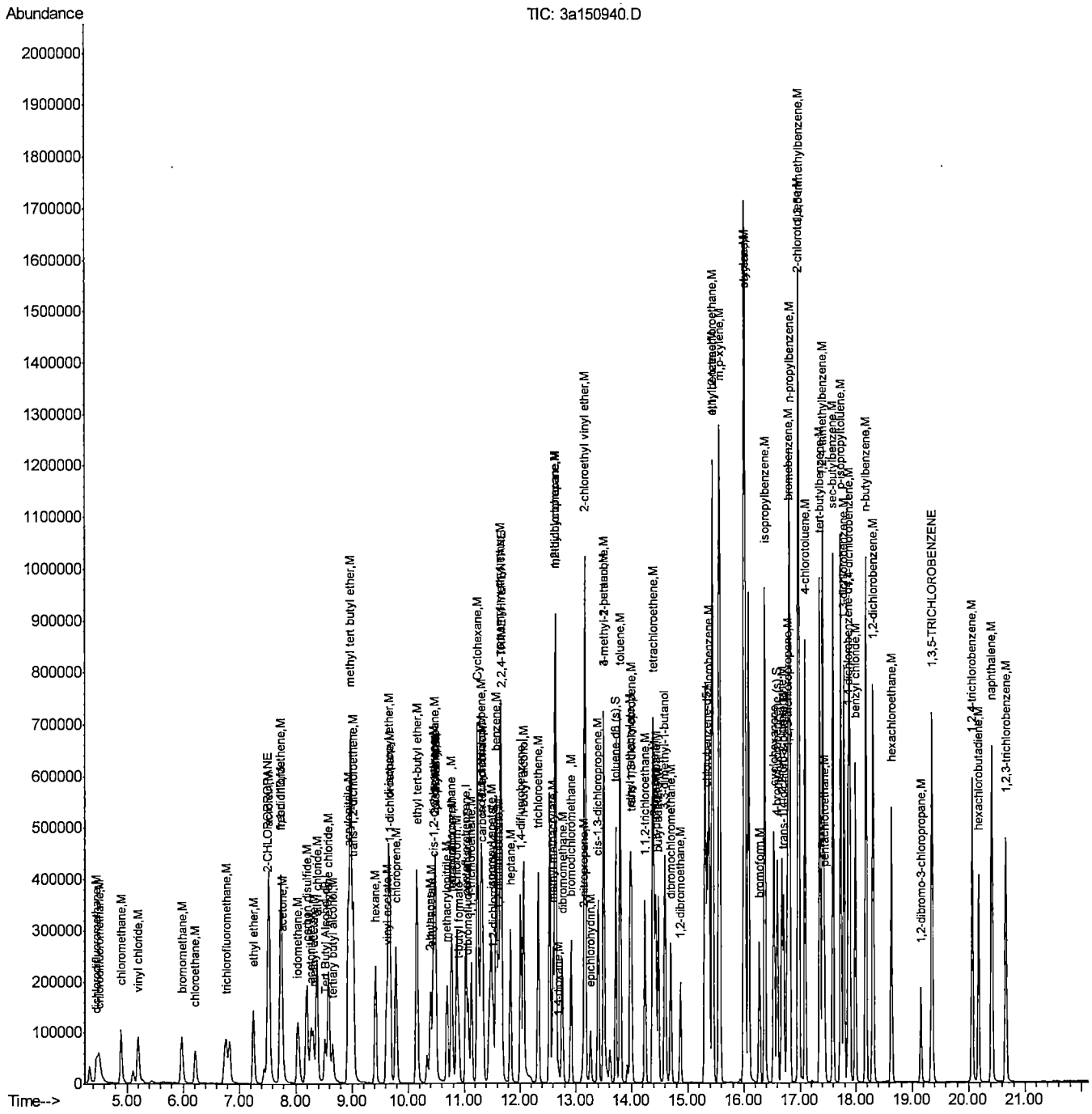
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.6.11

Quantitation Report (Not Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 3a150940.D
Acq On : 23 May 2016 9:15 pm
Operator : tracyk
Sample : icv6507-50
Misc : MS2264,V3A6507,5,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 24 09:54:07 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 09:06:14 2016
Response via : Initial Calibration



SGS ACCUTEST JC20563

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 3A150968.D
Acq On : 24 May 2016 10:47 pm
Operator : tracyk
Sample : cc6507-50
Misc : MS2256,V3A6509,5,,,,1
ALS Vial : 26 Sample Multiplier: 1

Quant Time: May 25 09:48:49 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 09:06:14 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.51	65	147543	500.00 ug/L	0.00
5) pentafluorobenzene	11.03	168	210653	50.00 ug/L	0.00
55) 1,4-difluorobenzene	12.01	114	313901	50.00 ug/L	0.00
87) chlorobenzene-d5	15.34	117	298367	50.00 ug/L	0.00
102) 1,4-dichlorobenzene-d4	17.86	152	178817	50.00 ug/L	0.00
System Monitoring Compounds					
49) dibromofluoromethane (s)	11.07	113	100916	49.15 ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 98.30%		
50) 1,2-dichloroethane-d4 (s)	11.52	65	117530	49.34 ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 98.68%		
79) toluene-d8 (s)	13.72	98	355789	50.62 ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 101.24%		
104) 4-bromofluorobenzene (s)	16.59	95	158009	48.91 ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 97.82%		

Target Compounds					Qvalue
2) tertiary butyl alcohol	8.65	59	113825	250.30 ug/L	99
4) 1,4-dioxane	12.69	88	32974	1209.09 ug/L	99
8) chlorodifluoromethane	4.50	51	81322	48.15 ug/L	98
9) dichlorodifluoromethane	4.46	85	133770	41.76 ug/L	99
10) chloromethane	4.89	50	158588	47.29 ug/L	97
11) vinyl chloride	5.20	62	160791	45.69 ug/L	99
12) bromomethane	5.98	96	81573	54.94 ug/L	99
15) 2-CHLOROPROPANE	7.50	43	159637	52.12 ug/L	97
16) chloroethane	6.21	64	87369	49.93 ug/L	98
17) trichlorofluoromethane	6.76	101	161437	48.92 ug/L	98
20) ethyl ether	7.26	74	75415	49.86 ug/L	91
21) acrolein	7.53	56	375806	449.76 ug/L	99
22) 1,1-dichloroethene	7.74	61	187537	48.03 ug/L	99
23) acetone	7.77	58	26734	47.70 ug/L	88
24) allyl chloride	8.37	76	67615	46.99 ug/L	98
25) acetonitrile	8.26	40	80722	440.99 ug/L	97
26) iodomethane	8.04	142	220706	50.58 ug/L	98
27) iso-butyl alcohol	11.31	74	20277	500.63 ug/L #	1
28) carbon disulfide	8.19	76	384522	49.25 ug/L	99
29) methylene chloride	8.58	84	128409	45.78 ug/L	99
30) methyl acetate	8.31	43	136659	47.59 ug/L	99
31) methyl tert butyl ether	8.98	73	411811	50.27 ug/L	100
32) trans-1,2-dichloroethene	9.02	61	167951	49.22 ug/L	100
33) di-isopropyl ether	9.65	45	392227	50.81 ug/L	99
34) 2-butanone	10.39	72	26798	50.35 ug/L #	91
35) 1,1-dichloroethane	9.67	63	215303	48.61 ug/L	99
36) chloroprene	9.78	53	184282	52.10 ug/L	98
37) acrylonitrile	8.93	53	327357	234.22 ug/L	99
38) vinyl acetate	9.61	86	24870	46.79 ug/L	92
39) ethyl tert-butyl ether	10.15	59	416168	52.62 ug/L	99
40) ethyl acetate	10.40	45	21436	48.29 ug/L	95
41) 2,2-dichloropropane	10.47	77	96482	47.59 ug/L	98
42) cis-1,2-dichloroethene	10.45	96	141160	48.56 ug/L	98

7.6.12 7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 3A150968.D
Acq On : 24 May 2016 10:47 pm
Operator : tracyk
Sample : cc6507-50
Misc : MS2256,V3A6509,5,,,,1
ALS Vial : 26 Sample Multiplier: 1

Quant Time: May 25 09:48:49 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 09:06:14 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
43) methylacrylate	10.49	85	24919	47.81 ug/L	90
44) propionitrile	10.49	54	233792	462.12 ug/L	95
45) bromochloromethane	10.77	128	71718	50.33 ug/L	96
46) tetrahydrofuran	10.78	42	50820	44.03 ug/L	96
47) chloroform	10.86	85	145774	49.19 ug/L	99
48) t-butyl formate	10.90	59	132173	52.91 ug/L	98
51) freon 113	7.74	151	89516	52.82 ug/L	98
52) methacrylonitrile	10.69	67	68942	47.39 ug/L	97
53) 1,1,1-trichloroethane	11.13	97	164556	51.72 ug/L	98
54) Cyclohexane	11.24	84	179520	47.79 ug/L	94
56) epichlorohydrin	13.26	57	94891	235.24 ug/L	99
57) n-butyl alcohol	12.06	56	294862	2322.09 ug/L	99
58) carbon tetrachloride	11.33	117	154061	50.15 ug/L	99
59) 1,1-dichloropropene	11.31	75	158216	49.88 ug/L	99
61) hexane	9.41	57	131680	51.40 ug/L	96
62) 2,2,4-TRIMETHYLPENTANE	11.66	57	418245	50.10 ug/L	97
63) benzene	11.58	78	483802	49.93 ug/L	100
64) tert-amyl methyl ether	11.65	87	101947	53.74 ug/L	99
65) heptane	11.83	57	72892	49.17 ug/L	99
66) isopropyl acetate	11.49	87	36101	51.97 ug/L #	89
67) 1,2-dichloroethane	11.61	62	178256	51.55 ug/L	98
69) trichloroethene	12.33	95	132205	52.00 ug/L	98
71) methyl methacrylate	12.59	100	41003	50.44 ug/L	96
72) 2-nitropropane	13.14	41	65755	47.59 ug/L	99
73) 2-chloroethyl vinyl ether	13.16	63	429888	250.31 ug/L	99
74) 1,2-dichloropropane	12.65	63	119893	49.44 ug/L	99
75) dibromomethane	12.76	93	87566	51.29 ug/L	97
76) methylcyclohexane	12.63	83	194843	52.64 ug/L	99
77) bromodichloromethane	12.92	83	176653	50.75 ug/L	100
78) cis-1,3-dichloropropene	13.40	75	194945	47.68 ug/L	98
80) 4-methyl-2-pentanone	13.51	58	71882	49.41 ug/L #	89
81) toluene	13.80	91	509920	49.11 ug/L	100
82) 3-methyl-1-butanol	13.49	55	198189	926.43 ug/L	99
83) trans-1,3-dichloropropene	14.00	75	185440	46.81 ug/L	95
84) ethyl methacrylate	13.98	69	187946	48.64 ug/L	100
85) 1,1,2-trichloroethane	14.24	83	100363	48.99 ug/L	98
86) 2-hexanone	14.41	58	72970	44.48 ug/L	98
88) tetrachloroethene	14.39	166	224275	63.55 ug/L	99
90) 1,3-dichloropropane	14.43	76	187832	47.83 ug/L	96
91) butyl acetate	14.48	56	104068	47.21 ug/L	96
92) 3,3-dimethyl-1-butanol	14.59	57	230731	465.28 ug/L	98
93) dibromochloromethane	14.70	129	147306	51.29 ug/L	98
94) 1,2-dibromoethane	14.87	107	135682	49.11 ug/L	100
95) chlorobenzene	15.38	112	349374	48.42 ug/L	100
96) 1,1,1,2-tetrachloroethane	15.45	131	142432	51.54 ug/L	98
97) ethylbenzene	15.43	91	610726	49.06 ug/L	99
98) m,p-xylene	15.57	106	480605	99.27 ug/L	99
99) o-xylene	16.00	91	527208	49.69 ug/L	100
100) styrene	16.01	104	429936	49.15 ug/L	98
101) bromoform	16.27	173	130212	49.33 ug/L	99

7.6.12 7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 3A150968.D
Acq On : 24 May 2016 10:47 pm
Operator : tracyk
Sample : cc6507-50
Misc : MS2256,V3A6509,5,,,,1
ALS Vial : 26 Sample Multiplier: 1

Quant Time: May 25 09:48:49 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 09:06:14 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
103) isopropylbenzene	16.37	105	652985	49.39 ug/L	100
105) cyclohexanone	16.53	98	145822	517.14 ug/L	99
106) bromobenzene	16.80	156	188036	47.91 ug/L	95
107) 1,1,2,2-tetrachloroethane	16.67	83	223552	45.83 ug/L	98
108) trans-1,4-dichloro-2-buten	16.71	53	51758	37.55 ug/L	100
109) 1,2,3-trichloropropane	16.77	110	66292	48.08 ug/L	98
110) n-propylbenzene	16.81	91	765960	47.80 ug/L	99
111) 2-chlorotoluene	16.97	126	167768	48.99 ug/L	97
112) 4-chlorotoluene	17.09	91	506068	47.32 ug/L	99
113) 1,3,5-trimethylbenzene	16.98	105	566905	48.61 ug/L	99
114) tert-butylbenzene	17.35	134	115800	50.74 ug/L	96
115) pentachloroethane	17.44	167	42367	24.96 ug/L	99
116) 1,2,4-trimethylbenzene	17.41	105	588871	47.89 ug/L	99
117) sec-butylbenzene	17.59	105	722369	48.49 ug/L	100
118) 1,3-dichlorobenzene	17.78	146	365535	47.42 ug/L	98
119) p-isopropyltoluene	17.73	119	613608	48.17 ug/L	99
120) 1,4-dichlorobenzene	17.89	146	364815	47.33 ug/L	99
121) 1,2-dichlorobenzene	18.30	146	343036	46.02 ug/L	100
122) benzyl chloride	17.99	91	468187	44.16 ug/L	100
123) n-butylbenzene	18.18	92	308486	47.45 ug/L	98
124) 1,2-dibromo-3-chloropropan	19.16	75	45943	46.44 ug/L	99
125) 1,3,5-TRICHLOROBENZENE	19.35	180	230080	44.80 ug/L	99
126) 1,2,4-trichlorobenzene	20.06	180	205160	45.92 ug/L	98
127) hexachlorobutadiene	20.18	225	91016	43.74 ug/L	96
128) naphthalene	20.41	128	576327	46.63 ug/L	100
129) 1,2,3-trichlorobenzene	20.66	180	176352	45.70 ug/L	99
130) hexachloroethane	18.63	201	94905	44.72 ug/L	99

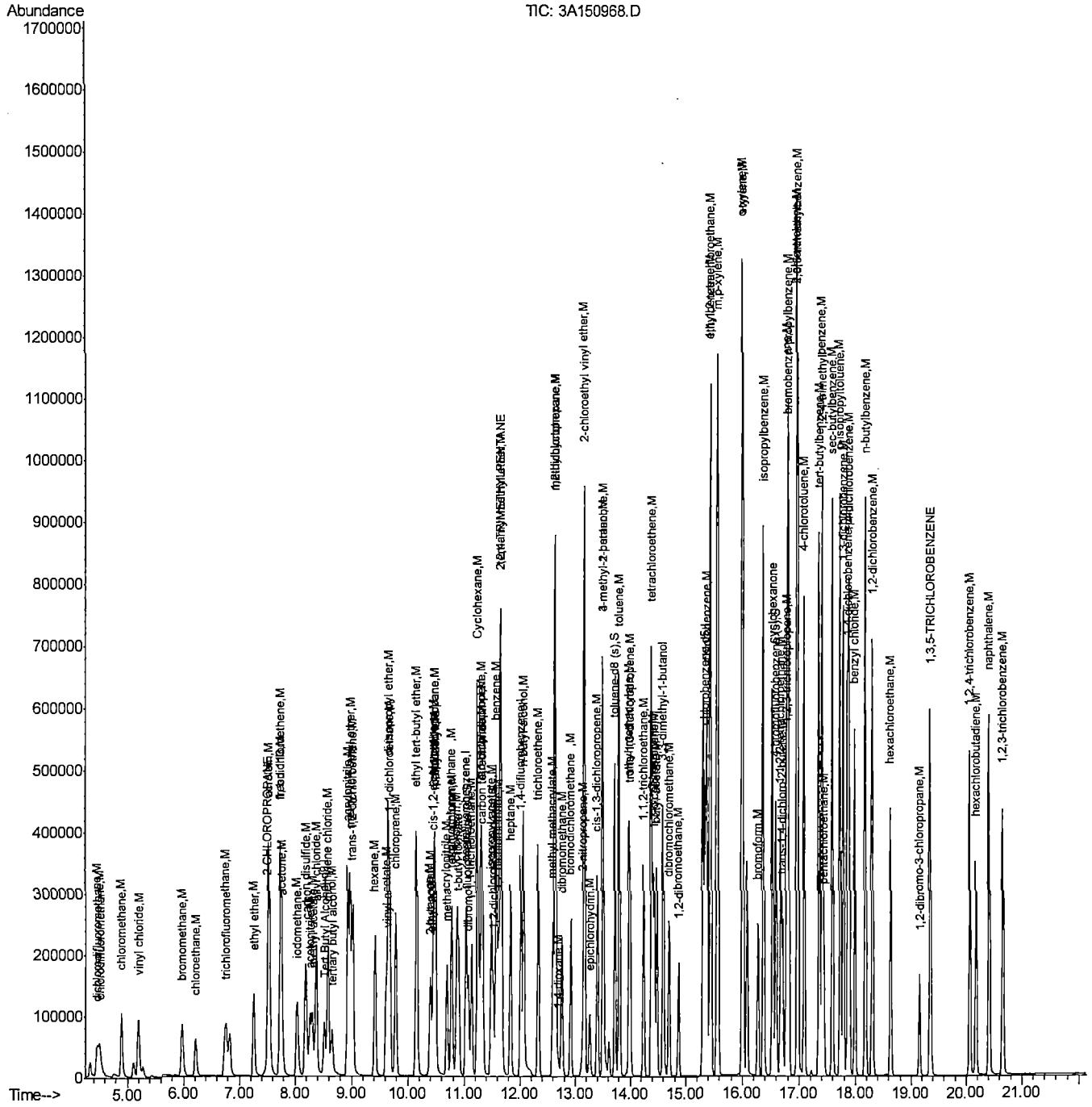
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.6.12 7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 3A150968.D
Acq On : 24 May 2016 10:47 pm
Operator : tracyk
Sample : cc6507-50
Misc : MS2256,V3A6509,5,,,,1
ALS Vial : 26 Sample Multiplier: 1

Quant Time: May 25 09:48:49 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 09:06:14 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 3A150989.D
Acq On : 25 May 2016 10:21 am
Operator : tracyk
Sample : cc6507-20
Misc : MS2365,V3A6509,5,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 25 15:15:35 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 09:06:14 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.52	65	149260	500.00	ug/L	0.00
5) pentafluorobenzene	11.03	168	187875	50.00	ug/L	0.00
55) 1,4-difluorobenzene	12.01	114	274916	50.00	ug/L	0.00
87) chlorobenzene-d5	15.34	117	246075	50.00	ug/L	0.00
102) 1,4-dichlorobenzene-d4	17.86	152	164440	50.00	ug/L	0.00
System Monitoring Compounds						
49) dibromofluoromethane (s)	11.07	113	95465	52.13	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 104.26%			
50) 1,2-dichloroethane-d4 (s)	11.52	65	108461	51.05	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 102.10%			
79) toluene-d8 (s)	13.72	98	303371	49.28	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 98.56%			
104) 4-bromofluorobenzene (s)	16.59	95	130577	43.95	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 87.90%			
Target Compounds						Qvalue
2) tertiary butyl alcohol	8.66	59	41724	90.70	ug/L	97
4) 1,4-dioxane	12.69	88	12661	458.91	ug/L	95
8) chlorodifluoromethane	4.51	51	25608	17.00	ug/L	97
9) dichlorodifluoromethane	4.46	85	55416	19.40	ug/L	98
10) chloromethane	4.90	50	62621	20.94	ug/L	99
11) vinyl chloride	5.20	62	61422	19.57	ug/L	97
12) bromomethane	5.98	96	30861	23.31	ug/L	99
15) 2-CHLOROPROPANE	7.51	43	64719	23.69	ug/L	95
16) chloroethane	6.22	64	33375	21.38	ug/L	99
17) trichlorofluoromethane	6.76	101	60949	20.71	ug/L	99
20) ethyl ether	7.26	74	28944	21.45	ug/L	95
21) acrolein	7.53	56	155043	208.05	ug/L	100
22) 1,1-dichloroethene	7.74	61	67997	19.53	ug/L	97
23) acetone	7.77	58	11976	23.96	ug/L	98
24) allyl chloride	8.37	76	26479	20.63	ug/L	97
25) acetonitrile	8.26	40	35257	215.96	ug/L	95
26) iodomethane	8.03	142	82325	21.15	ug/L	96
27) iso-butyl alcohol	11.31	74	7172	198.54	ug/L #	15
28) carbon disulfide	8.19	76	142659	20.49	ug/L	99
29) methylene chloride	8.58	84	49451	19.77	ug/L	96
30) methyl acetate	8.31	43	48633	18.99	ug/L	97
31) methyl tert butyl ether	8.98	73	156836	21.47	ug/L	99
32) trans-1,2-dichloroethene	9.02	61	63041	20.71	ug/L	100
33) di-isopropyl ether	9.65	45	139042	20.20	ug/L	98
34) 2-butanone	10.39	72	10250	21.60	ug/L #	84
35) 1,1-dichloroethane	9.67	63	81116	20.53	ug/L	98
36) chloroprene	9.77	53	62750	19.89	ug/L	98
37) acrylonitrile	8.93	53	129335	103.76	ug/L	99
38) vinyl acetate	9.61	86	9693	20.45	ug/L	81
39) ethyl tert-butyl ether	10.15	59	147053	20.85	ug/L	98
40) ethyl acetate	10.41	45	6520	16.47	ug/L	93
41) 2,2-dichloropropane	10.47	77	41786	23.11	ug/L	96
42) cis-1,2-dichloroethene	10.45	96	52939	20.42	ug/L	99

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Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 3A150989.D
Acq On : 25 May 2016 10:21 am
Operator : tracyk
Sample : cc6507-20
Misc : MS2365,V3A6509,5,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 25 15:15:35 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 09:06:14 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
43) methylacrylate	10.50	85	8327	17.91 ug/L	86
44) propionitrile	10.49	54	90008	199.48 ug/L	87
45) bromochloromethane	10.77	128	27066	21.30 ug/L	93
46) tetrahydrofuran	10.78	42	18650	18.12 ug/L	98
47) chloroform	10.86	85	54438	20.60 ug/L	96
48) t-butyl formate	10.89	59	43486	19.52 ug/L	99
51) freon 113	7.74	151	31099	20.58 ug/L	96
52) methacrylonitrile	10.69	67	24685	19.03 ug/L	96
53) 1,1,1-trichloroethane	11.12	97	62331	21.96 ug/L	97
54) Cyclohexane	11.24	84	65458	19.54 ug/L	96
56) epichlorohydrin	13.26	57	29418	83.27 ug/L	98
57) n-butyl alcohol	12.06	56	104834	942.66 ug/L	97
58) carbon tetrachloride	11.33	117	60029	22.31 ug/L	94
59) 1,1-dichloropropene	11.31	75	56232	20.24 ug/L	100
61) hexane	9.41	57	43942	19.58 ug/L	99
62) 2,2,4-TRIMETHYLPENTANE	11.66	57	148135	20.26 ug/L	95
63) benzene	11.58	78	176553	20.80 ug/L	99
64) tert-amyl methyl ether	11.65	87	35128	21.14 ug/L	98
65) heptane	11.83	57	24156	18.60 ug/L	99
66) isopropyl acetate	11.48	87	11121	18.28 ug/L	93
67) 1,2-dichloroethane	11.61	62	64610	21.33 ug/L	97
69) trichloroethene	12.33	95	44312	19.90 ug/L	93
71) methyl methacrylate	12.59	100	12035	16.91 ug/L	94
72) 2-nitropropane	13.14	41	21069	17.41 ug/L	98
73) 2-chloroethyl vinyl ether	13.16	63	111662	74.24 ug/L	99
74) 1,2-dichloropropane	12.65	63	42594	20.06 ug/L	98
75) dibromomethane	12.76	93	31480	21.05 ug/L	97
76) methylcyclohexane	12.63	83	65546	20.22 ug/L	97
77) bromodichloromethane	12.92	83	62442	20.48 ug/L	99
78) cis-1,3-dichloropropene	13.40	75	64423	17.99 ug/L	98
80) 4-methyl-2-pentanone	13.51	58	24625	19.33 ug/L	91
81) toluene	13.80	91	172675	18.99 ug/L	99
82) 3-methyl-1-butanol	13.49	55	71059	379.27 ug/L	100
83) trans-1,3-dichloropropene	14.00	75	57351	16.53 ug/L	93
84) ethyl methacrylate	13.98	69	57679	17.05 ug/L	95
85) 1,1,2-trichloroethane	14.24	83	32541	18.14 ug/L	98
86) 2-hexanone	14.41	58	25423	17.69 ug/L	97
88) tetrachloroethene	14.39	166	48072	16.52 ug/L	96
90) 1,3-dichloropropane	14.43	76	59057	18.23 ug/L	98
91) butyl acetate	14.48	56	30410	16.73 ug/L	91
92) 3,3-dimethyl-1-butanol	14.59	57	87954	215.06 ug/L	98
93) dibromochloromethane	14.70	129	48959	20.67 ug/L	98
94) 1,2-dibromoethane	14.87	107	41675	18.29 ug/L	99
95) chlorobenzene	15.38	112	114067	19.17 ug/L	98
96) 1,1,1,2-tetrachloroethane	15.45	131	51071	22.41 ug/L	99
97) ethylbenzene	15.43	91	207139	20.18 ug/L	99
98) m,p-xylene	15.56	106	162205	40.62 ug/L	100
99) o-xylene	16.00	91	181218	20.71 ug/L	98
100) styrene	16.01	104	140081	19.42 ug/L	97
101) bromoform	16.27	173	42544	19.54 ug/L	97

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Acq On : 25 May 2016 10:21 am
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Misc : MS2365,V3A6509,5,,,,1
ALS Vial : 2 Sample Multiplier: 1

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Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 09:06:14 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
103) isopropylbenzene	16.37	105	228261	18.77 ug/L	99
105) cyclohexanone	16.53	98	62026	239.20 ug/L	99
106) bromobenzene	16.80	156	62696	17.37 ug/L	96
107) 1,1,2,2-tetrachloroethane	16.67	83	80490	17.94 ug/L	99
108) trans-1,4-dichloro-2-buten	16.71	53	21021	16.58 ug/L	96
109) 1,2,3-trichloropropane	16.78	110	22722	17.92 ug/L	99
110) n-propylbenzene	16.81	91	269501	18.29 ug/L	99
111) 2-chlorotoluene	16.97	126	59155	18.78 ug/L	97
112) 4-chlorotoluene	17.09	91	172367	17.53 ug/L	98
113) 1,3,5-trimethylbenzene	16.98	105	206956	19.30 ug/L	100
114) tert-butylbenzene	17.35	134	41734	19.88 ug/L	97
115) pentachloroethane	17.44	167	41164	26.38 ug/L	98
116) 1,2,4-trimethylbenzene	17.41	105	217771	19.26 ug/L	99
117) sec-butylbenzene	17.59	105	265856	19.40 ug/L	99
118) 1,3-dichlorobenzene	17.78	146	134172	18.93 ug/L	99
119) p-isopropyltoluene	17.73	119	231962	19.80 ug/L	100
120) 1,4-dichlorobenzene	17.89	146	134845	19.02 ug/L	98
121) 1,2-dichlorobenzene	18.30	146	134566	19.63 ug/L	99
122) benzyl chloride	17.99	91	191864	19.68 ug/L	98
123) n-butylbenzene	18.18	92	120574	20.17 ug/L	98
124) 1,2-dibromo-3-chloropropan	19.15	75	18713	20.57 ug/L	89
125) 1,3,5-TRICHLOROBENZENE	19.35	180	98879	20.94 ug/L	98
126) 1,2,4-trichlorobenzene	20.06	180	84306	20.52 ug/L	98
127) hexachlorobutadiene	20.18	225	42291	22.10 ug/L	98
128) naphthalene	20.41	128	240967	21.20 ug/L	99
129) 1,2,3-trichlorobenzene	20.66	180	75465	21.27 ug/L	98
130) hexachloroethane	18.63	201	39994	20.49 ug/L	97

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

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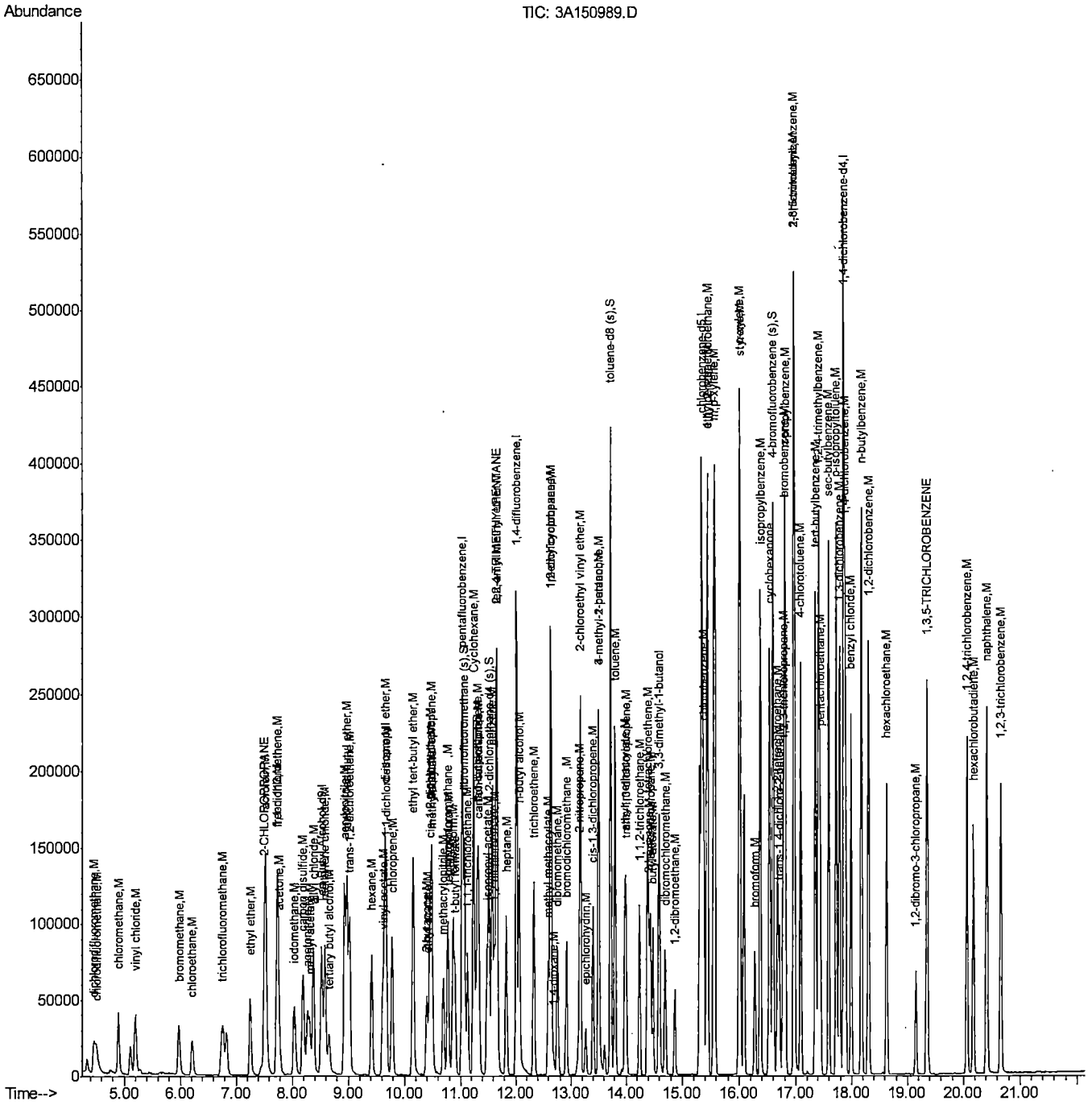
Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 3A150989.D
Acq On : 25 May 2016 10:21 am
Operator : tracyk
Sample : cc6507-20
Misc : MS2365,V3A6509,5,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 25 15:15:35 2016
Quant Method : C:\MSDCHEM\1\METHODS\M3A6507.M
Quant Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
QLast Update : Tue May 24 09:06:14 2016
Response via : Initial Calibration



7.6.13 7

SGS ACCUTEST

VOLATILE ANALYSIS LOG

Batch ID: V2 V3A6507

Print Analyst Name: Tracy Karpinski

Date: 5/23/16

Analyst Signature: TKpk

Columns: ZB624 60m x .75mm x 1.4 µm

Method V8260C

Initial Cal. Method M3A6507

Standard Data

Lot #	Description	Conc.
V016-2316	1 A 105	100ppm
V016-2316	15 B 57	100ppm
V016-2316	45 C 3	100ppm
V016-2316	33 ACRO 1	1000ppm
V016-2316	IS	250/2500ppm

Standard Data

Lot #	Description	Conc.
V016-2316	12 EXtA	100ppm
V016-2316	13 EXtB	100ppm
V016-2316	44 ExtC	100ppm
V016-2316	17 ExtACRO	1000ppm
V016-2316	20 Hexane	100ppm

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

Supervisor Signature: [signature] Date: 5/23/2016

R	Data File	Sample ID	Test	MTX	Vial #	ALS #	Samp. Amt (ml or g)	MOH amt. (ul)	Secondary dilution	L+	IS	SU	Status (Data)	Comments	pH* <2
	3A150927	BFB											ok	2:34pm	
	150928	1C6507-0.2	8260C initial	AQ			5						ok	2µl of A.B.C.ACRO/1000 mL FV	DI
	150929	1C6507-0.5	✓	AQ			5						ok	5µl of A.B.C.ACRO/1000 mL FV	DI
	150930	1C6507-1	✓	AQ			5						ok	10µl of A.B.C.ACRO/1000 mL FV	DI
	150931	1C6507-2	✓	AQ			5						ok	2µl of A.B.C.ACRO/100 mL FV	DI
	150932	1C6507-5	✓	AQ			5						ok	5µl of A.B.C.ACRO/100 mL FV	DI
	150933	1C6507-10	✓	AQ			5						ok	10µl of A.B.C.ACRO/100 mL FV	DI
	150934	1C6507-20	✓	AQ			5						ok	20µl of A.B.C.ACRO/100 mL FV	DI
	150935	1CC6507-50	✓	AQ			5						ok	50µl of A.B.C.ACRO/100 mL FV	DI
	150936	1C6507-100	✓	AQ			5						ok	100µl of A.B.C.ACRO/100 mL FV	DI
	150937	1C6507-200	✓	AQ			5						ok	200µl of A.B.C.ACRO/100 mL FV	DI
	150938	1B											clip		
	150939	1B											clip		
	150940	1CV6507-50	✓	AQ			5						ok	25µl of EXtA EXtACRO EXtB Hexane/50 mL EXtC FV	DI
	150941	1B													

TK 5/24

TX = Matrix Designate W for water, S for soil, O for oil. L+ =Library Search. IS = Internal Standard Area. SU = Surrogate.
mple Amt = Volume (ML) or Weight (g); MOH amt.= volume (ul) extract injected * IF pH > 2, comment on sample result.
strike outs must be initialed, dated and reason code applied as follows: 1 = reviewer correction error; 2 = transcription error; 3 = computer calculations; 4 = analyst's correction error

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m: OR001-10
. Date: 1/19/16

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SGS ACCUTEST JC20563
Instrument Run Log V3A6507 page 1 of 1

SGS ACCUTEST

VOLATILE ANALYSIS LOG

Batch ID: ~~V3A6510~~ V3A6509/ TK 5/25

Print Analyst Name: Tracy Karpinski

Date: 5/25/16

Analyst Signature: TK jh

Columns: ~~7B1024~~ RX1-624 TK 5/25 (60m x .25mm x 1.4µm

Method V8260C

Initial Cal. Method M3A6507

Standard Data

Lot #	Description	Conc.
V016-2316	1 A 65	100ppm
V016-2316	15 B 57	100ppm
V016-2316	45 C 3	100ppm
V016-2316	33 ACRO 1	1000ppm
V016-2316	19 IIS	250/2500ppm

Standard Data

Lot #	Description	Conc.
V016-2316	12 EXTA 28	100ppm
V016-2316	13 EXTB 32	100ppm
V016-2316	44 EXTC 6	100ppm
V016-2316	41 EXTACRO 1	1000ppm
V016-2316	26 Hexane 1	100ppm

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

216315 pH paper Supervisor Signature: [signature] Date: 5/26/2016

R	Data File	Sample ID	Test	MTX	Vial #	ALS #	Samp. Amt (ml or g)	MOH amt. (ul)	Secondary dilution	L+	IS	SU	Status (Data)	Comments	pH* <2
	3A150988	BFB2											ok	9:44 Am	
	150989	CC6507-20									✓	✓	ok	10µl of A.B.C.Acro/50mL FV DI	
	150990	IB									✓	✓	clip		
	150991	MB2									✓	✓	ok		
	150992	BS2									✓	✓	ok		
R	150993	JC20563-8MS	2365 SL	GW	2		5		1X		✓	✓	ok	25µl of EXTA EXTACRO EXTB Hexane/50mL FV EXTC	✓
R	150994	JC20563-8MSD	✓	GW	3		5		1X		✓	✓	ok		✓
	150995	IB									✓	✓	clip		
R	150996	JC20563-8	✓	GW	1		5		1X		✓	✓	ok		✓
R	150997	JC20563-2	✓	GW	2		1/50		50X		✓	✓	ok		✓
R	150998	JC20563-2	✓	GW	2		100µl/50		500X		✓	✓	ok		TK ✓
R	150999	JC20476-5	2797 802IL, 124TMB 135TMB, FI13, THF	GW	2		5/50		10X		✓	✓	ok		✓
R	151000	JC20476-8	✓	GW	1		5/50		10X		✓	✓	ok		TK ✓
R	151001	JC20563-7	2365 SL	GW	1		5		1X		✓	✓	ok		✓
R	151002	JC20563-11	✓	GW	2		5		1X		✓	✓	ok		✓
R	151003	JC20563-6	✓	GW	1		5		1X		✓	✓	ok		✓
R	151004	JC20563-10	✓	GW	1		5		1X		✓	✓	ok	6:13 pm	✓

TK 5/26

MTX = Matrix Designate W for water, S for soil, O for oil. L+ = Library Search. IS = Internal Standard Area. SU = Surrogate.
Sample Amt = Volume (ML) or Weight (g); MOH amt. = volume (ul) extract injected * IF pH > 2, comment on sample result.
All strike outs must be initialed, dated and reason code applied as follows: 1 = reviewer correction error; 2 = transcription error; 3 = computer miscalculation; 4 = analyst's correction error

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Form: OR001-10
Rev. Date: 1/10/16

7.7.2

7

SGS ACCUTEST
New Jersey

Reissue #1
07/25/16

SGS ACCUTEST IS PART OF SGS, THE WORLD'S LEADING INSPECTION, VERIFICATION, TESTING AND CERTIFICATION COMPANY.

e-Hardcopy 2.0
Automated Report

Technical Report for

United Technologies Corporation

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

60480278

SGS Accutest Job Number: JC20564

Sampling Dates: 05/16/16 - 05/18/16

Report to:

AECOM, INC.
4320 Winfield Road
Warrenville, IL 60555
peter.hollatz@aecom.com

ATTN: Peter Hollatz

Total number of pages in report: 366

NELAP ACCREDITED TNI LABORATORY

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

Nancy F. Cole
Nancy Cole
Laboratory Director

Client Service contact: Kelly Patterson 732-329-0200

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

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Test results relate only to samples analyzed.

SGS Accutest is the sole authority for authorizing edits or modifications to this document.
Unauthorized modification of this report is strictly prohibited.

SGS ACCUTEST

July 25, 2016

Mr. Peter Hollatz
AECOM, INC.
4320 Winfield Road
Warrenville, IL 60555

RE: SGS Accutest –Dayton, Job # JC20564– Reissues

Dear Mr. Hollatz,

The final report for SGS Accutest job number JC20564 has been edited to reflect corrections to the data package. These edits have been incorporated into the revised report attached.

Specifically, samples ID for JC20564-3 and JC20564-16 have been revised to match chain of custody. The ID initial logged in as HSSER-GM201-051616 was revised to HSSER-GMZ01-051616 and HSSER-GM202-0516816 was revised to HSSER-GMZ02-051816.

SGS Accutest apologizes for this occurrence and for any inconvenience this situation may have caused. Please contact client services at (732) 355-4550 if I can be of further assistance in this matter.

Sincerely,

Kelly Ramos

Kelly Ramos
Project Manager

SGS Accutest

SGS ACCUTEST IS PART OF SGS, THE WORLD'S LEADING INSPECTION, VERIFICATION, TESTING AND CERTIFICATION COMPANY.

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Sample Summary

United Technologies Corporation

Job No: JC20564

ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Project No: 60480278

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
JC20564-1	05/16/16	10:20 NP	05/19/16	AQ	Field Blank Water	HSSER-FBLK01-051616
JC20564-2	05/16/16	11:25 NP	05/19/16	AQ	Ground Water	HSSER-SMW08-051616
JC20564-3	05/16/16	13:20 NP	05/19/16	AQ	Ground Water	HSSER-GMZ01-051616
JC20564-4	05/16/16	14:30 NP	05/19/16	AQ	Ground Water	HSSER-SMW01-051616
JC20564-5	05/17/16	09:05 NP	05/19/16	AQ	Ground Water	HSSER-SMW02-051716
JC20564-6	05/17/16	09:50 NP	05/19/16	AQ	Ground Water	HSSER-MW203-051716
JC20564-7	05/17/16	10:50 NP	05/19/16	AQ	Ground Water	HSSER-MW07FGA-051716
JC20564-8	05/17/16	12:35 NP	05/19/16	AQ	Ground Water	HSSER-SMW19-051716
JC20564-9	05/17/16	14:05 NP	05/19/16	AQ	Ground Water	HSSER-SMW04-051716
JC20564-10	05/17/16	15:15 NP	05/19/16	AQ	Ground Water	HSSER-PMW01-051716
JC20564-11	05/17/16	15:50 AH	05/19/16	AQ	Ground Water	HSSER-GMZ04-051716
JC20564-12	05/18/16	08:00 AH	05/19/16	AQ	Equipment Blank	HSSER-EBLK01-051816
JC20564-13	05/18/16	09:05 NP	05/19/16	AQ	Ground Water	HSSER-SMW21-051816

Sample Summary
(continued)

United Technologies Corporation

Job No: JC20564

ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Project No: 60480278

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
JC20564-14	05/18/16	09:15 AH	05/19/16	AQ	Ground Water	HSSER-PMW02-051816
JC20564-15	05/18/16	10:10 NP	05/19/16	AQ	Ground Water	HSSER-SMW20-051816
JC20564-16	05/18/16	10:35 NP	05/19/16	AQ	Ground Water	HSSER-GMZ02-051816
JC20564-16D	05/18/16	10:35 NP	05/19/16	AQ	Water Dup/MSD	HSSER-MSD01-051816
JC20564-16S	05/18/16	10:35 NP	05/19/16	AQ	Water Matrix Spike	HSSER-MS01-051816
JC20564-17	05/18/16	11:25 NP	05/19/16	AQ	Ground Water	HSSER-GMZ03-051816
JC20564-18	05/18/16	00:00 NP	05/19/16	AQ	Ground Water	HSSER-DUP01-051816
JC20564-19	05/18/16	11:25 NP	05/19/16	AQ	Trip Blank Water	HSSER-TRIP01-051816

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	United Technologies Corporation	**Job No**	JC20564
Site:	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL	**Report Date**	6/1/2016 4:18:11 PM

On 05/19/2016, 17 Sample(s), 1 Trip Blank(s) and 1 Field Blank(s) were received at SGS Accutest at a maximum corrected temperature of 4 C. Samples were intact and chemically preserved, unless noted below. A SGS Accutest Job Number of JC20564 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

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

Volatiles by GCMS By Method SW846 8260C

Matrix: AQ **Batch ID:** V3D5103

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC20564-16MS, JC20564-16MSD were used as the QC samples indicated.

Matrix: AQ **Batch ID:** V3D5104

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC20564-8MS, JC20564-8MSD were used as the QC samples indicated.

Matrix: AQ **Batch ID:** V3D5106

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC21034-2MS, JC21034-3DUP were used as the QC samples indicated.

Matrix: AQ **Batch ID:** V4D3030

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC20954-3DUP, JC20954-4MS were used as the QC samples indicated.

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

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

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

Summary of Hits

Job Number: JC20564
Account: United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Collected: 05/16/16 thru 05/18/16

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JC20564-1	**HSSER-FBLK01-051616**					
Methylene chloride		0.00093 J	0.0020	0.00035	mg/l	SW846 8260C
JC20564-2	**HSSER-SMW08-051616**					
1,1-Dichloroethane		0.0065	0.0010	0.00021	mg/l	SW846 8260C
1,1-Dichloroethene		0.00067 J	0.0010	0.00020	mg/l	SW846 8260C
cis-1,2-Dichloroethene		0.0074	0.0010	0.00031	mg/l	SW846 8260C
Tetrachloroethene		0.0371	0.0010	0.00023	mg/l	SW846 8260C
1,1,1-Trichloroethane		0.0121	0.0010	0.00022	mg/l	SW846 8260C
Trichloroethene		0.0025	0.0010	0.00026	mg/l	SW846 8260C
JC20564-3	**HSSER-GMZ01-051616**					
1,1-Dichloroethane		0.0123	0.0010	0.00021	mg/l	SW846 8260C
1,1-Dichloroethene		0.00080 J	0.0010	0.00020	mg/l	SW846 8260C
cis-1,2-Dichloroethene		0.0034	0.0010	0.00031	mg/l	SW846 8260C
trans-1,2-Dichloroethene		0.00053 J	0.0010	0.00036	mg/l	SW846 8260C
Tetrachloroethene		0.0424	0.0010	0.00023	mg/l	SW846 8260C
1,1,1-Trichloroethane		0.0081	0.0010	0.00022	mg/l	SW846 8260C
Trichloroethene		0.0023	0.0010	0.00026	mg/l	SW846 8260C
JC20564-4	**HSSER-SMW01-051616**					
Tetrachloroethene		0.0025	0.0010	0.00023	mg/l	SW846 8260C
1,1,1-Trichloroethane		0.0014	0.0010	0.00022	mg/l	SW846 8260C
JC20564-5	**HSSER-SMW02-051716**					
1,1-Dichloroethane		0.0021	0.0010	0.00021	mg/l	SW846 8260C
cis-1,2-Dichloroethene		0.0017	0.0010	0.00031	mg/l	SW846 8260C
Tetrachloroethene		0.00055 J	0.0010	0.00023	mg/l	SW846 8260C
JC20564-6	**HSSER-MW203-051716**					
Tetrachloroethene		0.0046	0.0010	0.00023	mg/l	SW846 8260C
JC20564-7	**HSSER-MW07FGA-051716**					
Tetrachloroethene		0.0010	0.0010	0.00023	mg/l	SW846 8260C
1,1,1-Trichloroethane		0.0017	0.0010	0.00022	mg/l	SW846 8260C

Summary of Hits

Job Number: JC20564
Account: United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Collected: 05/16/16 thru 05/18/16

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JC20564-8	**HSSER-SMW19-051716**					
cis-1,2-Dichloroethene		0.00040 J	0.0010	0.00031	mg/l	SW846 8260C
Tetrachloroethene		0.00089 J	0.0010	0.00023	mg/l	SW846 8260C
1,1,1-Trichloroethane		0.00025 J	0.0010	0.00022	mg/l	SW846 8260C
Trichloroethene		0.0172	0.0010	0.00026	mg/l	SW846 8260C
JC20564-9	**HSSER-SMW04-051716**					
1,1-Dichloroethane		0.0120	0.0010	0.00021	mg/l	SW846 8260C
1,1-Dichloroethene		0.00058 J	0.0010	0.00020	mg/l	SW846 8260C
cis-1,2-Dichloroethene		0.0412	0.0010	0.00031	mg/l	SW846 8260C
Tetrachloroethene		0.0235	0.0010	0.00023	mg/l	SW846 8260C
1,1,1-Trichloroethane		0.0018	0.0010	0.00022	mg/l	SW846 8260C
Trichloroethene		0.0044	0.0010	0.00026	mg/l	SW846 8260C
Vinyl chloride		0.0246	0.0010	0.00033	mg/l	SW846 8260C
JC20564-10	**HSSER-PMW01-051716**					
1,1-Dichloroethane		0.0039	0.0010	0.00021	mg/l	SW846 8260C
1,1-Dichloroethene		0.00095 J	0.0010	0.00020	mg/l	SW846 8260C
cis-1,2-Dichloroethene		0.0039	0.0010	0.00031	mg/l	SW846 8260C
Tetrachloroethene		0.0104	0.0010	0.00023	mg/l	SW846 8260C
1,1,1-Trichloroethane		0.0122	0.0010	0.00022	mg/l	SW846 8260C
Trichloroethene		0.0013	0.0010	0.00026	mg/l	SW846 8260C
Vinyl chloride		0.00092 J	0.0010	0.00033	mg/l	SW846 8260C
JC20564-11	**HSSER-GMZ04-051716**					
1,1-Dichloroethane		0.0099	0.0010	0.00021	mg/l	SW846 8260C
1,1-Dichloroethene		0.0067	0.0010	0.00020	mg/l	SW846 8260C
cis-1,2-Dichloroethene		0.0365	0.0010	0.00031	mg/l	SW846 8260C
1,1,1-Trichloroethane		0.210	0.010	0.0022	mg/l	SW846 8260C
JC20564-12	**HSSER-EBLK01-051816**					
Methylene chloride		0.00078 J	0.0020	0.00035	mg/l	SW846 8260C
JC20564-13	**HSSER-SMW21-051816**					
cis-1,2-Dichloroethene		0.00059 J	0.0010	0.00031	mg/l	SW846 8260C
1,1,1-Trichloroethane		0.0052	0.0010	0.00022	mg/l	SW846 8260C

Summary of Hits

Job Number: JC20564
Account: United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Collected: 05/16/16 thru 05/18/16

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JC20564-14	**HSSER-PMW02-051816**					
1,1-Dichloroethane		0.0035	0.0010	0.00021	mg/l	SW846 8260C
1,1-Dichloroethene		0.00045 J	0.0010	0.00020	mg/l	SW846 8260C
cis-1,2-Dichloroethene		0.0050	0.0010	0.00031	mg/l	SW846 8260C
Tetrachloroethene		0.0240	0.0010	0.00023	mg/l	SW846 8260C
1,1,1-Trichloroethane		0.0137	0.0010	0.00022	mg/l	SW846 8260C
Trichloroethene		0.0018	0.0010	0.00026	mg/l	SW846 8260C
JC20564-15	**HSSER-SMW20-051816**					
1,1-Dichloroethane		0.00023 J	0.0010	0.00021	mg/l	SW846 8260C
cis-1,2-Dichloroethene		0.00040 J	0.0010	0.00031	mg/l	SW846 8260C
1,1,1-Trichloroethane		0.00026 J	0.0010	0.00022	mg/l	SW846 8260C
JC20564-16	**HSSER-GMZ02-051816**					
1,1-Dichloroethane		0.0015	0.0010	0.00021	mg/l	SW846 8260C
cis-1,2-Dichloroethene		0.00042 J	0.0010	0.00031	mg/l	SW846 8260C
Tetrachloroethene		0.00043 J	0.0010	0.00023	mg/l	SW846 8260C
1,1,1-Trichloroethane		0.0026	0.0010	0.00022	mg/l	SW846 8260C
JC20564-17	**HSSER-GMZ03-051816**					
1,1-Dichloroethane		0.00077 J	0.0010	0.00021	mg/l	SW846 8260C
cis-1,2-Dichloroethene		0.00048 J	0.0010	0.00031	mg/l	SW846 8260C
1,1,1-Trichloroethane		0.0011	0.0010	0.00022	mg/l	SW846 8260C
JC20564-18	**HSSER-DUP01-051816**					
1,1-Dichloroethane		0.00076 J	0.0010	0.00021	mg/l	SW846 8260C
cis-1,2-Dichloroethene		0.00041 J	0.0010	0.00031	mg/l	SW846 8260C
1,1,1-Trichloroethane		0.0011	0.0010	0.00022	mg/l	SW846 8260C
JC20564-19	**HSSER-TRIP01-051816**					

No hits reported in this sample.

Sample Results

Report of Analysis

SGS Accutest

Report of Analysis

Client Sample ID:	HSSER-FBLK01-051616		
Lab Sample ID:	JC20564-1	**Date Sampled:**	05/16/16
Matrix:	AQ - Field Blank Water	**Date Received:**	05/19/16
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	3D119606.D	1	05/26/16	XC	n/a	n/a	V3D5104
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	0.00093	0.0020	0.00035	mg/l	J
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	109%		76-120%
17060-07-0	1,2-Dichloroethane-D4	108%		73-122%
2037-26-5	Toluene-D8	103%		84-119%
460-00-4	4-Bromofluorobenzene	95%		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-SMW08-051616		
Lab Sample ID:	JC20564-2	**Date Sampled:**	05/16/16
Matrix:	AQ - Ground Water	**Date Received:**	05/19/16
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	4D68863.D	1	05/27/16	XC	n/a	n/a	V4D3030
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	0.0065	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	0.00067	0.0010	0.00020	mg/l	J
156-59-2	cis-1,2-Dichloroethene	0.0074	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	0.00035	mg/l	
127-18-4	Tetrachloroethene	0.0371	0.0010	0.00023	mg/l	
108-88-3	Toluene	ND	0.0010	0.00023	mg/l	
71-55-6	1,1,1-Trichloroethane	0.0121	0.0010	0.00022	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	0.0025	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	110%		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	98%		78-117%

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

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

SGS Accutest

Report of Analysis

Client Sample ID:	HSSER-GMZ01-051616		
Lab Sample ID:	JC20564-3	**Date Sampled:**	05/16/16
Matrix:	AQ - Ground Water	**Date Received:**	05/19/16
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	4D68862.D	1	05/27/16	XC	n/a	n/a	V4D3030
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	0.0123	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	0.00080	0.0010	0.00020	mg/l	J
156-59-2	cis-1,2-Dichloroethene	0.0034	0.0010	0.00031	mg/l	
156-60-5	trans-1,2-Dichloroethene	0.00053	0.0010	0.00036	mg/l	J
100-41-4	Ethylbenzene	ND	0.0010	0.00020	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.00035	mg/l	
127-18-4	Tetrachloroethene	0.0424	0.0010	0.00023	mg/l	
108-88-3	Toluene	ND	0.0010	0.00023	mg/l	
71-55-6	1,1,1-Trichloroethane	0.0081	0.0010	0.00022	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	0.0023	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	110%		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	98%		78-117%

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

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

SGS Accutest

Report of Analysis

Client Sample ID:	HSSER-SMW01-051616		
Lab Sample ID:	JC20564-4	**Date Sampled:**	05/16/16
Matrix:	AQ - Ground Water	**Date Received:**	05/19/16
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	3D119610.D	1	05/26/16	XC	n/a	n/a	V3D5104
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	0.00035	mg/l	
127-18-4	Tetrachloroethene	0.0025	0.0010	0.00023	mg/l	
108-88-3	Toluene	ND	0.0010	0.00023	mg/l	
71-55-6	1,1,1-Trichloroethane	0.0014	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	110%		76-120%
17060-07-0	1,2-Dichloroethane-D4	111%		73-122%
2037-26-5	Toluene-D8	102%		84-119%
460-00-4	4-Bromofluorobenzene	96%		78-117%

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

SGS Accutest

Report of Analysis

Client Sample ID:	HSSER-SMW02-051716		
Lab Sample ID:	JC20564-5	**Date Sampled:**	05/17/16
Matrix:	AQ - Ground Water	**Date Received:**	05/19/16
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	3D119609.D	1	05/26/16	XC	n/a	n/a	V3D5104
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	0.0021	0.0010	0.00021	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	0.0017	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	0.00035	mg/l	
127-18-4	Tetrachloroethene	0.00055	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	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	112%		76-120%
17060-07-0	1,2-Dichloroethane-D4	111%		73-122%
2037-26-5	Toluene-D8	104%		84-119%
460-00-4	4-Bromofluorobenzene	95%		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-MW203-051716		
Lab Sample ID:	JC20564-6	**Date Sampled:**	05/17/16
Matrix:	AQ - Ground Water	**Date Received:**	05/19/16
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	3D119608.D	1	05/26/16	XC	n/a	n/a	V3D5104
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	0.00035	mg/l	
127-18-4	Tetrachloroethene	0.0046	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	110%		76-120%
17060-07-0	1,2-Dichloroethane-D4	109%		73-122%
2037-26-5	Toluene-D8	102%		84-119%
460-00-4	4-Bromofluorobenzene	96%		78-117%

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

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

SGS Accutest

Report of Analysis

Client Sample ID:	HSSER-MW07FGA-051716		
Lab Sample ID:	JC20564-7	**Date Sampled:**	05/17/16
Matrix:	AQ - Ground Water	**Date Received:**	05/19/16
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	3D119607.D	1	05/26/16	XC	n/a	n/a	V3D5104
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	0.00035	mg/l	
127-18-4	Tetrachloroethene	0.0010	0.0010	0.00023	mg/l	
108-88-3	Toluene	ND	0.0010	0.00023	mg/l	
71-55-6	1,1,1-Trichloroethane	0.0017	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	108%		76-120%
17060-07-0	1,2-Dichloroethane-D4	109%		73-122%
2037-26-5	Toluene-D8	103%		84-119%
460-00-4	4-Bromofluorobenzene	98%		78-117%

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

SGS Accutest

Report of Analysis

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Client Sample ID:	HSSER-SMW19-051716		
Lab Sample ID:	JC20564-8	**Date Sampled:**	05/17/16
Matrix:	AQ - Ground Water	**Date Received:**	05/19/16
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	3D119593.D	1	05/26/16	XC	n/a	n/a	V3D5104
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	0.00040	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	0.00035	mg/l	
127-18-4	Tetrachloroethene	0.00089	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	0.00025	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	0.0172	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	110%		76-120%
17060-07-0	1,2-Dichloroethane-D4	108%		73-122%
2037-26-5	Toluene-D8	102%		84-119%
460-00-4	4-Bromofluorobenzene	95%		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-SMW04-051716		
Lab Sample ID:	JC20564-9	**Date Sampled:**	05/17/16
Matrix:	AQ - Ground Water	**Date Received:**	05/19/16
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	3D119649.D	1	05/27/16	XC	n/a	n/a	V3D5106
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	0.0120	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	0.00058	0.0010	0.00020	mg/l	J
156-59-2	cis-1,2-Dichloroethene	0.0412	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	0.00035	mg/l	
127-18-4	Tetrachloroethene	0.0235	0.0010	0.00023	mg/l	
108-88-3	Toluene	ND	0.0010	0.00023	mg/l	
71-55-6	1,1,1-Trichloroethane	0.0018	0.0010	0.00022	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	0.0044	0.0010	0.00026	mg/l	
75-01-4	Vinyl chloride	0.0246	0.0010	0.00033	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	115%		76-120%
17060-07-0	1,2-Dichloroethane-D4	112%		73-122%
2037-26-5	Toluene-D8	103%		84-119%
460-00-4	4-Bromofluorobenzene	100%		78-117%

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

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

SGS Accutest

Report of Analysis

Client Sample ID:	HSSER-PMW01-051716		
Lab Sample ID:	JC20564-10	**Date Sampled:**	05/17/16
Matrix:	AQ - Ground Water	**Date Received:**	05/19/16
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	3D119648.D	1	05/27/16	XC	n/a	n/a	V3D5106
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	0.0039	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	0.00095	0.0010	0.00020	mg/l	J
156-59-2	cis-1,2-Dichloroethene	0.0039	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	0.00035	mg/l	
127-18-4	Tetrachloroethene	0.0104	0.0010	0.00023	mg/l	
108-88-3	Toluene	ND	0.0010	0.00023	mg/l	
71-55-6	1,1,1-Trichloroethane	0.0122	0.0010	0.00022	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	0.0013	0.0010	0.00026	mg/l	
75-01-4	Vinyl chloride	0.00092	0.0010	0.00033	mg/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	116%		76-120%
17060-07-0	1,2-Dichloroethane-D4	114%		73-122%
2037-26-5	Toluene-D8	103%		84-119%
460-00-4	4-Bromofluorobenzene	98%		78-117%

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

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

SGS Accutest

Report of Analysis

Client Sample ID:	HSSER-GMZ04-051716		
Lab Sample ID:	JC20564-11	**Date Sampled:**	05/17/16
Matrix:	AQ - Ground Water	**Date Received:**	05/19/16
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	3D119602.D	1	05/26/16	XC	n/a	n/a	V3D5104
Run #2	3D119650.D	10	05/27/16	XC	n/a	n/a	V3D5106

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

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	0.0099	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	0.0067	0.0010	0.00020	mg/l	
156-59-2	cis-1,2-Dichloroethene	0.0365	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	0.00035	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	0.210 [a]	0.010	0.0022	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	110%	117%	76-120%
17060-07-0	1,2-Dichloroethane-D4	111%	116%	73-122%
2037-26-5	Toluene-D8	101%	103%	84-119%
460-00-4	4-Bromofluorobenzene	96%	97%	78-117%

(a) Result is from Run# 2

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

SGS Accutest

Report of Analysis

4.12 4

Client Sample ID:	HSSER-EBLK01-051816		
Lab Sample ID:	JC20564-12	**Date Sampled:**	05/18/16
Matrix:	AQ - Equipment Blank	**Date Received:**	05/19/16
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	3D119572.D	1	05/25/16	XC	n/a	n/a	V3D5103
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	0.00078	0.0020	0.00035	mg/l	J
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	103%		76-120%
17060-07-0	1,2-Dichloroethane-D4	100%		73-122%
2037-26-5	Toluene-D8	100%		84-119%
460-00-4	4-Bromofluorobenzene	98%		78-117%

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-SMW21-051816		
Lab Sample ID:	JC20564-13	**Date Sampled:**	05/18/16
Matrix:	AQ - Ground Water	**Date Received:**	05/19/16
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	3D119573.D	1	05/25/16	XC	n/a	n/a	V3D5103
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	0.00059	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	0.00035	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	0.0052	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	106%		76-120%
17060-07-0	1,2-Dichloroethane-D4	103%		73-122%
2037-26-5	Toluene-D8	102%		84-119%
460-00-4	4-Bromofluorobenzene	95%		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-PMW02-051816		
Lab Sample ID:	JC20564-14	**Date Sampled:**	05/18/16
Matrix:	AQ - Ground Water	**Date Received:**	05/19/16
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	3D119574.D	1	05/25/16	XC	n/a	n/a	V3D5103
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	0.0035	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	0.00045	0.0010	0.00020	mg/l	J
156-59-2	cis-1,2-Dichloroethene	0.0050	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	0.00035	mg/l	
127-18-4	Tetrachloroethene	0.0240	0.0010	0.00023	mg/l	
108-88-3	Toluene	ND	0.0010	0.00023	mg/l	
71-55-6	1,1,1-Trichloroethane	0.0137	0.0010	0.00022	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	0.0018	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	103%		73-122%
2037-26-5	Toluene-D8	103%		84-119%
460-00-4	4-Bromofluorobenzene	96%		78-117%

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

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

SGS Accutest

Report of Analysis

Client Sample ID:	HSSER-SMW20-051816		
Lab Sample ID:	JC20564-15	**Date Sampled:**	05/18/16
Matrix:	AQ - Ground Water	**Date Received:**	05/19/16
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	3D119575.D	1	05/25/16	XC	n/a	n/a	V3D5103
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	0.00023	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	0.00040	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	0.00035	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	0.00026	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	107%		73-122%
2037-26-5	Toluene-D8	103%		84-119%
460-00-4	4-Bromofluorobenzene	97%		78-117%

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

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

SGS Accutest

Report of Analysis

Client Sample ID:	HSSER-GMZ02-051816		
Lab Sample ID:	JC20564-16	**Date Sampled:**	05/18/16
Matrix:	AQ - Ground Water	**Date Received:**	05/19/16
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	3D119562.D	1	05/25/16	XC	n/a	n/a	V3D5103
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	0.0015	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	0.00042	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	0.00035	mg/l	
127-18-4	Tetrachloroethene	0.00043	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	0.0026	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	107%		76-120%
17060-07-0	1,2-Dichloroethane-D4	109%		73-122%
2037-26-5	Toluene-D8	103%		84-119%
460-00-4	4-Bromofluorobenzene	97%		78-117%

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

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

SGS Accutest

Report of Analysis

Client Sample ID:	HSSER-GMZ03-051816		
Lab Sample ID:	JC20564-17	**Date Sampled:**	05/18/16
Matrix:	AQ - Ground Water	**Date Received:**	05/19/16
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	3D119592.D	1	05/26/16	XC	n/a	n/a	V3D5104
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	0.00077	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	0.00048	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	0.00035	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	0.0011	0.0010	0.00022	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	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	109%		76-120%
17060-07-0	1,2-Dichloroethane-D4	106%		73-122%
2037-26-5	Toluene-D8	102%		84-119%
460-00-4	4-Bromofluorobenzene	98%		78-117%

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

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

SGS Accutest

Report of Analysis

Client Sample ID:	HSSER-DUP01-051816		
Lab Sample ID:	JC20564-18	**Date Sampled:**	05/18/16
Matrix:	AQ - Ground Water	**Date Received:**	05/19/16
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	3D119577.D	1	05/25/16	XC	n/a	n/a	V3D5103
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	0.00076	0.0010	0.00021	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	0.00041	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	0.00035	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	0.0011	0.0010	0.00022	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	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	106%		73-122%
2037-26-5	Toluene-D8	104%		84-119%
460-00-4	4-Bromofluorobenzene	96%		78-117%

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

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

SGS Accutest

Report of Analysis

Client Sample ID:	HSSER-TRIP01-051816		
Lab Sample ID:	JC20564-19	**Date Sampled:**	05/18/16
Matrix:	AQ - Trip Blank Water	**Date Received:**	05/19/16
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	3D119578.D	1	05/25/16	XC	n/a	n/a	V3D5103
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	0.00035	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	108%		76-120%
17060-07-0	1,2-Dichloroethane-D4	107%		73-122%
2037-26-5	Toluene-D8	104%		84-119%
460-00-4	4-Bromofluorobenzene	94%		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

5

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

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

SGS ACCUTEST LEW 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

PAGE 1 OF 2

FED-EX Tracking # 6514 9168 7159
Bottle Order Control #
SGS Accutest Quote #
SGS Accutest Job # JC20564

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 #: N. PINS / A. HOLLATZ

Project Information

Project Name: UTAS PLANTS 1/2 FACILITY
Street:
City / State: ROCKFORD IL
Project #: 60480278
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	DI Water	MEOH	ENCORE	VOCs	LAB USE ONLY
1	HSSER-FBLK01-051616		5/16/16	1020	NP	GW	3	3								X	
2	HSSER-SMW08-051616		5/16/16	1125	NP	GW	3	3								X	V145
3	HSSER-GMZ01-051616		5/16/16	1320	NP	GW	3	3								X	
4	HSSER-SMW01-051616		5/16/16	1430	NP	GW	3	3								X	
5	HSSER-SMW02-051716		5/17/16	0905	NP	GW	3	3								X	
6	HSSER-MW203-051716		5/17/16	0950	NP	GW	3	3								X	
7	HSSER-MW07FGA-051716		5/17/16	1050	NP	GW	3	3								X	
8	HSSER-SMW19-051716	*	5/17/16	1235	NP	GW	3	3								X	
9	HSSER-SMW04-051716		5/17/16	1405	NP	GW	3	3								X	
10	HSSER-PMW01-051716		5/17/16	1515	NP	GW	3	3								X	
11	HSSER-GMZ04-051716	*	5/17/16	1550	AH	GW	3	3								X	
12	HSSER-EBLK01-051816		5/18/16	0860	NP	GW	3	3								X	

INITIAL ASESSMENT 3A/ee
LABEL VERIFICATION ee

Turnaround Time (Business days)

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

Approved By (SGS Accutest PM): / Date:

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] NJ Reduced
- [ ] Commercial "C"
- [ ] 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 DATA
* 4VOA Qe

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 T (AECOM)	5/18/16 1400	1 [signature]	2 [signature]	5/19/16 940	2 [signature]
3		3	4		4
5		5	Custody Seal # 582 ☑ Intact ☐ Not intact	Preserved where applicable ☐	On Ice ☑ Cooler Temp. 3.6 °C

5.1 5

JC20564: Chain of Custody
Page 1 of 3

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

FED-EX Tracking # 6514 9168 7159
Bottle Order Control #
SGS Accutest Quote #
SGS Accutest Job # JC20564

Client / Reporting Information

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

Project Information

Project Name: UTAS PLANTS 1/2 FACILITY
Street:
City: ROCKFORD State: IL
Project #: 60480278
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	DI Water	MEOH	ENCORE	VOCs	LAB USE ONLY
13	HSSER-SMW21-051816		5/18/16	0905	AH	GW	3	3								X	
14	HSSER-PMW02-051816		5/18/16	0915	NP	GW	3	3								X	
15	HSSER-SMW20-051816		5/18/16	1010	AH	GW	3	3								X	
16	HSSER-GMZ02-051816		5/18/16	1035	NP	GW	3	3								X	
	HSSER-MS01-051816		5/18/16	1035	NP	GW	3	3								X	
	HSSER-MSD01-051816		5/18/16	1035	NP	GW	3	3								X	
17	HSSER-GMZ03-051816		5/18/16	1125	NP	GW	3	3								X	
18	HSSER-DUP01-051816		5/18/16	0000	NP	GW	3	3								X	
19	HSSER-TRIP01-051816		5/18/16	—	—	GW	2	2								X	

Turnaround Time (Business days)

Approved By (SGS Accutest PM): / Date:

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

Emergency & Rush T/A data available VIA Labtrk

Data Deliverable Information

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

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

Comments / Special Instructions

LIST OF 13 VOCs
LEVEL IV DATA

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 T. (AECOM)	5/18/16 1400	1 [signature]	2 [signature]	5/19/16 900	2 [signature]
Relinquished by Sampler: 3	Date/Time:	Received By: 3	Relinquished By: 4	Date/Time:	Received By: 4
Relinquished by: 5	Date/Time:	Received By: 5	Custody Seal # 582 [x] Intact [ ] Not Intact	Preserved where applicable [ ]	On Ice [x] Cooler Temp. 3.6°C

5.1 5

JC20564: Chain of Custody
Page 2 of 3

SGS Accutest Sample Receipt Summary

Job Number: JC20564 **Client:** _____ **Project:** _____

Date / Time Received: 5/19/2016 9:40:00 AM **Delivery Method:** _____ **Airbill #'s:** _____

Cooler Temps (Raw Measured) °C: Cooler 1: (3.6);

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

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

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

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

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

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

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

Comments

5.1 5

JC20564: Chain of Custody
Page 3 of 3

Internal Sample Tracking Chronicle

United Technologies Corporation

Job No: JC20564

ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Project No: 60480278

5.2 5

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JC20564-1	Collected: 16-MAY-16 10:20 By: NP		Received: 19-MAY-16 By: AL			
HSSER-FBLK01-051616						
JC20564-1	SW846 8260C	26-MAY-16 19:28	XC			V8260SL
JC20564-2	Collected: 16-MAY-16 11:25 By: NP		Received: 19-MAY-16 By: AL			
HSSER-SMW08-051616						
JC20564-2	SW846 8260C	27-MAY-16 16:25	XC			V8260SL
JC20564-3	Collected: 16-MAY-16 13:20 By: NP		Received: 19-MAY-16 By: AL			
HSSER-GMZ01-051616						
JC20564-3	SW846 8260C	27-MAY-16 15:57	XC			V8260SL
JC20564-4	Collected: 16-MAY-16 14:30 By: NP		Received: 19-MAY-16 By: AL			
HSSER-SMW01-051616						
JC20564-4	SW846 8260C	26-MAY-16 21:17	XC			V8260SL
JC20564-5	Collected: 17-MAY-16 09:05 By: NP		Received: 19-MAY-16 By: AL			
HSSER-SMW02-051716						
JC20564-5	SW846 8260C	26-MAY-16 20:49	XC			V8260SL
JC20564-6	Collected: 17-MAY-16 09:50 By: NP		Received: 19-MAY-16 By: AL			
HSSER-MW203-051716						
JC20564-6	SW846 8260C	26-MAY-16 20:22	XC			V8260SL
JC20564-7	Collected: 17-MAY-16 10:50 By: NP		Received: 19-MAY-16 By: AL			
HSSER-MW07FGA-051716						
JC20564-7	SW846 8260C	26-MAY-16 19:55	XC			V8260SL
JC20564-8	Collected: 17-MAY-16 12:35 By: NP		Received: 19-MAY-16 By: AL			
HSSER-SMW19-051716						
JC20564-8	SW846 8260C	26-MAY-16 13:33	XC			V8260SL

Internal Sample Tracking Chronicle

United Technologies Corporation

Job No: JC20564

ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Project No: 60480278

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JC20564-9 Collected: 17-MAY-16 14:05 By: NP Received: 19-MAY-16 By: AL HSSER-SMW04-051716						
JC20564-9	SW846 8260C	27-MAY-16 16:14	XC			V8260SL
JC20564-10 Collected: 17-MAY-16 15:15 By: NP Received: 19-MAY-16 By: AL HSSER-PMW01-051716						
JC20564-10	SW846 8260C	27-MAY-16 15:47	XC			V8260SL
JC20564-11 Collected: 17-MAY-16 15:50 By: AH Received: 19-MAY-16 By: AL HSSER-GMZ04-051716						
JC20564-11	SW846 8260C	26-MAY-16 17:39	XC			V8260SL
JC20564-11	SW846 8260C	27-MAY-16 16:42	XC			V8260SL
JC20564-12 Collected: 18-MAY-16 08:00 By: AH Received: 19-MAY-16 By: AL HSSER-EBLK01-051816						
JC20564-12	SW846 8260C	25-MAY-16 17:46	XC			V8260SL
JC20564-13 Collected: 18-MAY-16 09:05 By: NP Received: 19-MAY-16 By: AL HSSER-SMW21-051816						
JC20564-13	SW846 8260C	25-MAY-16 18:13	XC			V8260SL
JC20564-14 Collected: 18-MAY-16 09:15 By: AH Received: 19-MAY-16 By: AL HSSER-PMW02-051816						
JC20564-14	SW846 8260C	25-MAY-16 18:41	XC			V8260SL
JC20564-15 Collected: 18-MAY-16 10:10 By: NP Received: 19-MAY-16 By: AL HSSER-SMW20-051816						
JC20564-15	SW846 8260C	25-MAY-16 19:08	XC			V8260SL
JC20564-16 Collected: 18-MAY-16 10:35 By: NP Received: 19-MAY-16 By: AL HSSER-GMZ02-051816						

Internal Sample Tracking Chronicle

United Technologies Corporation

Job No: JC20564

ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Project No: 60480278

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Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JC20564-16	SW846 8260C	25-MAY-16 12:55	XC			V8260SL
JC20564-17 Collected: 18-MAY-16 11:25 By: NP Received: 19-MAY-16 By: AL HSSER-GMZ03-051816						
JC20564-17	SW846 8260C	26-MAY-16 13:06	XC			V8260SL
JC20564-18 Collected: 18-MAY-16 00:00 By: NP Received: 19-MAY-16 By: AL HSSER-DUP01-051816						
JC20564-18	SW846 8260C	25-MAY-16 20:02	XC			V8260SL
JC20564-19 Collected: 18-MAY-16 11:25 By: NP Received: 19-MAY-16 By: AL HSSER-TRIP01-051816						
JC20564-19	SW846 8260C	25-MAY-16 20:29	XC			V8260SL

SGS Accutest Internal Chain of Custody

Job Number: JC20564
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Received: 05/19/16

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC20564-1.1	Secured Storage	Ximena Collado	05/25/16 16:48	Retrieve from Storage
JC20564-1.1	Ximena Collado	GCMS3D	05/25/16 16:48	Load on Instrument
JC20564-1.1	GCMS3D	Ximena Collado	05/26/16 12:34	Unload from Instrument
JC20564-1.1	Ximena Collado	Secured Storage	05/26/16 12:34	Return to Storage
JC20564-1.1	Ximena Collado	GCMS3D	05/26/16 12:49	Load on Instrument
JC20564-1.1	Secured Storage	Ximena Collado	05/26/16 12:49	Retrieve from Storage
JC20564-1.1	GCMS3D	Ximena Collado	05/31/16 15:01	Unload from Instrument
JC20564-1.1	Ximena Collado	Secured Storage	05/31/16 15:01	Return to Storage
JC20564-2.1	Secured Storage	Ximena Collado	05/25/16 16:48	Retrieve from Storage
JC20564-2.1	Ximena Collado	GCMS3D	05/25/16 16:48	Load on Instrument
JC20564-2.1	GCMS3D	Ximena Collado	05/26/16 12:34	Unload from Instrument
JC20564-2.1	Ximena Collado	Secured Storage	05/26/16 12:34	Return to Storage
JC20564-2.1	Secured Storage	Ximena Collado	05/26/16 12:49	Retrieve from Storage
JC20564-2.1	Ximena Collado	GCMS3D	05/26/16 12:49	Load on Instrument
JC20564-2.1	GCMS3D	Ximena Collado	05/27/16 12:37	Unload from Instrument
JC20564-2.1	Ximena Collado	GCMS4D	05/27/16 12:37	Load on Instrument
JC20564-2.1	GCMS4D	Ximena Collado	05/31/16 15:01	Unload from Instrument
JC20564-2.1	Ximena Collado	Secured Storage	05/31/16 15:01	Return to Storage
JC20564-3.1	Secured Storage	Ximena Collado	05/25/16 16:48	Retrieve from Storage
JC20564-3.1	Ximena Collado	GCMS3D	05/25/16 16:48	Load on Instrument
JC20564-3.1	GCMS3D	Ximena Collado	05/26/16 12:34	Unload from Instrument
JC20564-3.1	Ximena Collado	Secured Storage	05/26/16 12:34	Return to Storage
JC20564-3.1	Secured Storage	Ximena Collado	05/26/16 12:49	Retrieve from Storage
JC20564-3.1	Ximena Collado	GCMS3D	05/26/16 12:49	Load on Instrument
JC20564-3.1	GCMS3D	Ximena Collado	05/27/16 12:37	Unload from Instrument
JC20564-3.1	Ximena Collado	GCMS4D	05/27/16 12:37	Load on Instrument
JC20564-3.1	GCMS4D	Ximena Collado	05/31/16 15:01	Unload from Instrument
JC20564-3.1	Ximena Collado	Secured Storage	05/31/16 15:01	Return to Storage
JC20564-4.1	Secured Storage	Ximena Collado	05/25/16 16:48	Retrieve from Storage
JC20564-4.1	Ximena Collado	GCMS3D	05/25/16 16:48	Load on Instrument
JC20564-4.1	GCMS3D	Ximena Collado	05/26/16 12:34	Unload from Instrument
JC20564-4.1	Ximena Collado	Secured Storage	05/26/16 12:34	Return to Storage
JC20564-4.1	Secured Storage	Ximena Collado	05/26/16 12:49	Retrieve from Storage
JC20564-4.1	Ximena Collado	GCMS3D	05/26/16 12:49	Load on Instrument
JC20564-4.1	GCMS3D	Ximena Collado	05/31/16 15:01	Unload from Instrument
JC20564-4.1	Ximena Collado	Secured Storage	05/31/16 15:01	Return to Storage
JC20564-5.1	Secured Storage	Ximena Collado	05/25/16 16:48	Retrieve from Storage
JC20564-5.1	Ximena Collado	GCMS3D	05/25/16 16:48	Load on Instrument
JC20564-5.1	GCMS3D	Ximena Collado	05/26/16 12:34	Unload from Instrument
JC20564-5.1	Ximena Collado	Secured Storage	05/26/16 12:34	Return to Storage

SGS Accutest Internal Chain of Custody

Job Number: JC20564
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Received: 05/19/16

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC20564-5.1	Ximena Collado	GCMS3D	05/26/16 12:49	Load on Instrument
JC20564-5.1	Secured Storage	Ximena Collado	05/26/16 12:49	Retrieve from Storage
JC20564-5.1	GCMS3D	Ximena Collado	05/31/16 15:01	Unload from Instrument
JC20564-5.1	Ximena Collado	Secured Storage	05/31/16 15:01	Return to Storage
JC20564-6.1	Secured Storage	Ximena Collado	05/25/16 16:48	Retrieve from Storage
JC20564-6.1	Ximena Collado	GCMS3D	05/25/16 16:48	Load on Instrument
JC20564-6.1	GCMS3D	Ximena Collado	05/26/16 12:34	Unload from Instrument
JC20564-6.1	Ximena Collado	Secured Storage	05/26/16 12:34	Return to Storage
JC20564-6.1	Secured Storage	Ximena Collado	05/26/16 12:49	Retrieve from Storage
JC20564-6.1	Ximena Collado	GCMS3D	05/26/16 12:49	Load on Instrument
JC20564-6.1	GCMS3D	Ximena Collado	05/31/16 15:01	Unload from Instrument
JC20564-6.1	Ximena Collado	Secured Storage	05/31/16 15:01	Return to Storage
JC20564-7.1	Secured Storage	Ximena Collado	05/25/16 16:48	Retrieve from Storage
JC20564-7.1	Ximena Collado	GCMS3D	05/25/16 16:48	Load on Instrument
JC20564-7.1	GCMS3D	Ximena Collado	05/26/16 12:34	Unload from Instrument
JC20564-7.1	Ximena Collado	Secured Storage	05/26/16 12:34	Return to Storage
JC20564-7.1	Ximena Collado	GCMS3D	05/26/16 12:49	Load on Instrument
JC20564-7.1	Secured Storage	Ximena Collado	05/26/16 12:49	Retrieve from Storage
JC20564-7.1	GCMS3D	Ximena Collado	05/31/16 15:01	Unload from Instrument
JC20564-7.1	Ximena Collado	Secured Storage	05/31/16 15:01	Return to Storage
JC20564-8.1	Secured Storage	Ximena Collado	05/25/16 16:48	Retrieve from Storage
JC20564-8.1	Ximena Collado	GCMS3D	05/25/16 16:48	Load on Instrument
JC20564-8.1	GCMS3D	Ximena Collado	05/26/16 12:34	Unload from Instrument
JC20564-8.1	Ximena Collado	Secured Storage	05/26/16 12:34	Return to Storage
JC20564-8.1	Secured Storage	Ximena Collado	05/26/16 12:49	Retrieve from Storage
JC20564-8.1	Ximena Collado	GCMS3D	05/26/16 12:49	Load on Instrument
JC20564-8.1	GCMS3D	Ximena Collado	05/31/16 15:01	Unload from Instrument
JC20564-8.1	Ximena Collado	Secured Storage	05/31/16 15:01	Return to Storage
JC20564-8.2	Secured Storage	Ximena Collado	05/26/16 15:24	Retrieve from Storage
JC20564-8.2	Ximena Collado	GCMS3D	05/26/16 15:24	Load on Instrument
JC20564-8.2	GCMS3D	Ximena Collado	05/31/16 15:01	Unload from Instrument
JC20564-8.2	Ximena Collado	Secured Storage	05/31/16 15:01	Return to Storage
JC20564-8.3	Secured Storage	Ximena Collado	05/26/16 15:24	Retrieve from Storage
JC20564-8.3	Ximena Collado	GCMS3D	05/26/16 15:24	Load on Instrument
JC20564-8.3	GCMS3D	Ximena Collado	05/31/16 15:01	Unload from Instrument
JC20564-8.3	Ximena Collado	Secured Storage	05/31/16 15:01	Return to Storage
JC20564-9.1	Secured Storage	Ximena Collado	05/25/16 16:48	Retrieve from Storage
JC20564-9.1	Ximena Collado	GCMS3D	05/25/16 16:48	Load on Instrument

SGS Accutest Internal Chain of Custody

Job Number: JC20564
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Received: 05/19/16

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC20564-9.1	GCMS3D	Ximena Collado	05/26/16 12:34	Unload from Instrument
JC20564-9.1	Ximena Collado	Secured Storage	05/26/16 12:34	Return to Storage
JC20564-9.1	Secured Storage	Ximena Collado	05/26/16 12:49	Retrieve from Storage
JC20564-9.1	Ximena Collado	GCMS3D	05/26/16 12:49	Load on Instrument
JC20564-9.1	GCMS3D	Ximena Collado	05/31/16 15:01	Unload from Instrument
JC20564-9.1	Ximena Collado	Secured Storage	05/31/16 15:01	Return to Storage
JC20564-10.2	Secured Storage	Ximena Collado	05/25/16 16:48	Retrieve from Storage
JC20564-10.2	Ximena Collado	GCMS3D	05/25/16 16:48	Load on Instrument
JC20564-10.2	GCMS3D	Ximena Collado	05/26/16 12:34	Unload from Instrument
JC20564-10.2	Ximena Collado	Secured Storage	05/26/16 12:34	Return to Storage
JC20564-10.2	Secured Storage	Ximena Collado	05/26/16 12:49	Retrieve from Storage
JC20564-10.2	Ximena Collado	GCMS3D	05/26/16 12:49	Load on Instrument
JC20564-10.2	GCMS3D	Ximena Collado	05/31/16 15:01	Unload from Instrument
JC20564-10.2	Ximena Collado	Secured Storage	05/31/16 15:01	Return to Storage
JC20564-11.1	Secured Storage	Ximena Collado	05/25/16 16:48	Retrieve from Storage
JC20564-11.1	Ximena Collado	GCMS3D	05/25/16 16:48	Load on Instrument
JC20564-11.1	GCMS3D	Ximena Collado	05/26/16 12:34	Unload from Instrument
JC20564-11.1	Ximena Collado	Secured Storage	05/26/16 12:34	Return to Storage
JC20564-11.1	Ximena Collado	GCMS3D	05/26/16 12:49	Load on Instrument
JC20564-11.1	Secured Storage	Ximena Collado	05/26/16 12:49	Retrieve from Storage
JC20564-11.1	GCMS3D	Ximena Collado	05/31/16 15:01	Unload from Instrument
JC20564-11.1	Ximena Collado	Secured Storage	05/31/16 15:01	Return to Storage
JC20564-11.3	Secured Storage	Ximena Collado	05/27/16 12:57	Retrieve from Storage
JC20564-11.3	Ximena Collado	GCMS3D	05/27/16 12:57	Load on Instrument
JC20564-11.3	GCMS3D	Ximena Collado	05/31/16 15:01	Unload from Instrument
JC20564-11.3	Ximena Collado	Secured Storage	05/31/16 15:01	Return to Storage
JC20564-12.1	Secured Storage	Ximena Collado	05/25/16 16:48	Retrieve from Storage
JC20564-12.1	Ximena Collado	GCMS3D	05/25/16 16:48	Load on Instrument
JC20564-12.1	GCMS3D	Ximena Collado	05/26/16 12:34	Unload from Instrument
JC20564-12.1	Ximena Collado	Secured Storage	05/26/16 12:34	Return to Storage
JC20564-13.1	Secured Storage	Ximena Collado	05/25/16 16:48	Retrieve from Storage
JC20564-13.1	Ximena Collado	GCMS3D	05/25/16 16:48	Load on Instrument
JC20564-13.1	GCMS3D	Ximena Collado	05/26/16 12:34	Unload from Instrument
JC20564-13.1	Ximena Collado	Secured Storage	05/26/16 12:34	Return to Storage
JC20564-14.1	Secured Storage	Ximena Collado	05/25/16 16:48	Retrieve from Storage
JC20564-14.1	Ximena Collado	GCMS3D	05/25/16 16:48	Load on Instrument
JC20564-14.1	GCMS3D	Ximena Collado	05/26/16 12:34	Unload from Instrument
JC20564-14.1	Ximena Collado	Secured Storage	05/26/16 12:34	Return to Storage

SGS Accutest Internal Chain of Custody

Job Number: JC20564
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Received: 05/19/16

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC20564-15.1	Secured Storage	Ximena Collado	05/25/16 16:48	Retrieve from Storage
JC20564-15.1	Ximena Collado	GCMS3D	05/25/16 16:48	Load on Instrument
JC20564-15.1	GCMS3D	Ximena Collado	05/26/16 12:34	Unload from Instrument
JC20564-15.1	Ximena Collado	Secured Storage	05/26/16 12:34	Return to Storage
JC20564-17.1	Ximena Collado	GCMS3D	05/26/16 12:49	Load on Instrument
JC20564-17.1	Secured Storage	Ximena Collado	05/26/16 12:49	Retrieve from Storage
JC20564-17.1	GCMS3D	Ximena Collado	05/31/16 15:01	Unload from Instrument
JC20564-17.1	Ximena Collado	Secured Storage	05/31/16 15:01	Return to Storage
JC20564-17.2	Secured Storage	Ximena Collado	05/25/16 16:48	Retrieve from Storage
JC20564-17.2	Ximena Collado	GCMS3D	05/25/16 16:48	Load on Instrument
JC20564-17.2	GCMS3D	Ximena Collado	05/26/16 12:34	Unload from Instrument
JC20564-17.2	Ximena Collado	Secured Storage	05/26/16 12:34	Return to Storage
JC20564-18.2	Secured Storage	Ximena Collado	05/25/16 16:48	Retrieve from Storage
JC20564-18.2	Ximena Collado	GCMS3D	05/25/16 16:48	Load on Instrument
JC20564-18.2	GCMS3D	Ximena Collado	05/26/16 12:34	Unload from Instrument
JC20564-18.2	Ximena Collado	Secured Storage	05/26/16 12:34	Return to Storage
JC20564-19.1	Secured Storage	Ximena Collado	05/25/16 16:48	Retrieve from Storage
JC20564-19.1	Ximena Collado	GCMS3D	05/25/16 16:48	Load on Instrument
JC20564-19.1	GCMS3D	Ximena Collado	05/26/16 12:34	Unload from Instrument
JC20564-19.1	Ximena Collado	Secured Storage	05/26/16 12:34	Return to Storage

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ACCUTEST
JC20564

GC/MS Volatiles

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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: JC20564
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
V3D5103-MB	3D119559.D	1	05/25/16	XC	n/a	n/a	V3D5103

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

JC20564-12, JC20564-13, JC20564-14, JC20564-15, JC20564-16, JC20564-18, JC20564-19

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	0.35	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	109%	76-120%
17060-07-0	1,2-Dichloroethane-D4	109%	73-122%
2037-26-5	Toluene-D8	104%	84-119%
460-00-4	4-Bromofluorobenzene	95%	78-117%

Method Blank Summary

Job Number: JC20564
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
V3D5104-MB	3D119589.D	1	05/26/16	XC	n/a	n/a	V3D5104

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

JC20564-1, JC20564-4, JC20564-5, JC20564-6, JC20564-7, JC20564-8, JC20564-11, JC20564-17

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	0.35	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	107%	76-120%
17060-07-0	1,2-Dichloroethane-D4	106%	73-122%
2037-26-5	Toluene-D8	103%	84-119%
460-00-4	4-Bromofluorobenzene	97%	78-117%

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

Method Blank Summary

Job Number: JC20564
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
V3D5106-MB	3D119643.D	1	05/27/16	XC	n/a	n/a	V3D5106

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

JC20564-9, JC20564-10, JC20564-11

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	0.35	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	115%	76-120%
17060-07-0	1,2-Dichloroethane-D4	114%	73-122%
2037-26-5	Toluene-D8	105%	84-119%
460-00-4	4-Bromofluorobenzene	96%	78-117%

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

Method Blank Summary

Job Number: JC20564
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
V4D3030-MB	4D68857.D	1	05/27/16	XC	n/a	n/a	V4D3030

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

JC20564-2, JC20564-3

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	0.35	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	110%	76-120%
17060-07-0	1,2-Dichloroethane-D4	109%	73-122%
2037-26-5	Toluene-D8	100%	84-119%
460-00-4	4-Bromofluorobenzene	97%	78-117%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	system artifact	3.30	55	ug/l	J
	Total TIC, Volatile		0	ug/l	

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Blank Spike Summary

Job Number: JC20564
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
V3D5103-BS	3D119560.D	1	05/25/16	XC	n/a	n/a	V3D5103

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

JC20564-12, JC20564-13, JC20564-14, JC20564-15, JC20564-16, JC20564-18, JC20564-19

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
75-34-3	1,1-Dichloroethane	50	47.1	94	80-125
107-06-2	1,2-Dichloroethane	50	51.8	104	78-131
75-35-4	1,1-Dichloroethene	50	48.1	96	73-127
156-59-2	cis-1,2-Dichloroethene	50	46.7	93	77-118
156-60-5	trans-1,2-Dichloroethene	50	47.4	95	75-118
100-41-4	Ethylbenzene	50	46.0	92	80-118
75-09-2	Methylene chloride	50	50.5	101	75-122
127-18-4	Tetrachloroethene	50	49.4	99	69-138
108-88-3	Toluene	50	49.0	98	80-122
71-55-6	1,1,1-Trichloroethane	50	55.9	112	80-131
79-00-5	1,1,2-Trichloroethane	50	50.8	102	78-122
79-01-6	Trichloroethene	50	50.1	100	83-122
75-01-4	Vinyl chloride	50	51.1	102	57-138

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

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JC20564
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
V3D5104-BS	3D119590.D	1	05/26/16	XC	n/a	n/a	V3D5104

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

JC20564-1, JC20564-4, JC20564-5, JC20564-6, JC20564-7, JC20564-8, JC20564-11, JC20564-17

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
75-34-3	1,1-Dichloroethane	50	49.1	98	80-125
107-06-2	1,2-Dichloroethane	50	53.1	106	78-131
75-35-4	1,1-Dichloroethene	50	51.2	102	73-127
156-59-2	cis-1,2-Dichloroethene	50	48.4	97	77-118
156-60-5	trans-1,2-Dichloroethene	50	49.8	100	75-118
100-41-4	Ethylbenzene	50	49.3	99	80-118
75-09-2	Methylene chloride	50	51.5	103	75-122
127-18-4	Tetrachloroethene	50	54.2	108	69-138
108-88-3	Toluene	50	51.2	102	80-122
71-55-6	1,1,1-Trichloroethane	50	59.3	119	80-131
79-00-5	1,1,2-Trichloroethane	50	51.4	103	78-122
79-01-6	Trichloroethene	50	53.2	106	83-122
75-01-4	Vinyl chloride	50	48.4	97	57-138

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

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JC20564
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
V3D5106-BS	3D119644.D	1	05/27/16	XC	n/a	n/a	V3D5106

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

JC20564-9, JC20564-10, JC20564-11

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
75-34-3	1,1-Dichloroethane	50	50.8	102	80-125
107-06-2	1,2-Dichloroethane	50	54.4	109	78-131
75-35-4	1,1-Dichloroethene	50	53.5	107	73-127
156-59-2	cis-1,2-Dichloroethene	50	49.0	98	77-118
156-60-5	trans-1,2-Dichloroethene	50	50.6	101	75-118
100-41-4	Ethylbenzene	50	48.8	98	80-118
75-09-2	Methylene chloride	50	55.3	111	75-122
127-18-4	Tetrachloroethene	50	51.5	103	69-138
108-88-3	Toluene	50	50.9	102	80-122
71-55-6	1,1,1-Trichloroethane	50	58.3	117	80-131
79-00-5	1,1,2-Trichloroethane	50	50.6	101	78-122
79-01-6	Trichloroethene	50	51.7	103	83-122
75-01-4	Vinyl chloride	50	51.0	102	57-138

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	109%	76-120%
17060-07-0	1,2-Dichloroethane-D4	108%	73-122%
2037-26-5	Toluene-D8	103%	84-119%
460-00-4	4-Bromofluorobenzene	98%	78-117%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JC20564
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
V4D3030-BS	4D68858.D	1	05/27/16	XC	n/a	n/a	V4D3030

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

JC20564-2, JC20564-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
75-34-3	1,1-Dichloroethane	50	50.1	100	80-125
107-06-2	1,2-Dichloroethane	50	52.6	105	78-131
75-35-4	1,1-Dichloroethene	50	41.7	83	73-127
156-59-2	cis-1,2-Dichloroethene	50	48.0	96	77-118
156-60-5	trans-1,2-Dichloroethene	50	49.4	99	75-118
100-41-4	Ethylbenzene	50	43.5	87	80-118
75-09-2	Methylene chloride	50	48.1	96	75-122
127-18-4	Tetrachloroethene	50	46.1	92	69-138
108-88-3	Toluene	50	46.9	94	80-122
71-55-6	1,1,1-Trichloroethane	50	51.7	103	80-131
79-00-5	1,1,2-Trichloroethane	50	47.9	96	78-122
79-01-6	Trichloroethene	50	47.2	94	83-122
75-01-4	Vinyl chloride	50	49.5	99	57-138

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	110%	76-120%
17060-07-0	1,2-Dichloroethane-D4	109%	73-122%
2037-26-5	Toluene-D8	103%	84-119%
460-00-4	4-Bromofluorobenzene	99%	78-117%

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: JC20564
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
JC20954-4MS	4D68866.D	1	05/27/16	XC	n/a	n/a	V4D3030
JC20954-4	4D68860.D	1	05/27/16	XC	n/a	n/a	V4D3030

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

JC20564-2, JC20564-3

CAS No.	Compound	JC20954-4 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
75-34-3	1,1-Dichloroethane	ND		50	53.7	107	60-129
107-06-2	1,2-Dichloroethane	ND		50	53.9	108	72-133
75-35-4	1,1-Dichloroethene	ND		50	48.6	97	40-137
156-59-2	cis-1,2-Dichloroethene	ND		50	50.7	101	57-128
156-60-5	trans-1,2-Dichloroethene	ND		50	53.8	108	53-128
100-41-4	Ethylbenzene	0.54	J	50	47.6	94	38-139
75-09-2	Methylene chloride	ND		50	50.8	102	63-128
127-18-4	Tetrachloroethene	ND		50	50.6	101	43-145
108-88-3	Toluene	ND		50	50.2	100	51-136
71-55-6	1,1,1-Trichloroethane	ND		50	57.1	114	51-141
79-00-5	1,1,2-Trichloroethane	ND		50	48.9	98	71-127
79-01-6	Trichloroethene	ND		50	50.5	101	55-136
75-01-4	Vinyl chloride	ND		50	53.9	108	34-147

CAS No.	Surrogate Recoveries	MS	JC20954-4	Limits
1868-53-7	Dibromofluoromethane	110%	111%	76-120%
17060-07-0	1,2-Dichloroethane-D4	107%	110%	73-122%
2037-26-5	Toluene-D8	102%	101%	84-119%
460-00-4	4-Bromofluorobenzene	99%	98%	78-117%

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: JC20564
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
JC21034-2MS	3D119652.D	1	05/27/16	XC	n/a	n/a	V3D5106
JC21034-2	3D119647.D	1	05/27/16	XC	n/a	n/a	V3D5106

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

JC20564-9, JC20564-10, JC20564-11

CAS No.	Compound	JC21034-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
75-34-3	1,1-Dichloroethane	ND		50	51.2	102	60-129
107-06-2	1,2-Dichloroethane	ND		50	55.8	112	72-133
75-35-4	1,1-Dichloroethene	ND		50	56.0	112	40-137
156-59-2	cis-1,2-Dichloroethene	ND		50	50.4	101	57-128
156-60-5	trans-1,2-Dichloroethene	ND		50	51.7	103	53-128
100-41-4	Ethylbenzene	ND		50	52.1	104	38-139
75-09-2	Methylene chloride	ND		50	53.9	108	63-128
127-18-4	Tetrachloroethene	0.51	J	50	57.6	114	43-145
108-88-3	Toluene	ND		50	51.1	102	51-136
71-55-6	1,1,1-Trichloroethane	ND		50	59.3	119	51-141
79-00-5	1,1,2-Trichloroethane	ND		50	48.7	97	71-127
79-01-6	Trichloroethene	ND		50	54.9	110	55-136
75-01-4	Vinyl chloride	ND		50	50.1	100	34-147

CAS No.	Surrogate Recoveries	MS	JC21034-2	Limits
1868-53-7	Dibromofluoromethane	108%	116%	76-120%
17060-07-0	1,2-Dichloroethane-D4	110%	114%	73-122%
2037-26-5	Toluene-D8	99%	103%	84-119%
460-00-4	4-Bromofluorobenzene	104%	98%	78-117%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JC20564
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
JC20564-16MS	3D119569.D	1	05/25/16	XC	n/a	n/a	V3D5103
JC20564-16MSD	3D119570.D	1	05/25/16	XC	n/a	n/a	V3D5103
JC20564-16	3D119562.D	1	05/25/16	XC	n/a	n/a	V3D5103

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

JC20564-12, JC20564-13, JC20564-14, JC20564-15, JC20564-16, JC20564-18, JC20564-19

CAS No.	Compound	JC20564-16 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	1.5		50	50.4	98	50	50.1	97	1	60-129/13
107-06-2	1,2-Dichloroethane	ND		50	53.1	106	50	53.2	106	0	72-133/12
75-35-4	1,1-Dichloroethene	ND		50	55.2	110	50	54.5	109	1	40-137/17
156-59-2	cis-1,2-Dichloroethene	0.42	J	50	49.6	98	50	50.1	99	1	57-128/13
156-60-5	trans-1,2-Dichloroethene	ND		50	50.4	101	50	49.9	100	1	53-128/15
100-41-4	Ethylbenzene	ND		50	51.5	103	50	52.6	105	2	38-139/12
75-09-2	Methylene chloride	ND		50	51.0	102	50	51.1	102	0	63-128/13
127-18-4	Tetrachloroethene	0.43	J	50	59.5	118	50	60.9	121	2	43-145/15
108-88-3	Toluene	ND		50	52.6	105	50	52.5	105	0	51-136/13
71-55-6	1,1,1-Trichloroethane	2.6		50	63.6	122	50	62.0	119	3	51-141/16
79-00-5	1,1,2-Trichloroethane	ND		50	50.2	100	50	48.7	97	3	71-127/12
79-01-6	Trichloroethene	ND		50	56.4	113	50	56.3	113	0	55-136/14
75-01-4	Vinyl chloride	ND		50	50.5	101	50	48.8	98	3	34-147/17

CAS No.	Surrogate Recoveries	MS	MSD	JC20564-16	Limits
1868-53-7	Dibromofluoromethane	101%	101%	107%	76-120%
17060-07-0	1,2-Dichloroethane-D4	98%	98%	109%	73-122%
2037-26-5	Toluene-D8	100%	100%	103%	84-119%
460-00-4	4-Bromofluorobenzene	102%	103%	97%	78-117%

* = Outside of Control Limits.

Raw Data: 3D119603.D 3D119604.D

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JC20564
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
JC20564-8MS	3D119603.D	1	05/26/16	XC	n/a	n/a	V3D5104
JC20564-8MSD	3D119604.D	1	05/26/16	XC	n/a	n/a	V3D5104
JC20564-8	3D119593.D	1	05/26/16	XC	n/a	n/a	V3D5104

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

JC20564-1, JC20564-4, JC20564-5, JC20564-6, JC20564-7, JC20564-8, JC20564-11, JC20564-17

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CAS No.	Compound	JC20564-8 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
75-34-3	1,1-Dichloroethane	ND		50	52.3	105	50	51.9	104	1	60-129/13
107-06-2	1,2-Dichloroethane	ND		50	57.0	114	50	55.8	112	2	72-133/12
75-35-4	1,1-Dichloroethene	ND		50	59.0	118	50	59.4	119	1	40-137/17
156-59-2	cis-1,2-Dichloroethene	0.40	J	50	52.0	103	50	51.7	103	1	57-128/13
156-60-5	trans-1,2-Dichloroethene	ND		50	54.3	109	50	54.2	108	0	53-128/15
100-41-4	Ethylbenzene	ND		50	54.2	108	50	53.2	106	2	38-139/12
75-09-2	Methylene chloride	ND		50	56.4	113	50	55.9	112	1	63-128/13
127-18-4	Tetrachloroethene	0.89	J	50	60.6	119	50	60.3	119	0	43-145/15
108-88-3	Toluene	ND		50	54.4	109	50	53.2	106	2	51-136/13
71-55-6	1,1,1-Trichloroethane	0.25	J	50	64.6	129	50	64.4	128	0	51-141/16
79-00-5	1,1,2-Trichloroethane	ND		50	53.5	107	50	51.9	104	3	71-127/12
79-01-6	Trichloroethene	17.2		50	75.9	117	50	74.6	115	2	55-136/14
75-01-4	Vinyl chloride	ND		50	48.7	97	50	49.5	99	2	34-147/17

CAS No.	Surrogate Recoveries	MS	MSD	JC20564-8	Limits
1868-53-7	Dibromofluoromethane	106%	104%	110%	76-120%
17060-07-0	1,2-Dichloroethane-D4	105%	104%	108%	73-122%
2037-26-5	Toluene-D8	101%	100%	102%	84-119%
460-00-4	4-Bromofluorobenzene	98%	97%	95%	78-117%

* = Outside of Control Limits.

Duplicate Summary

Job Number: JC20564
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
JC21034-3DUP	3D119654.D	1	05/27/16	XC	n/a	n/a	V3D5106
JC21034-3	3D119646.D	1	05/27/16	XC	n/a	n/a	V3D5106

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

JC20564-9, JC20564-10, JC20564-11

CAS No.	Compound	JC21034-3 ug/l	Q	DUP ug/l	Q	RPD	Limits
75-34-3	1,1-Dichloroethane	ND		ND		nc	30
107-06-2	1,2-Dichloroethane	ND		ND		nc	30
75-35-4	1,1-Dichloroethene	ND		ND		nc	30
156-59-2	cis-1,2-Dichloroethene	ND		ND		nc	30
156-60-5	trans-1,2-Dichloroethene	ND		ND		nc	30
100-41-4	Ethylbenzene	ND		ND		nc	30
75-09-2	Methylene chloride	ND		ND		nc	30
127-18-4	Tetrachloroethene	0.86	J	0.95	J	10	30
108-88-3	Toluene	ND		ND		nc	30
71-55-6	1,1,1-Trichloroethane	ND		ND		nc	30
79-00-5	1,1,2-Trichloroethane	ND		ND		nc	30
79-01-6	Trichloroethene	ND		ND		nc	30
75-01-4	Vinyl chloride	ND		ND		nc	30

CAS No.	Surrogate Recoveries	DUP	JC21034-3	Limits
1868-53-7	Dibromofluoromethane	117%	114%	76-120%
17060-07-0	1,2-Dichloroethane-D4	114%	113%	73-122%
2037-26-5	Toluene-D8	101%	104%	84-119%
460-00-4	4-Bromofluorobenzene	99%	97%	78-117%

* = Outside of Control Limits.

Duplicate Summary

Job Number: JC20564
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
JC20954-3DUP	4D68868.D	1	05/27/16	XC	n/a	n/a	V4D3030
JC20954-3	4D68861.D	1	05/27/16	XC	n/a	n/a	V4D3030

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

JC20564-2, JC20564-3

CAS No.	Compound	JC20954-3 ug/l	Q	DUP ug/l	Q	RPD	Limits
75-34-3	1,1-Dichloroethane	ND		ND		nc	30
107-06-2	1,2-Dichloroethane	ND		ND		nc	30
75-35-4	1,1-Dichloroethene	ND		ND		nc	30
156-59-2	cis-1,2-Dichloroethene	ND		ND		nc	30
156-60-5	trans-1,2-Dichloroethene	ND		ND		nc	30
100-41-4	Ethylbenzene	ND		ND		nc	30
75-09-2	Methylene chloride	ND		ND		nc	30
127-18-4	Tetrachloroethene	ND		ND		nc	30
108-88-3	Toluene	ND		ND		nc	30
71-55-6	1,1,1-Trichloroethane	ND		ND		nc	30
79-00-5	1,1,2-Trichloroethane	ND		ND		nc	30
79-01-6	Trichloroethene	ND		ND		nc	30
75-01-4	Vinyl chloride	ND		ND		nc	30

CAS No.	Surrogate Recoveries	DUP	JC20954-3	Limits
1868-53-7	Dibromofluoromethane	109%	110%	76-120%
17060-07-0	1,2-Dichloroethane-D4	109%	110%	73-122%
2037-26-5	Toluene-D8	100%	101%	84-119%
460-00-4	4-Bromofluorobenzene	97%	99%	78-117%

* = Outside of Control Limits.

Instrument Performance Check (BFB)

Job Number: JC20564
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V3D5092-BFB
Lab File ID: 3D119264.D
Instrument ID: GCMS3D
Injection Date: 05/17/16
Injection Time: 16:14

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	9949	17.4		Pass
75	30.0 - 60.0% of mass 95	25352	44.4		Pass
95	Base peak, 100% relative abundance	57136	100.0		Pass
96	5.0 - 9.0% of mass 95	3887	6.80		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	54416	95.2		Pass
175	5.0 - 9.0% of mass 174	4098	7.17	(7.53) [a]	Pass
176	95.0 - 101.0% of mass 174	52378	91.7	(96.3) [a]	Pass
177	5.0 - 9.0% of mass 176	3644	6.38	(6.96) [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
V3D5092-IC5092	3D119265.D	05/17/16	16:55	00:41	Initial cal 0.2
V3D5092-IC5092	3D119266.D	05/17/16	17:21	01:07	Initial cal 0.5
V3D5092-IC5092	3D119267.D	05/17/16	17:49	01:35	Initial cal 1
V3D5092-IC5092	3D119268.D	05/17/16	18:16	02:02	Initial cal 2
V3D5092-IC5092	3D119269.D	05/17/16	18:43	02:29	Initial cal 5
V3D5092-IC5092	3D119270.D	05/17/16	19:10	02:56	Initial cal 10
V3D5092-IC5092	3D119271.D	05/17/16	19:37	03:23	Initial cal 20
V3D5092-ICC5092	3D119272.D	05/17/16	20:04	03:50	Initial cal 50
V3D5092-IC5092	3D119273.D	05/17/16	20:31	04:17	Initial cal 100
V3D5092-IC5092	3D119274.D	05/17/16	20:58	04:44	Initial cal 200
V3D5092-ICV5092	3D119277.D	05/17/16	22:19	06:05	Initial cal verification 50

Instrument Performance Check (BFB)

Job Number: JC20564
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V3D5103-BFB
Lab File ID: 3D119555.D
Instrument ID: GCMS3D
Injection Date: 05/25/16
Injection Time: 09:14

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	13363	16.9		Pass
75	30.0 - 60.0% of mass 95	35450	44.7		Pass
95	Base peak, 100% relative abundance	79237	100.0		Pass
96	5.0 - 9.0% of mass 95	5530	6.98		Pass
173	Less than 2.0% of mass 174	693	0.87	(0.91) [a]	Pass
174	50.0 - 120.0% of mass 95	76429	96.5		Pass
175	5.0 - 9.0% of mass 174	5718	7.22	(7.48) [a]	Pass
176	95.0 - 101.0% of mass 174	73965	93.3	(96.8) [a]	Pass
177	5.0 - 9.0% of mass 176	4998	6.31	(6.76) [b]	Pass

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

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

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V3D5103-CC5092	3D119557.D	05/25/16	10:35	01:21	Continuing cal 20
V3D5103-MB	3D119559.D	05/25/16	11:34	02:20	Method Blank
V3D5103-BS	3D119560.D	05/25/16	12:01	02:47	Blank Spike
JC20564-16	3D119562.D	05/25/16	12:55	03:41	HSSER-GMZ02-051816
ZZZZZZ	3D119563.D	05/25/16	13:33	04:19	(unrelated sample)
ZZZZZZ	3D119564.D	05/25/16	14:08	04:54	(unrelated sample)
ZZZZZZ	3D119565.D	05/25/16	14:35	05:21	(unrelated sample)
ZZZZZZ	3D119566.D	05/25/16	15:02	05:48	(unrelated sample)
ZZZZZZ	3D119567.D	05/25/16	15:30	06:16	(unrelated sample)
ZZZZZZ	3D119568.D	05/25/16	15:57	06:43	(unrelated sample)
JC20564-16MS	3D119569.D	05/25/16	16:25	07:11	Matrix Spike
JC20564-16MSD	3D119570.D	05/25/16	16:52	07:38	Matrix Spike Duplicate
JC20564-12	3D119572.D	05/25/16	17:46	08:32	HSSER-EBLK01-051816
JC20564-13	3D119573.D	05/25/16	18:13	08:59	HSSER-SMW21-051816
JC20564-14	3D119574.D	05/25/16	18:41	09:27	HSSER-PMW02-051816
JC20564-15	3D119575.D	05/25/16	19:08	09:54	HSSER-SMW20-051816
JC20564-18	3D119577.D	05/25/16	20:02	10:48	HSSER-DUP01-051816
JC20564-19	3D119578.D	05/25/16	20:29	11:15	HSSER-TRIP01-051816

Instrument Performance Check (BFB)

Job Number: JC20564
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample:	V3D5104-BFB	**Injection Date:**	05/26/16
Lab File ID:	3D119586.D	**Injection Time:**	10:02
Instrument ID:	GCMS3D		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	17038	16.6		Pass
75	30.0 - 60.0% of mass 95	45832	44.5		Pass
95	Base peak, 100% relative abundance	102904	100.0		Pass
96	5.0 - 9.0% of mass 95	6857	6.66		Pass
173	Less than 2.0% of mass 174	993	0.96	(0.99) [a]	Pass
174	50.0 - 120.0% of mass 95	100597	97.8		Pass
175	5.0 - 9.0% of mass 174	7076	6.88	(7.03) [a]	Pass
176	95.0 - 101.0% of mass 174	97202	94.5	(96.6) [a]	Pass
177	5.0 - 9.0% of mass 176	6563	6.38	(6.75) [b]	Pass

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

6.6.3

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

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V3D5104-CC5092	3D119587.D	05/26/16	10:40	00:38	Continuing cal 20
V3D5104-MB	3D119589.D	05/26/16	11:45	01:43	Method Blank
V3D5104-BS	3D119590.D	05/26/16	12:12	02:10	Blank Spike
JC20564-17	3D119592.D	05/26/16	13:06	03:04	HSSER-GMZ03-051816
JC20564-8	3D119593.D	05/26/16	13:33	03:31	HSSER-SMW19-051716
ZZZZZZ	3D119594.D	05/26/16	14:01	03:59	(unrelated sample)
ZZZZZZ	3D119595.D	05/26/16	14:28	04:26	(unrelated sample)
ZZZZZZ	3D119596.D	05/26/16	14:55	04:53	(unrelated sample)
ZZZZZZ	3D119597.D	05/26/16	15:22	05:20	(unrelated sample)
ZZZZZZ	3D119598.D	05/26/16	15:50	05:48	(unrelated sample)
ZZZZZZ	3D119599.D	05/26/16	16:17	06:15	(unrelated sample)
ZZZZZZ	3D119600.D	05/26/16	16:44	06:42	(unrelated sample)
ZZZZZZ	3D119601.D	05/26/16	17:12	07:10	(unrelated sample)
JC20564-11	3D119602.D	05/26/16	17:39	07:37	HSSER-GMZ04-051716
JC20564-8MS	3D119603.D	05/26/16	18:06	08:04	Matrix Spike
JC20564-8MSD	3D119604.D	05/26/16	18:33	08:31	Matrix Spike Duplicate
JC20564-1	3D119606.D	05/26/16	19:28	09:26	HSSER-FBLK01-051616
JC20564-7	3D119607.D	05/26/16	19:55	09:53	HSSER-MW07FGA-051716
JC20564-6	3D119608.D	05/26/16	20:22	10:20	HSSER-MW203-051716
JC20564-5	3D119609.D	05/26/16	20:49	10:47	HSSER-SMW02-051716
JC20564-4	3D119610.D	05/26/16	21:17	11:15	HSSER-SMW01-051616

Instrument Performance Check (BFB)

Job Number: JC20564
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample:	V3D5106-BFB	**Injection Date:**	05/27/16
Lab File ID:	3D119636.D	**Injection Time:**	09:51
Instrument ID:	GCMS3D		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	11668	16.3		Pass
75	30.0 - 60.0% of mass 95	31650	44.1		Pass
95	Base peak, 100% relative abundance	71754	100.0		Pass
96	5.0 - 9.0% of mass 95	4802	6.69		Pass
173	Less than 2.0% of mass 174	650	0.91	(0.93) [a]	Pass
174	50.0 - 120.0% of mass 95	70181	97.8		Pass
175	5.0 - 9.0% of mass 174	5287	7.37	(7.53) [a]	Pass
176	95.0 - 101.0% of mass 174	66856	93.2	(95.3) [a]	Pass
177	5.0 - 9.0% of mass 176	4682	6.53	(7.00) [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
V3D5106-CC5092	3D119637.D	05/27/16	10:27	00:36	Continuing cal 20
V3D5105-MB2	3D119639.D	05/27/16	11:29	01:38	Method Blank
JC20714-3DUP	3D119640.D	05/27/16	11:56	02:05	Duplicate
JC20714-2MS	3D119641.D	05/27/16	12:23	02:32	Matrix Spike
V3D5106-MB	3D119643.D	05/27/16	13:18	03:27	Method Blank
V3D5106-BS	3D119644.D	05/27/16	13:46	03:55	Blank Spike
JC21034-3	3D119646.D	05/27/16	14:50	04:59	(used for QC only; not part of job JC20564)
JC21034-2	3D119647.D	05/27/16	15:17	05:26	(used for QC only; not part of job JC20564)
JC20564-10	3D119648.D	05/27/16	15:47	05:56	HSSER-PMW01-051716
JC20564-9	3D119649.D	05/27/16	16:14	06:23	HSSER-SMW04-051716
JC20564-11	3D119650.D	05/27/16	16:42	06:51	HSSER-GMZ04-051716
ZZZZZZ	3D119651.D	05/27/16	17:25	07:34	(unrelated sample)
JC21034-2MS	3D119652.D	05/27/16	17:52	08:01	Matrix Spike
JC21034-3DUP	3D119654.D	05/27/16	18:47	08:56	Duplicate
ZZZZZZ	3D119655.D	05/27/16	19:14	09:23	(unrelated sample)
ZZZZZZ	3D119657.D	05/27/16	20:09	10:18	(unrelated sample)
ZZZZZZ	3D119659.D	05/27/16	21:04	11:13	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: JC20564
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V4D3019-BFB
Lab File ID: 4D68569.D
Instrument ID: GCMS4D
Injection Date: 05/18/16
Injection Time: 18:58

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	13126	16.5		Pass
75	30.0 - 60.0% of mass 95	36491	45.8		Pass
95	Base peak, 100% relative abundance	79613	100.0		Pass
96	5.0 - 9.0% of mass 95	5259	6.61		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	65035	81.7		Pass
175	5.0 - 9.0% of mass 174	4931	6.19	(7.58) [a]	Pass
176	95.0 - 101.0% of mass 174	63213	79.4	(97.2) [a]	Pass
177	5.0 - 9.0% of mass 176	4227	5.31	(6.69) [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
V4D3019-IC3019	4D68570.D	05/18/16	19:42	00:44	Initial cal 0.2
V4D3019-IC3019	4D68571.D	05/18/16	20:10	01:12	Initial cal 0.5
V4D3019-IC3019	4D68572.D	05/18/16	20:39	01:41	Initial cal 1
V4D3019-IC3019	4D68573.D	05/18/16	21:07	02:09	Initial cal 2
V4D3019-IC3019	4D68574.D	05/18/16	21:35	02:37	Initial cal 5
V4D3019-IC3019	4D68575.D	05/18/16	22:03	03:05	Initial cal 10
V4D3019-IC3019	4D68576.D	05/18/16	22:31	03:33	Initial cal 20
V4D3019-ICC3019	4D68577.D	05/18/16	23:00	04:02	Initial cal 50
V4D3019-IC3019	4D68578.D	05/18/16	23:28	04:30	Initial cal 100
V4D3019-IC3019	4D68579.D	05/18/16	23:57	04:59	Initial cal 200
V4D3019-ICV3019	4D68582.D	05/19/16	01:22	06:24	Initial cal verification 50

Instrument Performance Check (BFB)

Job Number: JC20564
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V4D3030-BFB
Lab File ID: 4D68850.D
Instrument ID: GCMS4D
Injection Date: 05/27/16
Injection Time: 09:39

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	13116	17.5		Pass
75	30.0 - 60.0% of mass 95	35376	47.1		Pass
95	Base peak, 100% relative abundance	75117	100.0		Pass
96	5.0 - 9.0% of mass 95	4936	6.57		Pass
173	Less than 2.0% of mass 174	202	0.27	(0.32) [a]	Pass
174	50.0 - 120.0% of mass 95	63139	84.1		Pass
175	5.0 - 9.0% of mass 174	4542	6.05	(7.19) [a]	Pass
176	95.0 - 101.0% of mass 174	60891	81.1	(96.4) [a]	Pass
177	5.0 - 9.0% of mass 176	3879	5.16	(6.37) [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
V4D3030-CC3019	4D68851.D	05/27/16	10:30	00:51	Continuing cal 20
V4D3029-MB2	4D68853.D	05/27/16	11:35	01:56	Method Blank
JC20839-1DUP	4D68854.D	05/27/16	12:03	02:24	Duplicate
JC20839-2MS	4D68855.D	05/27/16	12:32	02:53	Matrix Spike
V4D3030-MB	4D68857.D	05/27/16	13:29	03:50	Method Blank
V4D3030-BS	4D68858.D	05/27/16	13:57	04:18	Blank Spike
JC20954-4	4D68860.D	05/27/16	14:55	05:16	(used for QC only; not part of job JC20564)
JC20954-3	4D68861.D	05/27/16	15:23	05:44	(used for QC only; not part of job JC20564)
JC20564-3	4D68862.D	05/27/16	15:57	06:18	HSSER-GMZ01-051616
JC20564-2	4D68863.D	05/27/16	16:25	06:46	HSSER-SMW08-051616
ZZZZZZ	4D68864.D	05/27/16	16:54	07:15	(unrelated sample)
ZZZZZZ	4D68864A.D	05/27/16	17:22	07:43	(unrelated sample)
JC20954-4MS	4D68866.D	05/27/16	17:51	08:12	Matrix Spike
JC20954-3DUP	4D68868.D	05/27/16	18:48	09:09	Duplicate
ZZZZZZ	4D68869.D	05/27/16	19:15	09:36	(unrelated sample)
ZZZZZZ	4D68870.D	05/27/16	19:43	10:04	(unrelated sample)
ZZZZZZ	4D68871.D	05/27/16	20:12	10:33	(unrelated sample)
ZZZZZZ	4D68872.D	05/27/16	20:40	11:01	(unrelated sample)

Volatile Internal Standard Area Summary

Job Number: JC20564
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Check Std:	V3D5103-CC5092	**Injection Date:**	05/25/16
Lab File ID:	3D119557.D	**Injection Time:**	10:35
Instrument ID:	GCMS3D	**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	144305	7.36	221931	9.65	294748	10.59	265888	13.73	167330	16.06
Upper Limit [a]	288610	7.86	443862	10.15	589496	11.09	531776	14.23	334660	16.56
Lower Limit [b]	72153	6.86	110966	9.15	147374	10.09	132944	13.23	83665	15.56

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
V3D5103-MB	137278	7.36	205211	9.65	273370	10.59	248367	13.72	163652	16.05
V3D5103-BS	148201	7.37	227763	9.65	300070	10.59	271902	13.72	172147	16.06
JC20564-16	141655	7.36	207274	9.65	281308	10.59	255471	13.73	160830	16.06
ZZZZZZ	148333	7.37	219373	9.65	292583	10.59	263863	13.73	167471	16.06
ZZZZZZ	145938	7.36	216761	9.65	292049	10.59	270406	13.73	178134	16.06
ZZZZZZ	140712	7.36	207923	9.65	285435	10.59	258787	13.73	165906	16.06
ZZZZZZ	141660	7.36	210744	9.65	282976	10.59	251424	13.73	161501	16.06
ZZZZZZ	143823	7.36	219289	9.65	289798	10.59	252507	13.72	165123	16.06
ZZZZZZ	148216	7.36	219303	9.65	293114	10.59	257938	13.73	166325	16.05
JC20564-16MS	175915	7.37	254008	9.65	327888	10.59	282302	13.72	170738	16.06
JC20564-16MSD	170255	7.38	274886	9.65	355397	10.59	296428	13.72	175099	16.05
JC20564-12	138490	7.37	237307	9.65	304914	10.59	263462	13.72	164799	16.06
JC20564-13	142870	7.37	230605	9.65	299217	10.59	262880	13.73	170317	16.06
JC20564-14	142396	7.36	223882	9.65	291337	10.59	258150	13.73	166643	16.06
JC20564-15	137017	7.36	212344	9.65	281509	10.59	254069	13.73	161601	16.06
JC20564-18	143855	7.37	221494	9.65	289185	10.59	259047	13.73	166600	16.06
JC20564-19	134913	7.36	209307	9.65	278426	10.59	251108	13.73	162803	16.05

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

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

6.7.1

Volatile Internal Standard Area Summary

Job Number: JC20564
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Check Std:	V3D5104-CC5092	**Injection Date:**	05/26/16
Lab File ID:	3D119587.D	**Injection Time:**	10:40
Instrument ID:	GCMS3D	**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	136382	7.36	206799	9.65	273332	10.59	245333	13.72	159537	16.06
Upper Limit [a]	272764	7.86	413598	10.15	546664	11.09	490666	14.22	319074	16.56
Lower Limit [b]	68191	6.86	103400	9.15	136666	10.09	122667	13.22	79769	15.56

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
V3D5104-MB	125548	7.36	191309	9.65	256789	10.59	231340	13.73	152439	16.05
V3D5104-BS	119872	7.37	186100	9.65	252367	10.59	219924	13.72	140017	16.05
JC20564-17	124233	7.36	179242	9.65	239551	10.59	212281	13.72	138459	16.06
JC20564-8	124108	7.37	183340	9.65	244576	10.59	217362	13.72	141740	16.06
ZZZZZZ	112656	7.36	172717	9.65	230412	10.59	203575	13.73	132685	16.05
ZZZZZZ	111722	7.36	167724	9.65	225473	10.59	201330	13.72	130810	16.06
ZZZZZZ	113833	7.36	170285	9.65	228434	10.59	201944	13.72	133217	16.06
ZZZZZZ	110664	7.37	166681	9.65	220906	10.59	197740	13.72	128761	16.06
ZZZZZZ	108706	7.37	164440	9.65	221030	10.59	196065	13.72	127936	16.06
ZZZZZZ	117934	7.37	174418	9.65	232411	10.59	209667	13.73	135759	16.05
ZZZZZZ	113289	7.37	165305	9.65	221437	10.59	200925	13.72	129244	16.05
ZZZZZZ	106732	7.36	163346	9.65	218607	10.59	200300	13.72	125528	16.05
JC20564-11	116118	7.37	167800	9.65	229708	10.59	200535	13.73	126517	16.06
JC20564-8MS	127244	7.36	186274	9.65	251074	10.59	215191	13.72	139040	16.06
JC20564-8MSD	127838	7.37	192838	9.65	260228	10.59	222708	13.72	144269	16.05
JC20564-1	114907	7.36	171830	9.65	229822	10.59	206378	13.72	134420	16.06
JC20564-7	112679	7.37	168909	9.65	227168	10.59	203517	13.72	128549	16.05
JC20564-6	110358	7.36	163675	9.65	218880	10.59	195528	13.73	127483	16.06
JC20564-5	114982	7.36	170442	9.65	227812	10.59	207069	13.72	132798	16.06
JC20564-4	104629	7.36	159677	9.65	217535	10.59	196192	13.73	124308	16.06

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: JC20564
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Check Std:	V3D5106-CC5092	**Injection Date:**	05/27/16
Lab File ID:	3D119637.D	**Injection Time:**	10:27
Instrument ID:	GCMS3D	**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	121577	7.37	186166	9.65	248765	10.59	226183	13.72	146341	16.06
Upper Limit [a]	243154	7.87	372332	10.15	497530	11.09	452366	14.22	292682	16.56
Lower Limit [b]	60789	6.87	93083	9.15	124383	10.09	113092	13.22	73171	15.56

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
V3D5105-MB2	109175	7.37	163146	9.65	224713	10.59	202433	13.72	131294	16.06
JC20714-3DUP	121396	7.37	168383	9.65	227504	10.59	208503	13.73	137190	16.05
JC20714-2MS	134965	7.38	199465	9.65	270193	10.59	240046	13.72	155224	16.05
V3D5106-MB	113310	7.37	163627	9.65	224920	10.59	206903	13.72	134018	16.05
V3D5106-BS	132606	7.37	198580	9.65	267296	10.59	237859	13.72	153177	16.05
JC21034-3	141288	7.38	185750	9.65	253294	10.59	230549	13.72	145454	16.06
JC21034-2	121132	7.37	171667	9.65	236722	10.59	206608	13.72	130021	16.05
JC20564-10	120299	7.37	173865	9.65	239833	10.59	214039	13.72	132561	16.06
JC20564-9	118783	7.37	175305	9.65	234578	10.59	209924	13.72	131061	16.05
JC20564-11	110275	7.37	164267	9.65	227312	10.59	202383	13.72	126846	16.05
ZZZZZZ	237067	7.37	207547	9.65	281296	10.59	228654	13.72	133327	16.05
JC21034-2MS	144883	7.37	228295	9.65	312439	10.59	259378	13.72	151902	16.05
JC21034-3DUP	136340	7.37	189581	9.65	255377	10.59	216061	13.72	130328	16.05
ZZZZZZ	128016	7.37	180050	9.65	244472	10.59	211347	13.72	128600	16.06
ZZZZZZ	149861	7.36	205066	9.65	278801	10.59	234311	13.72	139316	16.06
ZZZZZZ	152853	7.37	217878	9.65	292683	10.59	244960	13.72	150336	16.05

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: JC20564
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Check Std:	V4D3030-CC3019	**Injection Date:**	05/27/16
Lab File ID:	4D68851.D	**Injection Time:**	10:30
Instrument ID:	GCMS4D	**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	124971	7.55	163513	10.07	258073	11.03	243935	14.38	125100	16.77
Upper Limit [a]	249942	8.05	327026	10.57	516146	11.53	487870	14.88	250200	17.27
Lower Limit [b]	62486	7.05	81757	9.57	129037	10.53	121968	13.88	62550	16.27

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
V4D3029-MB2	123077	7.55	167855	10.08	266987	11.03	248844	14.38	128461	16.77
JC20839-1DUP	122877	7.56	165026	10.08	266191	11.03	250216	14.38	129324	16.77
JC20839-2MS	125484	7.57	161042	10.08	255426	11.03	242800	14.38	124928	16.77
V4D3030-MB	127646	7.56	167165	10.08	267340	11.03	247673	14.38	127863	16.77
V4D3030-BS	128434	7.57	160762	10.08	252951	11.03	242767	14.38	126964	16.77
JC20954-4	131893	7.56	169545	10.08	270595	11.03	254548	14.38	133075	16.78
JC20954-3	129392	7.56	166484	10.08	267224	11.03	246821	14.38	127852	16.78
JC20564-3	136129	7.56	166745	10.08	268346	11.03	248353	14.38	129781	16.77
JC20564-2	128141	7.56	164309	10.08	263357	11.03	243805	14.38	127559	16.78
ZZZZZZ	123875	7.56	161005	10.08	262359	11.03	243024	14.38	125857	16.77
ZZZZZZ	138441	7.56	167260	10.08	270177	11.03	249635	14.38	129622	16.77
JC20954-4MS	128074	7.57	160436	10.08	253980	11.03	242078	14.38	124542	16.77
JC20954-3DUP	129009	7.56	165521	10.08	265380	11.03	247485	14.38	128315	16.77
ZZZZZZ	127932	7.56	166106	10.08	265712	11.03	248774	14.38	127842	16.77
ZZZZZZ	129068	7.56	166517	10.08	270239	11.03	250858	14.38	129785	16.77
ZZZZZZ	139348	7.56	165277	10.08	258267	11.03	245707	14.38	129039	16.77
ZZZZZZ	137506	7.56	164358	10.08	255782	11.03	242790	14.38	129047	16.77

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: JC20564
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
JC20564-1	3D119606.D	109	108	103	95
JC20564-2	4D68863.D	110	110	101	98
JC20564-3	4D68862.D	110	110	101	98
JC20564-4	3D119610.D	110	111	102	96
JC20564-5	3D119609.D	112	111	104	95
JC20564-6	3D119608.D	110	109	102	96
JC20564-7	3D119607.D	108	109	103	98
JC20564-8	3D119593.D	110	108	102	95
JC20564-9	3D119649.D	115	112	103	100
JC20564-10	3D119648.D	116	114	103	98
JC20564-11	3D119650.D	117	116	103	97
JC20564-11	3D119602.D	110	111	101	96
JC20564-12	3D119572.D	103	100	100	98
JC20564-13	3D119573.D	106	103	102	95
JC20564-14	3D119574.D	106	103	103	96
JC20564-15	3D119575.D	105	107	103	97
JC20564-16	3D119562.D	107	109	103	97
JC20564-17	3D119592.D	109	106	102	98
JC20564-18	3D119577.D	107	106	104	96
JC20564-19	3D119578.D	108	107	104	94
JC20564-16MS	3D119569.D	101	98	100	102
JC20564-16MSD	3D119570.D	101	98	100	103
JC20564-8MS	3D119603.D	106	105	101	98
JC20564-8MSD	3D119604.D	104	104	100	97
JC20954-3DUP	4D68868.D	109	109	100	97
JC20954-4MS	4D68866.D	110	107	102	99
JC21034-2MS	3D119652.D	108	110	99	104
JC21034-3DUP	3D119654.D	117	114	101	99
V3D5103-BS	3D119560.D	104	103	104	98
V3D5103-MB	3D119559.D	109	109	104	95
V3D5104-BS	3D119590.D	104	104	102	98
V3D5104-MB	3D119589.D	107	106	103	97
V3D5106-BS	3D119644.D	109	108	103	98
V3D5106-MB	3D119643.D	115	114	105	96
V4D3030-BS	4D68858.D	110	109	103	99
V4D3030-MB	4D68857.D	110	109	100	97

Surrogate Compounds **Recovery Limits**

Volatile Surrogate Recovery Summary

Job Number: JC20564
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

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: JC20564
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Sample: V3D5092-ICC5092
Lab FileID: 3D119272.D

Response Factor Report MS3D

```
Method       : C:\msdchem\1\METHODS\M3D5092.M (RTE Integrator)
Title        : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
Last Update  : Wed May 18 11:33:17 2016
Response via : Initial Calibration

Calibration Files
5   =3D119269.D  0.5 =3D119266.D  2   =3D119268.D  50  =3D119272.D
100 =3D119273.D  1   =3D119267.D  200 =3D119274.D  20  =3D119271.D
10  =3D119270.D  0.2 =3D119265.D      =                =

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

1) I   Tert Butyl Alcohol-d9 ----------------ISTD---------------------
2)  1,4-dioxane
     0.084       0.074 0.098 0.096       0.098 0.096 0.096        0.092   10.03
3)  tertiary butyl alcohol
     1.016       1.084 1.149 1.121       1.122 1.145 1.165        1.115    4.55

4) I   pentafluorobenzene    ----------------ISTD---------------------
5)  freon 143a
                                                                  0.000#  -1.00
6)  FREON 115
                                                                  0.000#  -1.00
7)  FREON 152A
                                                                  0.000#  -1.00
8)  PROPYLENE
                                                                  0.000#  -1.00
9)  chlorotrifluoroethene
                                                                  0.000#  -1.00
10)  chlorodifluoromethane
     1.010 1.062 0.979 1.053 1.018 1.026 0.988 1.096 1.134        1.041    4.88
11)  dichlorodifluoromethane
     0.929       0.900 1.086 1.002 0.809 0.961 1.105 1.080        0.984   10.57
12)  freon 142b
                                                                  0.000#  -1.00
13)  chloromethane
     0.857 0.936 0.892 1.049 1.039 0.899 1.100 1.004 1.022        0.977    8.57
14)  vinyl chloride
     1.012 1.079 1.072 1.229 1.220 1.073 1.268 1.190 1.177        1.147    7.77
15)  bromomethane
     0.521 0.520 0.531 0.582 0.555 0.514 0.478 0.579 0.584        0.540    6.80
16)  chloroethane
     0.438 0.432 0.453 0.475 0.449 0.443 0.424 0.471 0.497        0.454    5.18
17)  1,3-butadiene
                                                                  0.000#  -1.00
18)  vinyl bromide
                                                                  0.000#  -1.00
19)  trichlorofluoromethane
     0.990       0.999 1.163 1.112 0.985 1.117 1.162 1.145        1.084    7.30
20)  pentane
                                                                  0.000#  -1.00
21)  ethyl ether
     0.241       0.240 0.248 0.245 0.189 0.235 0.260 0.258        0.239    9.23
22)  freon 141b
                                                                  0.000#  -1.00
23)  freon 123a
```

Initial Calibration Summary

Job Number: JC20564
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V3D5092-ICC5092
Lab FileID: 3D119272.D

											0.000#	-1.00
24)	FREON 123												
											0.000#	-1.00
25)	acrolein												
	0.131	0.166	0.135	0.131	0.127	0.130	0.124	0.132	0.137		0.135	9.19
26)	1,1-dichloroethene												
	0.845	0.875	0.880	0.913	0.888	0.881	0.899	0.909	0.958		0.894	3.50
27)	acetone												
	0.040			0.050	0.048		0.048	0.051	0.046		0.047	8.72
28)	allyl chloride												
	0.284		0.287	0.304	0.296	0.231	0.294	0.307	0.317		0.290	8.96
29)	acetonitrile												
	0.054			0.049	0.047		0.044	0.053	0.056		0.051	9.16
30)	acetaldehyde												
											0.000#	-1.00
31)	iodomethane												
	1.094	1.223	1.138	1.179	1.146	1.109	1.182	1.180	1.231		1.165	4.03
32)	iso-butyl alcohol												
											0.000#	-1.00
33)	carbon disulfide												
	2.049	2.393	2.087	2.250	2.179	2.229	2.223	2.239	2.380		2.225	5.15
34)	methylene chloride												
	0.571	0.672	0.612	0.606	0.595	0.624	0.598	0.607	0.654		0.615	5.02
35)	methyl acetate												
	0.430		0.429	0.402	0.395		0.373	0.411	0.434		0.411	5.45
36)	methyl tert butyl ether												
	1.762	2.019	1.800	1.845	1.797	1.780	1.763	1.902	1.909	2.036	1.861	5.49
37)	trans-1,2-dichloroethene												
	0.726	0.754	0.731	0.762	0.724	0.698	0.706	0.782	0.813		0.744	5.01
38)	di-isopropyl ether												
	1.868	1.969	1.868	1.986	1.992	1.953	1.953	2.003	2.049	2.563	2.020	9.84
39)	ethyl tert-butyl ether												
	1.783	1.766	1.784	1.927	1.940	1.742	1.926	1.913	1.946	1.781	1.851	4.60
40)	2-butanone												
				0.049	0.054		0.053	0.048	0.044		0.050	8.31
41)	1,1-dichloroethane												
	0.864	1.027	0.872	0.934	0.889	0.934	0.869	0.948	0.970		0.923	5.91
42)	chloroprene												
	0.655	0.622	0.633	0.714	0.697	0.708	0.685	0.720	0.731		0.685	5.77
43)	acrylonitrile												
	0.196	0.203	0.188	0.202	0.199	0.202	0.189	0.209	0.211	0.204	0.200	3.78
44)	vinyl acetate												
	0.062			0.079	0.079		0.076	0.075	0.069		0.073	9.29
45)	ethyl acetate												
	0.069			0.069	0.067		0.064	0.069	0.067		0.067	2.81
46)	2,2-dichloropropane												
	0.907	1.057	0.910	0.958	0.918	1.013	0.909	1.000	1.019		0.966	5.97
47)	cis-1,2-dichloroethene												
	0.541	0.707	0.526	0.559	0.535	0.559	0.536	0.575	0.596		0.571	9.79
48)	propionitrile												
	0.067	0.070	0.067	0.072	0.071	0.069	0.068	0.073	0.074		0.070	3.77
49)	methyl acrylate												
	0.056			0.069	0.068		0.067	0.065	0.065		0.065	7.20
50)	bromochloromethane												
	0.269		0.264	0.278	0.267	0.216	0.269	0.277	0.295		0.267	8.53
51)	tetrahydrofuran												
	0.167		0.197	0.156	0.155		0.147	0.168	0.169		0.166	9.68
52)	chloroform												
	0.809	0.914	0.819	0.871	0.837	0.857	0.834	0.885	0.897	0.865	0.859	3.99
53)	Tert-Butyl Formate												

6.9.1

6

Initial Calibration Summary

Job Number: JC20564
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V3D5092-ICC5092
Lab FileID: 3D119272.D

```
     *This compound does not meet initial calibration criteria*
      0.793       0.762 0.926 0.959 0.774 0.963 0.897 0.894        0.871    9.52
54)  dibromofluoromethane (s)
      0.464 0.463 0.467 0.475 0.473 0.462 0.480 0.461 0.470 0.464  0.468    1.33
55)  1,2-dichloroethane-d4 (s)
      0.454 0.461 0.449 0.470 0.477 0.461 0.474 0.456 0.461 0.458  0.462    1.95
56)  freon 113
      0.457       0.477 0.508 0.496 0.393 0.475 0.512 0.535        0.482    8.99
57)  methacrylonitrile
      0.304       0.313 0.298 0.297 0.369 0.287 0.315 0.305        0.311    8.05
58)  1,1,1-trichloroethane
      0.819 0.910 0.829 0.904 0.880 0.777 0.900 0.917 0.919 0.807  0.866    6.11
59)  tert amyl alcohol
                                                                   0.000#  -1.00
60)  2,2,4-Trimethylpentane
      1.941       1.928 2.379 2.460 1.855 2.342 2.319 2.306        2.191   10.96
61)  tert-amyl methyl ether
      1.649 1.750 1.672 1.804 1.841 1.715 1.869 1.808 1.802 1.995  1.790    5.67

62) I  1,4-difluorobenzene  ----------------ISTD---------------------
63)  epichlorohydrin
      0.035       0.032 0.034 0.033       0.032 0.036 0.037        0.034    5.90
64)  n-butyl alcohol
      0.011       0.011 0.012 0.012       0.012 0.012 0.012        0.012    7.02
65)  cyclohexane
      0.692 0.669 0.680 0.738 0.688 0.667 0.673 0.793 0.781        0.709    6.93
66)  carbon tetrachloride
      0.573 0.601 0.575 0.628 0.596 0.581 0.604 0.647 0.654        0.607    4.96
67)  1,1-dichloropropene
      0.417 0.508 0.407 0.456 0.427 0.427 0.429 0.462 0.473        0.445    7.26
68)  hexane
      0.429 0.457 0.428 0.451 0.432 0.437 0.387 0.484 0.484        0.443    6.83
69)  benzene
      1.315 1.499 1.346 1.413 1.345 1.374 1.346 1.453 1.458 1.708  1.426    8.14
70)  heptane
      0.235       0.209 0.251 0.244       0.223 0.263 0.258        0.241    8.04
71)  isopropyl acetate
      0.693       0.690 0.718 0.718 0.746 0.692 0.734 0.734        0.716    3.07
72)  1,2-dichloroethane
      0.412 0.416 0.398 0.443 0.430 0.415 0.419 0.460 0.456        0.428    4.97
73)  trichloroethene
      0.307 0.326 0.299 0.333 0.323 0.311 0.325 0.341 0.338        0.323    4.40
74)  ethyl acrylate
                                                                   0.000#  -1.00
75)  tert amyl ethyl ether
                                                                   0.000#  -1.00
76)  2-nitropropane
                                                                   0.000#  -1.00
77)  2-chloroethyl vinyl ether
      0.215 0.209 0.213 0.215 0.207 0.206 0.200 0.232 0.230 0.257  0.219    7.72
78)  methyl methacrylate
      0.083       0.066 0.082 0.082       0.080 0.086 0.080        0.080    8.23
79)  1,2-dichloropropane
      0.348 0.403 0.349 0.365 0.355 0.360 0.348 0.384 0.385        0.366    5.43
80)  methylcyclohexane
      0.647 0.595 0.641 0.710 0.691 0.590 0.680 0.726 0.755        0.670    8.47
81)  dibromomethane
      0.205       0.213 0.211 0.206 0.198 0.204 0.216 0.218        0.209    3.32
82)  bromodichloromethane
      0.396       0.403 0.434 0.431 0.450 0.433 0.435 0.429        0.426    4.19
```

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Initial Calibration Summary

Job Number: JC20564 **Sample:** V3D5092-ICC5092
Account: UTC United Technologies Corporation **Lab FileID:** 3D119272.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

```
 83)  cis-1,3-dichloropropene
       0.488 0.580 0.516 0.502 0.496 0.503 0.485 0.538 0.524        0.515    5.79
 84)  toluene-d8 (s)
       1.126 1.120 1.132 1.086 1.089 1.126 1.096 1.126 1.118 1.119  1.114    1.51
 85)  4-methyl-2-pentanone
       0.142       0.138 0.148 0.151       0.149 0.153 0.150        0.147    3.65
 86)  toluene
       0.722 0.822 0.748 0.758 0.729 0.775 0.730 0.810 0.803 0.852  0.775    5.79
 87)  3-methyl-1-butanol
       0.009       0.008 0.011 0.012       0.012 0.011 0.011        0.010   12.79
 88)  trans-1,3-dichloropropene
       0.443 0.499 0.462 0.456 0.437 0.501 0.434 0.492 0.485        0.468    5.74
 89)  ethyl methacrylate
       0.404 0.497 0.423 0.415 0.413 0.410 0.406 0.445 0.436        0.428    6.90
 90)  1,1,2-trichloroethane
       0.242 0.266 0.242 0.246 0.239 0.276 0.235 0.270 0.264        0.253    6.07
 91)  2-hexanone
       0.117       0.108 0.122 0.120       0.119 0.128 0.124        0.120    5.13

 92) I   chlorobenzene-d5       ----------------ISTD---------------------
 93)  tetrachloroethene
       0.398 0.386 0.380 0.440 0.421 0.427 0.421 0.432 0.421        0.414    5.06
 94)  1,3-dichloropropane
       0.520 0.548 0.515 0.545 0.526 0.556 0.512 0.555 0.544        0.536    3.27
 95)  butyl acetate
       0.243       0.250 0.262 0.270 0.227 0.256 0.264 0.266        0.255    5.62
 96)  3,3-Dimethyl-1-Butanol
       0.049       0.046 0.064 0.072       0.073 0.058 0.057        0.060   17.92
 97)  dibromochloromethane
       0.354 0.374 0.330 0.410 0.417 0.369 0.416 0.396 0.384        0.383    7.79
 98)  1,2-dibromoethane
       0.333 0.316 0.339 0.361 0.357 0.337 0.350 0.367 0.368        0.348    5.03
 99)  n-Butyl Ether
       1.558 1.940 1.569 1.726 1.694 1.666 1.634 1.780 1.752 1.859  1.718    7.06
100)  chlorobenzene
       0.923 1.007 0.912 0.991 0.964 0.962 0.953 1.013 0.998 0.921  0.964    3.85
101)  1,1,1,2-tetrachloroethane
       0.402       0.379 0.487 0.493 0.401 0.507 0.453 0.444        0.446   10.77
102)  ethylbenzene
       1.642 1.781 1.654 1.772 1.726 1.750 1.707 1.792 1.812 1.931  1.757    4.75
103)  m,p-xylene
       0.614 0.641 0.620 0.672 0.652 0.669 0.653 0.688 0.676 0.644  0.653    3.70
104)  o-xylene
       0.637 0.723 0.644 0.698 0.700 0.647 0.705 0.705 0.699        0.684    4.68
105)  styrene
       1.021 1.175 1.014 1.141 1.102 1.065 1.100 1.153 1.144 1.044  1.096    5.26
106)  Butyl Acrylate
                                                                    0.000#  -1.00
107)  bromoform
       0.255       0.252 0.305 0.309 0.264 0.322 0.294 0.286        0.286    9.24

108) I   1,4-dichlorobenzene-d ----------------ISTD---------------------
109)  isopropylbenzene
       2.776 3.120 2.711 3.049 3.129 2.710 3.088 3.010 2.960 2.849  2.940    5.65
110)  4-bromofluorobenzene (s)
       0.778 0.780 0.779 0.776 0.770 0.775 0.758 0.778 0.773 0.783  0.775    0.91
111)  bromobenzene
       0.741 0.833 0.751 0.780 0.765 0.751 0.768 0.800 0.803        0.777    3.88
112)  cyclohexanone  *This compound does not meet initial calibration criteria*
       0.046             0.033 0.035       0.033 0.052 0.054        0.042   22.53
```

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          ----- Linear regression -----  Coefficient =  0.9972
            Response Ratio = 0.03826 + 0.03258 *A

113)  1,1,2,2-tetrachloroethane
       0.825       0.811 0.850 0.854 0.836 0.826 0.862 0.850        0.839    2.08
114)  trans-1,4-dichloro-2-butene
       0.173       0.165 0.201 0.202       0.188 0.208 0.196        0.191    8.36
115)  1,2,3-trichloropropane
       0.178       0.168 0.189 0.189       0.180 0.196 0.193        0.185    5.37
116)  n-propylbenzene
       3.223 3.687 3.199 3.413 3.354 3.346 3.305 3.478 3.496 3.519  3.402    4.36
117)  4-Ethyltoluene
                                                                    0.000#  -1.00
118)  2-chlorotoluene
       0.678 0.811 0.655 0.708 0.709 0.676 0.708 0.729 0.717        0.710    6.25
119)  4-chlorotoluene
       0.655 0.775 0.682 0.690 0.676 0.719 0.673 0.713 0.706        0.699    5.06
120)  1,3,5-trimethylbenzene
       2.411 2.857 2.289 2.616 2.706 2.507 2.739 2.621 2.542 2.198  2.549    8.03
121)  tert-butylbenzene
       1.935       1.788 2.318 2.437 1.973 2.525 2.171 2.022        2.146   12.16
122)  pentachloroethane
       0.494       0.425 0.632 0.681       0.723 0.580 0.524        0.580   18.36
123)  1,2,4-trimethylbenzene
       2.443 3.238 2.460 2.636 2.665 2.595 2.709 2.681 2.649 2.591  2.667    8.22
124)  sec-butylbenzene
       3.270 3.885 3.178 3.698 3.819 3.410 3.876 3.602 3.504 3.185  3.543    7.80
125)  1,3-dichlorobenzene
       1.551       1.504 1.613 1.586 1.541 1.595 1.668 1.660        1.590    3.58
126)  p-isopropyltoluene
       2.782 3.506 2.778 3.046 3.101 2.863 3.181 3.054 3.026 2.879  3.022    7.24
127)  1,4-dichlorobenzene
       1.545       1.588 1.635 1.607 1.704 1.615 1.688 1.690        1.634    3.43
128)  1,2-dichlorobenzene
       1.629       1.634 1.716 1.706 1.699 1.733 1.775 1.782        1.709    3.30
129)  1,4-Diethylbenzene
                                                                    0.000#  -1.00
130)  n-butylbenzene
       1.569 2.055 1.499 1.709 1.683 1.622 1.696 1.756 1.728 1.706  1.702    8.63
131)  1,2,4,5-Tetramethylbenzene
                                                                    0.000#  -1.00
132)  1,2-dibromo-3-chloropropane
       0.228       0.215 0.263 0.270       0.275 0.252 0.245        0.250    8.81
133)  1,3,5-trichlorobenzene
       1.775       1.785 1.950 1.959 1.915 2.038 1.979 1.952        1.919    4.82
134)  1,2,4-trichlorobenzene
       1.956       1.944 2.144 2.138 2.014 2.183 2.171 2.081        2.079    4.62
135)  hexachlorobutadiene
       0.899       0.864 0.947 0.984 0.897 1.061 0.951 0.929        0.942    6.50
136)  naphthalene
       4.495       4.284 4.882 4.873 4.551 4.817 4.901 4.721        4.691    4.79
137)  1,2,3-trichlorobenzene
       2.063       1.992 2.189 2.191 2.137 2.191 2.202 2.142        2.138    3.50
138)  hexachloroethane *This compound does not meet initial calibration criteria*
       0.440       0.425 0.658 0.710       0.777 0.554 0.497        0.580   23.67
          ----- Linear regression -----  Coefficient =  0.9979
            Response Ratio = -0.06854 + 0.78133 *A

139)  Benzyl chloride
       1.519 1.525 1.525 1.667 1.699 1.556 1.680 1.660 1.685 1.899  1.641    7.14
```

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Initial Calibration Summary

Job Number: JC20564
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V3D5092-ICC5092
Lab FileID: 3D119272.D

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

M3D5092.M Wed May 18 11:42:45 2016 3D

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Initial Calibration Verification

Job Number: JC20564
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Sample: V3D5092-ICV5092
Lab FileID: 3D119277.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\3D119277.D
Acq On : 17 May 2016 10:19 pm
Sample : icv5092-50
Misc : MS1706,V3D5092,5,,,,1
MS Integration Params: rteint.p

Vial: 14
Operator: XimenaC
Inst : MS3D
Multiplr: 1.00

Method : C:\msdchem\1\METHODS\M3D5092.M (RTE Integrator)
Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
Last Update : Wed May 18 11:33:17 2016
Response via : Multiple Level Calibration

Min. RRF : 0.010 Min. Rel. Area : 50% Max. R.T. Dev 0.30min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	Tert Butyl Alcohol-d9	1.000	1.000	0.0	93	0.00	7.37
2		1,4-dioxane	0.092	0.086	6.5	82	0.00	11.24
3	M	tertiary butyl alcohol	1.115	1.122	-0.6	91	0.00	7.49
4	I	pentafluorobenzene	1.000	1.000	0.0	94	0.00	9.65
5		freon 143a		----------NA----------				
6		FREON 115		----------NA----------				
7		FREON 152A		----------NA----------				
8		PROPYLENE		----------NA----------				
9		chlorotrifluoroethene		----------NA----------				
10		chlorodifluoromethane	1.041	1.097	-5.4	98	-0.02	3.96
11		dichlorodifluoromethane	0.984	1.069	-8.6	92	0.00	3.96
12		freon 142b		----------NA----------				
13		chloromethane	0.977	1.049	-7.4	94	-0.01	4.28
14		vinyl chloride	1.147	1.263	-10.1	96	0.00	4.56
15		bromomethane	0.540	0.584	-8.1	94	0.00	5.19
16		chloroethane	0.454	0.472	-4.0	93	-0.01	5.38
17		1,3-butadiene		----------NA----------				
18		vinyl bromide		----------NA----------				
19		trichlorofluoromethane	1.084	1.187	-9.5	96	0.00	5.87
20		pentane		----------NA----------				
21		ethyl ether	0.239	0.264	-10.5	99	0.00	6.26
22		freon 141b		----------NA----------				
23		freon 123a		----------NA----------				
24		FREON 123		----------NA----------				
25		acrolein	0.135	0.128	5.2	92	0.00	6.49
26		1,1-dichloroethene	0.894	0.959	-7.3	98	0.00	6.69
27		acetone	0.047	0.050	-6.4	92	0.00	6.69
28		allyl chloride	0.290	0.314	-8.3	97	0.00	7.23
29		acetonitrile	0.051	0.048	5.9	92	-0.01	7.12
30	m	acetaldehyde		----------NA----------				
31		iodomethane	1.165	1.202	-3.2	95	0.00	6.95
32		iso-butyl alcohol		----------NA----------				
33		carbon disulfide	2.225	2.403	-8.0	100	0.00	7.09
34		methylene chloride	0.615	0.614	0.2	95	0.00	7.41
35		methyl acetate	0.411	0.378	8.0	88	0.00	7.16
36		methyl tert butyl ether	1.861	1.863	-0.1	95	0.00	7.77
37		trans-1,2-dichloroethene	0.744	0.757	-1.7	93	0.00	7.80
38		di-isopropyl ether	2.020	2.028	-0.4	96	0.00	8.37
39		ethyl tert-butyl ether	1.851	2.009	-8.5	98	0.00	8.84
40		2-butanone	0.050	0.050	0.0	95	0.00	9.05
41	M	1,1-dichloroethane	0.923	0.937	-1.5	94	0.00	8.39

Initial Calibration Verification

Job Number: JC20564 **Sample:** V3D5092-ICV5092
Account: UTC United Technologies Corporation **Lab FileID:** 3D119277.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

42		chloroprene	0.685	0.681	0.6	89	0.00	8.49
43		acrylonitrile	0.200	0.209	-4.5	97	0.00	7.70
44		vinyl acetate	0.073	0.081	-11.0	95	0.00	8.32
45		ethyl acetate	0.067	0.069	-3.0	93	0.00	9.06
46		2,2-dichloropropane	0.966	0.955	1.1	93	0.00	9.14
47		cis-1,2-dichloroethene	0.571	0.546	4.4	91	0.00	9.11
48		propionitrile	0.070	0.077	-10.0	100	0.00	9.12
49		methyl acrylate	0.065	0.070	-7.7	94	0.00	9.14
50		bromochloromethane	0.267	0.272	-1.9	92	0.00	9.41
51		tetrahydrofuran	0.166	0.161	3.0	97	0.00	9.42
52		chloroform	0.859	0.878	-2.2	94	0.00	9.50
53		Tert-Butyl Formate	0.871	0.433	50.3#	44#	0.00	9.53
54	S	dibromofluoromethane (s)	0.468	0.469	-0.2	92	0.00	9.69
55	S	1,2-dichloroethane-d4 (s)	0.462	0.478	-3.5	95	0.00	10.11
56		freon 113	0.482	0.535	-11.0	98	0.00	6.70
57		methacrylonitrile	0.311	0.307	1.3	96	0.00	9.32
58		1,1,1-trichloroethane	0.866	0.940	-8.5	97	0.00	9.76
59		tert amyl alcohol		----------NA----------				
60		2,2,4-Trimethylpentane	2.191	2.262	-3.2	89	0.00	10.27
61		tert-amyl methyl ether	1.790	1.789	0.1	93	0.00	10.26
62	I	1,4-difluorobenzene	1.000	1.000	0.0	96	0.00	10.59
63		epichlorohydrin	0.034	0.034	0.0	96	0.00	11.78
64		n-butyl alcohol	0.012	0.011	8.3	85	0.00	10.63
65	M	cyclohexane	0.709	0.704	0.7	91	0.00	9.87
66		carbon tetrachloride	0.607	0.605	0.3	92	0.00	9.95
67		1,1-dichloropropene	0.445	0.464	-4.3	97	0.00	9.93
68		hexane	0.443	0.411	7.2	87	0.00	8.16
69	M	benzene	1.426	1.364	4.3	92	0.00	10.17
70		heptane	0.241	0.207	14.1	79	0.00	10.42
71		isopropyl acetate	0.716	0.785	-9.6	105	0.00	10.08
72		1,2-dichloroethane	0.428	0.434	-1.4	94	0.00	10.20
73		trichloroethene	0.323	0.324	-0.3	93	0.00	10.90
74		ethyl acrylate		----------NA----------				
75		tert amyl ethyl ether		----------NA----------				
76		2-nitropropane		----------NA----------				
77		2-chloroethyl vinyl ether	0.219	0.233	-6.4	103	0.00	11.69
78		methyl methacrylate	0.080	0.083	-3.8	97	0.00	11.15
79		1,2-dichloropropane	0.366	0.350	4.4	92	0.00	11.19
80		methylcyclohexane	0.670	0.656	2.1	88	0.00	11.20
81		dibromomethane	0.209	0.205	1.9	93	0.00	11.30
82		bromodichloromethane	0.426	0.421	1.2	93	0.00	11.46
83		cis-1,3-dichloropropene	0.515	0.522	-1.4	99	0.00	11.91
84	S	toluene-d8 (s)	1.114	1.131	-1.5	99	0.00	12.22
85		4-methyl-2-pentanone	0.147	0.145	1.4	94	0.00	12.01
86		toluene	0.775	0.769	0.8	97	0.00	12.29
87		3-methyl-1-butanol	0.010	0.010	0.0	88	0.00	12.01
88		trans-1,3-dichloropropene	0.468	0.468	0.0	98	0.00	12.48
89		ethyl methacrylate	0.428	0.428	0.0	98	0.00	12.46
90		1,1,2-trichloroethane	0.253	0.250	1.2	97	0.00	12.70
91		2-hexanone	0.120	0.123	-2.5	96	0.00	12.86
92	I	chlorobenzene-d5	1.000	1.000	0.0	101	0.00	13.73
93		tetrachloroethene	0.414	0.412	0.5	95	0.00	12.84
94		1,3-dichloropropane	0.536	0.526	1.9	98	0.00	12.88
95		butyl acetate	0.255	0.267	-4.7	103	0.00	12.94
96		3,3-Dimethyl-1-Butanol	0.060	0.057	5.0	90	0.00	13.03
97		dibromochloromethane	0.383	0.387	-1.0	95	0.00	13.12
98		1,2-dibromoethane	0.348	0.352	-1.1	99	0.00	13.28
99		n-Butyl Ether	1.718	1.895	-10.3	111	0.00	13.71

Initial Calibration Verification

Job Number: JC20564 **Sample:** V3D5092-ICV5092
Account: UTC United Technologies Corporation **Lab FileID:** 3D119277.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

100		chlorobenzene	0.964	0.968	-0.4	99	0.00	13.76
101		1,1,1,2-tetrachloroethane	0.446	0.426	4.5	89	0.00	13.82
102		ethylbenzene	1.757	1.697	3.4	97	0.00	13.82
103		m,p-xylene	0.653	0.641	1.8	97	0.00	13.94
104		o-xylene	0.684	0.673	1.6	98	0.00	14.34
105		styrene	1.096	1.093	0.3	97	0.00	14.35
106		Butyl Acrylate		----------NA----------				
107		bromoform	0.286	0.284	0.7	94	0.00	14.59
108	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	99	0.00	16.06
109		isopropylbenzene	2.940	2.882	2.0	93	0.00	14.69
110	S	4-bromofluorobenzene (s)	0.775	0.783	-1.0	100	0.00	14.89
111		bromobenzene	0.777	0.760	2.2	96	0.00	15.07
		----------	True	Calc.	% Drift	----------		
112		cyclohexanone	500.000	352.224	29.6	79	0.00	14.82
		----------	AvgRF	CCRF	% Dev	----------		
113		1,1,2,2-tetrachloroethane	0.839	0.796	5.1	93	0.00	14.97
114		trans-1,4-dichloro-2-bute	0.191	0.207	-8.4	102	0.00	15.00
115		1,2,3-trichloropropane	0.185	0.182	1.6	95	0.00	15.06
116		n-propylbenzene	3.402	3.375	0.8	98	0.00	15.10
117		4-Ethyltoluene		----------NA----------				
118		2-chlorotoluene	0.710	0.675	4.9	94	0.00	15.24
119		4-chlorotoluene	0.699	0.678	3.0	97	0.00	15.35
120		1,3,5-trimethylbenzene	2.549	2.511	1.5	95	0.00	15.26
121		tert-butylbenzene	2.146	2.157	-0.5	92	0.00	15.60
122		pentachloroethane	0.580	0.578	0.3	90	0.00	15.67
123		1,2,4-trimethylbenzene	2.667	2.566	3.8	96	0.00	15.65
124		sec-butylbenzene	3.543	3.477	1.9	93	0.00	15.82
125		1,3-dichlorobenzene	1.590	1.536	3.4	94	0.00	15.99
126		p-isopropyltoluene	3.022	2.967	1.8	96	0.00	15.94
127		1,4-dichlorobenzene	1.634	1.577	3.5	95	0.00	16.08
128		1,2-dichlorobenzene	1.709	1.646	3.7	95	0.00	16.44
129		1,4-Diethylbenzene		----------NA----------				
130		n-butylbenzene	1.702	1.619	4.9	94	0.00	16.34
131		1,2,4,5-Tetramethylbenzen		----------NA----------				
132		1,2-dibromo-3-chloropropa	0.250	0.243	2.8	91	0.00	17.17
133		1,3,5-trichlorobenzene	1.919	1.914	0.3	97	0.00	17.33
134		1,2,4-trichlorobenzene	2.079	2.060	0.9	95	0.00	17.91
135		hexachlorobutadiene	0.942	0.909	3.5	95	0.00	18.01
136		naphthalene	4.691	4.614	1.6	93	0.00	18.16
137		1,2,3-trichlorobenzene	2.138	2.100	1.8	95	0.00	18.36
		----------	True	Calc.	% Drift	----------		
138		hexachloroethane	50.000	42.455	15.1	89	0.00	16.72
		----------	AvgRF	CCRF	% Dev	----------		
139		Benzyl chloride	1.641	1.524	7.1	90	0.00	16.17

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3D119272.D M3D5092.M Wed May 18 11:42:30 2016 3D

6.9.2 6.

Continuing Calibration Summary

Job Number: JC20564
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V3D5103-CC5092
Lab FileID: 3D119557.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\3D\v3d5103\3D119557.D Vial: 3
Acq On : 25 May 2016 10:35 am Operator: XimenaC
Sample : cc5092-20 Inst : MS3D
Misc : MS2480,V3D5103,5,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\msdchem\1\METHODS\M3D5092.M (RTE Integrator)
Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
Last Update : Wed May 18 11:52:25 2016
Response via : Multiple Level Calibration

Min. RRF : 0.010 Min. Rel. Area : 50% Max. R.T. Dev 0.30min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I	Tert Butyl Alcohol-d9	1.000	1.000	0.0	126	-0.01	7.36
2	1,4-dioxane	0.092	0.100	-8.7	132	0.00	11.24
3 M	tertiary butyl alcohol	1.115	1.142	-2.4	126	0.00	7.48
4 I	pentafluorobenzene	1.000	1.000	0.0	145	0.00	9.65
5	freon 143a		----------NA----------				
6	FREON 115		----------NA----------				
7	FREON 152A		----------NA----------				
8	PROPYLENE		----------NA----------				
9	chlorotrifluoroethene		----------NA----------				
10	chlorodifluoromethane	1.041	1.066	-2.4	141	0.01	3.99
11	dichlorodifluoromethane	0.984	1.115	-13.3	147	0.02	3.98
12	freon 142b		----------NA----------				
13	chloromethane	0.977	0.937	4.1	135	0.00	4.30
14	vinyl chloride	1.147	1.124	2.0	137	0.01	4.57
15	bromomethane	0.540	0.592	-9.6	149	0.00	5.20
16	chloroethane	0.454	0.440	3.1	136	0.00	5.39
17	1,3-butadiene		----------NA----------				
18	vinyl bromide		----------NA----------				
19	trichlorofluoromethane	1.084	1.164	-7.4	146	0.00	5.88
20	pentane		----------NA----------				
21	ethyl ether	0.239	0.242	-1.3	135	0.00	6.26
22	freon 141b		----------NA----------				
23	freon 123a		----------NA----------				
24	FREON 123		----------NA----------				
25	acrolein	0.135	0.112	17.0	123	0.00	6.49
26	1,1-dichloroethene	0.894	0.820	8.3	131	0.00	6.69
27	acetone	0.047	0.048	-2.1	136	0.00	6.69
28	allyl chloride	0.290	0.268	7.6	127	0.00	7.23
29	acetonitrile	0.051	0.048	5.9	129	0.00	7.12
30 m	acetaldehyde		----------NA----------				
31	iodomethane	1.165	1.177	-1.0	145	0.00	6.95
32	iso-butyl alcohol		----------NA----------				
33	carbon disulfide	2.225	2.152	3.3	140	0.00	7.09
34	methylene chloride	0.615	0.628	-2.1	150	0.00	7.41
35	methyl acetate	0.411	0.359	12.7	127	0.00	7.16
36	methyl tert butyl ether	1.861	1.793	3.7	137	0.00	7.77
37	trans-1,2-dichloroethene	0.744	0.717	3.6	133	0.00	7.81
38	di-isopropyl ether	2.020	1.711	15.3	124	0.00	8.37
39	ethyl tert-butyl ether	1.851	1.674	9.6	127	0.00	8.84
40	2-butanone	0.050	0.043	14.0	129	0.00	9.04
41 M	1,1-dichloroethane	0.923	0.892	3.4	137	0.00	8.39

Continuing Calibration Summary

Job Number: JC20564 **Sample:** V3D5103-CC5092
Account: UTC United Technologies Corporation **Lab FileID:** 3D119557.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

42		chloroprene	0.685	0.566	17.4	114	0.00	8.49
43		acrylonitrile	0.200	0.191	4.5	133	0.00	7.70
44		vinyl acetate	0.073	0.071	2.7	137	0.00	8.32
45		ethyl acetate	0.067	0.059	11.9	125	0.00	9.06
46		2,2-dichloropropane	0.966	1.004	-3.9	146	0.00	9.15
47		cis-1,2-dichloroethene	0.571	0.531	7.0	134	0.00	9.11
48		propionitrile	0.070	0.063	10.0	126	0.00	9.12
49		methyl acrylate	0.065	0.064	1.5	142	0.00	9.13
50		bromochloromethane	0.267	0.287	-7.5	150	0.00	9.41
51		tetrahydrofuran	0.166	0.131	21.1#	113	0.00	9.43
52		chloroform	0.859	0.826	3.8	136	0.00	9.50
53		Tert-Butyl Formate	0.871	0.597	31.5#	97	0.00	9.53
54	S	dibromofluoromethane (s)	0.468	0.488	-4.3	154	0.00	9.69
55	S	1,2-dichloroethane-d4 (s)	0.462	0.468	-1.3	149	0.00	10.11
56		freon 113	0.482	0.563	-16.8	160	0.00	6.70
57		methacrylonitrile	0.311	0.256	17.7	118	0.00	9.31
58		1,1,1-trichloroethane	0.866	0.931	-7.5	148	0.00	9.75
59		tert amyl alcohol		----------NA----------				
60		2,2,4-Trimethylpentane	2.191	2.006	8.4	126	0.00	10.27
61		tert-amyl methyl ether	1.790	1.678	6.3	135	0.00	10.25
62	I	1,4-difluorobenzene	1.000	1.000	0.0	150	0.00	10.59
63		epichlorohydrin	0.034	0.032	5.9	132	0.00	11.78
64		n-butyl alcohol	0.012	0.010	16.7	122	0.00	10.63
65	M	cyclohexane	0.709	0.703	0.8	133	0.00	9.87
66		carbon tetrachloride	0.607	0.655	-7.9	151	0.00	9.95
67		1,1-dichloropropene	0.445	0.412	7.4	133	0.00	9.92
68		hexane	0.443	0.350	21.0#	108	0.00	8.16
69	M	benzene	1.426	1.293	9.3	133	0.00	10.17
70		heptane	0.241	0.210	12.9	119	0.00	10.42
71		isopropyl acetate	0.716	0.605	15.5	123	0.00	10.08
72		1,2-dichloroethane	0.428	0.451	-5.4	147	0.00	10.20
73		trichloroethene	0.323	0.322	0.3	141	0.00	10.90
74		ethyl acrylate		----------NA----------				
75		tert amyl ethyl ether		----------NA----------				
76		2-nitropropane		----------NA----------				
77		2-chloroethyl vinyl ether	0.219	0.206	5.9	133	0.00	11.69
78		methyl methacrylate	0.080	0.071	11.3	123	0.00	11.15
79		1,2-dichloropropane	0.366	0.352	3.8	137	0.00	11.19
80		methylcyclohexane	0.670	0.636	5.1	131	0.00	11.20
81		dibromomethane	0.209	0.233	-11.5	161	0.00	11.30
82		bromodichloromethane	0.426	0.445	-4.5	153	0.00	11.46
83		cis-1,3-dichloropropene	0.515	0.497	3.5	138	0.00	11.91
84	S	toluene-d8 (s)	1.114	1.153	-3.5	153	0.00	12.22
85		4-methyl-2-pentanone	0.147	0.137	6.8	134	0.00	12.01
86		toluene	0.775	0.751	3.1	139	0.00	12.29
87		3-methyl-1-butanol	0.010	0.010#	0.0	132	0.00	12.01
88		trans-1,3-dichloropropene	0.468	0.467	0.2	142	0.00	12.47
89		ethyl methacrylate	0.428	0.359	16.1	121	0.00	12.46
90		1,1,2-trichloroethane	0.253	0.264	-4.3	146	0.00	12.70
91		2-hexanone	0.120	0.106	11.7	124	0.00	12.86
92	I	chlorobenzene-d5	1.000	1.000	0.0	156	0.00	13.73
93		tetrachloroethene	0.414	0.410	1.0	148	0.00	12.84
94		1,3-dichloropropane	0.536	0.516	3.7	145	0.00	12.88
95		butyl acetate	0.255	0.216	15.3	128	0.00	12.94
96		3,3-Dimethyl-1-Butanol	0.060	0.048	20.0	128	0.00	13.03
97		dibromochloromethane	0.383	0.419	-9.4	165	0.00	13.12
98		1,2-dibromoethane	0.348	0.359	-3.2	152	0.00	13.28
99		n-Butyl Ether	1.718	1.306	24.0#	114	0.00	13.71

6.9.3

Continuing Calibration Summary

Job Number: JC20564 **Sample:** V3D5103-CC5092
Account: UTC United Technologies Corporation **Lab FileID:** 3D119557.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

100		chlorobenzene	0.964	0.958	0.6	147	0.00	13.76
101		1,1,1,2-tetrachloroethane	0.446	0.459	-2.9	158	0.00	13.82
102		ethylbenzene	1.757	1.578	10.2	137	0.00	13.82
103		m,p-xylene	0.653	0.600	8.1	136	0.00	13.94
104		o-xylene	0.684	0.617	9.8	136	0.00	14.34
105		styrene	1.096	0.983	10.3	133	0.00	14.35
106		Butyl Acrylate		----------NA----------				
107		bromoform	0.286	0.310	-8.4	164	0.00	14.58
108	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	152	0.00	16.06
109		isopropylbenzene	2.940	2.633	10.4	133	0.00	14.69
110	S	4-bromofluorobenzene (s)	0.775	0.771	0.5	151	0.00	14.89
111		bromobenzene	0.777	0.782	-0.6	149	0.00	15.07
		----------	True	Calc.	% Drift	----------		
112		cyclohexanone	200.000	219.283	-9.6	133	0.00	14.82
		----------	AvgRF	CCRF	% Dev	----------		
113		1,1,2,2-tetrachloroethane	0.839	0.857	-2.1	151	0.00	14.97
114		trans-1,4-dichloro-2-bute	0.191	0.174	8.9	127	0.00	15.00
115		1,2,3-trichloropropane	0.185	0.202	-9.2	156	0.00	15.05
116		n-propylbenzene	3.402	3.123	8.2	137	0.00	15.10
117		4-Ethyltoluene		----------NA----------				
118		2-chlorotoluene	0.710	0.672	5.4	140	0.00	15.24
119		4-chlorotoluene	0.699	0.650	7.0	139	0.00	15.35
120		1,3,5-trimethylbenzene	2.549	2.415	5.3	140	0.00	15.26
121		tert-butylbenzene	2.146	1.842	14.2	129	0.00	15.60
122		pentachloroethane	0.580	0.591	-1.9	155	0.00	15.67
123		1,2,4-trimethylbenzene	2.667	2.464	7.6	140	0.00	15.65
124		sec-butylbenzene	3.543	3.150	11.1	133	0.00	15.82
125		1,3-dichlorobenzene	1.590	1.574	1.0	144	0.00	15.98
126		p-isopropyltoluene	3.022	2.688	11.1	134	0.00	15.94
127		1,4-dichlorobenzene	1.634	1.585	3.0	143	0.00	16.08
128		1,2-dichlorobenzene	1.709	1.696	0.8	145	0.00	16.44
129		1,4-Diethylbenzene		----------NA----------				
130		n-butylbenzene	1.702	1.485	12.7	129	0.00	16.35
131		1,2,4,5-Tetramethylbenzen		----------NA----------				
132		1,2-dibromo-3-chloropropa	0.250	0.243	2.8	147	0.00	17.16
133		1,3,5-trichlorobenzene	1.919	1.807	5.8	139	0.00	17.33
134		1,2,4-trichlorobenzene	2.079	1.920	7.6	135	0.00	17.91
135		hexachlorobutadiene	0.942	0.877	6.9	140	0.00	18.01
136		naphthalene	4.691	4.318	8.0	134	0.00	18.16
137		1,2,3-trichlorobenzene	2.138	2.081	2.7	144	0.00	18.36
		----------	True	Calc.	% Drift	----------		
138		hexachloroethane	20.000	17.790	11.1	144	0.00	16.72
		----------	AvgRF	CCRF	% Dev	----------		
139		Benzyl chloride	1.641	1.597	2.7	146	0.00	16.17

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3D119271.D M3D5092.M Thu May 26 11:31:24 2016 ACC-VOA-CLN-05A

6.9.3

6

Continuing Calibration Summary

Job Number: JC20564
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Sample: V3D5104-CC5092
Lab FileID: 3D119587.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\3D\v3d5104-5105\3D119587.D Vial: 4
Acq On : 26 May 2016 10:40 am Operator: XimenaC
Sample : cc5092-20 Inst : MS3D
Misc : MS2366,V3D5104,5,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\msdchem\1\METHODS\M3D5092.M (RTE Integrator)
Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
Last Update : Wed May 18 11:52:25 2016
Response via : Multiple Level Calibration

Min. RRF : 0.010 Min. Rel. Area : 50% Max. R.T. Dev 0.30min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I	Tert Butyl Alcohol-d9	1.000	1.000	0.0	119	-0.01	7.36
2	1,4-dioxane	0.092	0.098	-6.5	122	0.00	11.24
3 M	tertiary butyl alcohol	1.115	1.109	0.5	116	0.00	7.49
4 I	pentafluorobenzene	1.000	1.000	0.0	135	0.00	9.65
5	freon 143a		----------NA----------				
6	FREON 115		----------NA----------				
7	FREON 152A		----------NA----------				
8	PROPYLENE		----------NA----------				
9	chlorotrifluoroethene		----------NA----------				
10	chlorodifluoromethane	1.041	1.065	-2.3	132	0.01	3.99
11	dichlorodifluoromethane	0.984	1.058	-7.5	130	0.01	3.98
12	freon 142b		----------NA----------				
13	chloromethane	0.977	0.888	9.1	120	0.00	4.30
14	vinyl chloride	1.147	1.076	6.2	122	0.01	4.57
15	bromomethane	0.540	0.578	-7.0	135	0.00	5.20
16	chloroethane	0.454	0.432	4.8	124	0.00	5.39
17	1,3-butadiene		----------NA----------				
18	vinyl bromide		----------NA----------				
19	trichlorofluoromethane	1.084	1.133	-4.5	132	0.00	5.88
20	pentane		----------NA----------				
21	ethyl ether	0.239	0.235	1.7	122	0.00	6.26
22	freon 141b		----------NA----------				
23	freon 123a		----------NA----------				
24	FREON 123		----------NA----------				
25	acrolein	0.135	0.111	17.8	114	0.00	6.49
26	1,1-dichloroethene	0.894	0.845	5.5	126	0.00	6.69
27	acetone	0.047	0.048	-2.1	128	0.00	6.69
28	allyl chloride	0.290	0.279	3.8	123	0.00	7.22
29	acetonitrile	0.051	0.045	11.8	113	-0.01	7.12
30 m	acetaldehyde		----------NA----------				
31	iodomethane	1.165	1.242	-6.6	142	0.00	6.95
32	iso-butyl alcohol		----------NA----------				
33	carbon disulfide	2.225	2.241	-0.7	135	0.00	7.09
34	methylene chloride	0.615	0.624	-1.5	139	0.00	7.41
35	methyl acetate	0.411	0.346	15.8	114	0.00	7.16
36	methyl tert butyl ether	1.861	1.791	3.8	127	0.00	7.77
37	trans-1,2-dichloroethene	0.744	0.730	1.9	126	0.00	7.80
38	di-isopropyl ether	2.020	1.708	15.4	115	0.00	8.37
39	ethyl tert-butyl ether	1.851	1.719	7.1	122	0.00	8.84
40	2-butanone	0.050	0.044	12.0	122	0.00	9.05
41 M	1,1-dichloroethane	0.923	0.875	5.2	125	0.00	8.39

6.9.4 6

Continuing Calibration Summary

Job Number: JC20564 **Sample:** V3D5104-CC5092
Account: UTC United Technologies Corporation **Lab FileID:** 3D119587.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

42		chloroprene	0.685	0.596	13.0	112	0.00	8.48
43		acrylonitrile	0.200	0.185	7.5	120	0.00	7.70
44		vinyl acetate	0.073	0.069	5.5	125	0.00	8.32
45		ethyl acetate	0.067	0.052	22.4#	103	0.00	9.06
46		2,2-dichloropropane	0.966	1.036	-7.2	140	0.00	9.14
47		cis-1,2-dichloroethene	0.571	0.537	6.0	126	0.00	9.11
48		propionitrile	0.070	0.061	12.9	113	0.00	9.12
49		methyl acrylate	0.065	0.061	6.2	127	0.00	9.14
50		bromochloromethane	0.267	0.287	-7.5	140	0.00	9.41
51		tetrahydrofuran	0.166	0.129	22.3#	104	0.00	9.42
52		chloroform	0.859	0.847	1.4	130	0.00	9.50
53		Tert-Butyl Formate	0.871	0.590	32.3#	89	0.00	9.53
54	S	dibromofluoromethane (s)	0.468	0.493	-5.3	145	0.00	9.69
55	S	1,2-dichloroethane-d4 (s)	0.462	0.473	-2.4	140	0.00	10.11
56		freon 113	0.482	0.559	-16.0	148	0.00	6.70
57		methacrylonitrile	0.311	0.243	21.9#	104	0.00	9.31
58		1,1,1-trichloroethane	0.866	0.945	-9.1	140	0.00	9.76
59		tert amyl alcohol		----------NA----------				
60		2,2,4-Trimethylpentane	2.191	2.040	6.9	119	0.00	10.27
61		tert-amyl methyl ether	1.790	1.688	5.7	126	0.00	10.26
62	I	1,4-difluorobenzene	1.000	1.000	0.0	139	0.00	10.59
63		epichlorohydrin	0.034	0.031	8.8	119	0.00	11.77
64		n-butyl alcohol	0.012	0.010#	16.7	112	0.00	10.63
65	M	cyclohexane	0.709	0.715	-0.8	125	0.00	9.87
66		carbon tetrachloride	0.607	0.677	-11.5	145	0.00	9.95
67		1,1-dichloropropene	0.445	0.422	5.2	127	0.00	9.92
68		hexane	0.443	0.350	21.0#	100	0.00	8.16
69	M	benzene	1.426	1.308	8.3	125	0.00	10.17
70		heptane	0.241	0.212	12.0	112	0.00	10.42
71		isopropyl acetate	0.716	0.588	17.9	111	0.00	10.08
72		1,2-dichloroethane	0.428	0.446	-4.2	135	0.00	10.20
73		trichloroethene	0.323	0.328	-1.5	133	0.00	10.90
74		ethyl acrylate		----------NA----------				
75		tert amyl ethyl ether		----------NA----------				
76		2-nitropropane		----------NA----------				
77		2-chloroethyl vinyl ether	0.219	0.203	7.3	121	0.00	11.69
78		methyl methacrylate	0.080	0.071	11.3	115	0.00	11.15
79		1,2-dichloropropane	0.366	0.344	6.0	124	0.00	11.19
80		methylcyclohexane	0.670	0.647	3.4	124	0.00	11.20
81		dibromomethane	0.209	0.222	-6.2	142	0.00	11.30
82		bromodichloromethane	0.426	0.448	-5.2	143	0.00	11.45
83		cis-1,3-dichloropropene	0.515	0.501	2.7	129	0.00	11.91
84	S	toluene-d8 (s)	1.114	1.137	-2.1	140	0.00	12.21
85		4-methyl-2-pentanone	0.147	0.137	6.8	124	0.00	12.01
86		toluene	0.775	0.762	1.7	131	0.00	12.29
87		3-methyl-1-butanol	0.010	0.010#	0.0	125	0.00	12.01
88		trans-1,3-dichloropropene	0.468	0.474	-1.3	134	0.00	12.47
89		ethyl methacrylate	0.428	0.368	14.0	115	0.00	12.46
90		1,1,2-trichloroethane	0.253	0.259	-2.4	133	0.00	12.70
91		2-hexanone	0.120	0.106	11.7	115	0.00	12.85
92	I	chlorobenzene-d5	1.000	1.000	0.0	144	0.00	13.72
93		tetrachloroethene	0.414	0.419	-1.2	139	0.00	12.84
94		1,3-dichloropropane	0.536	0.512	4.5	132	0.00	12.88
95		butyl acetate	0.255	0.219	14.1	119	0.00	12.93
96		3,3-Dimethyl-1-Butanol	0.060	0.048	20.0	117	0.00	13.03
97		dibromochloromethane	0.383	0.420	-9.7	152	0.00	13.12
98		1,2-dibromoethane	0.348	0.360	-3.4	141	0.00	13.28
99		n-Butyl Ether	1.718	1.375	20.0	111	0.00	13.71

6.9.4 6

Continuing Calibration Summary

Job Number: JC20564 **Sample:** V3D5104-CC5092
Account: UTC United Technologies Corporation **Lab FileID:** 3D119587.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

100		chlorobenzene	0.964	0.970	-0.6	138	0.00	13.75
101		1,1,1,2-tetrachloroethane	0.446	0.455	-2.0	144	0.00	13.82
102		ethylbenzene	1.757	1.645	6.4	132	0.00	13.82
103		m,p-xylene	0.653	0.624	4.4	131	0.00	13.94
104		o-xylene	0.684	0.636	7.0	130	0.00	14.34
105		styrene	1.096	1.015	7.4	127	0.00	14.35
106		Butyl Acrylate		----------NA----------				
107		bromoform	0.286	0.330	-15.4	161	0.00	14.58
108	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	145	0.00	16.06
109		isopropylbenzene	2.940	2.679	8.9	129	0.00	14.69
110	S	4-bromofluorobenzene (s)	0.775	0.767	1.0	143	0.00	14.89
111		bromobenzene	0.777	0.774	0.4	141	0.00	15.07
		----------	True	Calc.	% Drift	----------		
112		cyclohexanone	200.000	478.021	-139.0#	244	0.00	14.82
		----------	AvgRF	CCRF	% Dev	----------		
113		1,1,2,2-tetrachloroethane	0.839	0.813	3.1	137	0.00	14.97
114		trans-1,4-dichloro-2-bute	0.191	0.180	5.8	125	0.00	15.00
115		1,2,3-trichloropropane	0.185	0.190	-2.7	141	0.00	15.05
116		n-propylbenzene	3.402	3.155	7.3	132	0.00	15.10
117		4-Ethyltoluene		----------NA----------				
118		2-chlorotoluene	0.710	0.681	4.1	135	0.00	15.24
119		4-chlorotoluene	0.699	0.668	4.4	136	0.00	15.35
120		1,3,5-trimethylbenzene	2.549	2.378	6.7	132	0.00	15.26
121		tert-butylbenzene	2.146	1.888	12.0	126	0.00	15.60
122		pentachloroethane	0.580	0.570	1.7	143	0.00	15.67
123		1,2,4-trimethylbenzene	2.667	2.473	7.3	134	0.00	15.65
124		sec-butylbenzene	3.543	3.201	9.7	129	0.00	15.82
125		1,3-dichlorobenzene	1.590	1.614	-1.5	140	0.00	15.98
126		p-isopropyltoluene	3.022	2.719	10.0	129	0.00	15.95
127		1,4-dichlorobenzene	1.634	1.600	2.1	138	0.00	16.08
128		1,2-dichlorobenzene	1.709	1.679	1.8	137	0.00	16.44
129		1,4-Diethylbenzene		----------NA----------				
130		n-butylbenzene	1.702	1.530	10.1	126	0.00	16.34
131		1,2,4,5-Tetramethylbenzen		----------NA----------				
132		1,2-dibromo-3-chloropropa	0.250	0.242	3.2	139	0.00	17.16
133		1,3,5-trichlorobenzene	1.919	1.858	3.2	136	0.00	17.33
134		1,2,4-trichlorobenzene	2.079	1.945	6.4	130	0.00	17.91
135		hexachlorobutadiene	0.942	0.871	7.5	133	0.00	18.01
136		naphthalene	4.691	4.199	10.5	124	0.00	18.16
137		1,2,3-trichlorobenzene	2.138	2.032	5.0	134	0.00	18.36
		----------	True	Calc.	% Drift	----------		
138		hexachloroethane	20.000	17.943	10.3	139	0.00	16.72
		----------	AvgRF	CCRF	% Dev	----------		
139		Benzyl chloride	1.641	1.654	-0.8	145	0.00	16.17

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3D119271.D M3D5092.M Fri May 27 16:22:22 2016 ACC-VOA-CLN-05A

6.9.4 6

Continuing Calibration Summary

Job Number: JC20564
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V3D5106-CC5092
Lab FileID: 3D119637.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\3D...105ms-5107\3D119637.D Vial: 4
Acq On : 27 May 2016 10:27 am Operator: XimenaC
Sample : cc5092-20 Inst : MS3D
Misc : MS2377,V3D5106,5,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\msdchem\1\METHODS\M3D5092.M (RTE Integrator)
Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
Last Update : Wed May 18 11:52:25 2016
Response via : Multiple Level Calibration

Min. RRF : 0.010 Min. Rel. Area : 50% Max. R.T. Dev 0.30min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I	Tert Butyl Alcohol-d9	1.000	1.000	0.0	106	0.00	7.37
2	1,4-dioxane	0.092	0.097	-5.4	108	0.00	11.24
3 M	tertiary butyl alcohol	1.115	1.115	0.0	104	-0.01	7.47
4 I	pentafluorobenzene	1.000	1.000	0.0	122	0.00	9.65
5	freon 143a		----------NA----------				
6	FREON 115		----------NA----------				
7	FREON 152A		----------NA----------				
8	PROPYLENE		----------NA----------				
9	chlorotrifluoroethene		----------NA----------				
10	chlorodifluoromethane	1.041	1.166	-12.0	130	0.01	3.99
11	dichlorodifluoromethane	0.984	1.162	-18.1	128	0.02	3.98
12	freon 142b		----------NA----------				
13	chloromethane	0.977	0.934	4.4	113	0.00	4.30
14	vinyl chloride	1.147	1.180	-2.9	121	0.02	4.58
15	bromomethane	0.540	0.617	-14.3	130	0.01	5.21
16	chloroethane	0.454	0.464	-2.2	120	0.00	5.39
17	1,3-butadiene		----------NA----------				
18	vinyl bromide		----------NA----------				
19	trichlorofluoromethane	1.084	1.242	-14.6	130	0.02	5.89
20	pentane		----------NA----------				
21	ethyl ether	0.239	0.249	-4.2	117	0.00	6.26
22	freon 141b		----------NA----------				
23	freon 123a		----------NA----------				
24	FREON 123		----------NA----------				
25	acrolein	0.135	0.114	15.6	105	0.00	6.49
26	1,1-dichloroethene	0.894	0.932	-4.3	125	0.00	6.69
27	acetone	0.047	0.051	-8.5	122	0.00	6.70
28	allyl chloride	0.290	0.296	-2.1	118	0.00	7.23
29	acetonitrile	0.051	0.047	7.8	108	0.00	7.12
30 m	acetaldehyde		----------NA----------				
31	iodomethane	1.165	1.345	-15.5	139	0.00	6.95
32	iso-butyl alcohol		----------NA----------				
33	carbon disulfide	2.225	2.472	-11.1	134	0.00	7.09
34	methylene chloride	0.615	0.692	-12.5	139	0.00	7.41
35	methyl acetate	0.411	0.353	14.1	105	0.00	7.16
36	methyl tert butyl ether	1.861	1.835	1.4	118	0.00	7.78
37	trans-1,2-dichloroethene	0.744	0.800	-7.5	125	0.00	7.81
38	di-isopropyl ether	2.020	1.733	14.2	105	0.00	8.38
39	ethyl tert-butyl ether	1.851	1.704	7.9	109	0.00	8.84
40	2-butanone	0.050	0.041	18.0	104	0.00	9.04
41 M	1,1-dichloroethane	0.923	0.947	-2.6	122	0.00	8.39

Continuing Calibration Summary

Job Number: JC20564 **Sample:** V3D5106-CC5092
Account: UTC United Technologies Corporation **Lab FileID:** 3D119637.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

42		chloroprene	0.685	0.620	9.5	105	0.00	8.49
43		acrylonitrile	0.200	0.191	4.5	111	0.00	7.70
44		vinyl acetate	0.073	0.069	5.5	112	0.00	8.33
45		ethyl acetate	0.067	0.057	14.9	100	0.00	9.05
46		2,2-dichloropropane	0.966	1.096	-13.5	134	0.00	9.14
47		cis-1,2-dichloroethene	0.571	0.570	0.2	121	0.00	9.11
48		propionitrile	0.070	0.063	10.0	105	0.00	9.12
49		methyl acrylate	0.065	0.064	1.5	120	0.00	9.14
50		bromochloromethane	0.267	0.301	-12.7	132	0.00	9.41
51		tetrahydrofuran	0.166	0.120	27.7#	87	0.00	9.42
52		chloroform	0.859	0.916	-6.6	126	0.00	9.50
53		Tert-Butyl Formate	0.871	0.568	34.8#	77	0.00	9.53
54	S	dibromofluoromethane (s)	0.468	0.503	-7.5	133	0.00	9.69
55	S	1,2-dichloroethane-d4 (s)	0.462	0.483	-4.5	129	0.00	10.11
56		freon 113	0.482	0.618	-28.2#	147	0.00	6.70
57		methacrylonitrile	0.311	0.241	22.5#	93	0.00	9.31
58		1,1,1-trichloroethane	0.866	1.015	-17.2	135	0.00	9.75
59		tert amyl alcohol		----------NA----------				
60		2,2,4-Trimethylpentane	2.191	2.304	-5.2	121	0.00	10.27
61		tert-amyl methyl ether	1.790	1.749	2.3	118	0.00	10.26
62	I	1,4-difluorobenzene	1.000	1.000	0.0	126	0.00	10.59
63		epichlorohydrin	0.034	0.032	5.9	112	0.00	11.77
64		n-butyl alcohol	0.012	0.010#	16.7	101	0.00	10.63
65	M	cyclohexane	0.709	0.748	-5.5	119	0.00	9.87
66		carbon tetrachloride	0.607	0.729	-20.1#	142	0.00	9.95
67		1,1-dichloropropene	0.445	0.445	0.0	121	0.00	9.92
68		hexane	0.443	0.376	15.1	98	0.00	8.15
69	M	benzene	1.426	1.404	1.5	122	0.00	10.17
70		heptane	0.241	0.237	1.7	114	0.00	10.42
71		isopropyl acetate	0.716	0.583	18.6	100	0.00	10.08
72		1,2-dichloroethane	0.428	0.463	-8.2	127	0.00	10.20
73		trichloroethene	0.323	0.351	-8.7	130	0.00	10.90
74		ethyl acrylate		----------NA----------				
75		tert amyl ethyl ether		----------NA----------				
76		2-nitropropane		----------NA----------				
77		2-chloroethyl vinyl ether	0.219	0.207	5.5	112	0.00	11.69
78		methyl methacrylate	0.080	0.072	10.0	105	0.00	11.15
79		1,2-dichloropropane	0.366	0.364	0.5	120	0.00	11.19
80		methylcyclohexane	0.670	0.701	-4.6	122	0.00	11.20
81		dibromomethane	0.209	0.237	-13.4	138	0.00	11.30
82		bromodichloromethane	0.426	0.470	-10.3	136	0.00	11.46
83		cis-1,3-dichloropropene	0.515	0.513	0.4	121	0.00	11.91
84	S	toluene-d8 (s)	1.114	1.149	-3.1	129	0.00	12.21
85		4-methyl-2-pentanone	0.147	0.131	10.9	108	0.00	12.01
86		toluene	0.775	0.814	-5.0	127	0.00	12.29
87		3-methyl-1-butanol	0.010	0.010#	0.0	112	0.00	12.01
88		trans-1,3-dichloropropene	0.468	0.498	-6.4	128	0.00	12.47
89		ethyl methacrylate	0.428	0.369	13.8	105	0.00	12.46
90		1,1,2-trichloroethane	0.253	0.274	-8.3	128	0.00	12.70
91		2-hexanone	0.120	0.102	15.0	101	0.00	12.86
92	I	chlorobenzene-d5	1.000	1.000	0.0	133	0.00	13.72
93		tetrachloroethene	0.414	0.446	-7.7	137	0.00	12.84
94		1,3-dichloropropane	0.536	0.538	-0.4	128	0.00	12.88
95		butyl acetate	0.255	0.211	17.3	106	0.00	12.93
96		3,3-Dimethyl-1-Butanol	0.060	0.046	23.3#	104	0.00	13.03
97		dibromochloromethane	0.383	0.440	-14.9	147	0.00	13.12
98		1,2-dibromoethane	0.348	0.371	-6.6	134	0.00	13.28
99		n-Butyl Ether	1.718	1.381	19.6	103	0.00	13.71

6.9.5 6

Continuing Calibration Summary

Job Number: JC20564 **Sample:** V3D5106-CC5092
Account: UTC United Technologies Corporation **Lab FileID:** 3D119637.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

100		chlorobenzene	0.964	1.046	-8.5	137	0.00	13.75
101		1,1,1,2-tetrachloroethane	0.446	0.477	-7.0	139	0.00	13.82
102		ethylbenzene	1.757	1.747	0.6	129	0.00	13.82
103		m,p-xylene	0.653	0.672	-2.9	130	0.00	13.94
104		o-xylene	0.684	0.657	3.9	124	0.00	14.34
105		styrene	1.096	1.069	2.5	123	0.00	14.35
106		Butyl Acrylate		----------NA----------				
107		bromoform	0.286	0.336	-17.5	151	0.00	14.58
108	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	133	0.00	16.06
109		isopropylbenzene	2.940	2.784	5.3	123	0.00	14.69
110	S	4-bromofluorobenzene (s)	0.775	0.765	1.3	131	0.00	14.89
111		bromobenzene	0.777	0.815	-4.9	136	0.00	15.07
		----------	True	Calc.	% Drift	----------		
112		cyclohexanone	200.000	327.498	-63.7#	161	0.00	14.82
		----------	AvgRF	CCRF	% Dev	----------		
113		1,1,2,2-tetrachloroethane	0.839	0.874	-4.2	135	0.00	14.96
114		trans-1,4-dichloro-2-bute	0.191	0.180	5.8	115	0.00	15.00
115		1,2,3-trichloropropane	0.185	0.206	-11.4	140	0.00	15.05
116		n-propylbenzene	3.402	3.411	-0.3	131	0.00	15.10
117		4-Ethyltoluene		----------NA----------				
118		2-chlorotoluene	0.710	0.731	-3.0	133	0.00	15.24
119		4-chlorotoluene	0.699	0.706	-1.0	132	0.00	15.35
120		1,3,5-trimethylbenzene	2.549	2.578	-1.1	131	0.00	15.26
121		tert-butylbenzene	2.146	1.938	9.7	119	0.00	15.60
122		pentachloroethane	0.580	0.622	-7.2	143	0.00	15.67
123		1,2,4-trimethylbenzene	2.667	2.647	0.7	131	0.00	15.65
124		sec-butylbenzene	3.543	3.471	2.0	128	0.00	15.81
125		1,3-dichlorobenzene	1.590	1.709	-7.5	136	0.00	15.99
126		p-isopropyltoluene	3.022	2.952	2.3	129	0.00	15.95
127		1,4-dichlorobenzene	1.634	1.730	-5.9	136	0.00	16.08
128		1,2-dichlorobenzene	1.709	1.812	-6.0	136	0.00	16.44
129		1,4-Diethylbenzene		----------NA----------				
130		n-butylbenzene	1.702	1.656	2.7	126	0.00	16.34
131		1,2,4,5-Tetramethylbenzen		----------NA----------				
132		1,2-dibromo-3-chloropropa	0.250	0.240	4.0	127	0.00	17.16
133		1,3,5-trichlorobenzene	1.919	1.874	2.3	126	0.00	17.33
134		1,2,4-trichlorobenzene	2.079	1.950	6.2	120	0.00	17.91
135		hexachlorobutadiene	0.942	0.942	0.0	132	0.00	18.01
136		naphthalene	4.691	4.249	9.4	115	0.00	18.16
137		1,2,3-trichlorobenzene	2.138	2.077	2.9	126	0.00	18.36
		----------	True	Calc.	% Drift	----------		
138		hexachloroethane	20.000	18.939	5.3	137	0.00	16.72
		----------	AvgRF	CCRF	% Dev	----------		
139		Benzyl chloride	1.641	1.675	-2.1	134	0.00	16.17

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3D119271.D M3D5092.M Tue May 31 14:19:23 2016 ACC-VOA-CLN-05A

6.9.5 6

Raw Data: 4D68570.D 4D68571.D 4D68572.D 4D68573.D 4D68574.D 4D68575.D 4D68576.D 4D68577.D 4D68578.D 4D68579.D

Initial Calibration Summary

Job Number: JC20564
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Sample: V4D3019-ICC3019
Lab FileID: 4D68577.D

Response Factor Report MS4D

```
Method        : C:\MSDCHEM\1\METHODS\M4D3019.M (RTE Integrator)
Title         : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
Last Update   : Thu May 19 09:29:44 2016
Response via  : Initial Calibration

Calibration Files
10  =4D68575.D   0.5 =4D68571.D   5   =4D68574.D   50  =4D68577.D
100 =4D68578.D   1   =4D68572.D   200 =4D68579.D   20  =4D68576.D
2   =4D68573.D   0.2 =4D68570.D       =                 =

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

1) I   Tert Butyl Alcohol-d9 ----------------ISTD---------------------
2)  1,4-dioxane
     0.120       0.119 0.126 0.137 0.145 0.134 0.131 0.120        0.129    7.17
3)  tertiary butyl alcohol
     1.381       1.373 1.404 1.458 1.411 1.394 1.438 1.311        1.396    3.20

4) I   pentafluorobenzene    ----------------ISTD---------------------
5)  freon 143a
     0.191       0.190 0.193 0.194 0.167 0.196 0.199 0.170        0.188    6.44
6)  chlorodifluoromethane
     0.644       0.619 0.653 0.680 0.669 0.668 0.678 0.596        0.651    4.60
7)  dichlorodifluoromethane
     0.715       0.691 0.722 0.722 0.724 0.727 0.713 0.642        0.707    4.06
8)  freon 142b
     0.756       0.744 0.757 0.764 0.700 0.717 0.787 0.694        0.740    4.45
9)  chloromethane
     0.847 0.784 0.816 0.865 0.901 1.019 0.860 0.844 0.849        0.865    7.67
10)  vinyl chloride
     0.843 0.728 0.801 0.857 0.875 0.980 0.859 0.843 0.832        0.846    7.87
11)  acetaldehyde
                                                                  0.000#  -1.00
12)  bromomethane
     0.533 0.584 0.536 0.442 0.365 0.668       0.510 0.545        0.523   17.29
13)  chloroethane
     0.413       0.396 0.376 0.354 0.483 0.250 0.401 0.391        0.383   17.05
14)  trichlorofluoromethane
     0.937 0.615 0.910 0.954 0.953 0.997 0.921 0.960 0.881        0.903   12.49
15)  vinyl bromide
                                                                  0.000#  -1.00
16)  freon 141b
     0.643       0.627 0.724 0.764 0.494 0.753 0.731 0.522        0.657   15.92
17)  ethyl ether
     0.345       0.339 0.344 0.337 0.335 0.321 0.349 0.313        0.336    3.74
18)  pentane
                                                                  0.000#  -1.00
19)  2-chloropropane
     1.043 1.009 0.989 0.992 0.975 1.245 0.956 1.025 0.989        1.025    8.46
20)  acrolein
     0.176 0.187 0.181 0.172 0.172 0.163 0.181 0.175 0.164        0.175    4.51
21)  1,1-dichloroethene
     1.242 1.302 1.213 1.121 1.099 1.336 1.066 1.174 1.219        1.197    7.60
22)  acetone
     0.075       0.073 0.074 0.075       0.072 0.073 0.093        0.077    9.79
23)  allyl chloride
```

6.9.6

Initial Calibration Summary

Job Number: JC20564 **Sample:** V4D3019-ICC3019
Account: UTC United Technologies Corporation **Lab FileID:** 4D68577.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

	0.366	0.336	0.336	0.333	0.356	0.331	0.364	0.333			0.344	4.37
24)	acetonitrile											
	0.038	0.041	0.045	0.044		0.034	0.045	0.045			0.042	10.39
25)	iodomethane											
	1.241	1.020	1.176	1.218	1.212	1.268	1.164	1.230	1.144		1.186	6.20
26)	iso-butyl alcohol											
	0.035	0.038	0.032	0.032		0.030	0.034	0.042			0.035	11.62
27)	carbon disulfide											
	2.334	2.198	2.197	2.220	2.171	2.579	2.111	2.278	2.214	2.753	2.305	8.82
28)	methylene chloride											
	0.740	0.781	0.709	0.702	0.704	0.845	0.682	0.718	0.733	1.014	0.763	13.12
29)	1-chloropropane											
											0.000#	-1.00
30)	methyl acetate											
	0.133	0.129	0.136	0.136		0.128	0.136				0.133	2.81
31)	methyl tert butyl ether											
	2.061	2.014	2.023	2.002	1.988	2.127	1.867	2.010	1.978	2.525	2.059	8.56
32)	trans-1,2-dichloroethene											
	0.968	0.885	0.932	0.901	0.886	1.097	0.869	0.946	0.943	1.044	0.947	7.74
33)	di-isopropyl ether											
	1.949	1.926	1.992	1.912	1.926	2.317	1.809	1.987	1.944	2.348	2.011	8.80
34)	ethyl tert-butyl ether											
	2.006	1.919	2.030	1.993	2.024	2.392	1.922	2.060	1.976	2.128	2.045	6.69
35)	2-butanone											
	0.102	0.091	0.100	0.099		0.095	0.097				0.097	4.21
36)	1,1-dichloroethane											
	1.164	1.064	1.152	1.124	1.116	1.219	1.090	1.171	1.142	1.431	1.167	8.76
37)	chloroprene											
	0.896	0.869	0.890	0.861	0.869	1.039	0.852	0.924	0.848	0.830	0.888	6.71
38)	acrylonitrile											
	0.312	0.290	0.302	0.303	0.301	0.332	0.280	0.307	0.301		0.303	4.65
39)	vinyl acetate											
	0.119	0.111	0.122	0.125		0.115	0.122	0.094			0.116	9.04
40)	ethyl acetate											
	0.112	0.113	0.112	0.113		0.105	0.115	0.115			0.112	3.05
41)	2,2-dichloropropane											
	0.989	1.041	0.948	0.924	0.905	1.115	0.867	0.960	0.977		0.969	7.65
42)	cis-1,2-dichloroethene											
	0.751	0.762	0.729	0.715	0.704	0.883	0.692	0.738	0.730	0.927	0.763	10.25
43)	propionitrile											
	0.118	0.113	0.116	0.116	0.114	0.128	0.106	0.114	0.115		0.116	4.85
44)	methyl acrylate											
	0.129	0.133	0.130	0.130		0.124	0.130	0.124			0.129	2.62
45)	bromochloromethane											
	0.368	0.288	0.372	0.360	0.355	0.416	0.347	0.369	0.358		0.359	9.24
46)	tetrahydrofuran											
	0.276	0.298	0.244	0.238		0.226	0.253	0.361			0.271	17.23
47)	chloroform											
	1.243	1.251	1.197	1.168	1.160	1.430	1.147	1.222	1.224	1.745	1.279	14.25
48)	dibromofluoromethane (s)											
	0.526	0.522	0.532	0.525	0.522	0.524	0.522	0.533	0.523	0.525	0.525	0.76
49)	1,2-dichloroethane-d4 (s)											
	0.590	0.590	0.601	0.584	0.578	0.595	0.584	0.584	0.595	0.594	0.590	1.17
50)	freon 113											
	0.413	0.403	0.422	0.430	0.370	0.421	0.439	0.376			0.409	6.07
51)	methacrylonitrile											
	0.353	0.350	0.342	0.340	0.389	0.322	0.345	0.334			0.347	5.65
52)	1,1,1-trichloroethane											
	0.990	0.960	0.964	0.955	0.964	1.094	0.957	0.979	0.966	1.103	0.993	5.69
53)	tert-amyl methyl ether											

Initial Calibration Summary

Job Number: JC20564 **Sample:** V4D3019-ICC3019
Account: UTC United Technologies Corporation **Lab FileID:** 4D68577.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

```
      1.977 1.992 2.034 1.922 1.955 2.565 1.842 1.995 2.010 2.372  2.066   10.80

54) I   1,4-difluorobenzene   ----------------ISTD--------------------
55)  epichlorohydrin
      0.059       0.060 0.057 0.058       0.054 0.058 0.070        0.060    8.52
56)  n-butyl alcohol
      0.018 0.018 0.018 0.018 0.018 0.021 0.016 0.018 0.018        0.018    7.08
57)  cyclohexane
      0.583 0.542 0.549 0.544 0.524 0.650 0.518 0.559 0.560        0.559    7.03
58)  tert amyl alcohol
                                                                   0.000#  -1.00
59)  carbon tetrachloride
      0.593 0.511 0.558 0.559 0.569 0.660 0.557 0.581 0.559        0.572    7.00
60)  1,1-dichloropropene
      0.565 0.510 0.533 0.520 0.527 0.661 0.517 0.550 0.543        0.547    8.42
61)  hexane
      0.461       0.466 0.432 0.436 0.672 0.413 0.471 0.487        0.480   16.97
62)  benzene
      1.676 1.623 1.594 1.563 1.566 2.013 1.488 1.630 1.686 2.183  1.702   12.93
63)  ISO-OCTANE
      1.396 1.580 1.377 1.326 1.338 1.853 1.262 1.421 1.430        1.443   12.29
64)  heptane
      0.268       0.269 0.250 0.251       0.237 0.271 0.317        0.266    9.72
65)  isopropyl acetate
      0.919 1.242 0.882 0.892 0.900 1.220 0.836 0.907 1.015        0.979   15.36
66)  1,2-dichloroethane
      0.611 0.547 0.582 0.574 0.581 0.733 0.541 0.590 0.602        0.595    9.48
67)  trichloroethene
      0.460 0.448 0.438 0.437 0.445 0.570 0.437 0.455 0.458 0.570  0.472   11.10
68)  ethyl acrylate
      0.645       0.641 0.645 0.650 0.996 0.605 0.645 0.740        0.696   18.29
69)  2-nitropropane
      0.141       0.142 0.137 0.140       0.133 0.134 0.172        0.143    9.24
70)  2-chloroethyl vinyl ether
      0.313 0.304 0.311 0.309 0.312 0.489 0.280 0.320 0.345 0.324  0.331   17.60
71)  methyl methacrylate
      0.132       0.121 0.132 0.134 0.143 0.125 0.130 0.118        0.129    6.18
72)  1,2-dichloropropane
      0.438 0.423 0.421 0.415 0.423 0.509 0.407 0.433 0.431        0.433    6.89
73)  methylcyclohexane
      0.608 0.592 0.598 0.595 0.604 0.815 0.585 0.626 0.626        0.628   11.42
74)  tert-amyl ethyl ether
                                                                   0.000#  -1.00
75)  dibromomethane
      0.328 0.290 0.314 0.315 0.319 0.403 0.306 0.323 0.323 0.323  0.324    9.12
76)  bromodichloromethane
      0.622 0.605 0.586 0.599 0.619 0.741 0.603 0.613 0.612 0.748  0.635    9.24
77)  cis-1,3-dichloropropene
      0.729 0.691 0.691 0.695 0.716 0.958 0.691 0.716 0.735 0.867  0.749   12.07
78)  toluene-d8 (s)
      1.142 1.153 1.138 1.148 1.152 1.150 1.154 1.144 1.149 1.159  1.149    0.53
79)  4-methyl-2-pentanone
      0.225       0.217 0.217 0.219 0.263 0.204 0.220 0.214        0.223    7.85
80)  toluene
      1.017 0.975 0.965 0.970 0.983 1.345 0.951 1.006 1.049 1.174  1.043   11.90
81)  3-methyl-1-butanol
      0.017 0.016 0.017 0.017 0.017 0.020 0.016 0.017 0.017        0.017    7.44
82)  trans-1,3-dichloropropene
      0.687 0.638 0.646 0.665 0.685 0.907 0.663 0.675 0.691 0.764  0.702   11.36
83)  ethyl methacrylate
```

6.9.6

```
      0.637 0.635 0.615 0.626 0.632 0.858 0.603 0.627 0.640 0.775  0.665   12.51
 84)  1,1,2-trichloroethane
      0.383 0.379 0.367 0.366 0.375 0.501 0.361 0.376 0.390 0.379  0.388   10.48
 85)  2-hexanone
      0.226       0.205 0.213 0.214 0.268 0.201 0.211 0.215        0.219    9.66

 86) I   chlorobenzene-d5       ----------------ISTD--------------------
 87)  tetrachloroethene
      0.508 0.427 0.471 0.477 0.478 0.641 0.476 0.489 0.501 0.464  0.493   11.46
 88)  1,3-dichloropropane
      0.735 0.691 0.696 0.695 0.700 0.953 0.672 0.703 0.741 0.861  0.745   12.14
 89)  butyl acetate
      0.361       0.370 0.351 0.351       0.341 0.361 0.445        0.369    9.51
 90)  dibromochloromethane
      0.560 0.462 0.519 0.551 0.565 0.671 0.558 0.541 0.529 0.531  0.549    9.55
 91)  1,2-dibromoethane
      0.540 0.480 0.504 0.523 0.525 0.692 0.514 0.524 0.540 0.477  0.532   11.30
 92)  n-Butyl Ether
      1.918 1.988 1.812 1.780 1.811 2.802 1.765 1.845 2.026        1.972   16.46
 93)  chlorobenzene
      1.283 1.184 1.183 1.195 1.207 1.688 1.185 1.225 1.292 1.444  1.289   12.55
 94)  1,1,1,2-tetrachloroethane
      0.490 0.428 0.462 0.465 0.475 0.630 0.459 0.474 0.474 0.486  0.484   11.12
 95)  ethylbenzene
      2.231 2.220 2.093 2.076 2.087 3.032 2.029 2.160 2.293 2.694  2.292   14.05
 96)  m,p-xylene
      0.841 0.770 0.787 0.776 0.768 1.129 0.734 0.799 0.862 0.935  0.840   13.90
 97)  o-xylene
      1.859 1.771 1.757 1.700 1.711 2.524 1.630 1.778 1.867 2.292  1.889   15.24
 98)  styrene
      1.464 1.306 1.368 1.346 1.338 1.944 1.273 1.397 1.444 1.514  1.439   13.35
 99)  butyl acrylate
      1.038 1.255 1.020 1.032 1.041 1.481 0.988 1.042 1.144        1.116   14.29
100)  bromoform
      0.418 0.338 0.376 0.420 0.439 0.477 0.438 0.398 0.386        0.410    9.97

101) I   1,4-dichlorobenzene-d ----------------ISTD--------------------
102)  isopropylbenzene
      4.219 3.879 3.926 3.944 3.912 5.790 3.762 4.165 4.229 4.489  4.232   13.92
103)  4-bromofluorobenzene (s)
      0.982 0.984 0.982 0.975 0.965 0.982 0.965 0.979 0.990 0.980  0.978    0.82
104)  bromobenzene
      1.121 1.027 1.051 1.073 1.074 1.505 1.030 1.107 1.123 1.124  1.124   12.39
105)  cyclohexanone
      0.102       0.101 0.082 0.070       0.060 0.087              0.084   19.92
106)  1,1,2,2-tetrachloroethane
      1.541 1.420 1.433 1.436 1.418 1.912 1.341 1.443 1.460 1.807  1.521   12.27
107)  trans-1,4-dichloro-2-butene
      0.374       0.352 0.358 0.359 0.496 0.340 0.356 0.367        0.375   13.23
108)  1,2,3-trichloropropane
      0.375       0.345 0.343 0.343 0.447 0.323 0.350 0.347        0.359   10.67
109)  n-propylbenzene
      5.020 4.812 4.698 4.669 4.620 6.983 4.439 4.895 5.141 5.618  5.090   14.59
110)  2-chlorotoluene
      1.018 0.923 0.962 0.953 0.952 1.370 0.906 0.992 1.028 1.012  1.012   13.08
111)  4-chlorotoluene
      3.200 3.145 2.970 2.951 2.964 4.485 2.823 3.081 3.348 4.183  3.315   16.94
112)  1,3,5-trimethylbenzene
      3.665 3.426 3.432 3.428 3.423 4.840 3.213 3.547 3.755 4.412  3.714   13.80
113)  tert-butylbenzene
```

6.9.6

Initial Calibration Summary

Job Number: JC20564 **Sample:** V4D3019-ICC3019
Account: UTC United Technologies Corporation **Lab FileID:** 4D68577.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

```
      0.656        0.588 0.610 0.612 0.877 0.586 0.630 0.667        0.653   14.55
114)  pentachloroethane
      0.704 0.567 0.646 0.690 0.688 0.872 0.661 0.697 0.682        0.690   11.59
115)  1,2,4-trimethylbenzene
      3.798 3.606 3.553 3.535 3.485 5.086 3.283 3.705 3.802 4.475  3.833   14.14
116)  sec-butylbenzene
      4.787 4.568 4.483 4.522 4.481 6.428 4.200 4.669 4.780 4.892  4.781   12.79
117)  1,3-dichlorobenzene
      2.161 2.006 2.030 2.012 2.022 2.800 1.931 2.089 2.181 2.376  2.161   11.91
118)  p-isopropyltoluene
      3.944 3.690 3.713 3.699 3.710 5.323 3.468 3.835 3.977 4.243  3.960   13.20
119)  1,4-dichlorobenzene
      2.157 1.956 2.039 2.027 2.023 2.896 1.947 2.089 2.146 2.443  2.172   13.41
120)  1,2-dichlorobenzene
      2.147 1.913 2.008 2.017 2.040 2.720 1.927 2.070 2.080 2.188  2.111   10.92
121)  n-butylbenzene
      2.152 1.886 2.021 2.049 2.045 2.790 1.904 2.106 2.102 2.191  2.125   11.92
122)  1,2-dibromo-3-chloropropane
      0.360        0.325 0.356 0.362 0.418 0.347 0.345 0.337        0.356    7.81
123)  1,3,5-trichlorobenzene
      1.727 1.522 1.583 1.683 1.702 1.888 1.603 1.709 1.620 1.669  1.671    5.98
124)  1,2,4-trichlorobenzene
      1.612 1.232 1.437 1.598 1.637 1.649 1.532 1.588 1.442 1.623  1.535    8.51
125)  hexachlorobutadiene
      0.857 0.691 0.791 0.835 0.846 0.921 0.804 0.856 0.785        0.821    7.78
126)  naphthalene
      4.539 3.612 4.140 4.522 4.522 4.732 4.113 4.456 4.064 4.635  4.334    7.91
127)  1,2,3-trichlorobenzene
      1.540 1.162 1.396 1.539 1.533 1.534 1.447 1.512 1.350 1.373  1.439    8.50
128)  hexachloroethane
      0.808 0.690 0.734 0.787 0.810 0.989 0.794 0.783 0.793        0.799   10.19
129)  Benzyl chloride
      2.657 2.795 2.663 2.649 2.654 4.350 2.439 2.743 2.904        2.873   19.78
 ---------------------------------------------------------------------------
 (#) = Out of Range  ###  Number of calibration levels exceeded format  ###

          M4D3019.M         Thu May 19 09:40:26 2016   RPT1
```

6.9.6

Initial Calibration Verification

Job Number: JC20564
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Sample: V4D3019-ICV3019
Lab FileID: 4D68582.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\4D68582.D
Acq On : 19 May 2016 1:22 am
Sample : ICV3019-50
Misc : MS90450,V4D3019,5,,,,1
MS Integration Params: rteint.p

Vial: 14
Operator: XimenaC
Inst : MS4D
Multiplr: 1.00

Method : C:\MSDCHEM\1\METHODS\M4D3019.M (RTE Integrator)
Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
Last Update : Thu May 19 09:29:44 2016
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	Tert Butyl Alcohol-d9	1.000	1.000	0.0	97	0.00	7.57
2		1,4-dioxane	0.129	0.125	3.1	96	0.00	11.78
3	M	tertiary butyl alcohol	1.396	1.400	-0.3	97	0.00	7.70
4	I	pentafluorobenzene	1.000	1.000	0.0	103	0.00	10.08
5		freon 143a	0.188	0.175	6.9	93	-0.01	3.40
6		chlorodifluoromethane	0.651	0.573	12.0	90	0.00	3.74
7		dichlorodifluoromethane	0.707	0.654	7.5	93	0.00	3.72
8		freon 142b	0.740	0.727	1.8	99	0.00	4.01
9		chloromethane	0.865	0.835	3.5	99	-0.01	4.08
10		vinyl chloride	0.846	0.817	3.4	98	-0.01	4.35
11		acetaldehyde		----------NA----------				
12		bromomethane	0.523	0.416	20.5	97	0.00	5.06
13		chloroethane	0.383	0.364	5.0	99	0.00	5.27
14		trichlorofluoromethane	0.903	0.919	-1.8	99	0.00	5.82
15		vinyl bromide		----------NA----------				
16		freon 141b	0.657	0.716	-9.0	102	-0.01	6.29
17		ethyl ether	0.336	0.336	0.0	100	0.00	6.30
18		pentane		----------NA----------				
19		2-chloropropane	1.025	0.916	10.6	95	0.00	6.50
20		acrolein	0.175	0.164	6.3	98	0.00	6.56
21		1,1-dichloroethene	1.197	1.048	12.4	96	0.00	6.75
22		acetone	0.077	0.072	6.5	100	0.00	6.82
23		allyl chloride	0.344	0.325	5.5	99	0.00	7.36
24		acetonitrile	0.042	0.036	14.3	83	0.00	7.31
25		iodomethane	1.186	1.117	5.8	94	0.00	7.04
26		iso-butyl alcohol	0.035	0.031	11.4	99	0.00	10.38
27		carbon disulfide	2.305	2.033	11.8	94	0.00	7.18
28		methylene chloride	0.763	0.671	12.1	98	0.00	7.57
29		1-chloropropane		----------NA----------				
30		methyl acetate	0.133	0.122	8.3	92	0.00	7.37
31		methyl tert butyl ether	2.059	1.890	8.2	97	0.00	7.99
32		trans-1,2-dichloroethene	0.947	0.851	10.1	97	0.00	8.01
33		di-isopropyl ether	2.011	1.830	9.0	98	0.00	8.70
34		ethyl tert-butyl ether	2.045	1.931	5.6	100	0.00	9.21
35		2-butanone	0.097	0.099	-2.1	101	0.00	9.45
36	M	1,1-dichloroethane	1.167	1.091	6.5	100	0.00	8.65
37		chloroprene	0.888	0.810	8.8	97	0.00	8.78
38		acrylonitrile	0.303	0.303	0.0	103	0.00	7.95
39		vinyl acetate	0.116	0.118	-1.7	99	0.00	8.68
40		ethyl acetate	0.112	0.106	5.4	98	0.00	9.50
41		2,2-dichloropropane	0.969	0.846	12.7	94	0.00	9.49

6.9.7 6

Initial Calibration Verification

Job Number: JC20564
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V4D3019-ICV3019
Lab FileID: 4D68582.D

42		cis-1,2-dichloroethene	0.763	0.688	9.8	99	0.00	9.47
43		propionitrile	0.116	0.122	-5.2	108	0.00	9.55
44		methyl acrylate	0.129	0.126	2.3	100	0.00	9.57
45		bromochloromethane	0.359	0.351	2.2	100	0.00	9.80
46		tetrahydrofuran	0.271	0.234	13.7	99	0.00	9.85
47		chloroform	1.279	1.175	8.1	103	0.00	9.87
48	S	dibromofluoromethane (s)	0.525	0.528	-0.6	103	0.00	10.08
49	S	1,2-dichloroethane-d4 (s)	0.590	0.579	1.9	102	0.00	10.53
50		freon 113	0.409	0.411	-0.5	100	0.00	6.75
51		methacrylonitrile	0.347	0.323	6.9	97	0.00	9.75
52		1,1,1-trichloroethane	0.993	0.947	4.6	102	0.00	10.15
53		tert-amyl methyl ether	2.066	1.797	13.0	96	0.00	10.70
54	I	1,4-difluorobenzene	1.000	1.000	0.0	102	0.00	11.03
55		epichlorohydrin	0.060	0.055	8.3	97	0.00	12.34
56		n-butyl alcohol	0.018	0.017	5.6	96	0.00	11.17
57	M	cyclohexane	0.559	0.484	13.4	91	0.00	10.24
58		tert amyl alcohol		----------NA----------				
59		carbon tetrachloride	0.572	0.536	6.3	98	0.00	10.37
60		1,1-dichloropropene	0.547	0.532	2.7	104	0.00	10.35
61		hexane	0.480	0.386	19.6	91	0.00	8.40
62	M	benzene	1.702	1.523	10.5	99	0.00	10.62
63		ISO-OCTANE	1.443	1.167	19.1	90	0.00	10.68
64		heptane	0.266	0.207	22.2	84	0.00	10.86
65		isopropyl acetate	0.979	0.816	16.6	93	0.00	10.59
66		1,2-dichloroethane	0.595	0.562	5.5	100	0.00	10.63
67		trichloroethene	0.472	0.425	10.0	99	0.00	11.38
68		ethyl acrylate	0.696	0.619	11.1	98	0.00	11.42
69		2-nitropropane	0.143	0.132	7.7	98	0.00	12.20
70		2-chloroethyl vinyl ether	0.331	0.313	5.4	103	0.00	12.24
71		methyl methacrylate	0.129	0.125	3.1	97	0.00	11.69
72		1,2-dichloropropane	0.433	0.395	8.8	97	0.00	11.66
73		methylcyclohexane	0.628	0.534	15.0	91	0.00	11.63
74	M	tert-amyl ethyl ether		----------NA----------				
75		dibromomethane	0.324	0.301	7.1	97	0.00	11.80
76		bromodichloromethane	0.635	0.578	9.0	98	0.00	11.95
77		cis-1,3-dichloropropene	0.749	0.666	11.1	97	0.00	12.45
78	S	toluene-d8 (s)	1.149	1.140	0.8	101	0.00	12.77
79		4-methyl-2-pentanone	0.223	0.212	4.9	99	0.00	12.58
80		toluene	1.043	0.935	10.4	98	0.00	12.85
81		3-methyl-1-butanol	0.017	0.016	5.9	95	0.00	12.60
82		trans-1,3-dichloropropene	0.702	0.636	9.4	97	0.00	13.05
83		ethyl methacrylate	0.665	0.597	10.2	97	0.00	13.08
84		1,1,2-trichloroethane	0.388	0.351	9.5	98	0.00	13.28
85		2-hexanone	0.219	0.205	6.4	98	0.00	13.49
86	I	chlorobenzene-d5	1.000	1.000	0.0	101	0.00	14.38
87		tetrachloroethene	0.493	0.465	5.7	98	0.00	13.47
88		1,3-dichloropropane	0.745	0.680	8.7	99	0.00	13.47
89		butyl acetate	0.369	0.357	3.3	103	0.00	13.58
90		dibromochloromethane	0.549	0.529	3.6	97	0.00	13.74
91		1,2-dibromoethane	0.532	0.500	6.0	96	0.00	13.91
92		n-Butyl Ether	1.972	1.998	-1.3	113	0.00	14.38
93		chlorobenzene	1.289	1.173	9.0	99	0.00	14.41
94		1,1,1,2-tetrachloroethane	0.484	0.454	6.2	98	0.00	14.48
95		ethylbenzene	2.292	2.027	11.6	98	0.00	14.49
96		m,p-xylene	0.840	0.755	10.1	98	0.00	14.61
97		o-xylene	1.889	1.723	8.8	102	0.00	15.05
98		styrene	1.439	1.312	8.8	98	0.00	15.05
99		butyl acrylate	1.116	1.000	10.4	98	0.00	14.88

6.9.7

Initial Calibration Verification

Job Number: JC20564
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V4D3019-ICV3019
Lab FileID: 4D68582.D

100		bromoform	0.410	0.402	2.0	97	0.00	15.31
101	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	101	0.00	16.77
102		isopropylbenzene	4.232	3.788	10.5	97	0.00	15.41
103	S	4-bromofluorobenzene (s)	0.978	0.975	0.3	101	0.00	15.60
104		bromobenzene	1.124	1.041	7.4	98	0.00	15.80
105		cyclohexanone	0.084	0.069	17.9	84	0.00	15.56
106		1,1,2,2-tetrachloroethane	1.521	1.362	10.5	96	0.00	15.70
107		trans-1,4-dichloro-2-bute	0.375	0.364	2.9	103	0.00	15.75
108		1,2,3-trichloropropane	0.359	0.331	7.8	97	0.00	15.78
109		n-propylbenzene	5.090	4.642	8.8	100	0.00	15.84
110		2-chlorotoluene	1.012	0.918	9.3	97	0.00	15.97
111		4-chlorotoluene	3.315	2.887	12.9	99	0.00	16.07
112		1,3,5-trimethylbenzene	3.714	3.318	10.7	98	0.00	15.99
113		tert-butylbenzene	0.653	0.597	8.6	99	0.00	16.34
114		pentachloroethane	0.690	0.669	3.0	98	0.00	16.40
115		1,2,4-trimethylbenzene	3.833	3.475	9.3	99	0.00	16.38
116		sec-butylbenzene	4.781	4.305	10.0	96	0.00	16.55
117		1,3-dichlorobenzene	2.161	1.940	10.2	97	0.00	16.72
118		p-isopropyltoluene	3.960	3.617	8.7	99	0.00	16.67
119		1,4-dichlorobenzene	2.172	1.966	9.5	98	0.00	16.80
120		1,2-dichlorobenzene	2.111	1.960	7.2	98	0.00	17.18
121		n-butylbenzene	2.125	1.931	9.1	95	0.00	17.08
122		1,2-dibromo-3-chloropropa	0.356	0.340	4.5	96	0.00	17.91
123	m	1,3,5-trichlorobenzene	1.671	1.638	2.0	98	0.00	18.09
124		1,2,4-trichlorobenzene	1.535	1.549	-0.9	98	0.00	18.69
125		hexachlorobutadiene	0.821	0.782	4.8	94	0.00	18.81
126		naphthalene	4.334	4.313	0.5	96	0.00	18.96
127		1,2,3-trichlorobenzene	1.439	1.466	-1.9	96	0.00	19.20
128		hexachloroethane	0.799	0.759	5.0	97	0.00	17.44
129		Benzyl chloride	2.873	2.353	18.1	90	0.00	16.92

(#) = Out of Range SPCC's out = 0 CCC's out = 0
4D68577.D M4D3019.M Thu May 19 09:40:36 2016 RPT1

6.9.7

6

Raw Data: 4D68851.D

Continuing Calibration Summary

Job Number: JC20564
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Sample: V4D3030-CC3019
Lab FileID: 4D68851.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\4D...029-V4D3030\4D68851.D Vial: 2
Acq On : 27 May 2016 10:30 am Operator: XimenaC
Sample : cc3019-20 Inst : MS4D
Misc : MS2571,V4D3030,5,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M4D3019.M (RTE Integrator)
Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
Last Update : Thu May 19 09:29:44 2016
Response via : Multiple Level Calibration

Min. RRF : 0.010 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	Tert Butyl Alcohol-d9	1.000	1.000	0.0	89	-0.02	7.55
2		1,4-dioxane	0.129	0.131	-1.6	90	0.00	11.77
3	M	tertiary butyl alcohol	1.396	1.363	2.4	85	-0.02	7.69
4	I	pentafluorobenzene	1.000	1.000	0.0	94	-0.01	10.07
5		freon 143a		----------NA----------				
6		chlorodifluoromethane	0.651	0.630	3.2	87	0.00	3.74
7		dichlorodifluoromethane	0.707	0.790	-11.7	104	0.00	3.73
8		freon 142b		----------NA----------				
9		chloromethane	0.865	0.803	7.2	89	-0.01	4.08
10		vinyl chloride	0.846	0.821	3.0	91	-0.01	4.35
11		acetaldehyde		----------NA----------				
12		bromomethane	0.523	0.581	-11.1	107	0.00	5.07
13		chloroethane	0.383	0.427	-11.5	100	0.00	5.28
14		trichlorofluoromethane	0.903	1.057	-17.1	103	0.00	5.83
15		vinyl bromide		----------NA----------				
16		freon 141b		----------NA----------				
17		ethyl ether	0.336	0.344	-2.4	92	-0.01	6.29
18		pentane		----------NA----------				
19		2-chloropropane	1.025	1.020	0.5	93	-0.01	6.49
20		acrolein	0.175	0.177	-1.1	95	-0.01	6.55
21		1,1-dichloroethene	1.197	1.020	14.8	81	-0.01	6.75
22		acetone	0.077	0.072	6.5	93	-0.02	6.81
23		allyl chloride	0.344	0.354	-2.9	91	0.00	7.36
24		acetonitrile	0.042	0.048	-14.3	101	-0.01	7.29
25		iodomethane	1.186	1.251	-5.5	95	0.00	7.04
26		iso-butyl alcohol	0.035	0.030	14.3	85	0.00	10.37
27		carbon disulfide	2.305	2.239	2.9	92	0.00	7.18
28		methylene chloride	0.763	0.757	0.8	99	0.00	7.57
29		1-chloropropane		----------NA----------				
30		methyl acetate	0.133	0.134	-0.8	93	-0.01	7.36
31		methyl tert butyl ether	2.059	2.081	-1.1	97	-0.01	7.99
32		trans-1,2-dichloroethene	0.947	0.984	-3.9	98	0.00	8.01
33		di-isopropyl ether	2.011	1.985	1.3	94	0.00	8.69
34		ethyl tert-butyl ether	2.045	1.959	4.2	89	0.00	9.21
35		2-butanone	0.097	0.098	-1.0	95	0.00	9.45
36	M	1,1-dichloroethane	1.167	1.212	-3.9	97	-0.01	8.65
37		chloroprene	0.888	0.865	2.6	88	0.00	8.78
38		acrylonitrile	0.303	0.307	-1.3	94	-0.01	7.94
39		vinyl acetate	0.116	0.114	1.7	88	0.00	8.67
40		ethyl acetate	0.112	0.109	2.7	89	-0.01	9.49
41		2,2-dichloropropane	0.969	1.071	-10.5	105	0.00	9.49

6.9.8 6

Continuing Calibration Summary

Job Number: JC20564 **Sample:** V4D3030-CC3019
Account: UTC United Technologies Corporation **Lab FileID:** 4D68851.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

42		cis-1,2-dichloroethene	0.763	0.762	0.1	97	0.00	9.47
43		propionitrile	0.116	0.114	1.7	93	-0.01	9.54
44		methyl acrylate	0.129	0.129	0.0	93	0.00	9.56
45		bromochloromethane	0.359	0.395	-10.0	100	-0.01	9.79
46		tetrahydrofuran	0.271	0.250	7.7	93	0.00	9.85
47		chloroform	1.279	1.300	-1.6	100	0.00	9.87
48	S	dibromofluoromethane (s)	0.525	0.576	-9.7	101	-0.01	10.08
49	S	1,2-dichloroethane-d4 (s)	0.590	0.638	-8.1	103	0.00	10.53
50		freon 113	0.409	0.443	-8.3	95	0.00	6.75
51		methacrylonitrile	0.347	0.331	4.6	90	-0.01	9.75
52		1,1,1-trichloroethane	0.993	1.034	-4.1	99	0.00	10.15
53		tert-amyl methyl ether	2.066	1.977	4.3	93	-0.01	10.69
54	I	1,4-difluorobenzene	1.000	1.000	0.0	96	0.00	11.03
55		epichlorohydrin	0.060	0.054	10.0	89	0.00	12.34
56		n-butyl alcohol	0.018	0.016	11.1	84	0.00	11.16
57	M	cyclohexane	0.559	0.530	5.2	91	0.00	10.24
58		tert amyl alcohol		----------NA----------				
59		carbon tetrachloride	0.572	0.623	-8.9	102	0.00	10.37
60		1,1-dichloropropene	0.547	0.550	-0.5	95	0.00	10.34
61		hexane	0.480	0.421	12.3	86	0.00	8.40
62	M	benzene	1.702	1.643	3.5	96	0.00	10.62
63		ISO-OCTANE	1.443	1.323	8.3	89	0.00	10.68
64		heptane	0.266	0.249	6.4	88	0.00	10.86
65		isopropyl acetate	0.979	0.868	11.3	91	0.00	10.59
66		1,2-dichloroethane	0.595	0.649	-9.1	105	0.00	10.62
67		trichloroethene	0.472	0.456	3.4	96	0.00	11.37
68		ethyl acrylate		----------NA----------				
69		2-nitropropane	0.143	0.131	8.4	94	0.00	12.20
70		2-chloroethyl vinyl ether	0.331	0.315	4.8	94	0.00	12.23
71		methyl methacrylate	0.129	0.119	7.8	87	0.00	11.69
72		1,2-dichloropropane	0.433	0.429	0.9	95	0.00	11.65
73		methylcyclohexane	0.628	0.575	8.4	88	0.00	11.63
74	M	tert-amyl ethyl ether		----------NA----------				
75		dibromomethane	0.324	0.340	-4.9	101	0.00	11.80
76		bromodichloromethane	0.635	0.640	-0.8	100	0.00	11.95
77		cis-1,3-dichloropropene	0.749	0.701	6.4	94	0.00	12.45
78	S	toluene-d8 (s)	1.149	1.160	-1.0	97	0.00	12.77
79		4-methyl-2-pentanone	0.223	0.208	6.7	90	0.00	12.58
80		toluene	1.043	0.997	4.4	95	0.00	12.85
81		3-methyl-1-butanol	0.017	0.015	11.8	83	0.00	12.59
82		trans-1,3-dichloropropene	0.702	0.670	4.6	95	0.00	13.05
83		ethyl methacrylate	0.665	0.574	13.7	88	0.00	13.08
84		1,1,2-trichloroethane	0.388	0.380	2.1	97	0.00	13.27
85		2-hexanone	0.219	0.194	11.4	88	0.00	13.49
86	I	chlorobenzene-d5	1.000	1.000	0.0	98	0.00	14.38
87		tetrachloroethene	0.493	0.476	3.4	95	0.00	13.47
88		1,3-dichloropropane	0.745	0.707	5.1	98	0.00	13.47
89		butyl acetate	0.369	0.318	13.8	86	0.00	13.58
90		dibromochloromethane	0.549	0.546	0.5	99	0.00	13.74
91		1,2-dibromoethane	0.532	0.519	2.4	97	0.00	13.90
92		n-Butyl Ether	1.972	1.647	16.5	87	0.00	14.37
93		chlorobenzene	1.289	1.216	5.7	97	0.00	14.41
94		1,1,1,2-tetrachloroethane	0.484	0.473	2.3	97	0.00	14.48
95		ethylbenzene	2.292	2.057	10.3	93	0.00	14.49
96		m,p-xylene	0.840	0.774	7.9	95	0.00	14.60
97		o-xylene	1.889	1.690	10.5	93	0.00	15.04
98		styrene	1.439	1.295	10.0	90	0.00	15.05
99		butyl acrylate		----------NA----------				

6.9.8

Continuing Calibration Summary

Job Number: JC20564
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Sample: V4D3030-CC3019
Lab FileID: 4D68851.D

100		bromoform	0.410	0.381	7.1	93	0.00	15.30
101	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	96	0.00	16.77
102		isopropylbenzene	4.232	3.935	7.0	90	0.00	15.41
103	S	4-bromofluorobenzene (s)	0.978	0.974	0.4	95	0.00	15.60
104		bromobenzene	1.124	1.104	1.8	95	0.00	15.80
105		cyclohexanone	0.084	0.077	8.3	85	0.00	15.56
106		1,1,2,2-tetrachloroethane	1.521	1.451	4.6	96	0.00	15.70
107		trans-1,4-dichloro-2-bute	0.375	0.316	15.7	85	0.00	15.75
108		1,2,3-trichloropropane	0.359	0.368	-2.5	100	0.00	15.78
109		n-propylbenzene	5.090	4.787	6.0	94	0.00	15.83
110		2-chlorotoluene	1.012	0.990	2.2	96	0.00	15.97
111		4-chlorotoluene	3.315	3.034	8.5	94	0.00	16.07
112		1,3,5-trimethylbenzene	3.714	3.488	6.1	94	0.00	15.99
113		tert-butylbenzene	0.653	0.599	8.3	91	0.00	16.34
114		pentachloroethane	0.690	0.671	2.8	92	0.00	16.40
115		1,2,4-trimethylbenzene	3.833	3.559	7.1	92	0.00	16.38
116		sec-butylbenzene	4.781	4.418	7.6	91	0.00	16.55
117		1,3-dichlorobenzene	2.161	2.067	4.3	95	0.00	16.72
118		p-isopropyltoluene	3.960	3.630	8.3	91	0.00	16.67
119		1,4-dichlorobenzene	2.172	2.068	4.8	95	0.00	16.80
120		1,2-dichlorobenzene	2.111	2.025	4.1	94	0.00	17.18
121		n-butylbenzene	2.125	2.001	5.8	91	0.00	17.08
122		1,2-dibromo-3-chloropropa	0.356	0.304	14.6	84	0.00	17.91
123	m	1,3,5-trichlorobenzene	1.671	1.569	6.1	88	0.00	18.10
124		1,2,4-trichlorobenzene	1.535	1.424	7.2	86	0.00	18.69
125		hexachlorobutadiene	0.821	0.720	12.3	81	0.00	18.81
126		naphthalene	4.334	3.918	9.6	84	0.00	18.96
127		1,2,3-trichlorobenzene	1.439	1.364	5.2	86	0.00	19.20
128		hexachloroethane	0.799	0.767	4.0	94	0.00	17.44
129		Benzyl chloride	2.873	2.719	5.4	95	0.00	16.92

(#) = Out of Range SPCC's out = 0 CCC's out = 0
4D68576.D M4D3019.M Fri May 27 16:08:05 2016

6.9.8

GC/MS Volatiles

Raw Data

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5104-5105\
Data File : 3D119606.D
Acq On : 26 May 2016 7:28 pm
Operator : XimenaC
Sample : jc20564-1
Misc : MS2366,V3D5104,5,,,,1
ALS Vial : 23 Sample Multiplier: 1

Quant Time: May 27 16:46:49 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.362	65	114907	500.00	ug/L	-0.01
4) pentafluorobenzene	9.653	168	171830	50.00	ug/L	0.00
62) 1,4-difluorobenzene	10.592	114	229822	50.00	ug/L	0.00
92) chlorobenzene-d5	13.722	117	206378	50.00	ug/L	0.00
108) 1,4-dichlorobenzene-d4	16.055	152	134420	50.00	ug/L	0.00
System Monitoring Compounds						
54) dibromofluoromethane (s)	9.690	113	87470	54.41	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 108.82%			
55) 1,2-dichloroethane-d4 (s)	10.115	65	85537	53.88	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 107.76%			
84) toluene-d8 (s)	12.217	98	262514	51.28	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 102.56%			
110) 4-bromofluorobenzene (s)	14.891	95	99480	47.74	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 95.48%			
Target Compounds						Qvalue
34) methylene chloride	7.414	84	1971	0.93	ug/L	94
52) chloroform	9.496	83	1965	0.67	ug/L	94

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

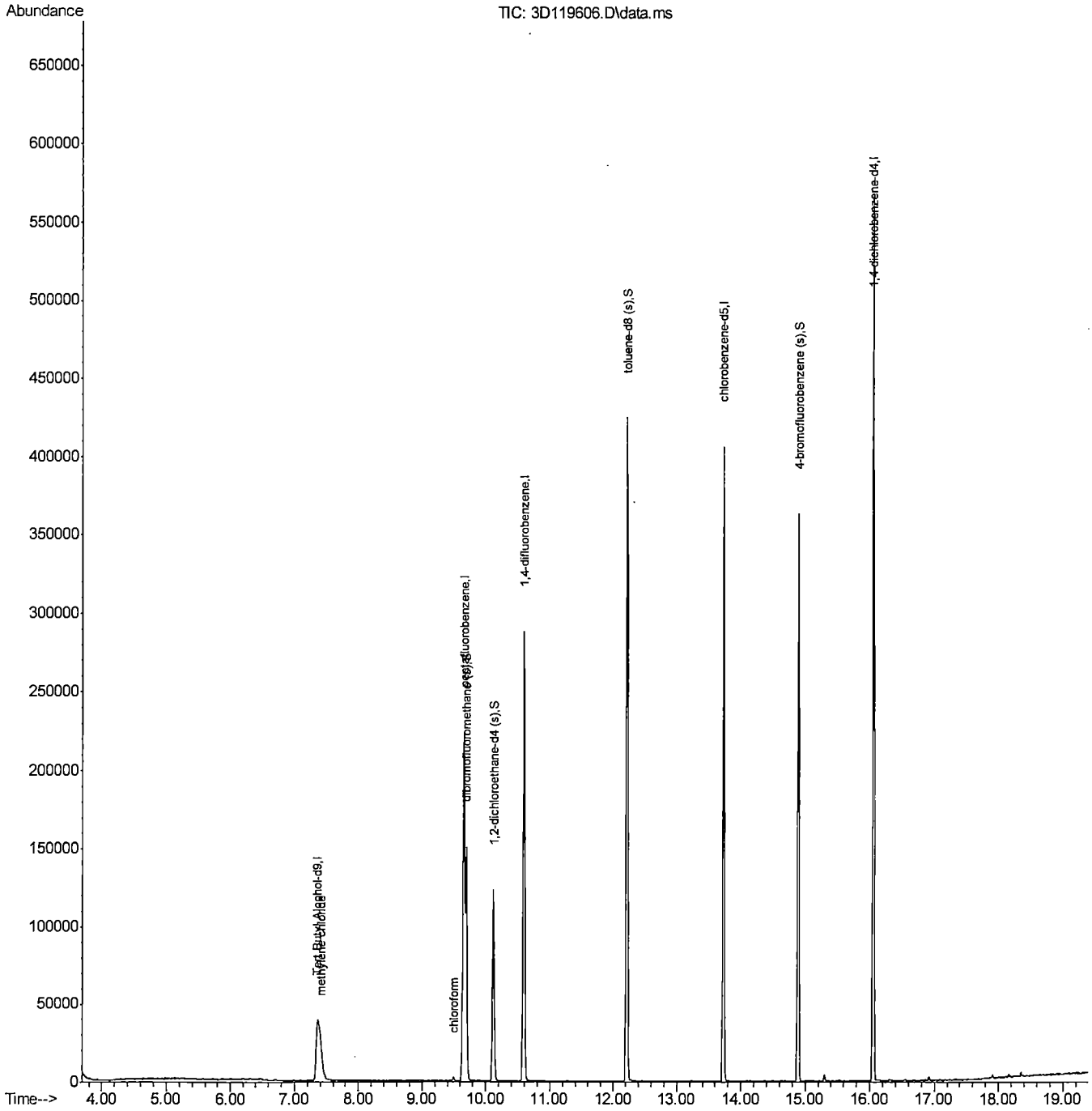
7.1.1

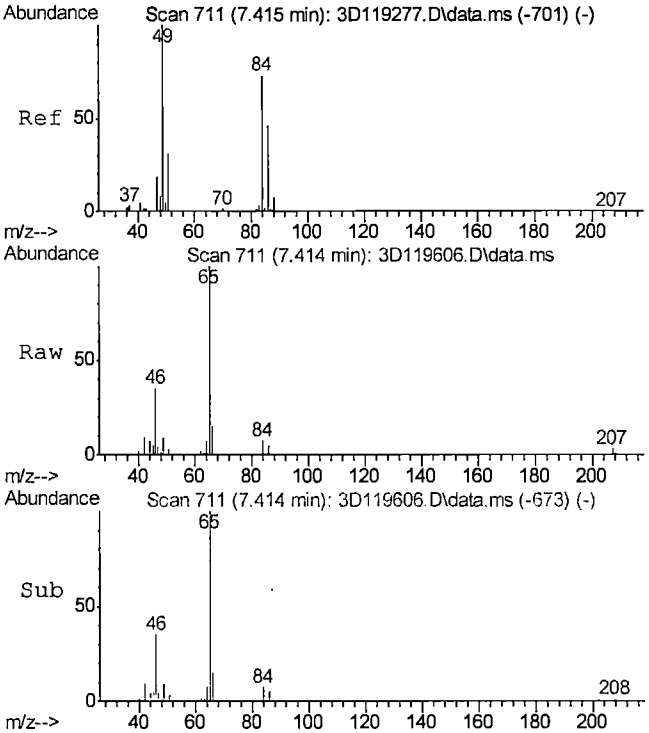
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5104-5105\
Data File : 3D119606.D
Acq On : 26 May 2016 7:28 pm
Operator : XimenaC
Sample : jc20564-1
Misc : MS2366,V3D5104,5,,,,1
ALS Vial : 23 Sample Multiplier: 1

Quant Time: May 27 16:46:49 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration

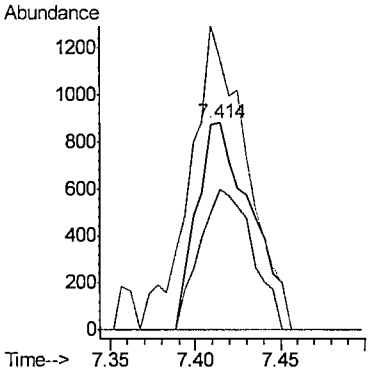


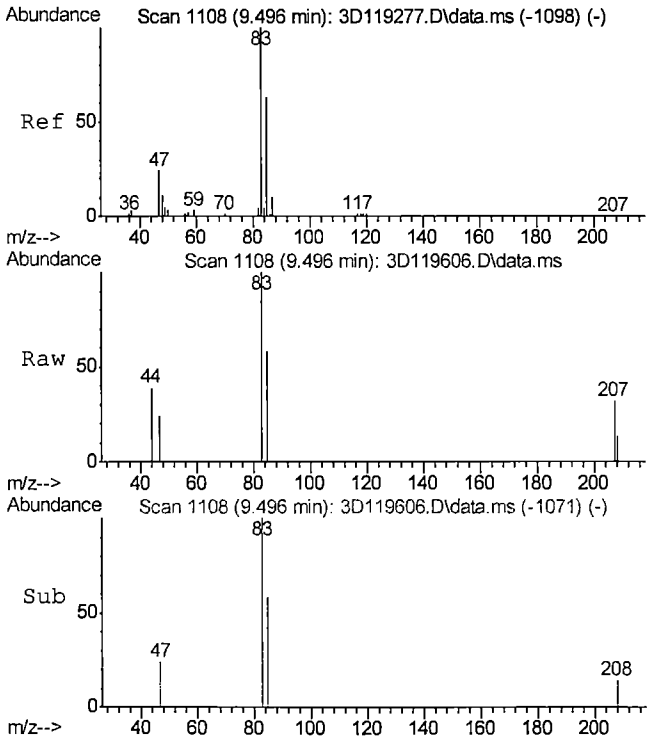


#34
methylene chloride
Concen: 0.93 ug/L
RT: 7.414 min Scan# 711
Delta R.T. -0.000 min
Lab File: 3D119606.D
Acq: 26 May 2016 7:28 pm

Tgt Ion: 84 Resp: 1971

Ion	Ratio	Lower	Upper
84	100		
86	68.1	44.8	83.2
49	130.5	96.5	179.3

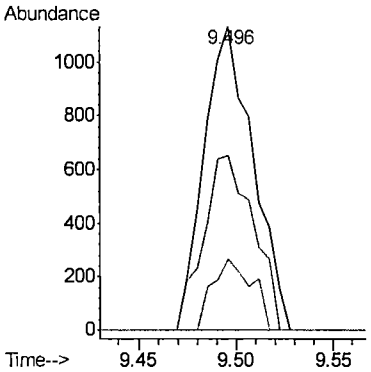




#52
chloroform
Concen: 0.67 ug/L
RT: 9.496 min Scan# 1108
Delta R.T. -0.005 min
Lab File: 3D119606.D
Acq: 26 May 2016 7:28 pm

Tgt Ion: 83 Resp: 1965

Ion	Ratio	Lower	Upper
83	100		
85	57.6	33.3	93.3
47	23.5	0.0	53.8



7.1.1

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4D\V4D3029-V4D3030\
Data File : 4D68863.D
Acq On : 27 May 2016 4:25 pm
Operator : XimenaC
Sample : jc20564-2
Misc : MS2366,V4D3030,5,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 27 17:03:50 2016
Quant Method : C:\MSDCHEM\1\METHODS\M4D3019.M
Quant Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
QLast Update : Thu May 19 09:28:34 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Tert Butyl Alcohol-d9	7.562	65	128141	500.00 ug/L	0.00
4) pentafluorobenzene	10.084	168	164309	50.00 ug/L	0.00
54) 1,4-difluorobenzene	11.033	114	263357	50.00 ug/L	0.00
86) chlorobenzene-d5	14.383	117	243805	50.00 ug/L	0.00
101) 1,4-dichlorobenzene-d4	16.779	152	127559	50.00 ug/L	0.00
System Monitoring Compounds					
48) dibromofluoromethane (s)	10.084	113	95371	55.23 ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 110.46%		
49) 1,2-dichloroethane-d4 (s)	10.535	65	107034	55.25 ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 110.50%		
78) toluene-d8 (s)	12.768	98	306828	50.70 ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 101.40%		
103) 4-bromofluorobenzene (s)	15.605	95	122022	48.89 ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 97.78%		
Target Compounds					Qvalue
21) 1,1-dichloroethene	6.760	61	2647	0.67 ug/L	95
36) 1,1-dichloroethane	8.653	63	24750	6.45 ug/L	99
42) cis-1,2-dichloroethene	9.471	96	18515	7.38 ug/L	98
47) chloroform	9.869	83	1721	0.41 ug/L	92
52) 1,1,1-trichloroethane	10.152	97	39342	12.05 ug/L	98
67) trichloroethene	11.379	95	6243	2.51 ug/L	95
87) tetrachloroethene	13.471	166	89168	37.07 ug/L	99

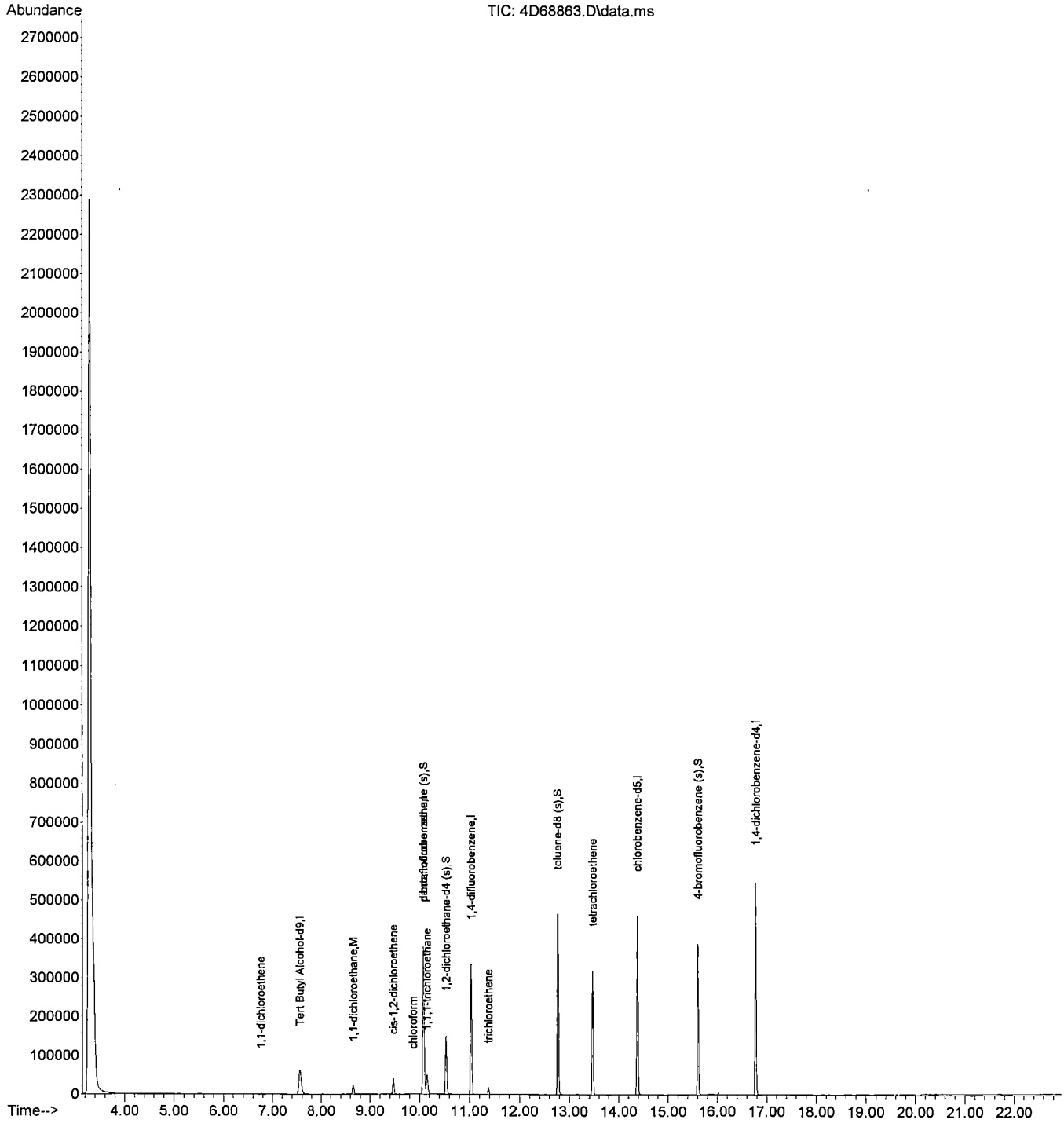
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.2 7

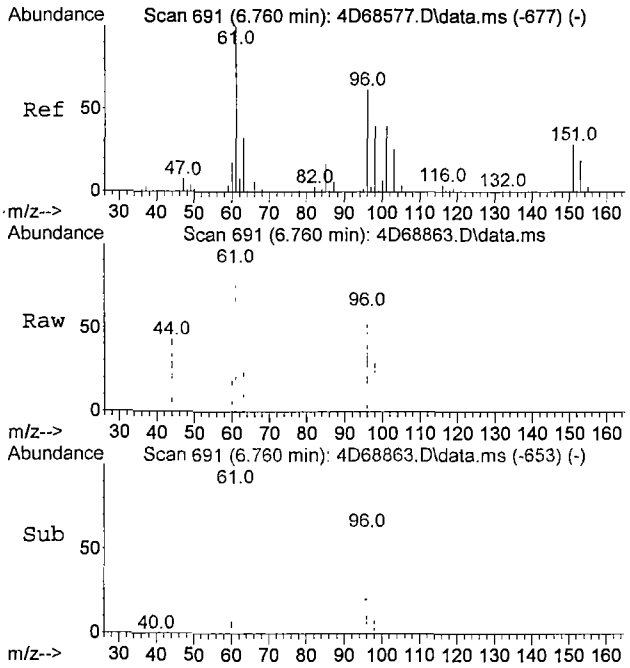
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4D\V4D3029-V4D3030\
Data File : 4D68863.D
Acq On : 27 May 2016 4:25 pm
Operator : XimenaC
Sample : jc20564-2
Misc : MS2366,V4D3030,5,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 27 17:03:50 2016
Quant Method : C:\MSDCHEM\1\METHODS\M4D3019.M
Quant Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
QLast Update : Thu May 19 09:28:34 2016
Response via : Initial Calibration



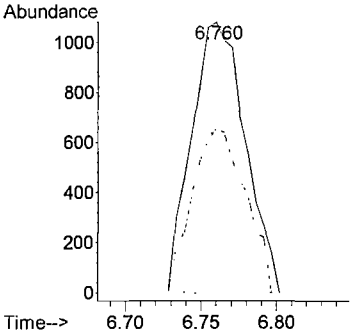
M4D3019.M Fri May 27 17:04:26 2016

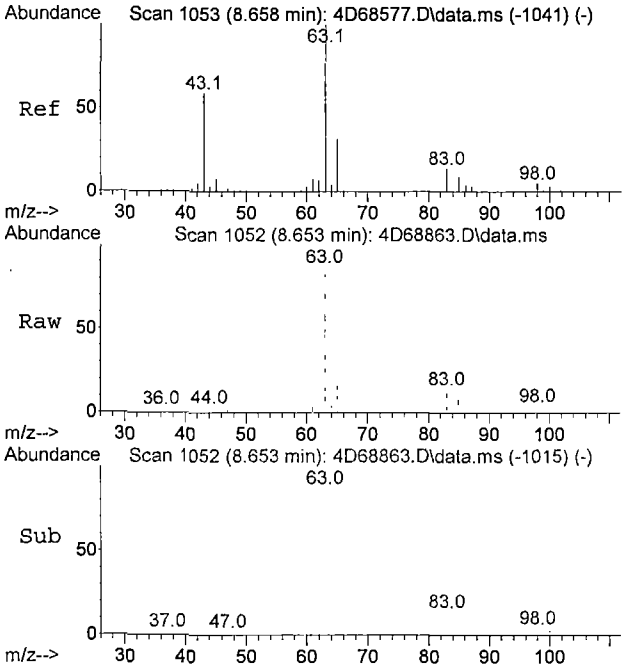


#21
1,1-dichloroethene
Concen: 0.67 ug/L
RT: 6.760 min Scan# 691
Delta R.T. 0.000 min
Lab File: 4D68863.D
Acq: 27 May 2016 4:25 pm

Tgt Ion: 61 Resp: 2647

Ion	Ratio	Lower	Upper
61	100		
96	60.6	32.1	92.1
63	27.5	3.0	63.0

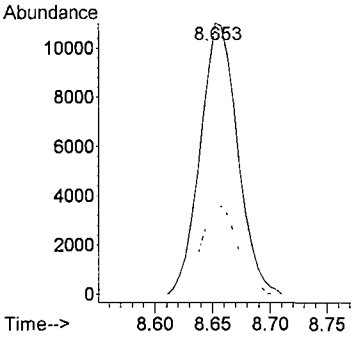




#36
1,1-dichloroethane
Concen: 6.45 ug/L
RT: 8.653 min Scan# 1052
Delta R.T. -0.005 min
Lab File: 4D68863.D
Acq: 27 May 2016 4:25 pm

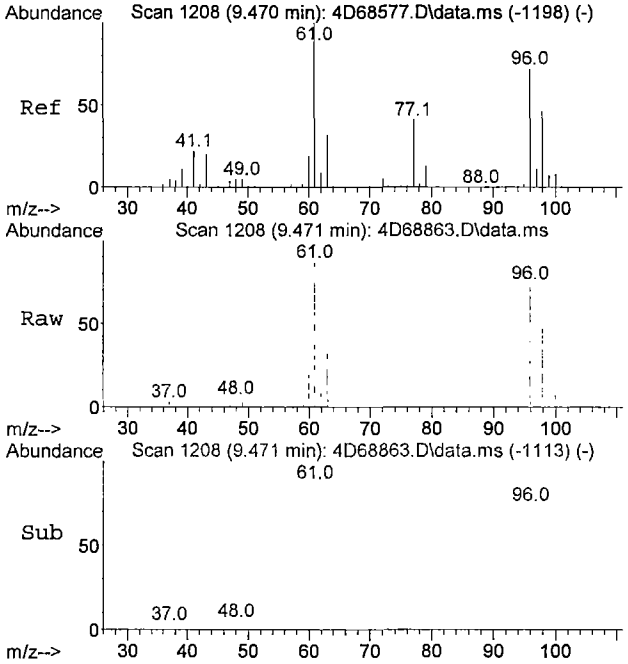
Tgt Ion: 63 Resp: 24750

Ion	Ratio	Lower	Upper
63	100		
65	32.5	2.3	62.3
83	13.6	0.0	44.1



7.1.2

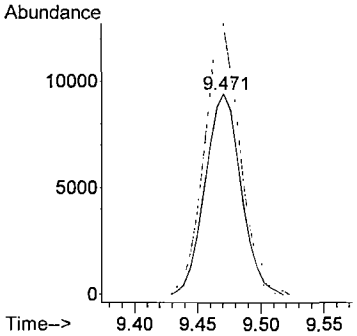
7

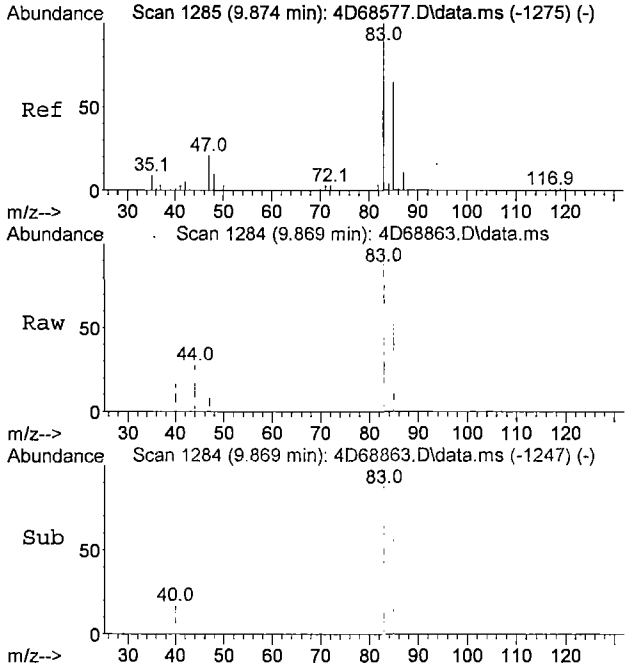


#42
cis-1,2-dichloroethene
Concen: 7.38 ug/L
RT: 9.471 min Scan# 1208
Delta R.T. 0.000 min
Lab File: 4D68863.D
Acq: 27 May 2016 4:25 pm

Tgt Ion: 96 Resp: 18515

Ion	Ratio	Lower	Upper
96	100		
61	135.4	108.2	168.2
98	63.6	33.8	93.8

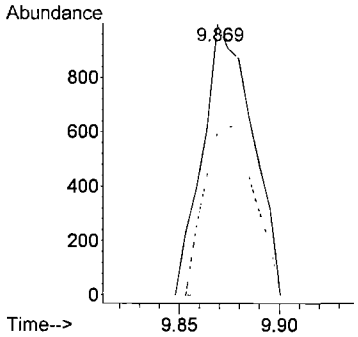




#47
chloroform
Concen: 0.41 ug/L
RT: 9.869 min Scan# 1284
Delta R.T. -0.005 min
Lab File: 4D68863.D
Acq: 27 May 2016 4:25 pm

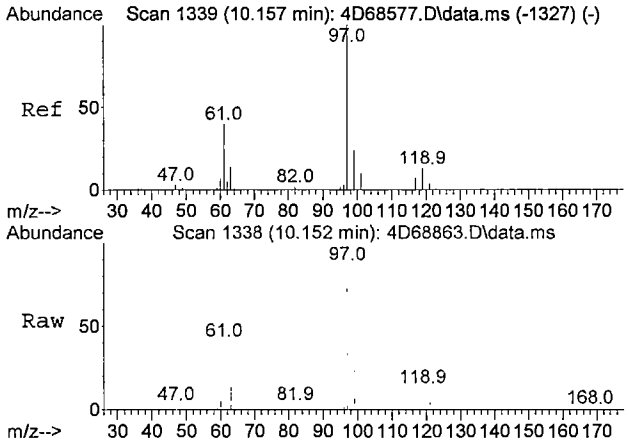
Tgt Ion: 83 Resp: 1721

Ion	Ratio	Lower	Upper
83	100		
85	59.6	35.0	95.0
47	16.9	0.0	52.3



7.1.2

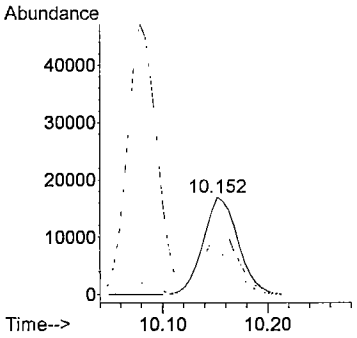
7

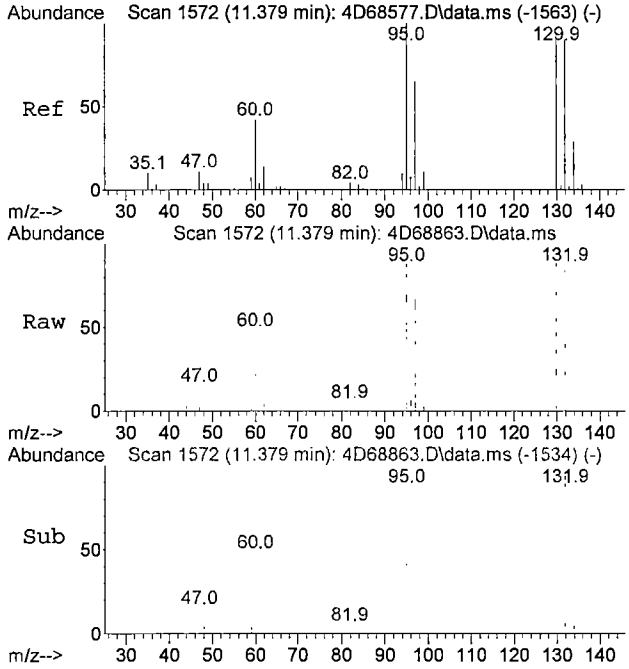


#52
1,1,1-trichloroethane
Concen: 12.05 ug/L
RT: 10.152 min Scan# 1338
Delta R.T. -0.005 min
Lab File: 4D68863.D
Acq: 27 May 2016 4:25 pm

Tgt Ion: 97 Resp: 39342

Ion	Ratio	Lower	Upper
97	100		
99	62.2	33.6	93.6
61	41.0	10.4	70.4

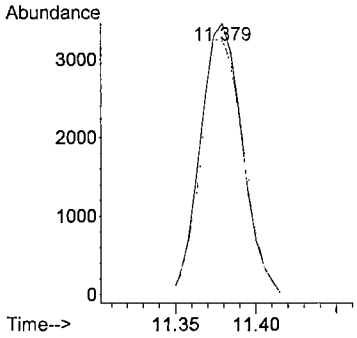




#67
trichloroethene
Concen: 2.51 ug/L
RT: 11.379 min Scan# 1572
Delta R.T. 0.000 min
Lab File: 4D68863.D
Acq: 27 May 2016 4:25 pm

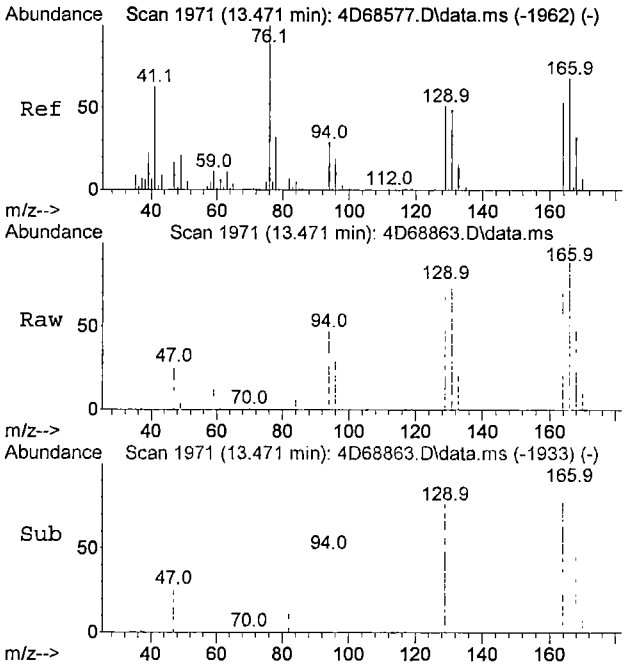
Tgt Ion: 95 Resp: 6243

Ion	Ratio	Lower	Upper
95	100		
130	93.7	61.7	121.7
132	97.1	59.7	119.7



7.1.2

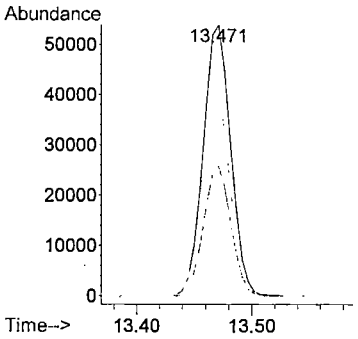
7



#87
tetrachloroethene
Concen: 37.07 ug/L
RT: 13.471 min Scan# 1971
Delta R.T. 0.000 min
Lab File: 4D68863.D
Acq: 27 May 2016 4:25 pm

Tgt Ion:166 Resp: 89168

Ion	Ratio	Lower	Upper
166	100		
168	47.8	17.6	77.6
129	76.3	44.5	104.5



7.1.2

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4D\V4D3029-V4D3030\
Data File : 4D68862.D
Acq On : 27 May 2016 3:57 pm
Operator : XimenaC
Sample : jc20564-3
Misc : MS2366,V4D3030,5,,,,1
ALS Vial : 13 Sample Multiplier: 1

Quant Time: May 27 17:02:43 2016
Quant Method : C:\MSDCHEM\1\METHODS\M4D3019.M
Quant Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
QLast Update : Thu May 19 09:28:34 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.557	65	136129	500.00	ug/L	-0.01
4) pentafluorobenzene	10.078	168	166745	50.00	ug/L	0.00
54) 1,4-difluorobenzene	11.027	114	268346	50.00	ug/L	0.00
86) chlorobenzene-d5	14.383	117	248353	50.00	ug/L	0.00
101) 1,4-dichlorobenzene-d4	16.774	152	129781	50.00	ug/L	0.00
System Monitoring Compounds						
48) dibromofluoromethane (s)	10.084	113	96335	54.98	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 109.96%			
49) 1,2-dichloroethane-d4 (s)	10.529	65	108571	55.22	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 110.44%			
78) toluene-d8 (s)	12.768	98	311265	50.48	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 100.96%			
103) 4-bromofluorobenzene (s)	15.605	95	123893	48.79	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 97.58%			
Target Compounds						Qvalue
21) 1,1-dichloroethene	6.754	61	3185	0.80	ug/L	98
31) methyl tert butyl ether	7.997	73	4329	0.63	ug/L	99
32) trans-1,2-dichloroethene	8.007	61	1685	0.53	ug/L	95
36) 1,1-dichloroethane	8.652	63	48035	12.34	ug/L	99
42) cis-1,2-dichloroethene	9.470	96	8697	3.42	ug/L	94
52) 1,1,1-trichloroethane	10.152	97	26688	8.06	ug/L	96
67) trichloroethene	11.379	95	5708	2.25	ug/L	87
87) tetrachloroethene	13.471	166	103929	42.42	ug/L	99

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

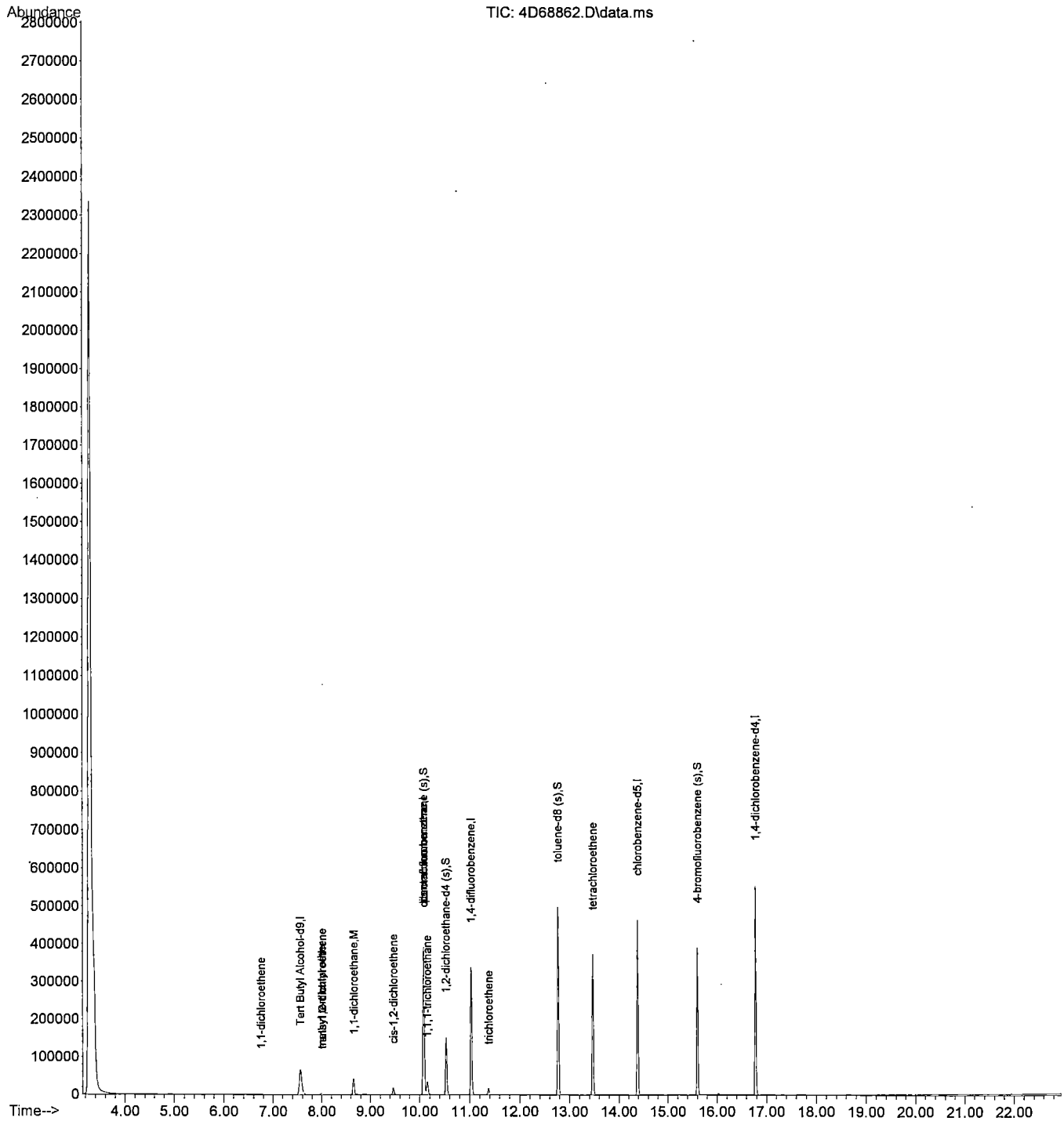
7.1.3

7

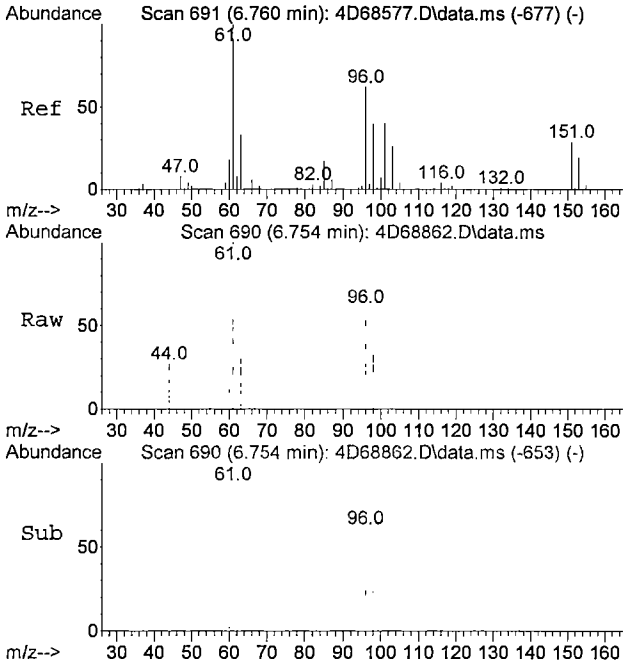
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4D\V4D3029-V4D3030\
Data File : 4D68862.D
Acq On : 27 May 2016 3:57 pm
Operator : XimenaC
Sample : jc20564-3
Misc : MS2366,V4D3030,5,,,,1
ALS Vial : 13 Sample Multiplier: 1

Quant Time: May 27 17:02:43 2016
Quant Method : C:\MSDCHEM\1\METHODS\M4D3019.M
Quant Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
QLast Update : Thu May 19 09:28:34 2016
Response via : Initial Calibration



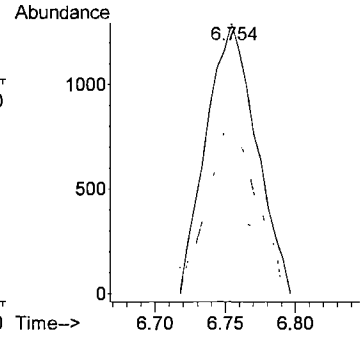
M4D3019.M Fri May 27 17:04:22 2016

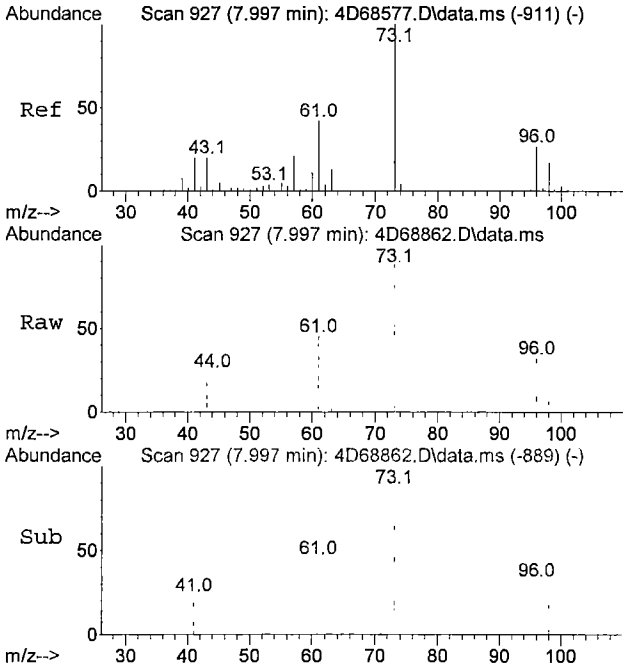


#21
1,1-dichloroethene
Concen: 0.80 ug/L
RT: 6.754 min Scan# 690
Delta R.T. -0.005 min
Lab File: 4D68862.D
Acq: 27 May 2016 3:57 pm

Tgt Ion: 61 Resp: 3185

Ion	Ratio	Lower	Upper
61	100		
96	61.3	32.1	92.1
63	31.0	3.0	63.0

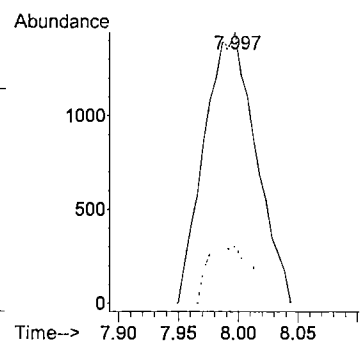




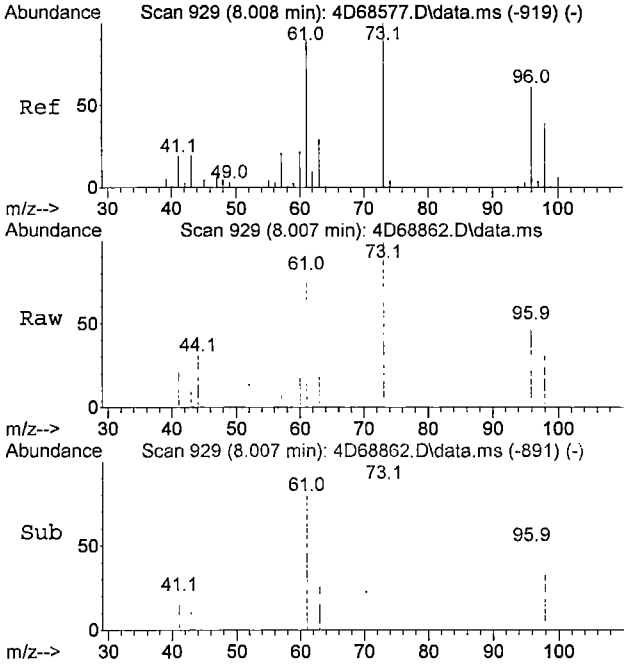
#31
methyl tert butyl ether
Concen: 0.63 ug/L
RT: 7.997 min Scan# 927
Delta R.T. -0.000 min
Lab File: 4D68862.D
Acq: 27 May 2016 3:57 pm

Tgt Ion: 73 Resp: 4329

Ion	Ratio	Lower	Upper
73	100		
57	21.0	0.0	51.1
43	19.3	0.0	50.4



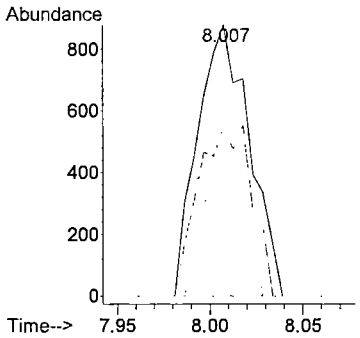
7.1.3

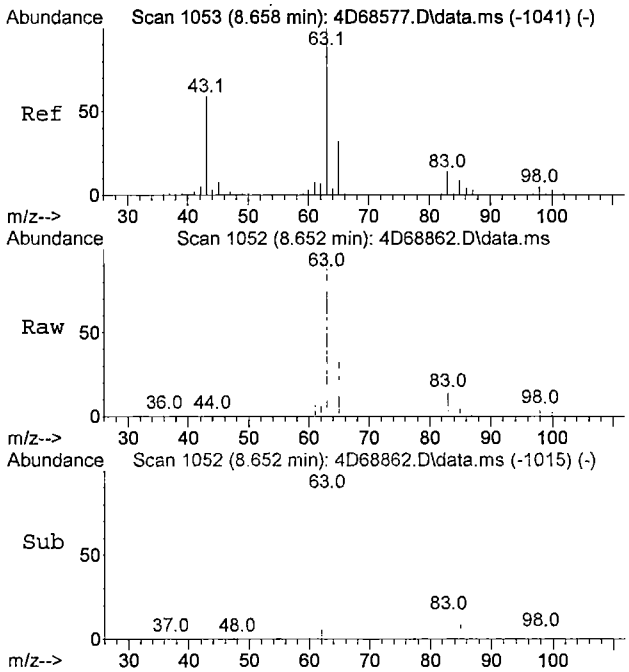


#32
trans-1,2-dichloroethene
Concen: 0.53 ug/L
RT: 8.007 min Scan# 929
Delta R.T. -0.000 min
Lab File: 4D68862.D
Acq: 27 May 2016 3:57 pm

Tgt Ion: 61 Resp: 1685

Ion	Ratio	Lower	Upper
61	100		
96	62.5	47.8	88.8
98	41.9	30.2	56.2

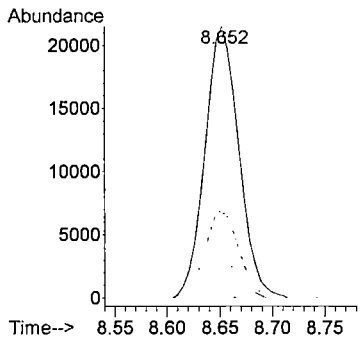




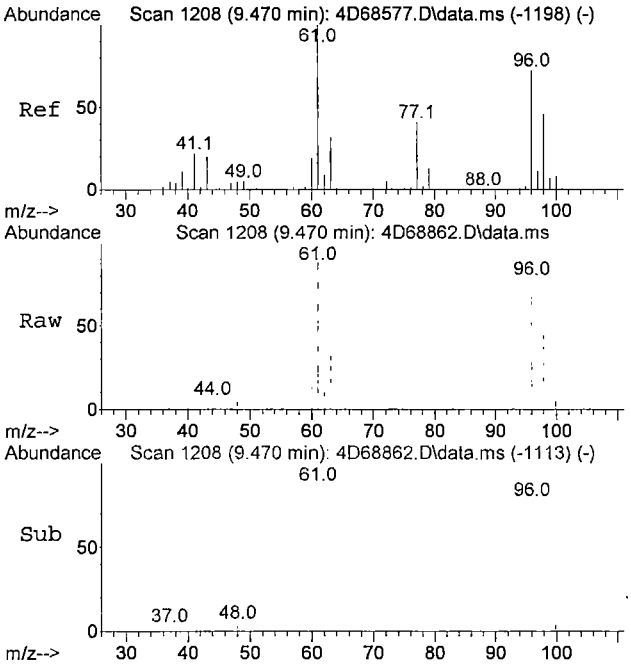
#36
1,1-dichloroethane
Concen: 12.34 ug/L
RT: 8.652 min Scan# 1052
Delta R.T. -0.005 min
Lab File: 4D68862.D
Acq: 27 May 2016 3:57 pm

Tgt Ion: 63 Resp: 48035

Ion	Ratio	Lower	Upper
63	100		
65	31.6	2.3	62.3
83	14.8	0.0	44.1



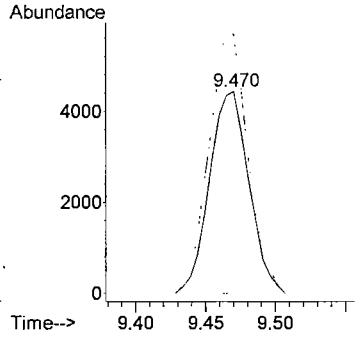
7.1.3

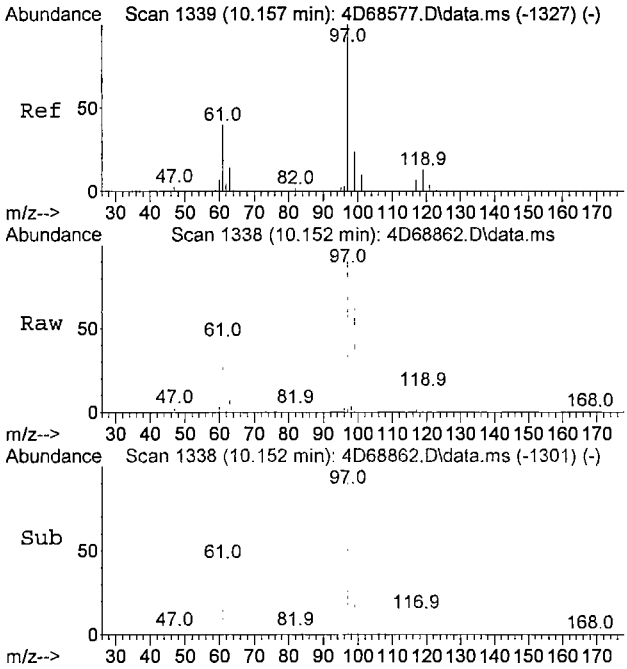


#42
cis-1,2-dichloroethene
Concen: 3.42 ug/L
RT: 9.470 min Scan# 1208
Delta R.T. -0.000 min
Lab File: 4D68862.D
Acq: 27 May 2016 3:57 pm

Tgt Ion: 96 Resp: 8697

Ion	Ratio	Lower	Upper
96	100		
61	127.8	108.2	168.2
98	63.8	33.8	93.8

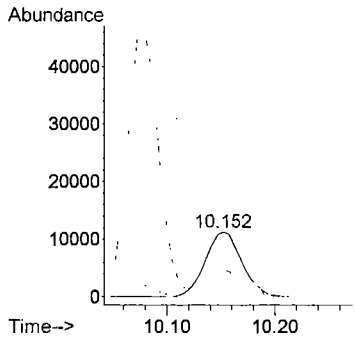




#52
1,1,1-trichloroethane
Concen: 8.06 ug/L
RT: 10.152 min Scan# 1338
Delta R.T. -0.005 min
Lab File: 4D68862.D
Acq: 27 May 2016 3:57 pm

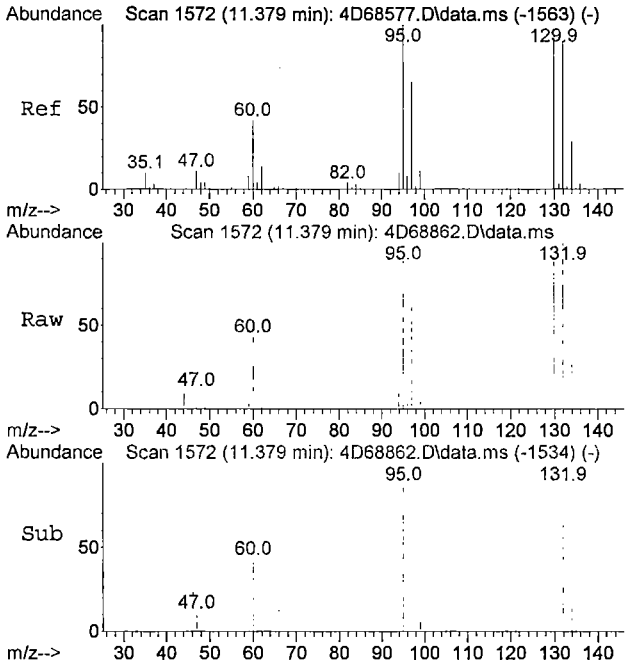
Tgt Ion: 97 Resp: 26688

Ion	Ratio	Lower	Upper
97	100		
99	66.3	33.6	93.6
61	42.6	10.4	70.4



7.1.3

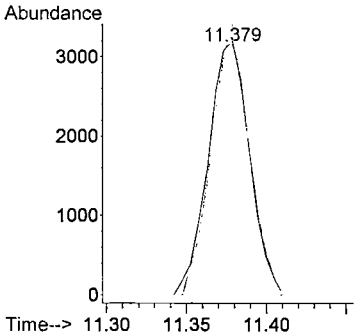
7

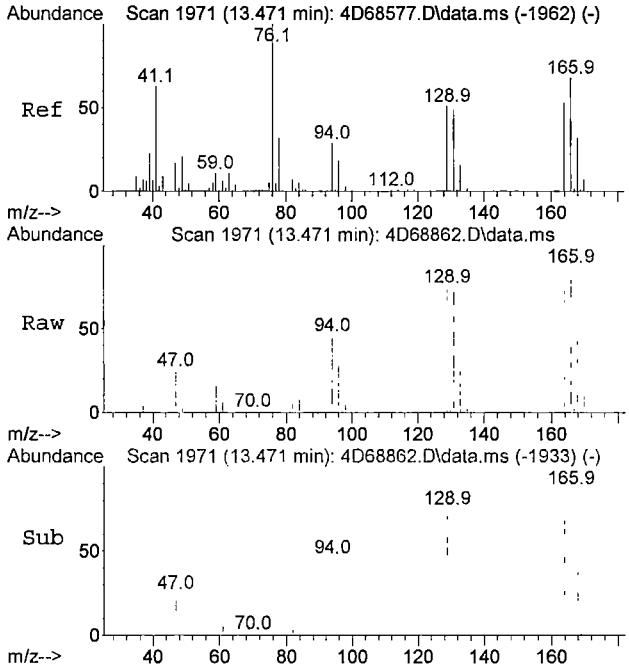


#67
trichloroethene
Concen: 2.25 ug/L
RT: 11.379 min Scan# 1572
Delta R.T. -0.000 min
Lab File: 4D68862.D
Acq: 27 May 2016 3:57 pm

Tgt Ion: 95 Resp: 5708

Ion	Ratio	Lower	Upper
95	100		
130	98.9	61.7	121.7
132	106.8	59.7	119.7

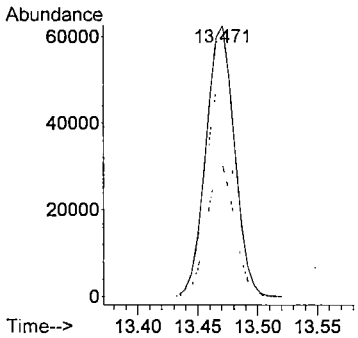




#87
tetrachloroethene
Concen: 42.42 ug/L
RT: 13.471 min Scan# 1971
Delta R.T. -0.000 min
Lab File: 4D68862.D
Acq: 27 May 2016 3:57 pm

Tgt Ion:166 Resp: 103929

Ion	Ratio	Lower	Upper
166	100		
168	48.4	17.6	77.6
129	74.9	44.5	104.5



7.1.3

7

SGS ACCUTEST JC20564

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5104-5105\
Data File : 3D119610.D
Acq On : 26 May 2016 9:17 pm
Operator : XimenaC
Sample : jc20564-4
Misc : MS2366,V3D5104,5,,,,1
ALS Vial : 27 Sample Multiplier: 1

Quant Time: May 27 16:49:55 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.362	65	104629	500.00	ug/L	-0.01
4) pentafluorobenzene	9.648	168	159677	50.00	ug/L	0.00
62) 1,4-difluorobenzene	10.592	114	217535	50.00	ug/L	0.00
92) chlorobenzene-d5	13.727	117	196192	50.00	ug/L	0.00
108) 1,4-dichlorobenzene-d4	16.055	152	124308	50.00	ug/L	0.00
System Monitoring Compounds						
54) dibromofluoromethane (s)	9.690	113	81983	54.87	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 109.74%			
55) 1,2-dichloroethane-d4 (s)	10.110	65	81701	55.38	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 110.76%			
84) toluene-d8 (s)	12.217	98	247920	51.16	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 102.32%			
110) 4-bromofluorobenzene (s)	14.891	95	92024	47.76	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 95.52%			
Target Compounds						Qvalue
58) 1,1,1-trichloroethane	9.758	97	3799	1.37	ug/L	93
93) tetrachloroethene	12.841	166	4049	2.49	ug/L	92

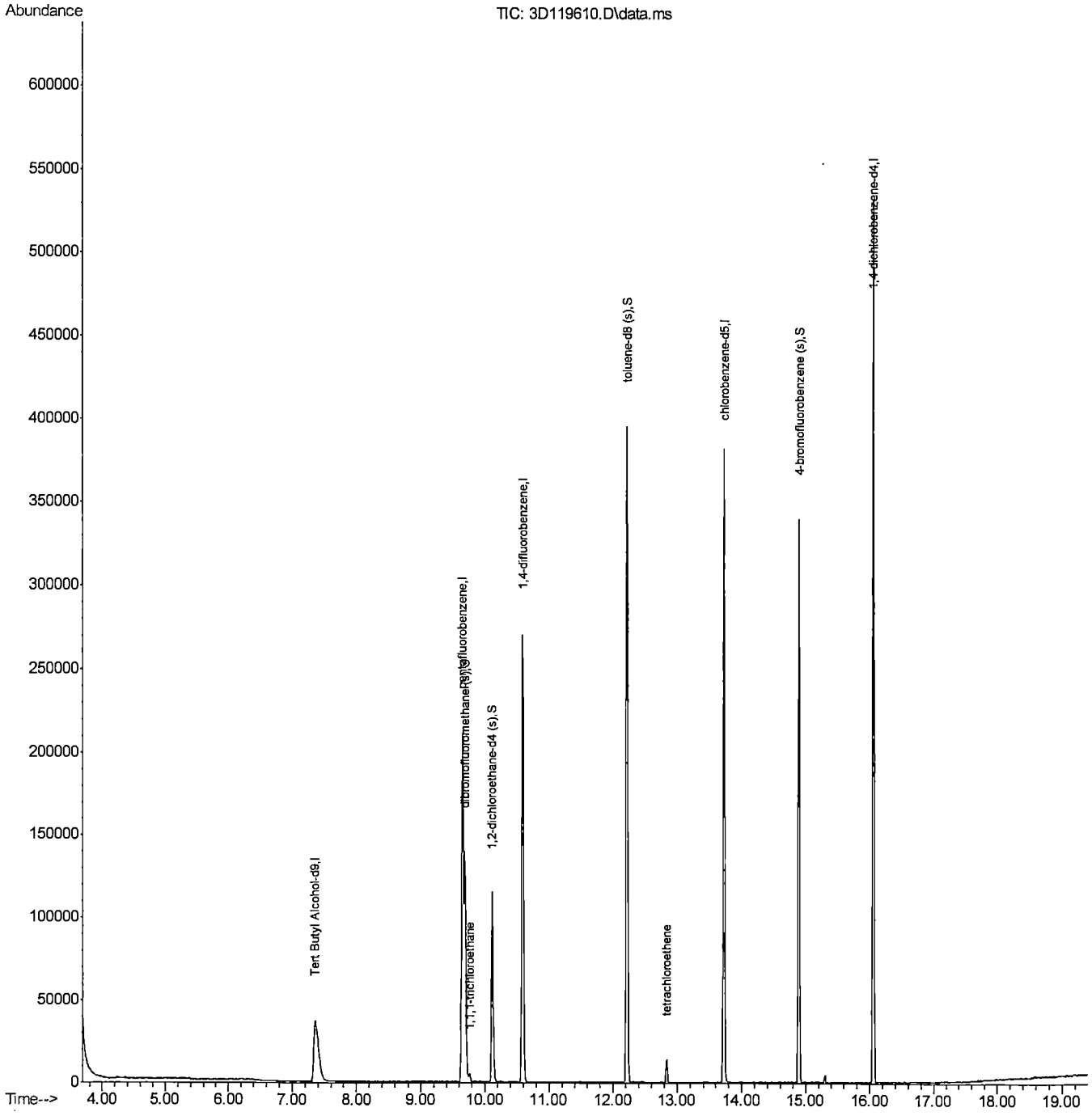
(#) = qualifier out of range (m) = manual integration (+) = signals summed

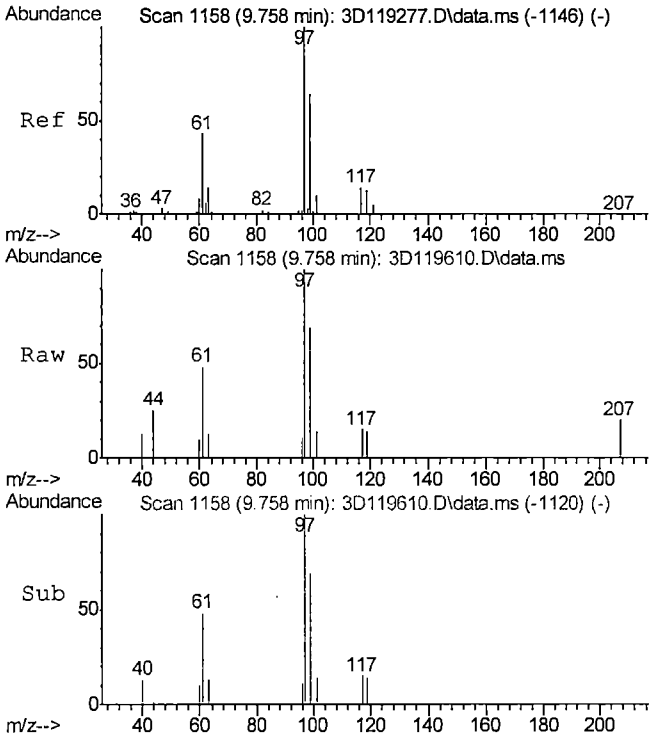
7.1.4 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5104-5105\
Data File : 3D119610.D
Acq On : 26 May 2016 9:17 pm
Operator : XimenaC
Sample : jc20564-4
Misc : MS2366,V3D5104,5,,,,1
ALS Vial : 27 Sample Multiplier: 1

Quant Time: May 27 16:49:55 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration

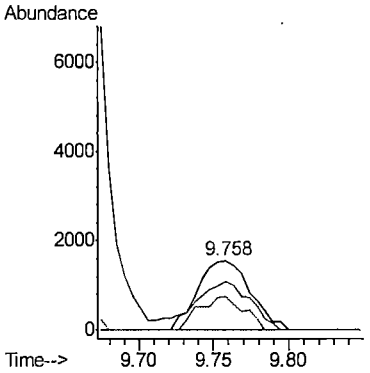


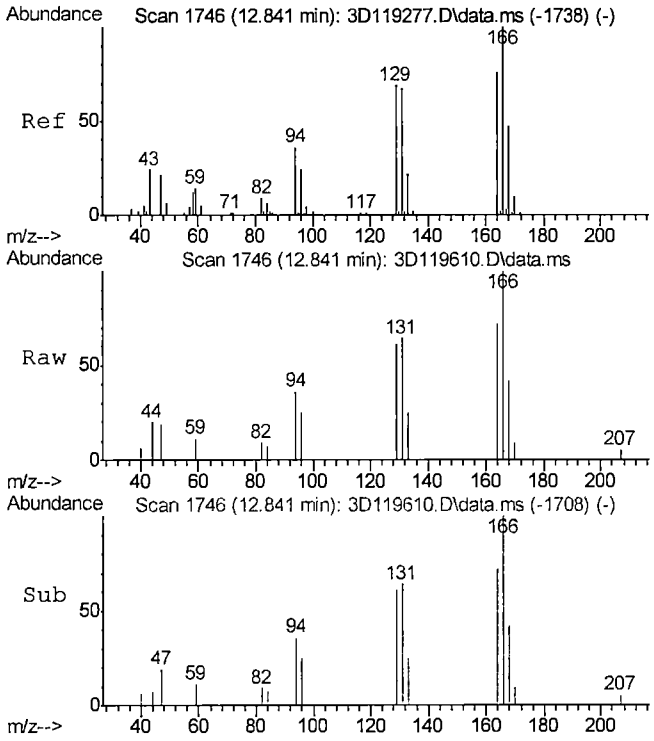


#58
1,1,1-trichloroethane
Concen: 1.37 ug/L
RT: 9.758 min Scan# 1158
Delta R.T. 0.000 min
Lab File: 3D119610.D
Acq: 26 May 2016 9:17 pm

Tgt Ion: 97 Resp: 3799

Ion	Ratio	Lower	Upper
97	100		
99	68.9	32.7	92.7
61	47.5	13.4	73.4

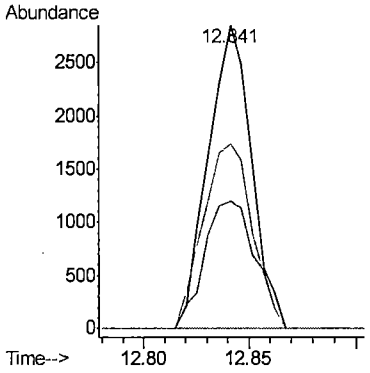




#93
tetrachloroethene
Concen: 2.49 ug/L
RT: 12.841 min Scan# 1746
Delta R.T. -0.000 min
Lab File: 3D119610.D
Acq: 26 May 2016 9:17 pm

Tgt Ion:166 Resp: 4049

Ion	Ratio	Lower	Upper
166	100		
168	42.2	16.2	76.2
129	60.9	37.9	97.9



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5104-5105\
Data File : 3D119609.D
Acq On : 26 May 2016 8:49 pm
Operator : XimenaC
Sample : jc20564-5
Misc : MS2366,V3D5104,5,,,,1
ALS Vial : 26 Sample Multiplier: 1

Quant Time: May 27 16:49:13 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Tert Butyl Alcohol-d9	7.362	65	114982	500.00 ug/L	-0.01
4) pentafluorobenzene	9.653	168	170442	50.00 ug/L	0.00
62) 1,4-difluorobenzene	10.592	114	227812	50.00 ug/L	0.00
92) chlorobenzene-d5	13.722	117	207069	50.00 ug/L	0.00
108) 1,4-dichlorobenzene-d4	16.055	152	132798	50.00 ug/L	0.00
System Monitoring Compounds					
54) dibromofluoromethane (s)	9.690	113	89226	55.95 ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 111.90%		
55) 1,2-dichloroethane-d4 (s)	10.115	65	87382	55.49 ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 110.98%		
84) toluene-d8 (s)	12.217	98	264987	52.22 ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 104.44%		
110) 4-bromofluorobenzene (s)	14.891	95	97603	47.41 ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 94.82%		
Target Compounds					Qvalue
41) 1,1-dichloroethane	8.395	63	6583	2.09 ug/L	94
47) cis-1,2-dichloroethene	9.103	96	3267	1.68 ug/L	96
93) tetrachloroethene	12.841	166	941	0.55 ug/L	91

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

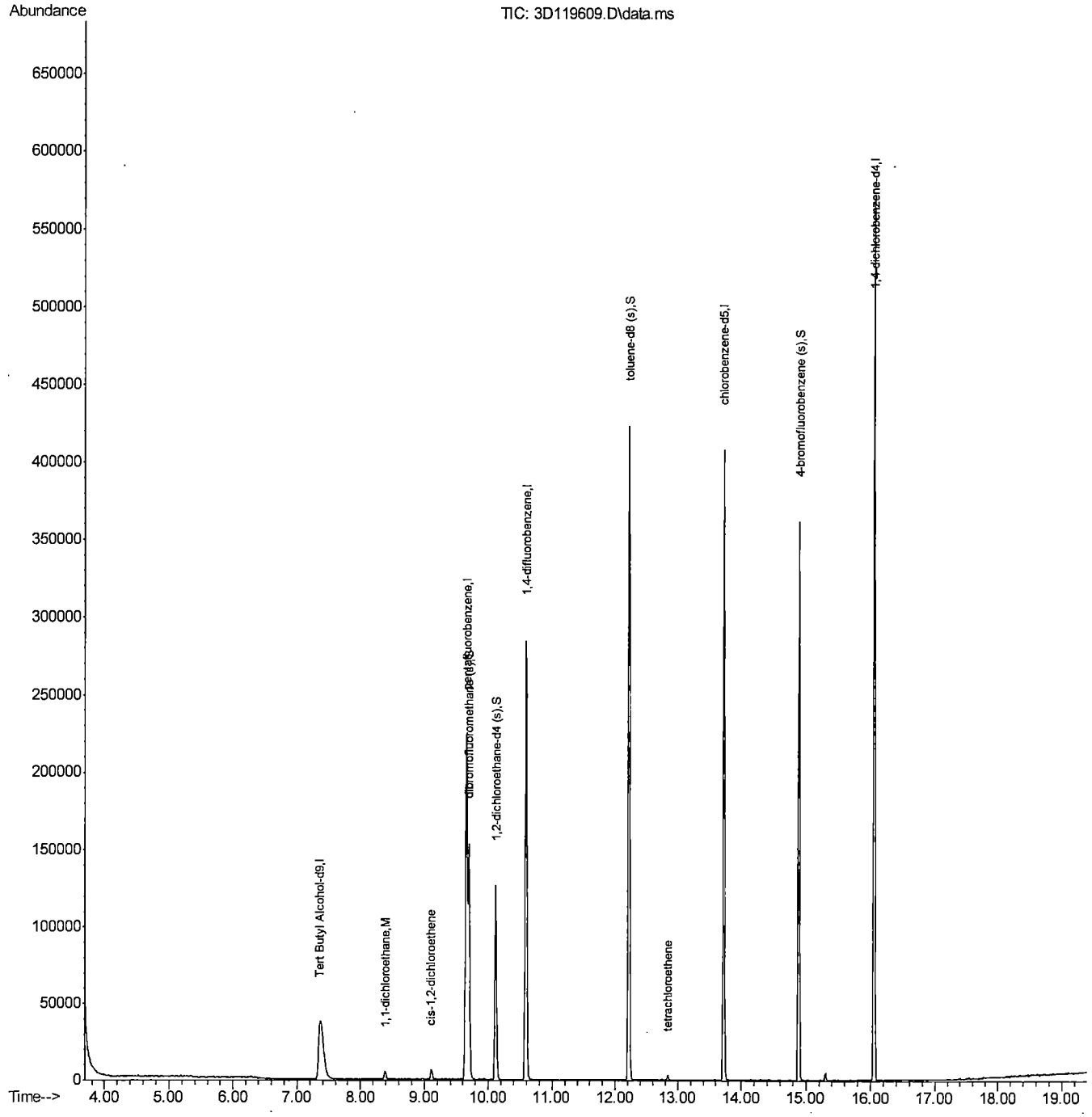
7.1.5

7

Quantitation Report (QT Reviewed)

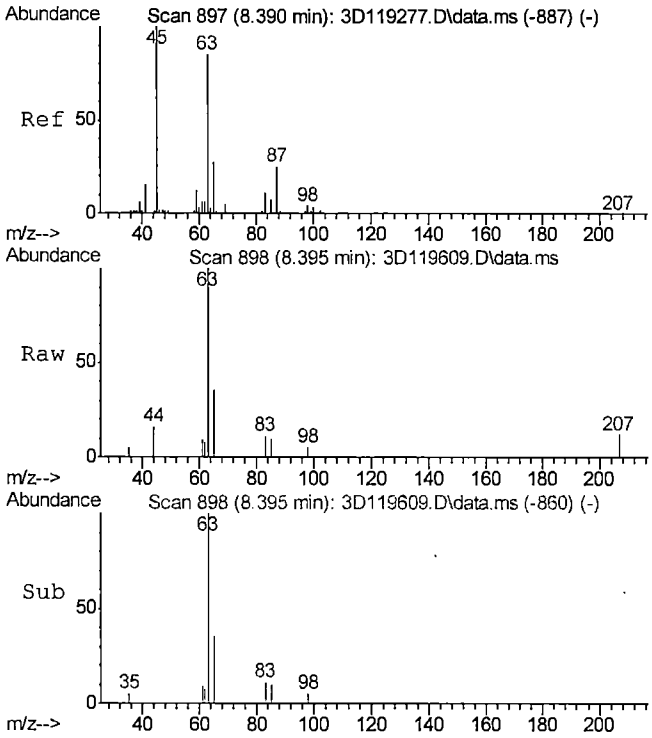
Data Path : C:\msdchem\1\DATA\3D\v3d5104-5105\
Data File : 3D119609.D
Acq On : 26 May 2016 8:49 pm
Operator : XimenaC
Sample : jc20564-5
Misc : MS2366,V3D5104,5,,,,1
ALS Vial : 26 Sample Multiplier: 1

Quant Time: May 27 16:49:13 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration



SGS ACCUTEST JC20564

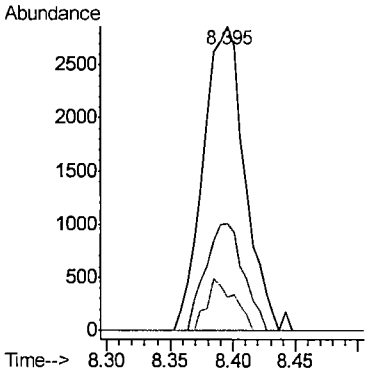
7.1.5 7

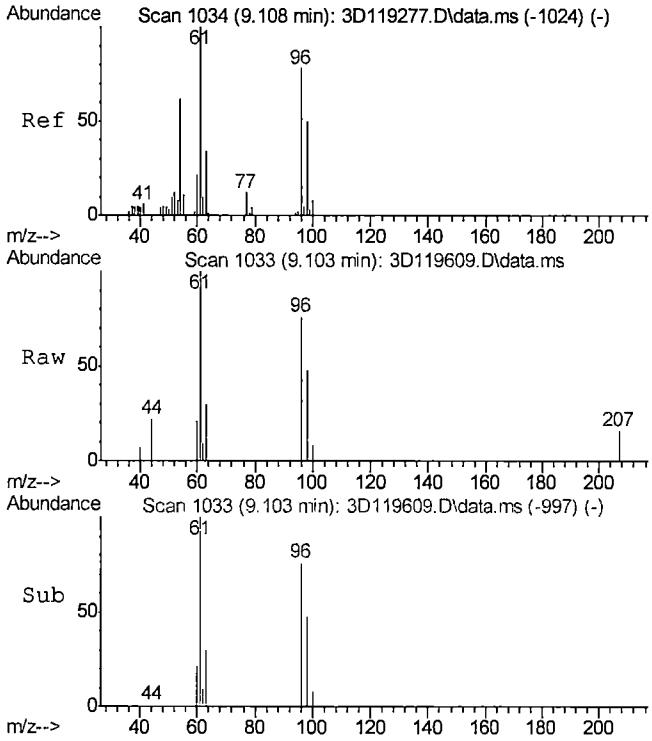


#41
1,1-dichloroethane
Concen: 2.09 ug/L
RT: 8.395 min Scan# 898
Delta R.T. -0.000 min
Lab File: 3D119609.D
Acq: 26 May 2016 8:49 pm

Tgt Ion: 63 Resp: 6583

Ion	Ratio	Lower	Upper
63	100		
65	35.4	1.7	61.7
83	11.0	0.0	43.0

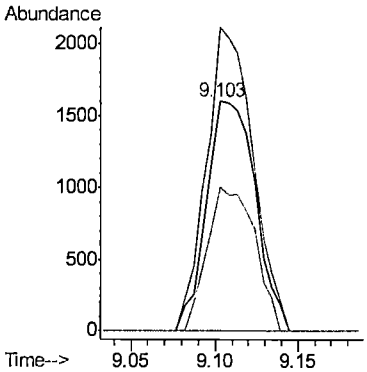




#47
cis-1,2-dichloroethene
Concen: 1.68 ug/L
RT: 9.103 min Scan# 1033
Delta R.T. -0.011 min
Lab File: 3D119609.D
Acq: 26 May 2016 8:49 pm

Tgt Ion: 96 Resp: 3267

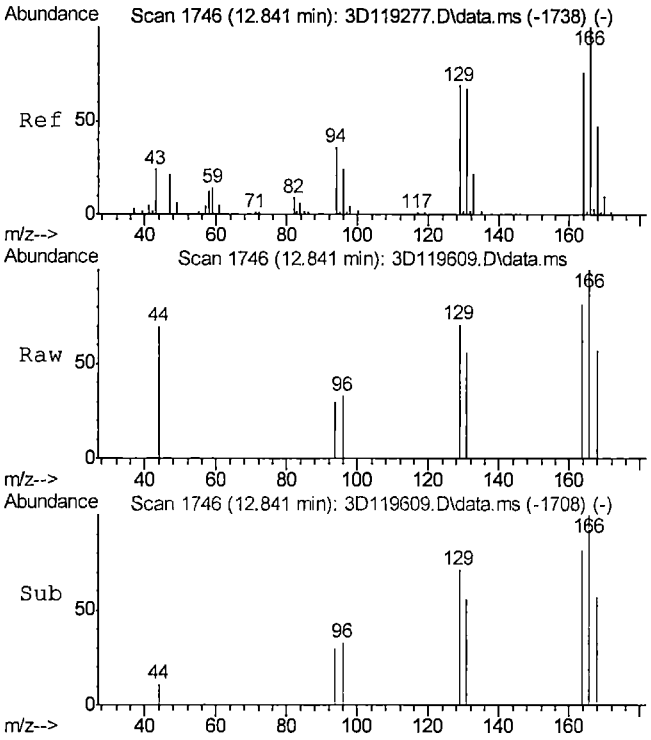
Ion	Ratio	Lower	Upper
96	100		
61	132.0	107.2	167.2
98	62.8	34.6	94.6



7.1.5

7

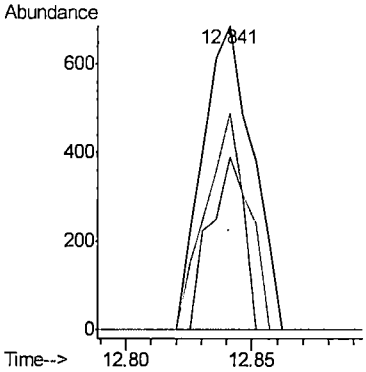
SGS ACCUTEST JC20564



#93
tetrachloroethene
Concen: 0.55 ug/L
RT: 12.841 min Scan# 1746
Delta R.T. -0.000 min
Lab File: 3D119609.D
Acq: 26 May 2016 8:49 pm

Tgt Ion:166 Resp: 941

Ion	Ratio	Lower	Upper
166	100		
168	56.8	16.2	76.2
129	71.0	37.9	97.9



7.1.5

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5104-5105\
Data File : 3D119608.D
Acq On : 26 May 2016 8:22 pm
Operator : XimenaC
Sample : jc20564-6
Misc : MS2366,V3D5104,5,,,,1
ALS Vial : 25 Sample Multiplier: 1

Quant Time: May 27 16:48:38 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Tert Butyl Alcohol-d9	7.362	65	110358	500.00 ug/L	-0.01
4) pentafluorobenzene	9.653	168	163675	50.00 ug/L	0.00
62) 1,4-difluorobenzene	10.592	114	218880	50.00 ug/L	0.00
92) chlorobenzene-d5	13.727	117	195528	50.00 ug/L	0.00
108) 1,4-dichlorobenzene-d4	16.055	152	127483	50.00 ug/L	0.00
System Monitoring Compounds					
54) dibromofluoromethane (s)	9.690	113	84442	55.14 ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 110.28%		
55) 1,2-dichloroethane-d4 (s)	10.115	65	82377	54.47 ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 108.94%		
84) toluene-d8 (s)	12.217	98	248439	50.96 ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 101.92%		
110) 4-bromofluorobenzene (s)	14.891	95	94810	47.98 ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 95.96%		
Target Compounds					Qvalue
93) tetrachloroethene	12.841	166	7451	4.60 ug/L	99

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

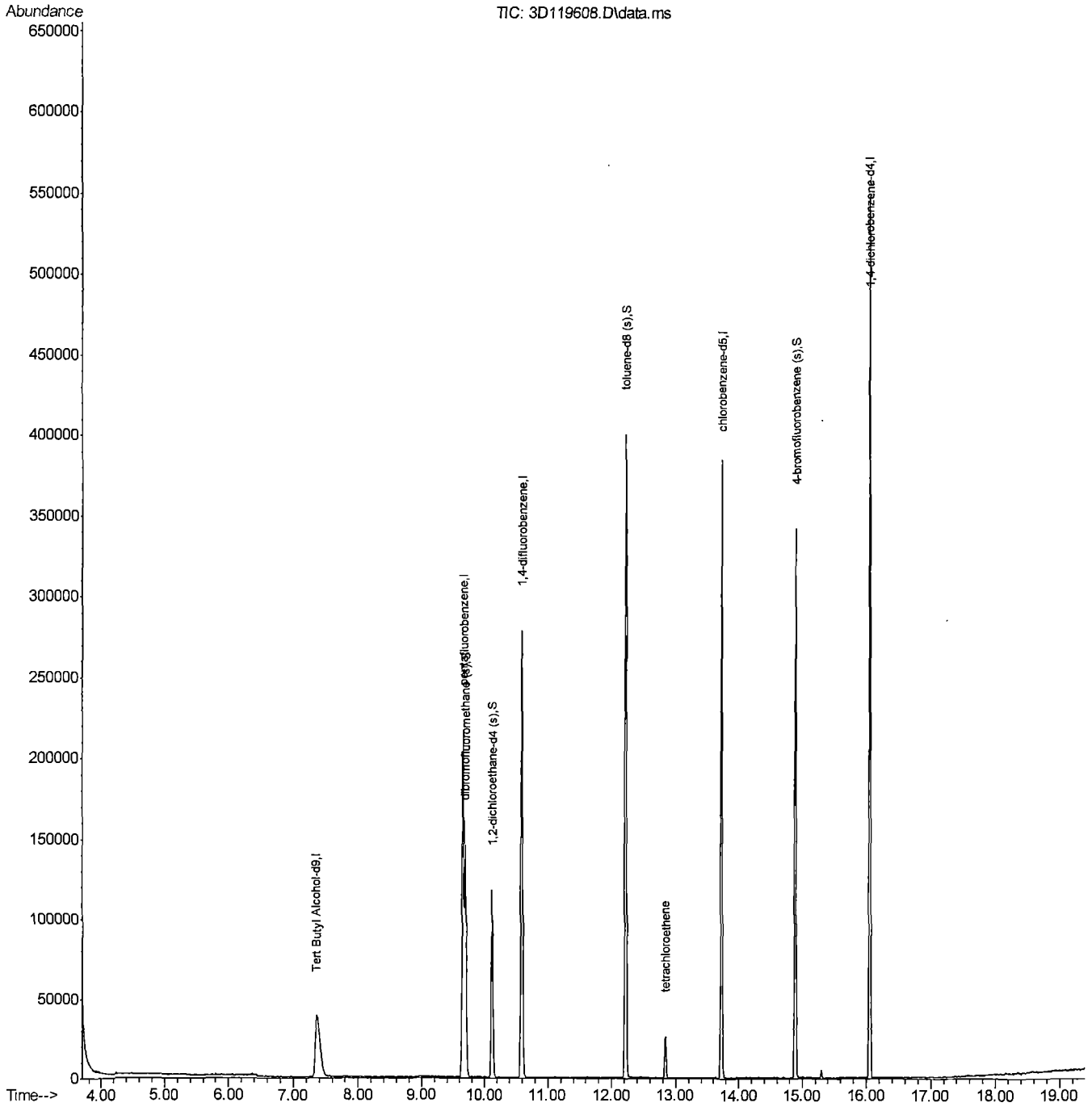
7.1.6

7

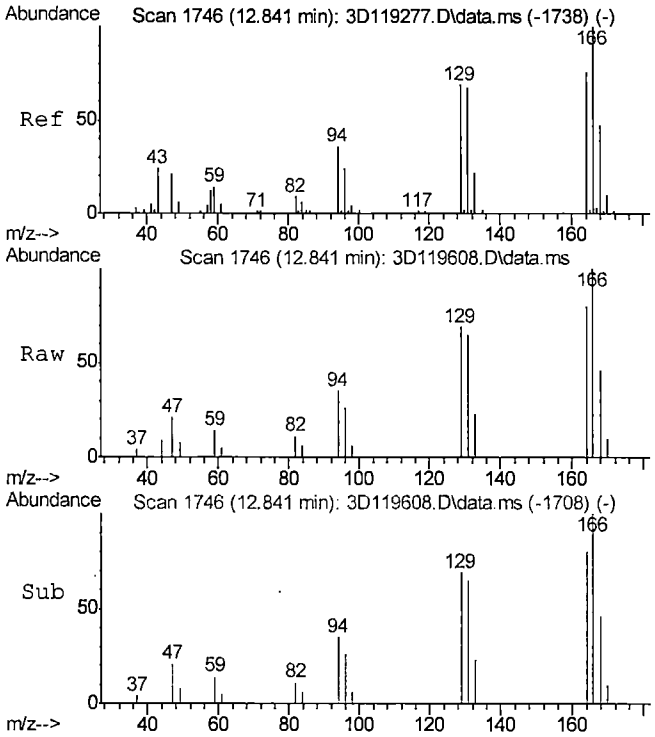
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5104-5105\
Data File : 3D119608.D
Acq On : 26 May 2016 8:22 pm
Operator : XimenaC
Sample : jc20564-6
Misc : MS2366,V3D5104,5,,,,1
ALS Vial : 25 Sample Multiplier: 1

Quant Time: May 27 16:48:38 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration



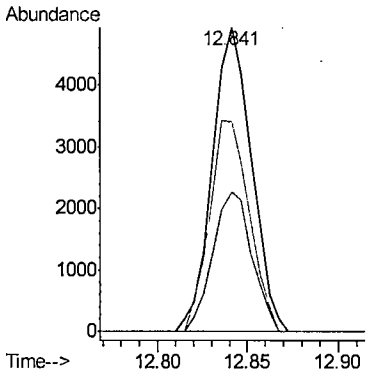
7.1.6



#93
tetrachloroethene
Concen: 4.60 ug/L
RT: 12.841 min Scan# 1746
Delta R.T. 0.000 min
Lab File: 3D119608.D
Acq: 26 May 2016 8:22 pm

Tgt Ion:166 Resp: 7451

Ion	Ratio	Lower	Upper
166	100		
168	45.8	16.2	76.2
129	68.9	37.9	97.9



7.1.6

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5104-5105\
Data File : 3D119607.D
Acq On : 26 May 2016 7:55 pm
Operator : XimenaC
Sample : jc20564-7
Misc : MS2366,V3D5104,5,,,,1
ALS Vial : 24 Sample Multiplier: 1

Quant Time: May 27 16:48:03 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.367	65	112679	500.00	ug/L	0.00
4) pentafluorobenzene	9.653	168	168909	50.00	ug/L	0.00
62) 1,4-difluorobenzene	10.592	114	227168	50.00	ug/L	0.00
92) chlorobenzene-d5	13.722	117	203517	50.00	ug/L	0.00
108) 1,4-dichlorobenzene-d4	16.050	152	128549	50.00	ug/L	0.00
System Monitoring Compounds						
54) dibromofluoromethane (s)	9.690	113	85235	53.93	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 107.86%			
55) 1,2-dichloroethane-d4 (s)	10.115	65	85175	54.58	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 109.16%			
84) toluene-d8 (s)	12.217	98	259342	51.25	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 102.50%			
110) 4-bromofluorobenzene (s)	14.891	95	97920	49.14	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 98.28%			
Target Compounds						Qvalue
58) 1,1,1-trichloroethane	9.753	97	5026	1.72	ug/L	95
93) tetrachloroethene	12.841	166	1685	1.00	ug/L	93

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

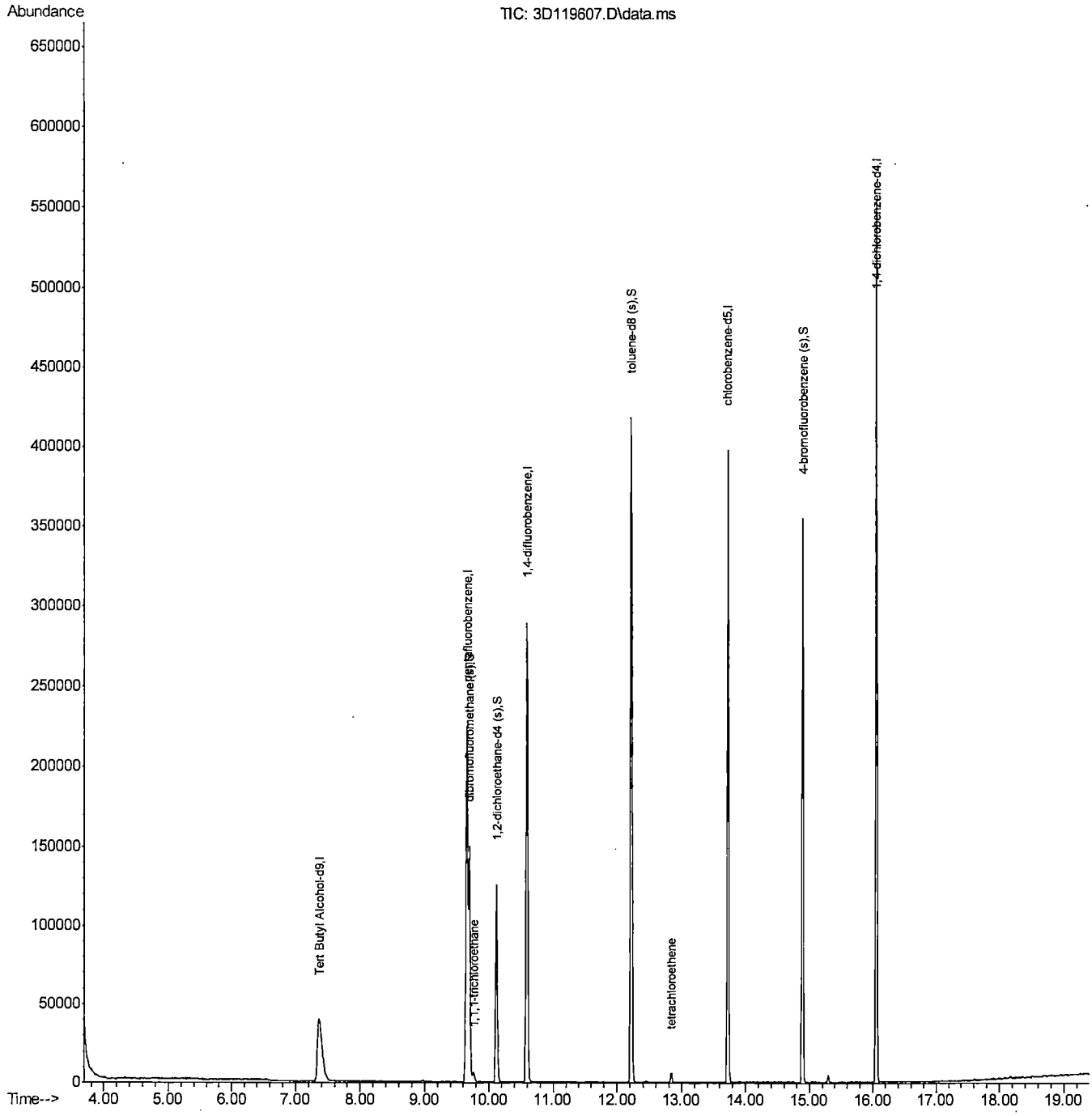
7.1.7

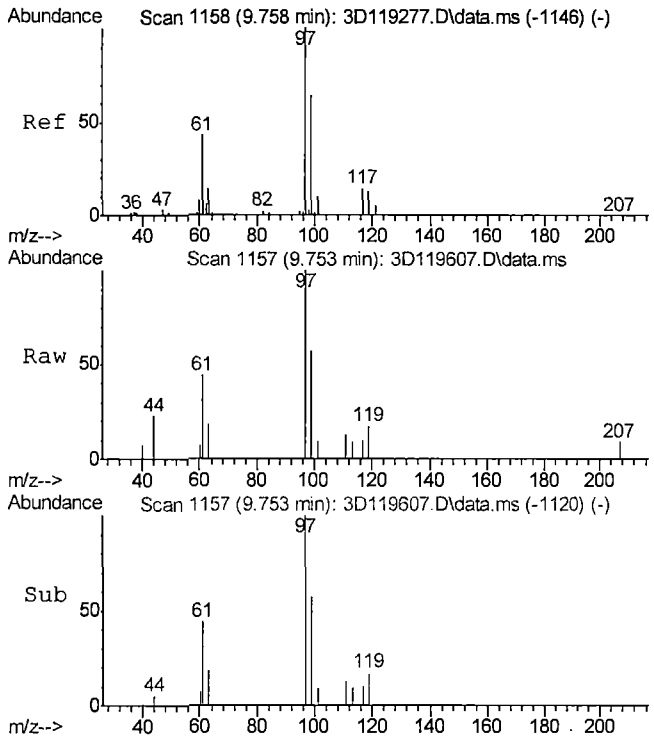
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5104-5105\
Data File : 3D119607.D
Acq On : 26 May 2016 7:55 pm
Operator : XimenaC
Sample : jc20564-7
Misc : MS2366,V3D5104,5,,,,1
ALS Vial : 24 Sample Multiplier: 1

Quant Time: May 27 16:48:03 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration

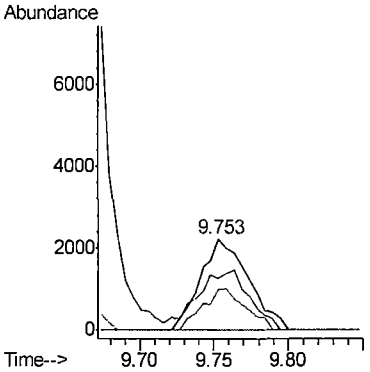


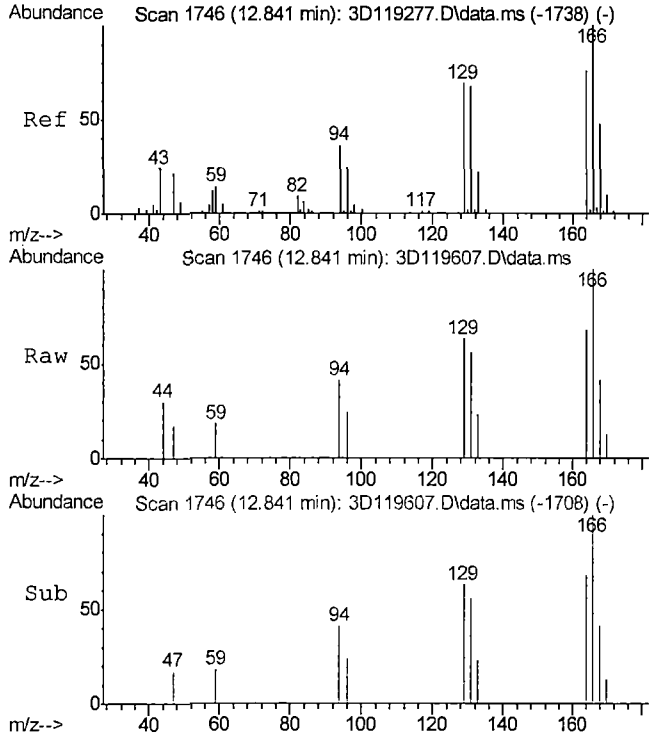


#58
1,1,1-trichloroethane
Concen: 1.72 ug/L
RT: 9.753 min Scan# 1157
Delta R.T. -0.005 min
Lab File: 3D119607.D
Acq: 26 May 2016 7:55 pm

Tgt Ion: 97 Resp: 5026

Ion	Ratio	Lower	Upper
97	100		
99	56.6	32.7	92.7
61	43.9	13.4	73.4

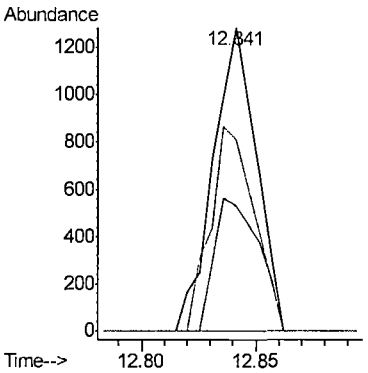




#93
tetrachloroethene
Concen: 1.00 ug/L
RT: 12.841 min Scan# 1746
Delta R.T. 0.000 min
Lab File: 3D119607.D
Acq: 26 May 2016 7:55 pm

Tgt Ion:166 Resp: 1685

Ion	Ratio	Lower	Upper
166	100		
168	41.3	16.2	76.2
129	63.1	37.9	97.9



7.1.7

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5104-5105\
Data File : 3D119593.D
Acq On : 26 May 2016 1:33 pm
Operator : XimenaC
Sample : jc20564-8
Misc : MS2366,V3D5104,5,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: May 27 16:30:41 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Tert Butyl Alcohol-d9	7.367	65	124108	500.00 ug/L	0.00
4) pentafluorobenzene	9.653	168	183340	50.00 ug/L	0.00
62) 1,4-difluorobenzene	10.592	114	244576	50.00 ug/L	0.00
92) chlorobenzene-d5	13.722	117	217362	50.00 ug/L	0.00
108) 1,4-dichlorobenzene-d4	16.055	152	141740	50.00 ug/L	0.00
System Monitoring Compounds					
54) dibromofluoromethane (s)	9.690	113	93991	54.79 ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 109.58%		
55) 1,2-dichloroethane-d4 (s)	10.115	65	91150	53.81 ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 107.62%		
84) toluene-d8 (s)	12.217	98	276858	50.82 ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 101.64%		
110) 4-bromofluorobenzene (s)	14.891	95	104287	47.46 ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 94.92%		
Target Compounds					Qvalue
47) cis-1,2-dichloroethene	9.108	96	831	0.40 ug/L	86
58) 1,1,1-trichloroethane	9.758	97	786	0.25 ug/L	87
73) trichloroethene	10.901	95	27225	17.25 ug/L	97
93) tetrachloroethene	12.841	166	1608	0.89 ug/L	88

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

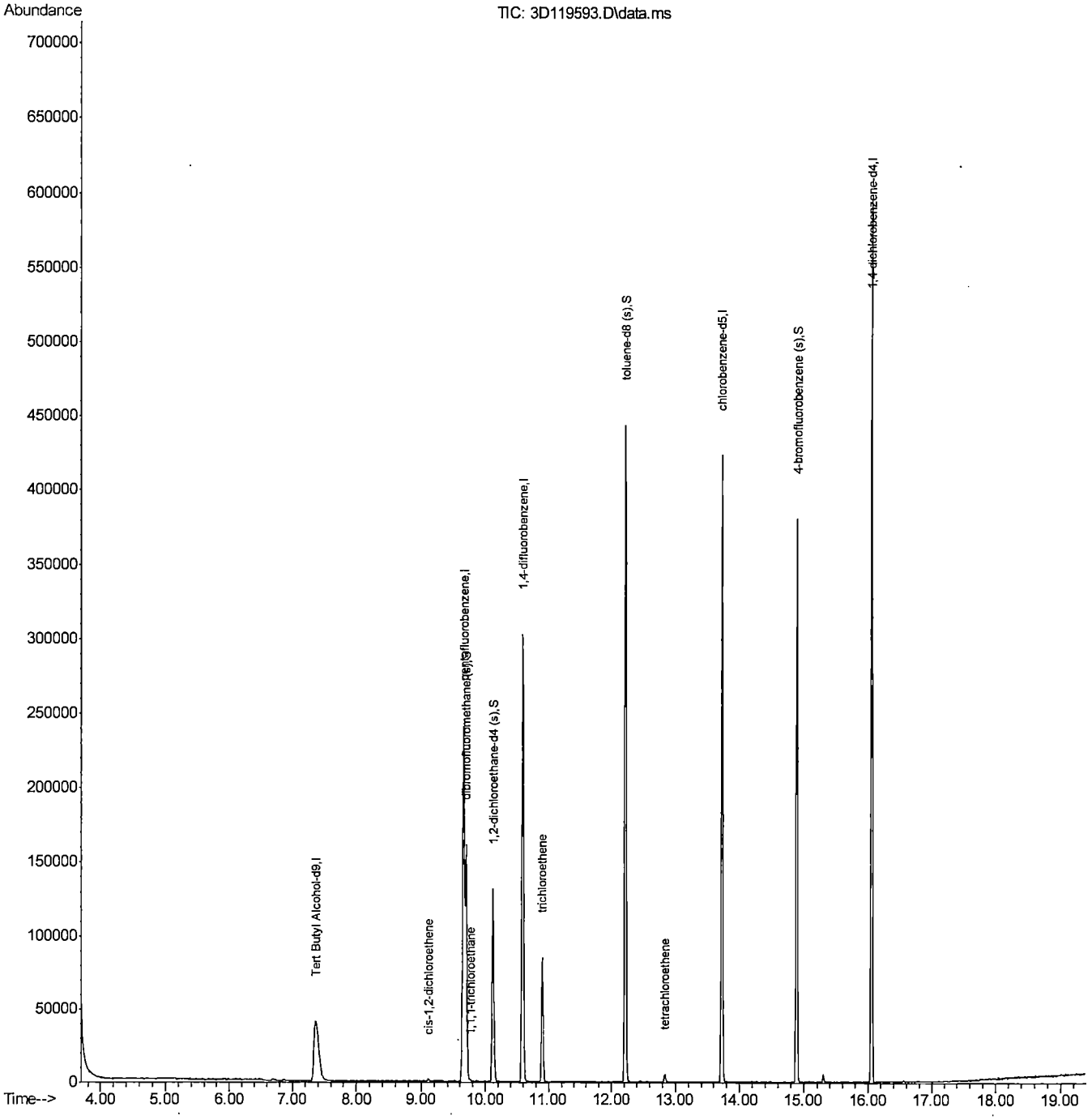
7.1.8

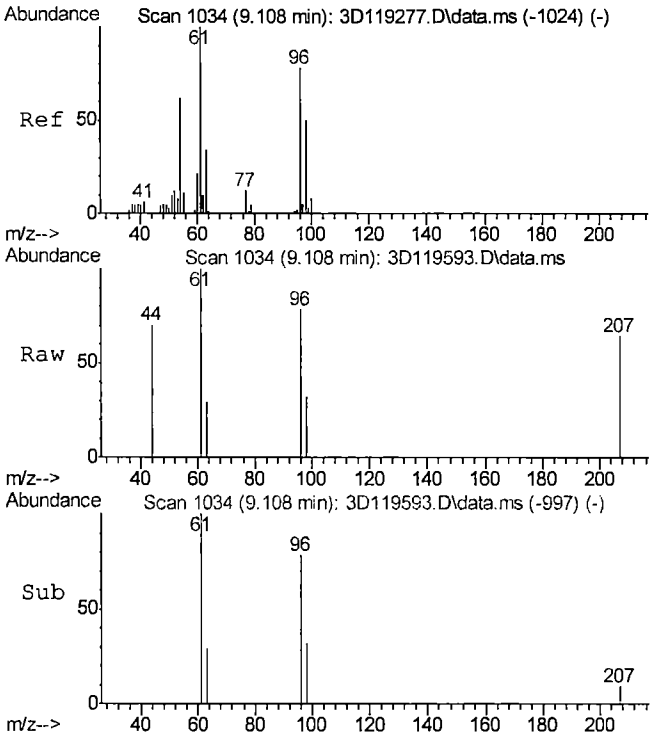
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5104-5105\
Data File : 3D119593.D
Acq On : 26 May 2016 1:33 pm
Operator : XimenaC
Sample : jc20564-8
Misc : MS2366,V3D5104,5,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: May 27 16:30:41 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration

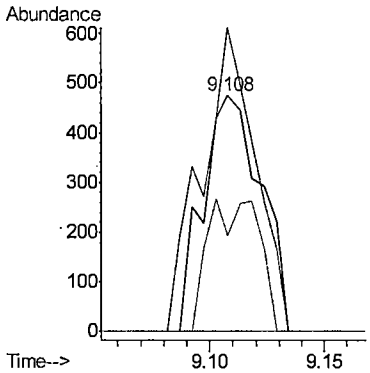


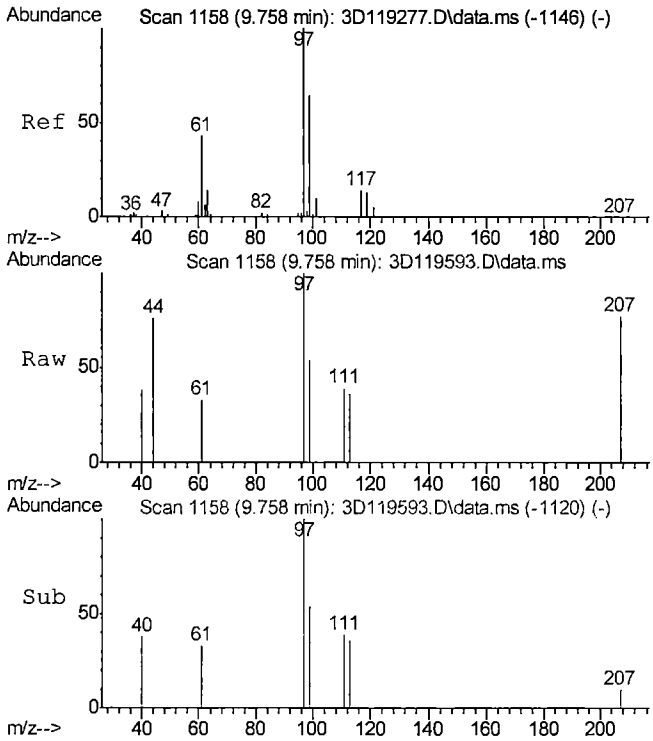


#47
cis-1,2-dichloroethene
Concen: 0.40 ug/L
RT: 9.108 min Scan# 1034
Delta R.T. -0.005 min
Lab File: 3D119593.D
Acq: 26 May 2016 1:33 pm

Tgt Ion: 96 Resp: 831

Ion	Ratio	Lower	Upper
96	100		
61	128.8	107.2	167.2
98	40.6	34.6	94.6

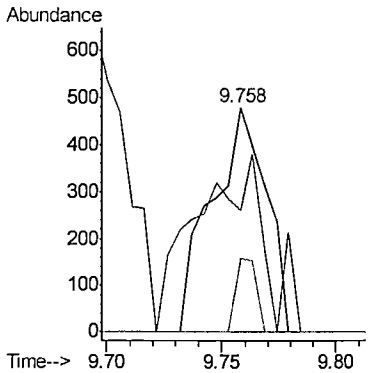




#58
1,1,1-trichloroethane
Concen: 0.25 ug/L
RT: 9.758 min Scan# 1158
Delta R.T. -0.000 min
Lab File: 3D119593.D
Acq: 26 May 2016 1:33 pm

Tgt Ion: 97 Resp: 786

Ion	Ratio	Lower	Upper
97	100		
99	54.1	32.7	92.7
61	32.8	13.4	73.4



7.1.8

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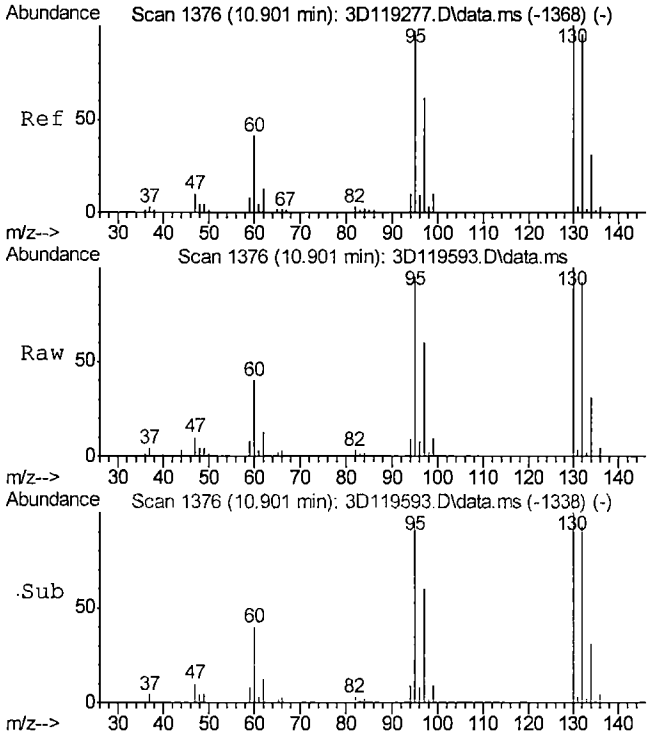
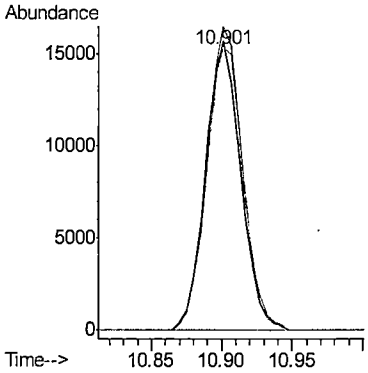
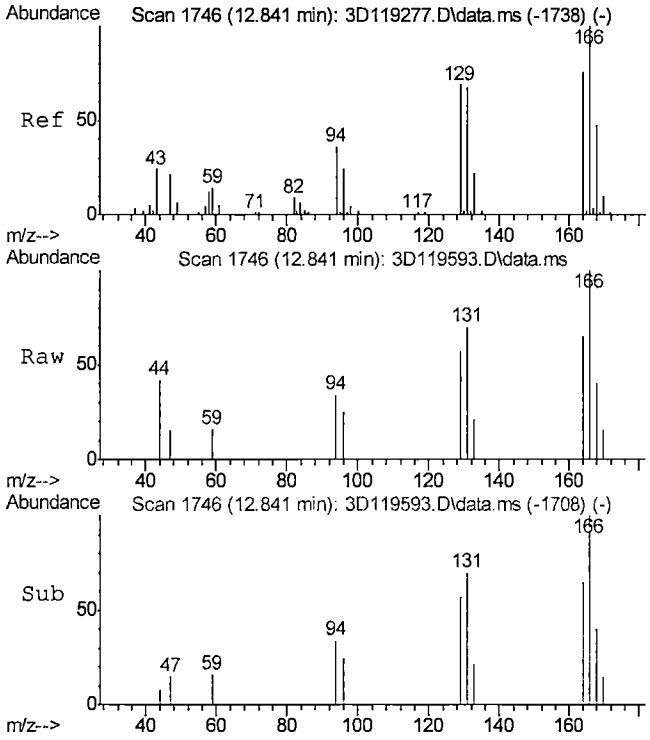


#73
trichloroethene
Concen: 17.25 ug/L
RT: 10.901 min Scan# 1376
Delta R.T. -0.000 min
Lab File: 3D119593.D
Acq: 26 May 2016 1:33 pm

Tgt Ion: 95 Resp: 27225

Ion	Ratio	Lower	Upper
95	100		
130	105.2	72.5	132.5
132	97.5	71.1	131.1

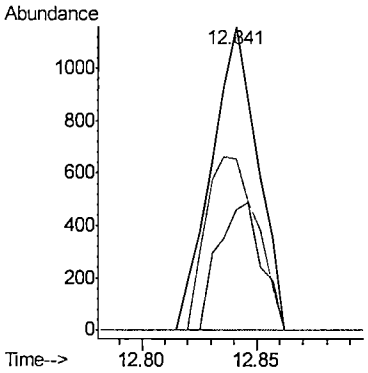




#93
tetrachloroethene
Concen: 0.89 ug/L
RT: 12.841 min Scan# 1746
Delta R.T. -0.000 min
Lab File: 3D119593.D
Acq: 26 May 2016 1:33 pm

Tgt Ion:166 Resp: 1608

Ion	Ratio	Lower	Upper
166	100		
168	39.7	16.2	76.2
129	56.6	37.9	97.9



7.1.8

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SGS ACCUTEST JC20564

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5105ms-5107\
Data File : 3D119649.D
Acq On : 27 May 2016 4:14 pm
Operator : XimenaC
Sample : jc20564-9
Misc : MS2366,V3D5106,5,,,,1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Jun 01 08:43:25 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.373	65	118783	500.00	ug/L	0.00
4) pentafluorobenzene	9.653	168	175305	50.00	ug/L	0.00
62) 1,4-difluorobenzene	10.592	114	234578	50.00	ug/L	0.00
92) chlorobenzene-d5	13.722	117	209924	50.00	ug/L	0.00
108) 1,4-dichlorobenzene-d4	16.050	152	131061	50.00	ug/L	0.00
System Monitoring Compounds						
54) dibromofluoromethane (s)	9.690	113	94034	57.33	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 114.66%			
55) 1,2-dichloroethane-d4 (s)	10.115	65	90963	56.16	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 112.32%			
84) toluene-d8 (s)	12.217	98	268500	51.39	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 102.78%			
110) 4-bromofluorobenzene (s)	14.891	95	101239	49.83	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 99.66%			
Target Compounds						Qvalue
14) vinyl chloride	4.578	62	98931	24.61	ug/L	99
26) 1,1-dichloroethene	6.707	61	1813	0.58	ug/L #	71
27) acetone	6.696	58	1270	7.68	ug/L	97
41) 1,1-dichloroethane	8.395	63	38717	11.96	ug/L	98
47) cis-1,2-dichloroethene	9.108	96	82373	41.18	ug/L	95
58) 1,1,1-trichloroethane	9.764	97	5532	1.82	ug/L	88
69) benzene	10.178	78	1243	0.19	ug/L	82
73) trichloroethene	10.901	95	6614	4.37	ug/L	96
93) tetrachloroethene	12.841	166	40865	23.51	ug/L	98
121) tert-butylbenzene	15.599	119	1777	0.32	ug/L	92
124) sec-butylbenzene	15.814	105	19931	2.15	ug/L	98
128) 1,2-dichlorobenzene	16.438	146	3512	0.78	ug/L	99

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

7.1.9

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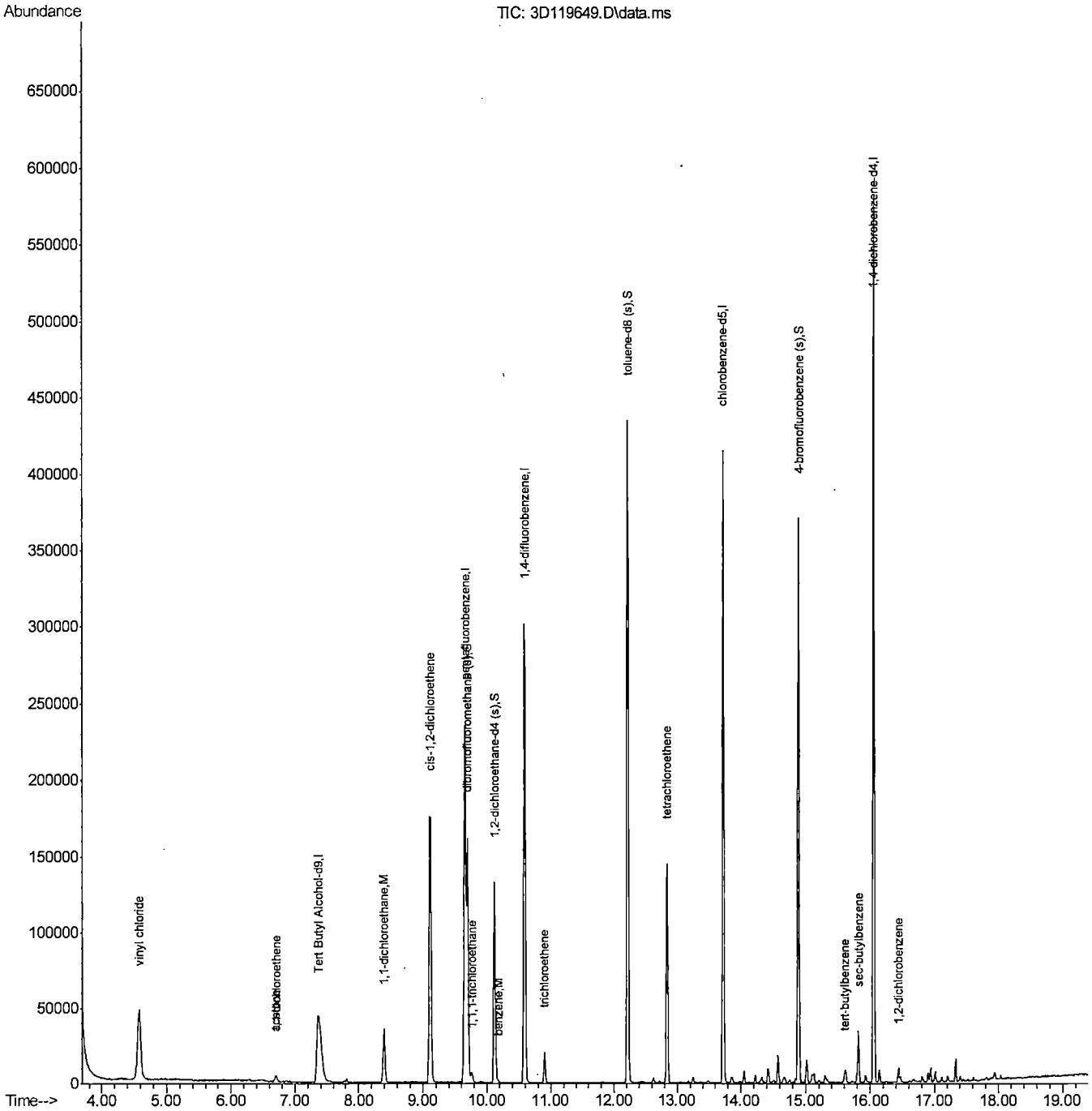
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5105ms-5107\
Data File : 3D119649.D
Acq On : 27 May 2016 4:14 pm
Operator : XimenaC
Sample : jc20564-9
Misc : MS2366,V3D5106,5,,,,1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Jun 01 08:43:25 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration



7.1.9

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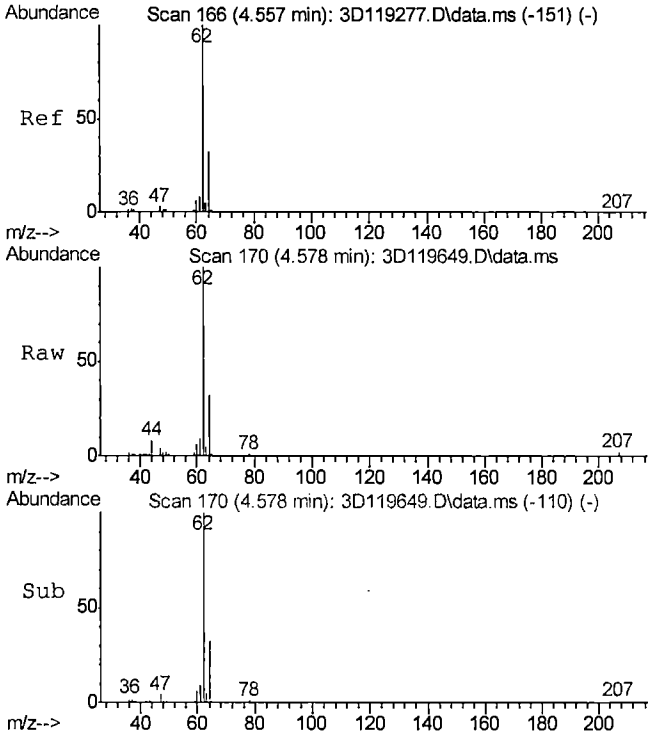
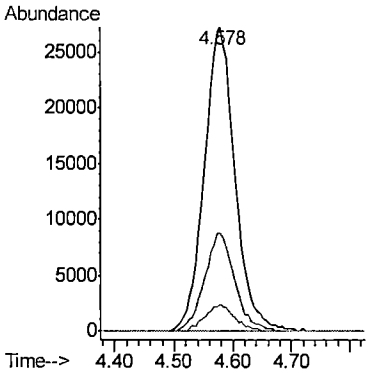
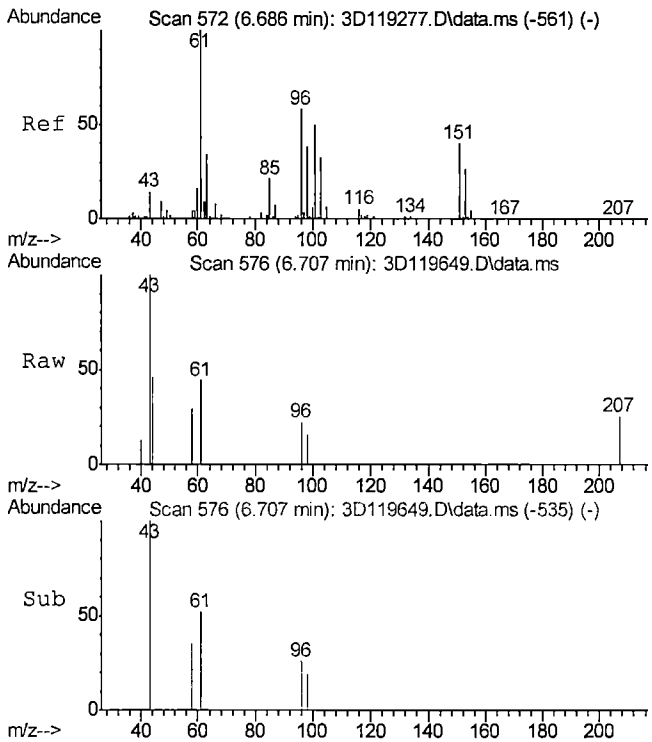


#14
vinyl chloride
Concen: 24.61 ug/L
RT: 4.578 min Scan# 170
Delta R.T. 0.016 min
Lab File: 3D119649.D
Acq: 27 May 2016 4:14 pm

Tgt Ion: 62 Resp: 98931

Ion	Ratio	Lower	Upper
62	100		
64	32.3	1.5	61.5
61	8.9	0.0	38.7

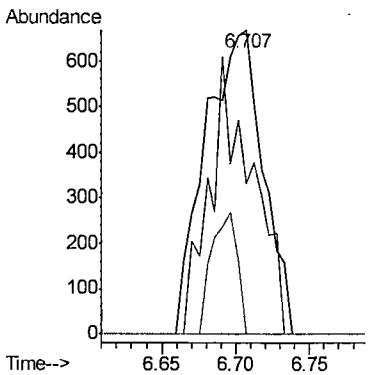




#26
1,1-dichloroethene
Concen: 0.58 ug/L
RT: 6.707 min Scan# 576
Delta R.T. 0.016 min
Lab File: 3D119649.D
Acq: 27 May 2016 4:14 pm

Tgt Ion: 61 Resp: 1813

Ion	Ratio	Lower	Upper
61	100		
96	49.6	29.3	89.3
63	0.0	2.5	62.5#



7.1.9

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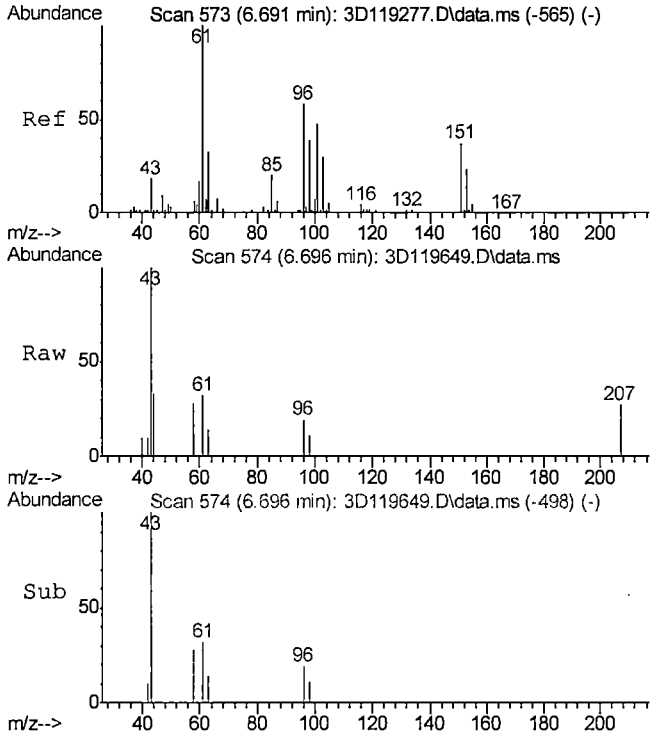
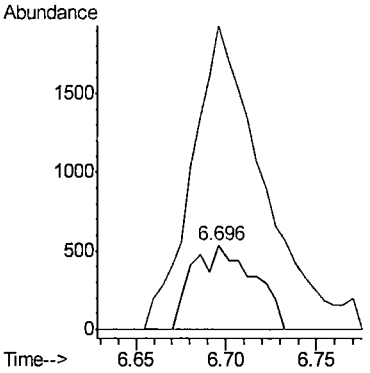
SGS ACCUTEST JC20564

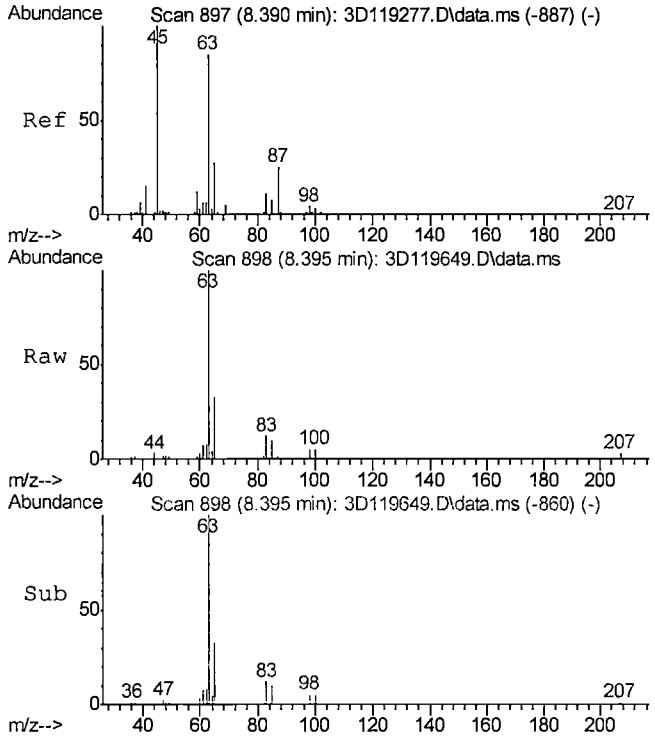


#27
acetone
Concen: 7.68 ug/L
RT: 6.696 min Scan# 574
Delta R.T. 0.000 min
Lab File: 3D119649.D
Acq: 27 May 2016 4:14 pm

Tgt Ion: 58 Resp: 1270

Ion	Ratio	Lower	Upper
58	100		
43	308.4	272.8	332.8

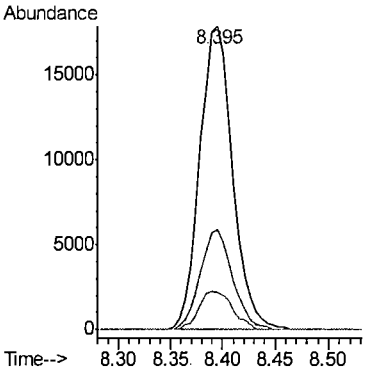




#41
1,1-dichloroethane
Concen: 11.96 ug/L
RT: 8.395 min Scan# 898
Delta R.T. 0.000 min
Lab File: 3D119649.D
Acq: 27 May 2016 4:14 pm

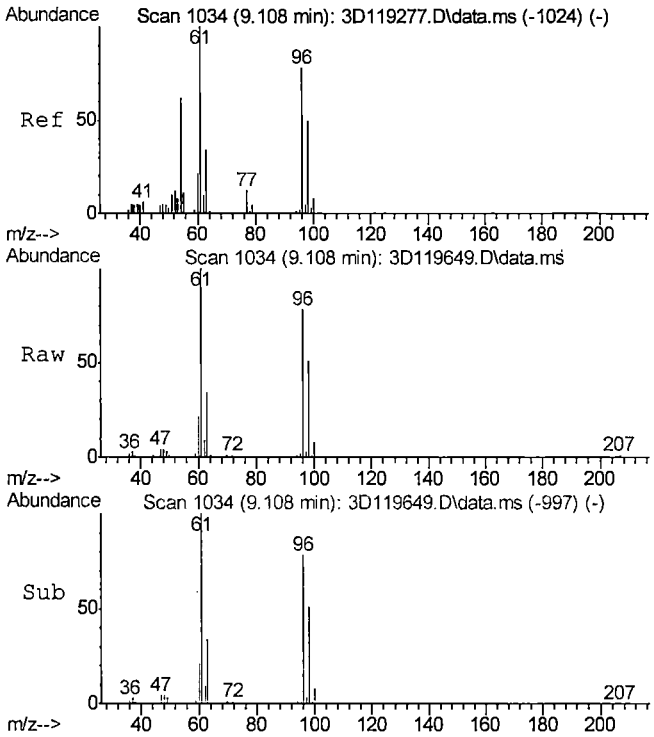
Tgt Ion: 63 Resp: 38717

Ion	Ratio	Lower	Upper
63	100		
65	33.2	1.7	61.7
83	12.2	0.0	43.0



7.1.9

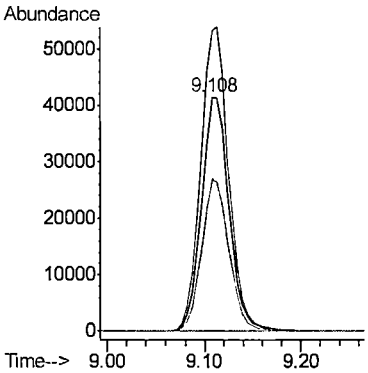
SGS ACCUTEST JC20564

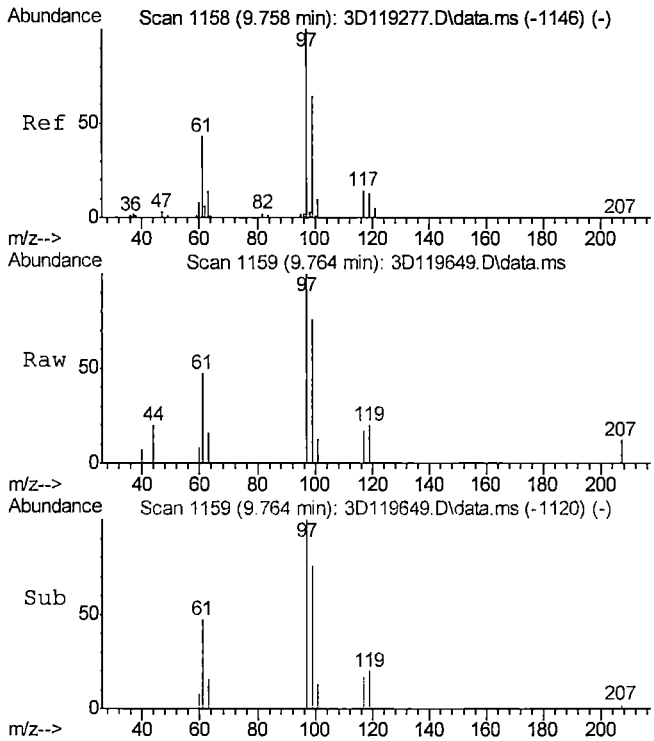


#47
cis-1,2-dichloroethene
Concen: 41.18 ug/L
RT: 9.108 min Scan# 1034
Delta R.T. -0.005 min
Lab File: 3D119649.D
Acq: 27 May 2016 4:14 pm

Tgt Ion: 96 Resp: 82373

Ion	Ratio	Lower	Upper
96	100		
61	128.6	107.2	167.2
98	65.0	34.6	94.6

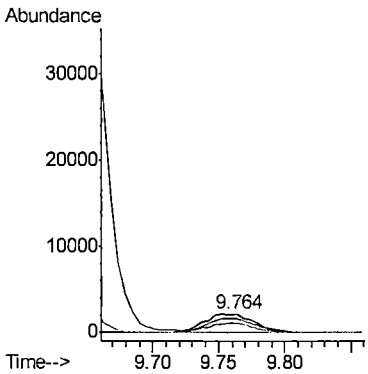




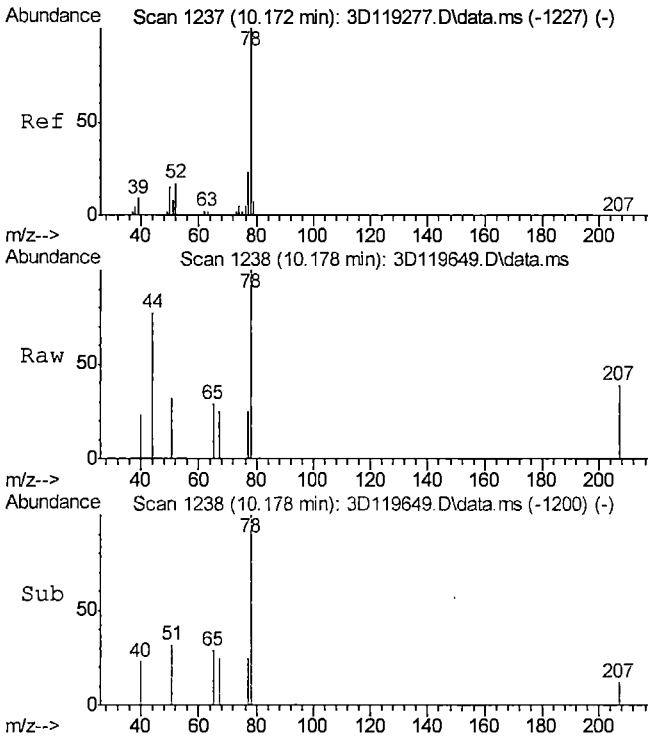
#58
1,1,1-trichloroethane
Concen: 1.82 ug/L
RT: 9.764 min Scan# 1159
Delta R.T. 0.005 min
Lab File: 3D119649.D
Acq: 27 May 2016 4:14 pm

Tgt Ion: 97 Resp: 5532

Ion	Ratio	Lower	Upper
97	100		
99	75.5	32.7	92.7
61	47.4	13.4	73.4



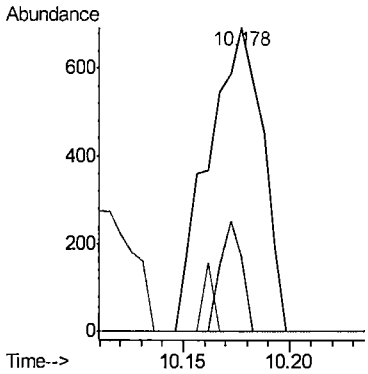
7.1.9

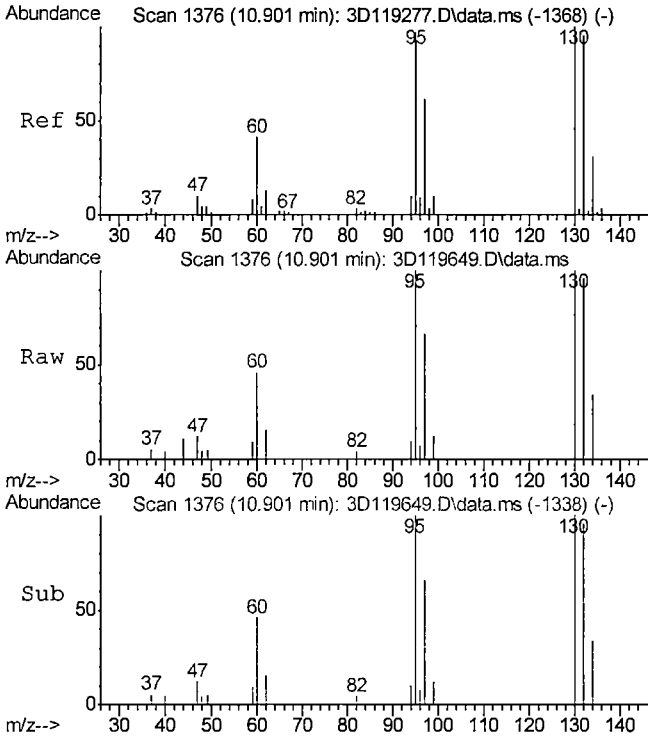


#69
benzene
Concen: 0.19 ug/L
RT: 10.178 min Scan# 1238
Delta R.T. 0.000 min
Lab File: 3D119649.D
Acq: 27 May 2016 4:14 pm

Tgt Ion: 78 Resp: 1243

Ion	Ratio	Lower	Upper
78	100		
77	24.8	0.0	53.0
52	0.0	0.0	46.0

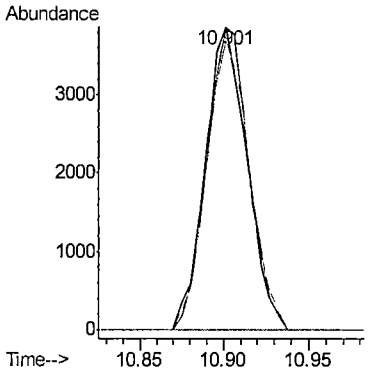




#73
trichloroethene
Concen: 4.37 ug/L
RT: 10.901 min Scan# 1376
Delta R.T. 0.000 min
Lab File: 3D119649.D
Acq: 27 May 2016 4:14 pm

Tgt Ion: 95 Resp: 6614

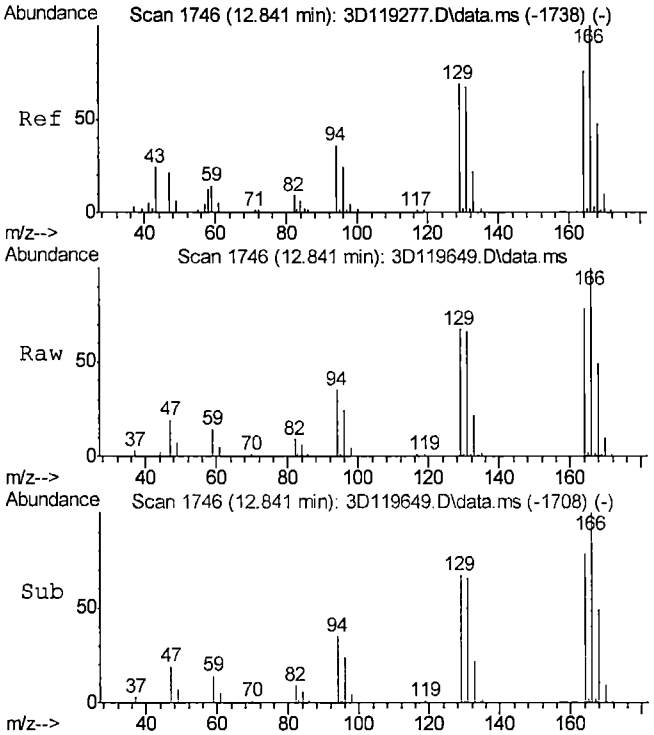
Ion	Ratio	Lower	Upper
95	100		
130	99.9	72.5	132.5
132	95.7	71.1	131.1



7.1.9

7

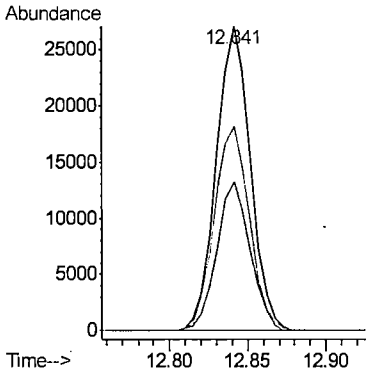
SGS ACCUTEST JC20564

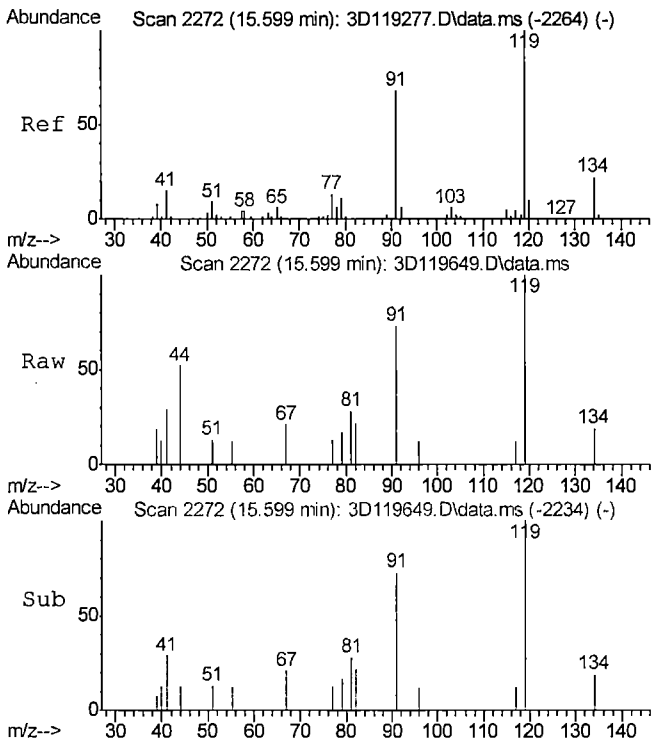


#93
tetrachloroethene
Concen: 23.51 ug/L
RT: 12.841 min Scan# 1746
Delta R.T. 0.000 min
Lab File: 3D119649.D
Acq: 27 May 2016 4:14 pm

Tgt Ion:166 Resp: 40865

Ion	Ratio	Lower	Upper
166	100		
168	48.8	16.2	76.2
129	67.1	37.9	97.9

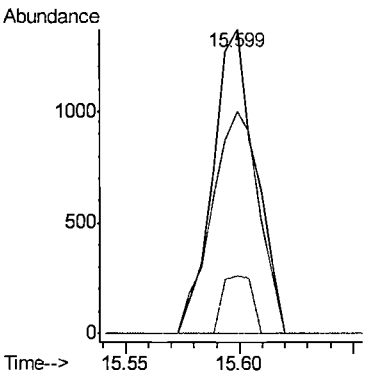




#121
tert-butylbenzene
Concen: 0.32 ug/L
RT: 15.599 min Scan# 2272
Delta R.T. 0.001 min
Lab File: 3D119649.D
Acq: 27 May 2016 4:14 pm

Tgt Ion:119 Resp: 1777

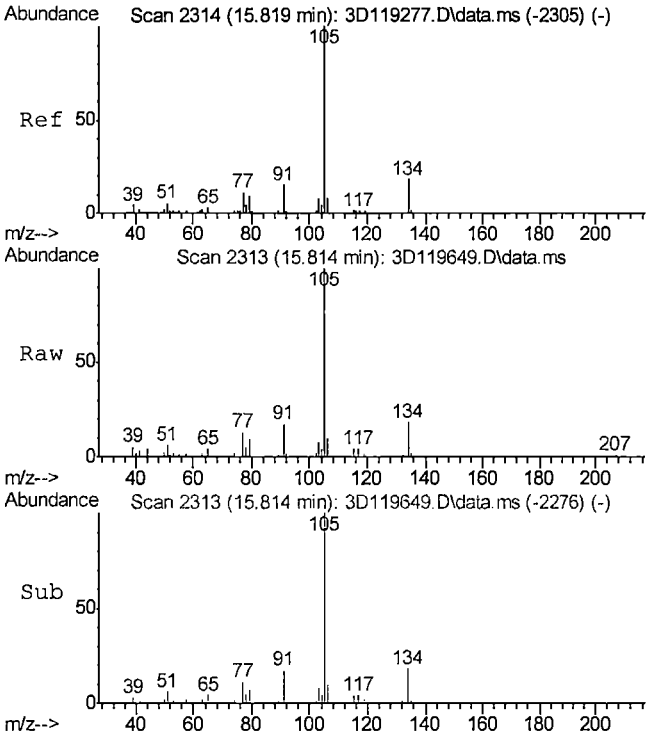
Ion	Ratio	Lower	Upper
119	100		
91	73.2	36.8	96.8
134	19.0	0.0	51.9



7.1.9

7

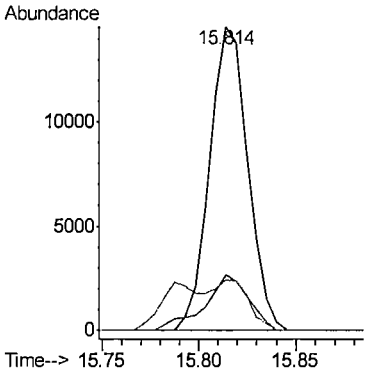
SGS ACCUTEST JC20564

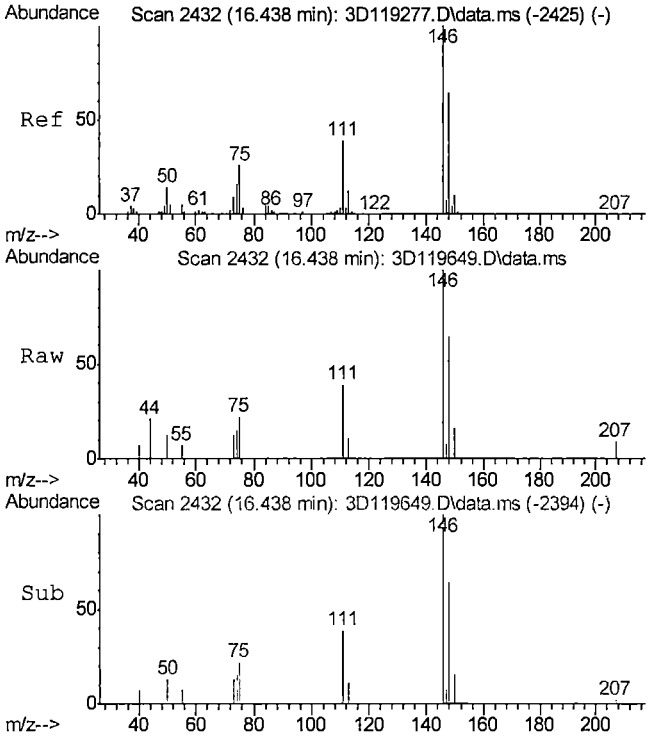


#124
sec-butylbenzene
Concen: 2.15 ug/L
RT: 15.814 min Scan# 2313
Delta R.T. -0.005 min
Lab File: 3D119649.D
Acq: 27 May 2016 4:14 pm

Tgt Ion:105 Resp: 19931

Ion	Ratio	Lower	Upper
105	100		
134	18.3	0.0	47.8
91	16.6	0.0	44.9

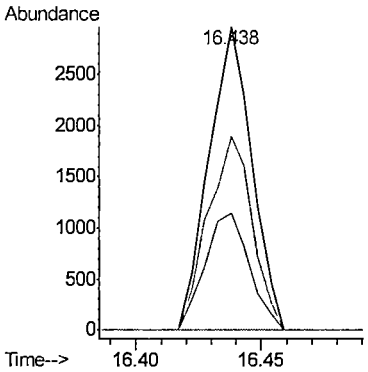




#128
1,2-dichlorobenzene
Concen: 0.78 ug/L
RT: 16.438 min Scan# 2432
Delta R.T. 0.001 min
Lab File: 3D119649.D
Acq: 27 May 2016 4:14 pm

Tgt Ion:146 Resp: 3512

Ion	Ratio	Lower	Upper
146	100		
111	38.8	8.3	68.3
148	64.0	32.6	92.6



7.1.9 7

SGS ACCUTEST JC20564

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5105ms-5107\
Data File : 3D119648.D
Acq On : 27 May 2016 3:47 pm
Operator : XimenaC
Sample : jc20564-10
Misc : MS2366,V3D5106,5,,,,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: May 31 14:33:14 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.367	65	120299	500.00	ug/L	0.00
4) pentafluorobenzene	9.653	168	173865	50.00	ug/L	0.00
62) 1,4-difluorobenzene	10.592	114	239833	50.00	ug/L	0.00
92) chlorobenzene-d5	13.722	117	214039	50.00	ug/L	0.00
108) 1,4-dichlorobenzene-d4	16.055	152	132561	50.00	ug/L	0.00
System Monitoring Compounds						
54) dibromofluoromethane (s)	9.690	113	93960	57.76	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 115.52%			
55) 1,2-dichloroethane-d4 (s)	10.115	65	91850	57.18	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 114.36%			
84) toluene-d8 (s)	12.217	98	274866	51.45	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 102.90%			
110) 4-bromofluorobenzene (s)	14.891	95	100957	49.13	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 98.26%			
Target Compounds						Qvalue
14) vinyl chloride	4.573	62	3678	0.92	ug/L	87
26) 1,1-dichloroethene	6.686	61	2955	0.95	ug/L	87
27) acetone	6.691	58	4136	25.21	ug/L	97
41) 1,1-dichloroethane	8.390	63	12457	3.88	ug/L	98
47) cis-1,2-dichloroethene	9.113	96	7740	3.90	ug/L	92
58) 1,1,1-trichloroethane	9.758	97	36705	12.19	ug/L	92
73) trichloroethene	10.906	95	2059	1.33	ug/L	96
93) tetrachloroethene	12.841	166	18446	10.41	ug/L	97

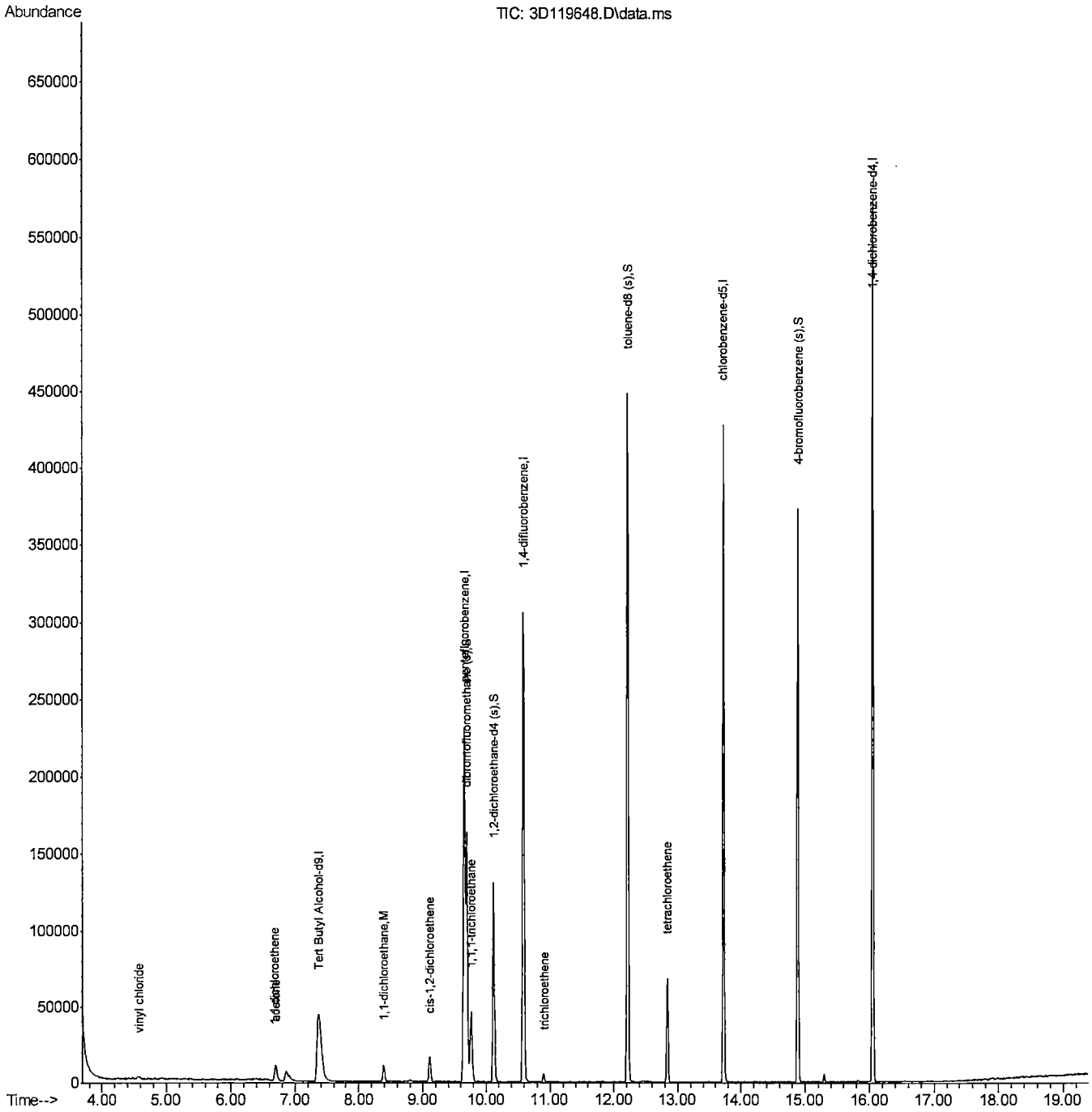
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.10 7

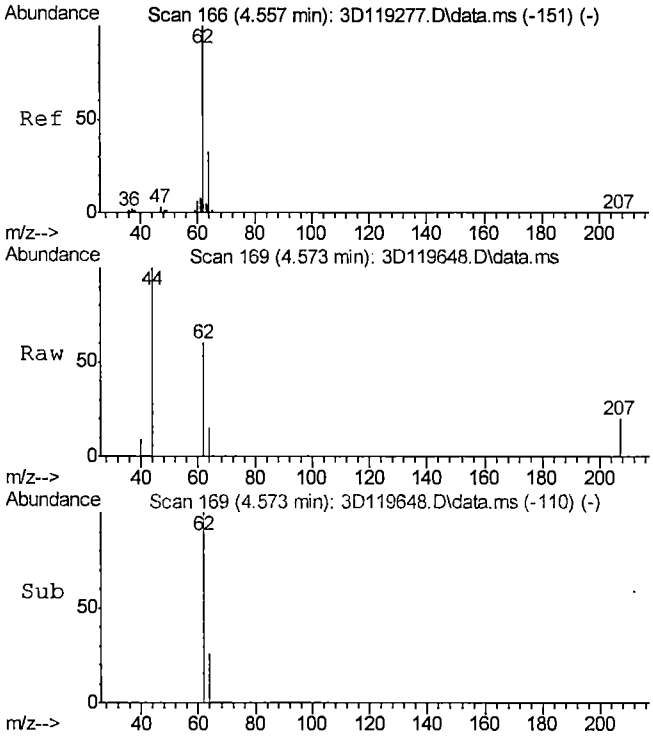
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5105ms-5107\
Data File : 3D119648.D
Acq On : 27 May 2016 3:47 pm
Operator : XimenaC
Sample : jc20564-10
Misc : MS2366,V3D5106,5,,,,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: May 31 14:33:14 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration



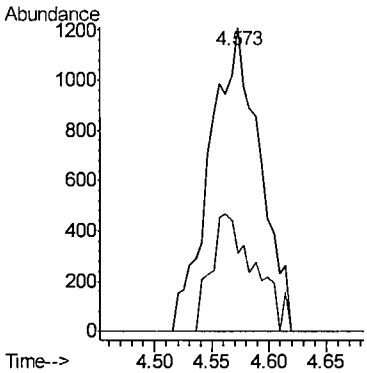
M3D5092.M Tue May 31 15:20:00 2016 ACC-VOA-CLN-05A Page: 2

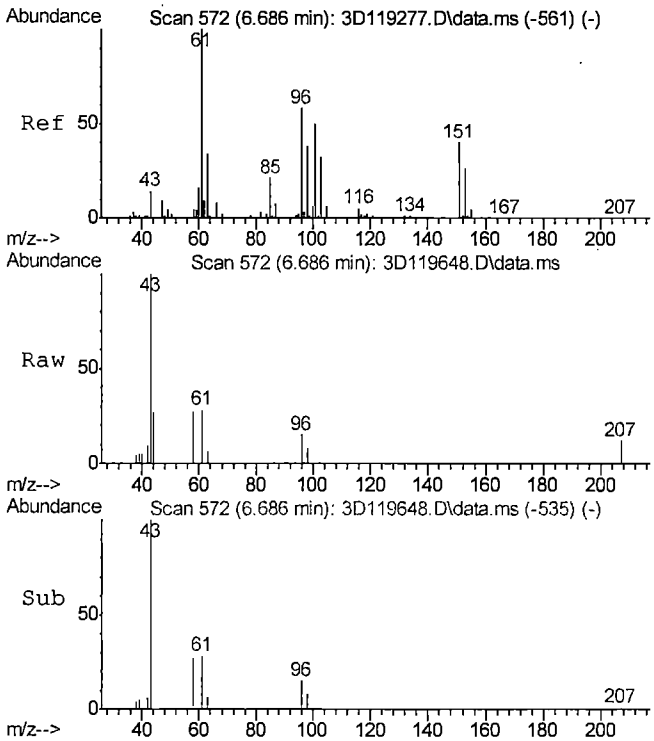


#14
vinyl chloride
Concen: 0.92 ug/L
RT: 4.573 min Scan# 169
Delta R.T. 0.011 min
Lab File: 3D119648.D
Acq: 27 May 2016 3:47 pm

Tgt Ion: 62 Resp: 3678

Ion	Ratio	Lower	Upper
62	100		
64	25.8	1.5	61.5
61	0.0	0.0	38.7

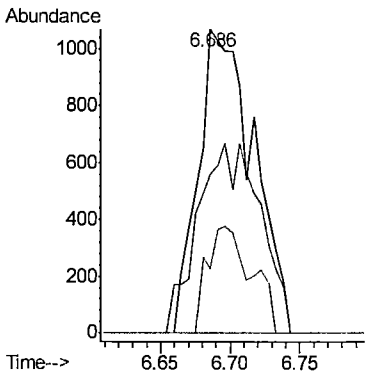




#26
1,1-dichloroethene
Concen: 0.95 ug/L
RT: 6.686 min Scan# 572
Delta R.T. -0.005 min
Lab File: 3D119648.D
Acq: 27 May 2016 3:47 pm

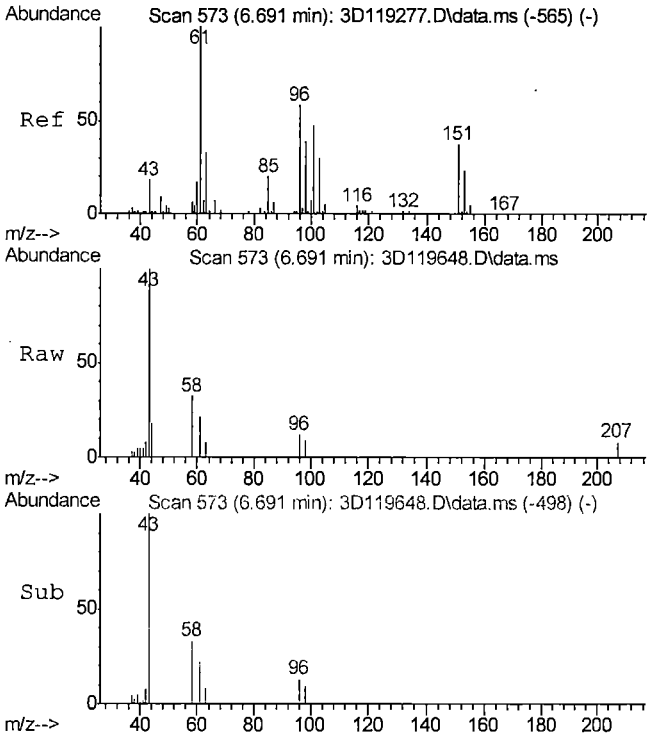
Tgt Ion: 61 Resp: 2955

Ion	Ratio	Lower	Upper
61	100		
96	52.4	29.3	89.3
63	21.3	2.5	62.5



7.1.10

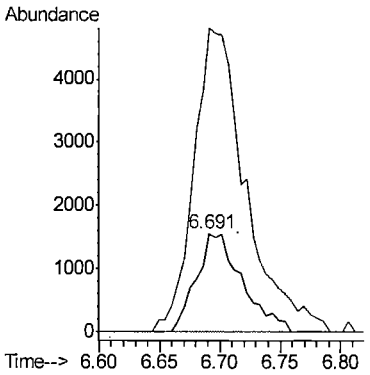
7

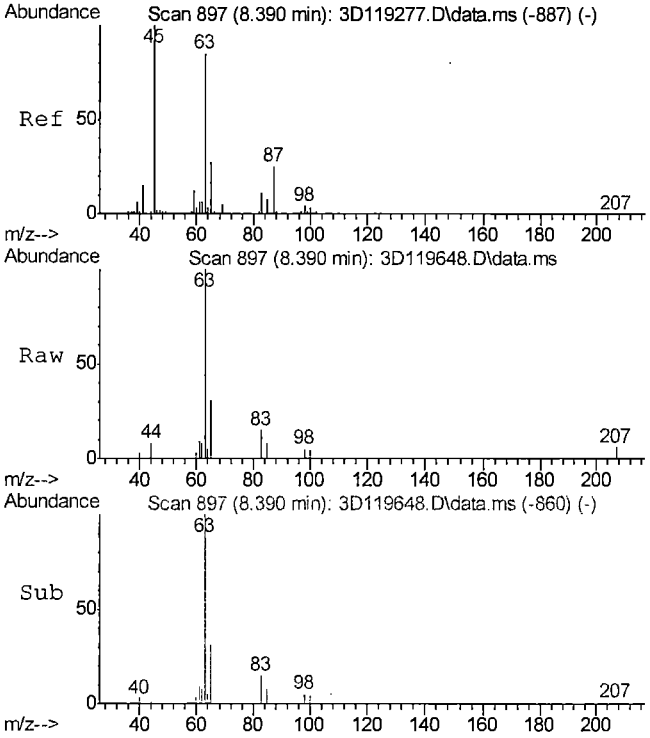


#27
acetone
Concen: 25.21 ug/L
RT: 6.691 min Scan# 573
Delta R.T. -0.005 min
Lab File: 3D119648.D
Acq: 27 May 2016 3:47 pm

Tgt Ion: 58 Resp: 4136

Ion	Ratio	Lower	Upper
58	100		
43	297.1	272.8	332.8

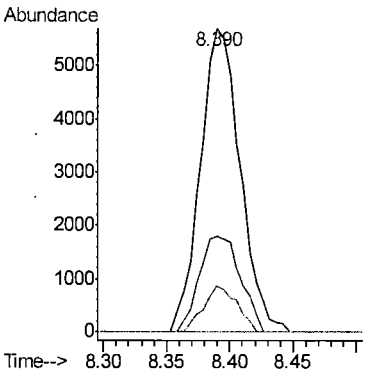




#41
1,1-dichloroethane
Concen: 3.88 ug/L
RT: 8.390 min Scan# 897
Delta R.T. -0.005 min
Lab File: 3D119648.D
Acq: 27 May 2016 3:47 pm

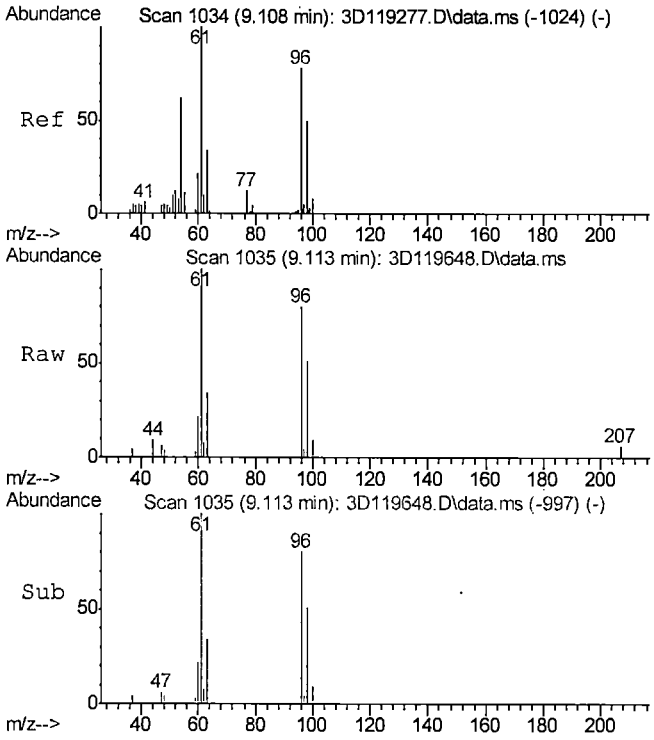
Tgt Ion: 63 Resp: 12457

Ion	Ratio	Lower	Upper
63	100		
65	31.3	1.7	61.7
83	15.0	0.0	43.0



7.1.10

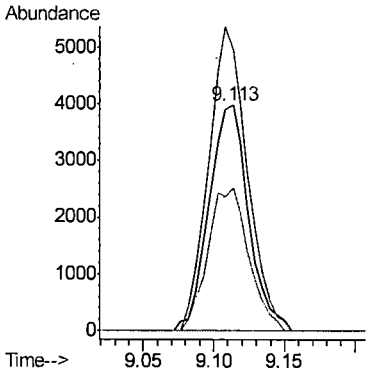
SGS ACCUTEST JC20564

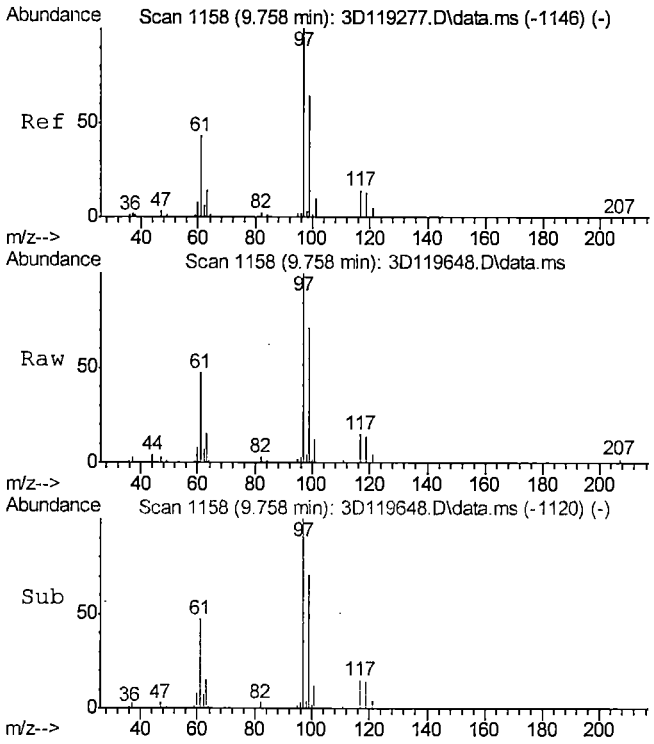


#47
cis-1,2-dichloroethene
Concen: 3.90 ug/L
RT: 9.113 min Scan# 1035
Delta R.T. -0.000 min
Lab File: 3D119648.D
Acq: 27 May 2016 3:47 pm

Tgt Ion: 96 Resp: 7740

Ion	Ratio	Lower	Upper
96	100		
61	124.5	107.2	167.2
98	63.5	34.6	94.6

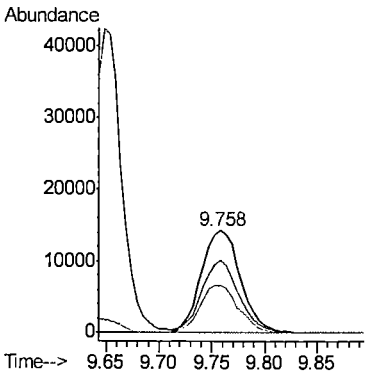




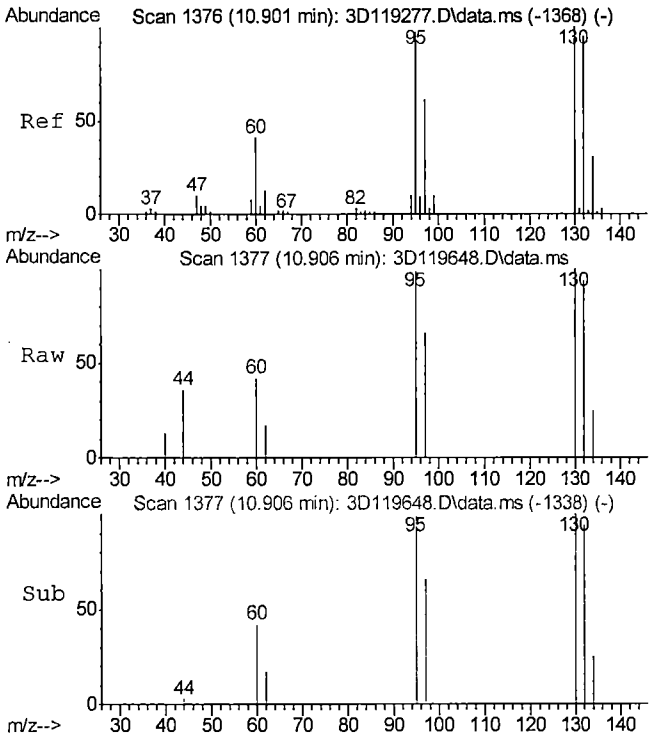
#58
1,1,1-trichloroethane
Concen: 12.19 ug/L
RT: 9.758 min Scan# 1158
Delta R.T. -0.000 min
Lab File: 3D119648.D
Acq: 27 May 2016 3:47 pm

Tgt Ion: 97 Resp: 36705

Ion	Ratio	Lower	Upper
97	100		
99	70.9	32.7	92.7
61	46.6	13.4	73.4



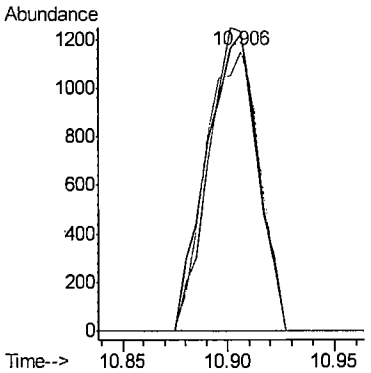
7.1.10 7

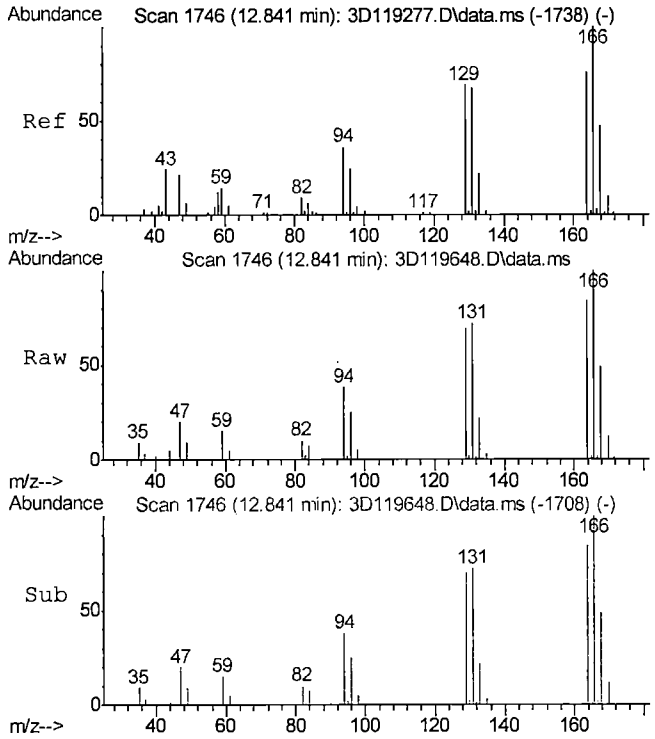


#73
trichloroethene
Concen: 1.33 ug/L
RT: 10.906 min Scan# 1377
Delta R.T. 0.005 min
Lab File: 3D119648.D
Acq: 27 May 2016 3:47 pm

Tgt Ion: 95 Resp: 2059

Ion	Ratio	Lower	Upper
95	100		
130	101.0	72.5	132.5
132	94.4	71.1	131.1

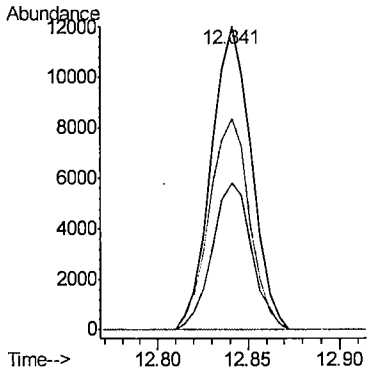




#93
tetrachloroethene
Concen: 10.41 ug/L
RT: 12.841 min Scan# 1746
Delta R.T. -0.000 min
Lab File: 3D119648.D
Acq: 27 May 2016 3:47 pm

Tgt Ion:166 Resp: 18446

Ion	Ratio	Lower	Upper
166	100		
168	48.6	16.2	76.2
129	69.9	37.9	97.9



7.1.10 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5104-5105\
Data File : 3D119602.D
Acq On : 26 May 2016 5:39 pm
Operator : XimenaC
Sample : jc20564-11
Misc : MS2366,V3D5104,5,,,,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: May 27 16:40:07 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Tert Butyl Alcohol-d9	7.367	65	116118	500.00 ug/L	0.00
4) pentafluorobenzene	9.648	168	167800	50.00 ug/L	0.00
62) 1,4-difluorobenzene	10.592	114	229708	50.00 ug/L	0.00
92) chlorobenzene-d5	13.727	117	200535	50.00 ug/L	0.00
108) 1,4-dichlorobenzene-d4	16.055	152	126517	50.00 ug/L	0.00
System Monitoring Compounds					
54) dibromofluoromethane (s)	9.690	113	86218	54.92 ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 109.84%		
55) 1,2-dichloroethane-d4 (s)	10.110	65	86186	55.59 ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 111.18%		
84) toluene-d8 (s)	12.217	98	257624	50.35 ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 100.70%		
110) 4-bromofluorobenzene (s)	14.891	95	94243	48.05 ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 96.10%		
Target Compounds					Qvalue
26) 1,1-dichloroethene	6.696	61	19963	6.65 ug/L	99
41) 1,1-dichloroethane	8.390	63	30529	9.85 ug/L	99
47) cis-1,2-dichloroethene	9.108	96	69823	36.47 ug/L	95
58) 1,1,1-trichloroethane	9.758	97	608202	209.23 ug/L	98

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

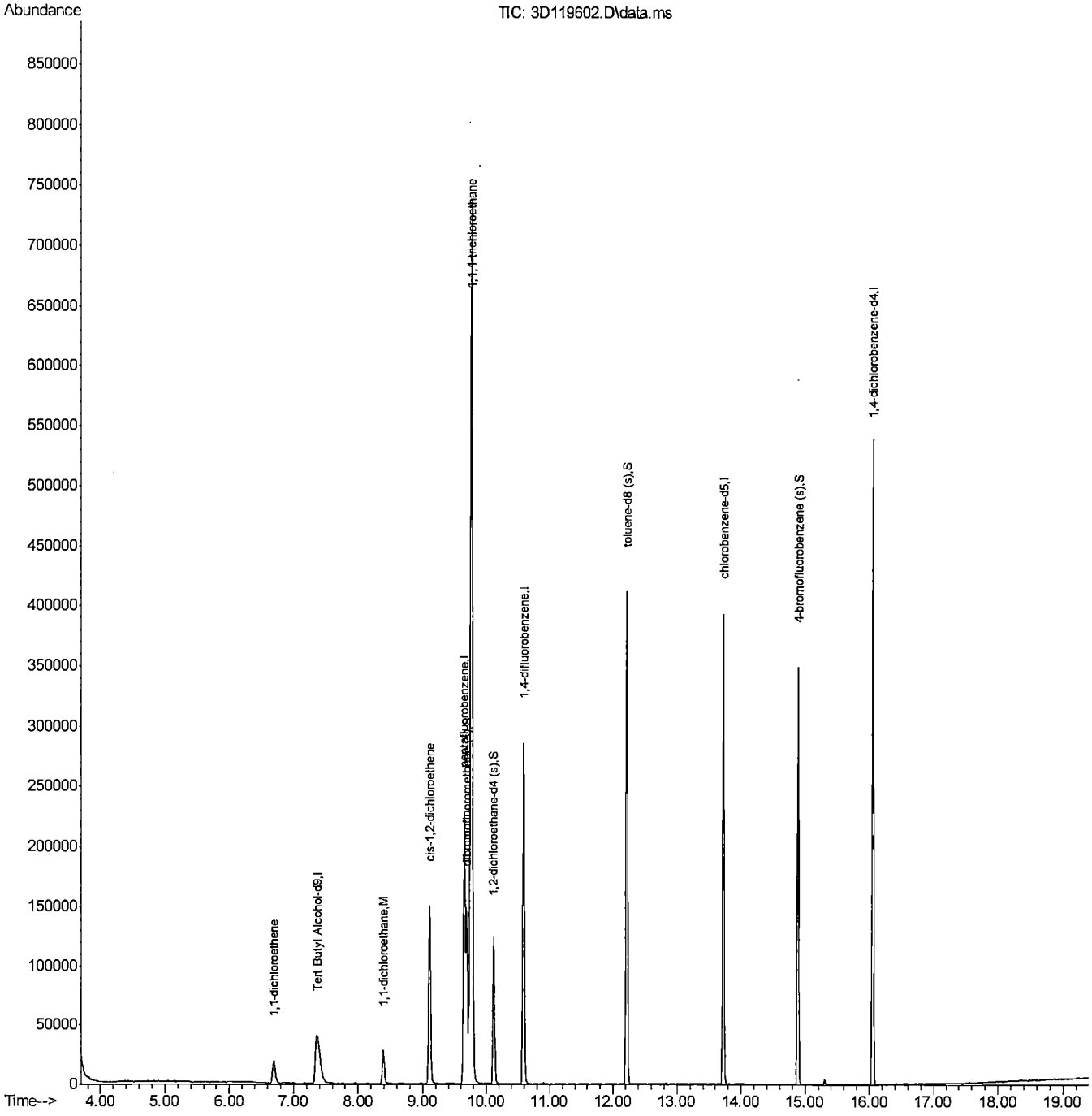
7.1.11

7

Quantitation Report (QT Reviewed)

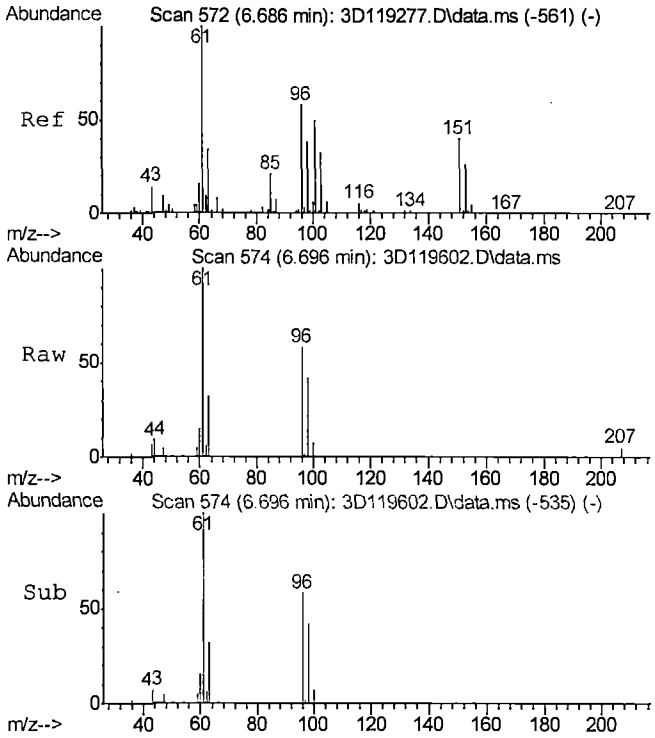
Data Path : C:\msdchem\1\DATA\3D\v3d5104-5105\
Data File : 3D119602.D
Acq On : 26 May 2016 5:39 pm
Operator : XimenaC
Sample : jc20564-11
Misc : MS2366,V3D5104,5,,,,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: May 27 16:40:07 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration



M3D5092.M Fri May 27 16:52:07 2016 ACC-VOA-CLN-05A

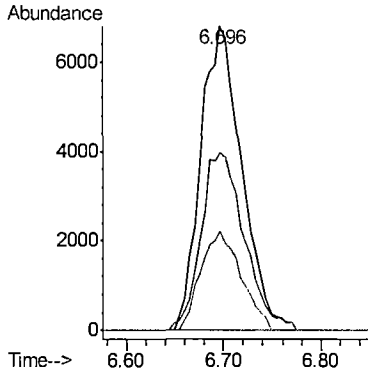
SGS ACCUTEST JC20564

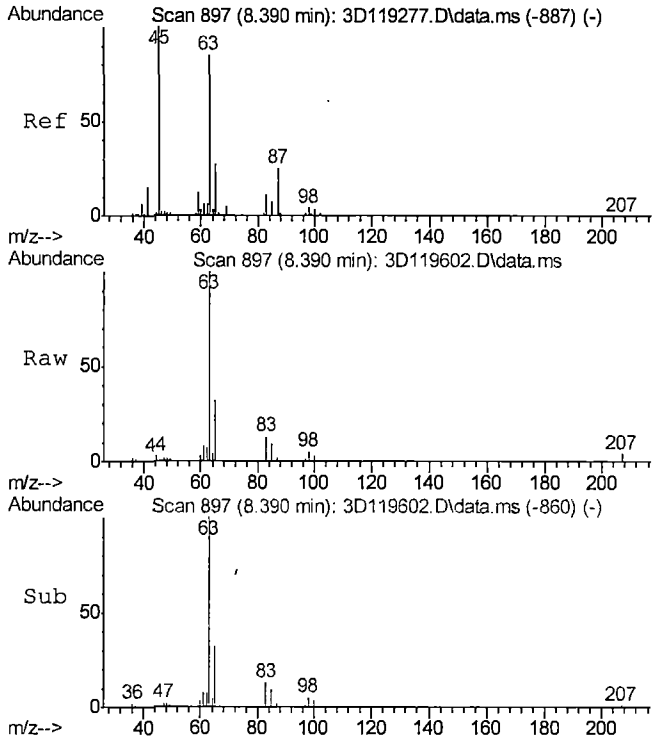


#26
1,1-dichloroethene
Concen: 6.65 ug/L
RT: 6.696 min Scan# 574
Delta R.T. 0.005 min
Lab File: 3D119602.D
Acq: 26 May 2016 5:39 pm

Tgt Ion: 61 Resp: 19963

Ion	Ratio	Lower	Upper
61	100		
96	58.2	29.3	89.3
63	32.5	2.5	62.5

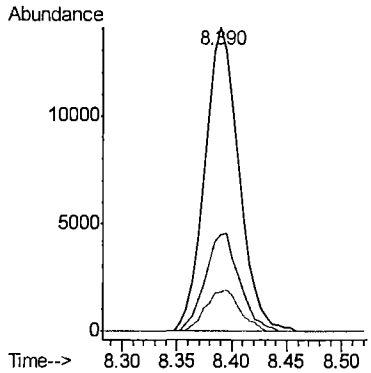




#41
1,1-dichloroethane
Concen: 9.85 ug/L
RT: 8.390 min Scan# 897
Delta R.T. -0.005 min
Lab File: 3D119602.D
Acq: 26 May 2016 5:39 pm

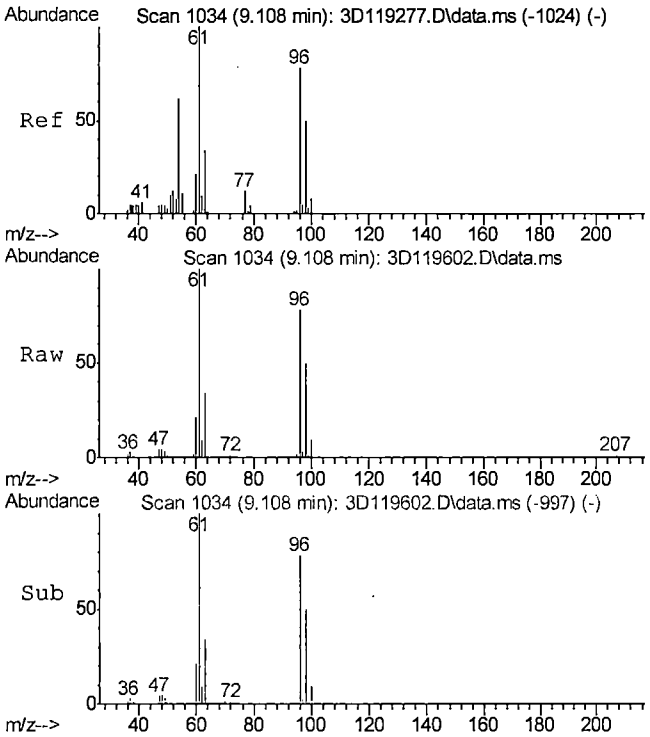
Tgt Ion: 63 Resp: 30529

Ion	Ratio	Lower	Upper
63	100		
65	32.0	1.7	61.7
83	12.7	0.0	43.0



7.1.11

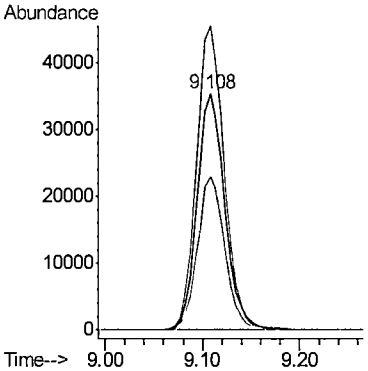
7

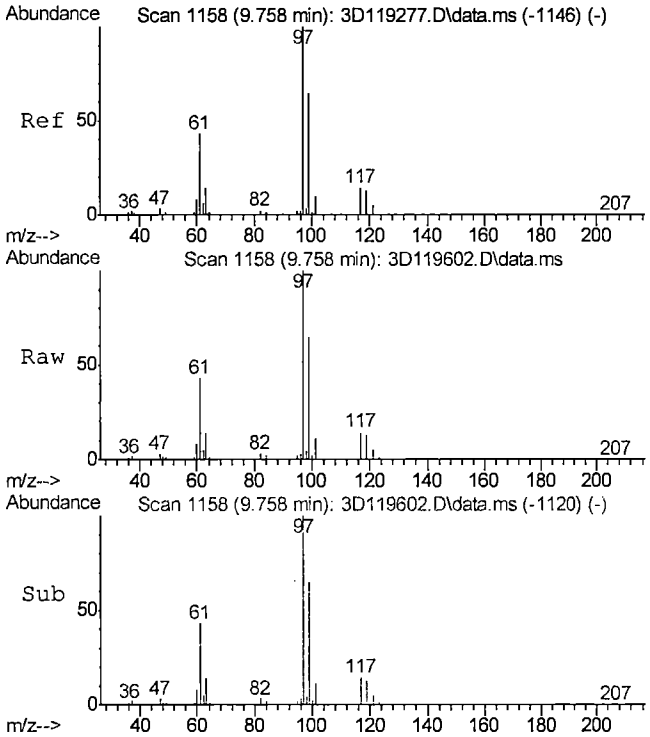


#47
cis-1,2-dichloroethene
Concen: 36.47 ug/L
RT: 9.108 min Scan# 1034
Delta R.T. -0.005 min
Lab File: 3D119602.D
Acq: 26 May 2016 5:39 pm

Tgt Ion: 96 Resp: 69823

Ion	Ratio	Lower	Upper
96	100		
61	128.7	107.2	167.2
98	64.6	34.6	94.6

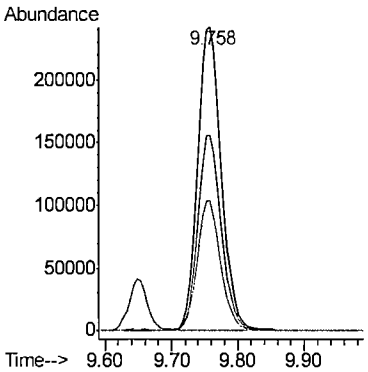




#58
1,1,1-trichloroethane
Concen: 209.23 ug/L
RT: 9.758 min Scan# 1158
Delta R.T. 0.000 min
Lab File: 3D119602.D
Acq: 26 May 2016 5:39 pm

Tgt Ion: 97 Resp: 608202

Ion	Ratio	Lower	Upper
97	100		
99	64.5	32.7	92.7
61	42.7	13.4	73.4



7.1.11

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5105ms-5107\
Data File : 3D119650.D
Acq On : 27 May 2016 4:42 pm
Operator : XimenaC
Sample : jc20564-11
Misc : MS2366,V3D5106,5,,,,10
ALS Vial : 17 Sample Multiplier: 1

Quant Time: May 31 14:36:02 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.373	65	110275	500.00	ug/L	0.00
4) pentafluorobenzene	9.653	168	164267	50.00	ug/L	0.00
62) 1,4-difluorobenzene	10.592	114	227312	50.00	ug/L	0.00
92) chlorobenzene-d5	13.722	117	202383	50.00	ug/L	0.00
108) 1,4-dichlorobenzene-d4	16.050	152	126846	50.00	ug/L	0.00
System Monitoring Compounds						
54) dibromofluoromethane (s)	9.690	113	90100	58.62	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 117.24%			
55) 1,2-dichloroethane-d4 (s)	10.115	65	87730	57.80	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 115.60%			
84) toluene-d8 (s)	12.217	98	260931	51.53	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 103.06%			
110) 4-bromofluorobenzene (s)	14.891	95	95193	48.41	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 96.82%			
Target Compounds						Qvalue
26) 1,1-dichloroethene	6.696	61	3081	1.05	ug/L	92
41) 1,1-dichloroethane	8.395	63	3193	1.05	ug/L	86
47) cis-1,2-dichloroethene	9.108	96	7165	3.82	ug/L	91
58) 1,1,1-trichloroethane	9.758	97	59722	20.99	ug/L	95

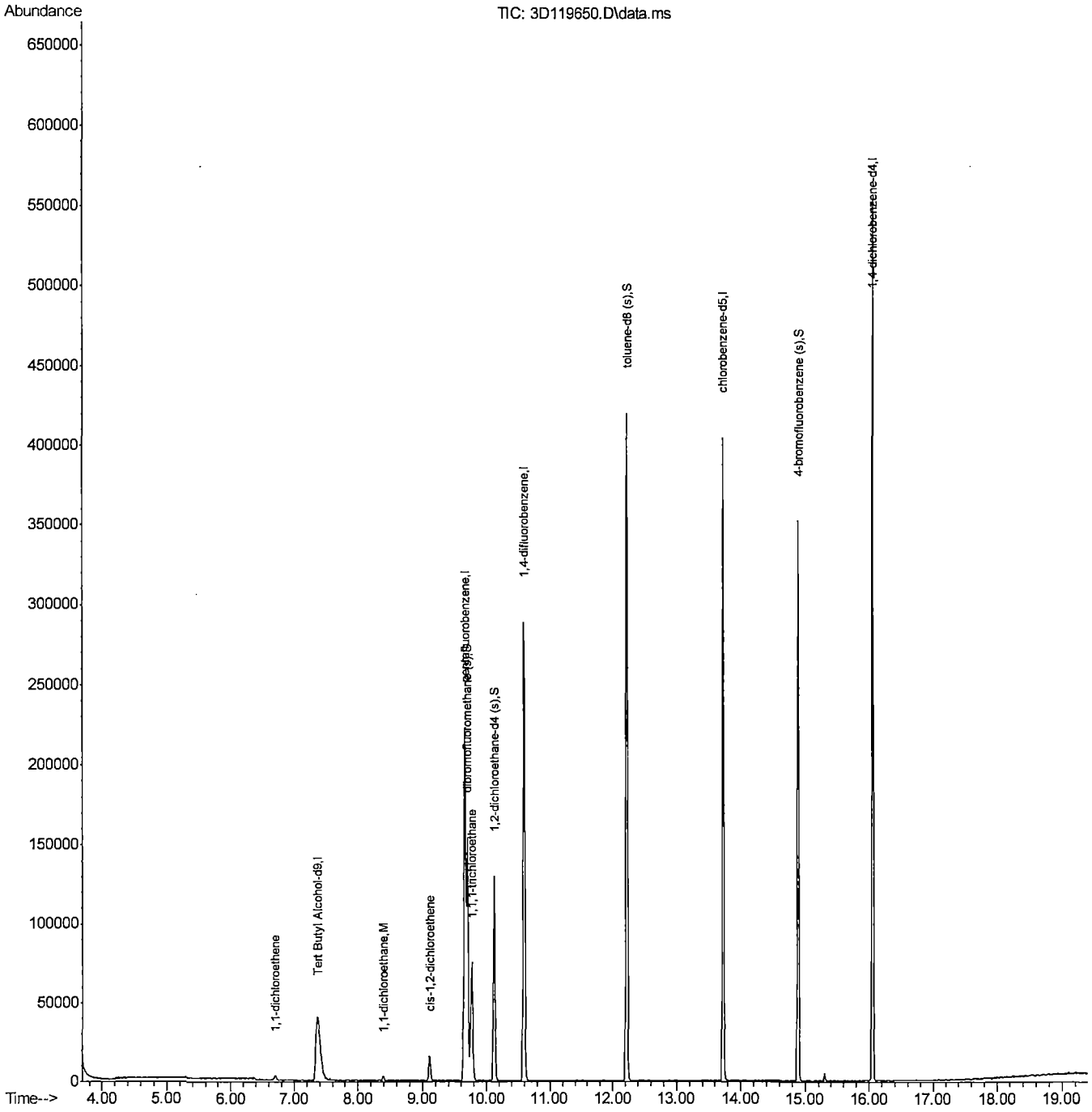
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.12 7

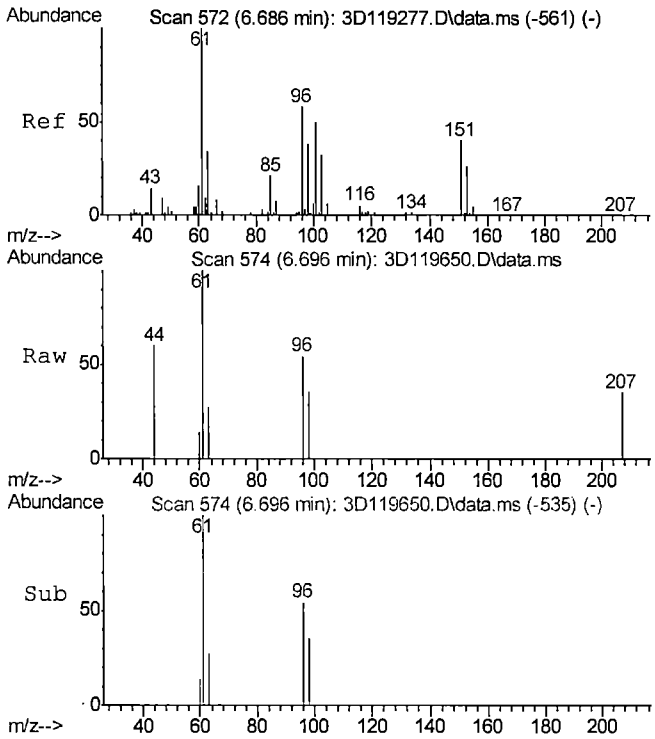
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5105ms-5107\
Data File : 3D119650.D
Acq On : 27 May 2016 4:42 pm
Operator : XimenaC
Sample : jc20564-11
Misc : MS2366,V3D5106,5,,,,10
ALS Vial : 17 Sample Multiplier: 1

Quant Time: May 31 14:36:02 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration



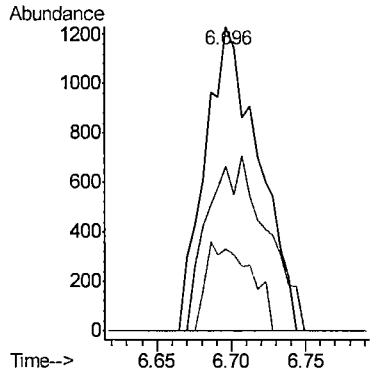
SGS ACCUTEST JC20564

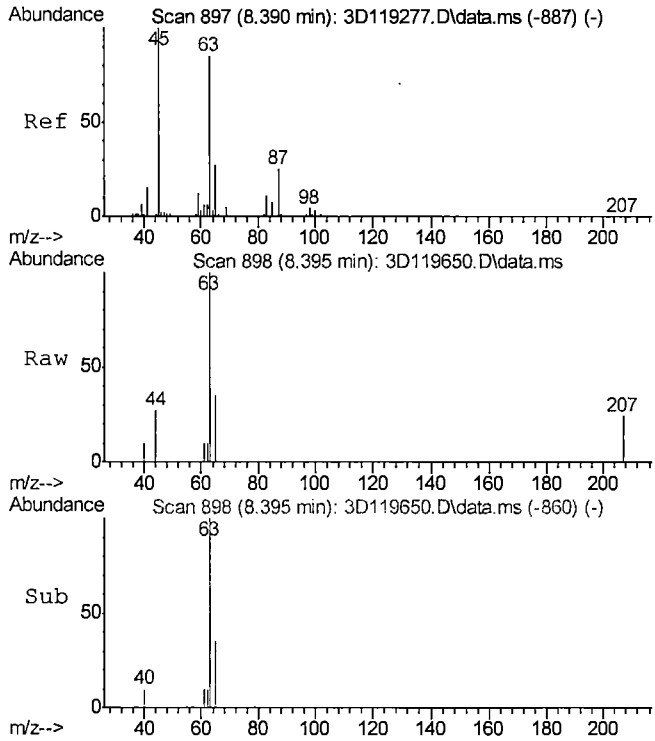


#26
1,1-dichloroethene
Concen: 1.05 ug/L
RT: 6.696 min Scan# 574
Delta R.T. 0.005 min
Lab File: 3D119650.D
Acq: 27 May 2016 4:42 pm

Tgt Ion: 61 Resp: 3081

Ion	Ratio	Lower	Upper
61	100		
96	54.3	29.3	89.3
63	26.9	2.5	62.5

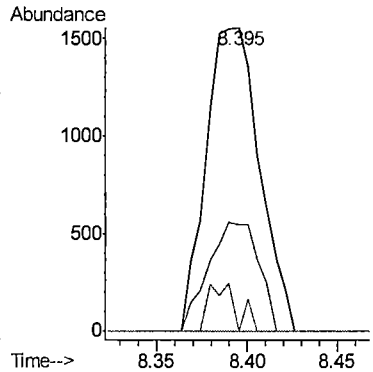


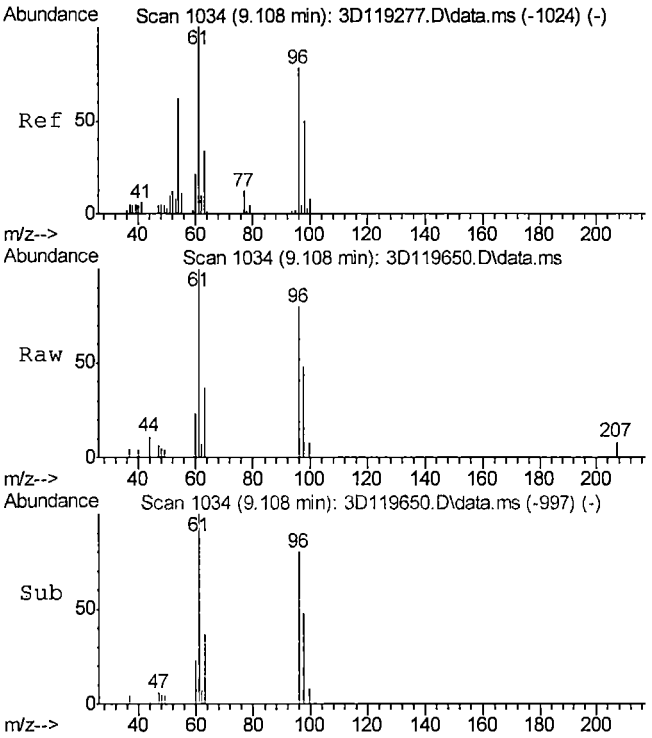


#41
1,1-dichloroethane
Concen: 1.05 ug/L
RT: 8.395 min Scan# 898
Delta R.T. 0.000 min
Lab File: 3D119650.D
Acq: 27 May 2016 4:42 pm

Tgt Ion: 63 Resp: 3193

Ion	Ratio	Lower	Upper
63	100		
65	35.1	1.7	61.7
83	0.0	0.0	43.0

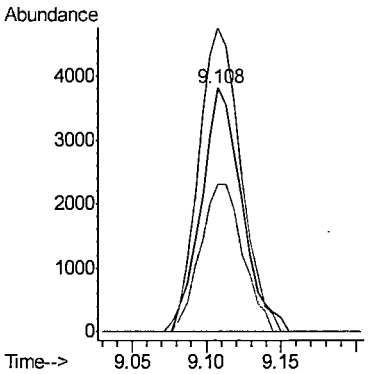


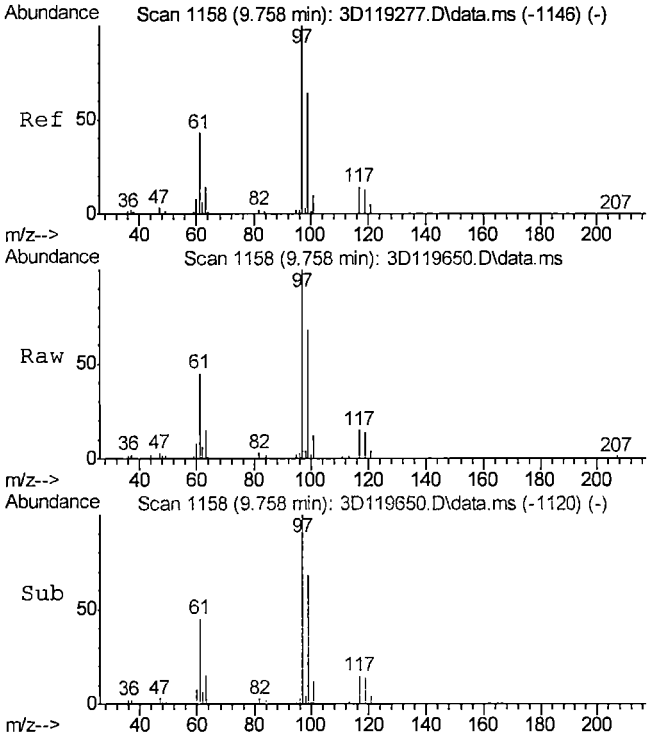


#47
cis-1,2-dichloroethene
Concen: 3.82 ug/L
RT: 9.108 min Scan# 1034
Delta R.T. -0.005 min
Lab File: 3D119650.D
Acq: 27 May 2016 4:42 pm

Tgt Ion: 96 Resp: 7165

Ion	Ratio	Lower	Upper
96	100		
61	124.7	107.2	167.2
98	60.4	34.6	94.6

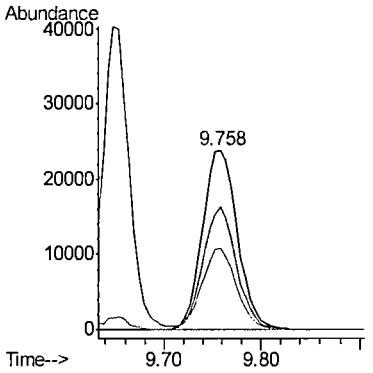




#58
1,1,1-trichloroethane
Concen: 20.99 ug/L
RT: 9.758 min Scan# 1158
Delta R.T. 0.000 min
Lab File: 3D119650.D
Acq: 27 May 2016 4:42 pm

Tgt Ion: 97 Resp: 59722

Ion	Ratio	Lower	Upper
97	100		
99	68.2	32.7	92.7
61	45.3	13.4	73.4



7.1.12

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5103\
Data File : 3D119572.D
Acq On : 25 May 2016 5:46 pm
Operator : XimenaC
Sample : jc20564-12
Misc : MS2366,V3D5103,5,,,,1
ALS Vial : 18 Sample Multiplier: 1

Quant Time: May 26 12:11:43 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.367	65	138490	500.00	ug/L	0.00
4) pentafluorobenzene	9.653	168	237307	50.00	ug/L	0.00
62) 1,4-difluorobenzene	10.592	114	304914	50.00	ug/L	0.00
92) chlorobenzene-d5	13.722	117	263462	50.00	ug/L	0.00
108) 1,4-dichlorobenzene-d4	16.055	152	164799	50.00	ug/L	0.00
System Monitoring Compounds						
54) dibromofluoromethane (s)	9.690	113	114123	51.40	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 102.80%			
55) 1,2-dichloroethane-d4 (s)	10.115	65	109933	50.14	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 100.28%			
84) toluene-d8 (s)	12.217	98	341228	50.24	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 100.48%			
110) 4-bromofluorobenzene (s)	14.891	95	125061	48.95	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 97.90%			
Target Compounds						Qvalue
34) methylene chloride	7.415	84	2292	0.78	ug/L	79
52) chloroform	9.491	83	2261	0.55	ug/L	95

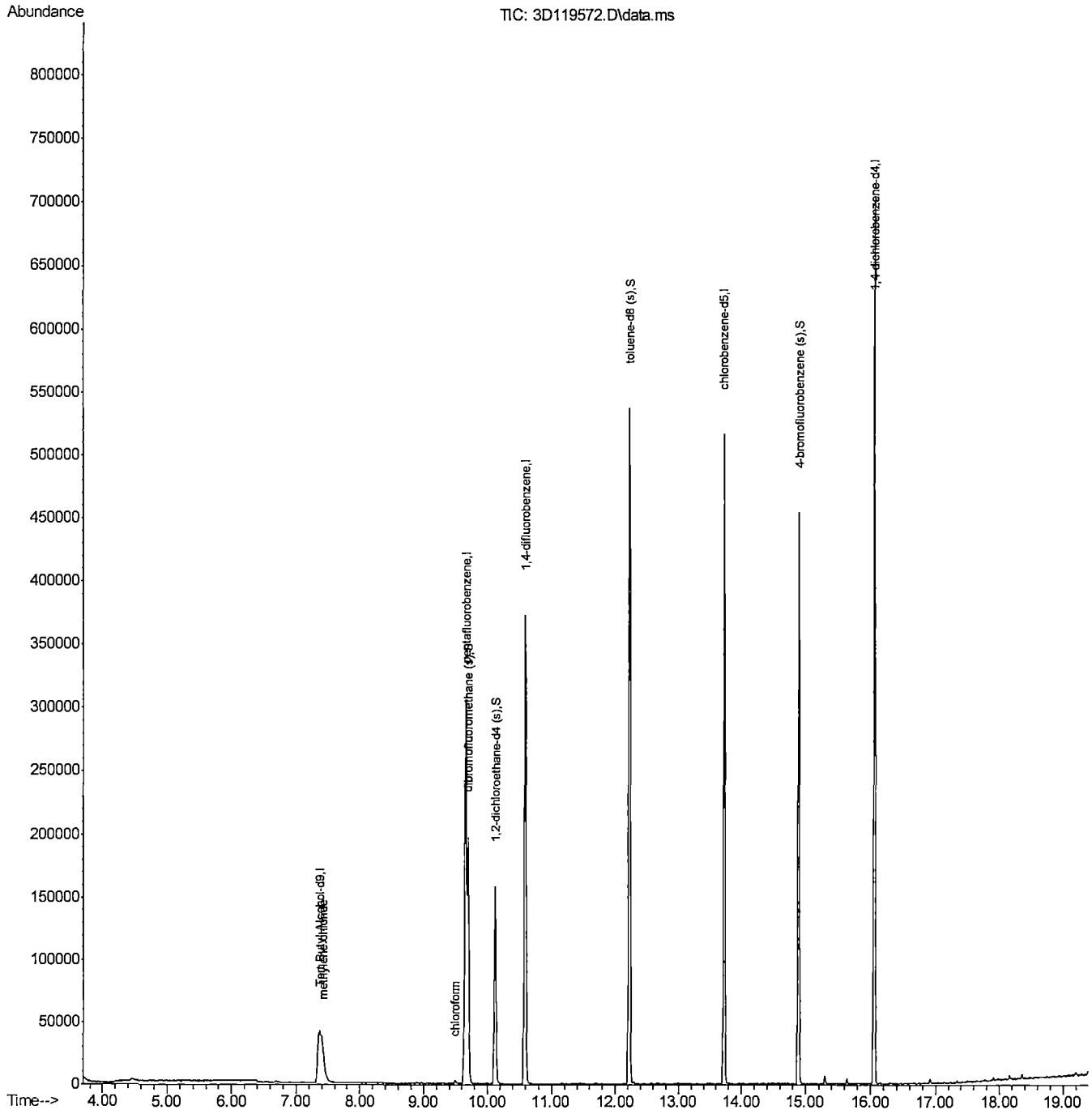
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.13 7

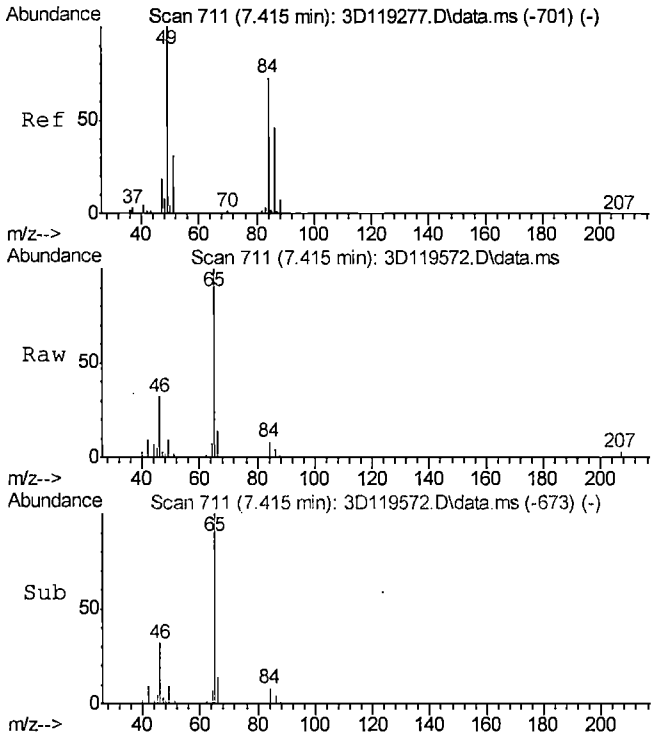
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5103\
Data File : 3D119572.D
Acq On : 25 May 2016 5:46 pm
Operator : XimenaC
Sample : jc20564-12
Misc : MS2366,V3D5103,5,,,,1
ALS Vial : 18 Sample Multiplier: 1

Quant Time: May 26 12:11:43 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration



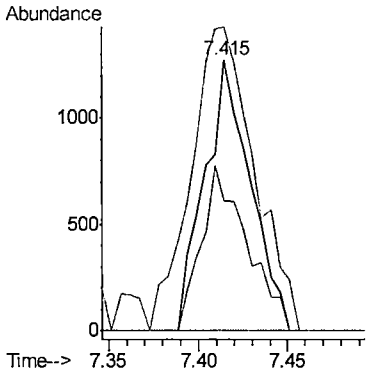
7.1.13 7

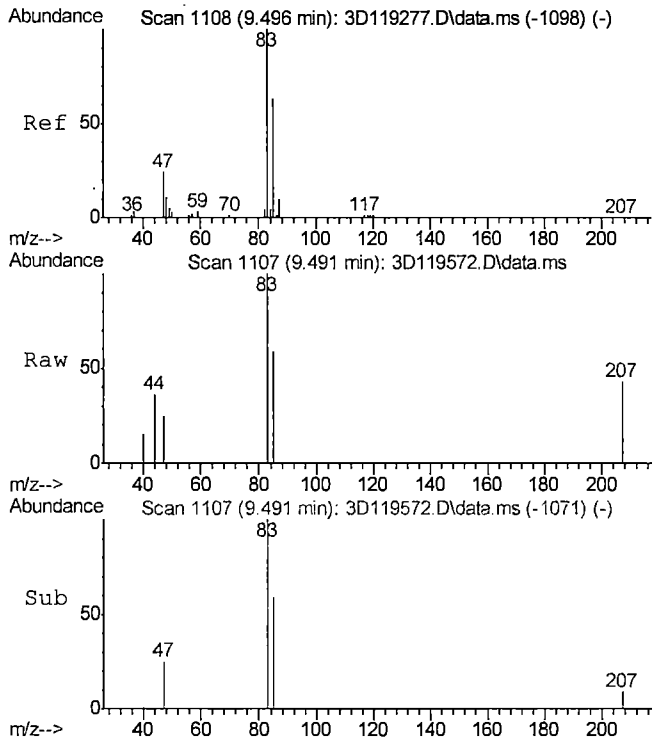


#34
methylene chloride
Concen: 0.78 ug/L
RT: 7.415 min Scan# 711
Delta R.T. -0.000 min
Lab File: 3D119572.D
Acq: 25 May 2016 5:46 pm

Tgt Ion: 84 Resp: 2292

Ion	Ratio	Lower	Upper
84	100		
86	48.3	44.8	83.2
49	112.2	96.5	179.3

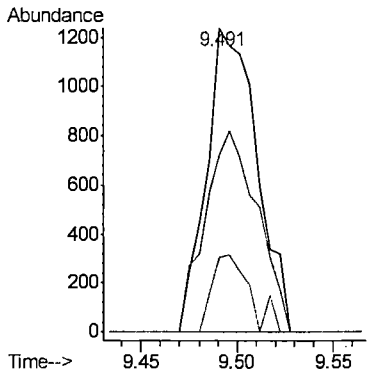




#52
chloroform
Concen: 0.55 ug/L
RT: 9.491 min Scan# 1107
Delta R.T. -0.011 min
Lab File: 3D119572.D
Acq: 25 May 2016 5:46 pm

Tgt Ion: 83 Resp: 2261

Ion	Ratio	Lower	Upper
83	100		
85	58.5	33.3	93.3
47	24.5	0.0	53.8



7.1.13 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5103\
Data File : 3D119573.D
Acq On : 25 May 2016 6:13 pm
Operator : XimenaC
Sample : jc20564-13
Misc : MS2366,V3D5103,5,,,,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: May 26 12:13:26 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.367	65	142870	500.00	ug/L	0.00
4) pentafluorobenzene	9.653	168	230605	50.00	ug/L	0.00
62) 1,4-difluorobenzene	10.592	114	299217	50.00	ug/L	0.00
92) chlorobenzene-d5	13.727	117	262880	50.00	ug/L	0.00
108) 1,4-dichlorobenzene-d4	16.055	152	170317	50.00	ug/L	0.00
System Monitoring Compounds						
54) dibromofluoromethane (s)	9.690	113	114035	52.85	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 105.70%			
55) 1,2-dichloroethane-d4 (s)	10.115	65	109603	51.44	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 102.88%			
84) toluene-d8 (s)	12.217	98	339731	50.97	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 101.94%			
110) 4-bromofluorobenzene (s)	14.891	95	125974	47.71	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 95.42%			
Target Compounds						Qvalue
27) acetone	6.707	58	1500	6.89	ug/L #	53
47) cis-1,2-dichloroethene	9.108	96	1559	0.59	ug/L	85
58) 1,1,1-trichloroethane	9.763	97	20969	5.25	ug/L	95

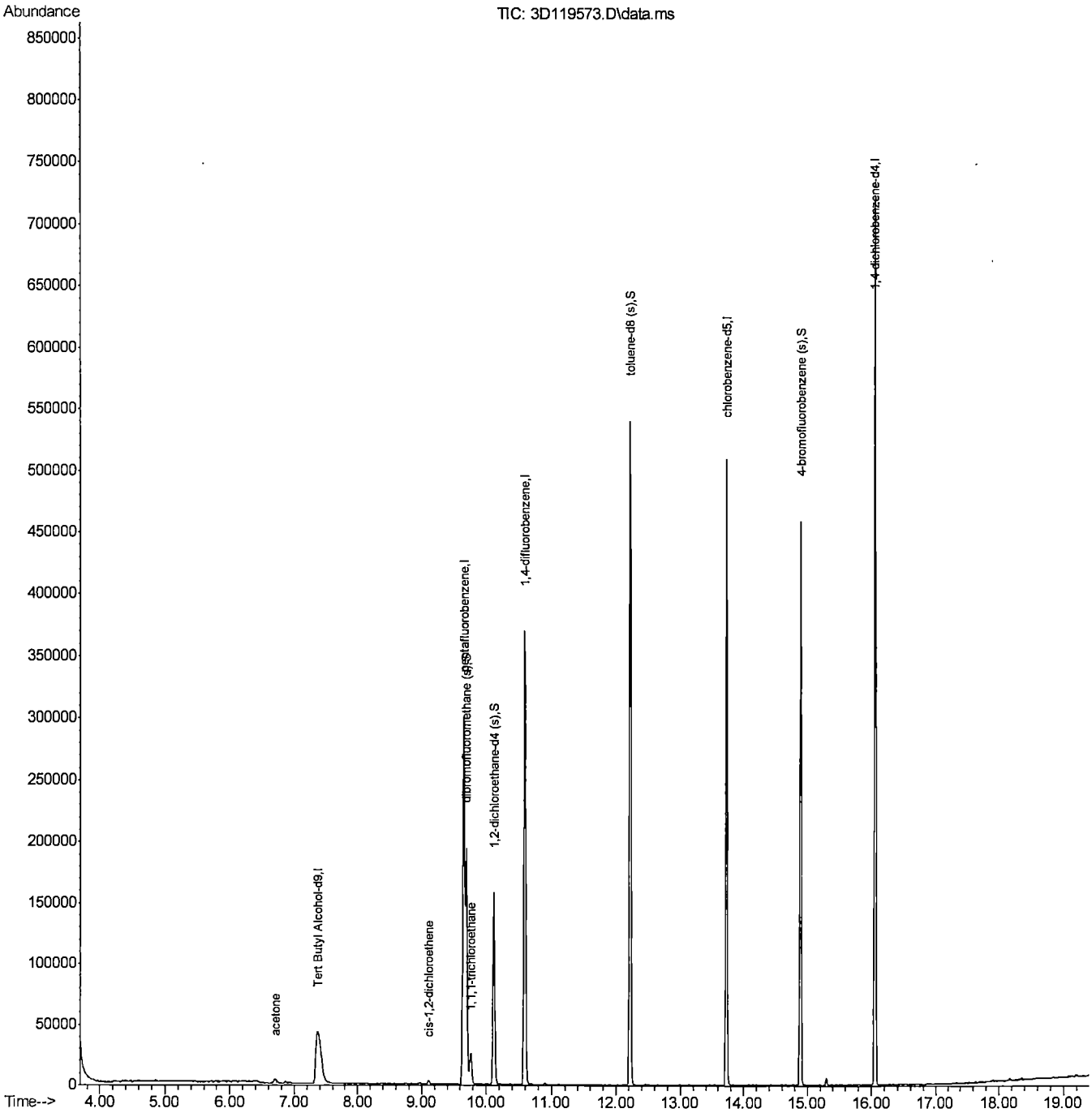
(#) = qualifier out of range (m) = manual integration (+) = signals summed

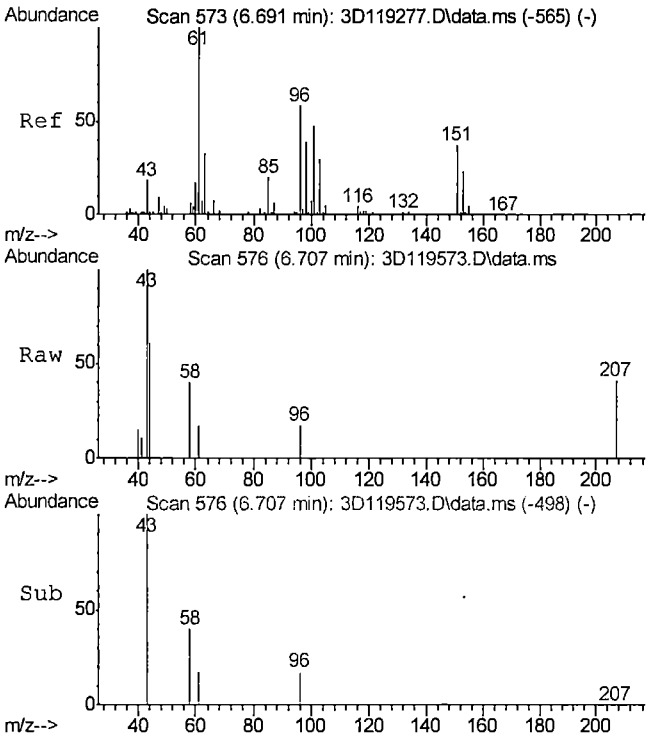
7.1.14 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5103\
Data File : 3D119573.D
Acq On : 25 May 2016 6:13 pm
Operator : XimenaC
Sample : jc20564-13
Misc : MS2366,V3D5103,5,,,,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: May 26 12:13:26 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration

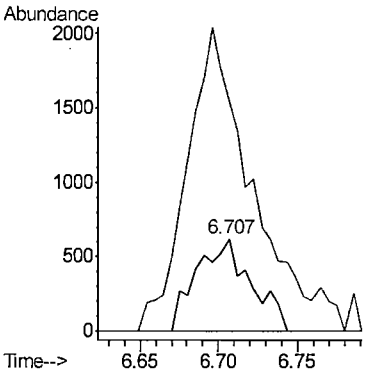


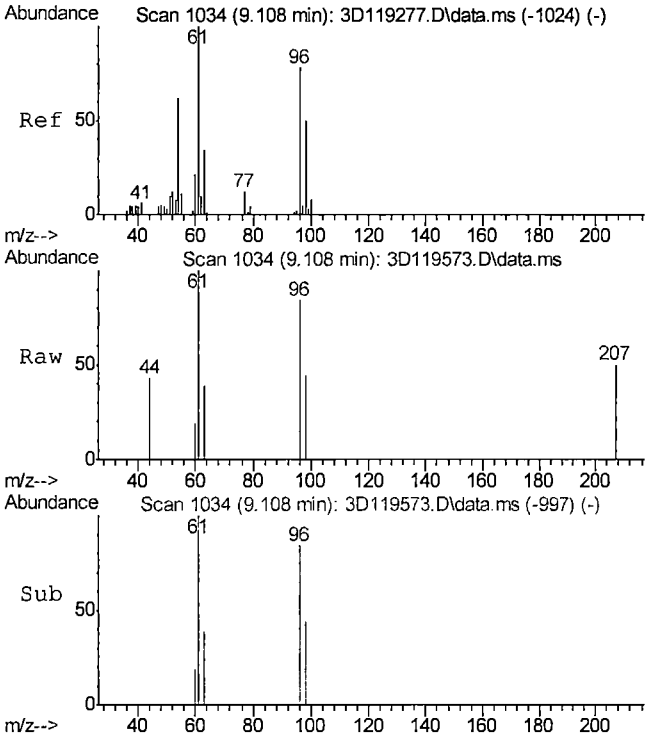


#27
acetone
Concen: 6.89 ug/L
RT: 6.707 min Scan# 576
Delta R.T. 0.010 min
Lab File: 3D119573.D
Acq: 25 May 2016 6:13 pm

Tgt Ion: 58 Resp: 1500

Ion	Ratio	Lower	Upper
58	100		
43	209.6	272.8	332.8#

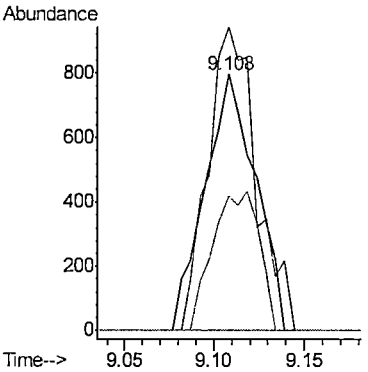




#47
cis-1,2-dichloroethene
Concen: 0.59 ug/L
RT: 9.108 min Scan# 1034
Delta R.T. -0.005 min
Lab File: 3D119573.D
Acq: 25 May 2016 6:13 pm

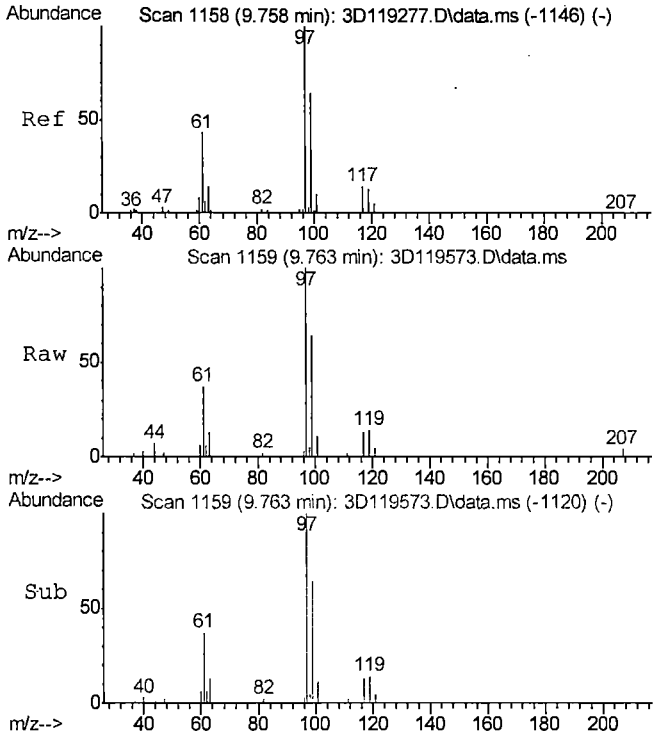
Tgt Ion: 96 Resp: 1559

Ion	Ratio	Lower	Upper
96	100		
61	118.6	107.2	167.2
98	52.7	34.6	94.6



7.1.14 7

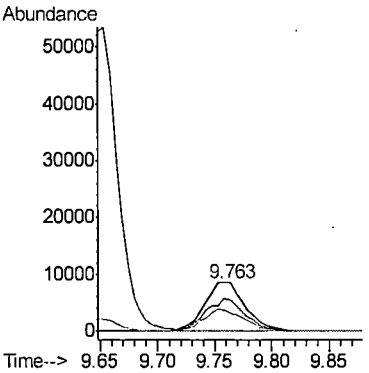
SGS ACCUTEST JC20564



#58
1,1,1-trichloroethane
Concen: 5.25 ug/L
RT: 9.763 min Scan# 1159
Delta R.T. 0.005 min
Lab File: 3D119573.D
Acq: 25 May 2016 6:13 pm

Tgt Ion: 97 Resp: 20969

Ion	Ratio	Lower	Upper
97	100		
99	64.4	32.7	92.7
61	37.2	13.4	73.4



7.1.14

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5103\
Data File : 3D119574.D
Acq On : 25 May 2016 6:41 pm
Operator : XimenaC
Sample : jc20564-14
Misc : MS2366,V3D5103,5,,,,1
ALS Vial : 20 Sample Multiplier: 1

Quant Time: May 26 12:14:50 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Tert Butyl Alcohol-d9	7.357	65	142396	500.00 ug/L	-0.02
4) pentafluorobenzene	9.653	168	223882	50.00 ug/L	0.00
62) 1,4-difluorobenzene	10.592	114	291337	50.00 ug/L	0.00
92) chlorobenzene-d5	13.727	117	258150	50.00 ug/L	0.00
108) 1,4-dichlorobenzene-d4	16.055	152	166643	50.00 ug/L	0.00
System Monitoring Compounds					
54) dibromofluoromethane (s)	9.690	113	110526	52.76 ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 105.52%		
55) 1,2-dichloroethane-d4 (s)	10.115	65	106457	51.46 ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 102.92%		
84) toluene-d8 (s)	12.217	98	332592	51.25 ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 102.50%		
110) 4-bromofluorobenzene (s)	14.891	95	124359	48.14 ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 96.28%		
Target Compounds					Qvalue
26) 1,1-dichloroethene	6.696	61	1802	0.45 ug/L	92
27) acetone	6.691	58	3477	16.46 ug/L	95
41) 1,1-dichloroethane	8.395	63	14522	3.51 ug/L	99
47) cis-1,2-dichloroethene	9.108	96	12860	5.03 ug/L	96
58) 1,1,1-trichloroethane	9.758	97	53191	13.71 ug/L	97
73) trichloroethene	10.901	95	3474	1.85 ug/L	87
93) tetrachloroethene	12.841	166	51349	24.02 ug/L	98

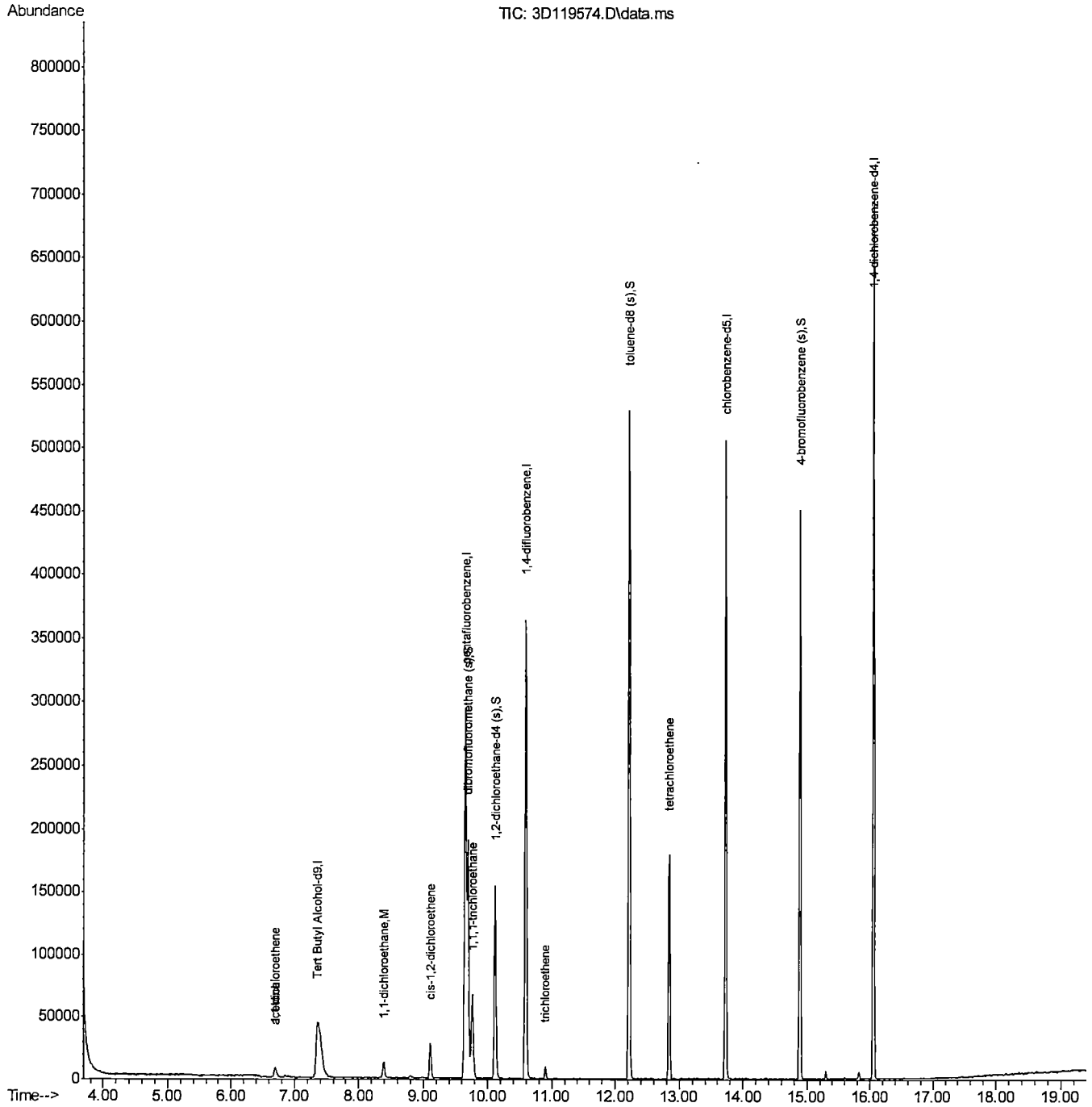
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.15 7

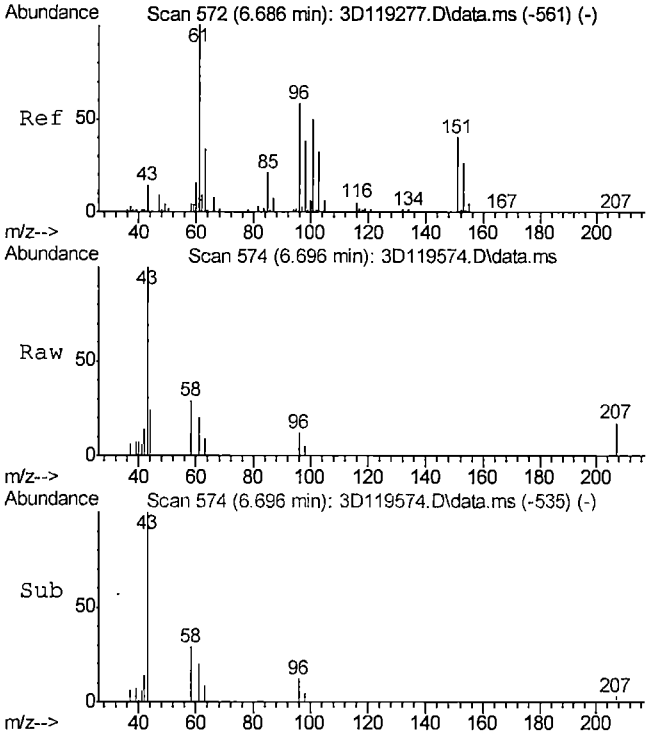
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5103\
Data File : 3D119574.D
Acq On : 25 May 2016 6:41 pm
Operator : XimenaC
Sample : jc20564-14
Misc : MS2366,V3D5103,5,,,,1
ALS Vial : 20 Sample Multiplier: 1

Quant Time: May 26 12:14:50 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration



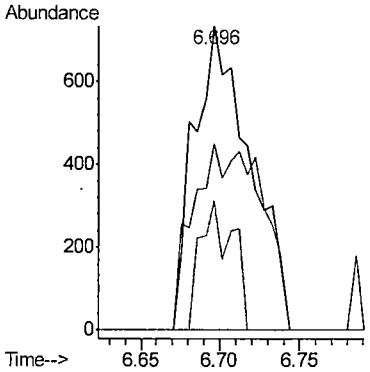
M3D5092.M Thu May 26 12:19:13 2016 ACC-VOA-CLN-05A Page: 2

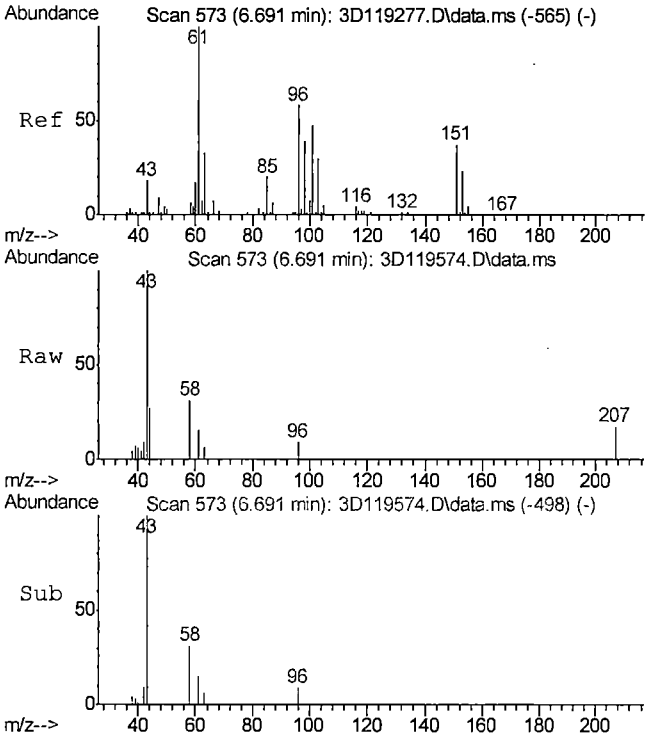


#26
1,1-dichloroethene
Concen: 0.45 ug/L
RT: 6.696 min Scan# 574
Delta R.T. 0.005 min
Lab File: 3D119574.D
Acq: 25 May 2016 6:41 pm

Tgt Ion: 61 Resp: 1802

Ion	Ratio	Lower	Upper
61	100		
96	61.4	29.3	89.3
63	42.4	2.5	62.5

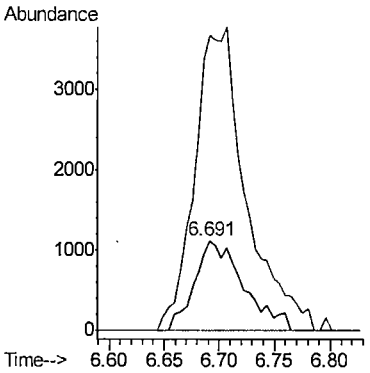




#27
acetone
Concen: 16.46 ug/L
RT: 6.691 min Scan# 573
Delta R.T. -0.005 min
Lab File: 3D119574.D
Acq: 25 May 2016 6:41 pm

Tgt Ion: 58 Resp: 3477

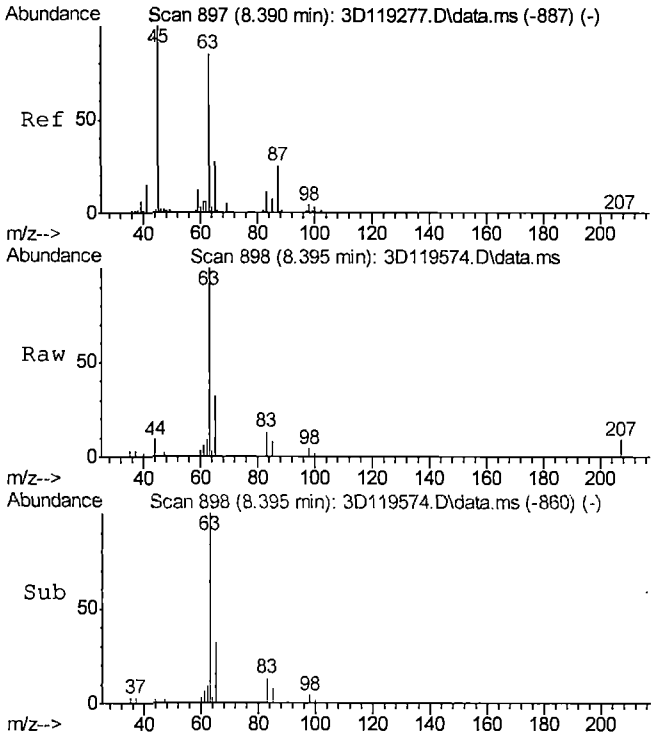
Ion	Ratio	Lower	Upper
58	100		
43	311.7	272.8	332.8



7.1.15

7

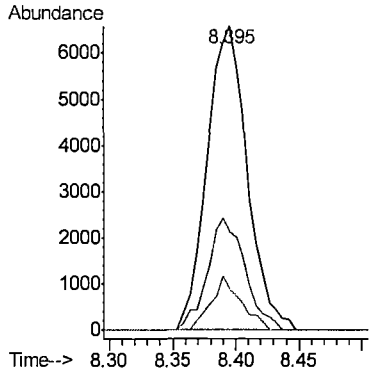
SGS ACCUTEST JC20564

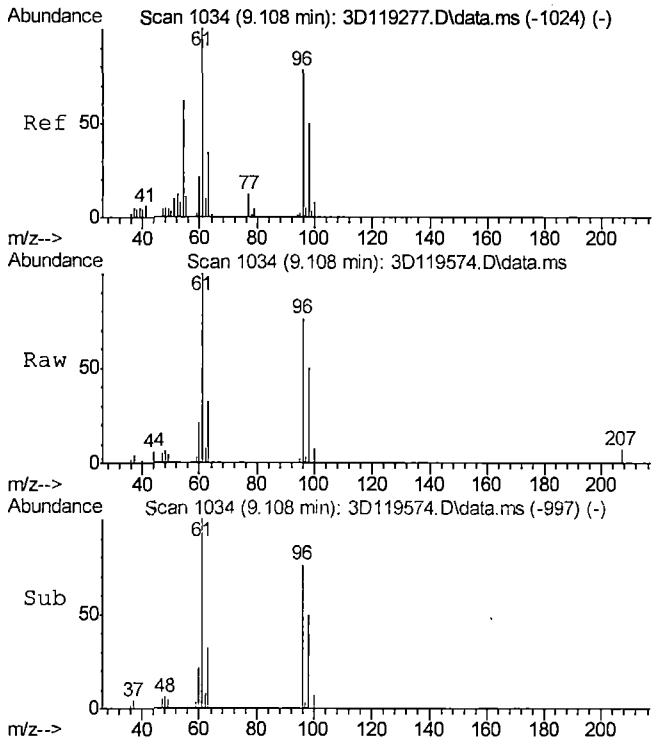


#41
1,1-dichloroethane
Concen: 3.51 ug/L
RT: 8.395 min Scan# 898
Delta R.T. 0.000 min
Lab File: 3D119574.D
Acq: 25 May 2016 6:41 pm

Tgt Ion: 63 Resp: 14522

Ion	Ratio	Lower	Upper
63	100		
65	32.3	1.7	61.7
83	13.3	0.0	43.0

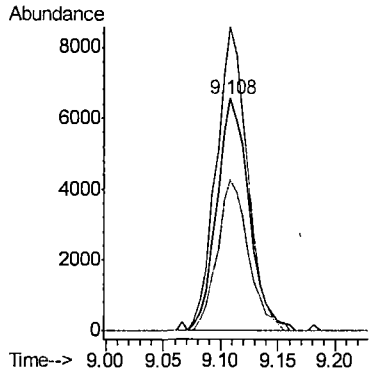




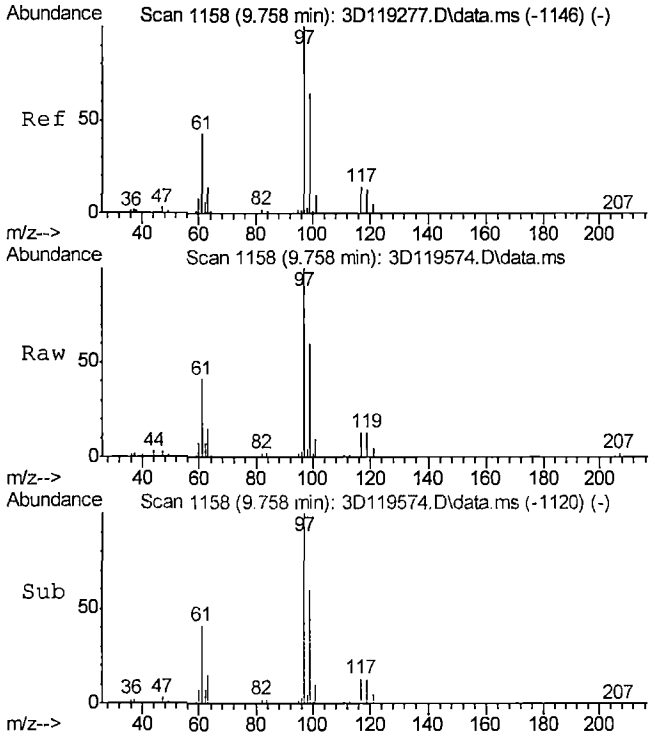
#47
cis-1,2-dichloroethene
Concen: 5.03 ug/L
RT: 9.108 min Scan# 1034
Delta R.T. -0.005 min
Lab File: 3D119574.D
Acq: 25 May 2016 6:41 pm

Tgt Ion: 96 Resp: 12860

Ion	Ratio	Lower	Upper
96	100		
61	130.9	107.2	167.2
98	64.9	34.6	94.6



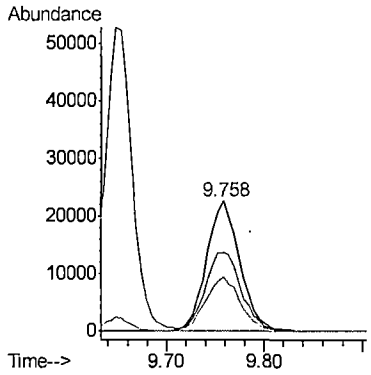
7.1.15 7

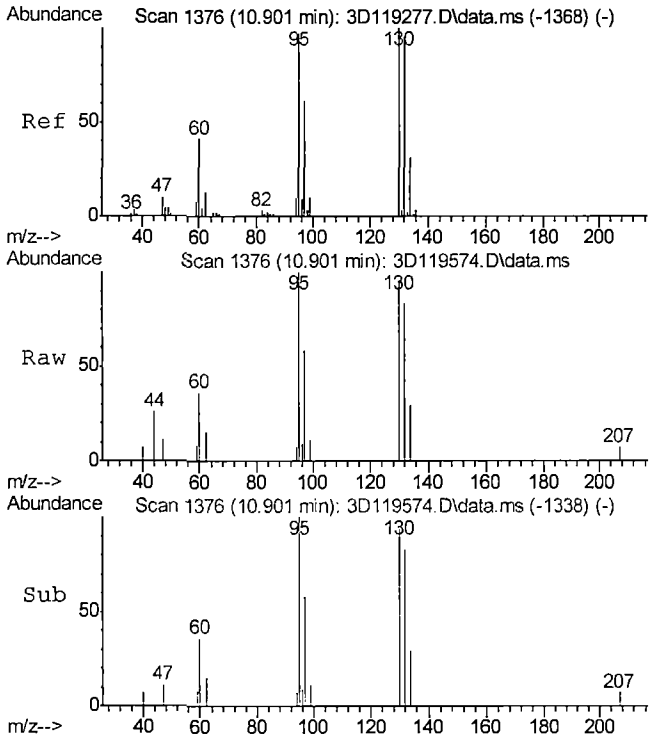


#58
1,1,1-trichloroethane
Concen: 13.71 ug/L
RT: 9.758 min Scan# 1158
Delta R.T. 0.000 min
Lab File: 3D119574.D
Acq: 25 May 2016 6:41 pm

Tgt Ion: 97 Resp: 53191

Ion	Ratio	Lower	Upper
97	100		
99	60.4	32.7	92.7
61	41.4	13.4	73.4

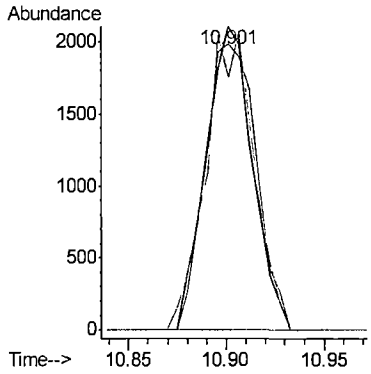




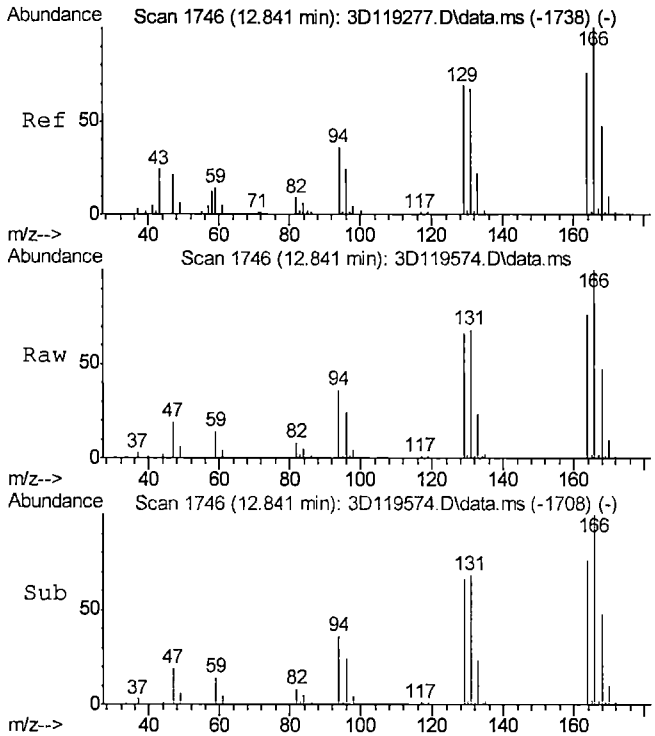
#73
trichloroethene
Concen: 1.85 ug/L
RT: 10.901 min Scan# 1376
Delta R.T. 0.000 min
Lab File: 3D119574.D
Acq: 25 May 2016 6:41 pm

Tgt Ion: 95 Resp: 3474

Ion	Ratio	Lower	Upper
95	100		
130	94.5	72.5	132.5
132	83.2	71.1	131.1



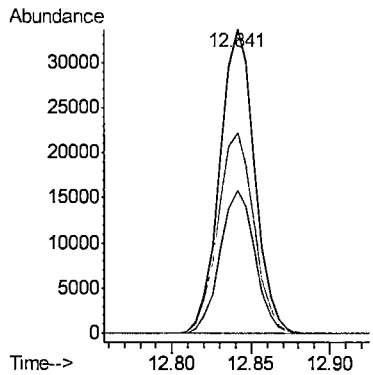
7.1.15 7



#93
tetrachloroethene
Concen: 24.02 ug/L
RT: 12.841 min Scan# 1746
Delta R.T. 0.000 min
Lab File: 3D119574.D
Acq: 25 May 2016 6:41 pm

Tgt Ion:166 Resp: 51349

Ion	Ratio	Lower	Upper
166	100		
168	47.0	16.2	76.2
129	66.1	37.9	97.9



7.1.15 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5103\
Data File : 3D119575.D
Acq On : 25 May 2016 7:08 pm
Operator : XimenaC
Sample : jc20564-15
Misc : MS2366,V3D5103,5,,,,1
ALS Vial : 21 Sample Multiplier: 1

Quant Time: May 26 12:15:42 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.362	65	137017	500.00	ug/L	-0.01
4) pentafluorobenzene	9.653	168	212344	50.00	ug/L	0.00
62) 1,4-difluorobenzene	10.592	114	281509	50.00	ug/L	0.00
92) chlorobenzene-d5	13.727	117	254069	50.00	ug/L	0.00
108) 1,4-dichlorobenzene-d4	16.055	152	161601	50.00	ug/L	0.00
System Monitoring Compounds						
54) dibromofluoromethane (s)	9.690	113	104569	52.63	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 105.26%			
55) 1,2-dichloroethane-d4 (s)	10.115	65	104680	53.35	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 106.70%			
84) toluene-d8 (s)	12.217	98	321589	51.28	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 102.56%			
110) 4-bromofluorobenzene (s)	14.891	95	121196	48.38	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 96.76%			
Target Compounds						Qvalue
41) 1,1-dichloroethane	8.390	63	900	0.23	ug/L	86
47) cis-1,2-dichloroethene	9.113	96	980	0.40	ug/L #	74
58) 1,1,1-trichloroethane	9.753	97	949	0.26	ug/L	85

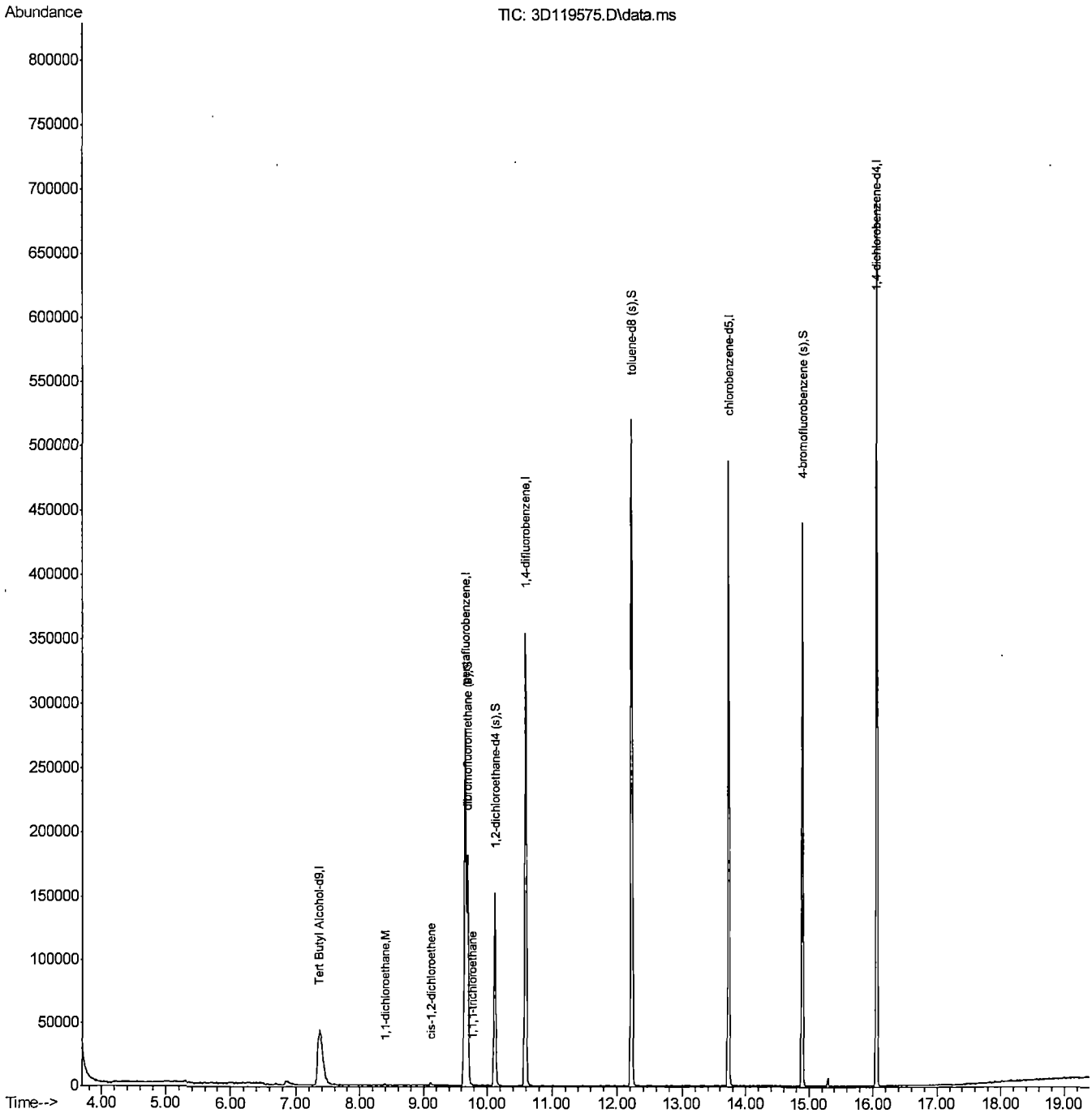
(#) = qualifier out of range (m) = manual integration (+) = signals summed

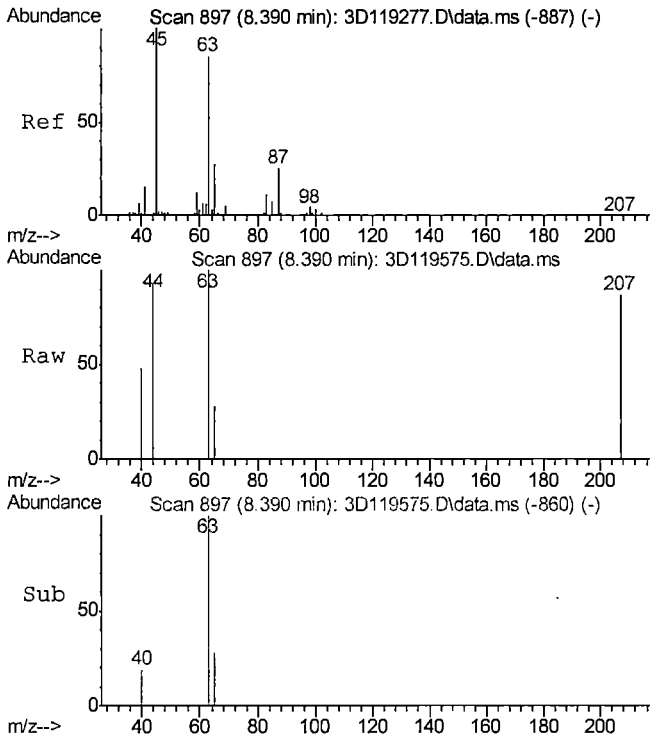
7.1.16 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5103\
Data File : 3D119575.D
Acq On : 25 May 2016 7:08 pm
Operator : XimenaC
Sample : jc20564-15
Misc : MS2366,V3D5103,5,,,,1
ALS Vial : 21 Sample Multiplier: 1

Quant Time: May 26 12:15:42 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration

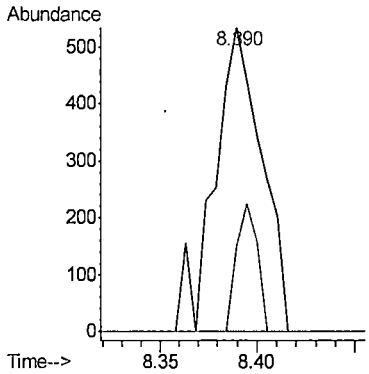


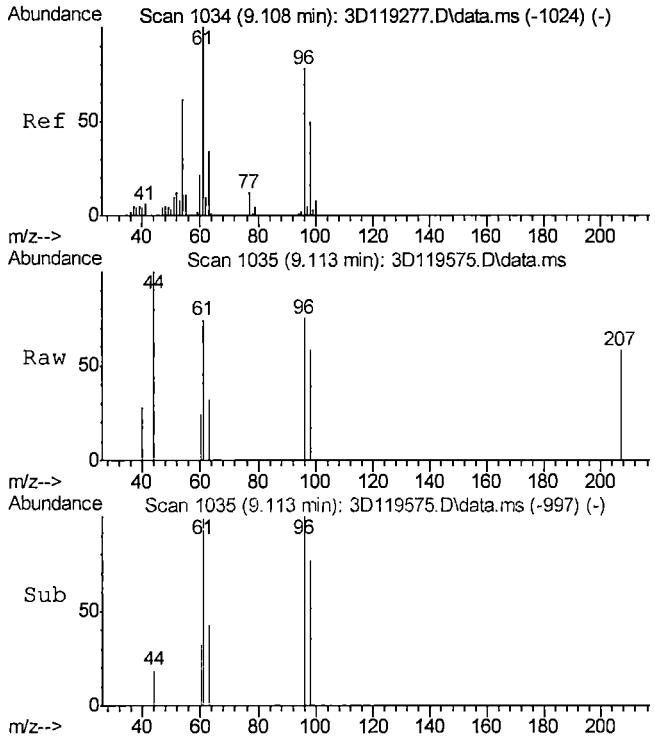


#41
1,1-dichloroethane
Concen: 0.23 ug/L
RT: 8.390 min Scan# 897
Delta R.T. -0.005 min
Lab File: 3D119575.D
Acq: 25 May 2016 7:08 pm

Tgt Ion: 63 Resp: 900

Ion	Ratio	Lower	Upper
63	100		
65	28.1	1.7	61.7
83	0.0	0.0	43.0

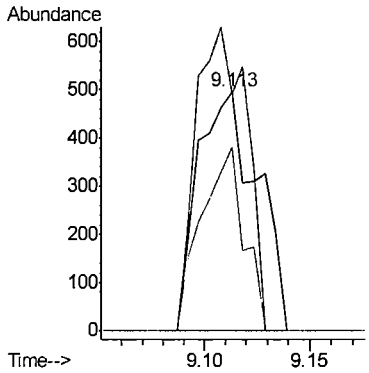




#47
cis-1,2-dichloroethene
Concen: 0.40 ug/L
RT: 9.113 min Scan# 1035
Delta R.T. -0.000 min
Lab File: 3D119575.D
Acq: 25 May 2016 7:08 pm

Tgt Ion: 96 Resp: 980

Ion	Ratio	Lower	Upper
96	100		
61	99.2	107.2	167.2#
98	76.8	34.6	94.6



7.1.16

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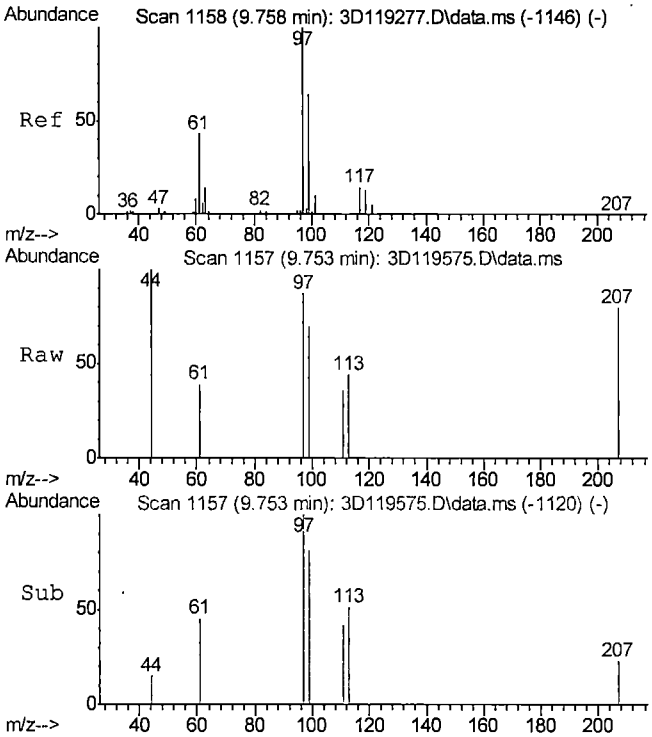
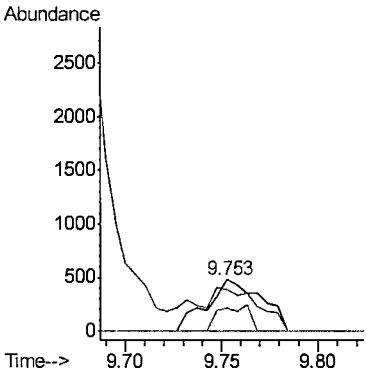
SGS ACCUTEST JC20564



#58
1,1,1-trichloroethane
Concen: 0.26 ug/L
RT: 9.753 min Scan# 1157
Delta R.T. -0.005 min
Lab File: 3D119575.D
Acq: 25 May 2016 7:08 pm

Tgt Ion: 97 Resp: 949

Ion	Ratio	Lower	Upper
97	100		
99	81.0	32.7	92.7
61	45.1	13.4	73.4



7.1.16

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SGS ACCUTEST JC20564

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5103\
Data File : 3D119562.D
Acq On : 25 May 2016 12:55 pm
Operator : XimenaC
Sample : jc20564-16
Misc : MS2366,V3D5103,5,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 26 11:35:22 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Tert Butyl Alcohol-d9	7.362	65	141655	500.00 ug/L	-0.01
4) pentafluorobenzene	9.648	168	207274	50.00 ug/L	0.00
62) 1,4-difluorobenzene	10.592	114	281308	50.00 ug/L	0.00
92) chlorobenzene-d5	13.727	117	255471	50.00 ug/L	0.00
108) 1,4-dichlorobenzene-d4	16.055	152	160830	50.00 ug/L	0.00
System Monitoring Compounds					
54) dibromofluoromethane (s)	9.690	113	103770	53.51 ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 107.02%		
55) 1,2-dichloroethane-d4 (s)	10.115	65	104419	54.52 ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 109.04%		
84) toluene-d8 (s)	12.217	98	323974	51.70 ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 103.40%		
110) 4-bromofluorobenzene (s)	14.891	95	121292	48.65 ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 97.30%		
Target Compounds					Qvalue
41) 1,1-dichloroethane	8.390	63	5637	1.47 ug/L	99
47) cis-1,2-dichloroethene	9.108	96	982	0.42 ug/L	95
58) 1,1,1-trichloroethane	9.758	97	9364	2.61 ug/L	96
93) tetrachloroethene	12.841	166	907	0.43 ug/L	92

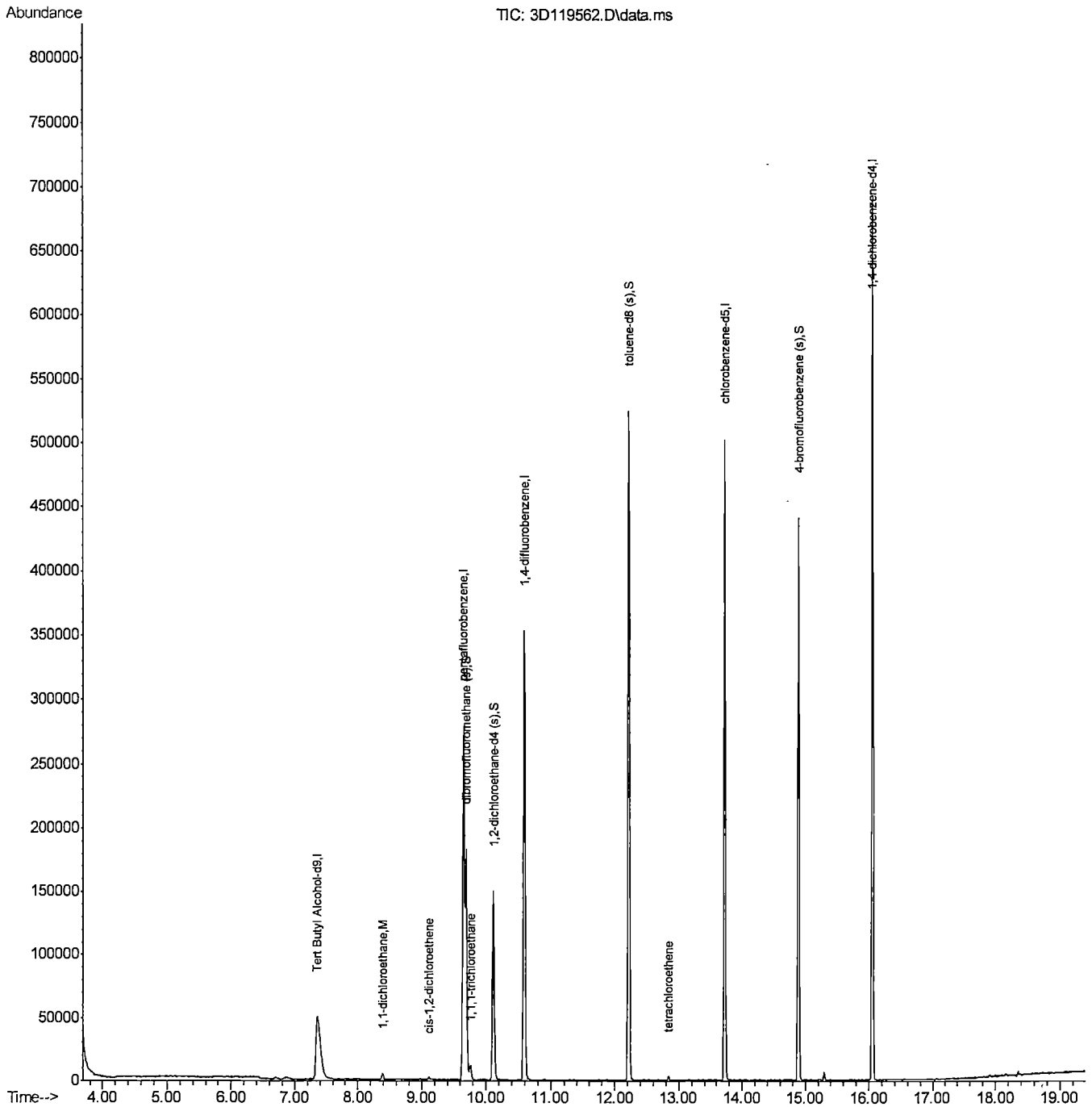
(#) = qualifier out of range (m) = manual integration (+) = signals summed

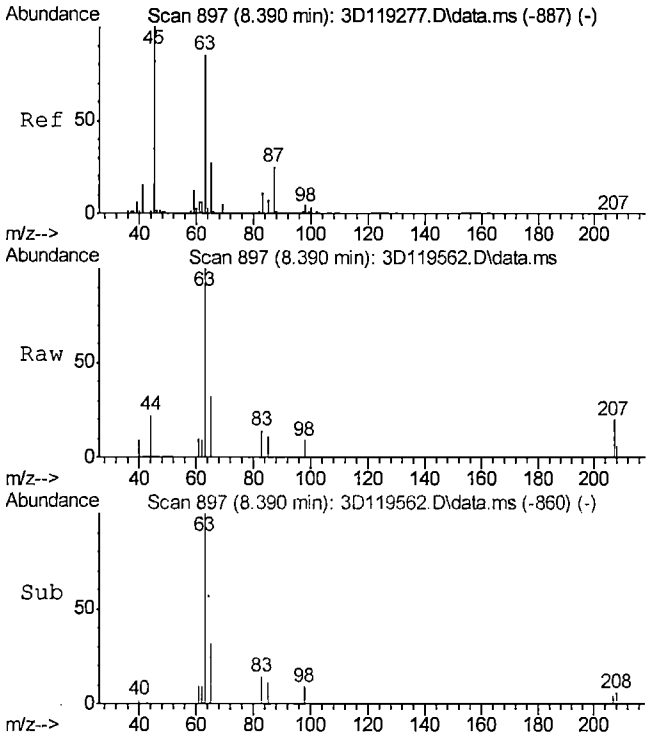
7.1.17 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5103\
Data File : 3D119562.D
Acq On : 25 May 2016 12:55 pm
Operator : XimenaC
Sample : jc20564-16
Misc : MS2366,V3D5103,5,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 26 11:35:22 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration

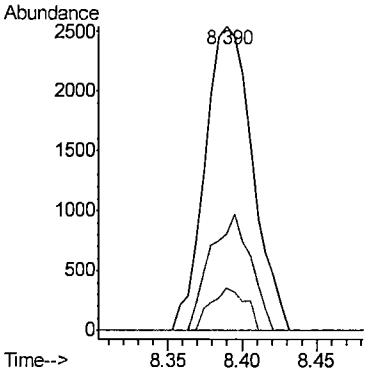


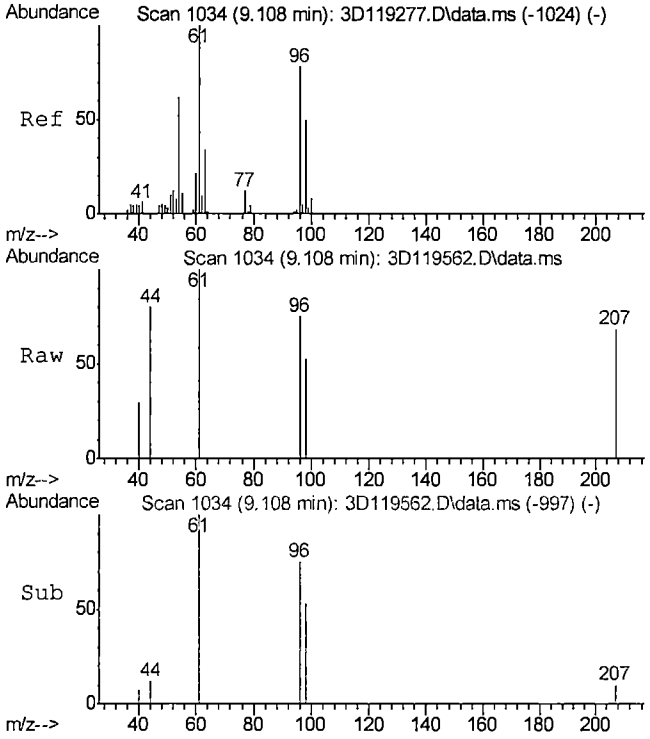


#41
1,1-dichloroethane
Concen: 1.47 ug/L
RT: 8.390 min Scan# 897
Delta R.T. -0.005 min
Lab File: 3D119562.D
Acq: 25 May 2016 12:55 pm

Tgt Ion: 63 Resp: 5637

Ion	Ratio	Lower	Upper
63	100		
65	31.9	1.7	61.7
83	13.9	0.0	43.0

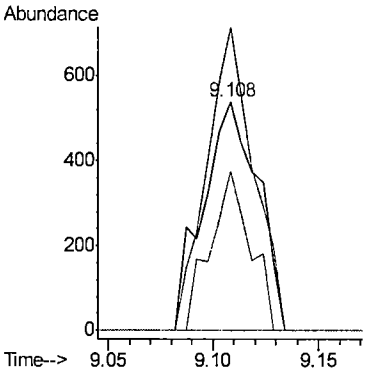




#47
cis-1,2-dichloroethene
Concen: 0.42 ug/L
RT: 9.108 min Scan# 1034
Delta R.T. -0.005 min
Lab File: 3D119562.D
Acq: 25 May 2016 12:55 pm

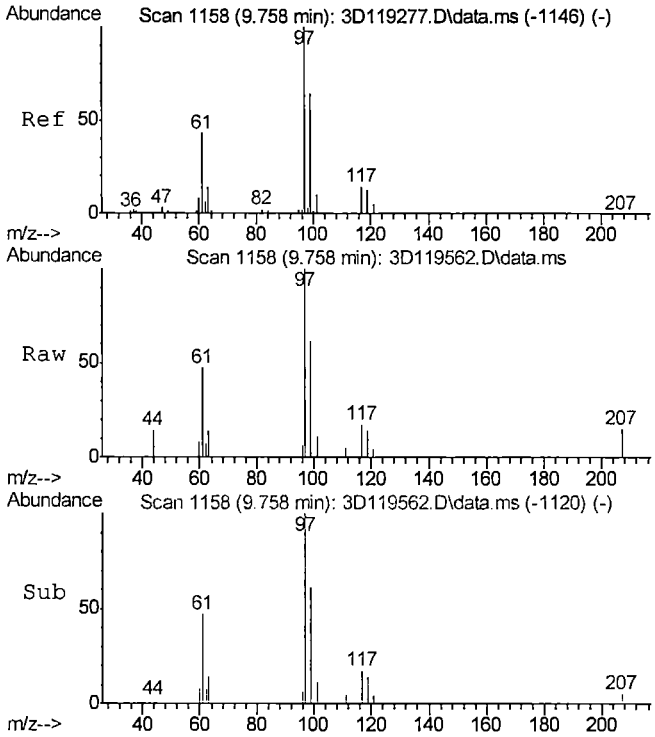
Tgt Ion: 96 Resp: 982

Ion	Ratio	Lower	Upper
96	100		
61	132.5	107.2	167.2
98	69.6	34.6	94.6



7.1.17

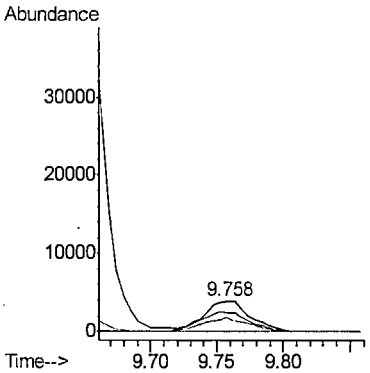
7

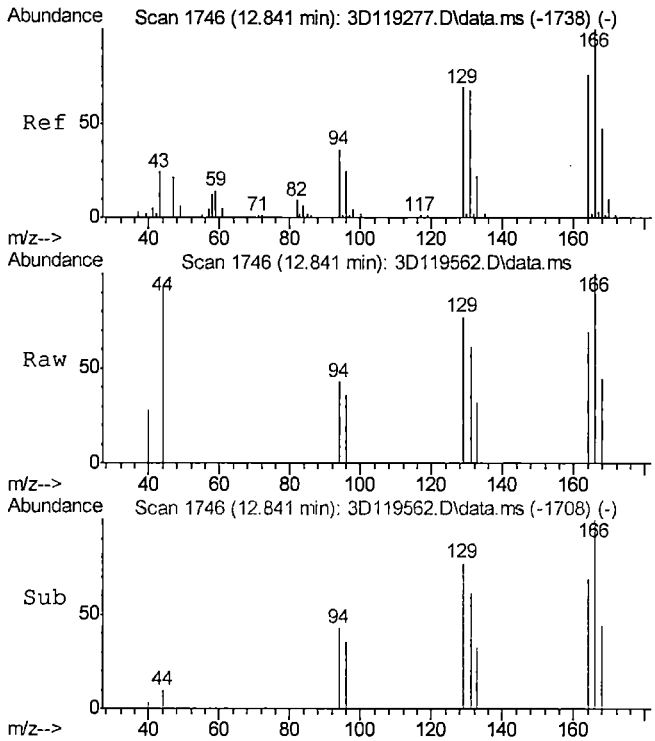


#58
1,1,1-trichloroethane
Concen: 2.61 ug/L
RT: 9.758 min Scan# 1158
Delta R.T. -0.000 min
Lab File: 3D119562.D
Acq: 25 May 2016 12:55 pm

Tgt Ion: 97 Resp: 9364

Ion	Ratio	Lower	Upper
97	100		
99	61.4	32.7	92.7
61	47.4	13.4	73.4

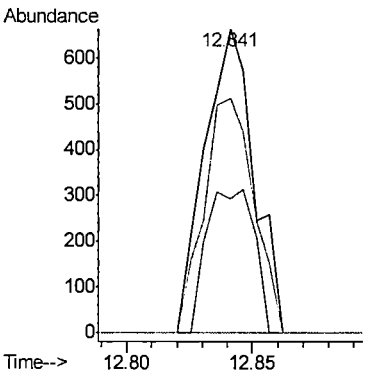




#93
tetrachloroethene
Concen: 0.43 ug/L
RT: 12.841 min Scan# 1746
Delta R.T. -0.000 min
Lab File: 3D119562.D
Acq: 25 May 2016 12:55 pm

Tgt Ion:166 Resp: 907

Ion	Ratio	Lower	Upper
166	100		
168	44.3	16.2	76.2
129	77.3	37.9	97.9



7.1.17

7

SGS ACCUTEST JC20564

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5104-5105\
Data File : 3D119592.D
Acq On : 26 May 2016 1:06 pm
Operator : XimenaC
Sample : jc20564-17
Misc : MS2366,V3D5104,5,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 27 16:27:43 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.362	65	124233	500.00	ug/L	-0.01
4) pentafluorobenzene	9.653	168	179242	50.00	ug/L	0.00
62) 1,4-difluorobenzene	10.592	114	239551	50.00	ug/L	0.00
92) chlorobenzene-d5	13.722	117	212281	50.00	ug/L	0.00
108) 1,4-dichlorobenzene-d4	16.055	152	138459	50.00	ug/L	0.00
System Monitoring Compounds						
54) dibromofluoromethane (s)	9.690	113	91153	54.35	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 108.70%			
55) 1,2-dichloroethane-d4 (s)	10.115	65	88073	53.18	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 106.36%			
84) toluene-d8 (s)	12.217	98	272475	51.06	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 102.12%			
110) 4-bromofluorobenzene (s)	14.891	95	104756	48.81	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 97.62%			
Target Compounds						Qvalue
41) 1,1-dichloroethane	8.400	63	2534	0.77	ug/L	87
47) cis-1,2-dichloroethene	9.108	96	982	0.48	ug/L #	72
58) 1,1,1-trichloroethane	9.763	97	3301	1.06	ug/L	93

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

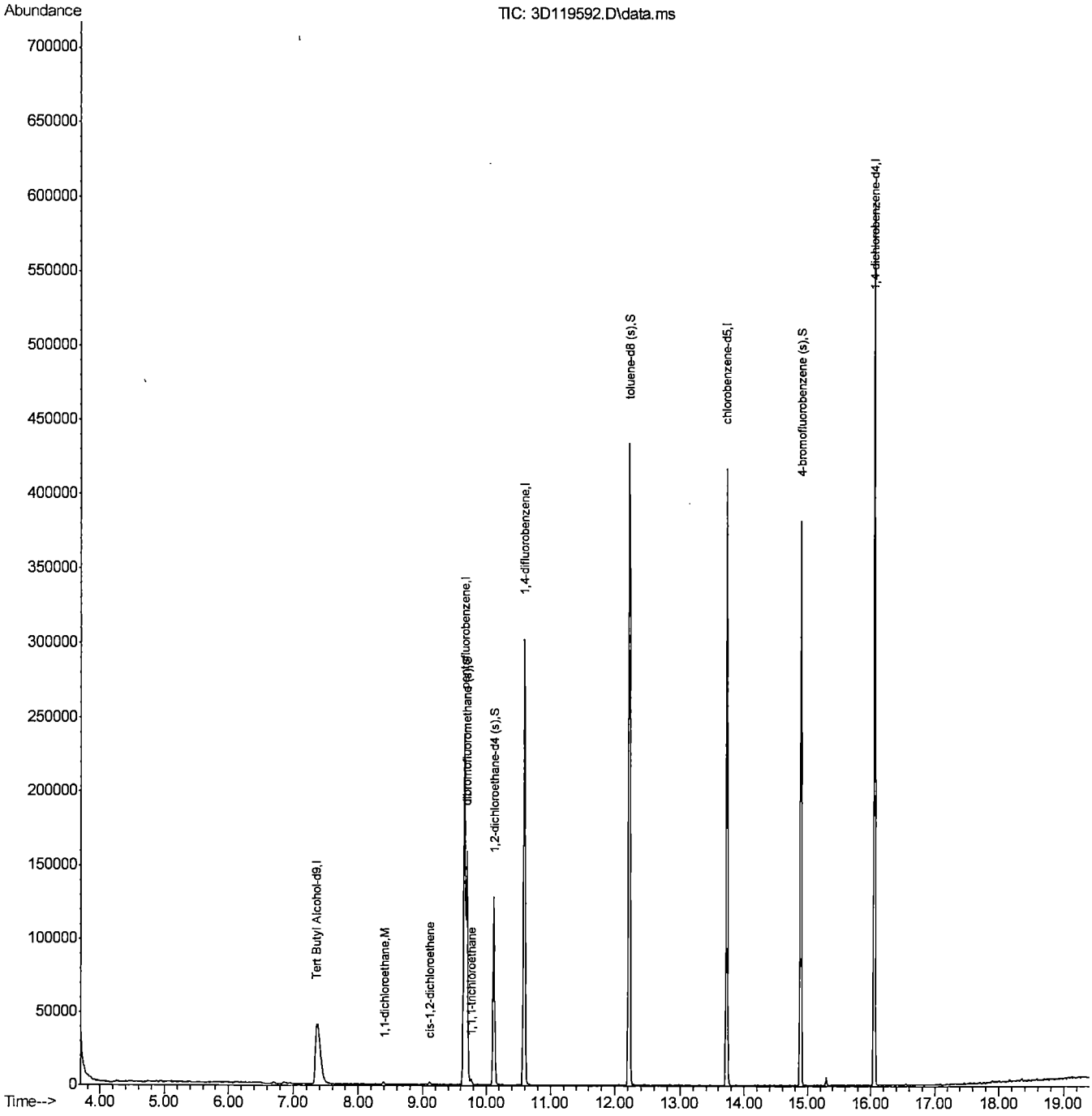
7.1.18

7

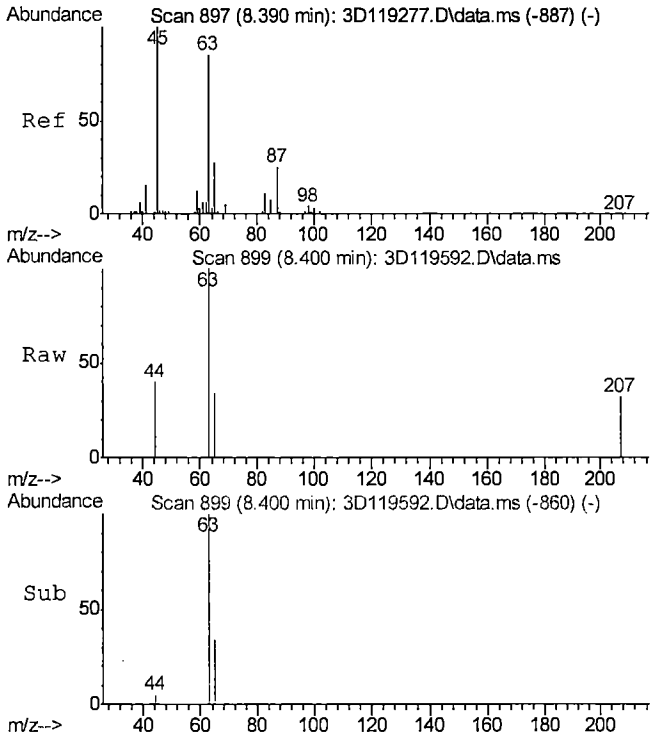
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5104-5105\
Data File : 3D119592.D
Acq On : 26 May 2016 1:06 pm
Operator : XimenaC
Sample : jc20564-17
Misc : MS2366,V3D5104,5,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 27 16:27:43 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration



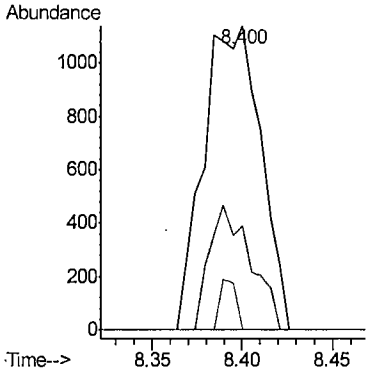
M3D5092.M Fri May 27 16:51:37 2016 ACC-VOA-CLN-05A

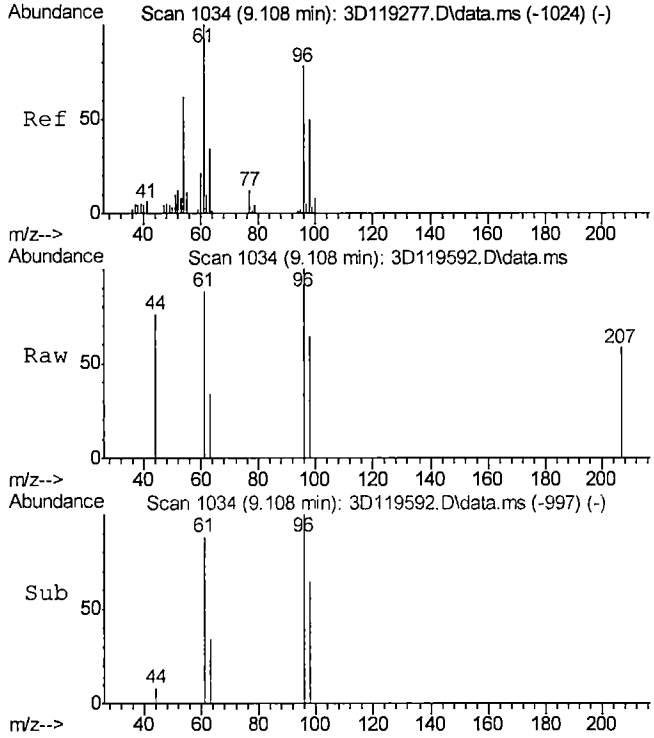


#41
1,1-dichloroethane
Concen: 0.77 ug/L
RT: 8.400 min Scan# 899
Delta R.T. 0.005 min
Lab File: 3D119592.D
Acq: 26 May 2016 1:06 pm

Tgt Ion: 63 Resp: 2534

Ion	Ratio	Lower	Upper
63	100		
65	34.1	1.7	61.7
83	0.0	0.0	43.0

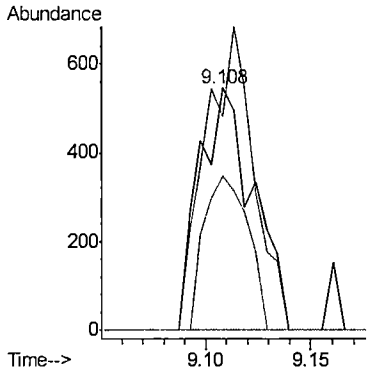




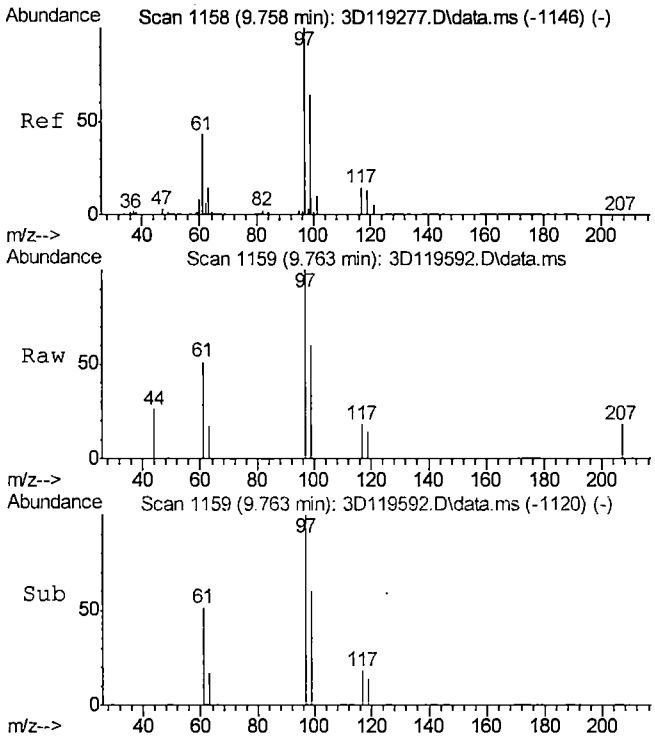
#47
cis-1,2-dichloroethene
Concen: 0.48 ug/L
RT: 9.108 min Scan# 1034
Delta R.T. -0.005 min
Lab File: 3D119592.D
Acq: 26 May 2016 1:06 pm

Tgt Ion: 96 Resp: 982

Ion	Ratio	Lower	Upper
96	100		
61	88.3	107.2	167.2#
98	63.7	34.6	94.6



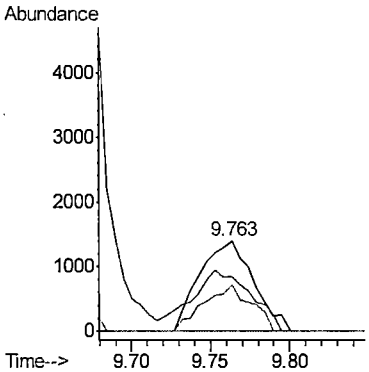
7.1.18 7



#58
1,1,1-trichloroethane
Concen: 1.06 ug/L
RT: 9.763 min Scan# 1159
Delta R.T. 0.005 min
Lab File: 3D119592.D
Acq: 26 May 2016 1:06 pm

Tgt Ion: 97 Resp: 3301

Ion	Ratio	Lower	Upper
97	100		
99	59.8	32.7	92.7
61	51.3	13.4	73.4



7.1.18

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5103\
Data File : 3D119577.D
Acq On : 25 May 2016 8:02 pm
Operator : XimenaC
Sample : jc20564-18
Misc : MS2366,V3D5103,5,,,,1
ALS Vial : 23 Sample Multiplier: 1

Quant Time: May 26 12:16:25 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.367	65	143855	500.00	ug/L	0.00
4) pentafluorobenzene	9.653	168	221494	50.00	ug/L	0.00
62) 1,4-difluorobenzene	10.592	114	289185	50.00	ug/L	0.00
92) chlorobenzene-d5	13.727	117	259047	50.00	ug/L	0.00
108) 1,4-dichlorobenzene-d4	16.055	152	166600	50.00	ug/L	0.00
System Monitoring Compounds						
54) dibromofluoromethane (s)	9.690	113	111383	53.75	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 107.50%			
55) 1,2-dichloroethane-d4 (s)	10.115	65	108083	52.81	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 105.62%			
84) toluene-d8 (s)	12.217	98	336208	52.19	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 104.38%			
110) 4-bromofluorobenzene (s)	14.891	95	124207	48.09	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 96.18%			
Target Compounds						Qvalue
41) 1,1-dichloroethane	8.395	63	3097	0.76	ug/L	88
47) cis-1,2-dichloroethene	9.108	96	1036	0.41	ug/L	93
58) 1,1,1-trichloroethane	9.758	97	4359	1.14	ug/L	96

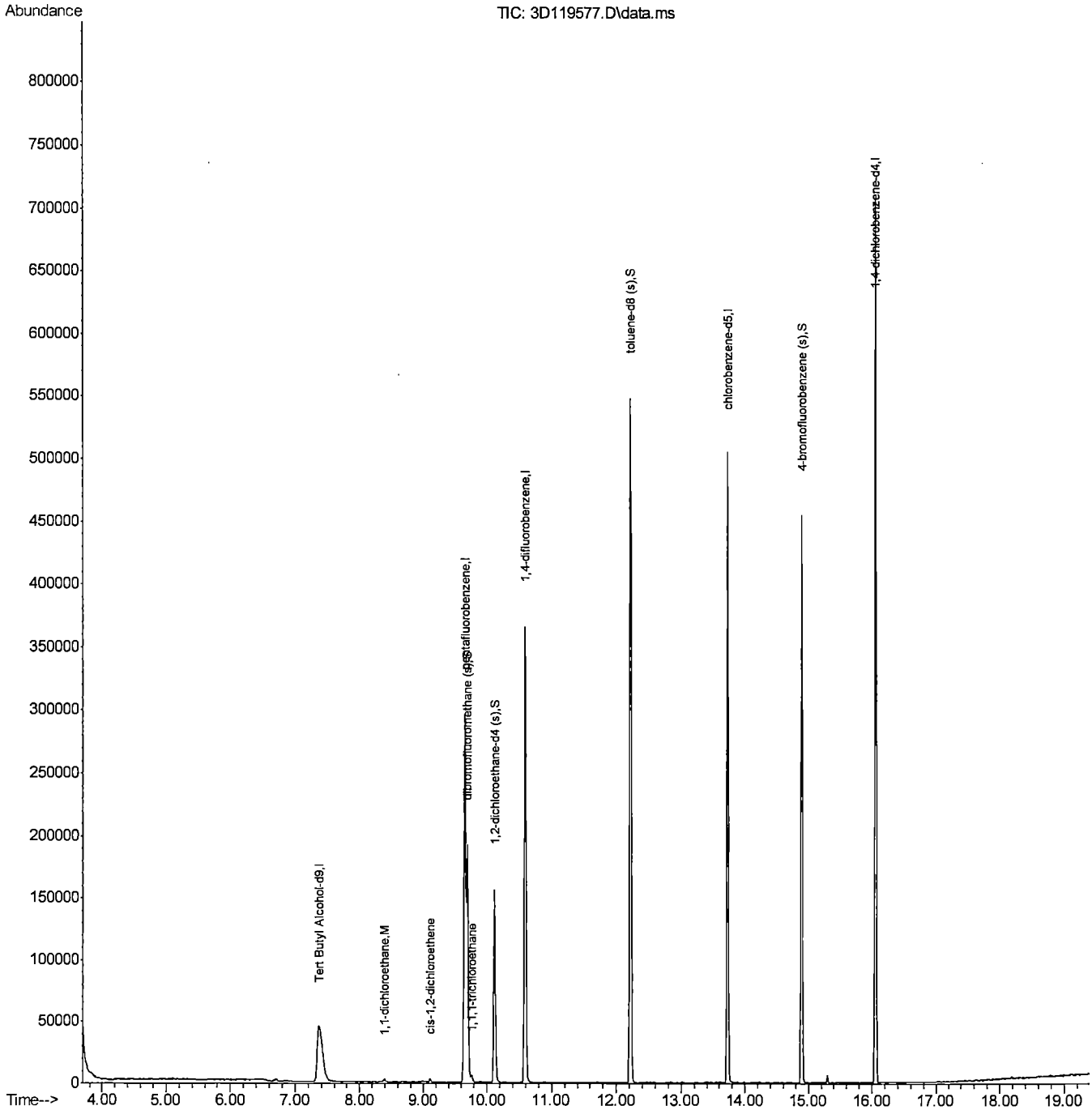
(#) = qualifier out of range (m) = manual integration (+) = signals summed

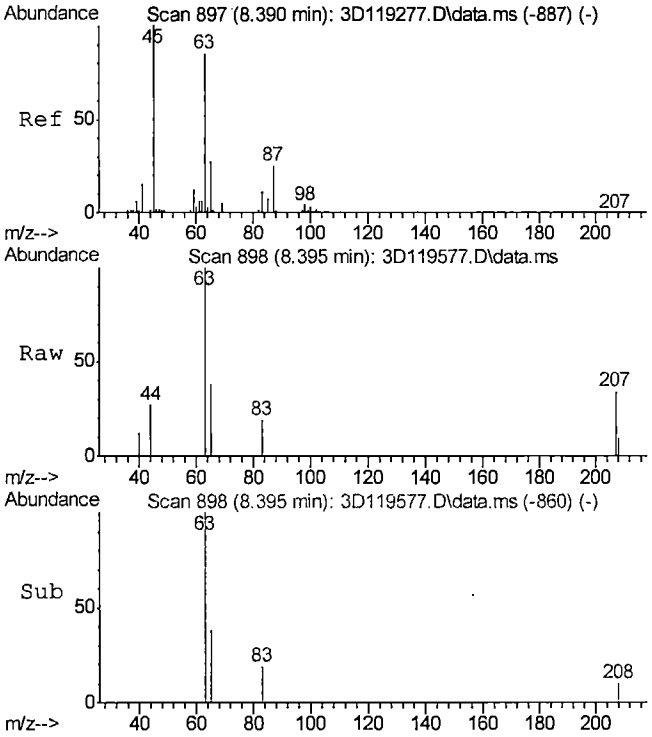
7.1.19 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5103\
Data File : 3D119577.D
Acq On : 25 May 2016 8:02 pm
Operator : XimenaC
Sample : jc20564-18
Misc : MS2366,V3D5103,5,,,,1
ALS Vial : 23 Sample Multiplier: 1

Quant Time: May 26 12:16:25 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration

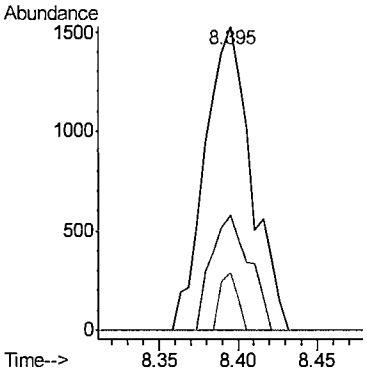


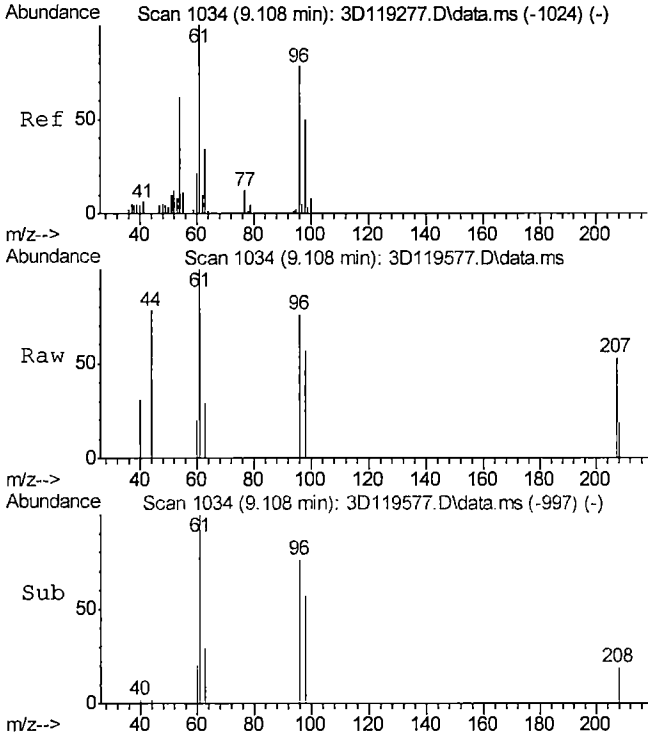


#41
1,1-dichloroethane
Concen: 0.76 ug/L
RT: 8.395 min Scan# 898
Delta R.T. -0.000 min
Lab File: 3D119577.D
Acq: 25 May 2016 8:02 pm

Tgt Ion: 63 Resp: 3097

Ion	Ratio	Lower	Upper
63	100		
65	37.7	1.7	61.7
83	19.0	0.0	43.0

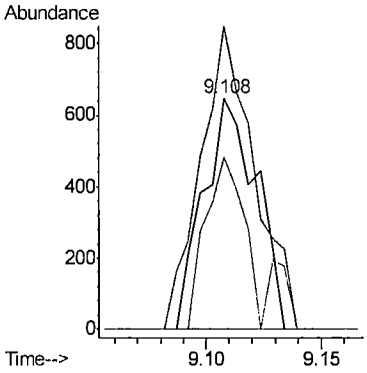




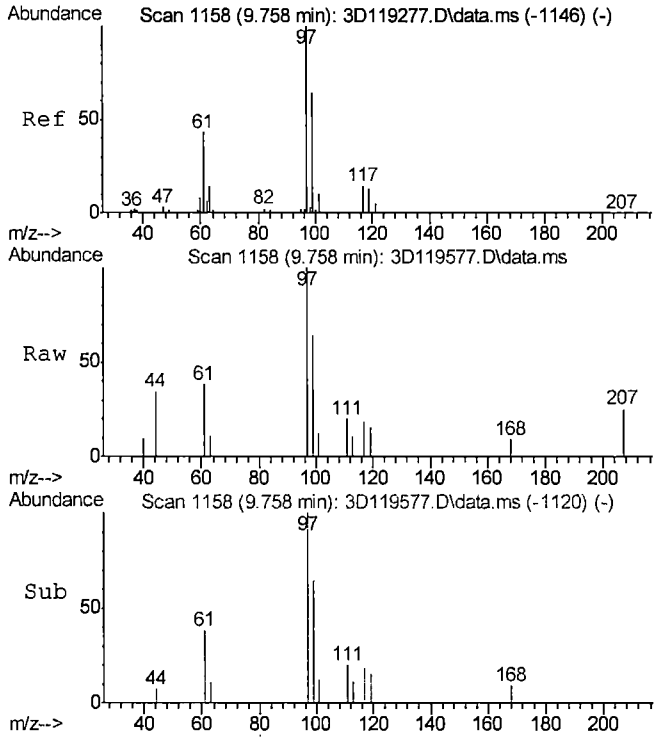
#47
cis-1,2-dichloroethene
Concen: 0.41 ug/L
RT: 9.108 min Scan# 1034
Delta R.T. -0.005 min
Lab File: 3D119577.D
Acq: 25 May 2016 8:02 pm

Tgt Ion: 96 Resp: 1036

Ion	Ratio	Lower	Upper
96	100		
61	131.2	107.2	167.2
98	74.7	34.6	94.6



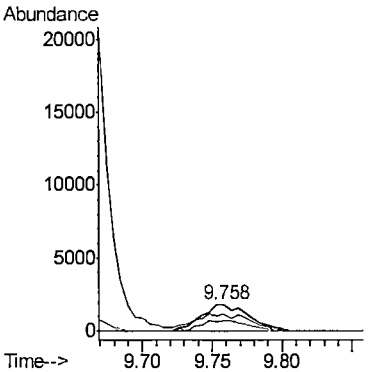
7.1.19 7



#58
1,1,1-trichloroethane
Concen: 1.14 ug/L
RT: 9.758 min Scan# 1158
Delta R.T. -0.000 min
Lab File: 3D119577.D
Acq: 25 May 2016 8:02 pm

Tgt Ion: 97 Resp: 4359

Ion	Ratio	Lower	Upper
97	100		
99	64.0	32.7	92.7
61	38.3	13.4	73.4



7.1.19

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5103\
Data File : 3D119578.D
Acq On : 25 May 2016 8:29 pm
Operator : XimenaC
Sample : jc20564-19
Misc : MS2366,V3D5103,5,,,,1
ALS Vial : 24 Sample Multiplier: 1

Quant Time: May 26 12:16:55 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.357	65	134913	500.00	ug/L	-0.02
4) pentafluorobenzene	9.653	168	209307	50.00	ug/L	0.00
62) 1,4-difluorobenzene	10.592	114	278426	50.00	ug/L	0.00
92) chlorobenzene-d5	13.727	117	251108	50.00	ug/L	0.00
108) 1,4-dichlorobenzene-d4	16.055	152	162803	50.00	ug/L	0.00
System Monitoring Compounds						
54) dibromofluoromethane (s)	9.690	113	105464	53.85	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 107.70%			
55) 1,2-dichloroethane-d4 (s)	10.115	65	103096	53.31	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 106.62%			
84) toluene-d8 (s)	12.217	98	322032	51.92	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 103.84%			
110) 4-bromofluorobenzene (s)	14.891	95	118960	47.14	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 94.28%			

Target Compounds Qvalue

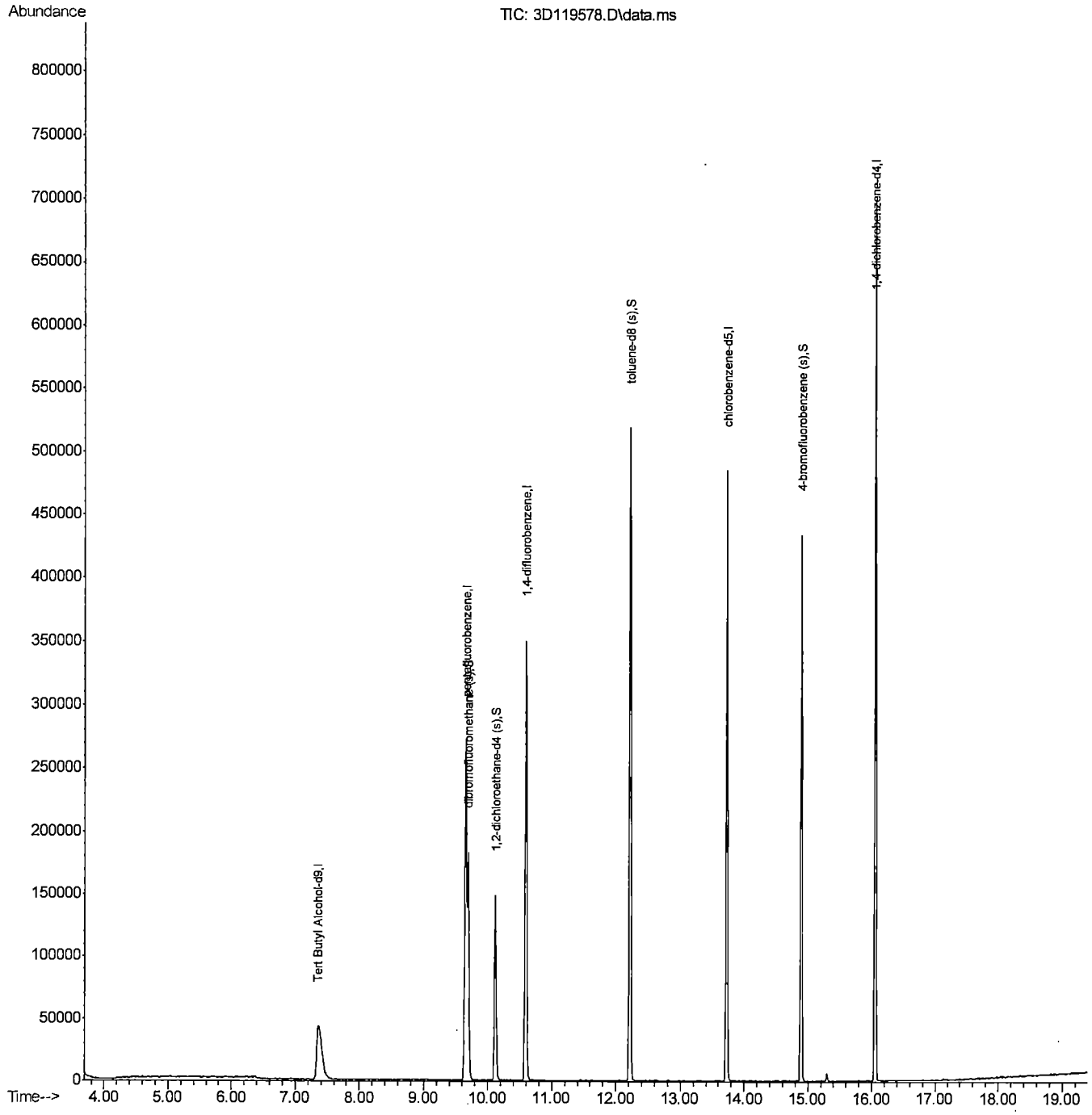
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.20 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5103\
Data File : 3D119578.D
Acq On : 25 May 2016 8:29 pm
Operator : XimenaC
Sample : jc20564-19
Misc : MS2366,V3D5103,5,,,,1
ALS Vial : 24 Sample Multiplier: 1

Quant Time: May 26 12:16:55 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration



7.1.20 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5103\
Data File : 3D119559.D
Acq On : 25 May 2016 11:34 am
Operator : XimenaC
Sample : mb
Misc : MS2480,V3D5103,5,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 26 11:31:58 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.362	65	137278	500.00	ug/L	-0.01
4) pentafluorobenzene	9.648	168	205211	50.00	ug/L	0.00
62) 1,4-difluorobenzene	10.592	114	273370	50.00	ug/L	0.00
92) chlorobenzene-d5	13.722	117	248367	50.00	ug/L	0.00
108) 1,4-dichlorobenzene-d4	16.055	152	163652	50.00	ug/L	0.00
System Monitoring Compounds						
54) dibromofluoromethane (s)	9.690	113	104496	54.42	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 108.84%			
55) 1,2-dichloroethane-d4 (s)	10.115	65	103221	54.44	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 108.88%			
84) toluene-d8 (s)	12.217	98	315825	51.87	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 103.74%			
110) 4-bromofluorobenzene (s)	14.891	95	119972	47.29	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 94.58%			

Target Compounds Qvalue

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

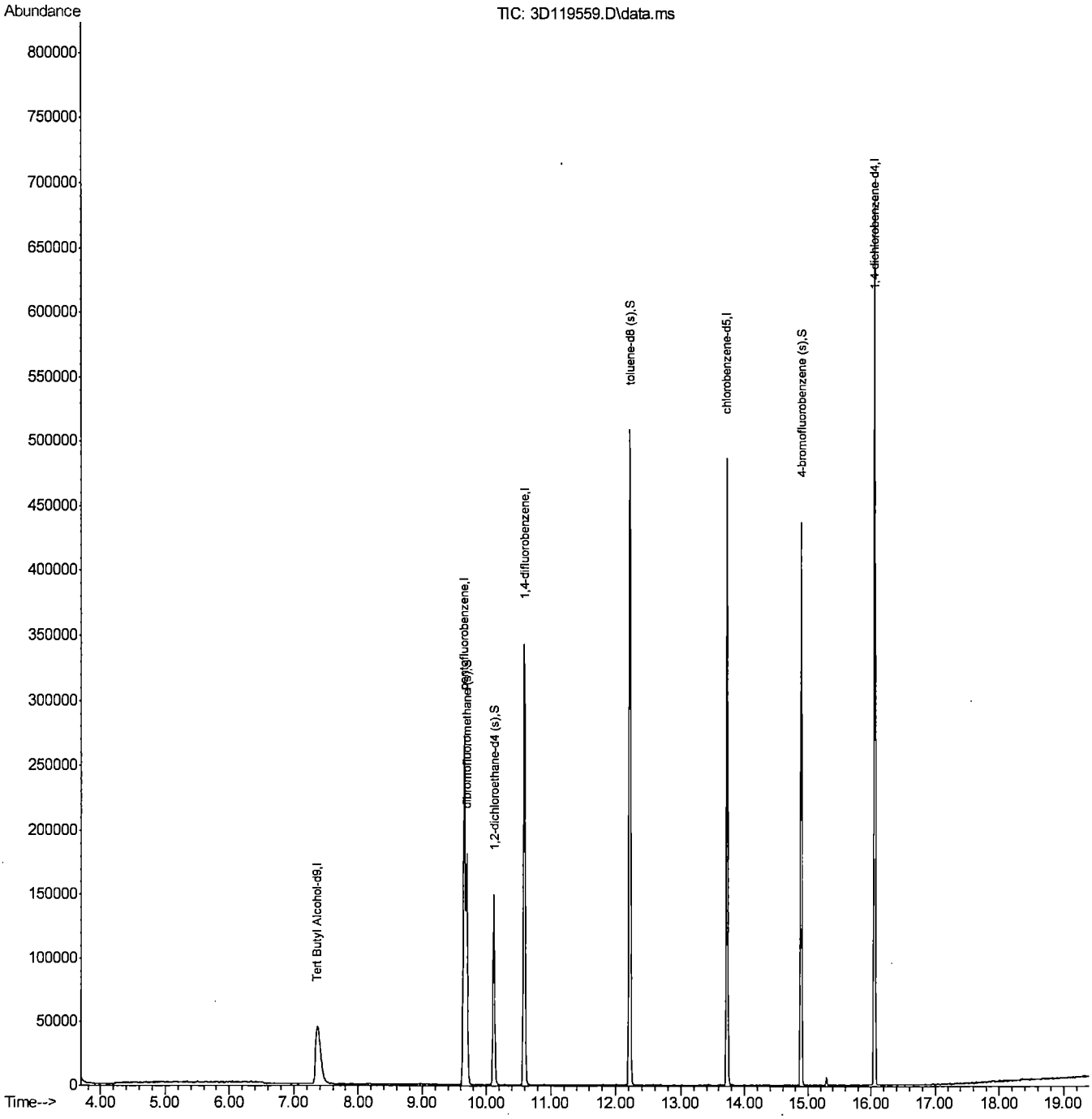
7.2.1

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5103\
Data File : 3D119559.D
Acq On : 25 May 2016 11:34 am
Operator : XimenaC
Sample : mb
Misc : MS2480,V3D5103,5,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 26 11:31:58 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration



SGS ACCUTEST JC20564

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5104-5105\
Data File : 3D119589.D
Acq On : 26 May 2016 11:45 am
Operator : XimenaC
Sample : mb
Misc : MS2469,V3D5104,5,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 27 16:23:35 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.362	65	125548	500.00	ug/L	-0.01
4) pentafluorobenzene	9.653	168	191309	50.00	ug/L	0.00
62) 1,4-difluorobenzene	10.592	114	256789	50.00	ug/L	0.00
92) chlorobenzene-d5	13.727	117	231340	50.00	ug/L	0.00
108) 1,4-dichlorobenzene-d4	16.050	152	152439	50.00	ug/L	0.00
System Monitoring Compounds						
54) dibromofluoromethane (s)	9.690	113	95564	53.39	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 106.78%			
55) 1,2-dichloroethane-d4 (s)	10.115	65	93533	52.91	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 105.82%			
84) toluene-d8 (s)	12.217	98	294227	51.44	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 102.88%			
110) 4-bromofluorobenzene (s)	14.891	95	114192	48.32	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 96.64%			

Target Compounds Qvalue

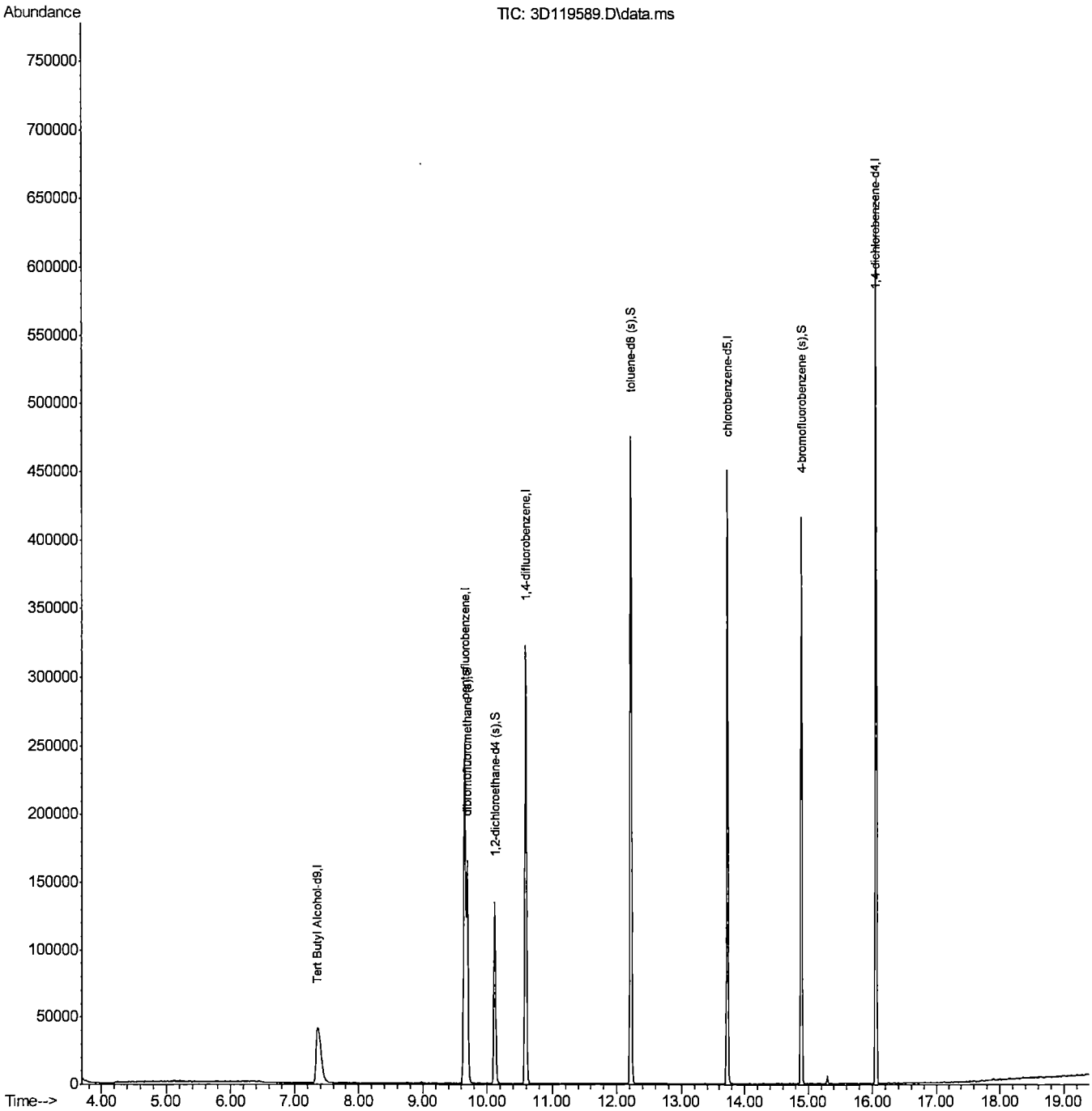
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.2.2 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5104-5105\
Data File : 3D119589.D
Acq On : 26 May 2016 11:45 am
Operator : XimenaC
Sample : mb
Misc : MS2469,V3D5104,5,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 27 16:23:35 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5105ms-5107\
Data File : 3D119643.D
Acq On : 27 May 2016 1:18 pm
Operator : XimenaC
Sample : mb
Misc : MS2659,V3D5106,5,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: May 31 14:26:02 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.368	65	113310	500.00	ug/L	0.00
4) pentafluorobenzene	9.653	168	163627	50.00	ug/L	0.00
62) 1,4-difluorobenzene	10.592	114	224920	50.00	ug/L	0.00
92) chlorobenzene-d5	13.722	117	206903	50.00	ug/L	0.00
108) 1,4-dichlorobenzene-d4	16.050	152	134018	50.00	ug/L	0.00
System Monitoring Compounds						
54) dibromofluoromethane (s)	9.690	113	87708	57.29	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 114.58%			
55) 1,2-dichloroethane-d4 (s)	10.115	65	86199	57.02	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 114.04%			
84) toluene-d8 (s)	12.217	98	262543	52.40	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 104.80%			
110) 4-bromofluorobenzene (s)	14.891	95	99570	47.93	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 95.86%			

Target Compounds Qvalue

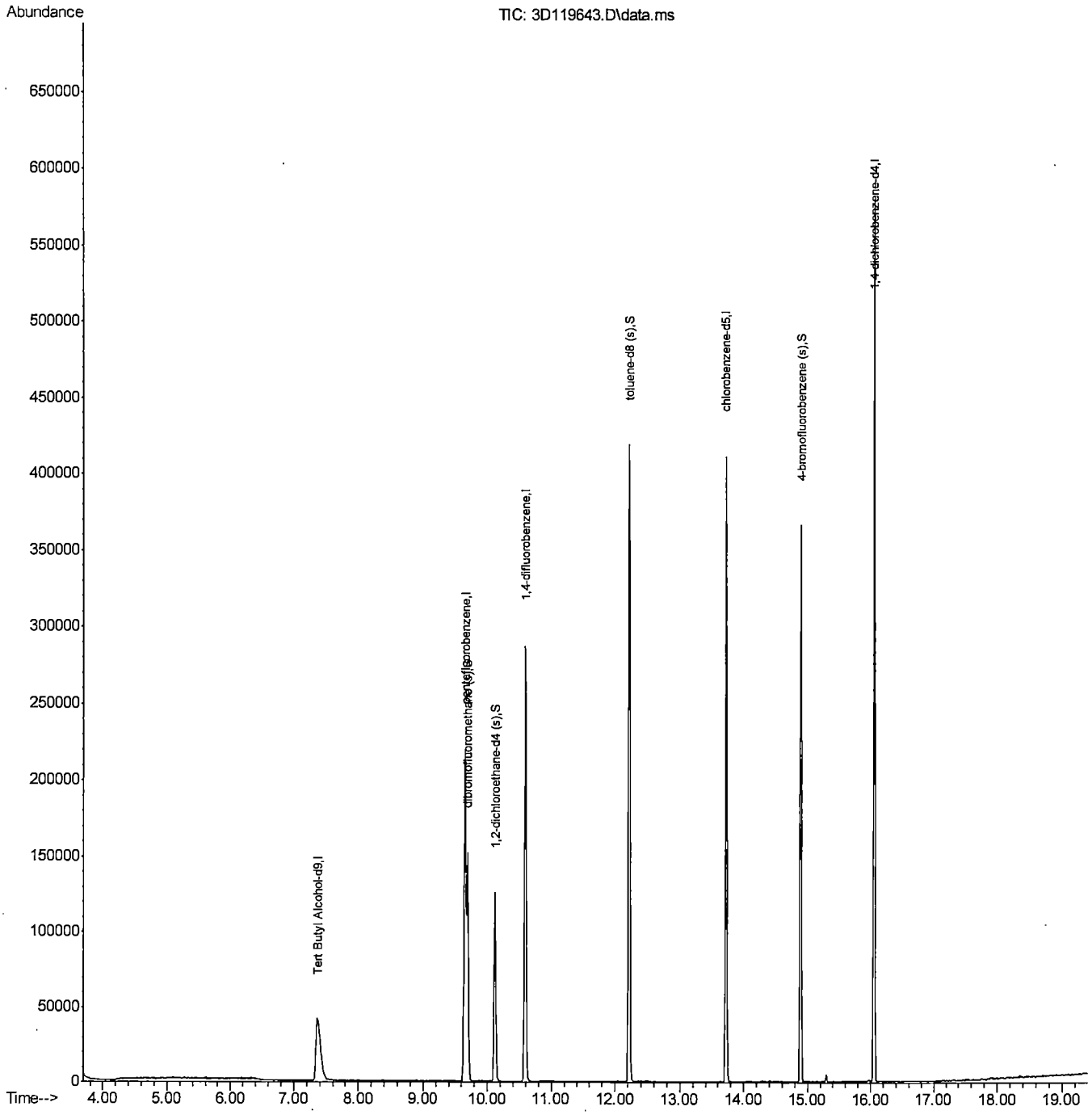
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.2.3 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5105ms-5107\
Data File : 3D119643.D
Acq On : 27 May 2016 1:18 pm
Operator : XimenaC
Sample : mb
Misc : MS2659,V3D5106,5,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: May 31 14:26:02 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration



Quantitation Report (QT/LSC Reviewed)

Data Path : C:\msdchem\1\data\4D\V4D3029-V4D3030\
Data File : 4D68857.D
Acq On : 27 May 2016 1:29 pm
Operator : XimenaC
Sample : mb
Misc : MS2640,V4D3030,5,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 27 16:10:53 2016
Quant Method : C:\MSDCHEM\1\METHODS\M4D3019.M
Quant Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
QLast Update : Thu May 19 09:29:44 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.562	65	127646	500.00	ug/L	0.00
4) pentafluorobenzene	10.084	168	167165	50.00	ug/L	0.00
54) 1,4-difluorobenzene	11.033	114	267340	50.00	ug/L	0.00
86) chlorobenzene-d5	14.383	117	247673	50.00	ug/L	0.00
101) 1,4-dichlorobenzene-d4	16.774	152	127863	50.00	ug/L	0.00
System Monitoring Compounds						
48) dibromofluoromethane (s)	10.084	113	96990	55.21	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 110.42%			
49) 1,2-dichloroethane-d4 (s)	10.535	65	107828	54.71	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 109.42%			
78) toluene-d8 (s)	12.768	98	307500	50.05	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 100.10%			
103) 4-bromofluorobenzene (s)	15.605	95	121572	48.59	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 97.18%			

Target Compounds Qvalue

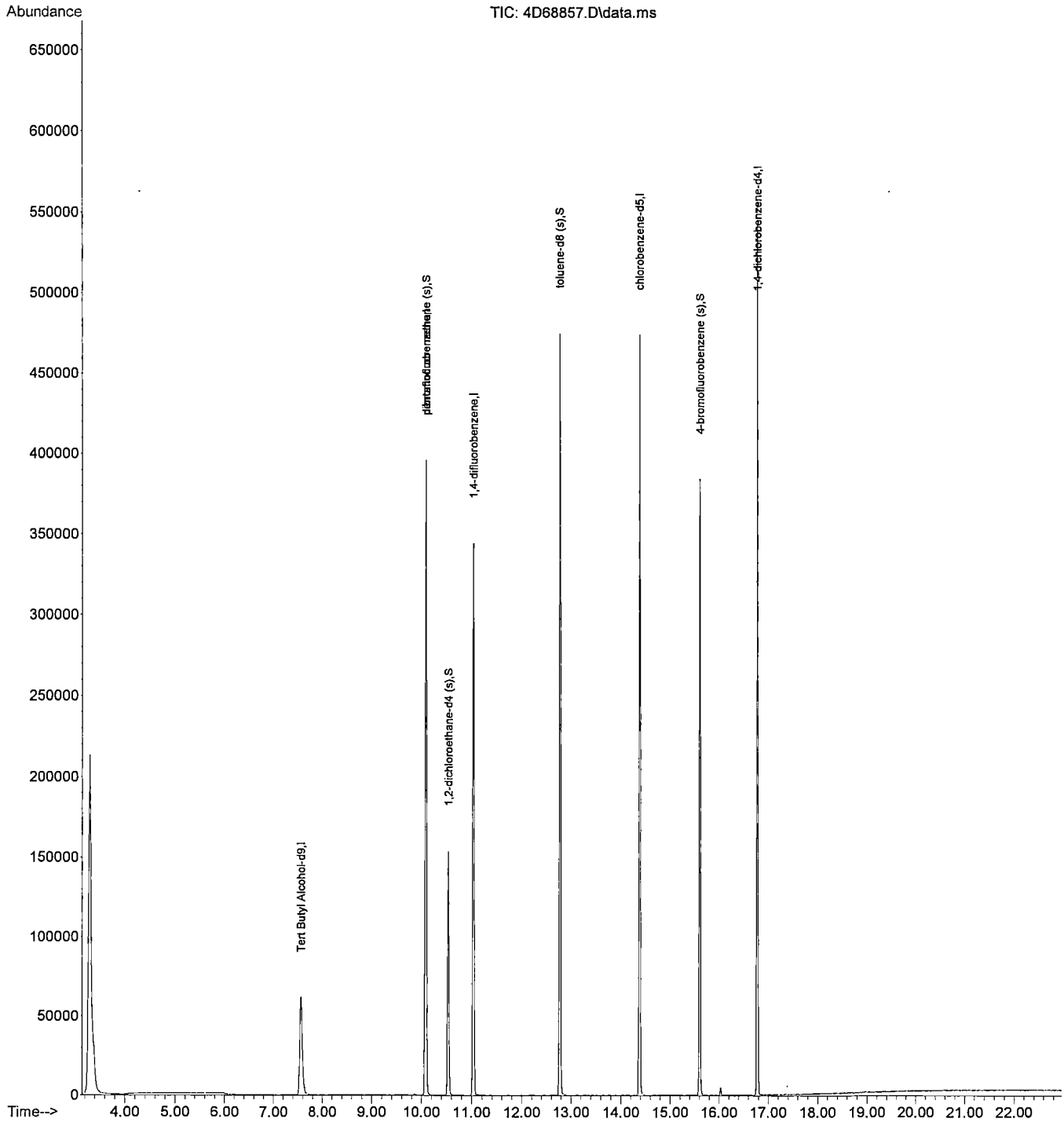
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.2.4 7

Quantitation Report (QT/LSC Reviewed)

Data Path : C:\msdchem\1\data\4D\V4D3029-V4D3030\
Data File : 4D68857.D
Acq On : 27 May 2016 1:29 pm
Operator : XimenaC
Sample : mb
Misc : MS2640,V4D3030,5,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 27 16:10:53 2016
Quant Method : C:\MSDCHEM\1\METHODS\M4D3019.M
Quant Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
QLast Update : Thu May 19 09:29:44 2016
Response via : Initial Calibration



M4D3019.M Fri May 27 16:12:16 2016

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5103\
Data File : 3D119560.D
Acq On : 25 May 2016 12:01 pm
Operator : XimenaC
Sample : bs
Misc : MS2480,V3D5103,5,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 26 11:33:28 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.367	65	148201	500.00	ug/L	0.00
4) pentafluorobenzene	9.648	168	227763	50.00	ug/L	0.00
62) 1,4-difluorobenzene	10.592	114	300070	50.00	ug/L	0.00
92) chlorobenzene-d5	13.722	117	271902	50.00	ug/L	0.00
108) 1,4-dichlorobenzene-d4	16.055	152	172147	50.00	ug/L	0.00
System Monitoring Compounds						
54) dibromofluoromethane (s)	9.690	113	110924	52.05	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 104.10%			
55) 1,2-dichloroethane-d4 (s)	10.115	65	108225	51.43	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 102.86%			
84) toluene-d8 (s)	12.217	98	346886	51.90	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 103.80%			
110) 4-bromofluorobenzene (s)	14.891	95	131252	49.19	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 98.38%			
Target Compounds						Qvalue
2) 1,4-dioxane	11.237	88	36610	1346.38	ug/L	97
3) tertiary butyl alcohol	7.493	59	83110	251.59	ug/L	98
10) chlorodifluoromethane	3.991	51	210978	44.51	ug/L	95
11) dichlorodifluoromethane	3.975	85	252183	56.27	ug/L	99
13) chloromethane	4.300	50	227236	51.04	ug/L	99
14) vinyl chloride	4.573	62	266740	51.07	ug/L	99
15) bromomethane	5.197	94	139295	56.59	ug/L	98
16) chloroethane	5.386	64	103004	49.84	ug/L	97
19) trichlorofluoromethane	5.878	101	265601	53.78	ug/L	99
21) ethyl ether	6.261	74	55316	50.70	ug/L	96
25) acrolein	6.492	56	273775	446.67	ug/L	99
26) 1,1-dichloroethene	6.686	61	195977	48.12	ug/L	98
27) acetone	6.691	58	10879	50.63	ug/L	97
28) allyl chloride	7.226	76	64091	48.51	ug/L #	82
29) acetonitrile	7.116	40	95061	412.31	ug/L	96
31) iodomethane	6.948	142	270793	51.03	ug/L	98
33) carbon disulfide	7.090	76	515108	50.81	ug/L	99
34) methylene chloride	7.415	84	141603	50.51	ug/L	92
35) methyl acetate	7.158	43	73839	39.48	ug/L	97
36) methyl tert butyl ether	7.776	73	820312	96.75	ug/L	97
37) trans-1,2-dichloroethene	7.808	61	160780	47.43	ug/L	97
38) di-isopropyl ether	8.374	45	398047	43.25	ug/L	97
39) ethyl tert-butyl ether	8.841	59	406756	48.24	ug/L	96
40) 2-butanone	9.040	72	11868	52.36	ug/L #	1
41) 1,1-dichloroethane	8.390	63	197858	47.05	ug/L	99
42) chloroprene	8.489	53	131373	42.10	ug/L	99
43) acrylonitrile	7.703	53	216753	237.62	ug/L	98
44) vinyl acetate	8.322	86	16392	49.12	ug/L	77
45) ethyl acetate	9.056	45	12794	41.66	ug/L	88
46) 2,2-dichloropropane	9.145	77	231582	52.63	ug/L	99
47) cis-1,2-dichloroethene	9.108	96	121350	46.69	ug/L	97
48) propionitrile	9.119	54	158240	495.48	ug/L	81

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5103\
Data File : 3D119560.D
Acq On : 25 May 2016 12:01 pm
Operator : XimenaC
Sample : bs
Misc : MS2480,V3D5103,5,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 26 11:33:28 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49)	methyl acrylate	9.140	85	15259	51.46	ug/L		84
50)	bromochloromethane	9.412	128	63908	52.57	ug/L	#	87
51)	tetrahydrofuran	9.428	42	29223	38.74	ug/L		95
52)	chloroform	9.496	83	196645	50.27	ug/L		96
53)	Tert-Butyl Formate	9.533	59	86700	21.85	ug/L	#	94
56)	freon 113	6.702	151	131561	59.96	ug/L		99
57)	methacrylonitrile	9.318	41	56413	39.83	ug/L		93
58)	1,1,1-trichloroethane	9.758	97	220597	55.91	ug/L		97
60)	2,2,4-Trimethylpentane	10.272	57	497598	49.85	ug/L		96
61)	tert-amyl methyl ether	10.256	73	384085	47.10	ug/L		98
63)	epichlorohydrin	11.777	57	48500	237.47	ug/L		96
64)	n-butyl alcohol	10.634	56	159735	2236.65	ug/L		98
65)	cyclohexane	9.868	84	209857	49.32	ug/L	#	70
66)	carbon tetrachloride	9.952	117	197972	54.39	ug/L		99
67)	1,1-dichloropropene	9.921	75	133128	49.84	ug/L		99
68)	hexane	8.159	57	81638	30.69	ug/L		95
69)	benzene	10.172	78	400839	46.85	ug/L		99
70)	heptane	10.424	57	60764	42.09	ug/L		96
71)	isopropyl acetate	10.078	43	206293	48.03	ug/L		99
72)	1,2-dichloroethane	10.204	62	132835	51.75	ug/L		99
73)	trichloroethene	10.901	95	96974	50.07	ug/L		98
77)	2-chloroethyl vinyl ether	11.688	63	332723	253.73	ug/L		97
78)	methyl methacrylate	11.153	100	23610	49.30	ug/L	#	52
79)	1,2-dichloropropane	11.195	63	104122	47.37	ug/L		97
80)	methylcyclohexane	11.200	83	198647	49.37	ug/L		96
81)	dibromomethane	11.305	93	66086	52.71	ug/L		96
82)	bromodichloromethane	11.457	83	133001	51.98	ug/L		96
83)	cis-1,3-dichloropropene	11.908	75	149442	48.39	ug/L		99
85)	4-methyl-2-pentanone	12.008	58	42374	47.91	ug/L	#	81
86)	toluene	12.291	92	227922	49.01	ug/L		97
87)	3-methyl-1-butanol	12.008	70	60236	956.84	ug/L		96
88)	trans-1,3-dichloropropene	12.474	75	141919	50.55	ug/L		95
89)	ethyl methacrylate	12.464	69	112848	43.97	ug/L		95
90)	1,1,2-trichloroethane	12.700	83	77191	50.78	ug/L		99
91)	2-hexanone	12.857	58	31938	44.41	ug/L		93
93)	tetrachloroethene	12.841	166	111304	49.43	ug/L		95
94)	1,3-dichloropropane	12.878	76	138689	47.61	ug/L		100
95)	butyl acetate	12.930	56	63181	45.62	ug/L		93
96)	3,3-Dimethyl-1-Butanol	13.030	57	136204	418.79	ug/L		98
97)	dibromochloromethane	13.124	129	111969	53.73	ug/L		99
98)	1,2-dibromoethane	13.282	107	94254	49.86	ug/L		98
99)	n-Butyl Ether	13.712	57	434787	46.54	ug/L		99
100)	chlorobenzene	13.759	112	259852	49.55	ug/L		99
101)	1,1,1,2-tetrachloroethane	13.822	131	121265	50.02	ug/L		98
102)	ethylbenzene	13.816	91	438986	45.96	ug/L		98
103)	m,p-xylene	13.937	106	336082	94.66	ug/L		100
104)	o-xylene	14.335	106	176678	47.48	ug/L		97
105)	styrene	14.351	104	280425	47.05	ug/L		99
107)	bromoform	14.582	173	84245	54.18	ug/L		96
109)	isopropylbenzene	14.687	105	473701	46.79	ug/L		99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5103\
Data File : 3D119560.D
Acq On : 25 May 2016 12:01 pm
Operator : XimenaC
Sample : bs
Misc : MS2480,V3D5103,5,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 26 11:33:28 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
111) bromobenzene	15.075	156	133006	49.73	ug/L	96
112) cyclohexanone	14.818	55	124031	1046.87	ug/L	96
113) 1,1,2,2-tetrachloroethane	14.965	83	136265	47.16	ug/L	100
114) trans-1,4-dichloro-2-b...	15.001	53	30888	47.07	ug/L	95
115) 1,2,3-trichloropropane	15.054	110	32011	50.36	ug/L	98
116) n-propylbenzene	15.101	91	557804	47.62	ug/L	99
118) 2-chlorotoluene	15.237	126	114900	46.99	ug/L	98
119) 4-chlorotoluene	15.347	126	114772	47.71	ug/L	99
120) 1,3,5-trimethylbenzene	15.258	105	426538	48.61	ug/L	100
121) tert-butylbenzene	15.599	119	358413	48.50	ug/L	100
122) pentachloroethane	15.667	167	108797	54.49	ug/L	98
123) 1,2,4-trimethylbenzene	15.651	105	438067	47.71	ug/L	99
124) sec-butylbenzene	15.814	105	581671	47.69	ug/L	99
125) 1,3-dichlorobenzene	15.987	146	268890	49.13	ug/L	99
126) p-isopropyltoluene	15.945	119	498993	47.97	ug/L	99
127) 1,4-dichlorobenzene	16.076	146	275070	48.90	ug/L	98
128) 1,2-dichlorobenzene	16.438	146	289888	49.26	ug/L	99
130) n-butylbenzene	16.344	92	266352	45.44	ug/L	99
132) 1,2-dibromo-3-chloropr...	17.167	157	39915	46.42	ug/L	99
133) 1,3,5-trichlorobenzene	17.334	180	328822	49.77	ug/L	100
134) 1,2,4-trichlorobenzene	17.906	180	349063	48.77	ug/L	99
135) hexachlorobutadiene	18.006	225	159515	49.21	ug/L	98
136) naphthalene	18.163	128	746317	46.21	ug/L	99
137) 1,2,3-trichlorobenzene	18.357	180	359837	48.87	ug/L	98
138) hexachloroethane	16.721	119	103793	42.97	ug/L	97
139) Benzyl chloride	16.165	91	277634	49.12	ug/L	100

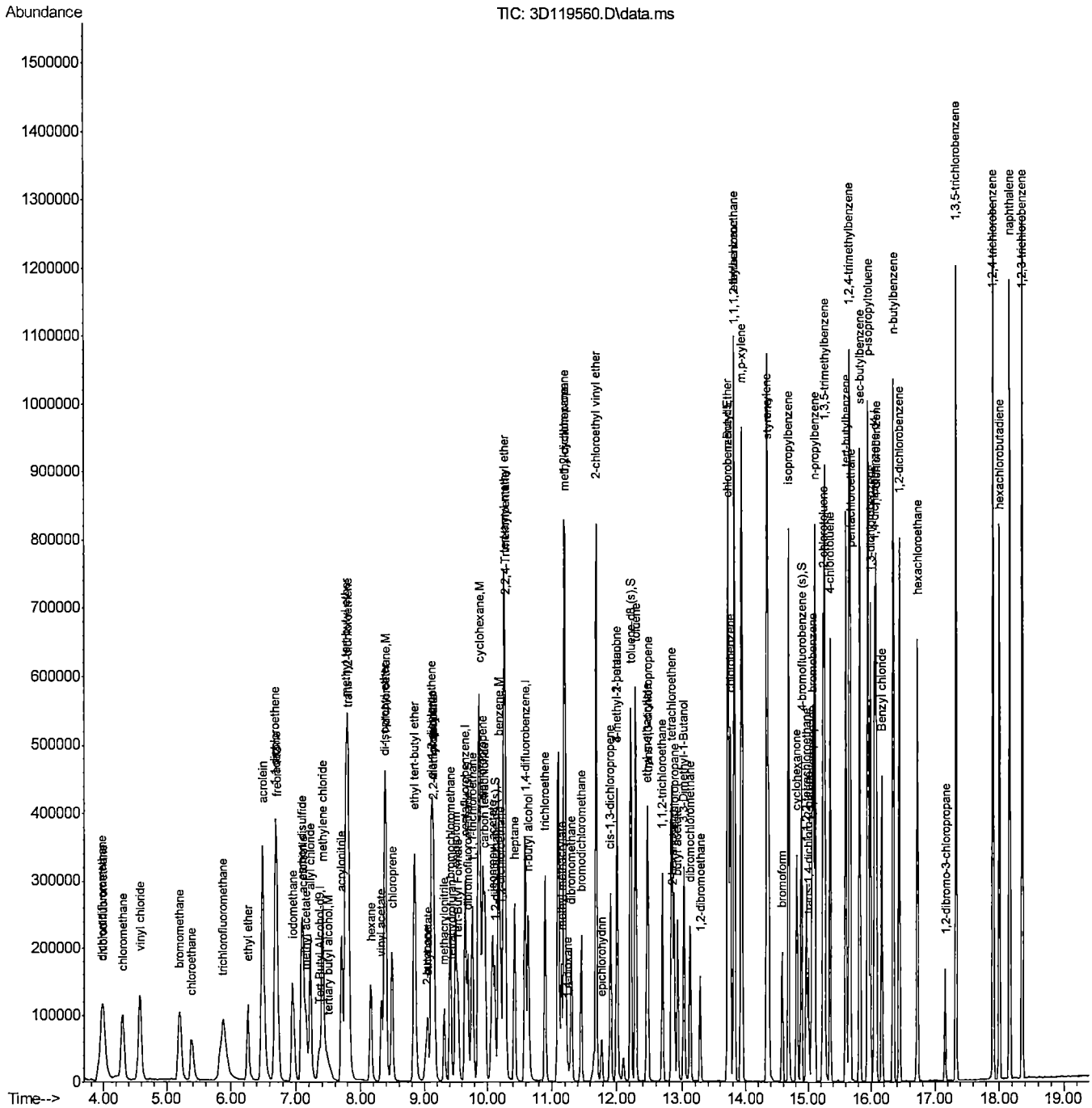
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.3.1

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5103\
Data File : 3D119560.D
Acq On : 25 May 2016 12:01 pm
Operator : XimenaC
Sample : bs
Misc : MS2480,V3D5103,5,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 26 11:33:28 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration



SGS ACCUTEST JC20564

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5104-5105\
Data File : 3D119590.D
Acq On : 26 May 2016 12:12 pm
Operator : XimenaC
Sample : bs
Misc : MS2366,V3D5104,5,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 27 16:25:16 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.367	65	119872	500.00	ug/L	0.00
4) pentafluorobenzene	9.653	168	186100	50.00	ug/L	0.00
62) 1,4-difluorobenzene	10.592	114	252367	50.00	ug/L	0.00
92) chlorobenzene-d5	13.722	117	219924	50.00	ug/L	0.00
108) 1,4-dichlorobenzene-d4	16.050	152	140017	50.00	ug/L	0.00
System Monitoring Compounds						
54) dibromofluoromethane (s)	9.690	113	90832	52.16	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 104.32%			
55) 1,2-dichloroethane-d4 (s)	10.115	65	89218	51.89	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 103.78%			
84) toluene-d8 (s)	12.217	98	285970	50.87	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 101.74%			
110) 4-bromofluorobenzene (s)	14.891	95	106496	49.07	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 98.14%			
Target Compounds						Qvalue
2) 1,4-dioxane	11.237	88	32452	1475.51	ug/L	98
3) tertiary butyl alcohol	7.488	59	69750	261.04	ug/L	98
10) chlorodifluoromethane	3.986	51	188873	48.76	ug/L	94
11) dichlorodifluoromethane	3.975	85	204434	55.83	ug/L	97
13) chloromethane	4.300	50	185306	50.94	ug/L	100
14) vinyl chloride	4.578	62	206617	48.42	ug/L	100
15) bromomethane	5.202	94	127954	63.62	ug/L	96
16) chloroethane	5.385	64	89914	53.25	ug/L	98
19) trichlorofluoromethane	5.873	101	221738	54.95	ug/L	96
21) ethyl ether	6.261	74	43322	48.60	ug/L	96
25) acrolein	6.492	56	230735	460.72	ug/L	98
26) 1,1-dichloroethene	6.686	61	170344	51.19	ug/L	98
27) acetone	6.696	58	8244	46.95	ug/L	87
28) allyl chloride	7.226	76	57176	52.97	ug/L #	80
29) acetonitrile	7.116	40	77250	410.07	ug/L	95
31) iodomethane	6.948	142	234259	54.03	ug/L	98
33) carbon disulfide	7.089	76	443873	53.59	ug/L	99
34) methylene chloride	7.415	84	118083	51.55	ug/L	94
35) methyl acetate	7.163	43	58284	38.14	ug/L	98
36) methyl tert butyl ether	7.776	73	680349	98.20	ug/L	97
37) trans-1,2-dichloroethene	7.808	61	138042	49.84	ug/L	95
38) di-isopropyl ether	8.379	45	326907	43.47	ug/L	98
39) ethyl tert-butyl ether	8.841	59	337865	49.04	ug/L	97
40) 2-butanone	9.040	72	8466	45.71	ug/L #	1
41) 1,1-dichloroethane	8.390	63	168561	49.06	ug/L	99
42) chloroprene	8.484	53	109248	42.85	ug/L	98
43) acrylonitrile	7.703	53	175782	235.85	ug/L	96
44) vinyl acetate	8.322	86	12958	47.52	ug/L	68
45) ethyl acetate	9.061	45	10646	42.43	ug/L	84
46) 2,2-dichloropropane	9.150	77	197852	55.03	ug/L	99
47) cis-1,2-dichloroethene	9.108	96	102812	48.41	ug/L	95
48) propionitrile	9.119	54	130839	501.40	ug/L	80

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5104-5105\
Data File : 3D119590.D
Acq On : 26 May 2016 12:12 pm
Operator : XimenaC
Sample : bs
Misc : MS2366,V3D5104,5,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 27 16:25:16 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49)	methyl acrylate	9.140	85	12518	51.67	ug/L		97
50)	bromochloromethane	9.412	128	53588	53.95	ug/L	#	86
51)	tetrahydrofuran	9.423	42	24677	40.04	ug/L		97
52)	chloroform	9.496	83	167570	52.43	ug/L		98
53)	Tert-Butyl Formate	9.533	59	71127	21.94	ug/L	#	95
56)	freon 113	6.696	151	107107	59.75	ug/L		99
57)	methacrylonitrile	9.318	41	46993	40.60	ug/L		93
58)	1,1,1-trichloroethane	9.758	97	191279	59.33	ug/L		97
60)	2,2,4-Trimethylpentane	10.267	57	410910	50.38	ug/L		97
61)	tert-amyl methyl ether	10.256	73	327763	49.19	ug/L		98
63)	epichlorohydrin	11.777	57	41256	240.19	ug/L		95
64)	n-butyl alcohol	10.634	56	140953	2346.73	ug/L		97
65)	cyclohexane	9.868	84	182364	50.96	ug/L	#	70
66)	carbon tetrachloride	9.952	117	174625	57.04	ug/L		99
67)	1,1-dichloropropene	9.926	75	117862	52.46	ug/L		98
68)	hexane	8.159	57	82528	36.89	ug/L		97
69)	benzene	10.172	78	349203	48.53	ug/L		99
70)	heptane	10.424	57	47741	39.32	ug/L		96
71)	isopropyl acetate	10.078	43	174086	48.20	ug/L		98
72)	1,2-dichloroethane	10.204	62	114678	53.12	ug/L		97
73)	trichloroethene	10.901	95	86584	53.16	ug/L		98
77)	2-chloroethyl vinyl ether	11.688	63	283086	256.69	ug/L		98
78)	methyl methacrylate	11.148	100	20744	51.51	ug/L	#	64
79)	1,2-dichloropropane	11.195	63	88115	47.66	ug/L		96
80)	methylcyclohexane	11.200	83	162569	48.04	ug/L		97
81)	dibromomethane	11.305	93	57072	54.12	ug/L		93
82)	bromodichloromethane	11.457	83	117343	54.52	ug/L		97
83)	cis-1,3-dichloropropene	11.908	75	130921	50.41	ug/L		98
85)	4-methyl-2-pentanone	12.007	58	35587	47.84	ug/L	#	84
86)	toluene	12.291	92	200237	51.19	ug/L		99
87)	3-methyl-1-butanol	12.007	70	53167	1004.18	ug/L		94
88)	trans-1,3-dichloropropene	12.474	75	121236	51.34	ug/L		97
89)	ethyl methacrylate	12.464	69	99087	45.91	ug/L		92
90)	1,1,2-trichloroethane	12.700	83	65759	51.44	ug/L		97
91)	2-hexanone	12.857	58	27347	45.22	ug/L		94
93)	tetrachloroethene	12.841	166	98746	54.22	ug/L		99
94)	1,3-dichloropropane	12.878	76	116902	49.61	ug/L		99
95)	butyl acetate	12.930	56	53148	47.45	ug/L		94
96)	3,3-Dimethyl-1-Butanol	13.030	57	118225	449.42	ug/L		97
97)	dibromochloromethane	13.124	129	96586	57.30	ug/L		98
98)	1,2-dibromoethane	13.281	107	80817	52.86	ug/L		96
99)	n-Butyl Ether	13.711	57	371986	49.23	ug/L		99
100)	chlorobenzene	13.759	112	221038	52.11	ug/L		98
101)	1,1,1,2-tetrachloroethane	13.822	131	105719	53.92	ug/L		98
102)	ethylbenzene	13.816	91	380610	49.26	ug/L		98
103)	m,p-xylene	13.937	106	294067	102.40	ug/L		99
104)	o-xylene	14.335	106	154973	51.49	ug/L		99
105)	styrene	14.351	104	237149	49.19	ug/L		99
107)	bromoform	14.582	173	73040	58.08	ug/L		97
109)	isopropylbenzene	14.687	105	416836	50.63	ug/L		99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5104-5105\
Data File : 3D119590.D
Acq On : 26 May 2016 12:12 pm
Operator : XimenaC
Sample : bs
Misc : MS2366,V3D5104,5,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 27 16:25:16 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
111) bromobenzene	15.075	156	113617	52.23	ug/L	96
112) cyclohexanone	14.818	55	94701	979.14	ug/L	97
113) 1,1,2,2-tetrachloroethane	14.965	83	114847	48.86	ug/L	98
114) trans-1,4-dichloro-2-b...	15.001	53	26978	50.55	ug/L	94
115) 1,2,3-trichloropropane	15.054	110	26829	51.89	ug/L	100
116) n-propylbenzene	15.101	91	484118	50.82	ug/L	99
118) 2-chlorotoluene	15.237	126	99610	50.09	ug/L	98
119) 4-chlorotoluene	15.347	126	98162	50.17	ug/L	99
120) 1,3,5-trimethylbenzene	15.258	105	373830	52.38	ug/L	100
121) tert-butylbenzene	15.599	119	319625	53.18	ug/L	99
122) pentachloroethane	15.667	167	95178	58.61	ug/L	97
123) 1,2,4-trimethylbenzene	15.651	105	377992	50.62	ug/L	99
124) sec-butylbenzene	15.814	105	515062	51.92	ug/L	99
125) 1,3-dichlorobenzene	15.982	146	226510	50.88	ug/L	98
126) p-isopropyltoluene	15.945	119	437503	51.71	ug/L	100
127) 1,4-dichlorobenzene	16.076	146	230473	50.37	ug/L	99
128) 1,2-dichlorobenzene	16.438	146	241807	50.52	ug/L	99
130) n-butylbenzene	16.343	92	229705	48.18	ug/L	99
132) 1,2-dibromo-3-chloropr...	17.161	157	34440	49.24	ug/L	92
133) 1,3,5-trichlorobenzene	17.334	180	277399	51.62	ug/L	100
134) 1,2,4-trichlorobenzene	17.906	180	293057	50.34	ug/L	98
135) hexachlorobutadiene	18.005	225	143955	54.60	ug/L	98
136) naphthalene	18.163	128	629519	47.93	ug/L	99
137) 1,2,3-trichlorobenzene	18.357	180	311349	51.99	ug/L	99
138) hexachloroethane	16.721	119	93573	47.15	ug/L	97
139) Benzyl chloride	16.165	91	230226	50.08	ug/L	100

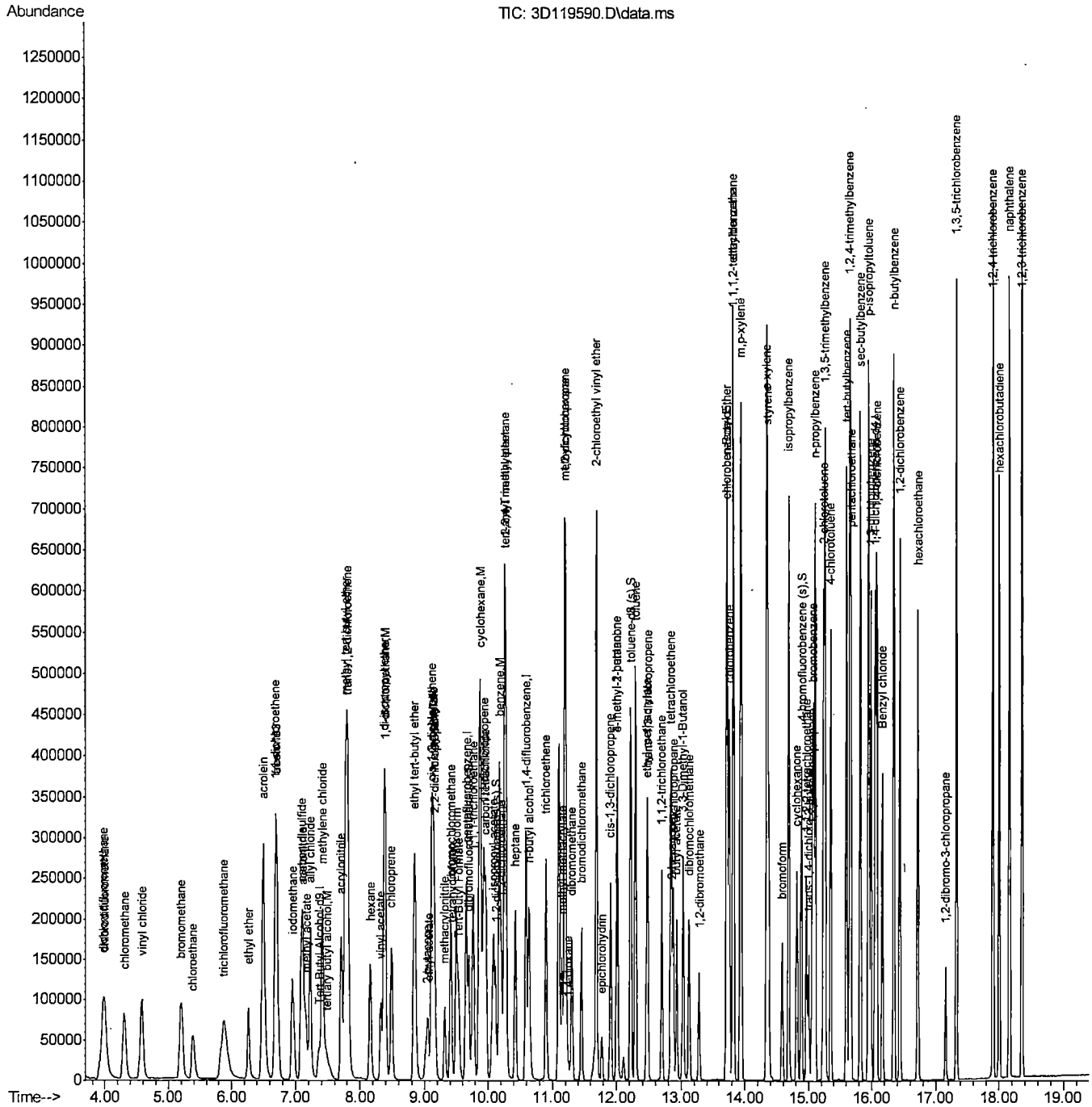
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.3.2 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5104-5105\
Data File : 3D119590.D
Acq On : 26 May 2016 12:12 pm
Operator : XimenaC
Sample : bs
Misc : MS2366,V3D5104,5,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 27 16:25:16 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5105ms-5107\
Data File : 3D119644.D
Acq On : 27 May 2016 1:46 pm
Operator : XimenaC
Sample : bs
Misc : MS2479,V3D5106,5,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 31 14:27:30 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.373	65	132606	500.00	ug/L	0.00
4) pentafluorobenzene	9.653	168	198580	50.00	ug/L	0.00
62) 1,4-difluorobenzene	10.592	114	267296	50.00	ug/L	0.00
92) chlorobenzene-d5	13.722	117	237859	50.00	ug/L	0.00
108) 1,4-dichlorobenzene-d4	16.050	152	153177	50.00	ug/L	0.00
System Monitoring Compounds						
54) dibromofluoromethane (s)	9.690	113	101417	54.58	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 109.16%			
55) 1,2-dichloroethane-d4 (s)	10.115	65	98712	53.80	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 107.60%			
84) toluene-d8 (s)	12.217	98	306169	51.42	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 102.84%			
110) 4-bromofluorobenzene (s)	14.891	95	116394	49.02	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 98.04%			
Target Compounds						Qvalue
2) 1,4-dioxane	11.242	88	35229	1447.96	ug/L	96
3) tertiary butyl alcohol	7.483	59	76643	259.30	ug/L	96
10) chlorodifluoromethane	3.996	51	202051	48.89	ug/L	96
11) dichlorodifluoromethane	3.986	85	217891	55.76	ug/L	98
13) chloromethane	4.305	50	214421	55.23	ug/L	99
14) vinyl chloride	4.578	62	232024	50.95	ug/L	98
15) bromomethane	5.207	94	145393	67.75	ug/L	100
16) chloroethane	5.386	64	102388	56.82	ug/L	97
19) trichlorofluoromethane	5.889	101	245895	57.11	ug/L	97
21) ethyl ether	6.266	74	48295	50.77	ug/L	90
25) acrolein	6.497	56	238531	446.36	ug/L	100
26) 1,1-dichloroethene	6.691	61	189975	53.50	ug/L	98
27) acetone	6.696	58	9567	51.07	ug/L	96
28) allyl chloride	7.226	76	62725	54.46	ug/L #	83
29) acetonitrile	7.121	40	89740	446.43	ug/L	96
31) iodomethane	6.953	142	258084	55.79	ug/L	99
33) carbon disulfide	7.100	76	480714	54.39	ug/L	98
34) methylene chloride	7.420	84	135099	55.27	ug/L	90
35) methyl acetate	7.163	43	69020	42.33	ug/L	99
36) methyl tert butyl ether	7.782	73	756152	102.28	ug/L	98
37) trans-1,2-dichloroethene	7.808	61	149635	50.63	ug/L	97
38) di-isopropyl ether	8.379	45	366166	45.63	ug/L	96
39) ethyl tert-butyl ether	8.846	59	373109	50.76	ug/L	97
40) 2-butanone	9.040	72	9211	46.61	ug/L #	1
41) 1,1-dichloroethane	8.390	63	186250	50.80	ug/L	98
42) chloroprene	8.489	53	131933	48.50	ug/L	98
43) acrylonitrile	7.708	53	193326	243.09	ug/L	98
44) vinyl acetate	8.322	86	15270	52.48	ug/L	62
45) ethyl acetate	9.056	45	11562	43.18	ug/L	97
46) 2,2-dichloropropane	9.145	77	200807	52.35	ug/L	99
47) cis-1,2-dichloroethene	9.113	96	110933	48.96	ug/L	96
48) propionitrile	9.124	54	142590	512.09	ug/L	89

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5105ms-5107\
Data File : 3D119644.D
Acq On : 27 May 2016 1:46 pm
Operator : XimenaC
Sample : bs
Misc : MS2479,V3D5106,5,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 31 14:27:30 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
49) methyl acrylate	9.140	85	13628	52.72 ug/L	84
50) bromochloromethane	9.412	128	58783	55.46 ug/L	88
51) tetrahydrofuran	9.428	42	25140	38.23 ug/L	92
52) chloroform	9.496	83	182955	53.65 ug/L	98
53) Tert-Butyl Formate	9.533	59	78771	22.77 ug/L #	93
56) freon 113	6.702	151	138239	72.27 ug/L	98
57) methacrylonitrile	9.318	41	49239	39.87 ug/L	89
58) 1,1,1-trichloroethane	9.758	97	200592	58.31 ug/L	99
60) 2,2,4-Trimethylpentane	10.272	57	507938	58.36 ug/L	96
61) tert-amyl methyl ether	10.256	73	372370	52.37 ug/L	97
63) epichlorohydrin	11.777	57	44502	244.62 ug/L	97
64) n-butyl alcohol	10.634	56	147975	2326.04 ug/L	99
65) cyclohexane	9.868	84	190647	50.29 ug/L #	72
66) carbon tetrachloride	9.952	117	186233	57.43 ug/L	99
67) 1,1-dichloropropene	9.926	75	124993	52.53 ug/L	99
68) hexane	8.159	57	89203	37.65 ug/L	96
69) benzene	10.172	78	368350	48.33 ug/L	99
70) heptane	10.424	57	60946	47.39 ug/L	91
71) isopropyl acetate	10.078	43	190448	49.78 ug/L	98
72) 1,2-dichloroethane	10.204	62	124378	54.40 ug/L	98
73) trichloroethene	10.901	95	89233	51.72 ug/L	97
77) 2-chloroethyl vinyl ether	11.688	63	301640	258.23 ug/L	98
78) methyl methacrylate	11.148	100	21485	50.37 ug/L #	76
79) 1,2-dichloropropane	11.195	63	95644	48.84 ug/L	94
80) methylcyclohexane	11.200	83	203154	56.68 ug/L	96
81) dibromomethane	11.305	93	60949	54.57 ug/L	96
82) bromodichloromethane	11.457	83	123330	54.11 ug/L	100
83) cis-1,3-dichloropropene	11.908	75	135765	49.36 ug/L	98
85) 4-methyl-2-pentanone	12.007	58	39007	49.51 ug/L #	85
86) toluene	12.291	92	211032	50.94 ug/L	97
87) 3-methyl-1-butanol	12.007	70	59065	1053.27 ug/L	92
88) trans-1,3-dichloropropene	12.474	75	128300	51.30 ug/L	97
89) ethyl methacrylate	12.464	69	103063	45.08 ug/L	95
90) 1,1,2-trichloroethane	12.700	83	68571	50.64 ug/L	96
91) 2-hexanone	12.857	58	28788	44.94 ug/L	90
93) tetrachloroethene	12.841	166	101433	51.49 ug/L	94
94) 1,3-dichloropropane	12.878	76	125416	49.21 ug/L	99
95) butyl acetate	12.930	56	57986	47.86 ug/L	93
96) 3,3-Dimethyl-1-Butanol	13.030	57	129314	454.51 ug/L	98
97) dibromochloromethane	13.124	129	102079	56.00 ug/L	99
98) 1,2-dibromoethane	13.282	107	85866	51.93 ug/L	99
99) n-Butyl Ether	13.711	57	393323	48.13 ug/L	99
100) chlorobenzene	13.753	112	238630	52.02 ug/L	99
101) 1,1,1,2-tetrachloroethane	13.822	131	116020	54.71 ug/L	97
102) ethylbenzene	13.816	91	407660	48.78 ug/L	99
103) m,p-xylene	13.937	106	313785	101.03 ug/L	99
104) o-xylene	14.335	106	163384	50.19 ug/L	99
105) styrene	14.351	104	258887	49.65 ug/L	98
107) bromoform	14.582	173	78147	57.46 ug/L	100
109) isopropylbenzene	14.687	105	441460	49.01 ug/L	100

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5105ms-5107\
Data File : 3D119644.D
Acq On : 27 May 2016 1:46 pm
Operator : XimenaC
Sample : bs
Misc : MS2479,V3D5106,5,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 31 14:27:30 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
111) bromobenzene	15.075	156	121711	51.14	ug/L	96
112) cyclohexanone	14.818	55	41788	359.91	ug/L	95
113) 1,1,2,2-tetrachloroethane	14.965	83	127289	49.51	ug/L	96
114) trans-1,4-dichloro-2-b...	14.996	53	29397	50.35	ug/L	89
115) 1,2,3-trichloropropane	15.054	110	29792	52.67	ug/L	98
116) n-propylbenzene	15.101	91	528442	50.70	ug/L	98
118) 2-chlorotoluene	15.237	126	108756	49.99	ug/L	95
119) 4-chlorotoluene	15.347	126	106172	49.60	ug/L	99
120) 1,3,5-trimethylbenzene	15.258	105	402803	51.59	ug/L	100
121) tert-butylbenzene	15.599	119	327999	49.89	ug/L	98
122) pentachloroethane	15.667	167	101665	57.23	ug/L	99
123) 1,2,4-trimethylbenzene	15.651	105	408597	50.01	ug/L	99
124) sec-butylbenzene	15.814	105	543032	50.03	ug/L	99
125) 1,3-dichlorobenzene	15.982	146	246180	50.55	ug/L	99
126) p-isopropyltoluene	15.945	119	464728	50.20	ug/L	99
127) 1,4-dichlorobenzene	16.076	146	247760	49.50	ug/L	99
128) 1,2-dichlorobenzene	16.438	146	263626	50.34	ug/L	98
130) n-butylbenzene	16.343	92	246302	47.22	ug/L	98
132) 1,2-dibromo-3-chloropr...	17.161	157	35565	46.48	ug/L	94
133) 1,3,5-trichlorobenzene	17.334	180	286094	48.66	ug/L	97
134) 1,2,4-trichlorobenzene	17.906	180	296080	46.49	ug/L	99
135) hexachlorobutadiene	18.000	225	145132	50.32	ug/L	98
136) naphthalene	18.163	128	661990	46.07	ug/L	99
137) 1,2,3-trichlorobenzene	18.357	180	318075	48.55	ug/L	99
138) hexachloroethane	16.721	119	98151	45.39	ug/L	97
139) Benzyl chloride	16.165	91	236396	47.01	ug/L	100

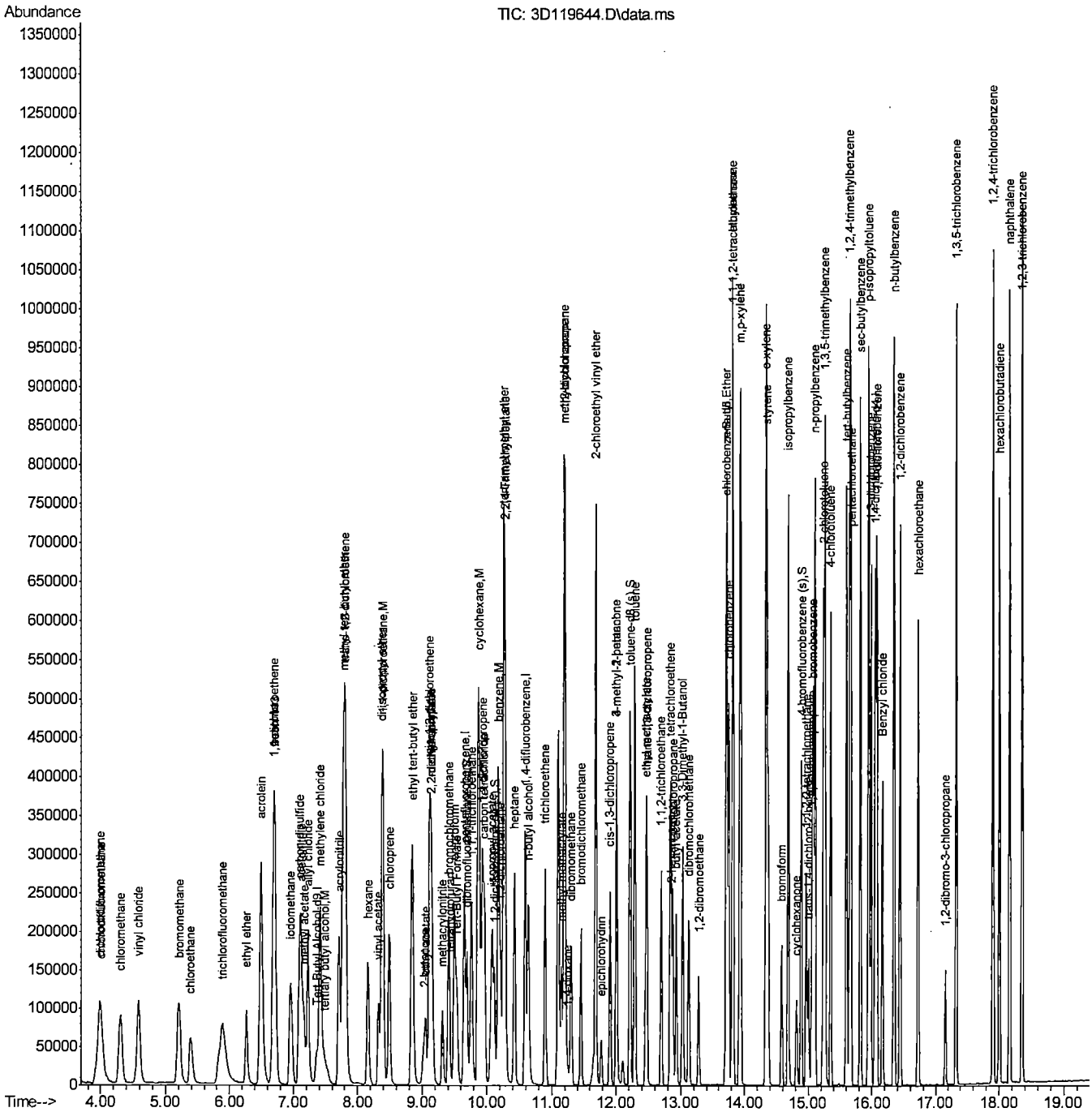
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.3.3 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5105ms-5107\
Data File : 3D119644.D
Acq On : 27 May 2016 1:46 pm
Operator : XimenaC
Sample : bs
Misc : MS2479,V3D5106,5,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 31 14:27:30 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4D\V4D3029-V4D3030\
Data File : 4D68858.D
Acq On : 27 May 2016 1:57 pm
Operator : XimenaC
Sample : bs
Misc : MS2544,V4D3030,5,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 27 16:11:40 2016
Quant Method : C:\MSDCHEM\1\METHODS\M4D3019.M
Quant Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
QLast Update : Thu May 19 09:28:34 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.567	65	128434	500.00	ug/L	0.00
4) pentafluorobenzene	10.084	168	160762	50.00	ug/L	0.00
54) 1,4-difluorobenzene	11.033	114	252951	50.00	ug/L	0.00
86) chlorobenzene-d5	14.383	117	242767	50.00	ug/L	0.00
101) 1,4-dichlorobenzene-d4	16.774	152	126964	50.00	ug/L	0.00
System Monitoring Compounds						
48) dibromofluoromethane (s)	10.084	113	93331	55.24	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 110.48%			
49) 1,2-dichloroethane-d4 (s)	10.535	65	103010	54.35	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 108.70%			
78) toluene-d8 (s)	12.773	98	300387	51.68	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 103.36%			
103) 4-bromofluorobenzene (s)	15.605	95	122465	49.30	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 98.60%			
Target Compounds						Qvalue
2) 1,4-dioxane	11.777	88	43426	1310.40	ug/L	96
3) tertiary butyl alcohol	7.703	59	91356	254.72	ug/L	93
6) chlorodifluoromethane	3.750	51	92734	44.31	ug/L	98
7) dichlorodifluoromethane	3.729	85	125743	55.31	ug/L	99
9) chloromethane	4.091	50	145839	52.43	ug/L	100
10) vinyl chloride	4.369	62	134612	49.46	ug/L	98
12) bromomethane	5.071	94	101468	60.36	ug/L	99
13) chloroethane	5.281	64	76038	61.75	ug/L	100
14) trichlorofluoromethane	5.832	101	168567	58.05	ug/L	99
17) ethyl ether	6.304	74	56294	52.17	ug/L	86
19) 2-chloropropane	6.508	43	151401	45.95	ug/L	95
20) acrolein	6.560	56	303636	541.16	ug/L	100
21) 1,1-dichloroethene	6.765	61	160473	41.70	ug/L	98
22) acetone	6.823	58	11637	47.30	ug/L	92
23) allyl chloride	7.363	76	54476	49.19	ug/L	95
24) acetonitrile	7.305	40	73008	546.40	ug/L	98
25) iodomethane	7.053	142	189527	49.71	ug/L	94
26) iso-butyl alcohol	10.377	41	53693	478.34	ug/L	95
27) carbon disulfide	7.195	76	339839	45.85	ug/L	97
28) methylene chloride	7.578	84	117947	48.09	ug/L	98
30) methyl acetate	7.368	74	21984	51.39	ug/L	99
31) methyl tert butyl ether	7.997	73	673044	101.65	ug/L	97
32) trans-1,2-dichloroethene	8.013	61	150330	49.36	ug/L	100
33) di-isopropyl ether	8.700	45	324033	50.12	ug/L	98
34) ethyl tert-butyl ether	9.219	59	331997	50.49	ug/L	99
35) 2-butanone	9.455	72	16544	52.87	ug/L	98
36) 1,1-dichloroethane	8.658	63	187974	50.08	ug/L	99
37) chloroprene	8.784	53	143292	50.21	ug/L	98
38) acrylonitrile	7.955	53	252795	259.49	ug/L	99
39) vinyl acetate	8.679	86	20283	54.57	ug/L	89
40) ethyl acetate	9.502	45	18360	50.87	ug/L	95
41) 2,2-dichloropropane	9.486	77	152495	48.92	ug/L	99
42) cis-1,2-dichloroethene	9.470	96	117696	47.97	ug/L	100
43) propionitrile	9.549	54	201572	542.20	ug/L	94
44) methyl acrylate	9.575	85	20957	50.65	ug/L #	70
45) bromochloromethane	9.801	128	61228	53.01	ug/L	100
46) tetrahydrofuran	9.853	42	38808	44.57	ug/L	99
47) chloroform	9.874	83	207824	50.55	ug/L	100
50) freon 113	6.765	151	79495	60.42	ug/L	100
51) methacrylonitrile	9.759	67	53057	47.55	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4D\V4D3029-V4D3030\
Data File : 4D68858.D
Acq On : 27 May 2016 1:57 pm
Operator : XimenaC
Sample : bs
Misc : MS2544,V4D3030,5,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 27 16:11:40 2016
Quant Method : C:\MSDCHEM\1\METHODS\M4D3019.M
Quant Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
QLast Update : Thu May 19 09:28:34 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
52) 1,1,1-trichloroethane	10.157	97	165153	51.71 ug/L	99
53) tert-amyl methyl ether	10.702	73	322314	48.51 ug/L	99
55) epichlorohydrin	12.344	57	73039	242.15 ug/L	99
56) n-butyl alcohol	11.174	56	224059	2455.80 ug/L	99
57) cyclohexane	10.241	84	125932	44.55 ug/L	97
59) carbon tetrachloride	10.372	117	151951	52.51 ug/L	97
60) 1,1-dichloropropene	10.346	75	141145	50.96 ug/L	99
61) hexane	8.406	57	93545	38.55 ug/L	99
62) benzene	10.624	78	400108	46.46 ug/L	100
63) ISO-OCTANE	10.682	57	335861	46.02 ug/L	99
64) heptane	10.865	57	62082	46.13 ug/L	97
65) isopropyl acetate	10.592	43	219935	44.40 ug/L	100
66) 1,2-dichloroethane	10.629	62	158337	52.56 ug/L	100
67) trichloroethene	11.379	95	112698	47.21 ug/L	98
69) 2-nitropropane	12.197	41	35598	49.32 ug/L	99
70) 2-chloroethyl vinyl ether	12.239	63	433793	259.41 ug/L	99
71) methyl methacrylate	11.693	100	31108	47.50 ug/L	91
72) 1,2-dichloropropane	11.657	63	106004	48.34 ug/L	98
73) methylcyclohexane	11.630	83	153824	48.43 ug/L	95
75) dibromomethane	11.804	93	83107	50.65 ug/L	98
76) bromodichloromethane	11.950	83	157042	48.90 ug/L	99
77) cis-1,3-dichloropropene	12.454	75	178909	47.22 ug/L	100
79) 4-methyl-2-pentanone	12.579	58	55260	49.08 ug/L	96
80) toluene	12.847	92	247682	46.92 ug/L	99
81) 3-methyl-1-butanol	12.595	70	86744	998.15 ug/L	96
82) trans-1,3-dichloropropene	13.051	75	168258	47.37 ug/L	100
83) ethyl methacrylate	13.078	69	151310	44.98 ug/L	99
84) 1,1,2-trichloroethane	13.277	83	93997	47.91 ug/L	98
85) 2-hexanone	13.492	58	51114	46.10 ug/L	99
87) tetrachloroethene	13.471	166	110409	46.10 ug/L	98
88) 1,3-dichloropropane	13.471	76	166900	46.16 ug/L	100
89) butyl acetate	13.581	56	84799	47.38 ug/L	97
90) dibromochloromethane	13.743	129	131906	49.50 ug/L	99
91) 1,2-dibromoethane	13.906	107	122617	47.47 ug/L	98
92) n-Butyl Ether	14.378	57	459914	48.04 ug/L	98
93) chlorobenzene	14.415	112	286264	45.75 ug/L	99
94) 1,1,1,2-tetrachloroethane	14.483	131	110224	46.88 ug/L	99
95) ethylbenzene	14.493	91	484302	43.53 ug/L	100
96) m,p-xylene	14.609	106	368104	90.25 ug/L	98
97) o-xylene	15.049	91	413417	45.08 ug/L	100
98) styrene	15.054	104	314878	45.05 ug/L	100
100) bromoform	15.306	173	94989	47.73 ug/L	99
102) isopropylbenzene	15.411	105	479551	44.63 ug/L	100
104) bromobenzene	15.799	156	131772	46.19 ug/L	99
105) cyclohexanone	15.563	55	58403	275.11 ug/L	98
106) 1,1,2,2-tetrachloroethane	15.704	83	174999	45.31 ug/L	99
107) trans-1,4-dichloro-2-b...	15.752	53	41888	43.96 ug/L	96
108) 1,2,3-trichloropropane	15.778	110	43592	47.78 ug/L	99
109) n-propylbenzene	15.835	91	591231	45.75 ug/L	99
110) 2-chlorotoluene	15.966	126	117176	45.61 ug/L	98
111) 4-chlorotoluene	16.071	91	364346	43.28 ug/L	99
112) 1,3,5-trimethylbenzene	15.987	105	417859	44.31 ug/L	100
113) tert-butylbenzene	16.339	134	75275	45.37 ug/L	97
114) pentachloroethane	16.402	167	83982	47.96 ug/L	94
115) 1,2,4-trimethylbenzene	16.381	105	436647	44.86 ug/L	99
116) sec-butylbenzene	16.554	105	539196	44.41 ug/L	99
117) 1,3-dichlorobenzene	16.721	146	245082	44.67 ug/L	99
118) p-isopropyltoluene	16.674	119	452721	45.02 ug/L	100

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4D\V4D3029-V4D3030\
Data File : 4D68858.D
Acq On : 27 May 2016 1:57 pm
Operator : XimenaC
Sample : bs
Misc : MS2544,V4D3030,5,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 27 16:11:40 2016
Quant Method : C:\MSDCHEM\1\METHODS\M4D3019.M
Quant Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
QLast Update : Thu May 19 09:28:34 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
119) 1,4-dichlorobenzene	16.800	146	249085	45.16	ug/L	98
120) 1,2-dichlorobenzene	17.183	146	244792	45.67	ug/L	100
121) n-butylbenzene	17.078	92	244508	45.32	ug/L	99
122) 1,2-dibromo-3-chloropr...	17.912	157	39275	43.43	ug/L	96
123) 1,3,5-trichlorobenzene	18.095	180	198317	46.75	ug/L	99
124) 1,2,4-trichlorobenzene	18.693	180	186154	47.76	ug/L	98
125) hexachlorobutadiene	18.813	225	90003	43.19	ug/L	97
126) naphthalene	18.960	128	515591	46.85	ug/L	100
127) 1,2,3-trichlorobenzene	19.196	180	176427	48.30	ug/L	100
128) hexachloroethane	17.440	119	97108	47.88	ug/L	97
129) Benzyl chloride	16.915	91	317459	43.52	ug/L	100

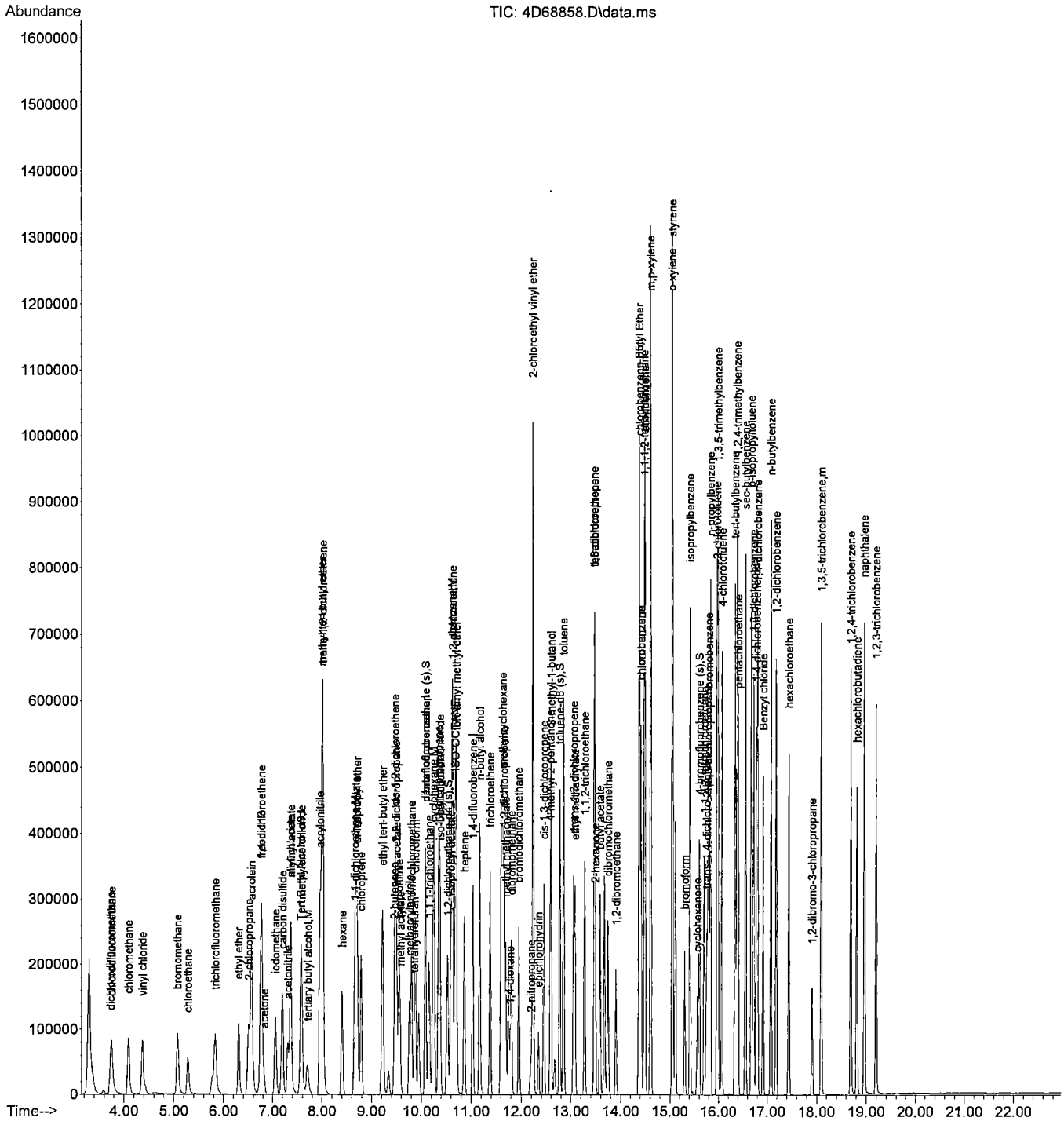
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.3.4 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4D\V4D3029-V4D3030\
Data File : 4D68858.D
Acq On : 27 May 2016 1:57 pm
Operator : XimenaC
Sample : bs
Misc : MS2544,V4D3030,5,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 27 16:11:40 2016
Quant Method : C:\MSDCHEM\1\METHODS\M4D3019.M
Quant Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
QLast Update : Thu May 19 09:28:34 2016
Response via : Initial Calibration



M4D3019.M Fri May 27 16:12:19 2016

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5103\
Data File : 3D119569.D
Acq On : 25 May 2016 4:25 pm
Operator : XimenaC
Sample : jc20564-16ms
Misc : MS2366,V3D5103,5,,,,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: May 26 12:08:18 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.367	65	175915	500.00	ug/L	0.00
4) pentafluorobenzene	9.653	168	254008	50.00	ug/L	0.00
62) 1,4-difluorobenzene	10.592	114	327888	50.00	ug/L	0.00
92) chlorobenzene-d5	13.722	117	282302	50.00	ug/L	0.00
108) 1,4-dichlorobenzene-d4	16.055	152	170738	50.00	ug/L	0.00
System Monitoring Compounds						
54) dibromofluoromethane (s)	9.690	113	119885	50.44	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 100.88%			
55) 1,2-dichloroethane-d4 (s)	10.115	65	115491	49.21	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 98.42%			
84) toluene-d8 (s)	12.217	98	365018	49.98	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 99.96%			
110) 4-bromofluorobenzene (s)	14.891	95	135174	51.07	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 102.14%			
Target Compounds						Qvalue
2) 1,4-dioxane	11.237	88	47022	1456.86	ug/L	96
3) tertiary butyl alcohol	7.488	59	103976	265.17	ug/L	96
10) chlorodifluoromethane	3.991	51	250427	47.37	ug/L	96
11) dichlorodifluoromethane	3.970	85	274355	54.89	ug/L	100
13) chloromethane	4.300	50	247939	49.93	ug/L	99
14) vinyl chloride	4.573	62	294010	50.48	ug/L	99
15) bromomethane	5.197	94	166907	60.81	ug/L	98
16) chloroethane	5.385	64	120547	52.30	ug/L	97
19) trichlorofluoromethane	5.878	101	331102	60.12	ug/L	99
21) ethyl ether	6.261	74	63241	51.98	ug/L	96
25) acrolein	6.492	56	293429	429.27	ug/L	100
26) 1,1-dichloroethene	6.686	61	250601	55.17	ug/L	96
27) acetone	6.701	58	12351	51.54	ug/L	98
28) allyl chloride	7.226	76	79559	54.00	ug/L #	84
29) acetonitrile	7.121	40	102660	399.26	ug/L	95
31) iodomethane	6.948	142	337244	56.99	ug/L	98
33) carbon disulfide	7.089	76	637413	56.38	ug/L	100
34) methylene chloride	7.415	84	159515	51.02	ug/L	88
35) methyl acetate	7.163	43	79412	38.08	ug/L	98
36) methyl tert butyl ether	7.776	73	889952	94.11	ug/L	97
37) trans-1,2-dichloroethene	7.808	61	190432	50.37	ug/L	95
38) di-isopropyl ether	8.374	45	435575	42.44	ug/L	98
39) ethyl tert-butyl ether	8.841	59	446696	47.51	ug/L	98
40) 2-butanone	9.040	72	13488	53.36	ug/L #	1
41) 1,1-dichloroethane	8.390	63	236204	50.37	ug/L	98
42) chloroprene	8.489	53	164106	47.16	ug/L	98
43) acrylonitrile	7.708	53	237149	233.12	ug/L	98
44) vinyl acetate	8.322	86	18550	49.84	ug/L	76
45) ethyl acetate	9.056	45	14574	42.55	ug/L	91
46) 2,2-dichloropropane	9.145	77	274271	55.90	ug/L	98
47) cis-1,2-dichloroethene	9.108	96	143888	49.64	ug/L	97
48) propionitrile	9.124	54	177551	498.51	ug/L	97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5103\
Data File : 3D119569.D
Acq On : 25 May 2016 4:25 pm
Operator : XimenaC
Sample : jc20564-16ms
Misc : MS2366,V3D5103,5,,,,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: May 26 12:08:18 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
49)	methyl acrylate	9.145	85	17403	52.63 ug/L	76
50)	bromochloromethane	9.412	128	73070	53.90 ug/L	88
51)	tetrahydrofuran	9.423	42	31296	37.20 ug/L	91
52)	chloroform	9.496	83	230573	52.86 ug/L	98
53)	Tert-Butyl Formate	9.533	59	41495	9.38 ug/L #	93
56)	freon 113	6.696	151	166814	68.18 ug/L	96
57)	methacrylonitrile	9.318	41	60970	38.60 ug/L	95
58)	1,1,1-trichloroethane	9.758	97	279632	63.55 ug/L	97
60)	2,2,4-Trimethylpentane	10.272	57	613350	55.09 ug/L	94
61)	tert-amyl methyl ether	10.256	73	416348	45.78 ug/L	99
63)	epichlorohydrin	11.777	57	48423	216.98 ug/L	98
64)	n-butyl alcohol	10.639	56	201697	2584.61 ug/L	98
65)	cyclohexane	9.868	84	269184	57.89 ug/L #	69
66)	carbon tetrachloride	9.952	117	243652	61.26 ug/L	98
67)	1,1-dichloropropene	9.921	75	168042	57.57 ug/L	99
68)	hexane	8.159	57	129789	44.66 ug/L	98
69)	benzene	10.172	78	473798	50.68 ug/L	99
70)	heptane	10.424	57	78357	49.67 ug/L	96
71)	isopropyl acetate	10.078	43	235548	50.19 ug/L	98
72)	1,2-dichloroethane	10.204	62	149062	53.15 ug/L	96
73)	trichloroethene	10.901	95	119310	56.38 ug/L	98
78)	methyl methacrylate	11.153	100	27572	52.69 ug/L #	63
79)	1,2-dichloropropane	11.195	63	117088	48.75 ug/L	98
80)	methylcyclohexane	11.200	83	252423	57.41 ug/L	96
81)	dibromomethane	11.305	93	73030	53.30 ug/L	95
82)	bromodichloromethane	11.457	83	151129	54.05 ug/L	98
83)	cis-1,3-dichloropropene	11.908	75	170506	50.53 ug/L	99
85)	4-methyl-2-pentanone	12.007	58	49257	50.96 ug/L #	86
86)	toluene	12.291	92	267215	52.58 ug/L	96
87)	3-methyl-1-butanol	12.007	70	79345	1153.45 ug/L	89
88)	trans-1,3-dichloropropene	12.474	75	155303	50.62 ug/L	95
89)	ethyl methacrylate	12.464	69	132928	47.40 ug/L	94
90)	1,1,2-trichloroethane	12.699	83	83324	50.16 ug/L	96
91)	2-hexanone	12.857	58	38248	48.67 ug/L	96
93)	tetrachloroethene	12.841	166	138994	59.45 ug/L	98
94)	1,3-dichloropropane	12.878	76	150241	49.67 ug/L	98
95)	butyl acetate	12.935	56	74050	51.50 ug/L	91
96)	3,3-Dimethyl-1-Butanol	13.030	57	190237	563.38 ug/L	99
97)	dibromochloromethane	13.124	129	123128	56.91 ug/L	99
98)	1,2-dibromoethane	13.281	107	105495	53.75 ug/L	99
99)	n-Butyl Ether	13.711	57	505854	52.15 ug/L	97
100)	chlorobenzene	13.759	112	297988	54.73 ug/L	98
101)	1,1,1,2-tetrachloroethane	13.822	131	138619	55.07 ug/L	99
102)	ethylbenzene	13.816	91	511156	51.54 ug/L	99
103)	m,p-xylene	13.937	106	390435	105.92 ug/L	99
104)	o-xylene	14.335	106	204679	52.98 ug/L	100
105)	styrene	14.351	104	310627	50.20 ug/L	98
107)	bromoform	14.582	173	90810	56.26 ug/L	98
109)	isopropylbenzene	14.687	105	563403	56.11 ug/L	99
111)	bromobenzene	15.075	156	146480	55.22 ug/L	94

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5103\
Data File : 3D119569.D
Acq On : 25 May 2016 4:25 pm
Operator : XimenaC
Sample : jc20564-16ms
Misc : MS2366,V3D5103,5,,,,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: May 26 12:08:18 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
112) cyclohexanone	14.818	55	49500	386.16 ug/L	97
113) 1,1,2,2-tetrachloroethane	14.964	83	146615	51.16 ug/L	99
114) trans-1,4-dichloro-2-b...	15.001	53	30826	47.37 ug/L	97
115) 1,2,3-trichloropropane	15.054	110	33833	53.67 ug/L	96
116) n-propylbenzene	15.101	91	643836	55.42 ug/L	98
118) 2-chlorotoluene	15.237	126	130159	53.67 ug/L	95
119) 4-chlorotoluene	15.347	126	129018	54.07 ug/L	96
120) 1,3,5-trimethylbenzene	15.258	105	484515	55.67 ug/L	100
121) tert-butylbenzene	15.599	119	431383	58.86 ug/L	99
122) pentachloroethane	15.667	167	119381	60.29 ug/L	98
123) 1,2,4-trimethylbenzene	15.651	105	491008	53.92 ug/L	98
124) sec-butylbenzene	15.814	105	682342	56.40 ug/L	99
125) 1,3-dichlorobenzene	15.982	146	287895	53.03 ug/L	99
126) p-isopropyltoluene	15.945	119	570610	55.30 ug/L	99
127) 1,4-dichlorobenzene	16.076	146	289294	51.85 ug/L	99
128) 1,2-dichlorobenzene	16.438	146	302924	51.90 ug/L	99
130) n-butylbenzene	16.343	92	296853	51.06 ug/L	97
132) 1,2-dibromo-3-chloropr...	17.161	157	42965	50.38 ug/L	95
133) 1,3,5-trichlorobenzene	17.334	180	348955	53.25 ug/L	99
134) 1,2,4-trichlorobenzene	17.906	180	367853	51.82 ug/L	99
135) hexachlorobutadiene	18.005	225	188104	58.51 ug/L	98
136) naphthalene	18.163	128	813972	50.82 ug/L	99
137) 1,2,3-trichlorobenzene	18.357	180	386336	52.91 ug/L	100
138) hexachloroethane	16.721	119	119506	49.18 ug/L	96
139) Benzyl chloride	16.165	91	273693	48.83 ug/L	98

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

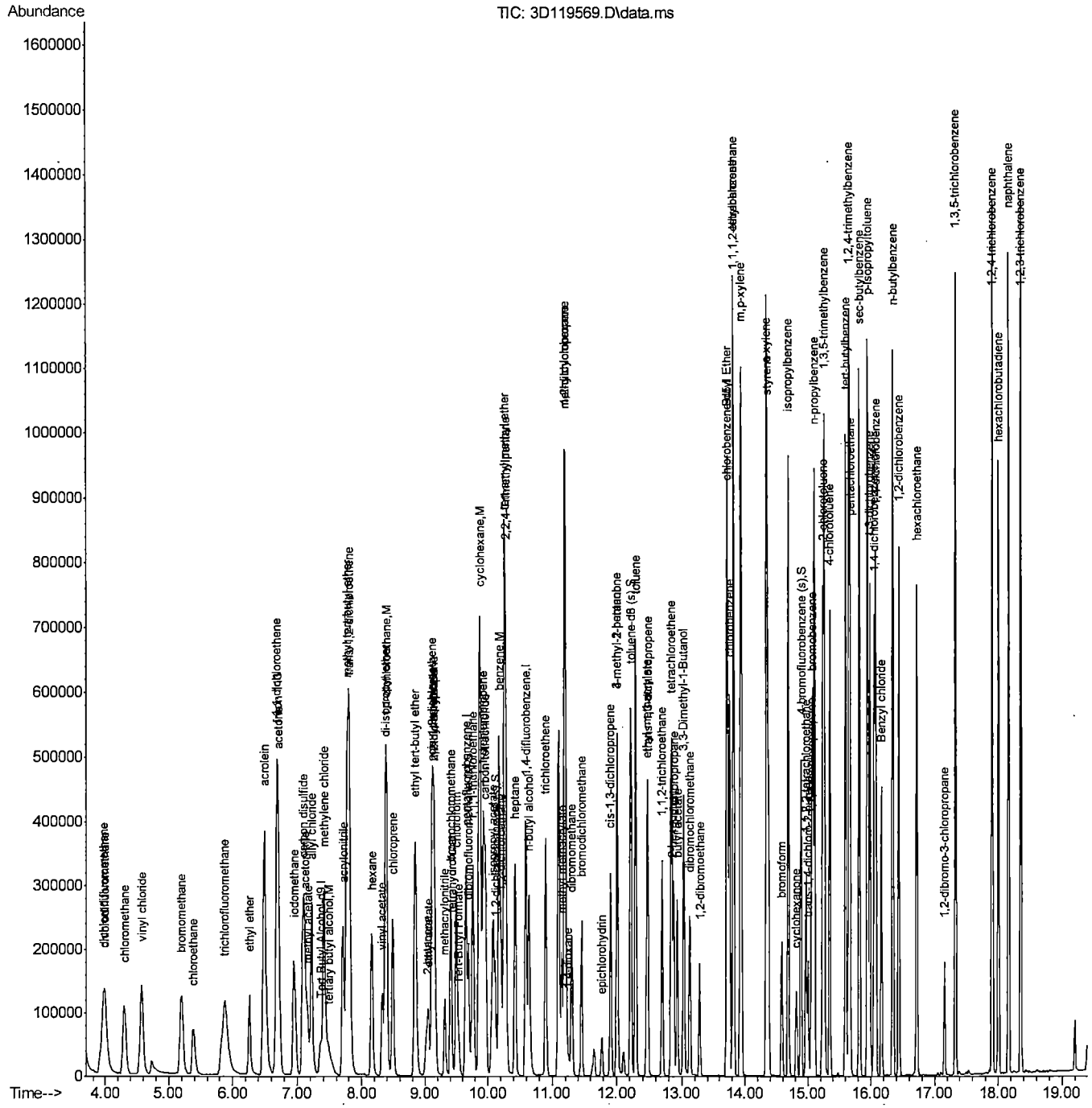
7.4.1

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5103\
Data File : 3D119569.D
Acq On : 25 May 2016 4:25 pm
Operator : XimenaC
Sample : jc20564-16ms
Misc : MS2366,V3D5103,5,,,,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: May 26 12:08:18 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5103\
Data File : 3D119570.D
Acq On : 25 May 2016 4:52 pm
Operator : XimenaC
Sample : jc20564-16msd
Misc : MS2366,V3D5103,5,,,,1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: May 26 12:09:37 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.383	65	170255	500.00	ug/L	0.01
4) pentafluorobenzene	9.653	168	274886	50.00	ug/L	0.00
62) 1,4-difluorobenzene	10.592	114	355397	50.00	ug/L	0.00
92) chlorobenzene-d5	13.722	117	296428	50.00	ug/L	0.00
108) 1,4-dichlorobenzene-d4	16.050	152	175099	50.00	ug/L	0.00
System Monitoring Compounds						
54) dibromofluoromethane (s)	9.695	113	129667	50.42	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 100.84%			
55) 1,2-dichloroethane-d4 (s)	10.115	65	124447	49.00	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 98.00%			
84) toluene-d8 (s)	12.217	98	395091	49.91	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 99.82%			
110) 4-bromofluorobenzene (s)	14.891	95	140063	51.60	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 103.20%			
Target Compounds						Qvalue
2) 1,4-dioxane	11.242	88	43184	1382.43	ug/L	94
3) tertiary butyl alcohol	7.488	59	102271	269.49	ug/L	97
10) chlorodifluoromethane	3.991	51	252156	44.07	ug/L	95
11) dichlorodifluoromethane	3.975	85	282301	52.19	ug/L	99
13) chloromethane	4.306	50	271194	50.47	ug/L	100
14) vinyl chloride	4.583	62	307518	48.79	ug/L	100
15) bromomethane	5.213	94	183280	61.70	ug/L	98
16) chloroethane	5.391	64	131555	52.74	ug/L	99
19) trichlorofluoromethane	5.884	101	340747	57.17	ug/L	99
21) ethyl ether	6.266	74	65349	49.63	ug/L	92
25) acrolein	6.497	56	304005	410.96	ug/L	99
26) 1,1-dichloroethene	6.691	61	267837	54.49	ug/L	97
27) acetone	6.702	58	13161	50.75	ug/L	95
28) allyl chloride	7.231	76	86082	53.99	ug/L #	82
29) acetonitrile	7.126	40	101968	366.45	ug/L	96
31) iodomethane	6.953	142	360772	56.34	ug/L	99
33) carbon disulfide	7.100	76	671833	54.91	ug/L	98
34) methylene chloride	7.420	84	172972	51.12	ug/L	90
35) methyl acetate	7.168	43	82922	36.74	ug/L	96
36) methyl tert butyl ether	7.776	73	936990	91.56	ug/L	97
37) trans-1,2-dichloroethene	7.808	61	204158	49.90	ug/L	95
38) di-isopropyl ether	8.379	45	464620	41.83	ug/L	98
39) ethyl tert-butyl ether	8.846	59	471319	46.32	ug/L	95
40) 2-butanone	9.045	72	13670	49.97	ug/L #	23
41) 1,1-dichloroethane	8.395	63	254380	50.13	ug/L	99
42) chloroprene	8.495	53	176250	46.80	ug/L	98
43) acrylonitrile	7.708	53	251161	228.14	ug/L	99
44) vinyl acetate	8.327	86	20055	49.79	ug/L	48
45) ethyl acetate	9.061	45	15320	41.33	ug/L	94
46) 2,2-dichloropropane	9.150	77	282987	53.29	ug/L	99
47) cis-1,2-dichloroethene	9.113	96	157267	50.14	ug/L	98
48) propionitrile	9.124	54	192761	500.11	ug/L	97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5103\
Data File : 3D119570.D
Acq On : 25 May 2016 4:52 pm
Operator : XimenaC
Sample : jc20564-16msd
Misc : MS2366,V3D5103,5,,,,1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: May 26 12:09:37 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49)	methyl acrylate	9.140	85	17475	48.83	ug/L		99
50)	bromochloromethane	9.412	128	80103	54.60	ug/L		87
51)	tetrahydrofuran	9.428	42	34654	38.07	ug/L		93
52)	chloroform	9.501	83	250277	53.02	ug/L		96
53)	Tert-Butyl Formate	9.533	59	31233	6.52	ug/L	#	94
56)	freon 113	6.702	151	169449	63.99	ug/L		98
57)	methacrylonitrile	9.318	41	64931	37.98	ug/L		90
58)	1,1,1-trichloroethane	9.764	97	295214	62.00	ug/L		96
60)	2,2,4-Trimethylpentane	10.272	57	623508	51.75	ug/L		96
61)	tert-amyl methyl ether	10.256	73	436473	44.34	ug/L		98
63)	epichlorohydrin	11.777	57	46820	193.56	ug/L		98
64)	n-butyl alcohol	10.639	56	194912	2304.34	ug/L		96
65)	cyclohexane	9.874	84	277357	55.03	ug/L	#	64
66)	carbon tetrachloride	9.957	117	259167	60.11	ug/L		99
67)	1,1-dichloropropene	9.926	75	180795	57.15	ug/L		98
68)	hexane	8.159	57	136178	43.23	ug/L		97
69)	benzene	10.178	78	519306	51.25	ug/L		100
70)	heptane	10.424	57	81901	47.90	ug/L		95
71)	isopropyl acetate	10.078	43	252405	49.62	ug/L		98
72)	1,2-dichloroethane	10.209	62	161712	53.19	ug/L		98
73)	trichloroethene	10.901	95	129208	56.33	ug/L		98
78)	methyl methacrylate	11.153	100	29015	51.16	ug/L	#	63
79)	1,2-dichloropropane	11.195	63	128590	49.39	ug/L		98
80)	methylcyclohexane	11.200	83	261171	54.80	ug/L		97
81)	dibromomethane	11.305	93	78729	53.01	ug/L		99
82)	bromodichloromethane	11.457	83	163749	54.03	ug/L		99
83)	cis-1,3-dichloropropene	11.913	75	176945	48.38	ug/L		95
85)	4-methyl-2-pentanone	12.008	58	54000	51.55	ug/L	#	83
86)	toluene	12.291	92	288953	52.46	ug/L		98
87)	3-methyl-1-butanol	12.008	70	81542	1093.63	ug/L		93
88)	trans-1,3-dichloropropene	12.479	75	158647	47.71	ug/L		96
89)	ethyl methacrylate	12.464	69	140741	46.30	ug/L		95
90)	1,1,2-trichloroethane	12.700	83	87657	48.69	ug/L		98
91)	2-hexanone	12.857	58	39874	46.82	ug/L		90
93)	tetrachloroethene	12.841	166	149388	60.86	ug/L		99
94)	1,3-dichloropropane	12.878	76	156193	49.18	ug/L		100
95)	butyl acetate	12.936	56	74406	49.28	ug/L		94
96)	3,3-Dimethyl-1-Butanol	13.030	57	188740	532.31	ug/L		97
97)	dibromochloromethane	13.124	129	129347	56.94	ug/L		99
98)	1,2-dibromoethane	13.282	107	107786	52.30	ug/L		99
99)	n-Butyl Ether	13.712	57	546984	53.71	ug/L		99
100)	chlorobenzene	13.759	112	309541	54.14	ug/L		98
101)	1,1,1,2-tetrachloroethane	13.822	131	155339	58.78	ug/L		98
102)	ethylbenzene	13.816	91	547771	52.60	ug/L		99
103)	m,p-xylene	13.937	106	419943	108.49	ug/L		100
104)	o-xylene	14.335	106	224925	55.44	ug/L		99
105)	styrene	14.351	104	328136	50.50	ug/L		99
107)	bromoform	14.582	173	94106	55.52	ug/L		100
109)	isopropylbenzene	14.687	105	622632	60.47	ug/L		99
111)	bromobenzene	15.075	156	149577	54.98	ug/L		95

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5103\
Data File : 3D119570.D
Acq On : 25 May 2016 4:52 pm
Operator : XimenaC
Sample : jc20564-16msd
Misc : MS2366,V3D5103,5,,,,1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: May 26 12:09:37 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
112) cyclohexanone	14.818	55	46966	352.88	ug/L	97
113) 1,1,2,2-tetrachloroethane	14.965	83	153836	52.34	ug/L	99
114) trans-1,4-dichloro-2-b...	15.001	53	30812	46.17	ug/L	92
115) 1,2,3-trichloropropane	15.054	110	35452	54.83	ug/L	99
116) n-propylbenzene	15.101	91	684115	57.42	ug/L	99
118) 2-chlorotoluene	15.237	126	140313	56.42	ug/L	96
119) 4-chlorotoluene	15.347	126	131894	53.90	ug/L	98
120) 1,3,5-trimethylbenzene	15.258	105	535881	60.04	ug/L	99
121) tert-butylbenzene	15.599	119	463289	61.64	ug/L	100
122) pentachloroethane	15.667	167	132495	65.25	ug/L	97
123) 1,2,4-trimethylbenzene	15.651	105	527659	56.50	ug/L	100
124) sec-butylbenzene	15.814	105	745961	60.13	ug/L	99
125) 1,3-dichlorobenzene	15.982	146	297210	53.38	ug/L	99
126) p-isopropyltoluene	15.945	119	625447	59.11	ug/L	100
127) 1,4-dichlorobenzene	16.076	146	295649	51.67	ug/L	99
128) 1,2-dichlorobenzene	16.438	146	316960	52.95	ug/L	98
130) n-butylbenzene	16.344	92	312502	52.42	ug/L	97
132) 1,2-dibromo-3-chloropr...	17.161	157	44239	50.58	ug/L	92
133) 1,3,5-trichlorobenzene	17.334	180	365347	54.36	ug/L	99
134) 1,2,4-trichlorobenzene	17.906	180	383229	52.64	ug/L	99
135) hexachlorobutadiene	18.006	225	193403	58.66	ug/L	98
136) naphthalene	18.163	128	835373	50.86	ug/L	99
137) 1,2,3-trichlorobenzene	18.357	180	400682	53.50	ug/L	98
138) hexachloroethane	16.721	119	130155	51.95	ug/L	97
139) Benzyl chloride	16.165	91	279870	48.69	ug/L	98

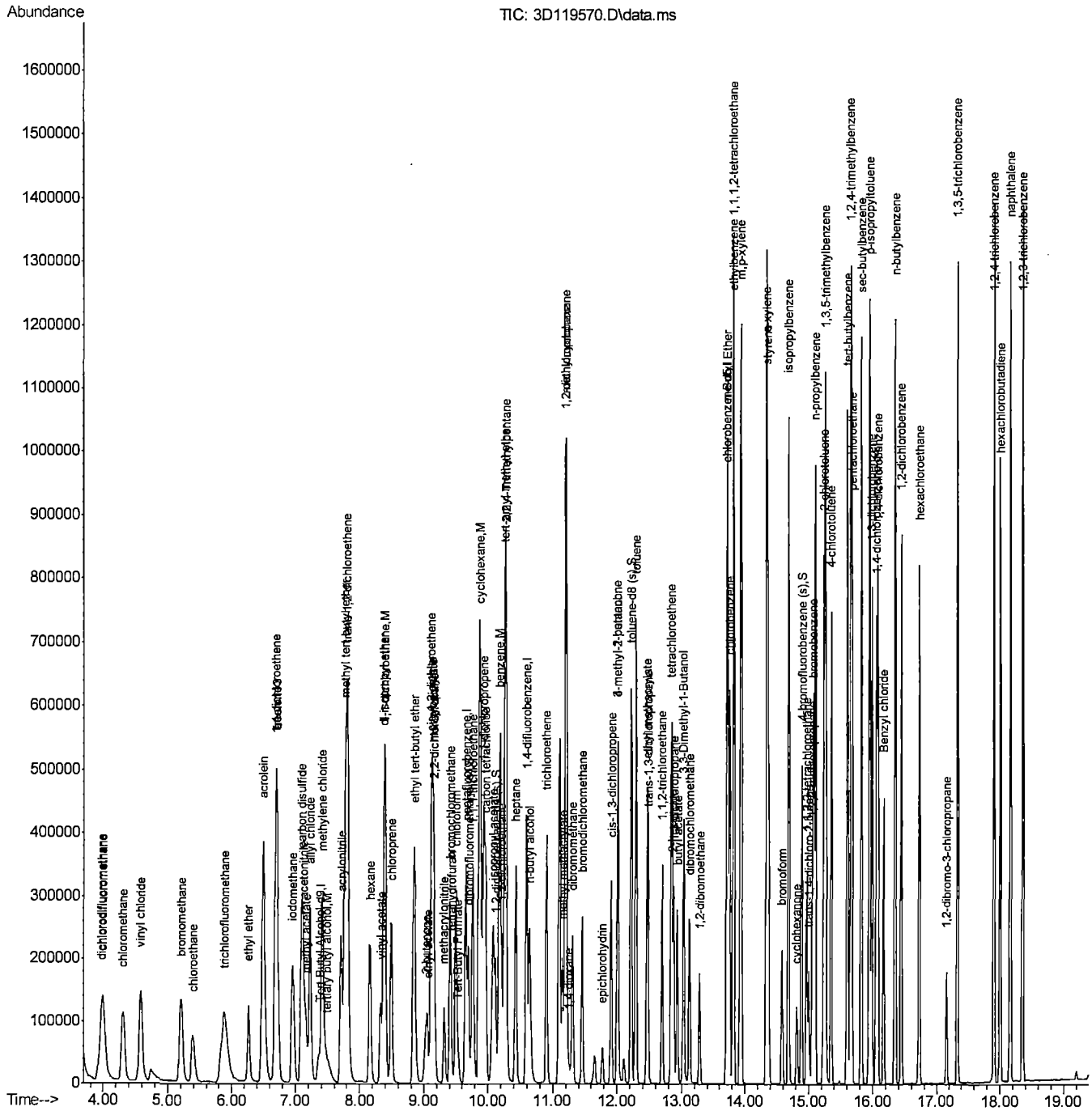
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.4.2 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5103\
Data File : 3D119570.D
Acq On : 25 May 2016 4:52 pm
Operator : XimenaC
Sample : jc20564-16msd
Misc : MS2366,V3D5103,5,,,,1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: May 26 12:09:37 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5104-5105\
Data File : 3D119603.D
Acq On : 26 May 2016 6:06 pm
Operator : XimenaC
Sample : jc20564-8ms
Misc : MS2366,V3D5104,5,,,,1
ALS Vial : 20 Sample Multiplier: 1

Quant Time: May 27 16:43:21 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Tert Butyl Alcohol-d9	7.362	65	127244	500.00 ug/L	-0.01
4) pentafluorobenzene	9.653	168	186274	50.00 ug/L	0.00
62) 1,4-difluorobenzene	10.592	114	251074	50.00 ug/L	0.00
92) chlorobenzene-d5	13.722	117	215191	50.00 ug/L	0.00
108) 1,4-dichlorobenzene-d4	16.055	152	139040	50.00 ug/L	0.00
System Monitoring Compounds					
54) dibromofluoromethane (s)	9.690	113	92084	52.83 ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 105.66%		
55) 1,2-dichloroethane-d4 (s)	10.115	65	90042	52.32 ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 104.64%		
84) toluene-d8 (s)	12.212	98	281334	50.30 ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 100.60%		
110) 4-bromofluorobenzene (s)	14.891	95	105310	48.86 ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 97.72%		
Target Compounds					Qvalue
2) 1,4-dioxane	11.237	88	34146	1462.59 ug/L	95
3) tertiary butyl alcohol	7.483	59	79341	279.74 ug/L	99
10) chlorodifluoromethane	3.991	51	200220	51.64 ug/L	98
11) dichlorodifluoromethane	3.970	85	195438	53.32 ug/L	99
13) chloromethane	4.300	50	178393	48.99 ug/L	99
14) vinyl chloride	4.573	62	208095	48.72 ug/L	98
15) bromomethane	5.197	94	123728	61.47 ug/L	98
16) chloroethane	5.385	64	87885	52.00 ug/L	98
19) trichlorofluoromethane	5.873	101	242099	59.94 ug/L	99
21) ethyl ether	6.261	74	46832	52.49 ug/L	95
25) acrolein	6.492	56	215731	430.36 ug/L	99
26) 1,1-dichloroethene	6.691	61	196501	58.99 ug/L	99
27) acetone	6.696	58	9811	55.83 ug/L	98
28) allyl chloride	7.226	76	60208	55.72 ug/L #	86
29) acetonitrile	7.116	40	83447	442.55 ug/L	98
31) iodomethane	6.948	142	257922	59.44 ug/L	99
33) carbon disulfide	7.095	76	515566	62.18 ug/L	100
34) methylene chloride	7.414	84	129364	56.42 ug/L	92
35) methyl acetate	7.163	43	64778	42.35 ug/L	99
36) methyl tert butyl ether	7.776	73	718399	103.60 ug/L	97
37) trans-1,2-dichloroethene	7.808	61	150465	54.28 ug/L	96
38) di-isopropyl ether	8.374	45	351935	46.76 ug/L	96
39) ethyl tert-butyl ether	8.846	59	359609	52.15 ug/L	97
40) 2-butanone	9.045	72	9373	50.56 ug/L #	14
41) 1,1-dichloroethane	8.390	63	180013	52.35 ug/L	98
42) chloroprene	8.489	53	137289	53.80 ug/L	96
43) acrylonitrile	7.703	53	183394	245.83 ug/L	96
44) vinyl acetate	8.322	86	14486	53.08 ug/L	67
45) ethyl acetate	9.056	45	11633	46.32 ug/L	99
46) 2,2-dichloropropane	9.145	77	210615	58.53 ug/L	98
47) cis-1,2-dichloroethene	9.108	96	110621	52.04 ug/L	97
48) propionitrile	9.118	54	138446	530.06 ug/L	78

7.4.3 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5104-5105\
Data File : 3D119603.D
Acq On : 26 May 2016 6:06 pm
Operator : XimenaC
Sample : jc20564-8ms
Misc : MS2366,V3D5104,5,,,,1
ALS Vial : 20 Sample Multiplier: 1

Quant Time: May 27 16:43:21 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
49)	methyl acrylate	9.139	85	13291	54.81 ug/L	84
50)	bromochloromethane	9.407	128	57126	57.46 ug/L	92
51)	tetrahydrofuran	9.428	42	24897	40.36 ug/L	94
52)	chloroform	9.496	83	180777	56.51 ug/L	98
53)	Tert-Butyl Formate	9.533	59	32277	9.95 ug/L #	94
56)	freon 113	6.696	151	142940	79.66 ug/L	97
57)	methacrylonitrile	9.318	41	48168	41.58 ug/L	92
58)	1,1,1-trichloroethane	9.758	97	208305	64.55 ug/L	98
60)	2,2,4-Trimethylpentane	10.272	57	571873	70.05 ug/L	95
61)	tert-amyl methyl ether	10.256	73	358032	53.68 ug/L	97
63)	epichlorohydrin	11.777	57	38230	223.72 ug/L	94
64)	n-butyl alcohol	10.639	56	147637	2470.67 ug/L	97
65)	cyclohexane	9.868	84	208346	58.51 ug/L #	70
66)	carbon tetrachloride	9.952	117	193644	63.58 ug/L	98
67)	1,1-dichloropropene	9.921	75	132577	59.32 ug/L	97
68)	hexane	8.159	57	71557	32.15 ug/L	95
69)	benzene	10.172	78	377155	52.68 ug/L	99
70)	heptane	10.424	57	73125	60.54 ug/L	95
71)	isopropyl acetate	10.078	43	189049	52.61 ug/L	98
72)	1,2-dichloroethane	10.204	62	122407	56.99 ug/L	98
73)	trichloroethene	10.901	95	123054	75.94 ug/L	99
78)	methyl methacrylate	11.153	100	21580	53.86 ug/L #	52
79)	1,2-dichloropropane	11.195	63	94676	51.47 ug/L	98
80)	methylcyclohexane	11.200	83	230432	68.44 ug/L	97
81)	dibromomethane	11.305	93	60201	57.38 ug/L	97
82)	bromodichloromethane	11.457	83	123259	57.57 ug/L	99
83)	cis-1,3-dichloropropene	11.908	75	133106	51.52 ug/L	97
85)	4-methyl-2-pentanone	12.007	58	38522	52.05 ug/L #	87
86)	toluene	12.291	92	211795	54.43 ug/L	98
87)	3-methyl-1-butanol	12.007	70	58516	1110.90 ug/L	88
88)	trans-1,3-dichloropropene	12.474	75	125491	53.42 ug/L	96
89)	ethyl methacrylate	12.464	69	102744	47.84 ug/L	95
90)	1,1,2-trichloroethane	12.699	83	68006	53.47 ug/L	98
91)	2-hexanone	12.857	58	28835	47.92 ug/L	95
93)	tetrachloroethene	12.841	166	108048	60.63 ug/L	99
94)	1,3-dichloropropane	12.878	76	122771	53.25 ug/L	99
95)	butyl acetate	12.930	56	57086	52.08 ug/L	97
96)	3,3-Dimethyl-1-Butanol	13.030	57	138589	538.42 ug/L	95
97)	dibromochloromethane	13.124	129	100185	60.75 ug/L	98
98)	1,2-dibromoethane	13.281	107	82838	55.37 ug/L	99
99)	n-Butyl Ether	13.711	57	385368	52.12 ug/L	99
100)	chlorobenzene	13.759	112	234937	56.60 ug/L	97
101)	1,1,1,2-tetrachloroethane	13.821	131	112467	58.62 ug/L	99
102)	ethylbenzene	13.816	91	409375	54.15 ug/L	99
103)	m,p-xylene	13.937	106	313106	111.43 ug/L	99
104)	o-xylene	14.335	106	160857	54.62 ug/L	99
105)	styrene	14.351	104	250410	53.08 ug/L	98
107)	bromoform	14.582	173	75384	61.26 ug/L	99
109)	isopropylbenzene	14.687	105	443987	54.30 ug/L	98
111)	bromobenzene	15.075	156	118549	54.88 ug/L	95

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5104-5105\
Data File : 3D119603.D
Acq On : 26 May 2016 6:06 pm
Operator : XimenaC
Sample : jc20564-8ms
Misc : MS2366,V3D5104,5,,,,1
ALS Vial : 20 Sample Multiplier: 1

Quant Time: May 27 16:43:21 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
112) cyclohexanone	14.818	55	35673	334.99 ug/L	98
113) 1,1,2,2-tetrachloroethane	14.964	83	120475	51.62 ug/L	99
114) trans-1,4-dichloro-2-b...	15.001	53	28692	54.14 ug/L	91
115) 1,2,3-trichloropropane	15.054	110	28080	54.70 ug/L	95
116) n-propylbenzene	15.101	91	518308	54.79 ug/L	98
118) 2-chlorotoluene	15.237	126	105363	53.35 ug/L	94
119) 4-chlorotoluene	15.347	126	105303	54.19 ug/L	98
120) 1,3,5-trimethylbenzene	15.258	105	396954	56.01 ug/L	99
121) tert-butylbenzene	15.599	119	348716	58.43 ug/L	100
122) pentachloroethane	15.667	167	101694	63.07 ug/L	97
123) 1,2,4-trimethylbenzene	15.651	105	396726	53.50 ug/L	98
124) sec-butylbenzene	15.814	105	554611	56.30 ug/L	99
125) 1,3-dichlorobenzene	15.982	146	240659	54.44 ug/L	97
126) p-isopropyltoluene	15.945	119	467536	55.64 ug/L	99
127) 1,4-dichlorobenzene	16.076	146	242356	53.34 ug/L	99
128) 1,2-dichlorobenzene	16.438	146	254687	53.58 ug/L	99
130) n-butylbenzene	16.343	92	245110	51.77 ug/L	97
132) 1,2-dibromo-3-chloropr...	17.161	157	35170	50.64 ug/L	94
133) 1,3,5-trichlorobenzene	17.334	180	288914	54.14 ug/L	98
134) 1,2,4-trichlorobenzene	17.906	180	303096	52.43 ug/L	99
135) hexachlorobutadiene	18.005	225	156766	59.88 ug/L	98
136) naphthalene	18.163	128	667279	51.16 ug/L	99
137) 1,2,3-trichlorobenzene	18.357	180	328044	55.16 ug/L	99
138) hexachloroethane	16.721	119	103149	51.86 ug/L	98
139) Benzyl chloride	16.165	91	233881	51.24 ug/L	100

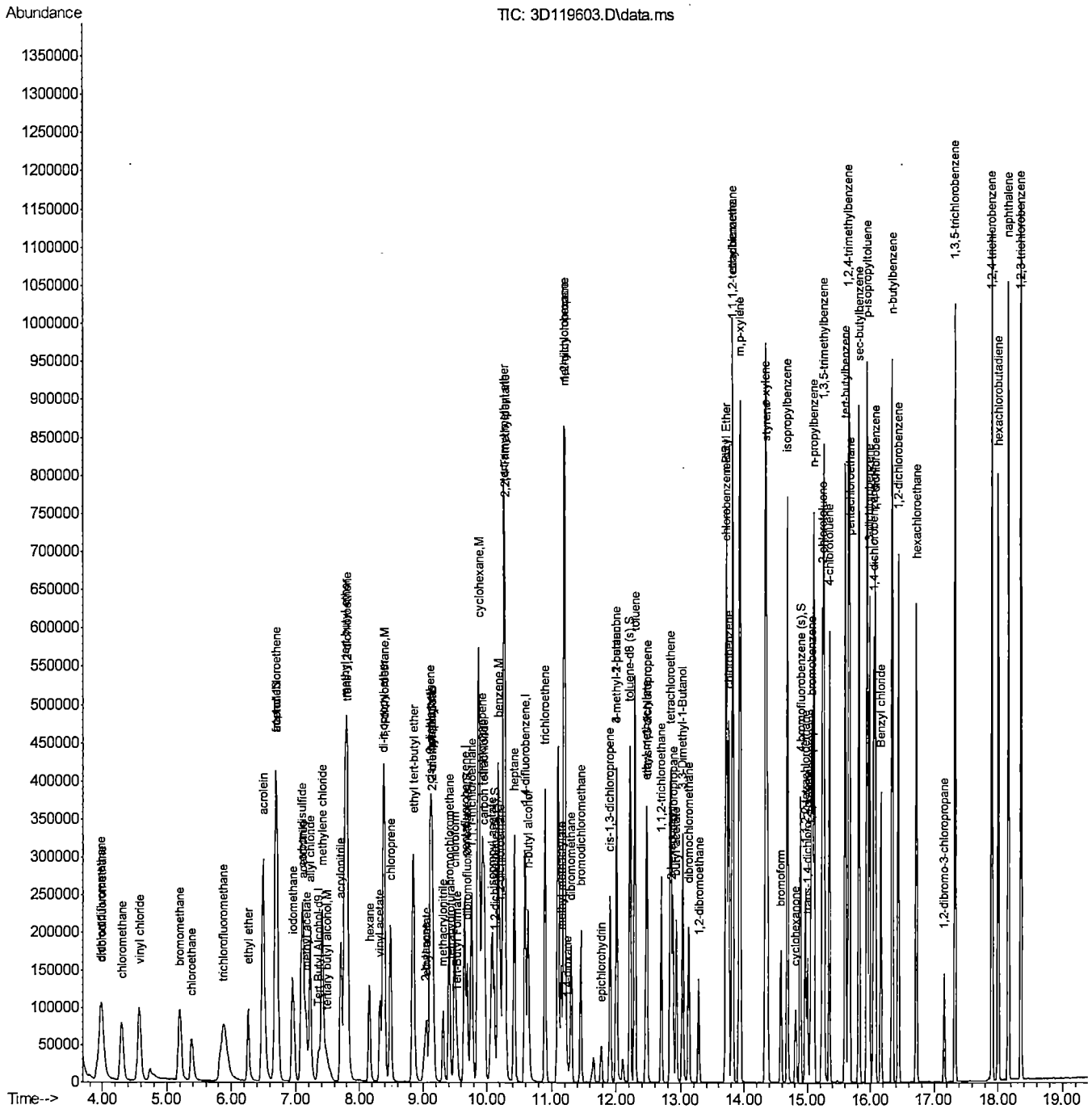
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.4.3 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5104-5105\
Data File : 3D119603.D
Acq On : 26 May 2016 6:06 pm
Operator : XimenaC
Sample : jc20564-8ms
Misc : MS2366,V3D5104,5,,,,1
ALS Vial : 20 Sample Multiplier: 1

Quant Time: May 27 16:43:21 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5104-5105\
Data File : 3D119604.D
Acq On : 26 May 2016 6:33 pm
Operator : XimenaC
Sample : jc20564-8msd
Misc : MS2366,V3D5104,5,,,,1
ALS Vial : 21 Sample Multiplier: 1

Quant Time: May 27 16:45:12 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.367	65	127838	500.00	ug/L	0.00
4) pentafluorobenzene	9.653	168	192838	50.00	ug/L	0.00
62) 1,4-difluorobenzene	10.592	114	260228	50.00	ug/L	0.00
92) chlorobenzene-d5	13.722	117	222708	50.00	ug/L	0.00
108) 1,4-dichlorobenzene-d4	16.050	152	144269	50.00	ug/L	0.00
System Monitoring Compounds						
54) dibromofluoromethane (s)	9.690	113	93789	51.98	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 103.96%			
55) 1,2-dichloroethane-d4 (s)	10.115	65	92565	51.95	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 103.90%			
84) toluene-d8 (s)	12.217	98	288724	49.81	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 99.62%			
110) 4-bromofluorobenzene (s)	14.891	95	108558	48.54	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 97.08%			
Target Compounds						Qvalue
2) 1,4-dioxane	11.237	88	33498	1428.16	ug/L	99
3) tertiary butyl alcohol	7.488	59	80000	280.75	ug/L	99
10) chlorodifluoromethane	3.986	51	202939	50.56	ug/L	97
11) dichlorodifluoromethane	3.975	85	198782	52.39	ug/L	99
13) chloromethane	4.305	50	186105	49.37	ug/L	100
14) vinyl chloride	4.578	62	218741	49.47	ug/L	97
15) bromomethane	5.197	94	128788	61.80	ug/L	97
16) chloroethane	5.385	64	92980	53.14	ug/L	99
19) trichlorofluoromethane	5.884	101	247292	59.14	ug/L	96
21) ethyl ether	6.261	74	48294	52.29	ug/L	96
25) acrolein	6.497	56	222540	428.83	ug/L	100
26) 1,1-dichloroethene	6.691	61	204864	59.41	ug/L	97
27) acetone	6.696	58	10063	55.31	ug/L	85
28) allyl chloride	7.226	76	64414	57.59	ug/L #	79
29) acetonitrile	7.121	40	81959	419.87	ug/L	98
31) iodomethane	6.953	142	272183	60.59	ug/L	99
33) carbon disulfide	7.095	76	531327	61.90	ug/L	99
34) methylene chloride	7.415	84	132805	55.95	ug/L	92
35) methyl acetate	7.163	43	65442	41.33	ug/L	97
36) methyl tert butyl ether	7.776	73	737011	102.66	ug/L	98
37) trans-1,2-dichloroethene	7.808	61	155598	54.22	ug/L	97
38) di-isopropyl ether	8.379	45	360419	46.25	ug/L	97
39) ethyl tert-butyl ether	8.846	59	368393	51.61	ug/L	95
40) 2-butanone	9.040	72	10943	57.03	ug/L #	1
41) 1,1-dichloroethane	8.390	63	184835	51.92	ug/L	99
42) chloroprene	8.489	53	139582	52.84	ug/L	98
43) acrylonitrile	7.708	53	186901	242.01	ug/L	97
44) vinyl acetate	8.322	86	15039	53.23	ug/L	58
45) ethyl acetate	9.056	45	11275	43.36	ug/L	98
46) 2,2-dichloropropane	9.145	77	217326	58.34	ug/L	99
47) cis-1,2-dichloroethene	9.108	96	113853	51.74	ug/L	97
48) propionitrile	9.124	54	138398	511.84	ug/L	89

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5104-5105\
Data File : 3D119604.D
Acq On : 26 May 2016 6:33 pm
Operator : XimenaC
Sample : jc20564-8msd
Misc : MS2366,V3D5104,5,,,,1
ALS Vial : 21 Sample Multiplier: 1

Quant Time: May 27 16:45:12 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
49) methyl acrylate	9.140	85	13660	54.41 ug/L	95
50) bromochloromethane	9.412	128	58399	56.74 ug/L #	86
51) tetrahydrofuran	9.428	42	25025	39.18 ug/L	91
52) chloroform	9.496	83	186211	56.23 ug/L	98
53) Tert-Butyl Formate	9.533	59	27187	8.09 ug/L #	90
56) freon 113	6.701	151	148384	79.88 ug/L	97
57) methacrylonitrile	9.318	41	49039	40.89 ug/L	91
58) 1,1,1-trichloroethane	9.758	97	215173	64.41 ug/L	97
60) 2,2,4-Trimethylpentane	10.272	57	570125	67.46 ug/L	96
61) tert-amyl methyl ether	10.256	73	363414	52.63 ug/L	98
63) epichlorohydrin	11.777	57	35467	200.25 ug/L	100
64) n-butyl alcohol	10.639	56	143180	2311.80 ug/L	96
65) cyclohexane	9.868	84	213668	57.90 ug/L #	69
66) carbon tetrachloride	9.952	117	200552	63.53 ug/L	99
67) 1,1-dichloropropene	9.926	75	135368	58.43 ug/L	96
68) hexane	8.159	57	75052	32.54 ug/L	97
69) benzene	10.172	78	386094	52.04 ug/L	99
70) heptane	10.424	57	73600	58.79 ug/L	97
71) isopropyl acetate	10.078	43	188761	50.68 ug/L	98
72) 1,2-dichloroethane	10.204	62	124235	55.81 ug/L	99
73) trichloroethene	10.901	95	125278	74.59 ug/L	99
78) methyl methacrylate	11.148	100	21598	52.01 ug/L #	67
79) 1,2-dichloropropane	11.195	63	97910	51.36 ug/L	98
80) methylcyclohexane	11.200	83	230442	66.04 ug/L	96
81) dibromomethane	11.305	93	61068	56.16 ug/L	95
82) bromodichloromethane	11.457	83	126354	56.94 ug/L	98
83) cis-1,3-dichloropropene	11.908	75	138097	51.57 ug/L	98
85) 4-methyl-2-pentanone	12.007	58	38651	50.39 ug/L #	82
86) toluene	12.291	92	214642	53.22 ug/L	96
87) 3-methyl-1-butanol	12.007	70	58311	1068.07 ug/L	86
88) trans-1,3-dichloropropene	12.474	75	128895	52.94 ug/L	96
89) ethyl methacrylate	12.464	69	104016	46.73 ug/L	96
90) 1,1,2-trichloroethane	12.700	83	68458	51.93 ug/L	99
91) 2-hexanone	12.852	58	29498	47.30 ug/L	92
93) tetrachloroethene	12.841	166	111219	60.30 ug/L	98
94) 1,3-dichloropropane	12.878	76	125191	52.47 ug/L	99
95) butyl acetate	12.935	56	57560	50.74 ug/L	91
96) 3,3-Dimethyl-1-Butanol	13.030	57	137549	516.35 ug/L	96
97) dibromochloromethane	13.124	129	101694	59.58 ug/L	99
98) 1,2-dibromoethane	13.281	107	84409	54.52 ug/L	99
99) n-Butyl Ether	13.711	57	398859	52.13 ug/L	98
100) chlorobenzene	13.759	112	240075	55.89 ug/L	98
101) 1,1,1,2-tetrachloroethane	13.822	131	115091	57.96 ug/L	98
102) ethylbenzene	13.816	91	415853	53.15 ug/L	98
103) m,p-xylene	13.937	106	321368	110.51 ug/L	98
104) o-xylene	14.335	106	164895	54.10 ug/L	100
105) styrene	14.351	104	256660	52.57 ug/L	99
107) bromoform	14.582	173	76730	60.25 ug/L	99
109) isopropylbenzene	14.687	105	455563	53.70 ug/L	99
111) bromobenzene	15.075	156	122480	54.64 ug/L	93

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5104-5105\
Data File : 3D119604.D
Acq On : 26 May 2016 6:33 pm
Operator : XimenaC
Sample : jc20564-8msd
Misc : MS2366,V3D5104,5,,,,1
ALS Vial : 21 Sample Multiplier: 1

Quant Time: May 27 16:45:12 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
112) cyclohexanone	14.818	55	35302	316.77 ug/L	98
113) 1,1,2,2-tetrachloroethane	14.970	83	121071	49.99 ug/L	99
114) trans-1,4-dichloro-2-b...	15.001	53	28098	51.10 ug/L	94
115) 1,2,3-trichloropropane	15.054	110	28258	53.05 ug/L	99
116) n-propylbenzene	15.101	91	532428	54.24 ug/L	98
118) 2-chlorotoluene	15.237	126	108393	52.90 ug/L	100
119) 4-chlorotoluene	15.347	126	107706	53.42 ug/L	99
120) 1,3,5-trimethylbenzene	15.258	105	406019	55.21 ug/L	100
121) tert-butylbenzene	15.599	119	350533	56.60 ug/L	99
122) pentachloroethane	15.667	167	102934	61.52 ug/L	98
123) 1,2,4-trimethylbenzene	15.651	105	406912	52.88 ug/L	99
124) sec-butylbenzene	15.814	105	566919	55.46 ug/L	100
125) 1,3-dichlorobenzene	15.982	146	249653	54.42 ug/L	98
126) p-isopropyltoluene	15.945	119	474367	54.41 ug/L	99
127) 1,4-dichlorobenzene	16.076	146	251418	53.33 ug/L	99
128) 1,2-dichlorobenzene	16.438	146	261944	53.11 ug/L	99
130) n-butylbenzene	16.343	92	251672	51.23 ug/L	97
132) 1,2-dibromo-3-chloropr...	17.161	157	35949	49.88 ug/L	95
133) 1,3,5-trichlorobenzene	17.334	180	298050	53.83 ug/L	100
134) 1,2,4-trichlorobenzene	17.906	180	310474	51.76 ug/L	99
135) hexachlorobutadiene	18.005	225	155675	57.30 ug/L	98
136) naphthalene	18.163	128	677344	50.05 ug/L	99
137) 1,2,3-trichlorobenzene	18.357	180	333175	54.00 ug/L	99
138) hexachloroethane	16.721	119	101742	49.52 ug/L	98
139) Benzyl chloride	16.165	91	237604	50.17 ug/L	99

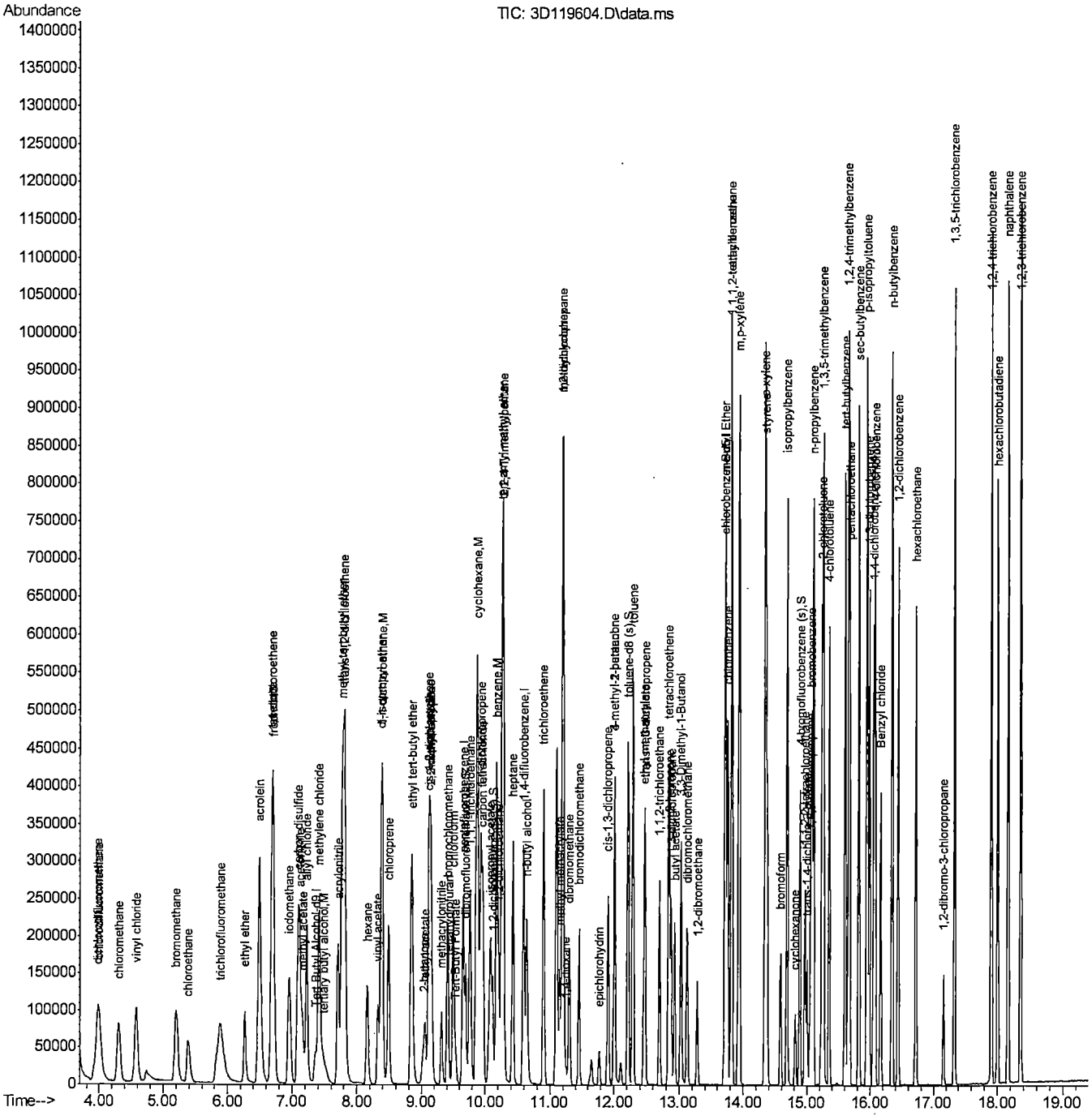
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.4.4 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5104-5105\
Data File : 3D119604.D
Acq On : 26 May 2016 6:33 pm
Operator : XimenaC
Sample : jc20564-8msd
Misc : MS2366,V3D5104,5,,,,1
ALS Vial : 21 Sample Multiplier: 1

Quant Time: May 27 16:45:12 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4D\V4D3029-V4D3030\
Data File : 4D68866.D
Acq On : 27 May 2016 5:51 pm
Operator : XimenaC
Sample : jc20954-4ms
Misc : MS2640,V4D3030,5,,,,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: May 31 11:05:26 2016
Quant Method : C:\MSDCHEM\1\METHODS\M4D3019.M
Quant Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
QLast Update : Thu May 19 09:28:34 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.567	65	128074	500.00	ug/L	0.00
4) pentafluorobenzene	10.084	168	160436	50.00	ug/L	0.00
54) 1,4-difluorobenzene	11.033	114	253980	50.00	ug/L	0.00
86) chlorobenzene-d5	14.383	117	242078	50.00	ug/L	0.00
101) 1,4-dichlorobenzene-d4	16.774	152	124542	50.00	ug/L	0.00
System Monitoring Compounds						
48) dibromofluoromethane (s)	10.084	113	93043	55.19	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 110.38%			
49) 1,2-dichloroethane-d4 (s)	10.535	65	100927	53.35	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 106.70%			
78) toluene-d8 (s)	12.768	98	296545	50.81	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 101.62%			
103) 4-bromofluorobenzene (s)	15.605	95	120940	49.63	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 99.26%			
Target Compounds						Qvalue
2) 1,4-dioxane	11.777	88	43610	1319.65	ug/L	99
3) tertiary butyl alcohol	7.698	59	94043	262.94	ug/L	93
6) chlorodifluoromethane	3.750	51	94371	45.18	ug/L	99
7) dichlorodifluoromethane	3.729	85	131069	57.77	ug/L	99
9) chloromethane	4.091	50	148898	53.64	ug/L	98
10) vinyl chloride	4.369	62	146508	53.94	ug/L	98
12) bromomethane	5.071	94	102944	61.36	ug/L	99
13) chloroethane	5.276	64	79536	64.72	ug/L	99
14) trichlorofluoromethane	5.832	101	187138	64.58	ug/L	99
17) ethyl ether	6.304	74	57355	53.26	ug/L	85
19) 2-chloropropane	6.503	43	170864	51.96	ug/L	95
20) acrolein	6.560	56	327306	584.53	ug/L	99
21) 1,1-dichloroethene	6.760	61	186768	48.63	ug/L	98
22) acetone	6.823	58	11912	48.52	ug/L	96
23) allyl chloride	7.363	76	58983	53.37	ug/L	96
24) acetonitrile	7.305	40	66708	500.27	ug/L	100
25) iodomethane	7.048	142	209851	55.15	ug/L	96
26) iso-butyl alcohol	10.377	41	53464	477.26	ug/L	96
27) carbon disulfide	7.195	76	380325	51.41	ug/L	98
28) methylene chloride	7.578	84	124247	50.76	ug/L	99
30) methyl acetate	7.363	74	20847	48.83	ug/L	94
31) methyl tert butyl ether	7.997	73	673989	102.00	ug/L	96
32) trans-1,2-dichloroethene	8.013	61	163646	53.85	ug/L	98
33) di-isopropyl ether	8.700	45	327362	50.73	ug/L	98
34) ethyl tert-butyl ether	9.219	59	331787	50.56	ug/L	100
35) 2-butanone	9.455	72	16335	52.31	ug/L	100
36) 1,1-dichloroethane	8.652	63	201134	53.69	ug/L	99
37) chloroprene	8.784	53	157272	55.22	ug/L	99
38) acrylonitrile	7.955	53	249064	256.18	ug/L	98
39) vinyl acetate	8.679	86	19999	53.91	ug/L	84
40) ethyl acetate	9.502	45	17675	49.07	ug/L	94
41) 2,2-dichloropropane	9.486	77	175785	56.51	ug/L	99
42) cis-1,2-dichloroethene	9.470	96	124199	50.73	ug/L	99
43) propionitrile	9.549	54	199300	537.18	ug/L	98
44) methyl acrylate	9.570	85	20808	50.39	ug/L	87
45) bromochloromethane	9.795	128	62842	54.52	ug/L	99
46) tetrahydrofuran	9.853	42	38064	43.81	ug/L	97
47) chloroform	9.874	83	217364	52.97	ug/L	99
50) freon 113	6.760	151	91702	69.84	ug/L	99
51) methacrylonitrile	9.753	67	53100	47.69	ug/L	96

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4D\V4D3029-V4D3030\
Data File : 4D68866.D
Acq On : 27 May 2016 5:51 pm
Operator : XimenaC
Sample : jc20954-4ms
Misc : MS2640,V4D3030,5,,,,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: May 31 11:05:26 2016
Quant Method : C:\MSDCHEM\1\METHODS\M4D3019.M
Quant Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
QLast Update : Thu May 19 09:28:34 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
52) 1,1,1-trichloroethane	10.152	97	181851	57.06 ug/L	100
53) tert-amyl methyl ether	10.697	73	323803	48.83 ug/L	99
55) epichlorohydrin	12.344	57	65276	215.54 ug/L	98
56) n-butyl alcohol	11.169	56	222307	2426.73 ug/L	99
57) cyclohexane	10.241	84	151190	53.27 ug/L	95
59) carbon tetrachloride	10.372	117	170408	58.65 ug/L	97
60) 1,1-dichloropropene	10.346	75	158737	57.08 ug/L	98
61) hexane	8.401	57	106874	43.87 ug/L	98
62) benzene	10.624	78	428036	49.50 ug/L	99
63) ISO-OCTANE	10.682	57	362246	49.43 ug/L	99
64) heptane	10.860	57	69094	51.13 ug/L	100
65) isopropyl acetate	10.592	43	216515	43.53 ug/L	98
66) 1,2-dichloroethane	10.629	62	163002	53.89 ug/L	99
67) trichloroethene	11.379	95	121033	50.50 ug/L	98
69) 2-nitropropane	12.197	41	34250	47.26 ug/L	98
71) methyl methacrylate	11.693	100	30824	46.88 ug/L	90
72) 1,2-dichloropropane	11.657	63	109070	49.54 ug/L	97
73) methylcyclohexane	11.631	83	174107	54.60 ug/L	97
75) dibromomethane	11.804	93	84236	51.13 ug/L	99
76) bromodichloromethane	11.950	83	165109	51.20 ug/L	98
77) cis-1,3-dichloropropene	12.448	75	186916	49.13 ug/L	98
79) 4-methyl-2-pentanone	12.579	58	55167	48.80 ug/L	95
80) toluene	12.847	92	266226	50.23 ug/L	100
81) 3-methyl-1-butanol	12.595	70	86650	993.03 ug/L	95
82) trans-1,3-dichloropropene	13.051	75	177585	49.79 ug/L	100
83) ethyl methacrylate	13.078	69	154035	45.60 ug/L	99
84) 1,1,2-trichloroethane	13.277	83	96366	48.92 ug/L	99
85) 2-hexanone	13.492	58	51259	46.04 ug/L	94
87) tetrachloroethene	13.471	166	120857	50.61 ug/L	99
88) 1,3-dichloropropane	13.471	76	170172	47.20 ug/L	98
89) butyl acetate	13.581	56	83340	46.70 ug/L	97
90) dibromochloromethane	13.743	129	136224	51.27 ug/L	98
91) 1,2-dibromoethane	13.906	107	124201	48.22 ug/L	99
92) n-Butyl Ether	14.378	57	485001	50.80 ug/L	98
93) chlorobenzene	14.415	112	301377	48.30 ug/L	99
94) 1,1,1,2-tetrachloroethane	14.483	131	115431	49.23 ug/L	99
95) ethylbenzene	14.493	91	528645	47.65 ug/L	100
96) m,p-xylene	14.609	106	390209	95.94 ug/L	100
97) o-xylene	15.049	91	431929	47.24 ug/L	100
98) styrene	15.054	104	326041	46.78 ug/L	99
100) bromoform	15.306	173	97178	48.97 ug/L	98
102) isopropylbenzene	15.411	105	521890	49.51 ug/L	99
104) bromobenzene	15.799	156	136440	48.76 ug/L	99
105) cyclohexanone	15.563	55	52918	254.12 ug/L	97
106) 1,1,2,2-tetrachloroethane	15.704	83	175431	46.30 ug/L	99
107) trans-1,4-dichloro-2-b...	15.752	53	43262	46.28 ug/L	95
108) 1,2,3-trichloropropane	15.778	110	44520	49.75 ug/L	100
109) n-propylbenzene	15.835	91	655115	51.68 ug/L	99
110) 2-chlorotoluene	15.966	126	122987	48.80 ug/L	99
111) 4-chlorotoluene	16.071	91	387266	46.90 ug/L	99
112) 1,3,5-trimethylbenzene	15.987	105	441434	47.72 ug/L	100
113) tert-butylbenzene	16.344	134	79309	48.73 ug/L	96
114) pentachloroethane	16.402	167	87333	50.84 ug/L	96
115) 1,2,4-trimethylbenzene	16.381	105	491190	51.45 ug/L	99
116) sec-butylbenzene	16.554	105	578824	48.61 ug/L	99
117) 1,3-dichlorobenzene	16.721	146	254309	47.25 ug/L	99
118) p-isopropyltoluene	16.674	119	478850	48.54 ug/L	100
119) 1,4-dichlorobenzene	16.800	146	257670	47.62 ug/L	99

7.4.5

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4D\V4D3029-V4D3030\
Data File : 4D68866.D
Acq On : 27 May 2016 5:51 pm
Operator : XimenaC
Sample : jc20954-4ms
Misc : MS2640,V4D3030,5,,,,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: May 31 11:05:26 2016
Quant Method : C:\MSDCHEM\1\METHODS\M4D3019.M
Quant Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
QLast Update : Thu May 19 09:28:34 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
120) 1,2-dichlorobenzene	17.183	146	253056	48.13 ug/L	99
121) n-butylbenzene	17.078	92	261877	49.49 ug/L	99
122) 1,2-dibromo-3-chloropr...	17.912	157	40616	45.79 ug/L	97
123) 1,3,5-trichlorobenzene	18.095	180	203174	48.83 ug/L	99
124) 1,2,4-trichlorobenzene	18.693	180	189731	49.62 ug/L	98
125) hexachlorobutadiene	18.813	225	87442	42.78 ug/L	99
126) naphthalene	18.960	128	517019	47.90 ug/L	100
127) 1,2,3-trichlorobenzene	19.196	180	176198	49.17 ug/L	100
128) hexachloroethane	17.440	119	115803	58.21 ug/L	96
129) Benzyl chloride	16.915	91	340165	47.54 ug/L	100

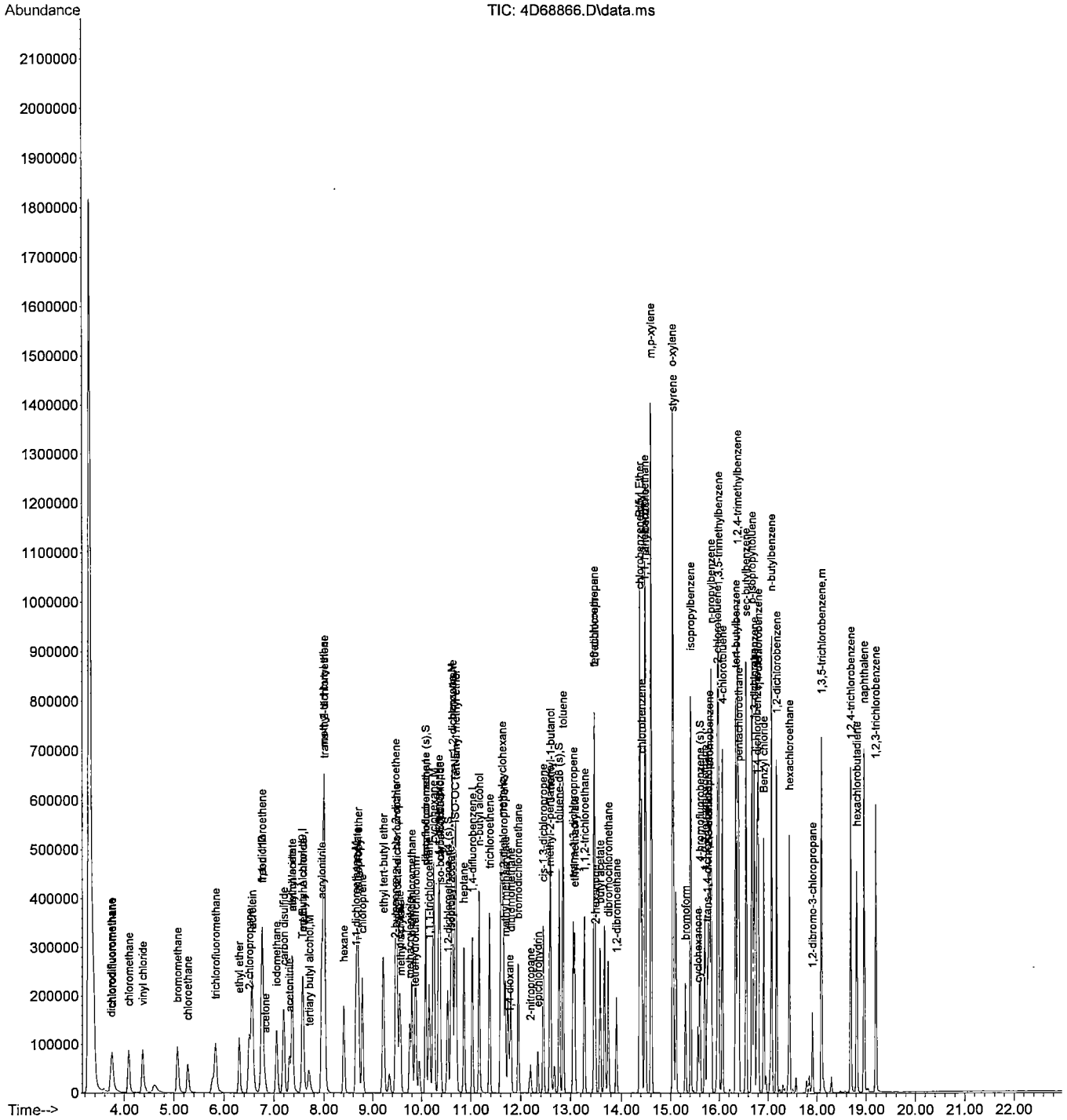
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.4.5 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4D\V4D3029-V4D3030\
Data File : 4D68866.D
Acq On : 27 May 2016 5:51 pm
Operator : XimenaC
Sample : jc20954-4ms
Misc : MS2640,V4D3030,5,,,,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: May 31 11:05:26 2016
Quant Method : C:\MSDCHEM\1\METHODS\M4D3019.M
Quant Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
QLast Update : Thu May 19 09:28:34 2016
Response via : Initial Calibration



M4D3019.M Tue May 31 11:25:30 2016 Page: 4

SGS ACCUTEST JC20564

7.4.5

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5105ms-5107\
Data File : 3D119652.D
Acq On : 27 May 2016 5:52 pm
Operator : XimenaC
Sample : jc21034-2ms
Misc : MS2659,V3D5106,5,,,,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: May 31 14:40:44 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.373	65	144883	500.00	ug/L	0.00
4) pentafluorobenzene	9.653	168	228295	50.00	ug/L	0.00
62) 1,4-difluorobenzene	10.592	114	312439	50.00	ug/L	0.00
92) chlorobenzene-d5	13.722	117	259378	50.00	ug/L	0.00
108) 1,4-dichlorobenzene-d4	16.050	152	151902	50.00	ug/L	0.00
System Monitoring Compounds						
54) dibromofluoromethane (s)	9.690	113	115597	54.12	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 108.24%			
55) 1,2-dichloroethane-d4 (s)	10.115	65	116359	55.16	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 110.32%			
84) toluene-d8 (s)	12.217	98	344928	49.56	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 99.12%			
110) 4-bromofluorobenzene (s)	14.891	95	122242	51.91	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 103.82%			
Target Compounds						Qvalue
2) 1,4-dioxane	11.242	88	36427	1370.33	ug/L	97
3) tertiary butyl alcohol	7.493	59	83316	257.99	ug/L	97
10) chlorodifluoromethane	4.001	51	226960	47.76	ug/L	98
11) dichlorodifluoromethane	3.980	85	238962	53.19	ug/L	99
13) chloromethane	4.316	50	242846	54.41	ug/L	98
14) vinyl chloride	4.589	62	262340	50.11	ug/L	98
15) bromomethane	5.212	94	153963	62.41	ug/L	99
16) chloroethane	5.386	64	112256	54.19	ug/L	99
19) trichlorofluoromethane	5.894	101	281654	56.90	ug/L	95
21) ethyl ether	6.266	74	54328	49.68	ug/L	93
25) acrolein	6.497	56	281692	458.51	ug/L	99
26) 1,1-dichloroethene	6.696	61	228727	56.03	ug/L	98
27) acetone	6.707	58	12430	57.71	ug/L	99
28) allyl chloride	7.231	76	74549	56.30	ug/L #	75
29) acetonitrile	7.131	40	85753	371.07	ug/L	99
31) iodomethane	6.958	142	295861	55.63	ug/L	99
33) carbon disulfide	7.100	76	595315	58.59	ug/L	98
34) methylene chloride	7.420	84	151574	53.94	ug/L	91
35) methyl acetate	7.168	43	80167	42.77	ug/L	98
36) methyl tert butyl ether	7.782	73	787507	92.66	ug/L	98
37) trans-1,2-dichloroethene	7.808	61	175705	51.71	ug/L	99
38) di-isopropyl ether	8.379	45	396792	43.01	ug/L	97
39) ethyl tert-butyl ether	8.846	59	387686	45.88	ug/L	97
40) 2-butanone	9.040	72	14131	62.20	ug/L #	1
41) 1,1-dichloroethane	8.395	63	215883	51.22	ug/L	99
42) chloroprene	8.489	53	159681	51.06	ug/L	98
43) acrylonitrile	7.708	53	217036	237.38	ug/L	96
44) vinyl acetate	8.327	86	17104	51.13	ug/L	74
45) ethyl acetate	9.061	45	13525	43.94	ug/L	87
46) 2,2-dichloropropane	9.150	77	237835	53.93	ug/L	97
47) cis-1,2-dichloroethene	9.113	96	131246	50.38	ug/L	97
48) propionitrile	9.124	54	169635	529.92	ug/L	96

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5105ms-5107\
Data File : 3D119652.D
Acq On : 27 May 2016 5:52 pm
Operator : XimenaC
Sample : jc21034-2ms
Misc : MS2659,V3D5106,5,,,,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: May 31 14:40:44 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
49)	methyl acrylate	9.145	85	15450	51.99 ug/L	94
50)	bromochloromethane	9.412	128	68160	55.94 ug/L #	87
51)	tetrahydrofuran	9.428	42	29368	38.84 ug/L	90
52)	chloroform	9.496	83	215816	55.05 ug/L	99
53)	Tert-Butyl Formate	9.533	59	42014	10.56 ug/L #	92
56)	freon 113	6.707	151	158227	71.95 ug/L	99
57)	methacrylonitrile	9.318	41	56137	39.54 ug/L	93
58)	1,1,1-trichloroethane	9.758	97	234482	59.29 ug/L	99
60)	2,2,4-Trimethylpentane	10.272	57	592941	59.26 ug/L	96
61)	tert-amyl methyl ether	10.256	73	386683	47.30 ug/L	96
63)	epichlorohydrin	11.777	57	43761	205.79 ug/L	97
64)	n-butyl alcohol	10.639	56	171763	2309.86 ug/L	96
65)	cyclohexane	9.874	84	232237	52.41 ug/L #	62
66)	carbon tetrachloride	9.957	117	220132	58.08 ug/L	98
67)	1,1-dichloropropene	9.926	75	161701	58.14 ug/L	99
68)	hexane	8.159	57	114217	41.24 ug/L	96
69)	benzene	10.178	78	452912	50.84 ug/L	98
70)	heptane	10.424	57	82443	54.85 ug/L	95
71)	isopropyl acetate	10.083	43	227215	50.81 ug/L	98
72)	1,2-dichloroethane	10.209	62	149154	55.81 ug/L	99
73)	trichloroethene	10.901	95	110707	54.90 ug/L	99
78)	methyl methacrylate	11.148	100	24734	49.61 ug/L #	73
79)	1,2-dichloropropane	11.195	63	114486	50.02 ug/L	97
80)	methylcyclohexane	11.200	83	242634	57.91 ug/L	97
81)	dibromomethane	11.305	93	71307	54.62 ug/L	98
82)	bromodichloromethane	11.457	83	146038	54.81 ug/L	99
83)	cis-1,3-dichloropropene	11.908	75	149770	46.58 ug/L	99
85)	4-methyl-2-pentanone	12.007	58	48871	53.06 ug/L #	78
86)	toluene	12.291	92	247521	51.12 ug/L	98
87)	3-methyl-1-butanol	12.007	70	71591	1092.19 ug/L	93
88)	trans-1,3-dichloropropene	12.474	75	141366	48.36 ug/L	95
89)	ethyl methacrylate	12.464	69	119302	44.64 ug/L	95
90)	1,1,2-trichloroethane	12.700	83	77141	48.74 ug/L	98
91)	2-hexanone	12.852	58	34814	46.49 ug/L	96
93)	tetrachloroethene	12.841	166	123734	57.60 ug/L	97
94)	1,3-dichloropropane	12.878	76	140155	50.44 ug/L	99
95)	butyl acetate	12.930	56	68135	51.57 ug/L	92
96)	3,3-Dimethyl-1-Butanol	13.030	57	163500	526.99 ug/L	99
97)	dibromochloromethane	13.124	129	115155	57.93 ug/L	97
98)	1,2-dibromoethane	13.282	107	91695	50.85 ug/L	99
99)	n-Butyl Ether	13.711	57	450024	50.50 ug/L	99
100)	chlorobenzene	13.759	112	268284	53.63 ug/L	99
101)	1,1,1,2-tetrachloroethane	13.822	131	136942	59.22 ug/L	99
102)	ethylbenzene	13.816	91	474454	52.07 ug/L	99
103)	m,p-xylene	13.937	106	364708	107.68 ug/L	100
104)	o-xylene	14.335	106	190120	53.56 ug/L	96
105)	styrene	14.351	104	283787	49.91 ug/L	99
107)	bromoform	14.582	173	82000	55.29 ug/L	99
109)	isopropylbenzene	14.687	105	529153	59.24 ug/L	99
111)	bromobenzene	15.075	156	128317	54.37 ug/L	97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5105ms-5107\
Data File : 3D119652.D
Acq On : 27 May 2016 5:52 pm
Operator : XimenaC
Sample : jc21034-2ms
Misc : MS2659,V3D5106,5,,,,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: May 31 14:40:44 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
112) cyclohexanone	14.818	55	38992	335.18 ug/L	97
113) 1,1,2,2-tetrachloroethane	14.965	83	136820	53.66 ug/L	99
114) trans-1,4-dichloro-2-b...	15.001	53	25065	43.29 ug/L	97
115) 1,2,3-trichloropropane	15.054	110	31324	55.85 ug/L	99
116) n-propylbenzene	15.101	91	596994	57.76 ug/L	98
118) 2-chlorotoluene	15.237	126	120650	55.92 ug/L	97
119) 4-chlorotoluene	15.347	126	113805	53.61 ug/L	97
120) 1,3,5-trimethylbenzene	15.258	105	464837	60.04 ug/L	99
121) tert-butylbenzene	15.599	119	393731	60.39 ug/L	98
122) pentachloroethane	15.667	167	117339	66.61 ug/L	97
123) 1,2,4-trimethylbenzene	15.651	105	461135	56.92 ug/L	99
124) sec-butylbenzene	15.814	105	651001	60.48 ug/L	99
125) 1,3-dichlorobenzene	15.982	146	253665	52.52 ug/L	98
126) p-isopropyltoluene	15.945	119	531884	57.94 ug/L	99
127) 1,4-dichlorobenzene	16.076	146	254081	51.18 ug/L	99
128) 1,2-dichlorobenzene	16.438	146	270013	52.00 ug/L	98
130) n-butylbenzene	16.343	92	267495	51.72 ug/L	98
132) 1,2-dibromo-3-chloropr...	17.161	157	35643	46.97 ug/L	90
133) 1,3,5-trichlorobenzene	17.334	180	288504	49.49 ug/L	98
134) 1,2,4-trichlorobenzene	17.906	180	292365	46.29 ug/L	99
135) hexachlorobutadiene	18.006	225	157411	55.03 ug/L	97
136) naphthalene	18.163	128	659623	46.29 ug/L	99
137) 1,2,3-trichlorobenzene	18.357	180	316784	48.76 ug/L	99
138) hexachloroethane	16.721	119	115579	53.08 ug/L	97
139) Benzyl chloride	16.165	91	250431	50.22 ug/L	99

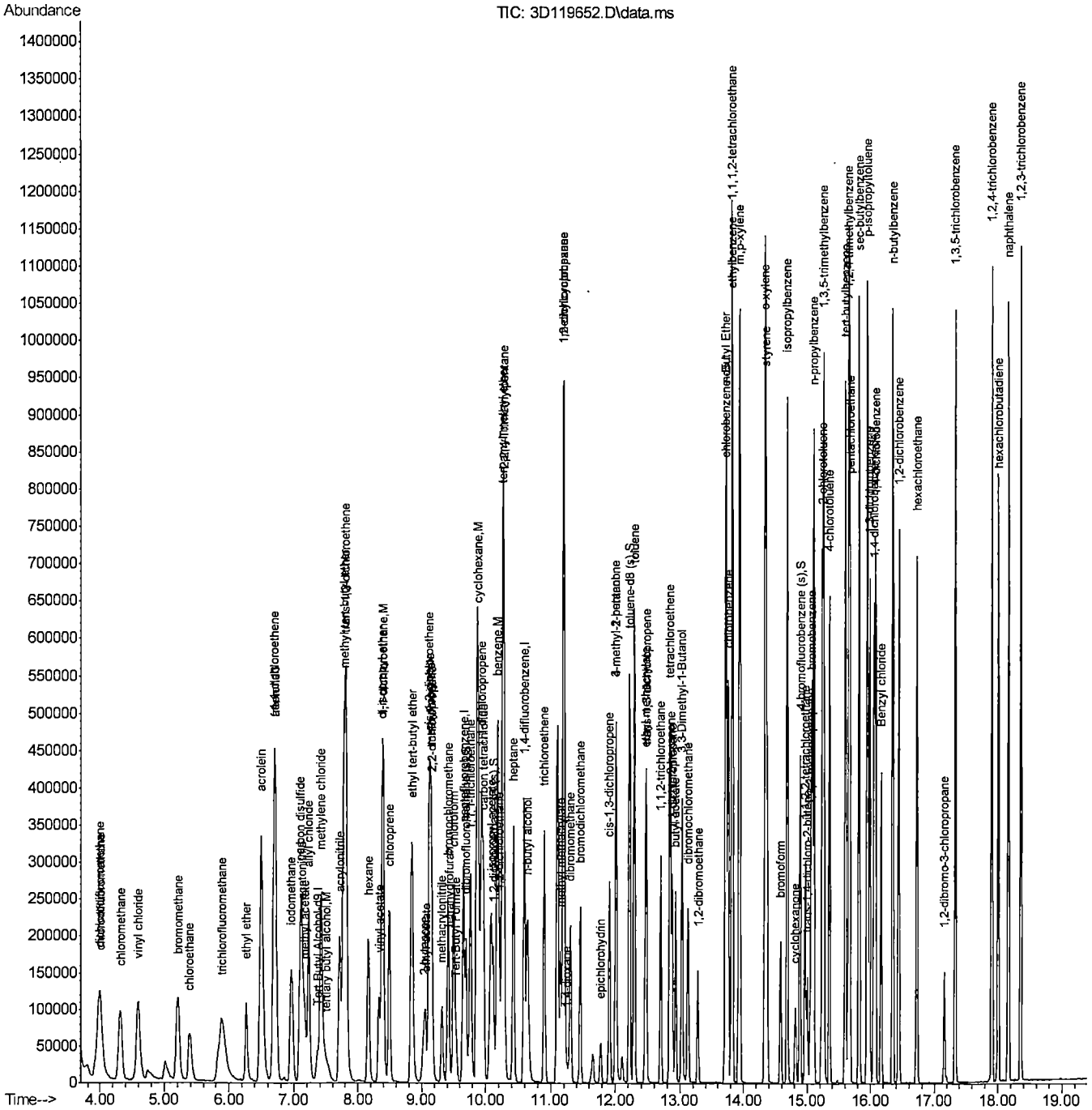
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.4.6 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5105ms-5107\
Data File : 3D119652.D
Acq On : 27 May 2016 5:52 pm
Operator : XimenaC
Sample : jc21034-2ms
Misc : MS2659,V3D5106,5,,,,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: May 31 14:40:44 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5105ms-5107\
Data File : 3D119654.D
Acq On : 27 May 2016 6:47 pm
Operator : XimenaC
Sample : jc21034-3dup
Misc : MS2659,V3D5106,5,,,,1
ALS Vial : 21 Sample Multiplier: 1

Quant Time: May 31 14:43:29 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Tert Butyl Alcohol-d9	7.373	65	136340	500.00 ug/L	0.00
4) pentafluorobenzene	9.653	168	189581	50.00 ug/L	0.00
62) 1,4-difluorobenzene	10.592	114	255377	50.00 ug/L	0.00
92) chlorobenzene-d5	13.722	117	216061	50.00 ug/L	0.00
108) 1,4-dichlorobenzene-d4	16.050	152	130328	50.00 ug/L	0.00
System Monitoring Compounds					
54) dibromofluoromethane (s)	9.690	113	103454	58.32 ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 116.64%		
55) 1,2-dichloroethane-d4 (s)	10.115	65	100048	57.12 ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 114.24%		
84) toluene-d8 (s)	12.217	98	287855	50.60 ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 101.20%		
110) 4-bromofluorobenzene (s)	14.891	95	99552	49.28 ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 98.56%		
Target Compounds					Qvalue
27) acetone	6.707	58	1213	6.78 ug/L #	37
40) 2-butanone	9.040	72	1291	6.84 ug/L #	1
93) tetrachloroethene	12.841	166	1702	0.95 ug/L	89

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

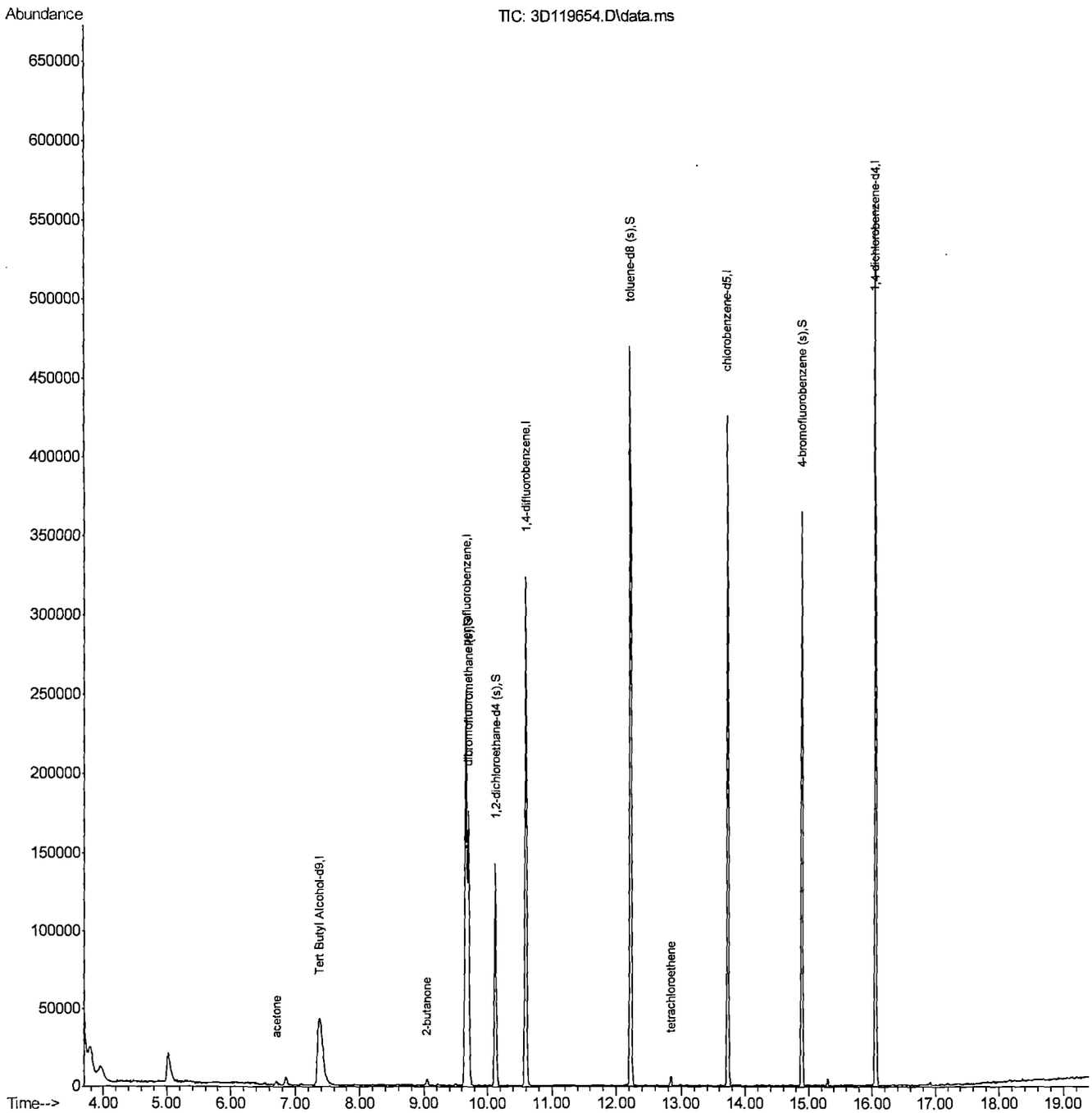
7.5.1

7

Quantitation Report (QT Reviewed)

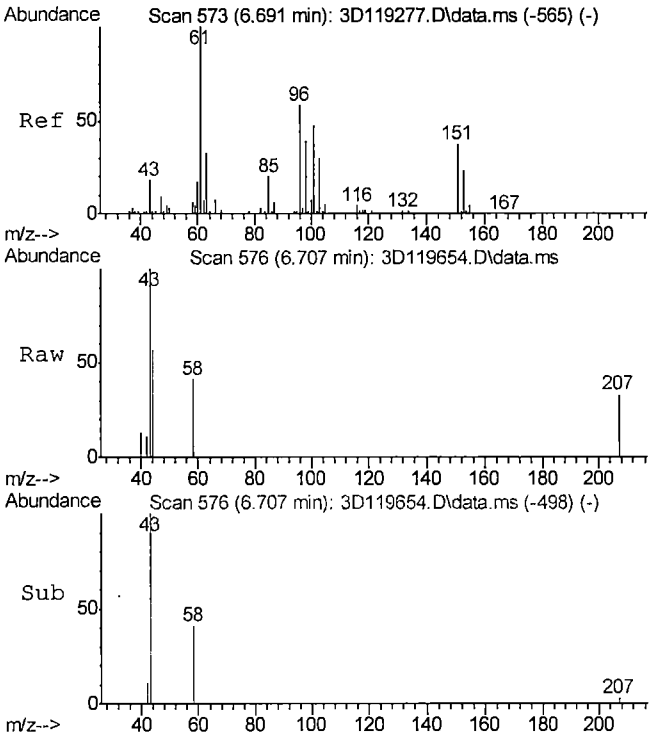
Data Path : C:\msdchem\1\DATA\3D\v3d5105ms-5107\
Data File : 3D119654.D
Acq On : 27 May 2016 6:47 pm
Operator : XimenaC
Sample : jc21034-3dup
Misc : MS2659,V3D5106,5,,,,1
ALS Vial : 21 Sample Multiplier: 1

Quant Time: May 31 14:43:29 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration



M3D5092.M Tue May 31 15:20:13 2016 ACC-VOA-CLN-05A Page: 2

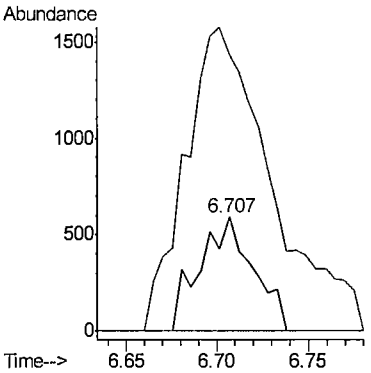
SGS ACCUTEST JC20564

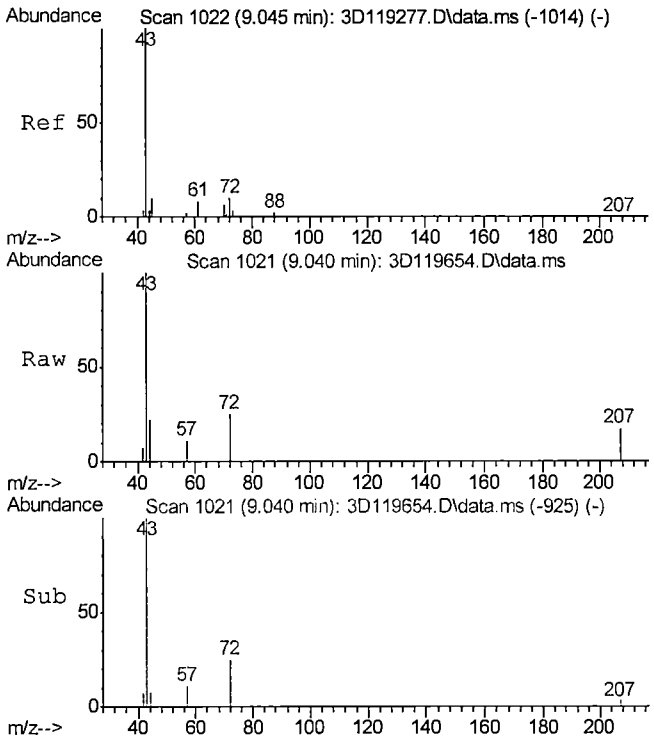


#27
acetone
Concen: 6.78 ug/L
RT: 6.707 min Scan# 576
Delta R.T. 0.011 min
Lab File: 3D119654.D
Acq: 27 May 2016 6:47 pm

Tgt Ion: 58 Resp: 1213

Ion	Ratio	Lower	Upper
58	100		
43	178.2	272.8	332.8#

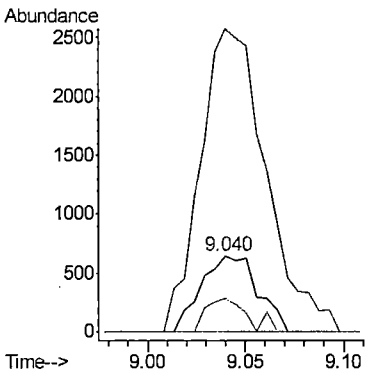




#40
2-butanone
Concen: 6.84 ug/L
RT: 9.040 min Scan# 1021
Delta R.T. 0.001 min
Lab File: 3D119654.D
Acq: 27 May 2016 6:47 pm

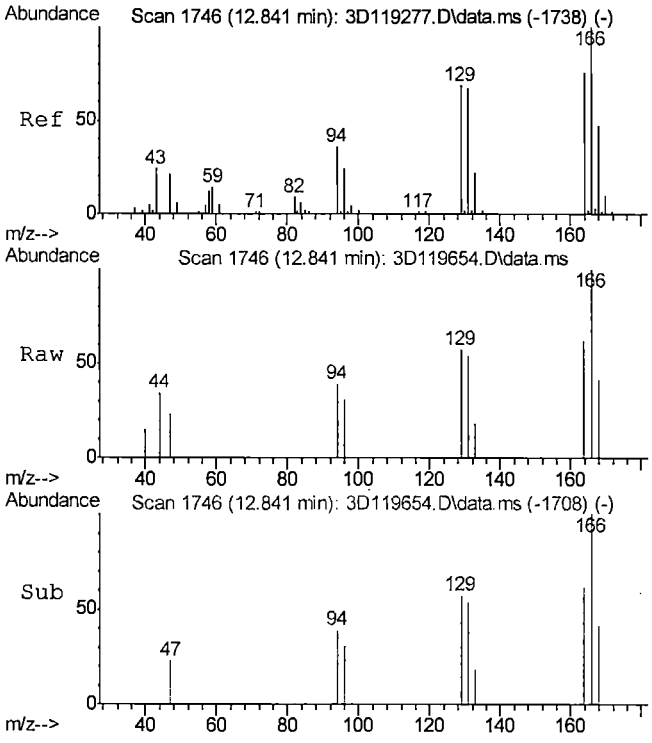
Tgt Ion: 72 Resp: 1291

Ion	Ratio	Lower	Upper
72	100		
43	397.2	971.9	1804.9#
57	43.9	27.1	50.3



7.5.1

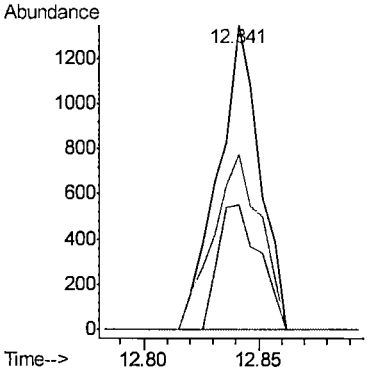
7



#93
tetrachloroethene
Concen: 0.95 ug/L
RT: 12.841 min Scan# 1746
Delta R.T. 0.000 min
Lab File: 3D119654.D
Acq: 27 May 2016 6:47 pm

Tgt Ion:166 Resp: 1702

Ion	Ratio	Lower	Upper
166	100		
168	40.9	16.2	76.2
129	57.4	37.9	97.9



7.5.1

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4D\V4D3029-V4D3030\
Data File : 4D68868.D
Acq On : 27 May 2016 6:48 pm
Operator : XimenaC
Sample : jc20954-3dup
Misc : MS2640,V4D3030,5,,,,1
ALS Vial : 21 Sample Multiplier: 1

Quant Time: May 31 11:06:01 2016
Quant Method : C:\MSDCHEM\1\METHODS\M4D3019.M
Quant Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
QLast Update : Thu May 19 09:28:34 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Tert Butyl Alcohol-d9	7.562	65	129009	500.00 ug/L	0.00
4) pentafluorobenzene	10.084	168	165521	50.00 ug/L	0.00
54) 1,4-difluorobenzene	11.033	114	265380	50.00 ug/L	0.00
86) chlorobenzene-d5	14.383	117	247485	50.00 ug/L	0.00
101) 1,4-dichlorobenzene-d4	16.774	152	128315	50.00 ug/L	0.00
System Monitoring Compounds					
48) dibromofluoromethane (s)	10.084	113	94528	54.34 ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 108.68%		
49) 1,2-dichloroethane-d4 (s)	10.535	65	106561	54.60 ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 109.20%		
78) toluene-d8 (s)	12.774	98	305461	50.09 ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 100.18%		
103) 4-bromofluorobenzene (s)	15.605	95	122128	48.64 ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 97.28%		

Target Compounds Qvalue

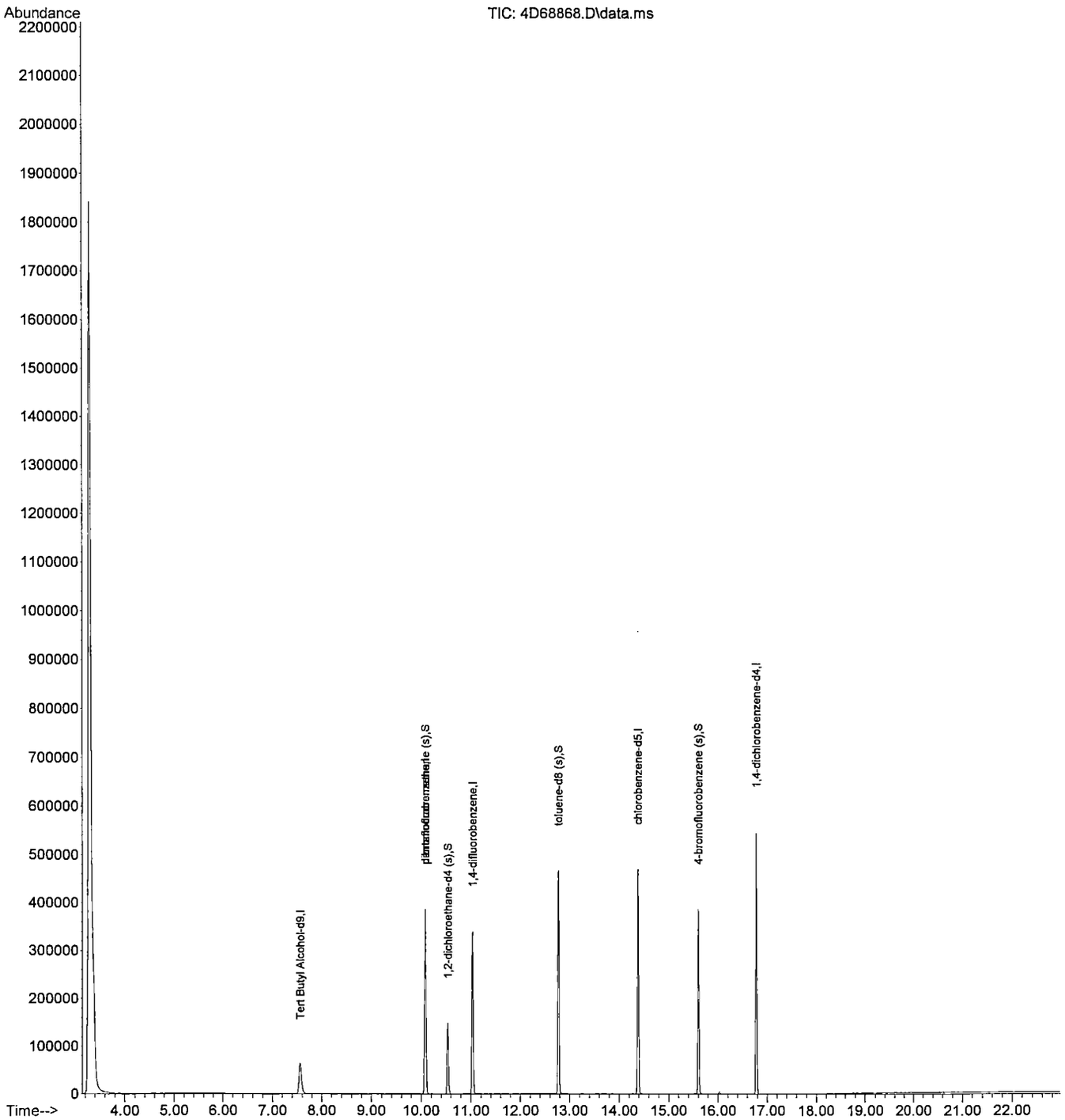
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.5.2 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4D\V4D3029-V4D3030\
Data File : 4D68868.D
Acq On : 27 May 2016 6:48 pm
Operator : XimenaC
Sample : jc20954-3dup
Misc : MS2640,V4D3030,5,,,,1
ALS Vial : 21 Sample Multiplier: 1

Quant Time: May 31 11:06:01 2016
Quant Method : C:\MSDCHEM\1\METHODS\M4D3019.M
Quant Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
QLast Update : Thu May 19 09:28:34 2016
Response via : Initial Calibration

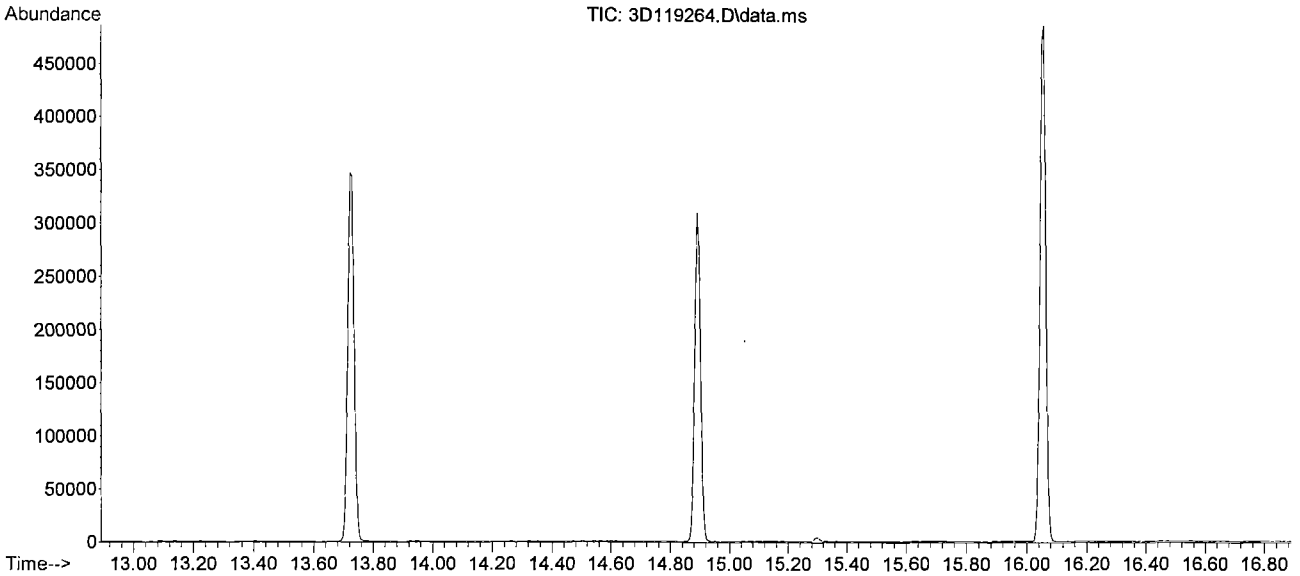


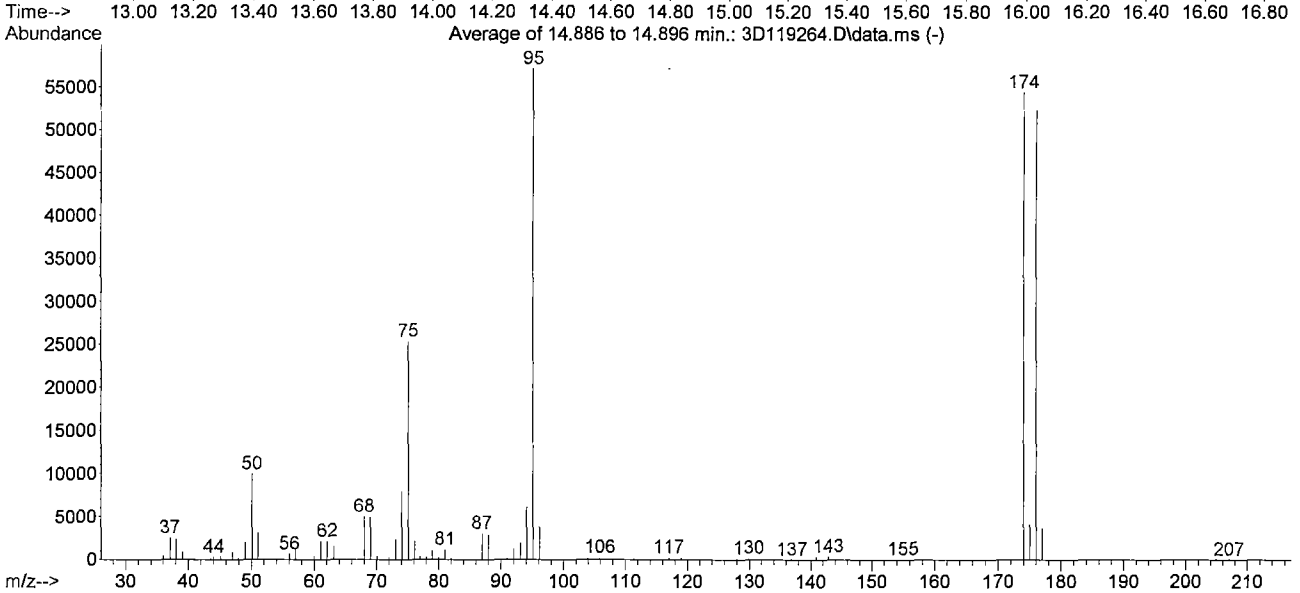
7.5.2
7

SW-846 Method 8260

Data File : C:\msdchem\1\DATA\3D119264.D Vial: 1
Acq On : 17 May 2016 4:14 pm Operator: XimenaC
Sample : bfb Inst : MS3D
Misc : MS1706,V3D5092,5,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\msdchem\1\METHODS\M3D5092.M (RTE Integrator)
Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um





AutoFind: Scans 2136, 2137, 2138; Background Corrected with Scan 2128

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.4	9949	PASS
75	95	30	60	44.4	25352	PASS
95	95	100	100	100.0	57136	PASS
96	95	5	9	6.8	3887	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	95.2	54416	PASS
175	174	5	9	7.5	4098	PASS
176	174	95	101	96.3	52378	PASS
177	176	5	9	7.0	3644	PASS

3D119264.D M3D5092.M Wed May 18 11:11:14 2016 3D

Average of 14.886 to 14.896 min.: 3D119264.D\data.ms
bfb
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.05	481	55.10	126	70.10	373	81.95	209
37.10	2550	56.05	695	72.00	308	87.00	3050
38.10	2335	57.05	1330	73.05	2312	88.00	2824
39.10	927	59.95	437	74.10	7930	90.95	174
44.00	338	61.00	2100	75.10	25352	92.05	1356
45.10	469	62.05	2153	76.10	2230	93.05	2026
47.05	899	63.10	1570	76.95	372	94.10	5844
47.95	295	64.10	132	78.05	281	95.10	57136
49.05	2043	67.05	185	78.95	1092	96.10	3887
50.10	9949	68.05	4997	80.00	292	103.90	150
51.05	3091	69.05	4926	80.95	1174	105.90	235

Average of 14.886 to 14.896 min.: 3D119264.D\data.ms
bfb
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
116.00	69	175.00	4098				
116.95	273	176.00	52378				
117.90	65	177.00	3644				
118.95	251	207.00	61				
127.90	190						
129.90	213						
136.90	52						
140.90	389						
142.90	429						
154.95	109						
174.00	54416						

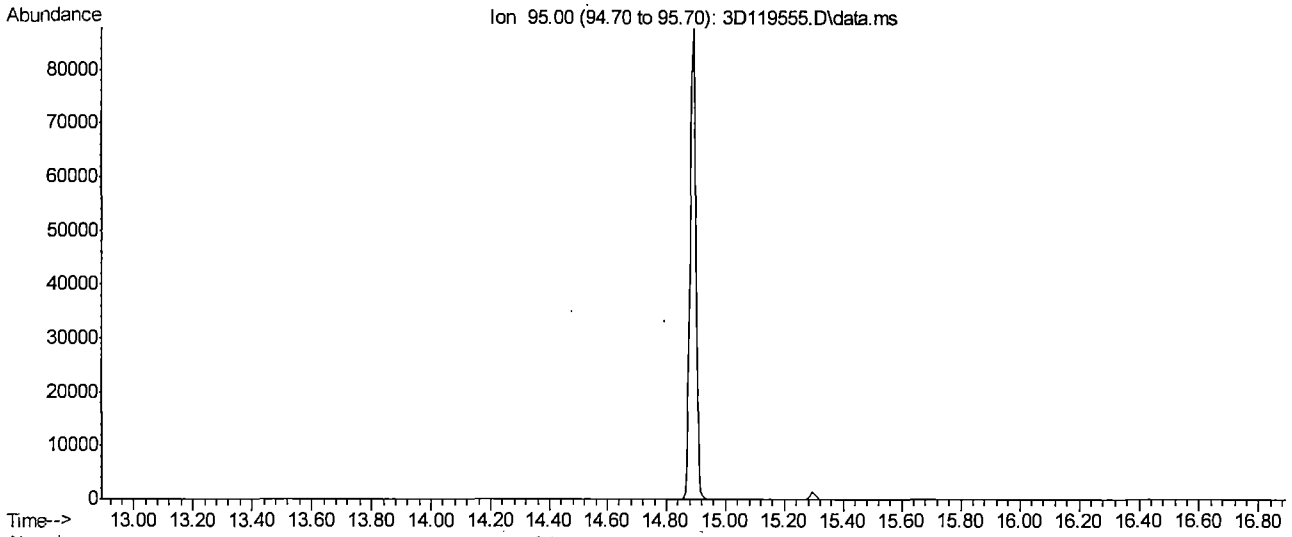
7.6.1

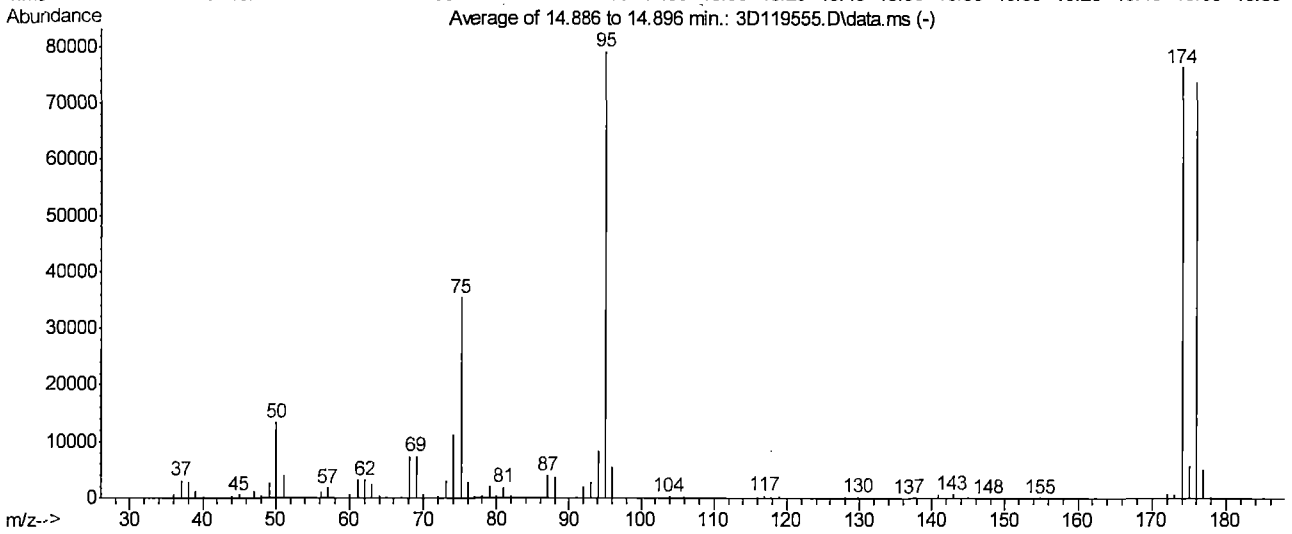
7

SW-846 Method 8260

Data File : C:\msdchem\1\DATA\3D\v3d5103\3D119555.D Vial: 1
Acq On : 25 May 2016 9:14 am Operator: XimenaC
Sample : bfb Inst : MS3D
Misc : MS2480,V3D5103,5,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\msdchem\1\METHODS\M3D5092.M (RTE Integrator)
Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um





AutoFind: Scans 2136, 2137, 2138; Background Corrected with Scan 2128

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	16.9	13363	PASS
75	95	30	60	44.7	35450	PASS
95	95	100	100	100.0	79237	PASS
96	95	5	9	7.0	5530	PASS
173	174	0.00	2	0.9	693	PASS
174	95	50	120	96.5	76429	PASS
175	174	5	9	7.5	5718	PASS
176	174	95	101	96.8	73965	PASS
177	176	5	9	6.8	4998	PASS

3D119555.D M3D5092.M Thu May 26 11:27:27 2016 ACC-VOA-CLN-05A

7.6.2

7

Average of 14.886 to 14.896 min.: 3D119555.D\data.ms
bfb
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.05	547	51.10	3999	67.00	152	78.00	348
37.10	3071	52.00	174	67.20	67	78.95	2113
38.10	2923	54.95	222	68.05	7247	79.95	475
39.05	1201	56.05	1022	69.05	7348	80.95	1874
40.10	223	57.05	1779	70.05	538	81.95	425
44.00	355	60.05	630	72.00	340	87.00	4000
45.05	565	61.05	3160	73.05	2952	88.00	3667
47.05	1170	62.05	3245	74.10	11269	88.70	52
48.05	391	63.05	2364	75.10	35450	91.00	247
49.10	2649	64.05	376	76.05	2930	92.00	1960
50.10	13363	65.05	311	77.05	493	93.05	2879

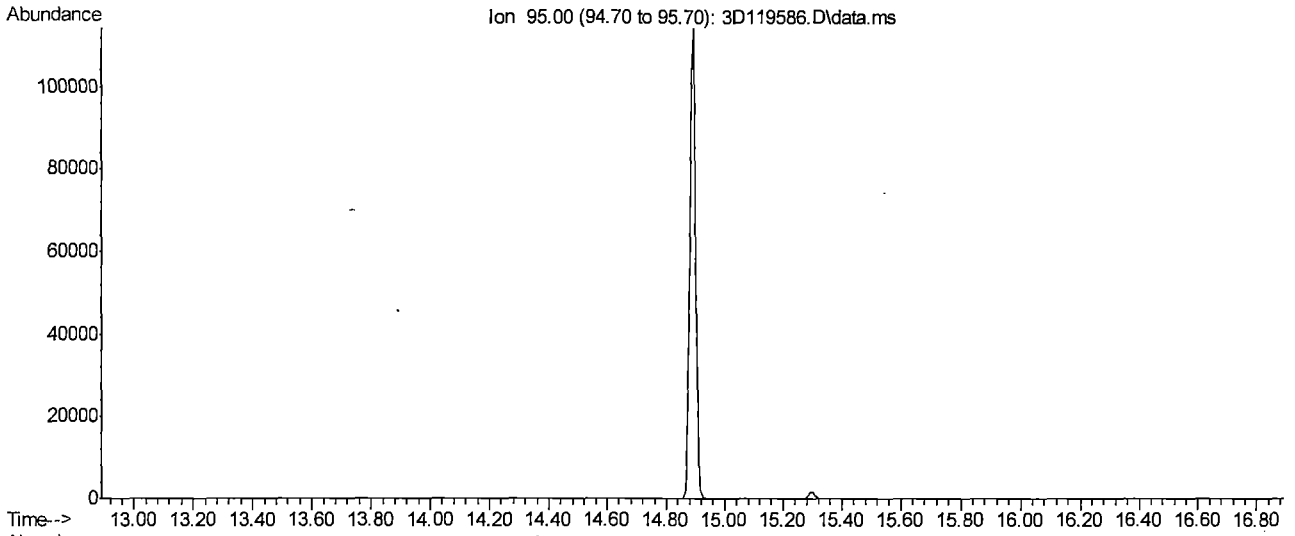
Average of 14.886 to 14.896 min.: 3D119555.D\data.ms
bfb
Modified:subtracted

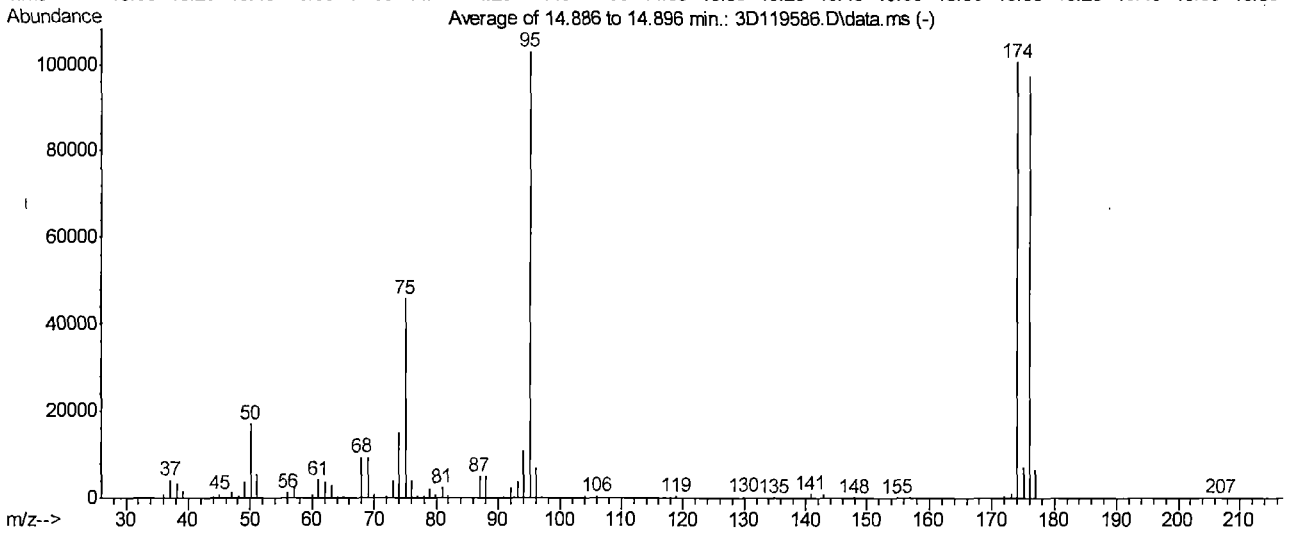
m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
94.10	8285	129.00	50	172.00	720		
95.10	79237	129.90	308	173.00	693		
96.00	5530	136.85	127	174.00	76429		
97.00	100	140.95	671	174.95	5718		
103.90	315	142.90	744	176.00	73965		
105.90	241	144.90	136	176.95	4998		
115.90	256	145.90	102	177.95	115		
116.95	511	147.90	66				
117.90	240	148.10	54				
118.90	339	154.95	176				
127.90	303	156.90	69				

SW-846 Method 8260

Data File : C:\msdchem\1\DATA\3D\v3d5104-5105\3D119586.D Vial: 3
Acq On : 26 May 2016 10:02 am Operator: XimenaC
Sample : bfb Inst : MS3D
Misc : MS2366,V3D5104,5,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\msdchem\1\METHODS\M3D5092.M (RTE Integrator)
Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um





AutoFind: Scans 2136, 2137, 2138; Background Corrected with Scan 2128

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	16.6	17038	PASS
75	95	30	60	44.5	45832	PASS
95	95	100	100	100.0	102904	PASS
96	95	5	9	6.7	6857	PASS
173	174	0.00	2	1.0	993	PASS
174	95	50	120	97.8	100597	PASS
175	174	5	9	7.0	7076	PASS
176	174	95	101	96.6	97202	PASS
177	176	5	9	6.8	6563	PASS

3D119586.D M3D5092.M Fri May 27 16:20:00 2016 ACC-VOA-CLN-05A

Average of 14.886 to 14.896 min.: 3D119586.D\data.ms
bfb
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.05	738	51.10	5602	67.00	217	78.00	486
37.10	4032	52.00	227	67.30	54	78.95	2202
38.10	3557	55.05	271	68.00	9265	79.95	706
39.05	1501	56.05	1232	69.05	9250	80.95	2314
40.00	12	57.05	2390	70.05	756	81.95	432
44.00	339	60.05	835	72.00	433	86.05	116
45.00	827	61.05	4121	73.10	3860	87.00	4988
47.00	1343	62.10	3767	74.10	14966	88.00	4894
48.05	494	63.10	2877	75.10	45832	90.95	325
49.05	3689	64.05	302	76.05	3871	92.05	2498
50.10	17038	65.00	300	76.95	587	93.05	3763

Average of 14.886 to 14.896 min.: 3D119586.D\data.ms
bfb
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
94.05	10795	118.90	471	147.90	216	207.00	21
95.10	102904	127.85	359	154.90	243		
96.05	6857	128.90	178	156.95	206		
97.00	154	129.95	400	158.80	59		
103.90	406	134.90	182	171.90	547		
104.85	106	137.00	114	173.10	993		
106.00	409	140.90	951	174.00	100597		
115.90	337	142.00	54	175.00	7076		
116.80	149	142.90	894	176.00	97202		
116.95	367	144.90	65	176.95	6563		
117.85	327	145.70	52	177.90	118		

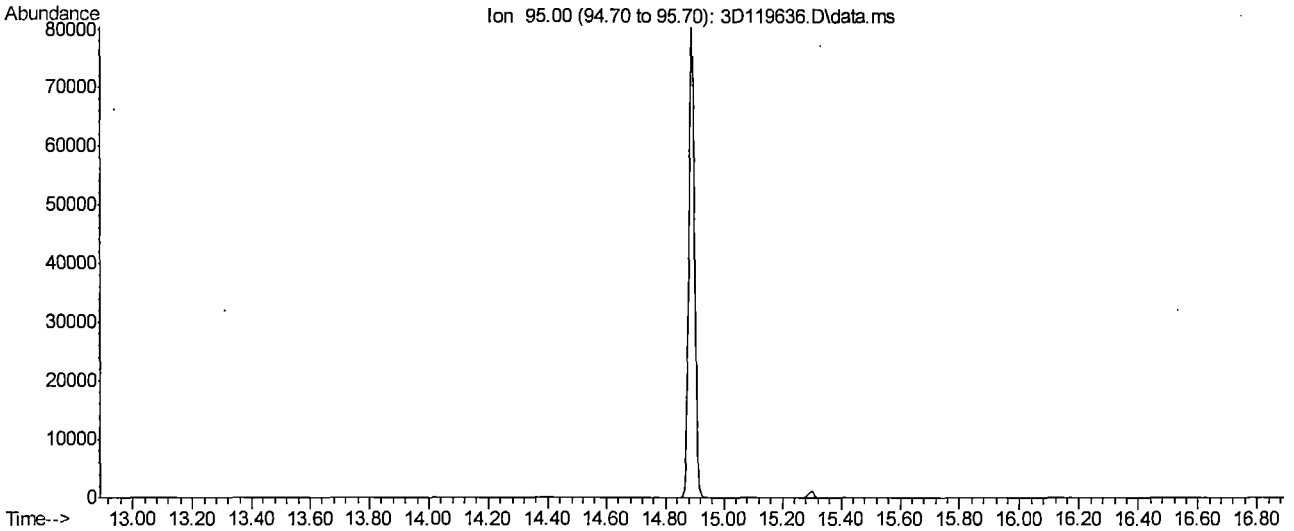
7.6.3

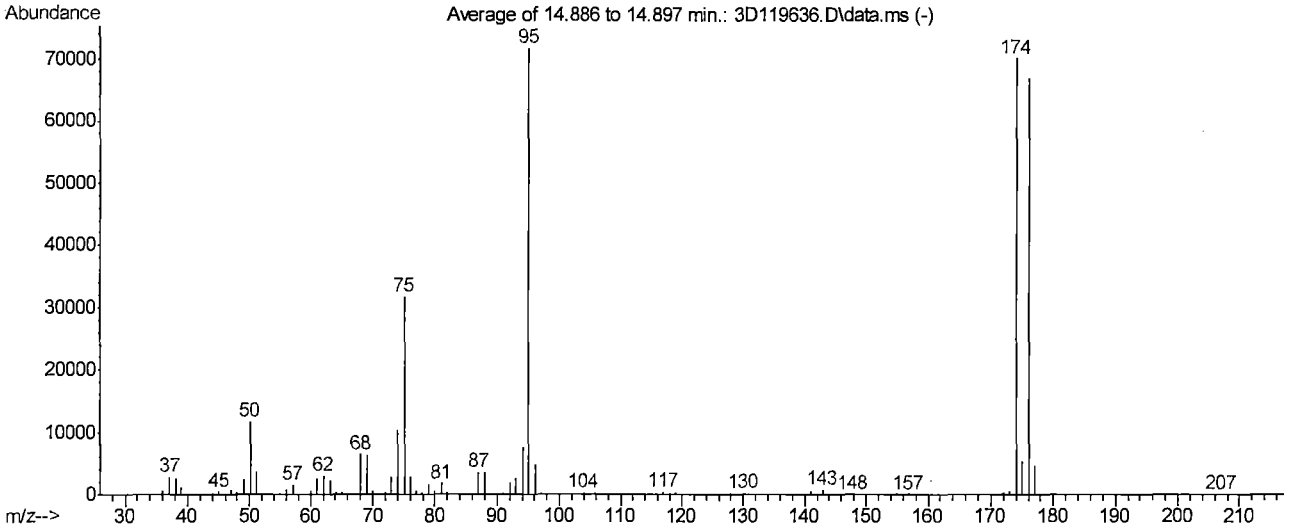
7

SW-846 Method 8260

Data File : C:\msdchem\1\DATA\3D...105ms-5107\3D119636.D Vial: 3
Acq On : 27 May 2016 9:51 am Operator: XimenaC
Sample : bfb Inst : MS3D
Misc : MS2377,V3D5106,5,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\msdchem\1\METHODS\M3D5092.M (RTE Integrator)
Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um





AutoFind: Scans 2136, 2137, 2138; Background Corrected with Scan 2128

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	16.3	11668	PASS
75	95	30	60	44.1	31650	PASS
95	95	100	100	100.0	71754	PASS
96	95	5	9	6.7	4802	PASS
173	174	0.00	2	0.9	650	PASS
174	95	50	120	97.8	70181	PASS
175	174	5	9	7.5	5287	PASS
176	174	95	101	95.3	66856	PASS
177	176	5	9	7.0	4682	PASS

3D119636.D M3D5092.M Tue May 31 14:16:22 2016 ACC-VOA-CLN-05A

7.6.4

7

Average of 14.886 to 14.897 min.: 3D119636.D\data.ms
bfb
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.05	472	52.10	128	68.00	6373	79.95	468
37.10	2776	55.00	148	69.00	6329	80.95	1782
38.10	2493	56.05	835	70.05	499	81.95	390
39.00	1044	57.05	1544	72.05	361	87.00	3561
44.00	262	60.05	584	73.00	2802	88.00	3428
45.05	545	61.05	2640	74.05	10321	90.80	88
47.05	823	62.05	2973	75.10	31650	91.00	162
48.00	374	63.10	2257	76.05	2744	92.00	1816
49.00	2415	64.05	285	76.95	490	93.00	2671
50.10	11668	65.05	394	77.95	323	94.00	7528
51.05	3627	67.00	71	78.95	1708	95.05	71754

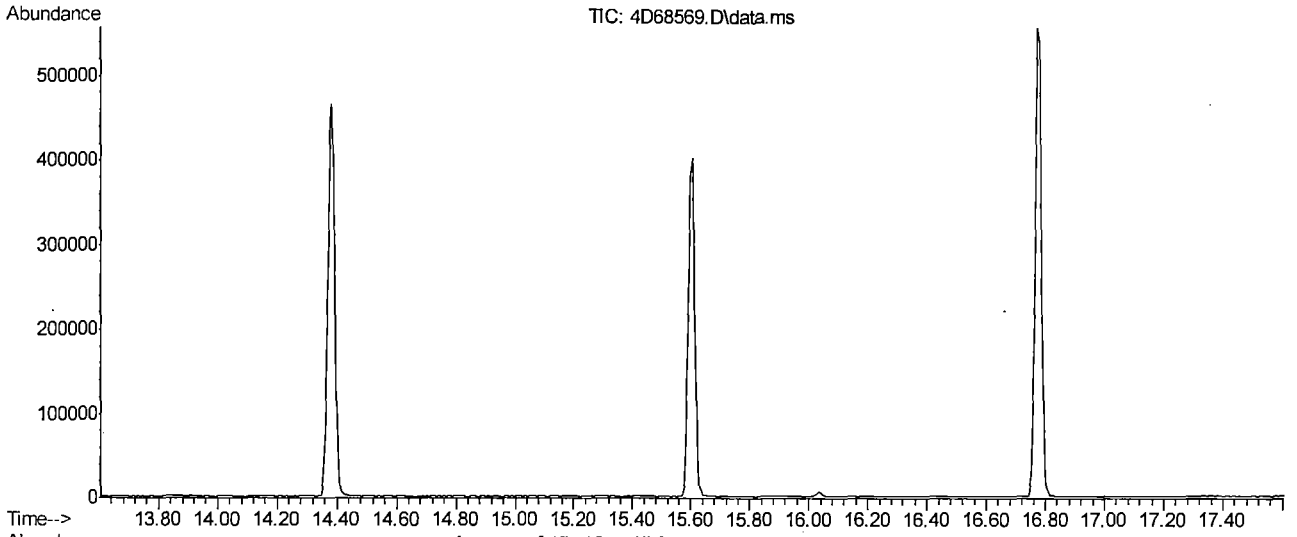
Average of 14.886 to 14.897 min.: 3D119636.D\data.ms
bfb
Modified:subtracted

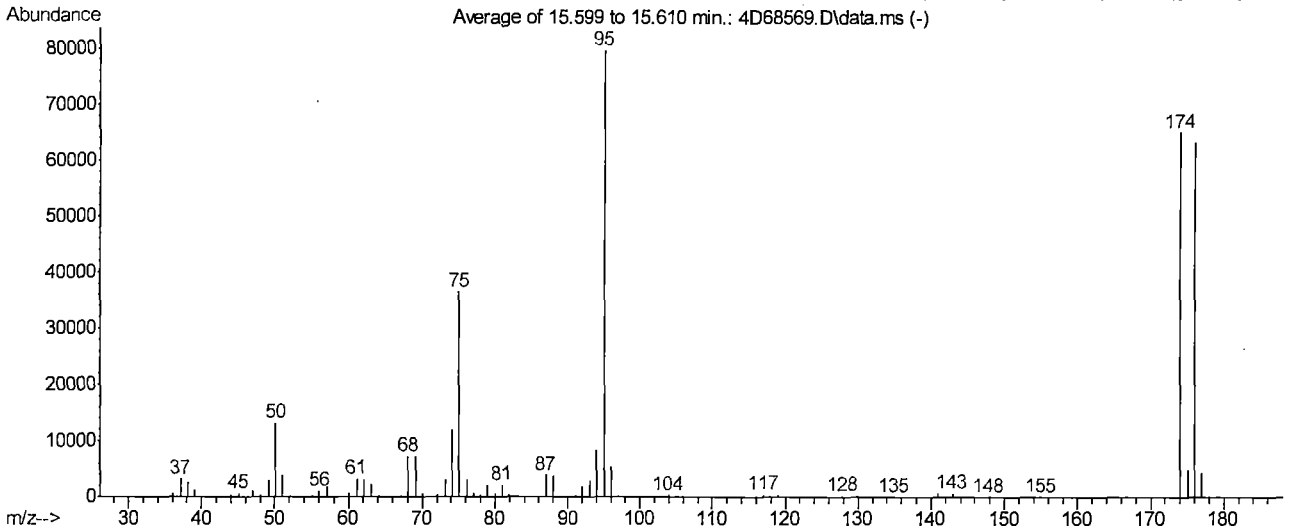
m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
96.05	4802	134.90	50	174.00	70181		
97.00	121	140.90	594	174.95	5287		
103.95	280	142.90	749	176.00	66856		
105.90	275	144.90	107	177.00	4682		
115.85	235	145.90	103	207.10	54		
116.95	455	147.90	147				
117.95	280	155.00	136				
118.95	431	156.95	175				
127.90	277	171.80	201				
128.90	134	172.00	408				
129.95	279	173.05	650				

SW-846 Method 8260

Data File : C:\msdchem\1\data\4D68569.D Vial: 1
Acq On : 18 May 2016 6:58 pm Operator: XimenaC
Sample : BFB Inst : MS4D
Misc : MS90450,V4D3019,5,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M4D3019.M (RTE Integrator)
Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um





AutoFind: Scans 2377, 2378, 2379; Background Corrected with Scan 2368

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	16.5	13126	PASS
75	95	30	60	45.8	36491	PASS
95	95	100	100	100.0	79613	PASS
96	95	5	9	6.6	5259	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	81.7	65035	PASS
175	174	5	9	7.6	4931	PASS
176	174	95	101	97.2	63213	PASS
177	176	5	9	6.7	4227	PASS

4D68569.D M4D3019.M Thu May 19 07:22:40 2016 RPT1

7.6.5

Average of 15.599 to 15.610 min.: 4D68569.D\data.ms
BFB
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.10	626	51.10	3966	68.05	7196	78.95	2079
37.10	3189	52.05	145	69.10	7150	80.00	583
38.10	2736	55.05	167	70.05	595	80.90	2138
39.10	1166	56.05	1075	71.10	50	81.95	427
43.05	16	57.10	1896	72.05	387	87.00	3794
44.00	506	60.05	601	73.10	3035	88.00	3635
45.10	616	61.10	3137	74.10	11770	91.00	312
47.05	945	62.10	3114	75.10	36491	92.00	1909
48.05	413	63.10	2288	76.10	3044	93.05	2899
49.10	2829	64.05	206	77.05	540	94.10	8255
50.10	13126	67.05	269	78.00	359	95.10	79613

Average of 15.599 to 15.610 min.: 4D68569.D\data.ms
BFB
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
96.10	5259	129.95	262	178.00	51		
97.05	184	134.90	55				
104.00	316	140.95	646				
104.95	107	142.95	661				
105.90	293	147.95	119				
115.95	247	155.00	186				
116.95	475	156.95	107				
117.90	285	174.00	65035				
118.95	352	175.00	4931				
127.90	284	176.00	63213				
128.95	103	177.00	4227				

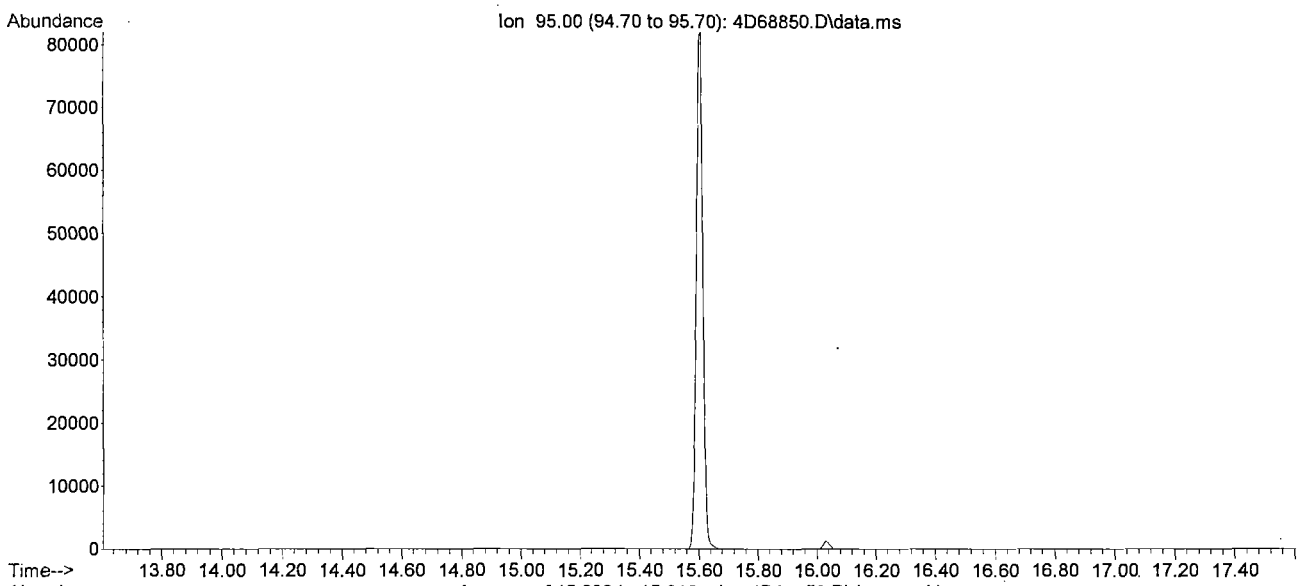
7.6.5

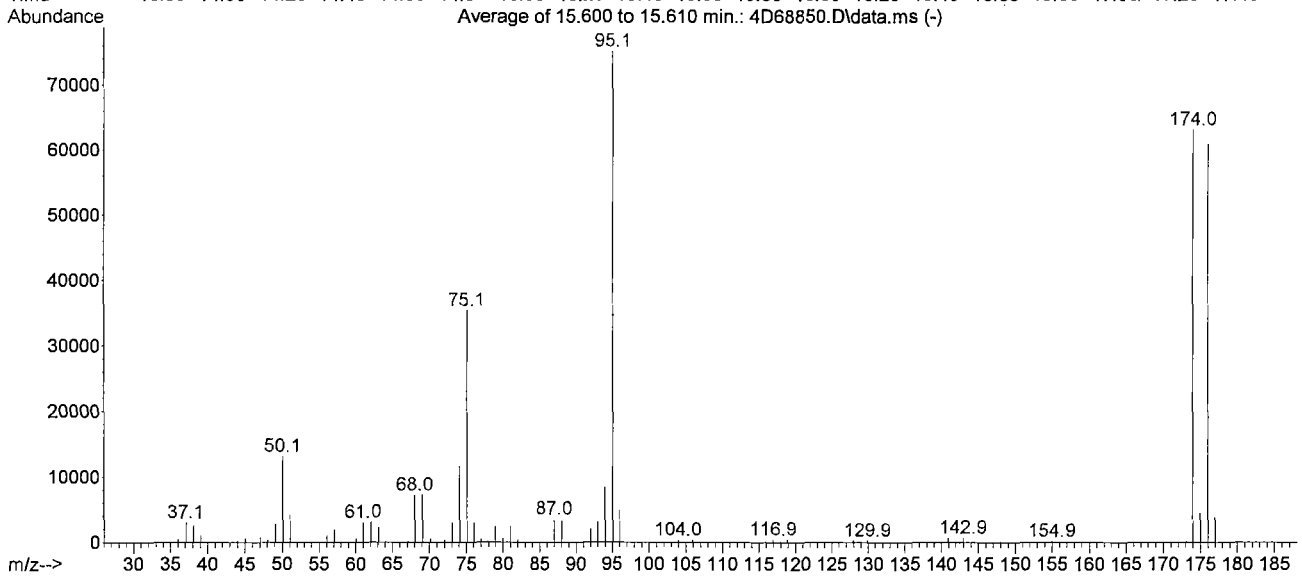
7

SW-846 Method 8260

Data File : C:\msdchem\1\data\4D...029-V4D3030\4D68850.D Vial: 1
Acq On : 27 May 2016 9:39 am Operator: XimenaC
Sample : bfb Inst : MS4D
Misc : MS2571,V4D3030,5,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M4D3019.M (RTE Integrator)
Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um





AutoFind: Scans 2377, 2378, 2379; Background Corrected with Scan 2369

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.5	13116	PASS
75	95	30	60	47.1	35376	PASS
95	95	100	100	100.0	75117	PASS
96	95	5	9	6.6	4936	PASS
173	174	0.00	2	0.3	202	PASS
174	95	50	120	84.1	63139	PASS
175	174	5	9	7.2	4542	PASS
176	174	95	101	96.4	60891	PASS
177	176	5	9	6.4	3879	PASS

4D68850.D M4D3019.M Fri May 27 16:06:46 2016

7.6.6

Average of 15.600 to 15.610 min.: 4D68850.D\data.ms
bfb
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.00	541	51.10	4084	68.05	7196	80.00	678
37.10	3056	52.05	127	69.05	7317	80.95	2483
38.10	2683	55.05	180	70.10	594	81.95	527
39.10	1120	56.05	1097	72.00	356	87.00	3555
40.00	168	57.05	1883	73.05	3003	88.00	3295
44.00	277	60.05	602	74.10	11598	90.95	302
45.10	577	61.05	3098	75.10	35376	92.00	2038
47.05	803	62.05	3148	76.05	3039	93.00	3082
48.05	395	63.10	2367	77.00	485	94.05	8377
49.10	2771	64.05	235	77.95	332	95.10	75117
50.10	13116	67.05	141	78.95	2428	96.05	4936

Average of 15.600 to 15.610 min.: 4D68850.D\data.ms
bfb
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
103.95	386	147.90	187				
105.90	361	154.95	201				
115.90	238	171.95	181				
116.90	504	173.10	202				
117.95	288	174.00	63139				
118.90	407	175.00	4542				
127.95	276	176.00	60891				
129.90	282	177.00	3879				
134.90	109	178.00	50				
140.95	724						
142.95	746						

7.6.6
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 3D119265.D
Acq On : 17 May 2016 4:55 pm
Operator : XimenaC
Sample : ic5092-0.2
Misc : MS1706,V3D5092,5,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 18 11:13:49 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Tue May 17 14:46:53 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.362	65	120430	500.00 ug/L	0.00
4) pentafluorobenzene	9.653	168	161805	50.00 ug/L	0.00
62) 1,4-difluorobenzene	10.592	114	210934	50.00 ug/L	0.00
92) chlorobenzene-d5	13.727	117	181255	50.00 ug/L	0.00
108) 1,4-dichlorobenzene-d4	16.055	152	115318	50.00 ug/L	0.00
System Monitoring Compounds					
54) dibromofluoromethane (s)	9.690	113	75007	41.83 ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 83.66%		
55) 1,2-dichloroethane-d4 (s)	10.115	65	74058	38.30 ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 76.60%		
84) toluene-d8 (s)	12.217	98	236016	49.91 ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 99.82%		
110) 4-bromofluorobenzene (s)	14.891	95	90282	50.08 ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 100.16%		
Target Compounds					Qvalue
36) methyl tert butyl ether	7.771	73	1318	0.29 ug/L #	48
38) di-isopropyl ether	8.369	45	1659	0.35 ug/L	66
39) ethyl tert-butyl ether	8.841	59	1153	0.25 ug/L	84
43) acrylonitrile	7.698	53	659	1.21 ug/L #	62
52) chloroform	9.501	83	560	0.20 ug/L	72
58) 1,1,1-trichloroethane	9.753	97	522	0.20 ug/L #	57
61) tert-amyl methyl ether	10.256	73	1291	0.30 ug/L #	46
69) benzene	10.178	78	1441	0.28 ug/L	87
77) 2-chloroethyl vinyl ether	11.688	63	1083	1.58 ug/L	88
86) toluene	12.291	92	719	0.26 ug/L	98
99) n-Butyl Ether	13.712	57	1348	0.31 ug/L #	1
100) chlorobenzene	13.759	112	668	0.21 ug/L	96
102) ethylbenzene	13.816	91	1400	0.29 ug/L	91
103) m,p-xylene	13.937	106	934	0.54 ug/L	90
105) styrene	14.351	104	757	0.27 ug/L	83
109) isopropylbenzene	14.687	105	1314	0.25 ug/L	85
116) n-propylbenzene	15.101	91	1623	0.27 ug/L	95
120) 1,3,5-trimethylbenzene	15.258	105	1014	0.20 ug/L	82
123) 1,2,4-trimethylbenzene	15.652	105	1195	0.25 ug/L	85
124) sec-butylbenzene	15.819	105	1469	0.21 ug/L	80
126) p-isopropyltoluene	15.950	119	1328	0.24 ug/L	92
130) n-butylbenzene	16.344	92	787	0.27 ug/L	94
139) Benzyl chloride	16.171	91	876	0.29 ug/L #	61

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

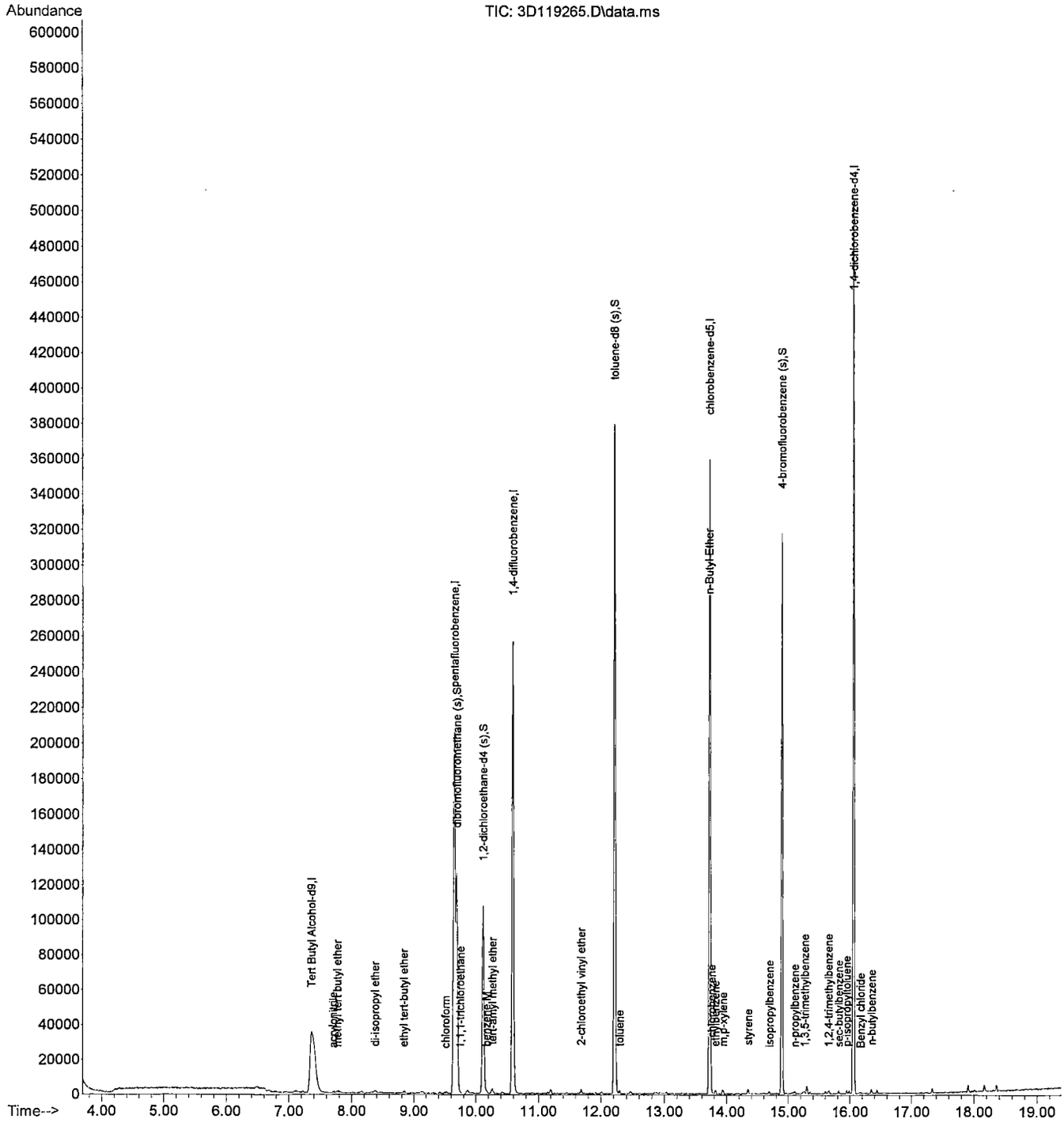
7.7.1

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 3D119265.D
Acq On : 17 May 2016 4:55 pm
Operator : XimenaC
Sample : ic5092-0.2
Misc : MS1706,V3D5092,5,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 18 11:13:49 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Tue May 17 14:46:53 2016
Response via : Initial Calibration



M3D5092.M Wed May 18 15:22:19 2016 3D

SGS ACCUTEST JC20564

Cal Report: 3D119266.D

Manual Integrations APPROVED (compounds with "m" flag)
Mei Chen
05/18/16 13:00

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 3D119266.D
Acq On : 17 May 2016 5:21 pm
Operator : XimenaC
Sample : ic5092-0.5
Misc : MS1706,V3D5092,5,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 18 11:18:54 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Tue May 17 14:46:53 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.357	65	113480	500.00 ug/L	-0.02
4) pentafluorobenzene	9.653	168	155630	50.00 ug/L	-0.01
62) 1,4-difluorobenzene	10.592	114	206664	50.00 ug/L	-0.01
92) chlorobenzene-d5	13.727	117	182167	50.00 ug/L	0.00
108) 1,4-dichlorobenzene-d4	16.055	152	114960	50.00 ug/L	0.00

System Monitoring Compounds					
54) dibromofluoromethane (s)	9.690	113	72109	41.81 ug/L	-0.01
Spiked Amount 50.000	Range 76 - 120		Recovery = 83.62%		
55) 1,2-dichloroethane-d4 (s)	10.115	65	71678	38.54 ug/L	-0.01
Spiked Amount 50.000	Range 73 - 122		Recovery = 77.08%		
84) toluene-d8 (s)	12.217	98	231401	49.94 ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 99.88%		
110) 4-bromofluorobenzene (s)	14.891	95	89698	49.91 ug/L	-0.01
Spiked Amount 50.000	Range 78 - 117		Recovery = 99.82%		

Target Compounds					Qvalue
10) chlorodifluoromethane	3.970	51	1653	0.48 ug/L	65
13) chloromethane	4.284	50	1456	0.43 ug/L	87
14) vinyl chloride	4.547	62	1679	0.46 ug/L	90
15) bromomethane	5.181	94	809	0.45 ug/L	83
16) chloroethane	5.391	64	672	0.49 ug/L #	44
25) acrolein	6.497	56	2583	0.27 ug/L	81
26) 1,1-dichloroethene	6.691	61	1361	0.54 ug/L	77
31) iodomethane	6.948	142	1904	0.61 ug/L	87
33) carbon disulfide	7.090	76	3725	0.57 ug/L	79
34) methylene chloride	7.420	84	1046	0.57 ug/L	86
36) methyl tert butyl ether	7.776	73	3142	0.71 ug/L	91
37) trans-1,2-dichloroethene	7.808	61	1174	0.57 ug/L #	79
38) di-isopropyl ether	8.379	45	3064	0.67 ug/L	90
39) ethyl tert-butyl ether	8.841	59	2749	0.62 ug/L	94
41) 1,1-dichloroethane	8.395	63	1598	0.61 ug/L	87
42) chloroprene	8.495	53	968	0.57 ug/L	86
43) acrylonitrile	7.703	53	1581	3.03 ug/L	95
46) 2,2-dichloropropane	9.145	77	1645	0.62 ug/L	98
47) cis-1,2-dichloroethene	9.113	96	1101	0.75 ug/L #	77
48) propionitrile	9.124	54	1084	5.58 ug/L	77
52) chloroform	9.496	83	1422	0.53 ug/L	94
58) 1,1,1-trichloroethane	9.758	97	1416	0.56 ug/L	90
61) tert-amyl methyl ether	10.256	73	2723	0.65 ug/L	98
65) cyclohexane	9.874	84	1383	0.59 ug/L #	78
66) carbon tetrachloride	9.957	117	1243	0.55 ug/L	88
67) 1,1-dichloropropene	9.926	75	1050	0.70 ug/L #	66
68) hexane	8.154	57	945	0.67 ug/L	85
69) benzene	10.178	78	3098	0.62 ug/L	99
72) 1,2-dichloroethane	10.204	62	859	0.46 ug/L	90
73) trichloroethene	10.901	95	673	0.55 ug/L	89
77) 2-chloroethyl vinyl ether	11.693	63	2162	3.21 ug/L	94
79) 1,2-dichloropropane	11.195	63	832	0.63 ug/L	95
80) methylcyclohexane	11.205	83	1230	0.51 ug/L	99
83) cis-1,3-dichloropropene	11.908	75	1198	0.68 ug/L	87
86) toluene	12.291	92	1699	0.63 ug/L	95
88) trans-1,3-dichloropropene	12.479	75	1031	0.61 ug/L	96
89) ethyl methacrylate	12.464	69	1027	0.86 ug/L	86
90) 1,1,2-trichloroethane	12.700	83	549	0.56 ug/L	89
93) tetrachloroethene	12.846	166	704	0.42 ug/L	86
94) 1,3-dichloropropane	12.883	76	998	0.57 ug/L	91
97) dibromochloromethane	13.130	129	681	0.48 ug/L	78

7.7.2 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 3D119266.D
Acq On : 17 May 2016 5:21 pm
Operator : XimenaC
Sample : ic5092-0.5
Misc : MS1706,V3D5092,5,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 18 11:18:54 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Tue May 17 14:46:53 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
98) 1,2-dibromoethane	13.282	107	576	0.48 ug/L	81
99) n-Butyl Ether	13.711	57	3534	0.82 ug/L #	51
100) chlorobenzene	13.759	112	1834	0.58 ug/L	95
102) ethylbenzene	13.816	91	3244	0.66 ug/L	97
103) m,p-xylene	13.937	106	2334	1.34 ug/L	96
104) o-xylene	14.335	106	1317	0.75 ug/L	74
105) styrene	14.351	104	2141	0.76 ug/L	94
109) isopropylbenzene	14.687	105	3587	0.70 ug/L	97
111) bromobenzene	15.075	156	958	0.60 ug/L	83
116) n-propylbenzene	15.101	91	4239	0.70 ug/L	99
118) 2-chlorotoluene	15.237	126	932m	0.66 ug/L	
119) 4-chlorotoluene	15.353	126	891	0.69 ug/L	96
120) 1,3,5-trimethylbenzene	15.263	105	3284	0.64 ug/L	99
123) 1,2,4-trimethylbenzene	15.651	105	3722	0.78 ug/L	99
124) sec-butylbenzene	15.814	105	4466	0.65 ug/L	98
126) p-isopropyltoluene	15.945	119	4031	0.74 ug/L	98
130) n-butylbenzene	16.349	92	2363	0.81 ug/L	91
139) Benzyl chloride	16.165	91	1753	0.58 ug/L #	61

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

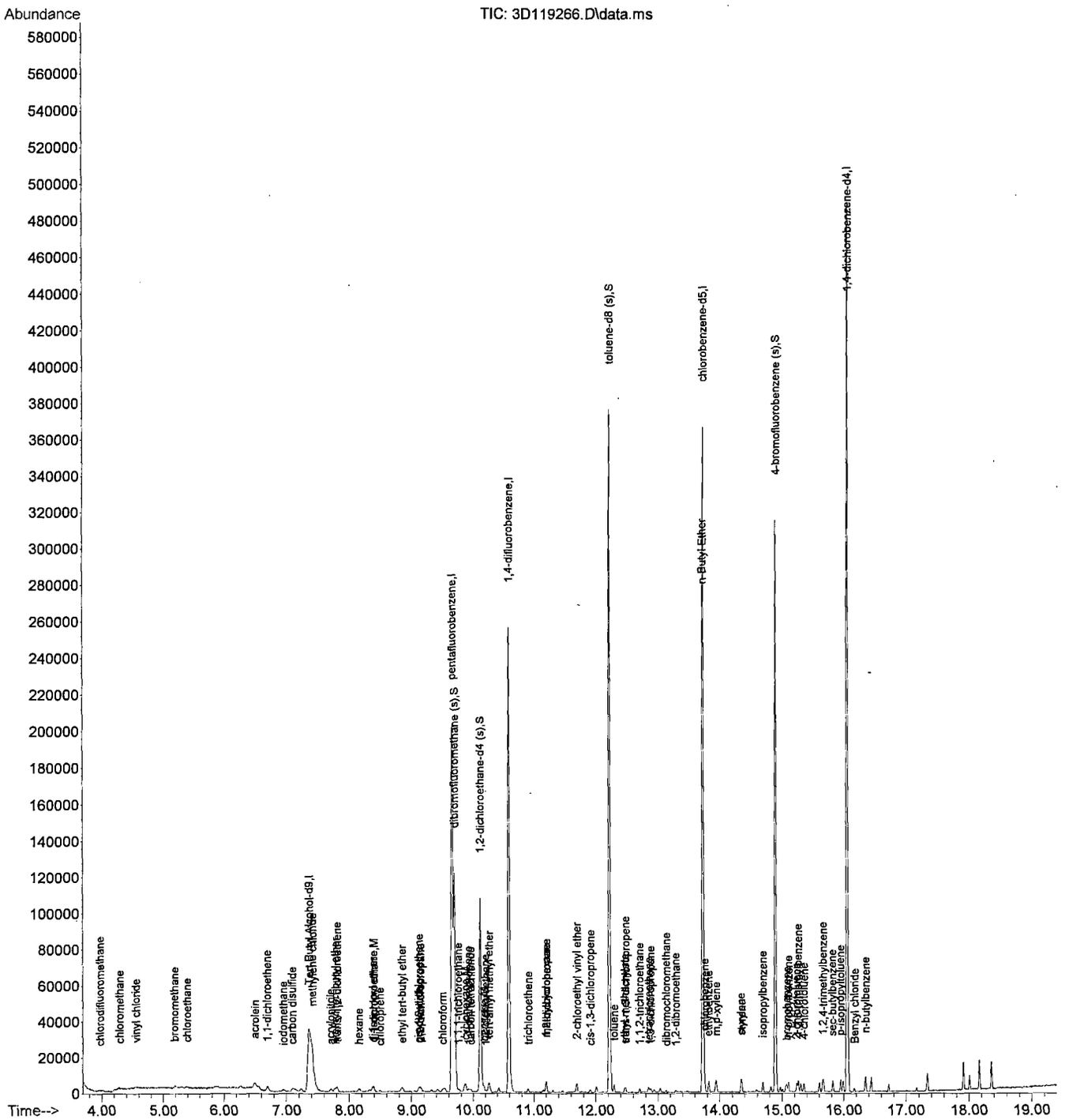
7.7.2

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 3D119266.D
Acq On : 17 May 2016 5:21 pm
Operator : XimenaC
Sample : ic5092-0.5
Misc : MS1706,V3D5092,5,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 18 11:18:54 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Tue May 17 14:46:53 2016
Response via : Initial Calibration



M3D5092.M Wed May 18 15:22:20 2016 3D

Page: 3

SGS ACCUTEST JC20564

Manual Integration Approval Summary

Sample Number:	V3D5092-IC5092	**Method:**	SW846 8260C
Lab FileID:	3D119266.D	**Analyst approved:**	05/18/16 11:51 Robert Szot
Injection Time:	05/17/16 17:21	**Supervisor approved:**	05/18/16 13:00 Mei Chen

Parameter	CAS	Sig#	R.T. (min.)	Reason
o-Chlorotoluene	95-49-8		15.24	Missed peak

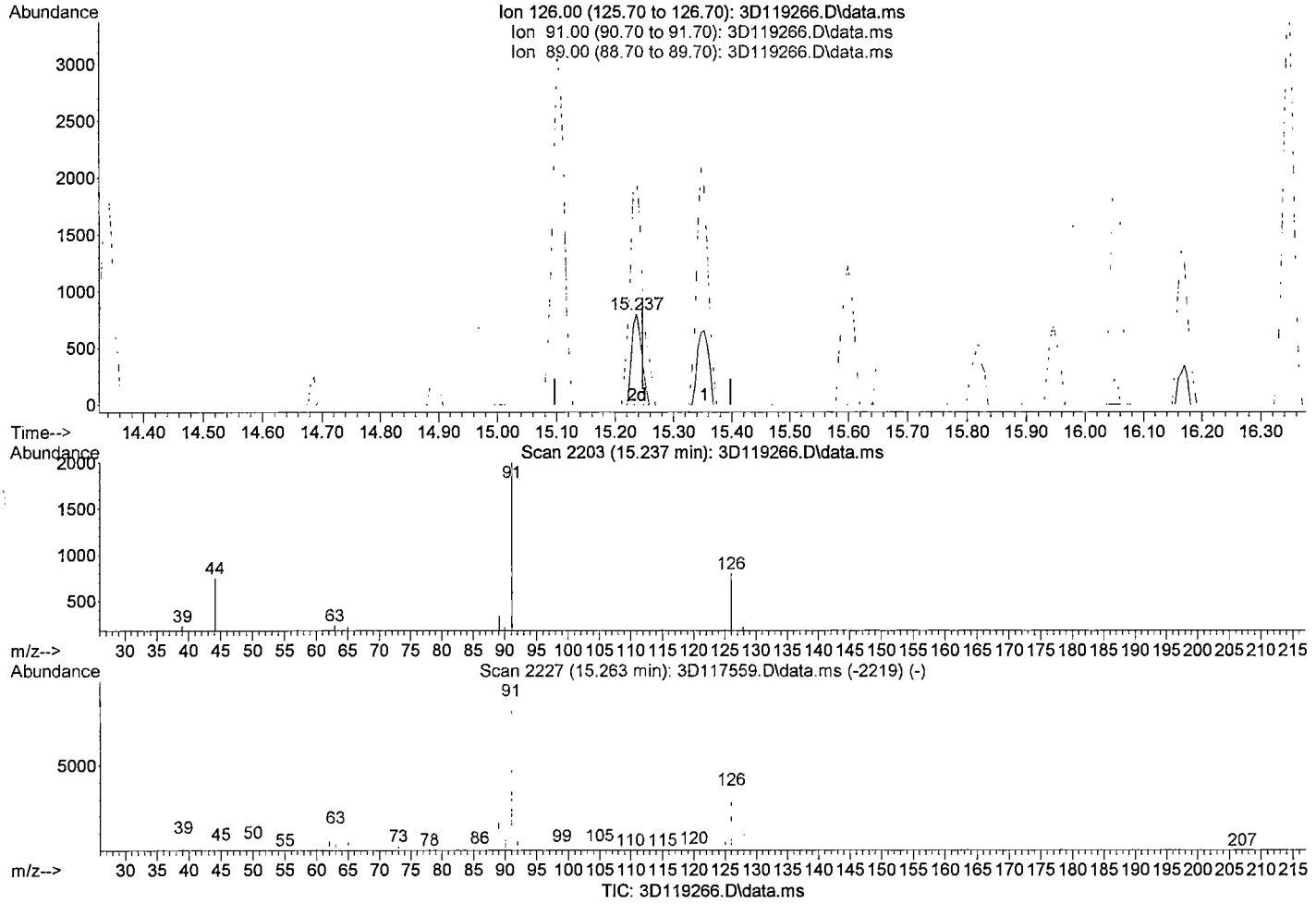
7.7.2.1

7

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\
Data File : 3D119266.D
Acq On : 17 May 2016 5:21 pm
Operator : XimenaC
Sample : ic5092-0.5
Misc : MS1706,V3D5092,5,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 18 08:23:06 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Tue May 17 14:46:53 2016
Response via : Initial Calibration



(118) 2-chlorotoluene

15.237min (-0.010) 0.66ug/L m

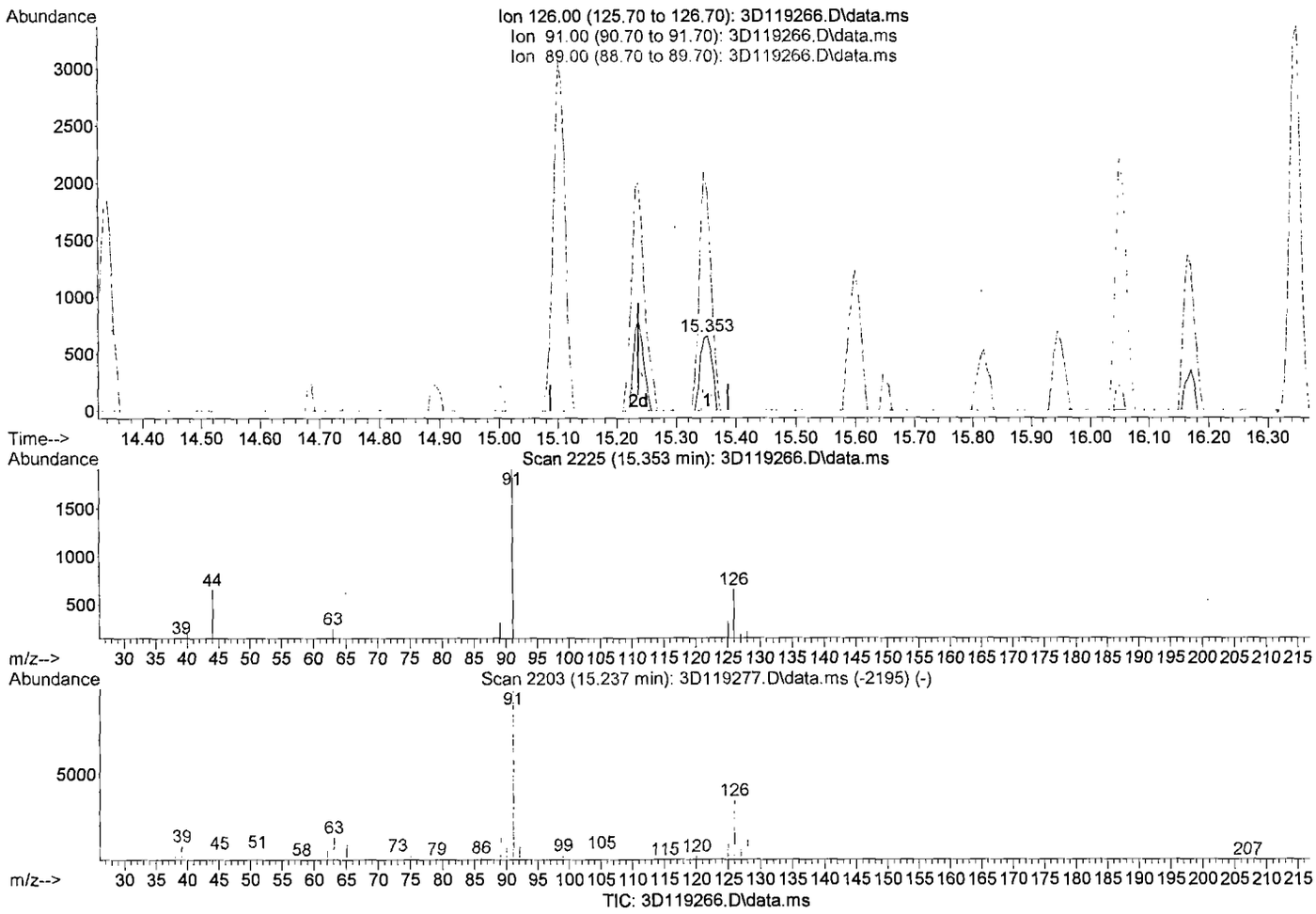
response 932

Ion	Exp%	Act%
126.00	100	100
91.00	280.20	250.50
89.00	51.70	42.63
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\v3d5092\
Data File : 3D119266.D
Acq On : 17 May 2016 5:21 pm
Operator : XimenaC
Sample : ic5092-0.5
Misc : MS1706,V3D5092,5,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 18 15:21:37 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration



(118) 2-chlorotoluene

15.353min (+0.116) 0.55ug/L

response 891

Ion	Exp%	Act%
126.00	100	100
91.00	287.10	291.63
89.00	51.10	48.40
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 3D119267.D
Acq On : 17 May 2016 5:49 pm
Operator : XimenaC
Sample : ic5092-1
Misc : MS1706,V3D5092,5,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 18 11:21:50 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Tue May 17 14:46:53 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.357	65	104986	500.00 ug/L	-0.02
4) pentafluorobenzene	9.653	168	148209	50.00 ug/L	-0.01
62) 1,4-difluorobenzene	10.592	114	196091	50.00 ug/L	-0.01
92) chlorobenzene-d5	13.727	117	172810	50.00 ug/L	0.00
108) 1,4-dichlorobenzene-d4	16.055	152	109021	50.00 ug/L	0.00

System Monitoring Compounds					
54) dibromofluoromethane (s)	9.690	113	68531	41.73 ug/L	-0.01
Spiked Amount 50.000	Range 76 - 120		Recovery = 83.46%		
55) 1,2-dichloroethane-d4 (s)	10.115	65	68375	38.61 ug/L	-0.01
Spiked Amount 50.000	Range 73 - 122		Recovery = 77.22%		
84) toluene-d8 (s)	12.217	98	220806	50.22 ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 100.44%		
110) 4-bromofluorobenzene (s)	14.891	95	84497	49.58 ug/L	-0.01
Spiked Amount 50.000	Range 78 - 117		Recovery = 99.16%		

Target Compounds					Qvalue
10) chlorodifluoromethane	3.975	51	3042	0.93 ug/L	65
11) dichlorodifluoromethane	3.975	85	2399	0.75 ug/L #	50
13) chloromethane	4.274	50	2665	0.83 ug/L	89
14) vinyl chloride	4.557	62	3180	0.92 ug/L	93
15) bromomethane	5.186	94	1524	0.89 ug/L	94
16) chloroethane	5.380	64	1313	1.00 ug/L #	44
19) trichlorofluoromethane	5.857	101	2920	0.86 ug/L	95
21) ethyl ether	6.256	74	561	0.81 ug/L #	54
25) acrolein	6.497	56	3844	0.43 ug/L	92
26) 1,1-dichloroethene	6.680	61	2612	1.09 ug/L	88
28) allyl chloride	7.231	76	686	0.95 ug/L #	47
31) iodomethane	6.953	142	3288	1.10 ug/L	87
33) carbon disulfide	7.095	76	6608	1.05 ug/L	95
34) methylene chloride	7.414	84	1851	1.05 ug/L	94
36) methyl tert butyl ether	7.766	73	5276	1.26 ug/L	93
37) trans-1,2-dichloroethene	7.808	61	2070	1.05 ug/L	90
38) di-isopropyl ether	8.369	45	5789	1.32 ug/L	88
39) ethyl tert-butyl ether	8.841	59	5163	1.23 ug/L	97
41) 1,1-dichloroethane	8.390	63	2769	1.11 ug/L	94
42) chloroprene	8.489	53	2099	1.31 ug/L	95
43) acrylonitrile	7.703	53	2987	6.00 ug/L	95
46) 2,2-dichloropropane	9.145	77	3004	1.19 ug/L	90
47) cis-1,2-dichloroethene	9.103	96	1658	1.19 ug/L	80
48) propionitrile	9.124	54	2054	11.10 ug/L	90
50) bromochloromethane	9.412	128	640	0.82 ug/L	94
52) chloroform	9.496	83	2539	1.00 ug/L	98
53) Tert-Butyl Formate	9.527	59	2293	1.57 ug/L #	88
56) freon 113	6.691	151	1166	0.84 ug/L	94
57) methacrylonitrile	9.318	41	1093	1.49 ug/L	75
58) 1,1,1-trichloroethane	9.758	97	2303	0.96 ug/L	96
60) 2,2,4-Trimethylpentane	10.272	57	5500	1.02 ug/L	96
61) tert-amyl methyl ether	10.251	73	5084	1.27 ug/L	95
65) cyclohexane	9.868	84	2616	1.18 ug/L	87
66) carbon tetrachloride	9.957	117	2280	1.06 ug/L	93
67) 1,1-dichloropropene	9.926	75	1676	1.18 ug/L	93
68) hexane	8.159	57	1715	1.28 ug/L	88
69) benzene	10.172	78	5389	1.14 ug/L	97
71) isopropyl acetate	10.078	43	2925	1.32 ug/L #	61
72) 1,2-dichloroethane	10.209	62	1629	0.92 ug/L	88
73) trichloroethene	10.901	95	1220	1.05 ug/L	93
77) 2-chloroethyl vinyl ether	11.693	63	4042	6.33 ug/L	94

7.7.3

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 3D119267.D
Acq On : 17 May 2016 5:49 pm
Operator : XimenaC
Sample : ic5092-1
Misc : MS1706,V3D5092,5,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 18 11:21:50 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Tue May 17 14:46:53 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
79) 1,2-dichloropropane	11.195	63	1410	1.13 ug/L	87
80) methylcyclohexane	11.200	83	2314	1.01 ug/L	98
81) dibromomethane	11.305	93	775	0.92 ug/L	93
82) bromodichloromethane	11.457	83	1766	1.06 ug/L	86
83) cis-1,3-dichloropropene	11.913	75	1972	1.18 ug/L	94
86) toluene	12.291	92	3039	1.19 ug/L	96
88) trans-1,3-dichloropropene	12.479	75	1964	1.23 ug/L	91
89) ethyl methacrylate	12.464	69	1606	1.42 ug/L	91
90) 1,1,2-trichloroethane	12.699	83	1082	1.17 ug/L	84
93) tetrachloroethene	12.841	166	1476	0.93 ug/L	96
94) 1,3-dichloropropane	12.878	76	1921	1.16 ug/L	99
95) butyl acetate	12.935	56	785	1.15 ug/L	88
97) dibromochloromethane	13.124	129	1275	0.95 ug/L	90
98) 1,2-dibromoethane	13.281	107	1166	1.03 ug/L	94
99) n-Butyl Ether	13.711	57	5758	1.41 ug/L #	73
100) chlorobenzene	13.759	112	3325	1.11 ug/L	96
101) 1,1,1,2-tetrachloroethane	13.821	131	1386	0.97 ug/L	95
102) ethylbenzene	13.816	91	6049	1.30 ug/L	90
103) m,p-xylene	13.937	106	4626	2.80 ug/L	76
104) o-xylene	14.341	106	2236	1.34 ug/L	93
105) styrene	14.351	104	3682	1.38 ug/L	95
107) bromoform	14.582	173	911	0.94 ug/L	94
109) isopropylbenzene	14.687	105	5909	1.21 ug/L	95
111) bromobenzene	15.075	156	1637	1.09 ug/L	93
113) 1,1,2,2-tetrachloroethane	14.970	83	1823	1.04 ug/L	97
116) n-propylbenzene	15.101	91	7296	1.28 ug/L	98
118) 2-chlorotoluene	15.242	126	1473	1.10 ug/L	92
119) 4-chlorotoluene	15.352	126	1568	1.28 ug/L	87
120) 1,3,5-trimethylbenzene	15.263	105	5467	1.13 ug/L	98
121) tert-butylbenzene	15.599	119	4303	1.08 ug/L	93
123) 1,2,4-trimethylbenzene	15.651	105	5659	1.25 ug/L	91
124) sec-butylbenzene	15.819	105	7435	1.13 ug/L	97
125) 1,3-dichlorobenzene	15.987	146	3361	1.16 ug/L	88
126) p-isopropyltoluene	15.945	119	6242	1.21 ug/L	97
127) 1,4-dichlorobenzene	16.081	146	3715	1.17 ug/L	96
128) 1,2-dichlorobenzene	16.438	146	3705	1.18 ug/L	97
130) n-butylbenzene	16.349	92	3536	1.28 ug/L	97
133) 1,3,5-trichlorobenzene	17.334	180	4175	1.25 ug/L	98
134) 1,2,4-trichlorobenzene	17.906	180	4392	1.23 ug/L	97
135) hexachlorobutadiene	18.005	225	1956	1.06 ug/L	84
136) naphthalene	18.163	128	9924	1.30 ug/L	98
137) 1,2,3-trichlorobenzene	18.357	180	4659	1.19 ug/L	99
139) Benzyl chloride	16.170	91	3393	1.19 ug/L #	88

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

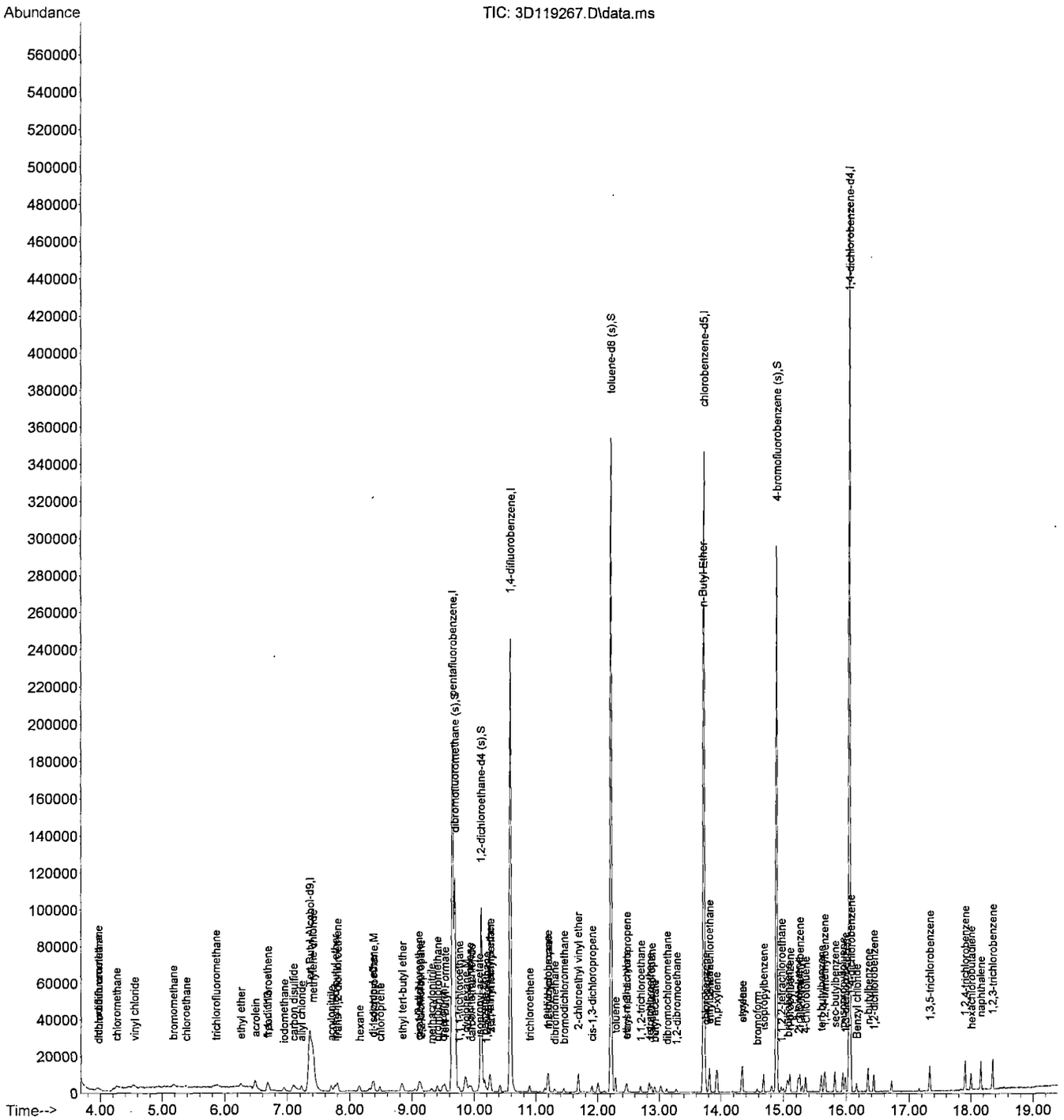
7.7.3

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 3D119267.D
Acq On : 17 May 2016 5:49 pm
Operator : XimenaC
Sample : ic5092-1
Misc : MS1706,V3D5092,5,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 18 11:21:50 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Tue May 17 14:46:53 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 3D119268.D
Acq On : 17 May 2016 6:16 pm
Operator : XimenaC
Sample : ic5092-2
Misc : MS1706,V3D5092,5,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 18 11:23:16 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Tue May 17 14:46:53 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.362	65	108448	500.00 ug/L	0.00
4) pentafluorobenzene	9.653	168	154716	50.00 ug/L	0.00
62) 1,4-difluorobenzene	10.592	114	201123	50.00 ug/L	0.00
92) chlorobenzene-d5	13.727	117	178998	50.00 ug/L	0.00
108) 1,4-dichlorobenzene-d4	16.055	152	114806	50.00 ug/L	0.00

System Monitoring Compounds					
54) dibromofluoromethane (s)	9.690	113	72203	42.12 ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 84.24%		
55) 1,2-dichloroethane-d4 (s)	10.115	65	69409	37.54 ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 75.08%		
84) toluene-d8 (s)	12.217	98	227689	50.49 ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 100.98%		
110) 4-bromofluorobenzene (s)	14.891	95	89480	49.86 ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 99.72%		

Target Compounds					Qvalue
2) 1,4-dioxane	11.237	88	800	40.09 ug/L	66
3) tertiary butyl alcohol	7.483	59	2351	10.47 ug/L	86
10) chlorodifluoromethane	3.986	51	6059	1.78 ug/L	97
11) dichlorodifluoromethane	3.980	85	5567	1.68 ug/L	94
13) chloromethane	4.285	50	5518	1.65 ug/L	96
14) vinyl chloride	4.552	62	6634	1.84 ug/L	91
15) bromomethane	5.186	94	3284	1.83 ug/L	94
16) chloroethane	5.386	64	2803	2.04 ug/L	95
19) trichlorofluoromethane	5.878	101	6183	1.75 ug/L	95
21) ethyl ether	6.261	74	1484	2.06 ug/L	82
25) acrolein	6.497	56	8337	0.88 ug/L	99
26) 1,1-dichloroethene	6.686	61	5447	2.18 ug/L	98
28) allyl chloride	7.231	76	1779	2.36 ug/L #	70
31) iodomethane	6.953	142	7044	2.26 ug/L	93
33) carbon disulfide	7.095	76	12918	1.97 ug/L	88
34) methylene chloride	7.415	84	3787	2.06 ug/L	95
35) methyl acetate	7.163	43	2653	2.31 ug/L #	62
36) methyl tert butyl ether	7.782	73	11138	2.54 ug/L	98
37) trans-1,2-dichloroethene	7.808	61	4525	2.19 ug/L	97
38) di-isopropyl ether	8.374	45	11562	2.53 ug/L	96
39) ethyl tert-butyl ether	8.846	59	11041	2.52 ug/L	97
41) 1,1-dichloroethane	8.395	63	5398	2.08 ug/L	93
42) chloroprene	8.495	53	3916	2.34 ug/L	96
43) acrylonitrile	7.708	53	5829	11.22 ug/L	98
46) 2,2-dichloropropane	9.145	77	5632	2.14 ug/L	96
47) cis-1,2-dichloroethene	9.108	96	3254	2.24 ug/L	94
48) propionitrile	9.124	54	4123	21.35 ug/L	87
50) bromochloromethane	9.407	128	1631	2.01 ug/L	87
51) tetrahydrofuran	9.423	42	1219	3.04 ug/L #	36
52) chloroform	9.496	83	5070	1.91 ug/L	96
53) Tert-Butyl Formate	9.533	59	4716	3.10 ug/L #	92
56) freon 113	6.702	151	2949	2.02 ug/L	87
57) methacrylonitrile	9.318	41	1936	2.53 ug/L	90
58) 1,1,1-trichloroethane	9.758	97	5131	2.05 ug/L	95
60) 2,2,4-Trimethylpentane	10.267	57	11934	2.12 ug/L	99
61) tert-amyl methyl ether	10.251	73	10346	2.48 ug/L	90
63) epichlorohydrin	11.777	57	1275	10.75 ug/L	93
64) n-butyl alcohol	10.639	56	4261	112.05 ug/L	93
65) cyclohexane	9.868	84	5473	2.40 ug/L	98
66) carbon tetrachloride	9.952	117	4623	2.10 ug/L	95
67) 1,1-dichloropropene	9.921	75	3271	2.25 ug/L	92

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 3D119268.D
Acq On : 17 May 2016 6:16 pm
Operator : XimenaC
Sample : ic5092-2
Misc : MS1706,V3D5092,5,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 18 11:23:16 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Tue May 17 14:46:53 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
68) hexane	8.159	57	3440	2.50 ug/L	94
69) benzene	10.173	78	10825	2.23 ug/L	98
70) heptane	10.424	57	1684	2.24 ug/L	89
71) isopropyl acetate	10.083	43	5549	2.44 ug/L #	61
72) 1,2-dichloroethane	10.204	62	3199	1.76 ug/L	93
73) trichloroethene	10.901	95	2409	2.02 ug/L	96
77) 2-chloroethyl vinyl ether	11.693	63	8581	13.09 ug/L	95
78) methyl methacrylate	11.153	100	529	2.08 ug/L #	78
79) 1,2-dichloropropane	11.195	63	2806	2.19 ug/L	86
80) methylcyclohexane	11.200	83	5159	2.19 ug/L	96
81) dibromomethane	11.305	93	1711	1.98 ug/L	79
82) bromodichloromethane	11.457	83	3242	1.90 ug/L	96
83) cis-1,3-dichloropropene	11.913	75	4155	2.42 ug/L	92
85) 4-methyl-2-pentanone	12.008	58	1113	2.25 ug/L #	75
86) toluene	12.291	92	6019	2.30 ug/L	98
87) 3-methyl-1-butanol	12.008	70	1315	40.50 ug/L	79
88) trans-1,3-dichloropropene	12.474	75	3717	2.28 ug/L	91
89) ethyl methacrylate	12.464	69	3402	2.93 ug/L	95
90) 1,1,2-trichloroethane	12.700	83	1950	2.05 ug/L	95
91) 2-hexanone	12.857	58	870	1.90 ug/L	82
93) tetrachloroethene	12.841	166	2721	1.66 ug/L	89
94) 1,3-dichloropropane	12.883	76	3689	2.15 ug/L	98
95) butyl acetate	12.936	56	1787	2.53 ug/L #	83
96) 3,3-Dimethyl-1-Butanol	13.030	57	3259	22.85 ug/L #	96
97) dibromochloromethane	13.124	129	2361	1.70 ug/L	95
98) 1,2-dibromoethane	13.282	107	2426	2.07 ug/L	98
99) n-Butyl Ether	13.712	57	11231	2.65 ug/L #	87
100) chlorobenzene	13.759	112	6531	2.10 ug/L	96
101) 1,1,1,2-tetrachloroethane	13.822	131	2716	1.84 ug/L	96
102) ethylbenzene	13.816	91	11841	2.46 ug/L	97
103) m,p-xylene	13.932	106	8876	5.19 ug/L	96
104) o-xylene	14.335	106	4614	2.68 ug/L	85
105) styrene	14.351	104	7262	2.64 ug/L	96
107) bromoform	14.582	173	1807	1.81 ug/L	94
109) isopropylbenzene	14.687	105	12450	2.42 ug/L	96
111) bromobenzene	15.075	156	3448	2.18 ug/L	91
113) 1,1,2,2-tetrachloroethane	14.970	83	3726	2.02 ug/L	95
114) trans-1,4-dichloro-2-b...	15.007	53	760	1.75 ug/L	92
115) 1,2,3-trichloropropane	15.054	110	771	1.85 ug/L	90
116) n-propylbenzene	15.101	91	14690	2.44 ug/L	97
118) 2-chlorotoluene	15.237	126	3010	2.13 ug/L #	85
119) 4-chlorotoluene	15.353	126	3131	2.42 ug/L #	77
120) 1,3,5-trimethylbenzene	15.258	105	10511	2.06 ug/L	96
121) tert-butylbenzene	15.599	119	8211	1.95 ug/L	94
122) pentachloroethane	15.667	167	1951	2.06 ug/L	74
123) 1,2,4-trimethylbenzene	15.651	105	11298	2.38 ug/L	97
124) sec-butylbenzene	15.819	105	14595	2.11 ug/L	99
125) 1,3-dichlorobenzene	15.987	146	6908	2.26 ug/L	97
126) p-isopropyltoluene	15.945	119	12757	2.34 ug/L	97
127) 1,4-dichlorobenzene	16.081	146	7293	2.19 ug/L	93
128) 1,2-dichlorobenzene	16.438	146	7506	2.26 ug/L	97
130) n-butylbenzene	16.349	92	6886	2.37 ug/L	96
132) 1,2-dibromo-3-chloropr...	17.167	157	988	2.00 ug/L	88
133) 1,3,5-trichlorobenzene	17.334	180	8198	2.34 ug/L	99
134) 1,2,4-trichlorobenzene	17.906	180	8928	2.37 ug/L	99
135) hexachlorobutadiene	18.006	225	3967	2.05 ug/L	99
136) naphthalene	18.163	128	19675	2.45 ug/L	98
137) 1,2,3-trichlorobenzene	18.357	180	9147	2.22 ug/L	98

7.7.4 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 3D119268.D
Acq On : 17 May 2016 6:16 pm
Operator : XimenaC
Sample : ic5092-2
Misc : MS1706,V3D5092,5,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 18 11:23:16 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Tue May 17 14:46:53 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
138) hexachloroethane	16.721	119	1950	1.46 ug/L	96
139) Benzyl chloride	16.171	91	7004	2.33 ug/L	99

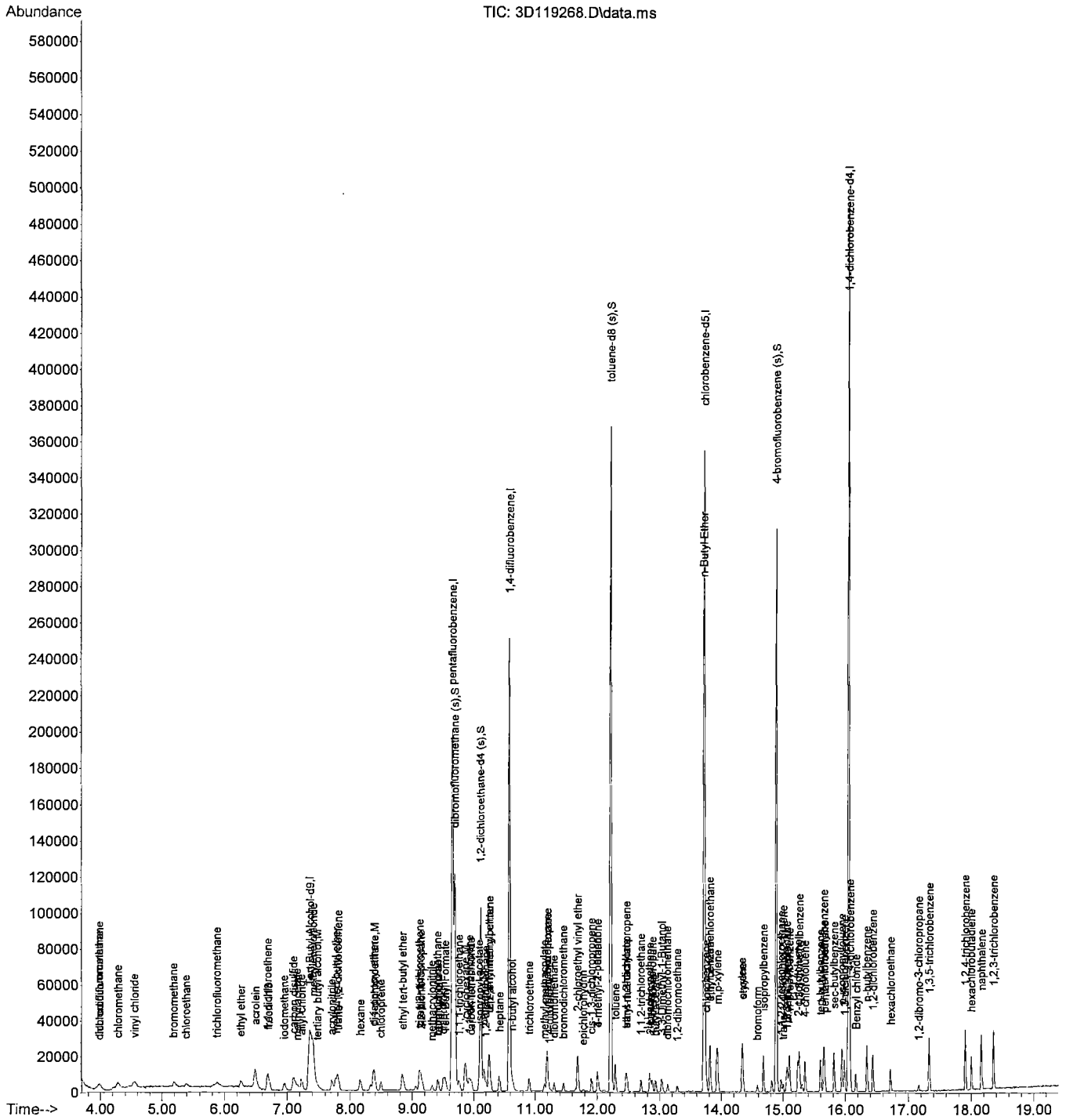
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.7.4

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 3D119268.D
Acq On : 17 May 2016 6:16 pm
Operator : XimenaC
Sample : ic5092-2
Misc : MS1706,V3D5092,5,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 18 11:23:16 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Tue May 17 14:46:53 2016
Response via : Initial Calibration



SGS ACCUTEST JC20564

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 3D119269.D
Acq On : 17 May 2016 6:43 pm
Operator : XimenaC
Sample : ic5092-5
Misc : MS1706,V3D5092,5,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 18 11:29:05 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Tue May 17 14:46:53 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.367	65	114853	500.00 ug/L	0.00
4) pentafluorobenzene	9.653	168	156190	50.00 ug/L	-0.01
62) 1,4-difluorobenzene	10.592	114	203700	50.00 ug/L	-0.01
92) chlorobenzene-d5	13.727	117	177027	50.00 ug/L	0.00
108) 1,4-dichlorobenzene-d4	16.055	152	110944	50.00 ug/L	0.00

System Monitoring Compounds					
54) dibromofluoromethane (s)	9.690	113	72467	41.87 ug/L	-0.01
Spiked Amount 50.000	Range 76 - 120		Recovery = 83.74%		
55) 1,2-dichloroethane-d4 (s)	10.115	65	70865	37.97 ug/L	-0.01
Spiked Amount 50.000	Range 73 - 122		Recovery = 75.94%		
84) toluene-d8 (s)	12.217	98	229289	50.20 ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 100.40%		
110) 4-bromofluorobenzene (s)	14.891	95	86348	49.79 ug/L	-0.01
Spiked Amount 50.000	Range 78 - 117		Recovery = 99.58%		

Target Compounds					Qvalue
2) 1,4-dioxane	11.242	88	2426	114.79 ug/L	88
3) tertiary butyl alcohol	7.483	59	5834	24.53 ug/L	90
10) chlorodifluoromethane	3.980	51	15773	4.59 ug/L	98
11) dichlorodifluoromethane	3.986	85	14506	4.33 ug/L	88
13) chloromethane	4.279	50	13389	3.96 ug/L	98
14) vinyl chloride	4.552	62	15799	4.35 ug/L	91
15) bromomethane	5.191	94	8145	4.50 ug/L	99
16) chloroethane	5.385	64	6847	4.94 ug/L	94
19) trichlorofluoromethane	5.868	101	15458	4.33 ug/L	97
21) ethyl ether	6.261	74	3767	5.19 ug/L	99
25) acrolein	6.492	56	20444	2.15 ug/L	94
26) 1,1-dichloroethene	6.686	61	13199	5.22 ug/L	99
27) acetone	6.701	58	617	2.16 ug/L #	60
28) allyl chloride	7.231	76	4433	5.83 ug/L	95
29) acetonitrile	7.126	40	8492	50.58 ug/L	91
31) iodomethane	6.948	142	17093	5.43 ug/L	98
33) carbon disulfide	7.095	76	32005	4.84 ug/L	96
34) methylene chloride	7.414	84	8915	4.80 ug/L	95
35) methyl acetate	7.163	43	6718	5.79 ug/L #	84
36) methyl tert butyl ether	7.776	73	27522	6.23 ug/L	95
37) trans-1,2-dichloroethene	7.808	61	11339	5.44 ug/L	95
38) di-isopropyl ether	8.379	45	29173	6.33 ug/L	97
39) ethyl tert-butyl ether	8.841	59	27852	6.29 ug/L	98
41) 1,1-dichloroethane	8.395	63	13501	5.15 ug/L	99
42) chloroprene	8.489	53	10225	6.05 ug/L	98
43) acrylonitrile	7.708	53	15291	29.15 ug/L	96
44) vinyl acetate	8.322	86	961	5.48 ug/L	85
45) ethyl acetate	9.056	45	1076	5.57 ug/L	95
46) 2,2-dichloropropane	9.139	77	14171	5.35 ug/L	95
47) cis-1,2-dichloroethene	9.113	96	8443	5.76 ug/L	98
48) propionitrile	9.118	54	10453	53.61 ug/L	82
49) methyl acrylate	9.145	85	876	4.48 ug/L	66
50) bromochloromethane	9.412	128	4208	5.15 ug/L	89
51) tetrahydrofuran	9.428	42	2616	6.45 ug/L	88
52) chloroform	9.496	83	12628	4.71 ug/L	96
53) Tert-Butyl Formate	9.533	59	12380	8.07 ug/L #	94
56) freon 113	6.707	151	7139	4.86 ug/L	97
57) methacrylonitrile	9.318	41	4746	6.15 ug/L	93
58) 1,1,1-trichloroethane	9.758	97	12789	5.05 ug/L	94
60) 2,2,4-Trimethylpentane	10.272	57	30323	5.34 ug/L	99
61) tert-amyl methyl ether	10.251	73	25751	6.11 ug/L	93

7.7.5 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 3D119269.D
Acq On : 17 May 2016 6:43 pm
Operator : XimenaC
Sample : ic5092-5
Misc : MS1706,V3D5092,5,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 18 11:29:05 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Tue May 17 14:46:53 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
63) epichlorohydrin	11.777	57	3523	29.31 ug/L	96
64) n-butyl alcohol	10.639	56	10981	285.10 ug/L	92
65) cyclohexane	9.873	84	14098	6.11 ug/L	98
66) carbon tetrachloride	9.952	117	11673	5.24 ug/L	94
67) 1,1-dichloropropene	9.926	75	8491	5.76 ug/L	95
68) hexane	8.159	57	8737	6.28 ug/L	95
69) benzene	10.172	78	26781	5.44 ug/L	97
70) heptane	10.424	57	4785	6.27 ug/L	98
71) isopropyl acetate	10.083	43	14118	6.13 ug/L	88
72) 1,2-dichloroethane	10.204	62	8399	4.58 ug/L	98
73) trichloroethene	10.901	95	6263	5.19 ug/L	96
77) 2-chloroethyl vinyl ether	11.693	63	21870	32.94 ug/L	99
78) methyl methacrylate	11.153	100	1686	6.55 ug/L #	72
79) 1,2-dichloropropane	11.195	63	7094	5.46 ug/L	91
80) methylcyclohexane	11.200	83	13179	5.51 ug/L	99
81) dibromomethane	11.305	93	4177	4.78 ug/L	91
82) bromodichloromethane	11.457	83	8068	4.66 ug/L	95
83) cis-1,3-dichloropropene	11.913	75	9933	5.72 ug/L	95
85) 4-methyl-2-pentanone	12.007	58	2892	5.78 ug/L	93
86) toluene	12.290	92	14716	5.56 ug/L	99
87) 3-methyl-1-butanol	12.007	70	3700	112.50 ug/L	89
88) trans-1,3-dichloropropene	12.474	75	9030	5.46 ug/L	91
89) ethyl methacrylate	12.464	69	8222	6.99 ug/L	94
90) 1,1,2-trichloroethane	12.705	83	4920	5.10 ug/L	98
91) 2-hexanone	12.857	58	2387	5.14 ug/L	91
93) tetrachloroethene	12.841	166	7038	4.33 ug/L	93
94) 1,3-dichloropropane	12.878	76	9201	5.42 ug/L	97
95) butyl acetate	12.935	56	4295	6.15 ug/L	90
96) 3,3-Dimethyl-1-Butanol	13.035	57	8607	61.02 ug/L #	96
97) dibromochloromethane	13.129	129	6259	4.57 ug/L	95
98) 1,2-dibromoethane	13.281	107	5892	5.08 ug/L	99
99) n-Butyl Ether	13.711	57	27589	6.59 ug/L #	96
100) chlorobenzene	13.759	112	16338	5.31 ug/L	94
101) 1,1,1,2-tetrachloroethane	13.821	131	7110	4.88 ug/L	99
102) ethylbenzene	13.816	91	29067	6.11 ug/L	99
103) m,p-xylene	13.937	106	21733	12.84 ug/L	93
104) o-xylene	14.341	106	11281	6.61 ug/L	90
105) styrene	14.351	104	18077	6.64 ug/L	97
107) bromoform	14.587	173	4509	4.56 ug/L	99
109) isopropylbenzene	14.687	105	30797	6.19 ug/L	99
111) bromobenzene	15.075	156	8218	5.37 ug/L	99
112) cyclohexanone	14.818	55	5087	18.30 ug/L	96
113) 1,1,2,2-tetrachloroethane	14.970	83	9152	5.12 ug/L	94
114) trans-1,4-dichloro-2-b...	14.996	53	1921	4.56 ug/L	92
115) 1,2,3-trichloropropane	15.059	110	1972	4.89 ug/L	86
116) n-propylbenzene	15.101	91	35758	6.15 ug/L	99
118) 2-chlorotoluene	15.237	126	7519	5.50 ug/L	89
119) 4-chlorotoluene	15.352	126	7262	5.81 ug/L	93
120) 1,3,5-trimethylbenzene	15.258	105	26749	5.42 ug/L	97
121) tert-butylbenzene	15.599	119	21471	5.28 ug/L	96
122) pentachloroethane	15.667	167	5484	6.00 ug/L	94
123) 1,2,4-trimethylbenzene	15.651	105	27108	5.90 ug/L	99
124) sec-butylbenzene	15.819	105	36284	5.44 ug/L	99
125) 1,3-dichlorobenzene	15.987	146	17210	5.81 ug/L	98
126) p-isopropyltoluene	15.945	119	30868	5.86 ug/L	98
127) 1,4-dichlorobenzene	16.081	146	17143	5.32 ug/L	96
128) 1,2-dichlorobenzene	16.438	146	18073	5.64 ug/L	99
130) n-butylbenzene	16.349	92	17411	6.19 ug/L	99

7.7.5 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 3D119269.D
Acq On : 17 May 2016 6:43 pm
Operator : XimenaC
Sample : ic5092-5
Misc : MS1706,V3D5092,5,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 18 11:29:05 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Tue May 17 14:46:53 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
132) 1,2-dibromo-3-chloropr...	17.161	157	2534	5.31 ug/L	96
133) 1,3,5-trichlorobenzene	17.334	180	19697	5.81 ug/L	98
134) 1,2,4-trichlorobenzene	17.906	180	21696	5.97 ug/L	98
135) hexachlorobutadiene	18.005	225	9970	5.32 ug/L	95
136) naphthalene	18.163	128	49865	6.44 ug/L	99
137) 1,2,3-trichlorobenzene	18.357	180	22891	5.76 ug/L	100
138) hexachloroethane	16.721	119	4877	3.77 ug/L	97
139) Benzyl chloride	16.165	91	16850	5.79 ug/L	98

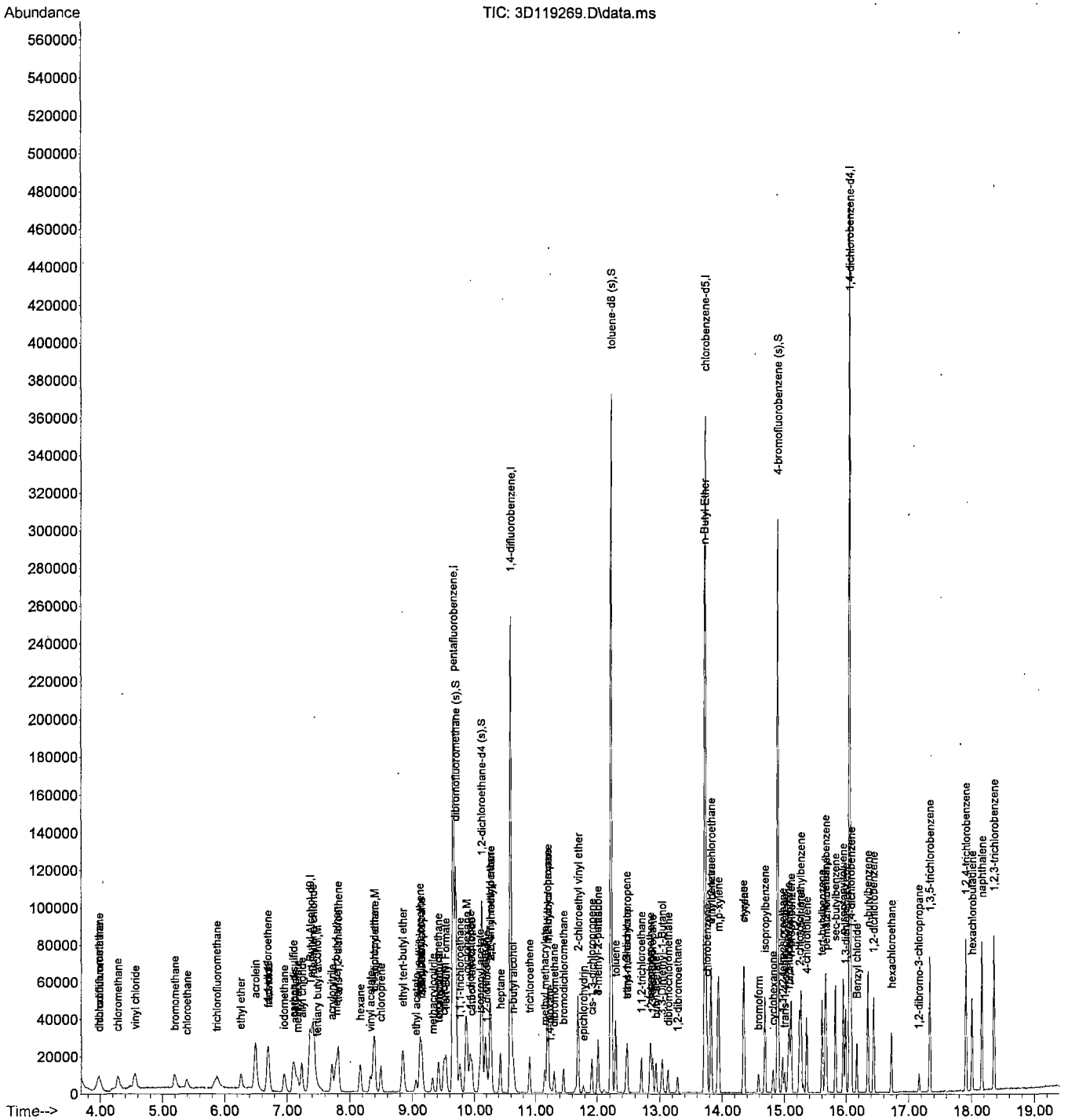
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.7.5

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 3D119269.D
Acq On : 17 May 2016 6:43 pm
Operator : XimenaC
Sample : ic5092-5
Misc : MS1706,V3D5092,5,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 18 11:29:05 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Tue May 17 14:46:53 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 3D119270.D
Acq On : 17 May 2016 7:10 pm
Operator : XimenaC
Sample : ic5092-10
Misc : MS1706,V3D5092,5,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 18 11:29:20 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Tue May 17 14:46:53 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.367	65	113520	500.00 ug/L	0.00
4) pentafluorobenzene	9.653	168	154560	50.00 ug/L	-0.01
62) 1,4-difluorobenzene	10.592	114	199173	50.00 ug/L	-0.01
92) chlorobenzene-d5	13.727	117	175916	50.00 ug/L	0.00
108) 1,4-dichlorobenzene-d4	16.055	152	114804	50.00 ug/L	0.00
System Monitoring Compounds					
54) dibromofluoromethane (s)	9.690	113	72583	42.38 ug/L	-0.01
Spiked Amount 50.000	Range 76 - 120		Recovery = 84.76%		
55) 1,2-dichloroethane-d4 (s)	10.115	65	71248	38.58 ug/L	-0.01
Spiked Amount 50.000	Range 73 - 122		Recovery = 77.16%		
84) toluene-d8 (s)	12.217	98	222680	49.87 ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 99.74%		
110) 4-bromofluorobenzene (s)	14.891	95	88730	49.44 ug/L	-0.01
Spiked Amount 50.000	Range 78 - 117		Recovery = 98.88%		

Target Compounds					Qvalue
2) 1,4-dioxane	11.237	88	5462	261.47 ug/L	98
3) tertiary butyl alcohol	7.483	59	13224	56.25 ug/L	95
10) chlorodifluoromethane	3.980	51	35055	10.32 ug/L	98
11) dichlorodifluoromethane	3.975	85	33370	10.06 ug/L	98
13) chloromethane	4.284	50	31589	9.45 ug/L	99
14) vinyl chloride	4.557	62	36386	10.13 ug/L	98
15) bromomethane	5.197	94	18044	10.06 ug/L	98
16) chloroethane	5.386	64	15375	11.20 ug/L	97
19) trichlorofluoromethane	5.878	101	35399	10.01 ug/L	98
21) ethyl ether	6.261	74	7973	11.10 ug/L	96
25) acrolein	6.497	56	42212	4.48 ug/L	99
26) 1,1-dichloroethene	6.691	61	29608	11.84 ug/L	99
27) acetone	6.702	58	1431	5.06 ug/L #	82
28) allyl chloride	7.231	76	9799	13.03 ug/L	97
29) acetonitrile	7.121	40	17181	103.41 ug/L	99
31) iodomethane	6.953	142	38057	12.22 ug/L	98
33) carbon disulfide	7.095	76	73558	11.25 ug/L	96
34) methylene chloride	7.420	84	20206	11.00 ug/L	98
35) methyl acetate	7.163	43	13415	11.68 ug/L	93
36) methyl tert butyl ether	7.776	73	59024	13.50 ug/L	97
37) trans-1,2-dichloroethene	7.808	61	25146	12.19 ug/L	97
38) di-isopropyl ether	8.374	45	63338	13.88 ug/L	93
39) ethyl tert-butyl ether	8.841	59	60142	13.73 ug/L	99
40) 2-butanone	9.040	72	1357	7.12 ug/L #	1
41) 1,1-dichloroethane	8.395	63	29977	11.56 ug/L	96
42) chloroprene	8.489	53	22602	13.51 ug/L	99
43) acrylonitrile	7.708	53	32612	62.83 ug/L	99
44) vinyl acetate	8.327	86	2133	12.29 ug/L	81
45) ethyl acetate	9.061	45	2078	10.88 ug/L	82
46) 2,2-dichloropropane	9.150	77	31498	12.01 ug/L	99
47) cis-1,2-dichloroethene	9.113	96	18411	12.70 ug/L	92
48) propionitrile	9.124	54	22843	118.38 ug/L	94
49) methyl acrylate	9.140	85	2017	10.42 ug/L	89
50) bromochloromethane	9.417	128	9111	11.26 ug/L	93
51) tetrahydrofuran	9.428	42	5213	12.99 ug/L	93
52) chloroform	9.501	83	27734	10.45 ug/L	99
53) Tert-Butyl Formate	9.533	59	27637	18.20 ug/L #	93
56) freon 113	6.691	151	16541	11.37 ug/L	92
57) methacrylonitrile	9.318	41	9438	12.37 ug/L	95
58) 1,1,1-trichloroethane	9.758	97	28409	11.34 ug/L	96
60) 2,2,4-Trimethylpentane	10.267	57	71294	12.68 ug/L	99

7.7.6

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 3D119270.D
Acq On : 17 May 2016 7:10 pm
Operator : XimenaC
Sample : ic5092-10
Misc : MS1706,V3D5092,5,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 18 11:29:20 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Tue May 17 14:46:53 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
61) tert-amyl methyl ether	10.256	73	55691	13.36 ug/L	92
63) epichlorohydrin	11.777	57	7324	62.33 ug/L	95
64) n-butyl alcohol	10.634	56	24859	660.10 ug/L	98
65) cyclohexane	9.868	84	31125	13.79 ug/L	97
66) carbon tetrachloride	9.952	117	26054	11.96 ug/L	95
67) 1,1-dichloropropene	9.921	75	18844	13.07 ug/L	96
68) hexane	8.164	57	19266	14.16 ug/L	95
69) benzene	10.172	78	58093	12.07 ug/L	98
70) heptane	10.424	57	10272	13.77 ug/L	98
71) isopropyl acetate	10.078	43	29258	12.98 ug/L	94
72) 1,2-dichloroethane	10.204	62	18172	10.12 ug/L	98
73) trichloroethene	10.901	95	13447	11.39 ug/L	94
77) 2-chloroethyl vinyl ether	11.688	63	45859	70.65 ug/L	99
78) methyl methacrylate	11.148	100	3192	12.68 ug/L	93
79) 1,2-dichloropropane	11.195	63	15356	12.08 ug/L	95
80) methylcyclohexane	11.205	83	30056	12.85 ug/L	99
81) dibromomethane	11.305	93	8702	10.18 ug/L	98
82) bromodichloromethane	11.457	83	17094	10.10 ug/L	97
83) cis-1,3-dichloropropene	11.913	75	20873	12.30 ug/L	99
85) 4-methyl-2-pentanone	12.007	58	5984	12.24 ug/L #	83
86) toluene	12.291	92	31995	12.37 ug/L	96
87) 3-methyl-1-butanol	12.007	70	8781	273.06 ug/L	96
88) trans-1,3-dichloropropene	12.479	75	19327	11.95 ug/L	95
89) ethyl methacrylate	12.464	69	17386	15.11 ug/L	97
90) 1,1,2-trichloroethane	12.700	83	10520	11.16 ug/L	96
91) 2-hexanone	12.857	58	4939	10.87 ug/L	89
93) tetrachloroethene	12.841	166	14825	9.19 ug/L	98
94) 1,3-dichloropropane	12.878	76	19155	11.36 ug/L	98
95) butyl acetate	12.935	56	9369	13.51 ug/L	95
96) 3,3-Dimethyl-1-Butanol	13.030	57	20069	143.18 ug/L	97
97) dibromochloromethane	13.124	129	13498	9.91 ug/L	95
98) 1,2-dibromoethane	13.282	107	12939	11.22 ug/L	99
99) n-Butyl Ether	13.711	57	61626	14.81 ug/L	96
100) chlorobenzene	13.759	112	35117	11.48 ug/L	97
101) 1,1,1,2-tetrachloroethane	13.822	131	15615	10.79 ug/L	98
102) ethylbenzene	13.816	91	63746	13.49 ug/L	99
103) m,p-xylene	13.937	106	47599	28.31 ug/L	98
104) o-xylene	14.335	106	24576	14.50 ug/L	96
105) styrene	14.351	104	40266	14.88 ug/L	99
107) bromoform	14.587	173	10065	10.24 ug/L	97
109) isopropylbenzene	14.687	105	67970	13.20 ug/L	99
111) bromobenzene	15.075	156	18430	11.63 ug/L	95
112) cyclohexanone	14.818	55	12437	43.24 ug/L	96
113) 1,1,2,2-tetrachloroethane	14.970	83	19509	10.55 ug/L	97
114) trans-1,4-dichloro-2-b...	15.001	53	4507	10.35 ug/L	89
115) 1,2,3-trichloropropane	15.059	110	4429	10.62 ug/L	90
116) n-propylbenzene	15.101	91	80276	13.35 ug/L	100
118) 2-chlorotoluene	15.237	126	16464	11.63 ug/L	95
119) 4-chlorotoluene	15.347	126	16217	12.55 ug/L	96
120) 1,3,5-trimethylbenzene	15.258	105	58358	11.43 ug/L	99
121) tert-butylbenzene	15.599	119	46417	11.03 ug/L	99
122) pentachloroethane	15.667	167	12023	12.72 ug/L	98
123) 1,2,4-trimethylbenzene	15.651	105	60834	12.80 ug/L	99
124) sec-butylbenzene	15.819	105	80460	11.65 ug/L	97
125) 1,3-dichlorobenzene	15.987	146	38110	12.44 ug/L	99
126) p-isopropyltoluene	15.945	119	69472	12.74 ug/L	99
127) 1,4-dichlorobenzene	16.081	146	38806	11.64 ug/L	97
128) 1,2-dichlorobenzene	16.438	146	40912	12.33 ug/L	99

7.7.6 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 3D119270.D
Acq On : 17 May 2016 7:10 pm
Operator : XimenaC
Sample : ic5092-10
Misc : MS1706,V3D5092,5,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 18 11:29:20 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Tue May 17 14:46:53 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
130) n-butylbenzene	16.349	92	39686	13.64 ug/L	99
132) 1,2-dibromo-3-chloropr...	17.161	157	5620	11.39 ug/L	95
133) 1,3,5-trichlorobenzene	17.334	180	44813	12.78 ug/L	100
134) 1,2,4-trichlorobenzene	17.906	180	47783	12.71 ug/L	97
135) hexachlorobutadiene	18.006	225	21342	11.01 ug/L	98
136) naphthalene	18.163	128	108404	13.52 ug/L	100
137) 1,2,3-trichlorobenzene	18.357	180	49193	11.96 ug/L	97
138) hexachloroethane	16.721	119	11422	8.54 ug/L	99
139) Benzyl chloride	16.165	91	38687	12.85 ug/L	100

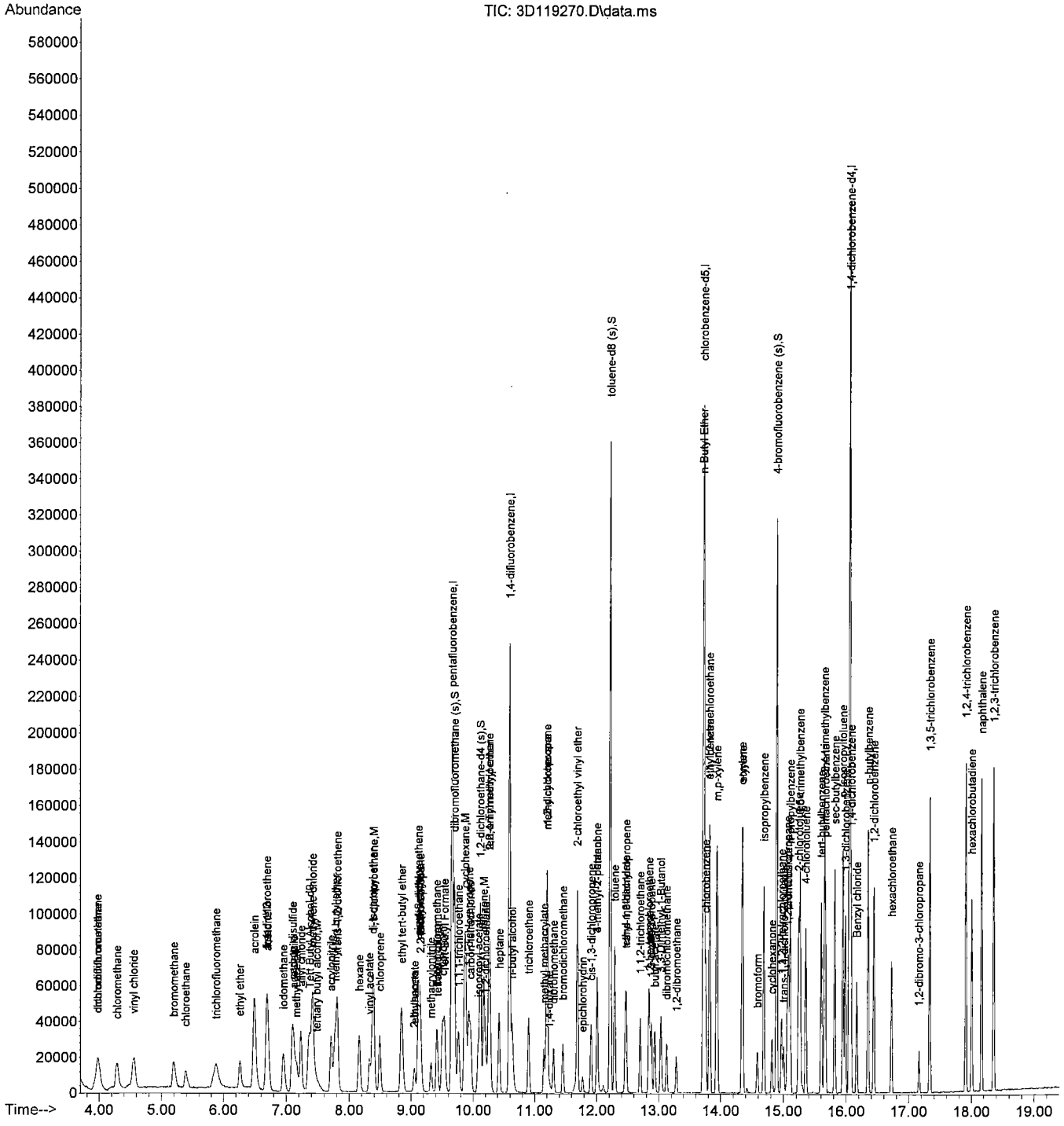
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.7.6 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 3D119270.D
Acq On : 17 May 2016 7:10 pm
Operator : XimenaC
Sample : ic5092-10
Misc : MS1706,V3D5092,5,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 18 11:29:20 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Tue May 17 14:46:53 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 3D119271.D
Acq On : 17 May 2016 7:37 pm
Operator : XimenaC
Sample : ic5092-20
Misc : MS1706,V3D5092,5,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 18 11:30:02 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Tue May 17 14:46:53 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.362	65	114289	500.00 ug/L	-0.01
4) pentafluorobenzene	9.653	168	152783	50.00 ug/L	-0.01
62) 1,4-difluorobenzene	10.592	114	196986	50.00 ug/L	-0.01
92) chlorobenzene-d5	13.727	117	170614	50.00 ug/L	0.00
108) 1,4-dichlorobenzene-d4	16.055	152	109928	50.00 ug/L	0.00
System Monitoring Compounds					
54) dibromofluoromethane (s)	9.690	113	70466	41.62 ug/L	-0.01
Spiked Amount 50.000	Range 76 - 120		Recovery = 83.24%		
55) 1,2-dichloroethane-d4 (s)	10.115	65	69725	38.19 ug/L	-0.01
Spiked Amount 50.000	Range 73 - 122		Recovery = 76.38%		
84) toluene-d8 (s)	12.217	98	221813	50.22 ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 100.44%		
110) 4-bromofluorobenzene (s)	14.891	95	85500	49.75 ug/L	-0.01
Spiked Amount 50.000	Range 78 - 117		Recovery = 99.50%		

Target Compounds					Qvalue
2) 1,4-dioxane	11.242	88	10919	519.19 ug/L	94
3) tertiary butyl alcohol	7.493	59	26166	110.56 ug/L	88
10) chlorodifluoromethane	3.970	51	66980	19.94 ug/L	99
11) dichlorodifluoromethane	3.970	85	67545	20.60 ug/L	97
13) chloromethane	4.284	50	61373	18.58 ug/L	99
14) vinyl chloride	4.552	62	72724	20.48 ug/L	96
15) bromomethane	5.197	94	35363	19.95 ug/L	98
16) chloroethane	5.386	64	28807	21.23 ug/L	97
19) trichlorofluoromethane	5.873	101	71025	20.33 ug/L	99
21) ethyl ether	6.261	74	15890	22.38 ug/L	97
25) acrolein	6.492	56	80366	8.63 ug/L	98
26) 1,1-dichloroethene	6.686	61	55568	22.49 ug/L	98
27) acetone	6.702	58	3104	11.11 ug/L #	85
28) allyl chloride	7.231	76	18765	25.24 ug/L	98
29) acetonitrile	7.126	40	32652	198.82 ug/L	94
31) iodomethane	6.948	142	72114	23.42 ug/L	98
33) carbon disulfide	7.090	76	136836	21.16 ug/L	97
34) methylene chloride	7.415	84	37106	20.44 ug/L	95
35) methyl acetate	7.163	43	25147	22.15 ug/L	97
36) methyl tert butyl ether	7.771	73	116266	26.90 ug/L	98
37) trans-1,2-dichloroethene	7.808	61	47788	23.44 ug/L	99
38) di-isopropyl ether	8.374	45	122413	27.15 ug/L	94
39) ethyl tert-butyl ether	8.846	59	116906	26.99 ug/L	100
40) 2-butanone	9.040	72	2958	15.71 ug/L #	11
41) 1,1-dichloroethane	8.395	63	57933	22.60 ug/L	98
42) chloroprene	8.489	53	43984	26.60 ug/L	98
43) acrylonitrile	7.708	53	63988	124.72 ug/L	94
44) vinyl acetate	8.322	86	4580	26.70 ug/L	91
45) ethyl acetate	9.061	45	4211	22.30 ug/L	86
46) 2,2-dichloropropane	9.145	77	61133	23.57 ug/L	96
47) cis-1,2-dichloroethene	9.113	96	35137	24.53 ug/L	94
48) propionitrile	9.124	54	44782	234.77 ug/L	99
49) methyl acrylate	9.140	85	3981	20.81 ug/L	91
50) bromochloromethane	9.412	128	16958	21.20 ug/L	99
51) tetrahydrofuran	9.423	42	10260	25.87 ug/L	95
52) chloroform	9.496	83	54095	20.61 ug/L	100
53) Tert-Butyl Formate	9.528	59	54812	36.51 ug/L #	94
56) freon 113	6.696	151	31263	21.74 ug/L	98
57) methacrylonitrile	9.318	41	19256	25.53 ug/L	99
58) 1,1,1-trichloroethane	9.758	97	56023	22.63 ug/L	97
60) 2,2,4-Trimethylpentane	10.267	57	141727	25.50 ug/L	98

7.7.7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 3D119271.D
Acq On : 17 May 2016 7:37 pm
Operator : XimenaC
Sample : ic5092-20
Misc : MS1706,V3D5092,5,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 18 11:30:02 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Tue May 17 14:46:53 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
61) tert-amyl methyl ether	10.256	73	110466	26.80 ug/L	95
63) epichlorohydrin	11.777	57	14357	123.54 ug/L	95
64) n-butyl alcohol	10.634	56	48487	1301.80 ug/L	96
65) cyclohexane	9.868	84	62484	27.99 ug/L	94
66) carbon tetrachloride	9.952	117	50960	23.66 ug/L	98
67) 1,1-dichloropropene	9.921	75	36440	25.55 ug/L	98
68) hexane	8.159	57	38137	28.35 ug/L	97
69) benzene	10.172	78	114489	24.05 ug/L	99
70) heptane	10.424	57	20739	28.10 ug/L	95
71) isopropyl acetate	10.078	43	57870	25.97 ug/L	98
72) 1,2-dichloroethane	10.204	62	36222	20.40 ug/L	97
73) trichloroethene	10.901	95	26904	23.04 ug/L	97
77) 2-chloroethyl vinyl ether	11.688	63	91568	142.64 ug/L	99
78) methyl methacrylate	11.148	100	6807	27.35 ug/L	94
79) 1,2-dichloropropane	11.195	63	30271	24.08 ug/L	100
80) methylcyclohexane	11.200	83	57242	24.75 ug/L	99
81) dibromomethane	11.305	93	17050	20.16 ug/L	98
82) bromodichloromethane	11.457	83	34256	20.47 ug/L	99
83) cis-1,3-dichloropropene	11.913	75	42357	25.23 ug/L	98
85) 4-methyl-2-pentanone	12.007	58	12093	25.01 ug/L	88
86) toluene	12.291	92	63786	24.93 ug/L	99
87) 3-methyl-1-butanol	12.007	70	17065	536.57 ug/L	94
88) trans-1,3-dichloropropene	12.474	75	38798	24.25 ug/L	95
89) ethyl methacrylate	12.464	69	35079	30.83 ug/L	97
90) 1,1,2-trichloroethane	12.700	83	21249	22.79 ug/L	98
91) 2-hexanone	12.857	58	10051	22.37 ug/L	89
93) tetrachloroethene	12.841	166	29506	18.85 ug/L	98
94) 1,3-dichloropropane	12.878	76	37890	23.16 ug/L	98
95) butyl acetate	12.930	56	18012	26.78 ug/L	97
96) 3,3-Dimethyl-1-Butanol	13.030	57	39803	292.80 ug/L	96
97) dibromochloromethane	13.129	129	27021	20.46 ug/L	96
98) 1,2-dibromoethane	13.282	107	25043	22.39 ug/L	98
99) n-Butyl Ether	13.711	57	121492	30.11 ug/L	96
100) chlorobenzene	13.759	112	69123	23.29 ug/L	99
101) 1,1,1,2-tetrachloroethane	13.822	131	30925	22.03 ug/L	97
102) ethylbenzene	13.816	91	122271	26.68 ug/L	98
103) m,p-xylene	13.937	106	93863	57.55 ug/L	99
104) o-xylene	14.335	106	48113	29.27 ug/L	93
105) styrene	14.351	104	78693	29.98 ug/L	97
107) bromoform	14.587	173	20074	21.05 ug/L	100
109) isopropylbenzene	14.687	105	132354	26.85 ug/L	98
111) bromobenzene	15.075	156	35168	23.18 ug/L	94
112) cyclohexanone	14.818	55	22836	82.91 ug/L	96
113) 1,1,2,2-tetrachloroethane	14.970	83	37896	21.40 ug/L	99
114) trans-1,4-dichloro-2-b...	15.001	53	9156	21.96 ug/L	90
115) 1,2,3-trichloropropane	15.059	110	8635	21.63 ug/L	99
116) n-propylbenzene	15.101	91	152913	26.55 ug/L	100
118) 2-chlorotoluene	15.237	126	32068	23.67 ug/L	96
119) 4-chlorotoluene	15.347	126	31343	25.33 ug/L	97
120) 1,3,5-trimethylbenzene	15.258	105	115249	23.57 ug/L	99
121) tert-butylbenzene	15.599	119	95458	23.69 ug/L	97
122) pentachloroethane	15.667	167	25503	28.18 ug/L	97
123) 1,2,4-trimethylbenzene	15.651	105	117881	25.91 ug/L	98
124) sec-butylbenzene	15.814	105	158388	23.95 ug/L	99
125) 1,3-dichlorobenzene	15.987	146	73345	25.00 ug/L	99
126) p-isopropyltoluene	15.945	119	134289	25.71 ug/L	100
127) 1,4-dichlorobenzene	16.076	146	74205	23.25 ug/L	100
128) 1,2-dichlorobenzene	16.438	146	78037	24.56 ug/L	98

7.1.1 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 3D119271.D
Acq On : 17 May 2016 7:37 pm
Operator : XimenaC
Sample : ic5092-20
Misc : MS1706,V3D5092,5,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 18 11:30:02 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Tue May 17 14:46:53 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
130) n-butylbenzene	16.343	92	77210	27.72 ug/L	98
132) 1,2-dibromo-3-chloropr...	17.167	157	11082	23.45 ug/L	91
133) 1,3,5-trichlorobenzene	17.334	180	87027	25.92 ug/L	99
134) 1,2,4-trichlorobenzene	17.906	180	95440	26.51 ug/L	99
135) hexachlorobutadiene	18.006	225	41809	22.52 ug/L	98
136) naphthalene	18.163	128	215519	28.08 ug/L	99
137) 1,2,3-trichlorobenzene	18.357	180	96845	24.59 ug/L	98
138) hexachloroethane	16.721	119	24361	19.02 ug/L	99
139) Benzyl chloride	16.165	91	73012	25.32 ug/L	99

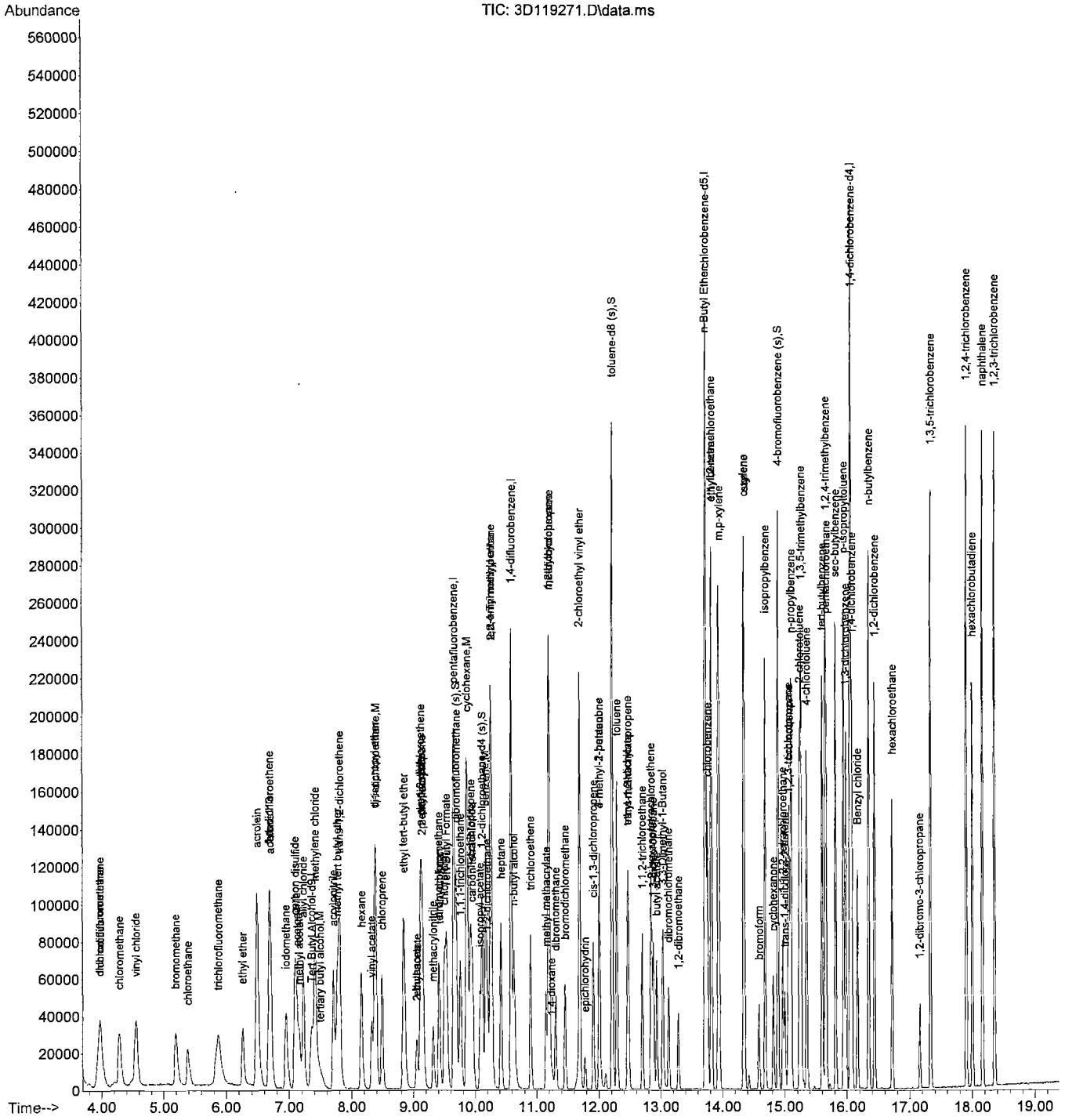
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.7.7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 3D119271.D
Acq On : 17 May 2016 7:37 pm
Operator : XimenaC
Sample : ic5092-20
Misc : MS1706,V3D5092,5,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 18 11:30:02 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Tue May 17 14:46:53 2016
Response via : Initial Calibration



M3D5092.M Wed May 18 15:22:27 2016 3D

Page: 4

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 3D119272.D
Acq On : 17 May 2016 8:04 pm
Operator : XimenaC
Sample : icc5092-50
Misc : MS1706,V3D5092,5,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 18 11:30:27 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Tue May 17 14:46:53 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.373	65	116056	500.00 ug/L	0.00
4) pentafluorobenzene	9.653	168	157303	50.00 ug/L	-0.01
62) 1,4-difluorobenzene	10.592	114	210396	50.00 ug/L	-0.01
92) chlorobenzene-d5	13.727	117	171568	50.00 ug/L	0.00
108) 1,4-dichlorobenzene-d4	16.055	152	111205	50.00 ug/L	0.00

System Monitoring Compounds					
54) dibromofluoromethane (s)	9.690	113	74719	42.87 ug/L	-0.01
Spiked Amount 50.000	Range 76 - 120		Recovery = 85.74%		
55) 1,2-dichloroethane-d4 (s)	10.115	65	73855	39.29 ug/L	-0.01
Spiked Amount 50.000	Range 73 - 122		Recovery = 78.58%		
84) toluene-d8 (s)	12.217	98	228576	48.46 ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 96.92%		
110) 4-bromofluorobenzene (s)	14.891	95	86325	49.66 ug/L	-0.01
Spiked Amount 50.000	Range 78 - 117		Recovery = 99.32%		

Target Compounds					Qvalue
2) 1,4-dioxane	11.242	88	28497	1334.38 ug/L	94
3) tertiary butyl alcohol	7.483	59	66677	277.44 ug/L	90
10) chlorodifluoromethane	3.980	51	165588	47.88 ug/L	97
11) dichlorodifluoromethane	3.965	85	170755	50.59 ug/L	98
13) chloromethane	4.295	50	164997	48.51 ug/L	99
14) vinyl chloride	4.562	62	193394	52.90 ug/L	98
15) bromomethane	5.197	94	91610	50.20 ug/L	98
16) chloroethane	5.391	64	74747	53.50 ug/L	98
19) trichlorofluoromethane	5.873	101	182898	50.84 ug/L	97
21) ethyl ether	6.261	74	39061	53.43 ug/L	99
25) acrolein	6.497	56	205500	21.43 ug/L	99
26) 1,1-dichloroethene	6.691	61	143593	56.44 ug/L	100
27) acetone	6.696	58	7928	27.57 ug/L	88
28) allyl chloride	7.226	76	47744	62.39 ug/L	93
29) acetonitrile	7.126	40	77513	458.42 ug/L	98
31) iodomethane	6.953	142	185398	58.49 ug/L	98
33) carbon disulfide	7.095	76	353859	53.16 ug/L	97
34) methylene chloride	7.415	84	95289	50.99 ug/L	95
35) methyl acetate	7.163	43	63194	54.07 ug/L	99
36) methyl tert butyl ether	7.776	73	290256	65.23 ug/L	97
37) trans-1,2-dichloroethene	7.808	61	119886	57.11 ug/L	97
38) di-isopropyl ether	8.379	45	312380	67.28 ug/L	96
39) ethyl tert-butyl ether	8.841	59	303118	67.97 ug/L	99
40) 2-butanone	9.040	72	7724	39.83 ug/L #	23
41) 1,1-dichloroethane	8.395	63	146890	55.66 ug/L	99
42) chloroprene	8.489	53	112367	66.01 ug/L	99
43) acrylonitrile	7.708	53	158840	300.70 ug/L	97
44) vinyl acetate	8.327	86	12457	70.54 ug/L #	89
45) ethyl acetate	9.056	45	10824	55.67 ug/L	91
46) 2,2-dichloropropane	9.145	77	150725	56.45 ug/L	98
47) cis-1,2-dichloroethene	9.113	96	87998	59.66 ug/L	98
48) propionitrile	9.124	54	113142	576.11 ug/L	99
49) methyl acrylate	9.140	85	10910	55.39 ug/L	96
50) bromochloromethane	9.412	128	43657	53.01 ug/L	95
51) tetrahydrofuran	9.423	42	24494	59.98 ug/L	98
52) chloroform	9.501	83	136952	50.69 ug/L	100
53) Tert-Butyl Formate	9.533	59	145664	94.25 ug/L #	94
56) freon 113	6.702	151	79943	53.99 ug/L	96
57) methacrylonitrile	9.318	41	46823	60.29 ug/L	96
58) 1,1,1-trichloroethane	9.758	97	142207	55.78 ug/L	97
60) 2,2,4-Trimethylpentane	10.272	57	374201	65.39 ug/L	98

7.7.8

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 3D119272.D
Acq On : 17 May 2016 8:04 pm
Operator : XimenaC
Sample : icc5092-50
Misc : MS1706,V3D5092,5,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 18 11:30:27 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Tue May 17 14:46:53 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
61) tert-amyl methyl ether	10.256	73	283773	66.87 ug/L	93
63) epichlorohydrin	11.777	57	35410	285.27 ug/L	98
64) n-butyl alcohol	10.634	56	131458	3304.48 ug/L	96
65) cyclohexane	9.874	84	155223	65.09 ug/L	98
66) carbon tetrachloride	9.957	117	132062	57.41 ug/L	99
67) 1,1-dichloropropene	9.926	75	95917	62.97 ug/L	98
68) hexane	8.159	57	94949	66.08 ug/L	98
69) benzene	10.178	78	297296	58.46 ug/L	99
70) heptane	10.424	57	52826	67.03 ug/L	96
71) isopropyl acetate	10.078	43	150976	63.43 ug/L	99
72) 1,2-dichloroethane	10.209	62	93286	49.20 ug/L	98
73) trichloroethene	10.901	95	70166	56.26 ug/L	99
77) 2-chloroethyl vinyl ether	11.688	63	226386	330.17 ug/L	99
78) methyl methacrylate	11.153	100	17299	65.07 ug/L	93
79) 1,2-dichloropropane	11.195	63	76889	57.26 ug/L	100
80) methylcyclohexane	11.200	83	149313	60.45 ug/L	100
81) dibromomethane	11.305	93	44344	49.10 ug/L	99
82) bromodichloromethane	11.457	83	91296	51.07 ug/L	100
83) cis-1,3-dichloropropene	11.913	75	105658	58.92 ug/L	97
85) 4-methyl-2-pentanone	12.008	58	31091	60.20 ug/L	89
86) toluene	12.291	92	159523	58.38 ug/L	97
87) 3-methyl-1-butanol	12.008	70	46221	1360.67 ug/L	98
88) trans-1,3-dichloropropene	12.479	75	95978	56.17 ug/L	94
89) ethyl methacrylate	12.464	69	87410	71.93 ug/L	99
90) 1,1,2-trichloroethane	12.700	83	51829	52.05 ug/L	99
91) 2-hexanone	12.857	58	25734	53.62 ug/L	96
93) tetrachloroethene	12.841	166	75446	47.93 ug/L	96
94) 1,3-dichloropropane	12.878	76	93585	56.89 ug/L	99
95) butyl acetate	12.936	56	44893	66.37 ug/L	98
96) 3,3-Dimethyl-1-Butanol	13.030	57	109287	799.47 ug/L	97
97) dibromochloromethane	13.130	129	70368	52.99 ug/L	97
98) 1,2-dibromoethane	13.282	107	62019	55.14 ug/L	98
99) n-Butyl Ether	13.711	57	296174	73.00 ug/L	96
100) chlorobenzene	13.759	112	170012	56.97 ug/L	99
101) 1,1,1,2-tetrachloroethane	13.822	131	83537	59.19 ug/L	99
102) ethylbenzene	13.816	91	304063	65.99 ug/L	98
103) m,p-xylene	13.937	106	230592	140.60 ug/L	100
104) o-xylene	14.335	106	119806	72.47 ug/L	98
105) styrene	14.351	104	195769	74.16 ug/L	99
107) bromoform	14.587	173	52396	54.65 ug/L	99
109) isopropylbenzene	14.687	105	339038	67.99 ug/L	98
111) bromobenzene	15.075	156	86726	56.52 ug/L	96
112) cyclohexanone	14.818	55	37045	132.95 ug/L	99
113) 1,1,2,2-tetrachloroethane	14.970	83	94548	52.79 ug/L	99
114) trans-1,4-dichloro-2-b...	15.001	53	22385	53.07 ug/L	87
115) 1,2,3-trichloropropane	15.059	110	21002	52.01 ug/L	93
116) n-propylbenzene	15.101	91	379574	65.15 ug/L	99
118) 2-chlorotoluene	15.237	126	78787	57.48 ug/L	97
119) 4-chlorotoluene	15.353	126	76768	61.33 ug/L	96
120) 1,3,5-trimethylbenzene	15.258	105	290918	58.82 ug/L	99
121) tert-butylbenzene	15.599	119	257748	63.24 ug/L	98
122) pentachloroethane	15.667	167	70320	76.82 ug/L	98
123) 1,2,4-trimethylbenzene	15.651	105	293125	63.68 ug/L	99
124) sec-butylbenzene	15.819	105	411221	61.46 ug/L	99
125) 1,3-dichlorobenzene	15.987	146	179350	60.44 ug/L	97
126) p-isopropyltoluene	15.945	119	338714	64.11 ug/L	99
127) 1,4-dichlorobenzene	16.076	146	181837	56.33 ug/L	99
128) 1,2-dichlorobenzene	16.438	146	190835	59.37 ug/L	98

7.7.8

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 3D119272.D
Acq On : 17 May 2016 8:04 pm
Operator : XimenaC
Sample : icc5092-50
Misc : MS1706,V3D5092,5,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 18 11:30:27 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Tue May 17 14:46:53 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
130) n-butylbenzene	16.343	92	190079	67.46 ug/L	98
132) 1,2-dibromo-3-chloropr...	17.167	157	29245	61.18 ug/L	89
133) 1,3,5-trichlorobenzene	17.334	180	216808	63.83 ug/L	99
134) 1,2,4-trichlorobenzene	17.906	180	238466	65.48 ug/L	99
135) hexachlorobutadiene	18.006	225	105328	56.08 ug/L	99
136) naphthalene	18.163	128	542886	69.92 ug/L	99
137) 1,2,3-trichlorobenzene	18.357	180	243448	61.09 ug/L	98
138) hexachloroethane	16.721	119	73179	56.48 ug/L	100
139) Benzyl chloride	16.165	91	185397	63.56 ug/L	99

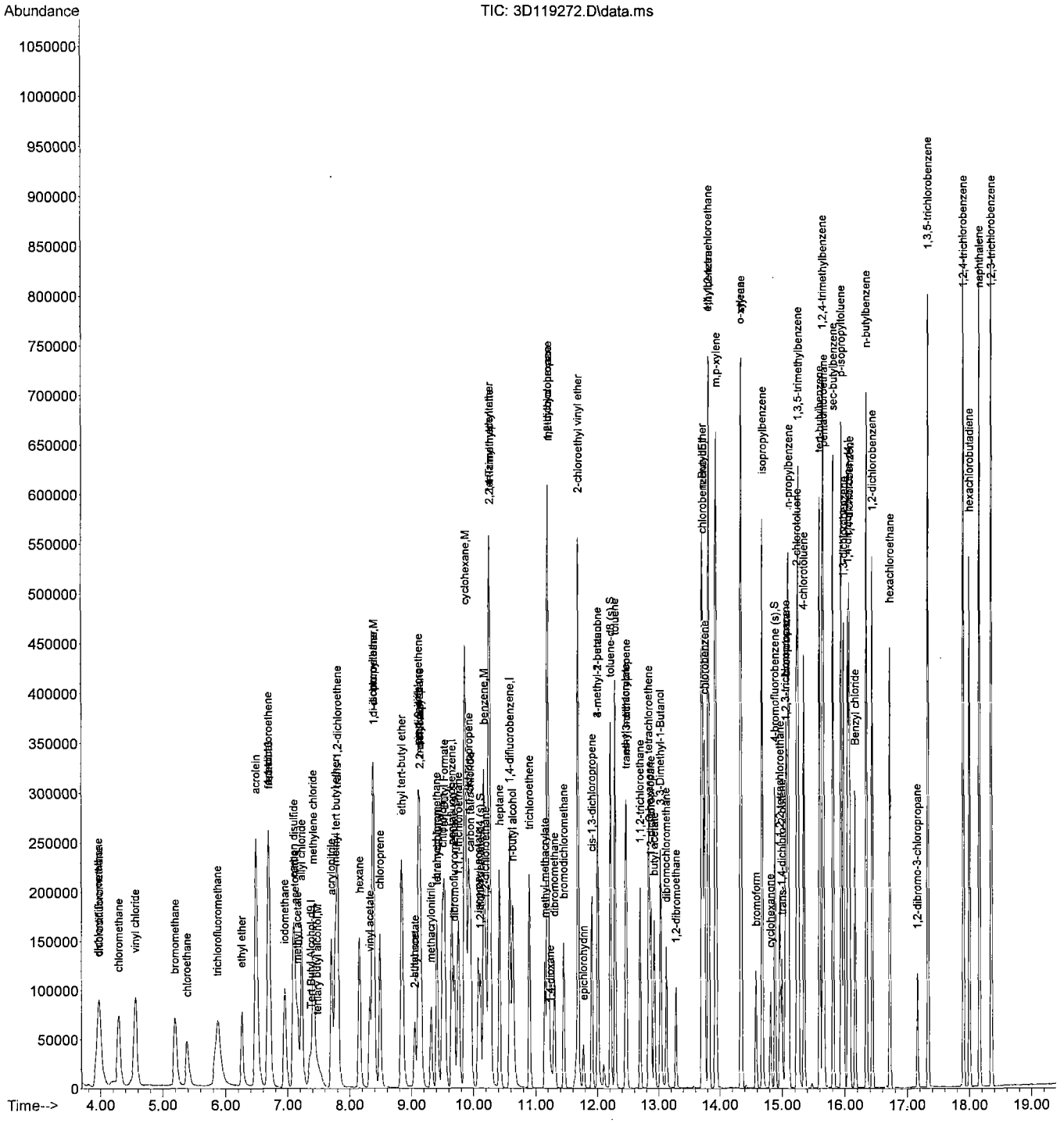
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.7.8

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 3D119272.D
Acq On : 17 May 2016 8:04 pm
Operator : XimenaC
Sample : icc5092-50
Misc : MS1706,V3D5092,5,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 18 11:30:27 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Tue May 17 14:46:53 2016
Response via : Initial Calibration



M3D5092.M Wed May 18 15:22:28 2016 3D

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 3D119273.D
Acq On : 17 May 2016 8:31 pm
Operator : XimenaC
Sample : ic5092-100
Misc : MS1706,V3D5092,5,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: May 18 11:30:51 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Tue May 17 14:46:53 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.378	65	116933	500.00 ug/L	0.00
4) pentafluorobenzene	9.653	168	158586	50.00 ug/L	-0.01
62) 1,4-difluorobenzene	10.592	114	216958	50.00 ug/L	-0.01
92) chlorobenzene-d5	13.727	117	173625	50.00 ug/L	0.00
108) 1,4-dichlorobenzene-d4	16.055	152	110666	50.00 ug/L	0.00

System Monitoring Compounds					
54) dibromofluoromethane (s)	9.695	113	74974	42.66 ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 85.32%		
55) 1,2-dichloroethane-d4 (s)	10.115	65	75659	39.92 ug/L	-0.01
Spiked Amount 50.000	Range 73 - 122		Recovery = 79.84%		
84) toluene-d8 (s)	12.217	98	236272	48.57 ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 97.14%		
110) 4-bromofluorobenzene (s)	14.891	95	85208	49.25 ug/L	-0.01
Spiked Amount 50.000	Range 78 - 117		Recovery = 98.50%		

Target Compounds					Qvalue
2) 1,4-dioxane	11.237	88	56275	2615.34 ug/L	97
3) tertiary butyl alcohol	7.488	59	131062	541.26 ug/L	91
10) chlorodifluoromethane	3.980	51	323012	92.64 ug/L	97
11) dichlorodifluoromethane	3.975	85	317847	93.41 ug/L	100
13) chloromethane	4.300	50	329496	96.10 ug/L	99
14) vinyl chloride	4.578	62	386843	104.96 ug/L	97
15) bromomethane	5.202	94	175884	95.61 ug/L	99
16) chloroethane	5.385	64	142541	101.20 ug/L	97
19) trichlorofluoromethane	5.878	101	352829	97.28 ug/L	97
21) ethyl ether	6.266	74	77650	105.35 ug/L	99
25) acrolein	6.497	56	403894	41.77 ug/L	99
26) 1,1-dichloroethene	6.691	61	281559	109.77 ug/L	99
27) acetone	6.696	58	15300	52.77 ug/L	98
28) allyl chloride	7.226	76	93729	121.48 ug/L	92
29) acetonitrile	7.121	40	150228	881.28 ug/L	98
31) iodomethane	6.953	142	363505	113.75 ug/L	97
33) carbon disulfide	7.095	76	691232	103.00 ug/L	98
34) methylene chloride	7.420	84	188678	100.14 ug/L	97
35) methyl acetate	7.163	43	125280	106.32 ug/L	99
36) methyl tert butyl ether	7.776	73	569871	127.03 ug/L	98
37) trans-1,2-dichloroethene	7.808	61	229610	108.50 ug/L	98
38) di-isopropyl ether	8.379	45	631788	134.98 ug/L	95
39) ethyl tert-butyl ether	8.846	59	615290	136.86 ug/L	99
40) 2-butanone	9.040	72	17235	88.16 ug/L	51
41) 1,1-dichloroethane	8.395	63	282115	106.03 ug/L	98
42) chloroprene	8.489	53	221084	128.82 ug/L	99
43) acrylonitrile	7.708	53	314980	591.46 ug/L	99
44) vinyl acetate	8.327	86	24949	140.14 ug/L	94
45) ethyl acetate	9.061	45	21101	107.64 ug/L	91
46) 2,2-dichloropropane	9.145	77	291273	108.21 ug/L	98
47) cis-1,2-dichloroethene	9.113	96	169803	114.18 ug/L	98
48) propionitrile	9.124	54	225925	1141.09 ug/L	91
49) methyl acrylate	9.145	85	21479	108.17 ug/L	97
50) bromochloromethane	9.412	128	84657	101.97 ug/L	94
51) tetrahydrofuran	9.428	42	49149	119.39 ug/L	98
52) chloroform	9.501	83	265442	97.45 ug/L	99
53) Tert-Butyl Formate	9.533	59	304262	195.27 ug/L #	94
56) freon 113	6.701	151	157330	105.39 ug/L	96
57) methacrylonitrile	9.318	41	94139	120.24 ug/L	98
58) 1,1,1-trichloroethane	9.758	97	279231	108.64 ug/L	97
60) 2,2,4-Trimethylpentane	10.272	57	780106	135.22 ug/L	98

7.7.9

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 3D119273.D
Acq On : 17 May 2016 8:31 pm
Operator : XimenaC
Sample : ic5092-100
Misc : MS1706,V3D5092,5,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: May 18 11:30:51 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Tue May 17 14:46:53 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
61) tert-amyl methyl ether	10.256	73	583983	136.51 ug/L	93
63) epichlorohydrin	11.777	57	71560	559.06 ug/L	97
64) n-butyl alcohol	10.639	56	269113	6560.13 ug/L	97
65) cyclohexane	9.873	84	298504	121.39 ug/L	100
66) carbon tetrachloride	9.957	117	258575	109.01 ug/L	99
67) 1,1-dichloropropene	9.926	75	185127	117.87 ug/L	98
68) hexane	8.159	57	187245	126.37 ug/L	98
69) benzene	10.178	78	583605	111.29 ug/L	99
70) heptane	10.424	57	105939	130.35 ug/L	98
71) isopropyl acetate	10.083	43	311634	126.97 ug/L	99
72) 1,2-dichloroethane	10.209	62	186784	95.53 ug/L	99
73) trichloroethene	10.901	95	140056	108.91 ug/L	97
77) 2-chloroethyl vinyl ether	11.693	63	449860	636.26 ug/L	99
78) methyl methacrylate	11.153	100	35447	129.30 ug/L	92
79) 1,2-dichloropropane	11.195	63	153920	111.16 ug/L	98
80) methylcyclohexane	11.200	83	299648	117.65 ug/L	98
81) dibromomethane	11.305	93	89477	96.07 ug/L	99
82) bromodichloromethane	11.457	83	186892	101.39 ug/L	99
83) cis-1,3-dichloropropene	11.913	75	215049	116.30 ug/L	97
85) 4-methyl-2-pentanone	12.007	58	65701	123.36 ug/L	88
86) toluene	12.291	92	316212	112.23 ug/L	100
87) 3-methyl-1-butanol	12.007	70	100243	2861.74 ug/L	97
88) trans-1,3-dichloropropene	12.474	75	189821	107.72 ug/L	95
89) ethyl methacrylate	12.464	69	179338	143.12 ug/L	98
90) 1,1,2-trichloroethane	12.699	83	103798	101.09 ug/L	99
91) 2-hexanone	12.857	58	52144	105.37 ug/L	98
93) tetrachloroethene	12.841	166	146118	91.73 ug/L	98
94) 1,3-dichloropropane	12.878	76	182544	109.66 ug/L	99
95) butyl acetate	12.935	56	93745	136.94 ug/L	97
96) 3,3-Dimethyl-1-Butanol	13.035	57	250317	1809.45 ug/L	97
97) dibromochloromethane	13.124	129	144644	107.64 ug/L	98
98) 1,2-dibromoethane	13.281	107	123840	108.80 ug/L	100
99) n-Butyl Ether	13.711	57	588410	143.30 ug/L	96
100) chlorobenzene	13.759	112	334630	110.81 ug/L	99
101) 1,1,1,2-tetrachloroethane	13.827	131	171186	119.85 ug/L	98
102) ethylbenzene	13.816	91	599225	128.51 ug/L	98
103) m,p-xylene	13.937	106	452980	272.92 ug/L	100
104) o-xylene	14.341	106	243148	145.34 ug/L	99
105) styrene	14.351	104	382621	143.23 ug/L	98
107) bromoform	14.587	173	107187	110.47 ug/L	99
109) isopropylbenzene	14.687	105	692657	139.57 ug/L	99
111) bromobenzene	15.075	156	169385	110.92 ug/L	95
112) cyclohexanone	14.818	55	78062	281.52 ug/L	98
113) 1,1,2,2-tetrachloroethane	14.970	83	189062	106.07 ug/L	98
114) trans-1,4-dichloro-2-b...	15.001	53	44643	106.35 ug/L	89
115) 1,2,3-trichloropropane	15.059	110	41741	103.87 ug/L	98
116) n-propylbenzene	15.101	91	742237	128.02 ug/L	99
118) 2-chlorotoluene	15.237	126	156889	115.02 ug/L	97
119) 4-chlorotoluene	15.352	126	149571	120.07 ug/L	95
120) 1,3,5-trimethylbenzene	15.258	105	598885	121.67 ug/L	99
121) tert-butylbenzene	15.599	119	539483	133.01 ug/L	99
122) pentachloroethane	15.667	167	150747	165.48 ug/L	97
123) 1,2,4-trimethylbenzene	15.651	105	589844	128.76 ug/L	99
124) sec-butylbenzene	15.819	105	845365	126.96 ug/L	99
125) 1,3-dichlorobenzene	15.987	146	351013	118.87 ug/L	98
126) p-isopropyltoluene	15.945	119	686325	130.53 ug/L	100
127) 1,4-dichlorobenzene	16.081	146	355695	110.72 ug/L	98
128) 1,2-dichlorobenzene	16.438	146	377698	118.07 ug/L	99

7.7.9

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 3D119273.D
Acq On : 17 May 2016 8:31 pm
Operator : XimenaC
Sample : ic5092-100
Misc : MS1706,V3D5092,5,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: May 18 11:30:51 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Tue May 17 14:46:53 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
130) n-butylbenzene	16.349	92	372439	132.82 ug/L	98
132) 1,2-dibromo-3-chloropr...	17.167	157	59741	125.58 ug/L	90
133) 1,3,5-trichlorobenzene	17.334	180	433485	128.25 ug/L	100
134) 1,2,4-trichlorobenzene	17.906	180	473172	130.56 ug/L	99
135) hexachlorobutadiene	18.005	225	217727	116.49 ug/L	99
136) naphthalene	18.163	128	1078515	139.58 ug/L	99
137) 1,2,3-trichlorobenzene	18.357	180	484920	122.28 ug/L	99
138) hexachloroethane	16.721	119	157115	121.85 ug/L	99
139) Benzyl chloride	16.165	91	375986	129.53 ug/L	99

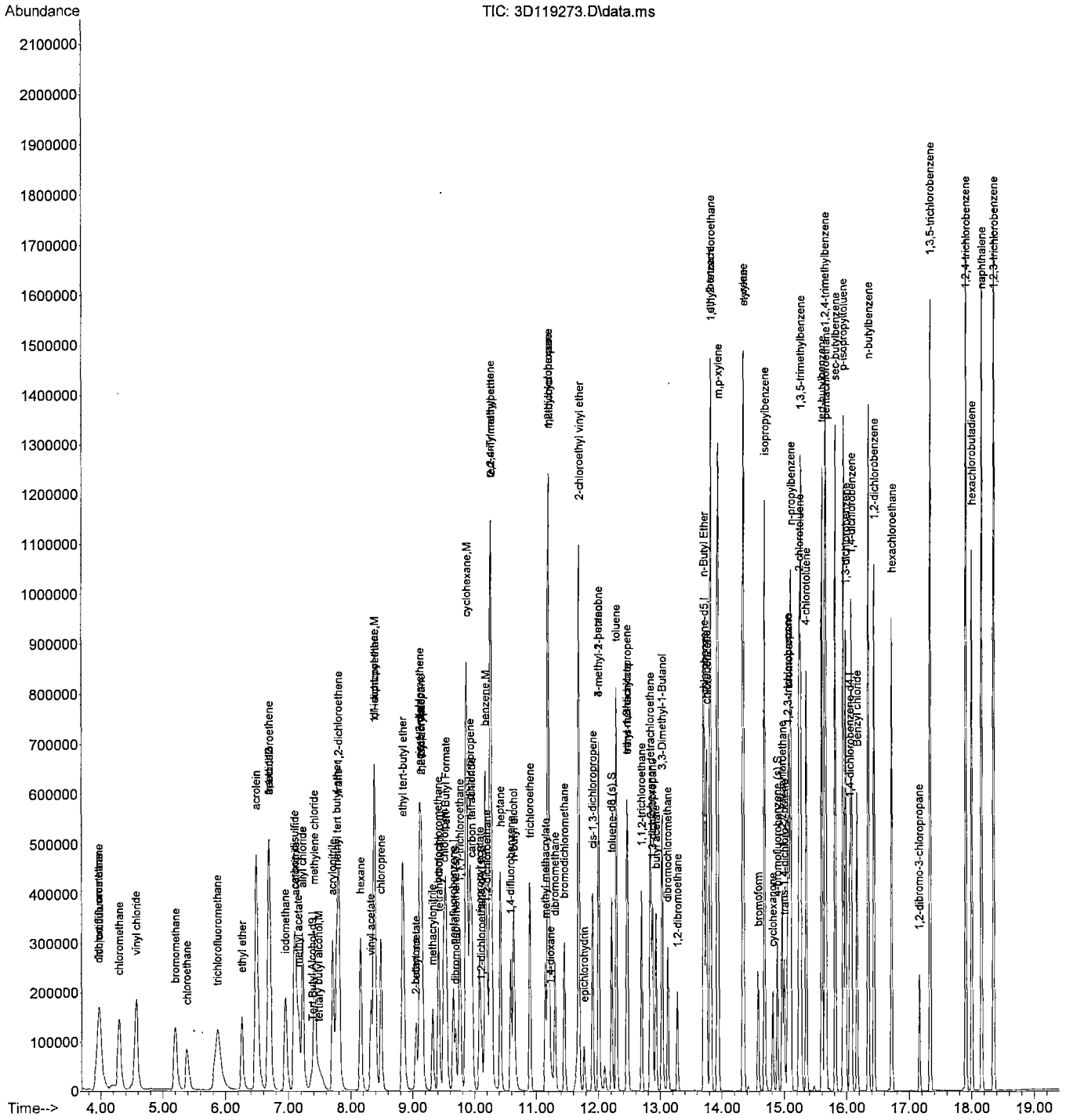
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.7.9 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 3D119273.D
Acq On : 17 May 2016 8:31 pm
Operator : XimenaC
Sample : ic5092-100
Misc : MS1706,V3D5092,5,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: May 18 11:30:51 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Tue May 17 14:46:53 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 3D119274.D
Acq On : 17 May 2016 8:58 pm
Operator : XimenaC
Sample : ic5092-200
Misc : MS1706,V3D5092,5,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 18 11:31:10 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Tue May 17 14:46:53 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.378	65	114048	500.00 ug/L	0.00
4) pentafluorobenzene	9.653	168	158084	50.00 ug/L	0.00
62) 1,4-difluorobenzene	10.592	114	218965	50.00 ug/L	0.00
92) chlorobenzene-d5	13.727	117	179489	50.00 ug/L	0.00
108) 1,4-dichlorobenzene-d4	16.055	152	116633	50.00 ug/L	0.00

System Monitoring Compounds					
54) dibromofluoromethane (s)	9.695	113	75836	43.29 ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 86.58%		
55) 1,2-dichloroethane-d4 (s)	10.115	65	74922	39.66 ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 79.32%		
84) toluene-d8 (s)	12.217	98	239920	48.87 ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 97.74%		
110) 4-bromofluorobenzene (s)	14.891	95	88400	48.48 ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 96.96%		

Target Compounds					Qvalue
2) 1,4-dioxane	11.242	88	111392	5307.82 ug/L	94
3) tertiary butyl alcohol	7.499	59	255971	1083.85 ug/L	87
10) chlorodifluoromethane	3.980	51	624534	179.68 ug/L	99
11) dichlorodifluoromethane	3.970	85	607716	179.17 ug/L	99
13) chloromethane	4.306	50	695273	203.42 ug/L	98
14) vinyl chloride	4.578	62	801592	218.17 ug/L	98
15) bromomethane	5.202	94	301985	164.67 ug/L	98
16) chloroethane	5.386	64	268034	190.89 ug/L	98
19) trichlorofluoromethane	5.878	101	706318	195.37 ug/L	98
21) ethyl ether	6.266	74	148369	201.93 ug/L	97
25) acrolein	6.497	56	782111	81.15 ug/L	99
26) 1,1-dichloroethene	6.691	61	568223	222.23 ug/L	99
27) acetone	6.702	58	30229	104.60 ug/L	97
28) allyl chloride	7.226	76	186146	242.03 ug/L	96
29) acetonitrile	7.121	40	276069	1624.64 ug/L	100
31) iodomethane	6.953	142	747585	234.69 ug/L	99
33) carbon disulfide	7.095	76	1405374	210.08 ug/L	97
34) methylene chloride	7.415	84	378375	201.45 ug/L	97
35) methyl acetate	7.168	43	235720	200.69 ug/L	100
36) methyl tert butyl ether	7.782	73	1114747	249.27 ug/L	98
37) trans-1,2-dichloroethene	7.808	61	446349	211.59 ug/L	95
38) di-isopropyl ether	8.379	45	1234899	264.67 ug/L	96
39) ethyl tert-butyl ether	8.846	59	1218091	271.80 ug/L	99
40) 2-butanone	9.045	72	33538	172.10 ug/L	55
41) 1,1-dichloroethane	8.395	63	549644	207.24 ug/L	99
42) chloroprene	8.489	53	433132	253.18 ug/L	98
43) acrylonitrile	7.708	53	597400	1125.34 ug/L	98
44) vinyl acetate	8.327	86	48200	271.61 ug/L	95
45) ethyl acetate	9.061	45	40555	207.54 ug/L	95
46) 2,2-dichloropropane	9.150	77	575082	214.32 ug/L	99
47) cis-1,2-dichloroethene	9.113	96	339228	228.84 ug/L	96
48) propionitrile	9.129	54	430990	2183.74 ug/L	93
49) methyl acrylate	9.145	85	42358	213.99 ug/L	98
50) bromochloromethane	9.412	128	170274	205.75 ug/L	97
51) tetrahydrofuran	9.428	42	93247	227.22 ug/L	97
52) chloroform	9.501	83	527237	194.17 ug/L	98
53) Tert-Butyl Formate	9.538	59	609252	392.25 ug/L #	93
56) freon 113	6.696	151	300546	201.96 ug/L	98
57) methacrylonitrile	9.323	41	181622	232.72 ug/L	98
58) 1,1,1-trichloroethane	9.764	97	569182	222.16 ug/L	97
60) 2,2,4-Trimethylpentane	10.272	57	1481231	257.57 ug/L	98

7.7.10 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 3D119274.D
Acq On : 17 May 2016 8:58 pm
Operator : XimenaC
Sample : ic5092-200
Misc : MS1706,V3D5092,5,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 18 11:31:10 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Tue May 17 14:46:53 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
61) tert-amyl methyl ether	10.256	73	1181967	277.16 ug/L	93
63) epichlorohydrin	11.777	57	140453	1087.22 ug/L	95
64) n-butyl alcohol	10.639	56	535906	12943.97 ug/L	96
65) cyclohexane	9.874	84	589381	237.49 ug/L	98
66) carbon tetrachloride	9.958	117	528991	220.96 ug/L	99
67) 1,1-dichloropropene	9.926	75	375763	237.05 ug/L	98
68) hexane	8.159	57	339077	226.75 ug/L	98
69) benzene	10.178	78	1178531	222.68 ug/L	99
70) heptane	10.424	57	195556	238.41 ug/L	97
71) isopropyl acetate	10.083	43	605887	244.59 ug/L	100
72) 1,2-dichloroethane	10.209	62	366648	185.80 ug/L	99
73) trichloroethene	10.901	95	285020	219.60 ug/L	97
77) 2-chloroethyl vinyl ether	11.693	63	874381	1225.34 ug/L	99
78) methyl methacrylate	11.153	100	69713	251.96 ug/L	96
79) 1,2-dichloropropane	11.200	63	304456	217.85 ug/L	98
80) methylcyclohexane	11.205	83	595272	231.57 ug/L	98
81) dibromomethane	11.305	93	178895	190.31 ug/L	99
82) bromodichloromethane	11.457	83	379454	203.96 ug/L	99
83) cis-1,3-dichloropropene	11.913	75	424793	227.63 ug/L	98
85) 4-methyl-2-pentanone	12.008	58	130076	242.00 ug/L	88
86) toluene	12.291	92	639134	224.76 ug/L	98
87) 3-methyl-1-butanol	12.008	70	206488	5840.79 ug/L	97
88) trans-1,3-dichloropropene	12.479	75	380512	213.96 ug/L	95
89) ethyl methacrylate	12.464	69	355189	280.85 ug/L	99
90) 1,1,2-trichloroethane	12.700	83	205697	198.50 ug/L	98
91) 2-hexanone	12.857	58	104604	209.44 ug/L	94
93) tetrachloroethene	12.841	166	302425	183.65 ug/L	98
94) 1,3-dichloropropane	12.878	76	367401	213.50 ug/L	99
95) butyl acetate	12.936	56	183980	259.98 ug/L	97
96) 3,3-Dimethyl-1-Butanol	13.035	57	526711	3683.00 ug/L	97
97) dibromochloromethane	13.130	129	298977	215.22 ug/L	97
98) 1,2-dibromoethane	13.282	107	251590	213.81 ug/L	99
99) n-Butyl Ether	13.712	57	1173165	276.38 ug/L	96
100) chlorobenzene	13.759	112	684179	219.16 ug/L	99
101) 1,1,1,2-tetrachloroethane	13.827	131	364328	246.73 ug/L	98
102) ethylbenzene	13.816	91	1225300	254.18 ug/L	99
103) m,p-xylene	13.937	106	937354	546.31 ug/L	100
104) o-xylene	14.341	106	506258	292.72 ug/L	97
105) styrene	14.351	104	789666	285.94 ug/L	98
107) bromoform	14.587	173	231411	230.70 ug/L	99
109) isopropylbenzene	14.687	105	1440718	275.46 ug/L	98
111) bromobenzene	15.075	156	358310	222.64 ug/L	94
112) cyclohexanone	14.818	55	156071	534.06 ug/L	98
113) 1,1,2,2-tetrachloroethane	14.970	83	385379	205.15 ug/L	99
114) trans-1,4-dichloro-2-b...	15.001	53	87674	198.17 ug/L	85
115) 1,2,3-trichloropropane	15.059	110	83961	198.24 ug/L	98
116) n-propylbenzene	15.101	91	1541855	252.33 ug/L	100
118) 2-chlorotoluene	15.237	126	330491	229.89 ug/L	97
119) 4-chlorotoluene	15.353	126	314003	239.17 ug/L	95
120) 1,3,5-trimethylbenzene	15.264	105	1277987	246.36 ug/L	98
121) tert-butylbenzene	15.599	119	1178119	275.62 ug/L	99
122) pentachloroethane	15.667	167	337264	351.29 ug/L	96
123) 1,2,4-trimethylbenzene	15.651	105	1263634	261.73 ug/L	99
124) sec-butylbenzene	15.819	105	1808337	257.69 ug/L	99
125) 1,3-dichlorobenzene	15.987	146	744084	239.09 ug/L	97
126) p-isopropyltoluene	15.945	119	1483949	267.78 ug/L	100
127) 1,4-dichlorobenzene	16.081	146	753311	222.49 ug/L	99
128) 1,2-dichlorobenzene	16.438	146	808469	239.81 ug/L	100

7.7.10 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 3D119274.D
Acq On : 17 May 2016 8:58 pm
Operator : XimenaC
Sample : ic5092-200
Misc : MS1706,V3D5092,5,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 18 11:31:10 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Tue May 17 14:46:53 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
130) n-butylbenzene	16.349	92	791240	267.75 ug/L	98
132) 1,2-dibromo-3-chloropr...	17.167	157	128337	255.97 ug/L	89
133) 1,3,5-trichlorobenzene	17.334	180	950582	266.84 ug/L	100
134) 1,2,4-trichlorobenzene	17.906	180	1018225	266.57 ug/L	99
135) hexachlorobutadiene	18.006	225	495139	251.36 ug/L	99
136) naphthalene	18.163	128	2247082	275.95 ug/L	99
137) 1,2,3-trichlorobenzene	18.357	180	1022065	244.55 ug/L	99
138) hexachloroethane	16.721	119	362487	266.75 ug/L	98
139) Benzyl chloride	16.165	91	783616	256.14 ug/L	99

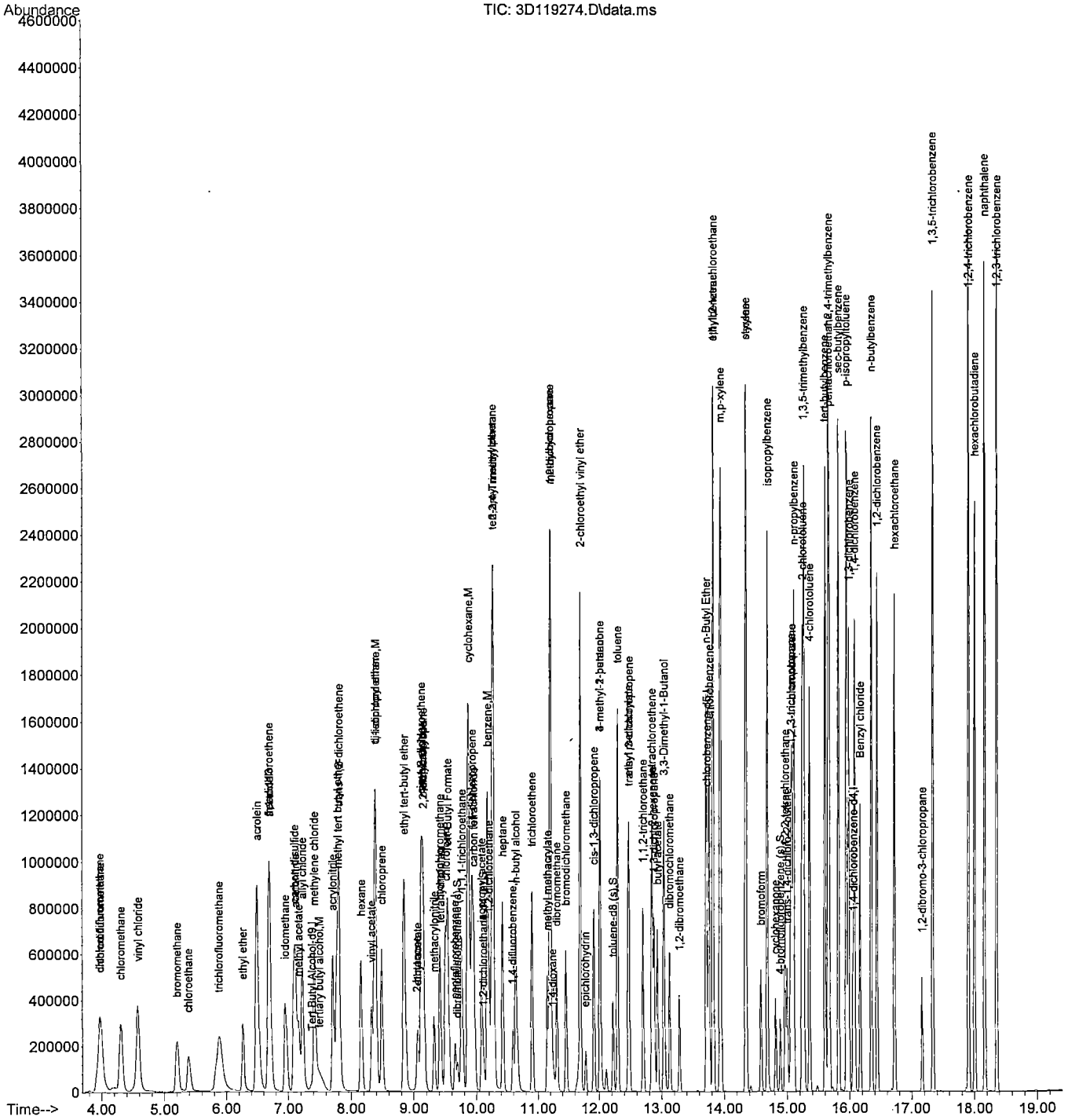
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.7.10 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 3D119274.D
Acq On : 17 May 2016 8:58 pm
Operator : XimenaC
Sample : ic5092-200
Misc : MS1706,V3D5092,5,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 18 11:31:10 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Tue May 17 14:46:53 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 3D119277.D
Acq On : 17 May 2016 10:19 pm
Operator : XimenaC
Sample : icv5092-50
Misc : MS1706,V3D5092,5,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 18 11:53:15 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	7.367	65	108116	500.00 ug/L	0.00
4) pentafluorobenzene	9.653	168	147163	50.00 ug/L	0.00
62) 1,4-difluorobenzene	10.592	114	201103	50.00 ug/L	0.00
92) chlorobenzene-d5	13.727	117	173619	50.00 ug/L	0.00
108) 1,4-dichlorobenzene-d4	16.055	152	109918	50.00 ug/L	0.00
System Monitoring Compounds					
54) dibromofluoromethane (s)	9.690	113	69037	50.14 ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 100.28%		
55) 1,2-dichloroethane-d4 (s)	10.115	65	70314	51.71 ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 103.42%		
84) toluene-d8 (s)	12.217	98	227392	50.76 ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 101.52%		
110) 4-bromofluorobenzene (s)	14.891	95	86116	50.54 ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 101.08%		

Target Compounds					Qvalue
2) 1,4-dioxane	11.237	88	23235	1171.31 ug/L	96
3) tertiary butyl alcohol	7.488	59	60650	251.67 ug/L	96
10) chlorodifluoromethane	3.965	51	161470	52.72 ug/L	97
11) dichlorodifluoromethane	3.965	85	157309	54.32 ug/L	99
13) chloromethane	4.284	50	154391	53.67 ug/L	100
14) vinyl chloride	4.557	62	185832	55.07 ug/L	99
15) bromomethane	5.191	94	85892	54.01 ug/L	96
16) chloroethane	5.380	64	69411	51.98 ug/L	98
19) trichlorofluoromethane	5.873	101	174742	54.76 ug/L	100
21) ethyl ether	6.261	74	38806	55.05 ug/L	94
25) acrolein	6.492	56	188880	476.94 ug/L	99
26) 1,1-dichloroethene	6.686	61	141187	53.65 ug/L	98
27) acetone	6.691	58	7309	52.64 ug/L	98
28) allyl chloride	7.226	76	46136	54.05 ug/L	98
29) acetonitrile	7.116	40	71270	478.43 ug/L	99
31) iodomethane	6.948	142	176870	51.59 ug/L	99
33) carbon disulfide	7.089	76	353647	53.99 ug/L	98
34) methylene chloride	7.415	84	90348	49.88 ug/L	100
35) methyl acetate	7.163	43	55635	46.04 ug/L	99
36) methyl tert butyl ether	7.771	73	548367	100.09 ug/L	98
37) trans-1,2-dichloroethene	7.803	61	111365	50.85 ug/L	98
38) di-isopropyl ether	8.374	45	298402	50.18 ug/L	99
39) ethyl tert-butyl ether	8.841	59	295673	54.28 ug/L	99
40) 2-butanone	9.045	72	7367	50.31 ug/L	36
41) 1,1-dichloroethane	8.390	63	137836	50.73 ug/L	100
42) chloroprene	8.489	53	100280	49.74 ug/L	99
43) acrylonitrile	7.703	53	153706	260.79 ug/L	97
44) vinyl acetate	8.322	86	11876	55.08 ug/L	94
45) ethyl acetate	9.056	45	10088	50.84 ug/L	96
46) 2,2-dichloropropane	9.139	77	140576	49.45 ug/L	100
47) cis-1,2-dichloroethene	9.108	96	80325	47.83 ug/L	99
48) propionitrile	9.118	54	113108	548.14 ug/L	80
49) methyl acrylate	9.145	85	10267	53.59 ug/L	88
50) bromochloromethane	9.407	128	40098	51.05 ug/L	95
51) tetrahydrofuran	9.423	42	23663	48.55 ug/L	97
52) chloroform	9.496	83	129220	51.13 ug/L	99
53) Tert-Butyl Formate	9.533	59	63680	24.84 ug/L #	96
56) freon 113	6.696	151	78703	55.52 ug/L	93
57) methacrylonitrile	9.318	41	45154	49.34 ug/L	99
58) 1,1,1-trichloroethane	9.758	97	138292	54.25 ug/L	98
60) 2,2,4-Trimethylpentane	10.267	57	332860	51.61 ug/L	98

7.7.11 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 3D119277.D
Acq On : 17 May 2016 10:19 pm
Operator : XimenaC
Sample : icv5092-50
Misc : MS1706,V3D5092,5,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 18 11:53:15 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
61) tert-amyl methyl ether	10.256	73	263282	49.96 ug/L	99
63) epichlorohydrin	11.777	57	33826	247.13 ug/L	98
64) n-butyl alcohol	10.634	56	112081	2341.72 ug/L	100
65) cyclohexane	9.868	84	141667	49.67 ug/L #	78
66) carbon tetrachloride	9.952	117	121695	49.88 ug/L	99
67) 1,1-dichloropropene	9.926	75	93378	52.16 ug/L	100
68) hexane	8.159	57	82601	46.34 ug/L	99
69) benzene	10.172	78	274379	47.85 ug/L	99
70) heptane	10.424	57	41538	42.93 ug/L	98
71) isopropyl acetate	10.078	43	157775	54.81 ug/L	96
72) 1,2-dichloroethane	10.204	62	87351	50.78 ug/L	99
73) trichloroethene	10.901	95	65218	50.25 ug/L	98
77) 2-chloroethyl vinyl ether	11.688	63	233867	266.11 ug/L	99
78) methyl methacrylate	11.148	100	16740	52.16 ug/L #	79
79) 1,2-dichloropropane	11.195	63	70483	47.84 ug/L	97
80) methylcyclohexane	11.200	83	131990	48.94 ug/L	99
81) dibromomethane	11.305	93	41278	49.12 ug/L	98
82) bromodichloromethane	11.457	83	84601	49.33 ug/L	98
83) cis-1,3-dichloropropene	11.913	75	104880	50.68 ug/L	99
85) 4-methyl-2-pentanone	12.007	58	29148	49.17 ug/L #	88
86) toluene	12.291	92	154565	49.59 ug/L	99
87) 3-methyl-1-butanol	12.007	70	40483	959.53 ug/L	99
88) trans-1,3-dichloropropene	12.479	75	94033	49.97 ug/L	98
89) ethyl methacrylate	12.464	69	86077	50.04 ug/L	98
90) 1,1,2-trichloroethane	12.700	83	50311	49.38 ug/L	96
91) 2-hexanone	12.857	58	24709	51.27 ug/L	95
93) tetrachloroethene	12.841	166	71502	49.73 ug/L	99
94) 1,3-dichloropropane	12.878	76	91290	49.08 ug/L	99
95) butyl acetate	12.935	56	46279	52.33 ug/L	100
96) 3,3-Dimethyl-1-Butanol	13.030	57	98263	473.16 ug/L	99
97) dibromochloromethane	13.124	129	67141	50.46 ug/L	99
98) 1,2-dibromoethane	13.281	107	61179	50.69 ug/L	100
99) n-Butyl Ether	13.711	57	328962	55.15 ug/L	99
100) chlorobenzene	13.759	112	167994	50.17 ug/L	99
101) 1,1,1,2-tetrachloroethane	13.822	131	73962	47.78 ug/L	98
102) ethylbenzene	13.816	91	294674	48.31 ug/L	99
103) m,p-xylene	13.937	106	222528	98.16 ug/L	99
104) o-xylene	14.335	106	116864	49.18 ug/L	97
105) styrene	14.351	104	189717	49.85 ug/L	99
107) bromoform	14.587	173	49256	49.61 ug/L	99
109) isopropylbenzene	14.687	105	316765	49.01 ug/L	99
111) bromobenzene	15.075	156	83499	48.89 ug/L	99
112) cyclohexanone	14.818	55	29436	352.22 ug/L	98
113) 1,1,2,2-tetrachloroethane	14.970	83	87472	47.41 ug/L	99
114) trans-1,4-dichloro-2-b...	15.001	53	22765	54.34 ug/L	98
115) 1,2,3-trichloropropane	15.059	110	19999	49.28 ug/L	96
116) n-propylbenzene	15.101	91	370933	49.60 ug/L	99
118) 2-chlorotoluene	15.237	126	74141	47.49 ug/L	99
119) 4-chlorotoluene	15.352	126	74511	48.51 ug/L	99
120) 1,3,5-trimethylbenzene	15.258	105	276007	49.26 ug/L	100
121) tert-butylbenzene	15.599	119	237065	50.25 ug/L	98
122) pentachloroethane	15.667	167	63494	49.81 ug/L	96
123) 1,2,4-trimethylbenzene	15.651	105	282054	48.11 ug/L	99
124) sec-butylbenzene	15.819	105	382168	49.07 ug/L	99
125) 1,3-dichlorobenzene	15.987	146	168780	48.29 ug/L	99
126) p-isopropyltoluene	15.945	119	326177	49.10 ug/L	100
127) 1,4-dichlorobenzene	16.081	146	173300	48.25 ug/L	98
128) 1,2-dichlorobenzene	16.438	146	180883	48.14 ug/L	98

7.7.11

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Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 3D119277.D
Acq On : 17 May 2016 10:19 pm
Operator : XimenaC
Sample : icv5092-50
Misc : MS1706,V3D5092,5,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 18 11:53:15 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
130) n-butylbenzene	16.343	92	177945	47.55 ug/L	99
132) 1,2-dibromo-3-chloropr...	17.167	157	26656	48.55 ug/L	98
133) 1,3,5-trichlorobenzene	17.334	180	210383	49.87 ug/L	99
134) 1,2,4-trichlorobenzene	17.906	180	226413	49.54 ug/L	99
135) hexachlorobutadiene	18.005	225	99891	48.26 ug/L	99
136) naphthalene	18.163	128	507137	49.18 ug/L	99
137) 1,2,3-trichlorobenzene	18.357	180	230841	49.10 ug/L	99
138) hexachloroethane	16.721	119	65390	42.46 ug/L	97
139) Benzyl chloride	16.165	91	167549	46.43 ug/L	99

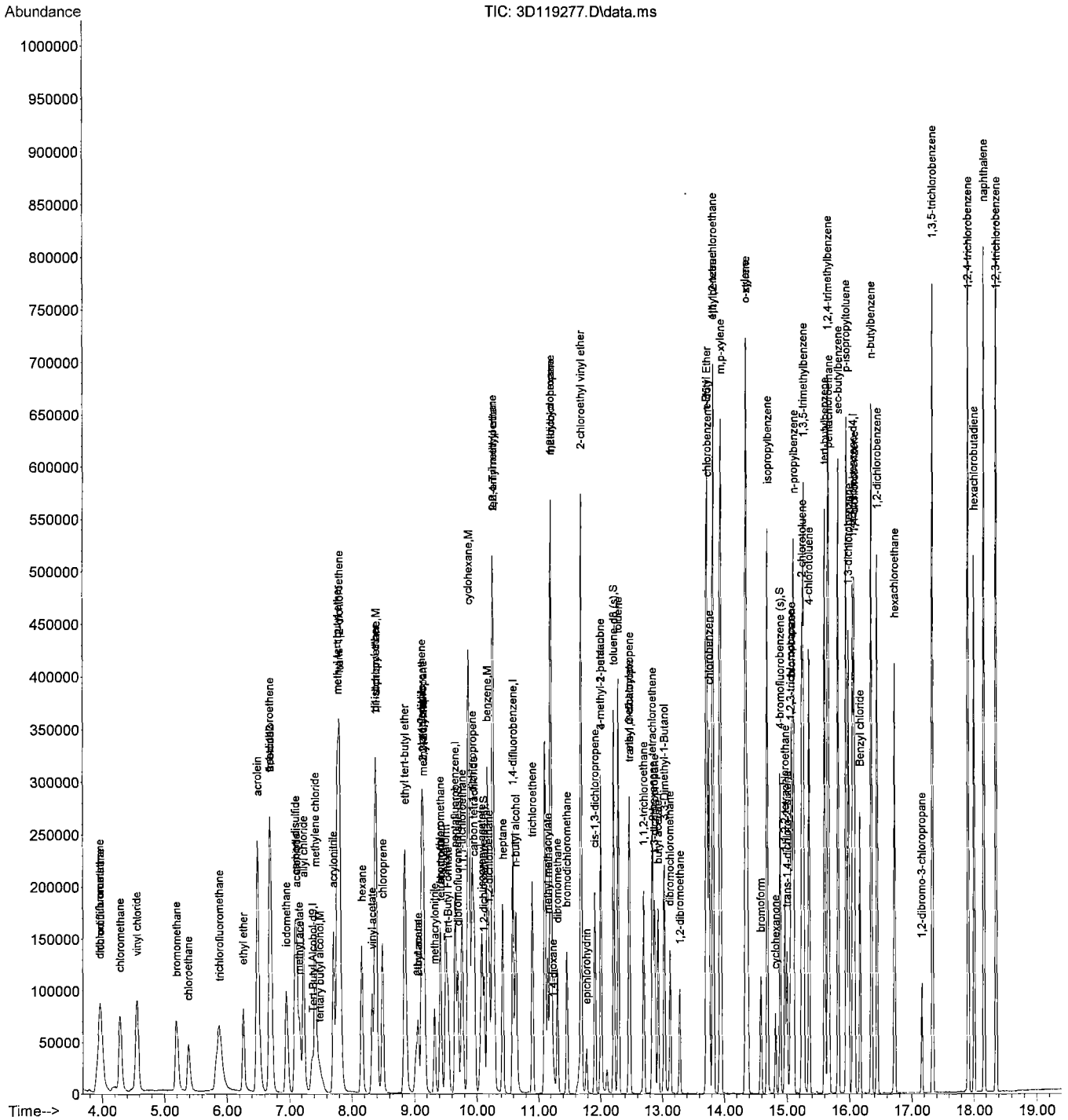
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.7.11 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\
Data File : 3D119277.D
Acq On : 17 May 2016 10:19 pm
Operator : XimenaC
Sample : icv5092-50
Misc : MS1706,V3D5092,5,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 18 11:53:15 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5103\
Data File : 3D119557.D
Acq On : 25 May 2016 10:35 am
Operator : XimenaC
Sample : cc5092-20
Misc : MS2480,V3D5103,5,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 26 11:29:40 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration

7.7.12 7

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.362	65	144305	500.00	ug/L	-0.01
4) pentafluorobenzene	9.648	168	221931	50.00	ug/L	0.00
62) 1,4-difluorobenzene	10.592	114	294748	50.00	ug/L	0.00
92) chlorobenzene-d5	13.727	117	265888	50.00	ug/L	0.00
108) 1,4-dichlorobenzene-d4	16.055	152	167330	50.00	ug/L	0.00
System Monitoring Compounds						
54) dibromofluoromethane (s)	9.690	113	108252	52.13	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 104.26%			
55) 1,2-dichloroethane-d4 (s)	10.115	65	103849	50.64	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 101.28%			
84) toluene-d8 (s)	12.217	98	339907	51.77	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 103.54%			
110) 4-bromofluorobenzene (s)	14.891	95	129022	49.74	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 99.48%			
Target Compounds						Qvalue
2) 1,4-dioxane	11.242	88	14433	545.12	ug/L	99
3) tertiary butyl alcohol	7.477	59	32947	102.43	ug/L	98
10) chlorodifluoromethane	3.991	51	94619	20.48	ug/L	96
11) dichlorodifluoromethane	3.980	85	99025	22.68	ug/L	97
13) chloromethane	4.300	50	83160	19.17	ug/L	99
14) vinyl chloride	4.573	62	99738	19.60	ug/L	99
15) bromomethane	5.197	94	52574	21.92	ug/L	98
16) chloroethane	5.391	64	39075	19.40	ug/L	98
19) trichlorofluoromethane	5.878	101	103351	21.48	ug/L	98
21) ethyl ether	6.261	74	21448	20.18	ug/L	92
25) acrolein	6.492	56	99236	166.16	ug/L	99
26) 1,1-dichloroethene	6.691	61	72831	18.35	ug/L	100
27) acetone	6.691	58	4231	20.21	ug/L	95
28) allyl chloride	7.226	76	23747	18.45	ug/L #	86
29) acetonitrile	7.121	40	42182	187.77	ug/L	98
31) iodomethane	6.948	142	104472	20.21	ug/L	98
33) carbon disulfide	7.095	76	191074	19.34	ug/L	98
34) methylene chloride	7.415	84	55717	20.40	ug/L	90
35) methyl acetate	7.158	43	31913	17.51	ug/L	97
36) methyl tert butyl ether	7.771	73	159197	19.27	ug/L	97
37) trans-1,2-dichloroethene	7.808	61	63608	19.26	ug/L	96
38) di-isopropyl ether	8.374	45	151878	16.94	ug/L	96
39) ethyl tert-butyl ether	8.841	59	148648	18.09	ug/L	97
40) 2-butanone	9.040	72	3814	17.27	ug/L #	1
41) 1,1-dichloroethane	8.390	63	79175	19.32	ug/L	99
42) chloroprene	8.489	53	50216	16.52	ug/L	99
43) acrylonitrile	7.703	53	84810	95.42	ug/L	99
44) vinyl acetate	8.322	86	6268	19.28	ug/L	49
45) ethyl acetate	9.056	45	5267	17.60	ug/L	99
46) 2,2-dichloropropane	9.150	77	89089	20.78	ug/L	97
47) cis-1,2-dichloroethene	9.108	96	47110	18.60	ug/L	94
48) propionitrile	9.119	54	56242	180.73	ug/L	82

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5103\
Data File : 3D119557.D
Acq On : 25 May 2016 10:35 am
Operator : XimenaC
Sample : cc5092-20
Misc : MS2480,V3D5103,5,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 26 11:29:40 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49)	methyl acrylate	9.134	85	5653	19.57	ug/L		92
50)	bromochloromethane	9.407	128	25470	21.50	ug/L		87
51)	tetrahydrofuran	9.428	42	11612	15.80	ug/L		98
52)	chloroform	9.496	83	73303	19.23	ug/L		97
53)	Tert-Butyl Formate	9.533	59	52992	13.71	ug/L	#	92
56)	freon 113	6.701	151	49986	23.38	ug/L		93
57)	methacrylonitrile	9.313	41	22739	16.48	ug/L		93
58)	1,1,1-trichloroethane	9.753	97	82654	21.50	ug/L		99
60)	2,2,4-Trimethylpentane	10.267	57	178081	18.31	ug/L		96
61)	tert-amyl methyl ether	10.251	73	148999	18.75	ug/L		97
63)	epichlorohydrin	11.777	57	18982	94.62	ug/L		98
64)	n-butyl alcohol	10.634	56	59173	843.52	ug/L		97
65)	cyclohexane	9.868	84	82868	19.83	ug/L	#	71
66)	carbon tetrachloride	9.952	117	77190	21.59	ug/L		99
67)	1,1-dichloropropene	9.921	75	48598	18.52	ug/L		99
68)	hexane	8.159	57	41300	15.81	ug/L		93
69)	benzene	10.172	78	152488	18.14	ug/L		98
70)	heptane	10.424	57	24768	17.47	ug/L		89
71)	isopropyl acetate	10.078	43	71292	16.90	ug/L		98
72)	1,2-dichloroethane	10.204	62	53126	21.07	ug/L		98
73)	trichloroethene	10.901	95	37948	19.95	ug/L		99
77)	2-chloroethyl vinyl ether	11.688	63	121377	94.23	ug/L		98
78)	methyl methacrylate	11.148	100	8340	17.73	ug/L		93
79)	1,2-dichloropropane	11.195	63	41549	19.24	ug/L		94
80)	methylcyclohexane	11.200	83	74936	18.96	ug/L		94
81)	dibromomethane	11.305	93	27426	22.27	ug/L		96
82)	bromodichloromethane	11.457	83	52442	20.86	ug/L		99
83)	cis-1,3-dichloropropene	11.908	75	58633	19.33	ug/L		97
85)	4-methyl-2-pentanone	12.007	58	16188	18.63	ug/L	#	86
86)	toluene	12.291	92	88485	19.37	ug/L		96
87)	3-methyl-1-butanol	12.007	70	22575	365.07	ug/L		94
88)	trans-1,3-dichloropropene	12.474	75	55025	19.95	ug/L		98
89)	ethyl methacrylate	12.464	69	42378	16.81	ug/L		97
90)	1,1,2-trichloroethane	12.700	83	31082	20.82	ug/L		96
91)	2-hexanone	12.857	58	12465	17.65	ug/L		93
93)	tetrachloroethene	12.841	166	43566	19.79	ug/L		98
94)	1,3-dichloropropane	12.878	76	54858	19.26	ug/L		98
95)	butyl acetate	12.935	56	23021	17.00	ug/L		85
96)	3,3-Dimethyl-1-Butanol	13.030	57	50793	159.71	ug/L	#	97
97)	dibromochloromethane	13.124	129	44518	21.85	ug/L		96
98)	1,2-dibromoethane	13.281	107	38176	20.65	ug/L		100
99)	n-Butyl Ether	13.711	57	138905	15.21	ug/L		98
100)	chlorobenzene	13.759	112	101935	19.88	ug/L		98
101)	1,1,1,2-tetrachloroethane	13.822	131	48793	20.58	ug/L		98
102)	ethylbenzene	13.816	91	167806	17.96	ug/L		100
103)	m,p-xylene	13.937	106	127668	36.77	ug/L		99
104)	o-xylene	14.335	106	65645	18.04	ug/L		98
105)	styrene	14.351	104	104520	17.93	ug/L		99
107)	bromoform	14.582	173	32994	21.70	ug/L		99
109)	isopropylbenzene	14.687	105	176254	17.91	ug/L		99

7.7.12 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5103\
Data File : 3D119557.D
Acq On : 25 May 2016 10:35 am
Operator : XimenaC
Sample : cc5092-20
Misc : MS2480,V3D5103,5,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 26 11:29:40 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
111) bromobenzene	15.075	156	52309	20.12 ug/L	97
112) cyclohexanone	14.818	55	30314	219.28 ug/L	97
113) 1,1,2,2-tetrachloroethane	14.970	83	57391	20.43 ug/L	97
114) trans-1,4-dichloro-2-b...	15.001	53	11627	18.23 ug/L	91
115) 1,2,3-trichloropropane	15.054	110	13507	21.86 ug/L	97
116) n-propylbenzene	15.101	91	209014	18.36 ug/L	99
118) 2-chlorotoluene	15.237	126	44959	18.92 ug/L	94
119) 4-chlorotoluene	15.347	126	43535	18.62 ug/L	96
120) 1,3,5-trimethylbenzene	15.258	105	161636	18.95 ug/L	100
121) tert-butylbenzene	15.599	119	123257	17.16 ug/L	99
122) pentachloroethane	15.667	167	39540	20.38 ug/L	95
123) 1,2,4-trimethylbenzene	15.651	105	164940	18.48 ug/L	99
124) sec-butylbenzene	15.819	105	210844	17.78 ug/L	100
125) 1,3-dichlorobenzene	15.982	146	105320	19.80 ug/L	97
126) p-isopropyltoluene	15.945	119	179900	17.79 ug/L	99
127) 1,4-dichlorobenzene	16.076	146	106067	19.40 ug/L	97
128) 1,2-dichlorobenzene	16.438	146	113537	19.85 ug/L	97
130) n-butylbenzene	16.349	92	99410	17.45 ug/L	99
132) 1,2-dibromo-3-chloropr...	17.161	157	16249	19.44 ug/L	89
133) 1,3,5-trichlorobenzene	17.334	180	120958	18.83 ug/L	98
134) 1,2,4-trichlorobenzene	17.906	180	128489	18.47 ug/L	97
135) hexachlorobutadiene	18.005	225	58703	18.63 ug/L	99
136) naphthalene	18.163	128	289034	18.41 ug/L	99
137) 1,2,3-trichlorobenzene	18.357	180	139264	19.46 ug/L	97
138) hexachloroethane	16.721	119	35049	17.79 ug/L	96
139) Benzyl chloride	16.165	91	106873	19.45 ug/L	99

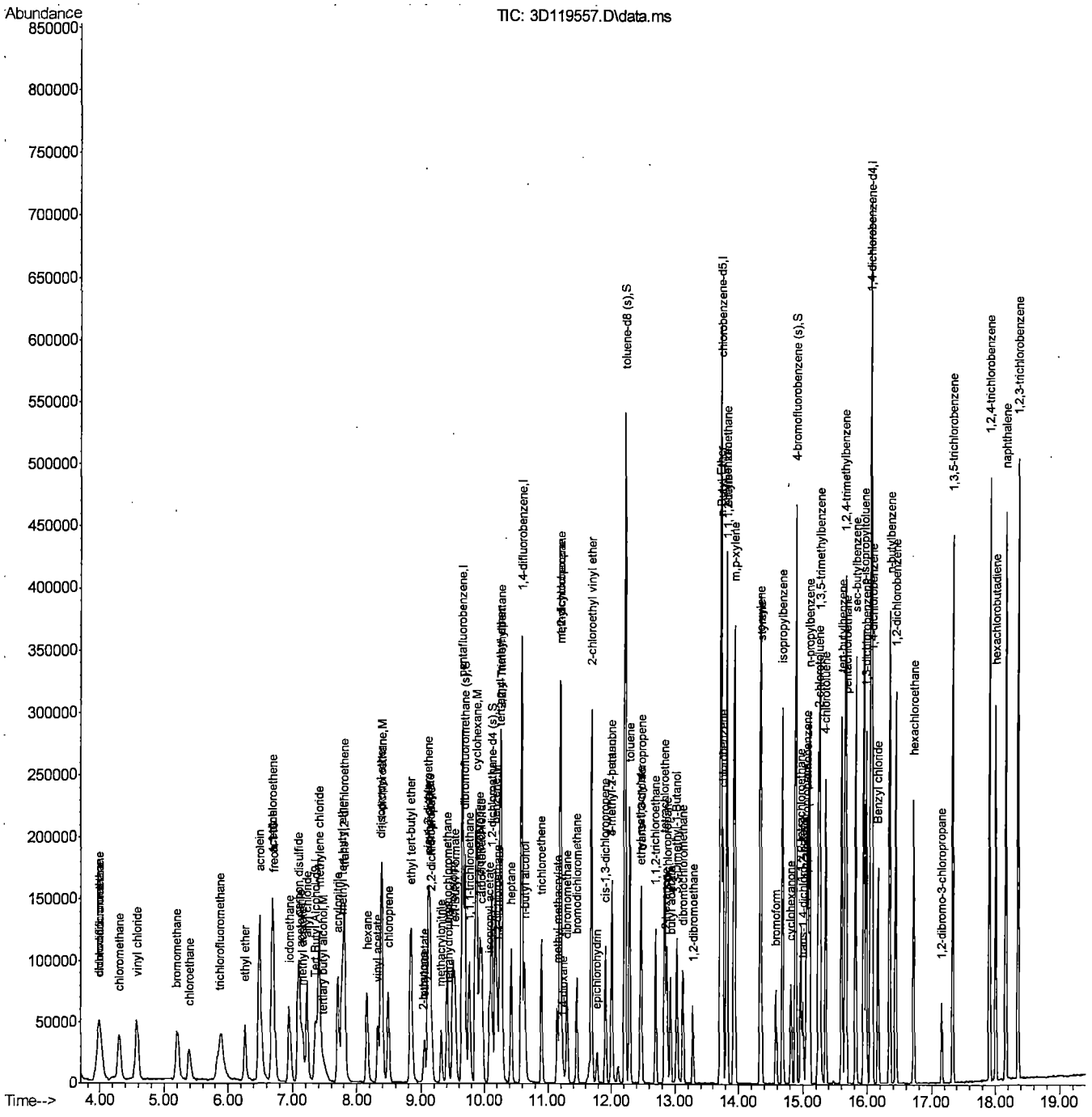
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.7.12 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5103\
Data File : 3D119557.D
Acq On : 25 May 2016 10:35 am
Operator : XimenaC
Sample : cc5092-20
Misc : MS2480,V3D5103,5,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 26 11:29:40 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration



SGS ACCUTEST JC20564

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5104-5105\
Data File : 3D119587.D
Acq On : 26 May 2016 10:40 am
Operator : XimenaC
Sample : cc5092-20
Misc : MS2366,V3D5104,5,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 27 16:21:21 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Tert Butyl Alcohol-d9	7.362	65	136382	500.00 ug/L	-0.01
4) pentafluorobenzene	9.648	168	206799	50.00 ug/L	0.00
62) 1,4-difluorobenzene	10.587	114	273332	50.00 ug/L	0.00
92) chlorobenzene-d5	13.722	117	245333	50.00 ug/L	0.00
108) 1,4-dichlorobenzene-d4	16.055	152	159537	50.00 ug/L	0.00
System Monitoring Compounds					
54) dibromofluoromethane (s)	9.690	113	101947	52.69 ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 105.38%		
55) 1,2-dichloroethane-d4 (s)	10.110	65	97750	51.16 ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 102.32%		
84) toluene-d8 (s)	12.212	98	310727	51.04 ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 102.08%		
110) 4-bromofluorobenzene (s)	14.891	95	122371	49.48 ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 98.96%		
Target Compounds					Qvalue
2) 1,4-dioxane	11.237	88	13324	532.47 ug/L	95
3) tertiary butyl alcohol	7.488	59	30253	99.52 ug/L	99
10) chlorodifluoromethane	3.991	51	88080	20.46 ug/L	95
11) dichlorodifluoromethane	3.975	85	87500	21.50 ug/L	97
13) chloromethane	4.295	50	73457	18.17 ug/L	98
14) vinyl chloride	4.573	62	89012	18.77 ug/L	99
15) bromomethane	5.202	94	47804	21.39 ug/L	95
16) chloroethane	5.386	64	35695	19.02 ug/L	98
19) trichlorofluoromethane	5.878	101	93761	20.91 ug/L	97
21) ethyl ether	6.256	74	19449	19.63 ug/L	88
25) acrolein	6.492	56	91845	165.04 ug/L	97
26) 1,1-dichloroethene	6.686	61	69887	18.90 ug/L	97
27) acetone	6.691	58	3963	20.31 ug/L	95
28) allyl chloride	7.221	76	23051	19.22 ug/L #	83
29) acetonitrile	7.116	40	36989	176.70 ug/L	96
31) iodomethane	6.948	142	102729	21.32 ug/L	98
33) carbon disulfide	7.090	76	185354	20.14 ug/L	100
34) methylene chloride	7.415	84	51636	20.29 ug/L	93
35) methyl acetate	7.158	43	28662	16.88 ug/L	97
36) methyl tert butyl ether	7.771	73	148182	19.25 ug/L	99
37) trans-1,2-dichloroethene	7.803	61	60373	19.62 ug/L	96
38) di-isopropyl ether	8.374	45	141319	16.91 ug/L	96
39) ethyl tert-butyl ether	8.841	59	142215	18.58 ug/L	96
40) 2-butanone	9.045	72	3610	17.54 ug/L #	43
41) 1,1-dichloroethane	8.390	63	72368	18.96 ug/L	98
42) chloroprene	8.484	53	49295	17.40 ug/L	98
43) acrylonitrile	7.703	53	76551	92.43 ug/L	97
44) vinyl acetate	8.322	86	5745	18.96 ug/L	60
45) ethyl acetate	9.056	45	4339	15.56 ug/L	82
46) 2,2-dichloropropane	9.145	77	85679	21.45 ug/L	98
47) cis-1,2-dichloroethene	9.108	96	44415	18.82 ug/L	93
48) propionitrile	9.119	54	50521	174.23 ug/L	88

7.7.13

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5104-5105\
Data File : 3D119587.D
Acq On : 26 May 2016 10:40 am
Operator : XimenaC
Sample : cc5092-20
Misc : MS2366,V3D5104,5,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 27 16:21:21 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
49) methyl acrylate	9.140	85	5072	18.84 ug/L	79
50) bromochloromethane	9.407	128	23768	21.53 ug/L #	85
51) tetrahydrofuran	9.417	42	10637	15.53 ug/L	99
52) chloroform	9.496	83	70090	19.74 ug/L	97
53) Tert-Butyl Formate	9.528	59	48832	13.56 ug/L #	92
56) freon 113	6.702	151	46247	23.22 ug/L	98
57) methacrylonitrile	9.313	41	20089	15.62 ug/L	90
58) 1,1,1-trichloroethane	9.758	97	78189	21.83 ug/L	96
60) 2,2,4-Trimethylpentane	10.267	57	168736	18.62 ug/L	97
61) tert-amyl methyl ether	10.256	73	139619	18.86 ug/L	97
63) epichlorohydrin	11.772	57	17144	92.15 ug/L	97
64) n-butyl alcohol	10.634	56	54211	833.33 ug/L	98
65) cyclohexane	9.868	84	78188	20.17 ug/L #	62
66) carbon tetrachloride	9.952	117	74026	22.33 ug/L	99
67) 1,1-dichloropropene	9.921	75	46127	18.96 ug/L	97
68) hexane	8.159	57	38318	15.82 ug/L	94
69) benzene	10.172	78	143039	18.35 ug/L	98
70) heptane	10.424	57	23211	17.65 ug/L	93
71) isopropyl acetate	10.078	43	64341	16.45 ug/L	98
72) 1,2-dichloroethane	10.204	62	48770	20.86 ug/L	97
73) trichloroethene	10.901	95	35860	20.33 ug/L	99
77) 2-chloroethyl vinyl ether	11.688	63	110828	92.78 ug/L	97
78) methyl methacrylate	11.148	100	7812	17.91 ug/L	92
79) 1,2-dichloropropane	11.195	63	37575	18.77 ug/L	98
80) methylcyclohexane	11.200	83	70768	19.31 ug/L	98
81) dibromomethane	11.305	93	24271	21.25 ug/L	98
82) bromodichloromethane	11.452	83	48959	21.00 ug/L	96
83) cis-1,3-dichloropropene	11.908	75	54743	19.46 ug/L	99
85) 4-methyl-2-pentanone	12.008	58	15019	18.64 ug/L #	75
86) toluene	12.285	92	83362	19.68 ug/L	100
87) 3-methyl-1-butanol	12.008	70	21275	371.01 ug/L	91
88) trans-1,3-dichloropropene	12.474	75	51815	20.26 ug/L	99
89) ethyl methacrylate	12.458	69	40275	17.23 ug/L	95
90) 1,1,2-trichloroethane	12.700	83	28354	20.48 ug/L	98
91) 2-hexanone	12.852	58	11546	17.63 ug/L	90
93) tetrachloroethene	12.841	166	41076	20.22 ug/L	99
94) 1,3-dichloropropane	12.878	76	50200	19.10 ug/L	99
95) butyl acetate	12.930	56	21462	17.17 ug/L	93
96) 3,3-Dimethyl-1-Butanol	13.030	57	46684	159.09 ug/L #	95
97) dibromochloromethane	13.124	129	41190	21.91 ug/L	99
98) 1,2-dibromoethane	13.282	107	35364	20.73 ug/L	97
99) n-Butyl Ether	13.712	57	134978	16.01 ug/L	99
100) chlorobenzene	13.753	112	95183	20.12 ug/L	99
101) 1,1,1,2-tetrachloroethane	13.822	131	44660	20.42 ug/L	99
102) ethylbenzene	13.816	91	161476	18.74 ug/L	98
103) m,p-xylene	13.937	106	122525	38.25 ug/L	100
104) o-xylene	14.335	106	62377	18.58 ug/L	99
105) styrene	14.351	104	99560	18.51 ug/L	99
107) bromoform	14.582	173	32399	23.09 ug/L	99
109) isopropylbenzene	14.687	105	170972	18.22 ug/L	100

7.7.13 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5104-5105\
Data File : 3D119587.D
Acq On : 26 May 2016 10:40 am
Operator : XimenaC
Sample : cc5092-20
Misc : MS2366,V3D5104,5,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 27 16:21:21 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
111) bromobenzene	15.075	156	49413	19.94 ug/L	96
112) cyclohexanone	14.818	55	55803	478.02 ug/L	96
113) 1,1,2,2-tetrachloroethane	14.970	83	51912	19.38 ug/L	98
114) trans-1,4-dichloro-2-b...	15.001	53	11478	18.88 ug/L	92
115) 1,2,3-trichloropropane	15.054	110	12141	20.61 ug/L	97
116) n-propylbenzene	15.101	91	201336	18.55 ug/L	99
118) 2-chlorotoluene	15.237	126	43436	19.17 ug/L	97
119) 4-chlorotoluene	15.347	126	42608	19.11 ug/L	94
120) 1,3,5-trimethylbenzene	15.258	105	151734	18.66 ug/L	100
121) tert-butylbenzene	15.599	119	120491	17.59 ug/L	98
122) pentachloroethane	15.667	167	36354	19.65 ug/L	97
123) 1,2,4-trimethylbenzene	15.651	105	157819	18.55 ug/L	99
124) sec-butylbenzene	15.819	105	204289	18.07 ug/L	99
125) 1,3-dichlorobenzene	15.982	146	102976	20.30 ug/L	97
126) p-isopropyltoluene	15.945	119	173512	18.00 ug/L	99
127) 1,4-dichlorobenzene	16.076	146	102106	19.58 ug/L	100
128) 1,2-dichlorobenzene	16.438	146	107146	19.65 ug/L	98
130) n-butylbenzene	16.344	92	97618	17.97 ug/L	99
132) 1,2-dibromo-3-chloropr...	17.161	157	15440	19.37 ug/L	92
133) 1,3,5-trichlorobenzene	17.334	180	118599	19.37 ug/L	97
134) 1,2,4-trichlorobenzene	17.906	180	124126	18.71 ug/L	98
135) hexachlorobutadiene	18.006	225	55579	18.50 ug/L	98
136) naphthalene	18.163	128	267956	17.90 ug/L	99
137) 1,2,3-trichlorobenzene	18.357	180	129662	19.00 ug/L	98
138) hexachloroethane	16.721	119	33799	17.94 ug/L	94
139) Benzyl chloride	16.165	91	105561	20.15 ug/L	100

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

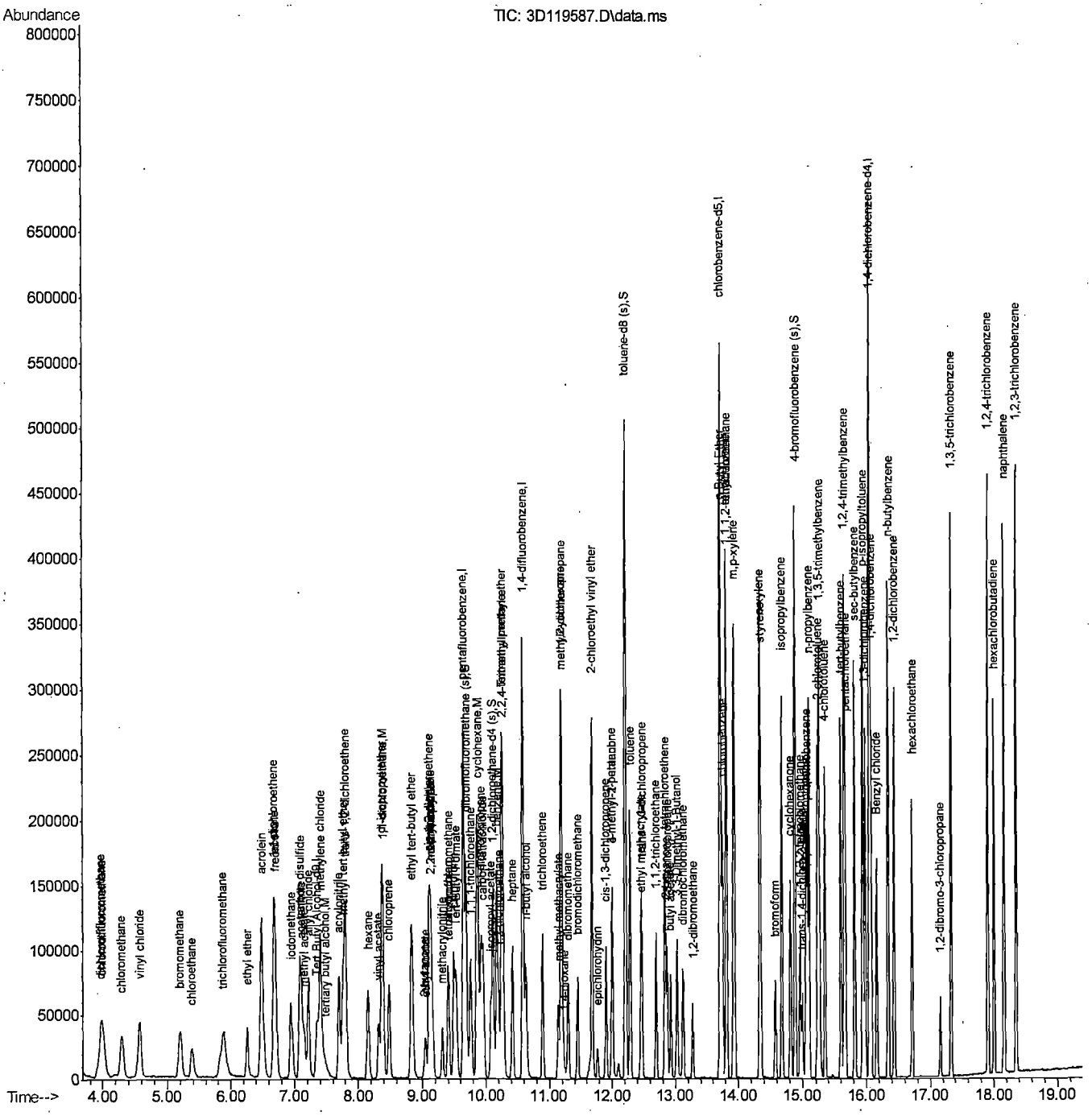
7.7.13

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5104-5105\
Data File : 3D119587.D
Acq On : 26 May 2016 10:40 am
Operator : XimenaC
Sample : cc5092-20
Misc : MS2366,V3D5104,5,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 27 16:21:21 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration



7.7.13 7

SGS ACCUTEST JC20564

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5105ms-5107\
Data File : 3D119637.D
Acq On : 27 May 2016 10:27 am
Operator : XimenaC
Sample : cc5092-20
Misc : MS2377,V3D5106,5,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 31 14:17:29 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.368	65	121577	500.00	ug/L	0.00
4) pentafluorobenzene	9.648	168	186166	50.00	ug/L	0.00
62) 1,4-difluorobenzene	10.592	114	248765	50.00	ug/L	0.00
92) chlorobenzene-d5	13.722	117	226183	50.00	ug/L	0.00
108) 1,4-dichlorobenzene-d4	16.055	152	146341	50.00	ug/L	0.00
System Monitoring Compounds						
54) dibromofluoromethane (s)	9.690	113	93600	53.74	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 107.48%			
55) 1,2-dichloroethane-d4 (s)	10.115	65	89903	52.27	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 104.54%			
84) toluene-d8 (s)	12.212	98	285868	51.59	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 103.18%			
110) 4-bromofluorobenzene (s)	14.891	95	111950	49.35	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 98.70%			
Target Compounds						Qvalue
2) 1,4-dioxane	11.237	88	11828	530.25	ug/L	91
3) tertiary butyl alcohol	7.472	59	27102	100.01	ug/L	96
10) chlorodifluoromethane	3.991	51	86859	22.42	ug/L	95
11) dichlorodifluoromethane	3.981	85	86497	23.61	ug/L	98
13) chloromethane	4.295	50	69570	19.12	ug/L	99
14) vinyl chloride	4.578	62	87855	20.58	ug/L	97
15) bromomethane	5.207	94	45980	22.86	ug/L	93
16) chloroethane	5.391	64	34543	20.45	ug/L	98
19) trichlorofluoromethane	5.889	101	92511	22.92	ug/L	97
21) ethyl ether	6.261	74	18534	20.78	ug/L	86
25) acrolein	6.492	56	84724	169.11	ug/L	98
26) 1,1-dichloroethene	6.686	61	69417	20.85	ug/L	98
27) acetone	6.696	58	3798	21.62	ug/L	99
28) allyl chloride	7.226	76	22051	20.42	ug/L #	80
29) acetonitrile	7.121	40	35369	187.69	ug/L	95
31) iodomethane	6.948	142	100184	23.10	ug/L	99
33) carbon disulfide	7.095	76	184044	22.21	ug/L	97
34) methylene chloride	7.415	84	51516	22.48	ug/L	90
35) methyl acetate	7.163	43	26295	17.20	ug/L	91
36) methyl tert butyl ether	7.776	73	136673	19.72	ug/L	97
37) trans-1,2-dichloroethene	7.808	61	59589	21.51	ug/L	98
38) di-isopropyl ether	8.379	45	129038	17.15	ug/L	98
39) ethyl tert-butyl ether	8.841	59	126889	18.41	ug/L	97
40) 2-butanone	9.040	72	3084	16.65	ug/L #	1
41) 1,1-dichloroethane	8.390	63	70484	20.51	ug/L	99
42) chloroprene	8.490	53	46203	18.12	ug/L	95
43) acrylonitrile	7.703	53	71264	95.58	ug/L	96
44) vinyl acetate	8.327	86	5134	18.82	ug/L	39
45) ethyl acetate	9.051	45	4212	16.78	ug/L	90
46) 2,2-dichloropropane	9.145	77	81616	22.69	ug/L	98
47) cis-1,2-dichloroethene	9.108	96	42435	19.98	ug/L	94
48) propionitrile	9.119	54	47002	180.06	ug/L	84

7.7.14

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5105ms-5107\
Data File : 3D119637.D
Acq On : 27 May 2016 10:27 am
Operator : XimenaC
Sample : cc5092-20
Misc : MS2377,V3D5106,5,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 31 14:17:29 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49)	methyl acrylate	9.140	85	4768	19.67	ug/L		57
50)	bromochloromethane	9.407	128	22432	22.58	ug/L		90
51)	tetrahydrofuran	9.423	42	8910	14.45	ug/L		93
52)	chloroform	9.496	83	68202	21.33	ug/L		96
53)	Tert-Butyl Formate	9.533	59	42308	13.05	ug/L	#	91
56)	freon 113	6.702	151	45996	25.65	ug/L		98
57)	methacrylonitrile	9.313	41	17952	15.51	ug/L		95
58)	1,1,1-trichloroethane	9.753	97	75605	23.44	ug/L		97
60)	2,2,4-Trimethylpentane	10.267	57	171595	21.03	ug/L		98
61)	tert-amyl methyl ether	10.256	73	130211	19.53	ug/L		97
63)	epichlorohydrin	11.772	57	16023	94.63	ug/L		95
64)	n-butyl alcohol	10.634	56	48984	827.34	ug/L		99
65)	cyclohexane	9.874	84	74468	21.11	ug/L	#	54
66)	carbon tetrachloride	9.952	117	72515	24.03	ug/L		99
67)	1,1-dichloropropene	9.921	75	44242	19.98	ug/L		99
68)	hexane	8.154	57	37458	16.99	ug/L		93
69)	benzene	10.173	78	139701	19.70	ug/L		97
70)	heptane	10.424	57	23546	19.67	ug/L		96
71)	isopropyl acetate	10.078	43	58046	16.30	ug/L		98
72)	1,2-dichloroethane	10.204	62	46119	21.67	ug/L		97
73)	trichloroethene	10.901	95	34950	21.77	ug/L		98
77)	2-chloroethyl vinyl ether	11.688	63	102804	94.57	ug/L		98
78)	methyl methacrylate	11.148	100	7158	18.03	ug/L		96
79)	1,2-dichloropropane	11.195	63	36248	19.89	ug/L		94
80)	methylcyclohexane	11.200	83	69719	20.90	ug/L		94
81)	dibromomethane	11.300	93	23595	22.70	ug/L		97
82)	bromodichloromethane	11.457	83	46736	22.03	ug/L		96
83)	cis-1,3-dichloropropene	11.908	75	51088	19.96	ug/L		95
85)	4-methyl-2-pentanone	12.008	58	13071	17.82	ug/L	#	86
86)	toluene	12.291	92	80965	21.00	ug/L		99
87)	3-methyl-1-butanol	12.008	70	19100	365.97	ug/L		89
88)	trans-1,3-dichloropropene	12.474	75	49551	21.29	ug/L		97
89)	ethyl methacrylate	12.464	69	36725	17.26	ug/L		95
90)	1,1,2-trichloroethane	12.700	83	27253	21.63	ug/L		97
91)	2-hexanone	12.857	58	10177	17.07	ug/L		89
93)	tetrachloroethene	12.841	166	40392	21.56	ug/L		99
94)	1,3-dichloropropane	12.878	76	48648	20.08	ug/L		97
95)	butyl acetate	12.930	56	19064	16.55	ug/L		89
96)	3,3-Dimethyl-1-Butanol	13.030	57	41465	153.26	ug/L		91
97)	dibromochloromethane	13.124	129	39825	22.97	ug/L		99
98)	1,2-dibromoethane	13.282	107	33605	21.37	ug/L		95
99)	n-Butyl Ether	13.712	57	124981	16.08	ug/L		97
100)	chlorobenzene	13.754	112	94640	21.69	ug/L		97
101)	1,1,1,2-tetrachloroethane	13.822	131	43134	21.39	ug/L		99
102)	ethylbenzene	13.816	91	158088	19.89	ug/L		99
103)	m,p-xylene	13.937	106	121629	41.18	ug/L		99
104)	o-xylene	14.336	106	59475	19.21	ug/L		99
105)	styrene	14.351	104	96679	19.50	ug/L		99
107)	bromoform	14.582	173	30401	23.51	ug/L		99
109)	isopropylbenzene	14.687	105	162986	18.94	ug/L		99

7.7.14 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5105ms-5107\
Data File : 3D119637.D
Acq On : 27 May 2016 10:27 am
Operator : XimenaC
Sample : cc5092-20
Misc : MS2377,V3D5106,5,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 31 14:17:29 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
111) bromobenzene	15.075	156	47720	20.99 ug/L	96
112) cyclohexanone	14.818	55	36832	327.50 ug/L	95
113) 1,1,2,2-tetrachloroethane	14.965	83	51164	20.83 ug/L	98
114) trans-1,4-dichloro-2-b...	15.001	53	10536	18.89 ug/L	92
115) 1,2,3-trichloropropane	15.054	110	12079	22.35 ug/L	97
116) n-propylbenzene	15.101	91	199668	20.05 ug/L	99
118) 2-chlorotoluene	15.237	126	42804	20.59 ug/L	93
119) 4-chlorotoluene	15.347	126	41321	20.20 ug/L	95
120) 1,3,5-trimethylbenzene	15.258	105	150930	20.23 ug/L	97
121) tert-butylbenzene	15.599	119	113457	18.06 ug/L	99
122) pentachloroethane	15.667	167	36393	21.44 ug/L	98
123) 1,2,4-trimethylbenzene	15.652	105	154974	19.86 ug/L	98
124) sec-butylbenzene	15.814	105	203176	19.59 ug/L	98
125) 1,3-dichlorobenzene	15.987	146	100027	21.50 ug/L	99
126) p-isopropyltoluene	15.945	119	172799	19.54 ug/L	100
127) 1,4-dichlorobenzene	16.076	146	101240	21.17 ug/L	98
128) 1,2-dichlorobenzene	16.438	146	106070	21.20 ug/L	100
130) n-butylbenzene	16.344	92	96954	19.46 ug/L	99
132) 1,2-dibromo-3-chloropr...	17.162	157	14031	19.19 ug/L	93
133) 1,3,5-trichlorobenzene	17.335	180	109713	19.53 ug/L	98
134) 1,2,4-trichlorobenzene	17.906	180	114128	18.76 ug/L	98
135) hexachlorobutadiene	18.006	225	55154	20.02 ug/L	98
136) naphthalene	18.163	128	248726	18.12 ug/L	99
137) 1,2,3-trichlorobenzene	18.357	180	121572	19.42 ug/L	98
138) hexachloroethane	16.721	119	33280	18.94 ug/L	95
139) Benzyl chloride	16.165	91	98032	20.40 ug/L	99

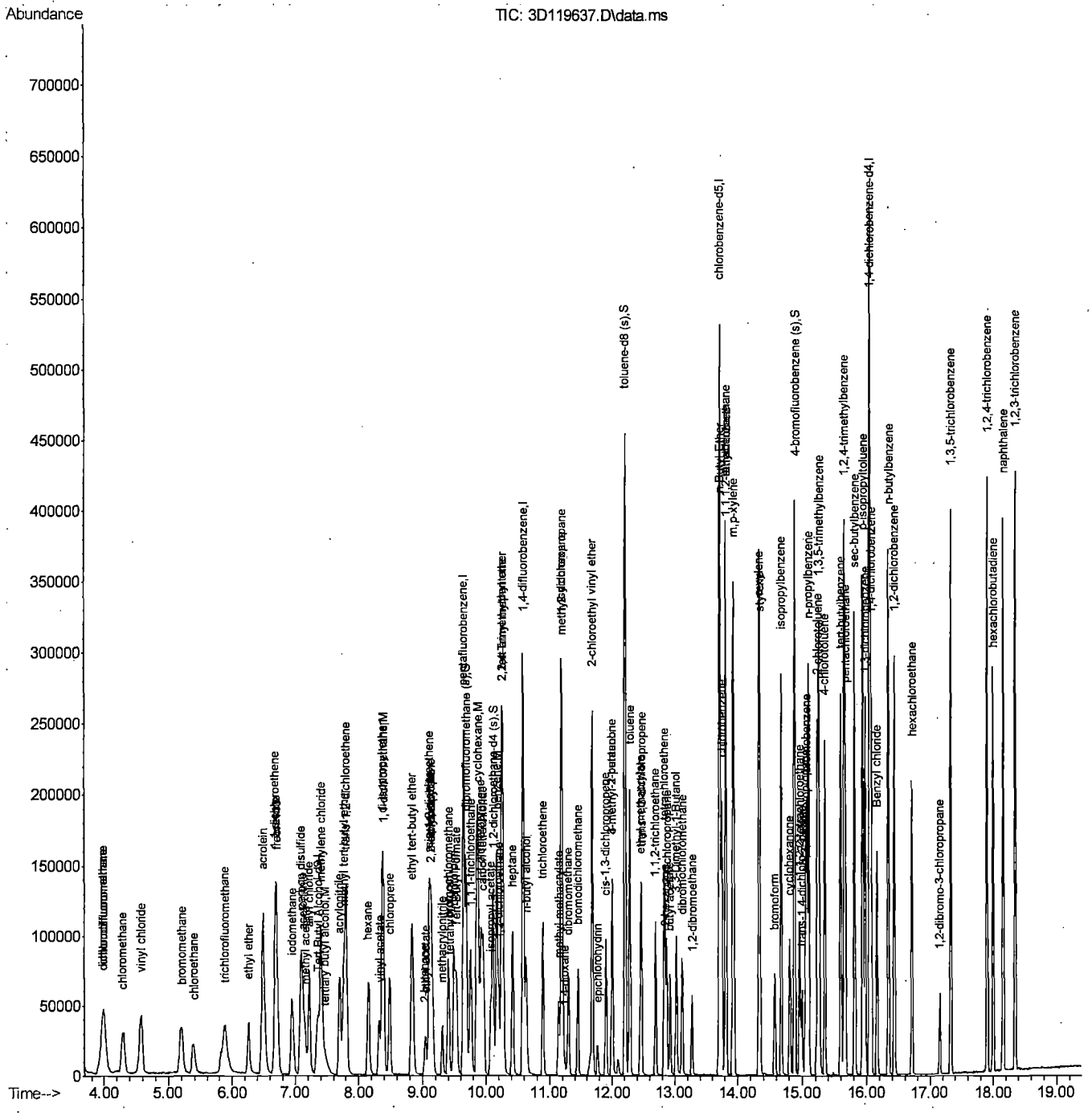
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.7.14 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\3D\v3d5105ms-5107\
Data File : 3D119637.D
Acq On : 27 May 2016 10:27 am
Operator : XimenaC
Sample : cc5092-20
Misc : MS2377,V3D5106,5,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 31 14:17:29 2016
Quant Method : C:\msdchem\1\METHODS\M3D5092.M
Quant Title : Method SW846 8260C, RXI 624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 11:52:25 2016
Response via : Initial Calibration



SGS ACCUTEST JC20564

7.7.14 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : 4D68570.D
Acq On : 18 May 2016 7:42 pm
Operator : XimenaC
Sample : IC3019-0.2
Misc : MS90450,V4D3019,5,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 19 09:20:49 2016
Quant Method : C:\MSDCHEM\1\METHODS\M4D3019.M
Quant Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
QLast Update : Thu May 19 07:28:52 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.557	65	141625	500.00	ug/L	-0.01
4) pentafluorobenzene	10.079	168	168619	50.00	ug/L	0.00
54) 1,4-difluorobenzene	11.028	114	264034	50.00	ug/L	0.00
86) chlorobenzene-d5	14.383	117	241937	50.00	ug/L	0.00
101) 1,4-dichlorobenzene-d4	16.774	152	130163	50.00	ug/L	0.00
System Monitoring Compounds						
48) dibromofluoromethane (s)	10.084	113	88560	50.07	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 100.14%			
49) 1,2-dichloroethane-d4 (s)	10.530	65	100173	50.84	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 101.68%			
78) toluene-d8 (s)	12.768	98	305944	50.47	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 100.94%			
103) 4-bromofluorobenzene (s)	15.605	95	127562	50.28	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 100.56%			
Target Compounds						Qvalue
27) carbon disulfide	7.179	76	1857	0.25	ug/L	82
28) methylene chloride	7.567	84	684	0.29	ug/L	78
31) methyl tert butyl ether	7.987	73	1703	0.25	ug/L	87
32) trans-1,2-dichloroethene	8.013	61	704	0.23	ug/L #	73
33) di-isopropyl ether	8.700	45	1584	0.25	ug/L	72
34) ethyl tert-butyl ether	9.203	59	1435	0.21	ug/L	73
36) 1,1-dichloroethane	8.658	63	965	0.25	ug/L	88
37) chloroprene	8.778	53	560	0.19	ug/L	75
42) cis-1,2-dichloroethene	9.470	96	625	0.26	ug/L	81
47) chloroform	9.874	83	1177	0.30	ug/L	83
52) 1,1,1-trichloroethane	10.157	97	744	0.23	ug/L	96
53) tert-amyl methyl ether	10.697	73	1600	0.25	ug/L	94
62) benzene	10.624	78	2306	0.28	ug/L	94
67) trichloroethene	11.374	95	602	0.26	ug/L #	70
70) 2-chloroethyl vinyl ether	12.233	63	1711	1.05	ug/L	96
75) dibromomethane	11.798	93	341	0.21	ug/L	89
76) bromodichloromethane	11.956	83	790	0.25	ug/L	94
77) cis-1,3-dichloropropene	12.454	75	916	0.25	ug/L	92
80) toluene	12.847	92	1240	0.24	ug/L	92
82) trans-1,3-dichloropropene	13.051	75	807	0.23	ug/L	75
83) ethyl methacrylate	13.078	69	819	0.25	ug/L	67
84) 1,1,2-trichloroethane	13.272	83	400	0.21	ug/L	76
87) tetrachloroethene	13.471	166	449	0.19	ug/L	90
88) 1,3-dichloropropane	13.471	76	833	0.25	ug/L	86
90) dibromochloromethane	13.738	129	514	0.19	ug/L	80
91) 1,2-dibromoethane	13.911	107	462	0.18	ug/L	89
93) chlorobenzene	14.415	112	1397	0.24	ug/L	99
94) 1,1,1,2-tetrachloroethane	14.483	131	470	0.21	ug/L	89
95) ethylbenzene	14.493	91	2607	0.26	ug/L	92
96) m,p-xylene	14.609	106	1810	0.48	ug/L	99
97) o-xylene	15.049	91	2218	0.27	ug/L	93
98) styrene	15.054	104	1465	0.22	ug/L	95

7.7.15

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : 4D68570.D
Acq On : 18 May 2016 7:42 pm
Operator : XimenaC
Sample : IC3019-0.2
Misc : MS90450,V4D3019,5,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 19 09:20:49 2016
Quant Method : C:\MSDCHEM\1\METHODS\M4D3019.M
Quant Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
QLast Update : Thu May 19 07:28:52 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
102) isopropylbenzene	15.416	105	2337	0.23 ug/L	93
104) bromobenzene	15.799	156	585	0.21 ug/L	96
106) 1,1,2,2-tetrachloroethane	15.699	83	941	0.25 ug/L	92
109) n-propylbenzene	15.835	91	2925	0.24 ug/L	96
110) 2-chlorotoluene	15.967	126	527	0.21 ug/L	90
111) 4-chlorotoluene	16.071	91	2178	0.28 ug/L	93
112) 1,3,5-trimethylbenzene	15.988	105	2297	0.26 ug/L	95
115) 1,2,4-trimethylbenzene	16.381	105	2330	0.25 ug/L	94
116) sec-butylbenzene	16.554	105	2547	0.22 ug/L	95
117) 1,3-dichlorobenzene	16.716	146	1237	0.24 ug/L	84
118) p-isopropyltoluene	16.674	119	2209	0.23 ug/L	93
119) 1,4-dichlorobenzene	16.800	146	1272	0.24 ug/L	74
120) 1,2-dichlorobenzene	17.183	146	1139	0.22 ug/L	92
121) n-butylbenzene	17.083	92	1141	0.21 ug/L	90
123) 1,3,5-trichlorobenzene	18.095	180	869	0.20 ug/L	95
124) 1,2,4-trichlorobenzene	18.693	180	845	0.20 ug/L	86
126) naphthalene	18.966	128	2413	0.20 ug/L	89
127) 1,2,3-trichlorobenzene	19.201	180	715	0.18 ug/L	86

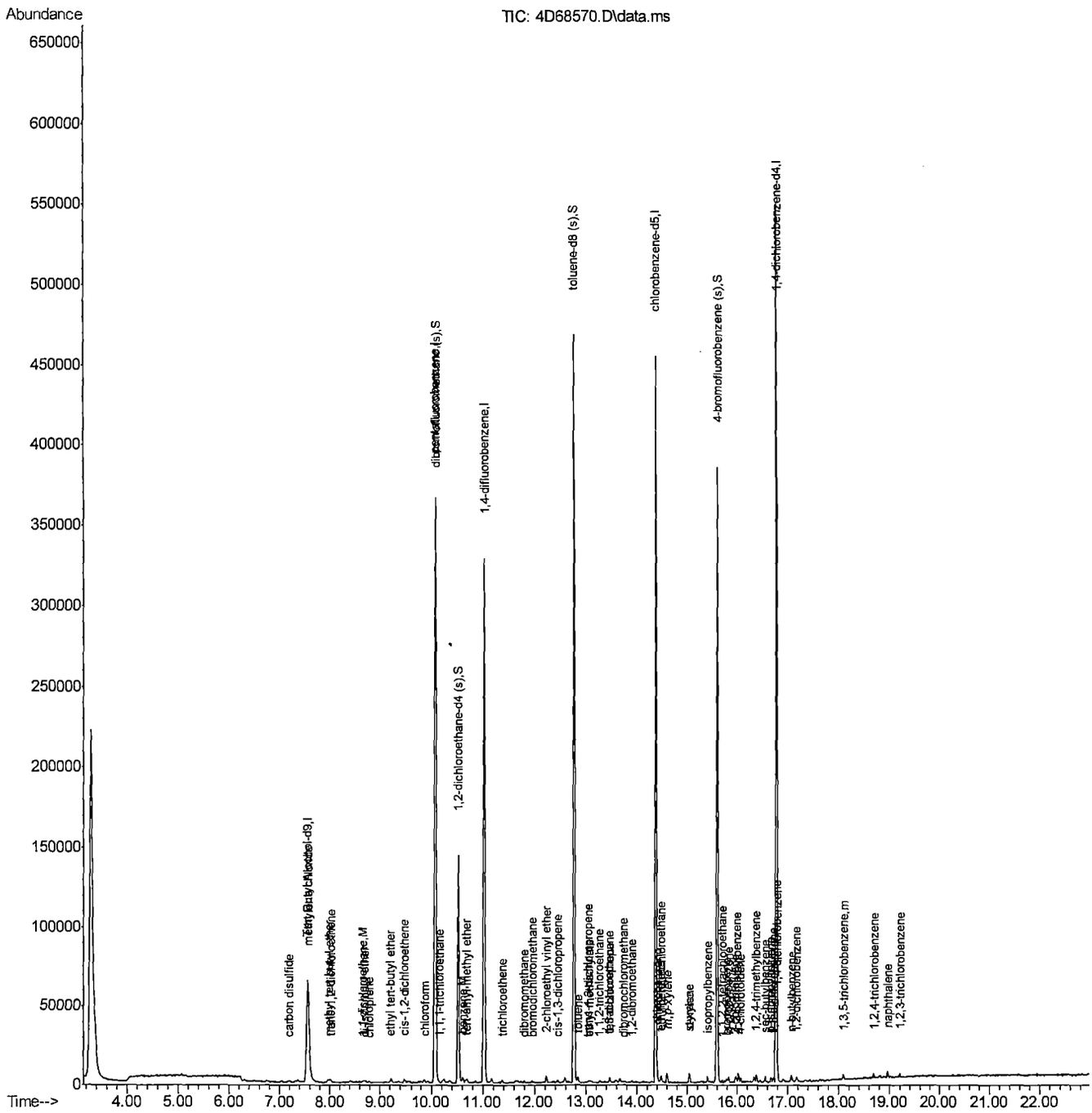
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.7.15 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : 4D68570.D
Acq On : 18 May 2016 7:42 pm
Operator : XimenaC
Sample : IC3019-0.2
Misc : MS90450,V4D3019,5,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 19 09:20:49 2016
Quant Method : C:\MSDCHEM\1\METHODS\M4D3019.M
Quant Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
QLast Update : Thu May 19 07:28:52 2016
Response via : Initial Calibration



7.7.15 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : 4D68571.D
Acq On : 18 May 2016 8:10 pm
Operator : XimenaC
Sample : IC3019-0.5
Misc : MS90450,V4D3019,5,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 19 09:21:57 2016
Quant Method : C:\MSDCHEM\1\METHODS\M4D3019.M
Quant Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
QLast Update : Thu May 19 07:28:52 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.557	65	142434	500.00	ug/L	-0.01
4) pentafluorobenzene	10.079	168	179229	50.00	ug/L	0.00
54) 1,4-difluorobenzene	11.033	114	279632	50.00	ug/L	0.00
86) chlorobenzene-d5	14.383	117	257655	50.00	ug/L	0.00
101) 1,4-dichlorobenzene-d4	16.779	152	138514	50.00	ug/L	0.00
System Monitoring Compounds						
48) dibromofluoromethane (s)	10.084	113	93542	49.75	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 99.50%			
49) 1,2-dichloroethane-d4 (s)	10.535	65	105763	50.50	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 101.00%			
78) toluene-d8 (s)	12.773	98	322435	50.23	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 100.46%			
103) 4-bromofluorobenzene (s)	15.605	95	136269	50.47	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 100.94%			
Target Compounds						Qvalue
9) chloromethane	4.065	50	1405	0.45	ug/L	91
10) vinyl chloride	4.337	62	1304	0.42	ug/L	88
12) bromomethane	5.056	94	1046	0.66	ug/L	87
14) trichlorofluoromethane	5.821	101	1103	0.32	ug/L	90
19) 2-chloropropane	6.503	43	1809	0.51	ug/L #	76
20) acrolein	6.560	56	3357	5.45	ug/L	89
21) 1,1-dichloroethene	6.749	61	2333	0.58	ug/L	95
25) iodomethane	7.038	142	1828	0.42	ug/L	90
27) carbon disulfide	7.179	76	3940	0.50	ug/L	94
28) methylene chloride	7.572	84	1399	0.56	ug/L	91
31) methyl tert butyl ether	7.992	73	3609	0.50	ug/L	92
32) trans-1,2-dichloroethene	8.008	61	1586	0.49	ug/L	91
33) di-isopropyl ether	8.700	45	3452	0.50	ug/L	97
34) ethyl tert-butyl ether	9.213	59	3439	0.48	ug/L	93
36) 1,1-dichloroethane	8.652	63	1907	0.47	ug/L	94
37) chloroprene	8.789	53	1557	0.50	ug/L	86
38) acrylonitrile	7.950	53	2601	2.40	ug/L	92
41) 2,2-dichloropropane	9.486	77	1866	0.56	ug/L	92
42) cis-1,2-dichloroethene	9.470	96	1365	0.53	ug/L	98
43) propionitrile	9.549	54	2022	4.86	ug/L	88
45) bromochloromethane	9.795	128	516	0.40	ug/L	90
47) chloroform	9.874	83	2243	0.54	ug/L	98
52) 1,1,1-trichloroethane	10.152	97	1720	0.50	ug/L	95
53) tert-amyl methyl ether	10.697	73	3571	0.52	ug/L	86
56) n-butyl alcohol	11.174	56	2455	24.64	ug/L	84
57) cyclohexane	10.236	84	1517	0.50	ug/L	79
59) carbon tetrachloride	10.372	117	1429	0.46	ug/L	95
60) 1,1-dichloropropene	10.351	75	1427	0.49	ug/L	90
62) benzene	10.624	78	4539	0.52	ug/L	91
63) ISO-OCTANE	10.676	57	4419	0.60	ug/L #	93
65) isopropyl acetate	10.592	43	3474	0.70	ug/L	96
66) 1,2-dichloroethane	10.629	62	1529	0.48	ug/L	86

7.7.16 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : 4D68571.D
Acq On : 18 May 2016 8:10 pm
Operator : XimenaC
Sample : IC3019-0.5
Misc : MS90450,V4D3019,5,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 19 09:21:57 2016
Quant Method : C:\MSDCHEM\1\METHODS\M4D3019.M
Quant Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
QLast Update : Thu May 19 07:28:52 2016
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
67)	trichloroethene	11.384	95	1254	0.51 ug/L	97
70)	2-chloroethyl vinyl ether	12.239	63	4245	2.46 ug/L	93
72)	1,2-dichloropropane	11.657	63	1183	0.51 ug/L	96
73)	methylcyclohexane	11.630	83	1656	0.50 ug/L	92
75)	dibromomethane	11.803	93	812	0.46 ug/L	93
76)	bromodichloromethane	11.956	83	1693	0.51 ug/L	97
77)	cis-1,3-dichloropropene	12.454	75	1931	0.50 ug/L	83
80)	toluene	12.852	92	2726	0.50 ug/L	97
81)	3-methyl-1-butanol	12.595	70	908	9.49 ug/L #	77
82)	trans-1,3-dichloropropene	13.057	75	1784	0.48 ug/L	92
83)	ethyl methacrylate	13.078	69	1777	0.51 ug/L	87
84)	1,1,2-trichloroethane	13.277	83	1061	0.52 ug/L	95
87)	tetrachloroethene	13.471	166	1099	0.45 ug/L	97
88)	1,3-dichloropropane	13.471	76	1781	0.50 ug/L	92
90)	dibromochloromethane	13.743	129	1190	0.42 ug/L	83
91)	1,2-dibromoethane	13.911	107	1237	0.46 ug/L	90
92)	n-Butyl Ether	14.378	57	5122	0.56 ug/L #	4
93)	chlorobenzene	14.415	112	3051	0.50 ug/L	93
94)	1,1,1,2-tetrachloroethane	14.477	131	1103	0.46 ug/L	96
95)	ethylbenzene	14.493	91	5720	0.53 ug/L	98
96)	m,p-xylene	14.608	106	3969	0.99 ug/L	100
97)	o-xylene	15.049	91	4562	0.52 ug/L	94
98)	styrene	15.054	104	3364	0.48 ug/L	96
99)	butyl acrylate	14.886	55	3234	0.61 ug/L	96
100)	bromoform	15.306	173	871	0.40 ug/L	92
102)	isopropylbenzene	15.411	105	5373	0.49 ug/L	99
104)	bromobenzene	15.799	156	1422	0.48 ug/L	90
106)	1,1,2,2-tetrachloroethane	15.704	83	1967	0.49 ug/L	92
109)	n-propylbenzene	15.835	91	6665	0.52 ug/L	99
110)	2-chlorotoluene	15.966	126	1279	0.48 ug/L	93
111)	4-chlorotoluene	16.071	91	4356	0.53 ug/L	99
112)	1,3,5-trimethylbenzene	15.987	105	4745	0.50 ug/L	92
114)	pentachloroethane	16.402	167	786	0.41 ug/L	96
115)	1,2,4-trimethylbenzene	16.381	105	4995	0.51 ug/L	96
116)	sec-butylbenzene	16.554	105	6327	0.51 ug/L	96
117)	1,3-dichlorobenzene	16.721	146	2778	0.50 ug/L	95
118)	p-isopropyltoluene	16.674	119	5111	0.50 ug/L	97
119)	1,4-dichlorobenzene	16.800	146	2709	0.48 ug/L	92
120)	1,2-dichlorobenzene	17.183	146	2650	0.47 ug/L	99
121)	n-butylbenzene	17.078	92	2612	0.46 ug/L	93
123)	1,3,5-trichlorobenzene	18.095	180	2108	0.45 ug/L	89
124)	1,2,4-trichlorobenzene	18.693	180	1707	0.39 ug/L	96
125)	hexachlorobutadiene	18.813	225	957	0.41 ug/L #	85
126)	naphthalene	18.965	128	5003	0.40 ug/L	92
127)	1,2,3-trichlorobenzene	19.196	180	1609	0.38 ug/L	94
128)	hexachloroethane	17.440	119	956	0.44 ug/L	93
129)	Benzyl chloride	16.915	91	3872	0.53 ug/L	93

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

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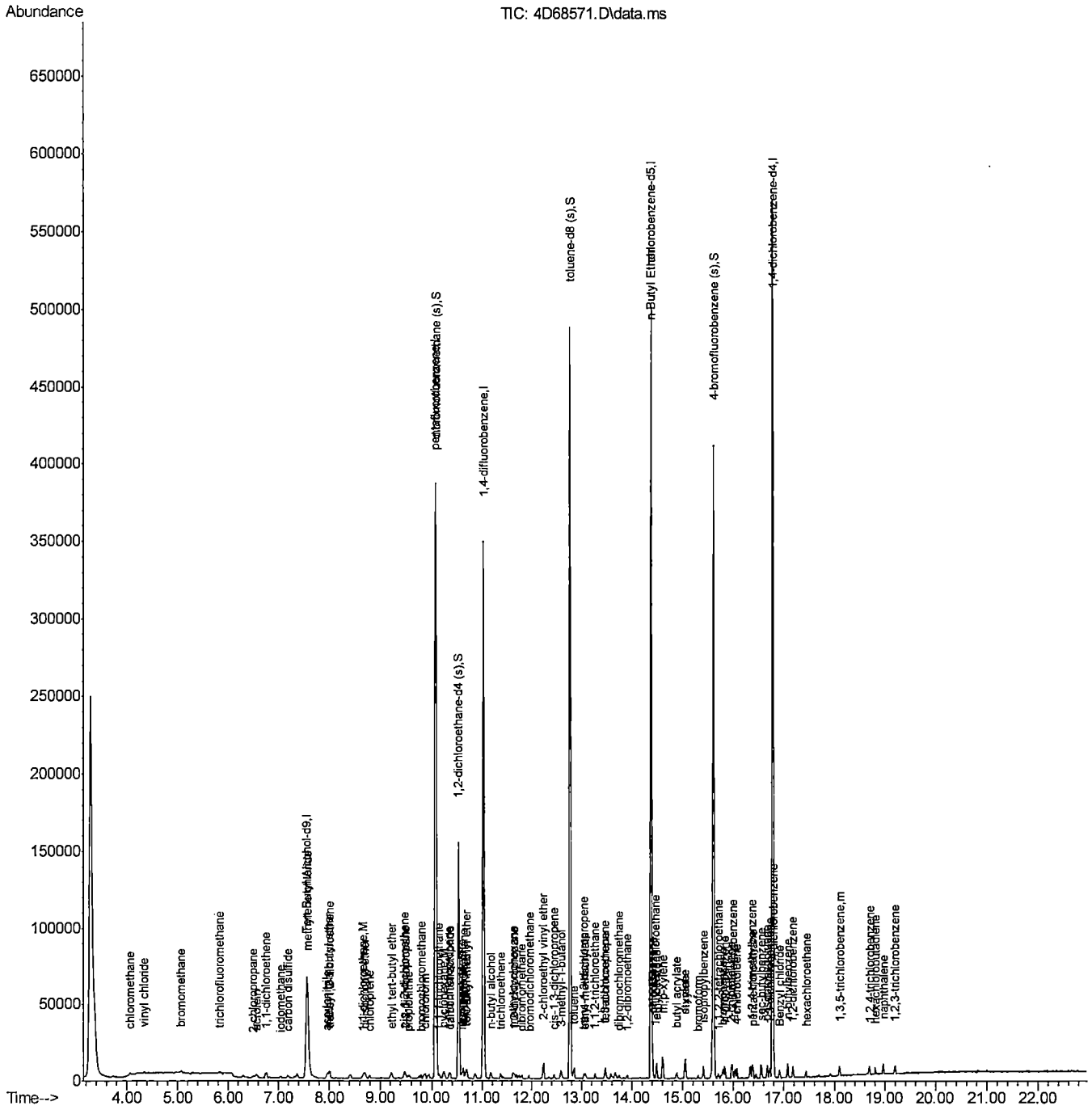
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : 4D68571.D
Acq On : 18 May 2016 8:10 pm
Operator : XimenaC
Sample : IC3019-0.5
Misc : MS90450,V4D3019,5,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 19 09:21:57 2016
Quant Method : C:\MSDCHEM\1\METHODS\M4D3019.M
Quant Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
QLast Update : Thu May 19 07:28:52 2016
Response via : Initial Calibration



SGS ACCUTEST JC20564

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : 4D68572.D
Acq On : 18 May 2016 8:39 pm
Operator : XimenaC
Sample : IC3019-1
Misc : MS90450,V4D3019,5,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 19 09:23:47 2016
Quant Method : C:\MSDCHEM\1\METHODS\M4D3019.M
Quant Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
QLast Update : Thu May 19 07:28:52 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.567	65	140573	500.00	ug/L	0.00
4) pentafluorobenzene	10.084	168	173441	50.00	ug/L	0.00
54) 1,4-difluorobenzene	11.033	114	273664	50.00	ug/L	0.00
86) chlorobenzene-d5	14.383	117	253630	50.00	ug/L	0.00
101) 1,4-dichlorobenzene-d4	16.774	152	136109	50.00	ug/L	0.00
System Monitoring Compounds						
48) dibromofluoromethane (s)	10.089	113	90822	49.92	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 99.84%			
49) 1,2-dichloroethane-d4 (s)	10.535	65	103198	50.92	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 101.84%			
78) toluene-d8 (s)	12.773	98	314736	50.10	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 100.20%			
103) 4-bromofluorobenzene (s)	15.605	95	133630	50.37	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 100.74%			
Target Compounds						Qvalue
2) 1,4-dioxane	11.777	88	1020	28.71	ug/L	88
3) tertiary butyl alcohol	7.703	59	1983	5.02	ug/L	75
5) freon 143a	3.388	65	579	0.86	ug/L #	72
6) chlorodifluoromethane	3.740	51	2322	1.02	ug/L	85
7) dichlorodifluoromethane	3.729	85	2512	1.00	ug/L	94
8) freon 142b	4.002	65	2429	0.93	ug/L #	91
9) chloromethane	4.075	50	3536	1.18	ug/L	99
10) vinyl chloride	4.348	62	3401	1.14	ug/L	94
12) bromomethane	5.061	94	2317	1.51	ug/L	97
13) chloroethane	5.276	64	1675	1.29	ug/L	92
14) trichlorofluoromethane	5.821	101	3457	1.04	ug/L	87
16) freon 141b	6.283	81	1713	0.68	ug/L #	76
17) ethyl ether	6.303	74	1162	0.97	ug/L #	85
19) 2-chloropropane	6.513	43	4320	1.26	ug/L #	57
20) acrolein	6.560	56	1130057	1895.20	ug/L	100
21) 1,1-dichloroethene	6.760	61	4636	1.19	ug/L	93
23) allyl chloride	7.368	76	1236	1.06	ug/L #	78
25) iodomethane	7.043	142	4397	1.04	ug/L	96
27) carbon disulfide	7.184	76	8945	1.16	ug/L	98
28) methylene chloride	7.578	84	2931	1.20	ug/L	95
31) methyl tert butyl ether	7.997	73	7377	1.06	ug/L	94
32) trans-1,2-dichloroethene	8.007	61	3806	1.22	ug/L	93
33) di-isopropyl ether	8.700	45	8036	1.21	ug/L	95
34) ethyl tert-butyl ether	9.213	59	8299	1.20	ug/L	93
36) 1,1-dichloroethane	8.658	63	4230	1.08	ug/L	97
37) chloroprene	8.783	53	3604	1.21	ug/L	95
38) acrylonitrile	7.955	53	5750	5.47	ug/L	96
41) 2,2-dichloropropane	9.486	77	3867	1.21	ug/L	97
42) cis-1,2-dichloroethene	9.470	96	3064	1.24	ug/L	96
43) propionitrile	9.554	54	4432	11.01	ug/L	84
45) bromochloromethane	9.801	128	1443	1.15	ug/L	93
47) chloroform	9.874	83	4960	1.22	ug/L	94

7.7.17

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Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : 4D68572.D
Acq On : 18 May 2016 8:39 pm
Operator : XimenaC
Sample : IC3019-1
Misc : MS90450,V4D3019,5,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 19 09:23:47 2016
Quant Method : C:\MSDCHEM\1\METHODS\M4D3019.M
Quant Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
QLast Update : Thu May 19 07:28:52 2016
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
50)	freon 113	6.754	151	1284	0.88 ug/L		80
51)	methacrylonitrile	9.759	67	1350	1.14 ug/L		95
52)	1,1,1-trichloroethane	10.152	97	3795	1.15 ug/L		91
53)	tert-amyl methyl ether	10.702	73	8896	1.33 ug/L		93
56)	n-butyl alcohol	11.174	56	5791	59.40 ug/L		90
57)	cyclohexane	10.241	84	3558	1.20 ug/L		95
59)	carbon tetrachloride	10.372	117	3614	1.18 ug/L		96
60)	1,1-dichloropropene	10.346	75	3620	1.27 ug/L		95
61)	hexane	8.406	57	3679	1.56 ug/L		87
62)	benzene	10.624	78	11016	1.29 ug/L		99
63)	ISO-OCTANE	10.681	57	10141	1.40 ug/L		96
65)	isopropyl acetate	10.592	43	6675	1.37 ug/L		89
66)	1,2-dichloroethane	10.629	62	4013	1.28 ug/L		92
67)	trichloroethene	11.379	95	3119	1.30 ug/L		99
68)	ethyl acrylate	11.415	55	5454	1.55 ug/L	#	93
70)	2-chloroethyl vinyl ether	12.239	63	13395	7.93 ug/L		95
71)	methyl methacrylate	11.693	100	783	1.08 ug/L	#	81
72)	1,2-dichloropropane	11.657	63	2786	1.23 ug/L		98
73)	methylcyclohexane	11.630	83	4462	1.37 ug/L		96
75)	dibromomethane	11.798	93	2204	1.28 ug/L		92
76)	bromodichloromethane	11.950	83	4055	1.24 ug/L		93
77)	cis-1,3-dichloropropene	12.454	75	5244	1.38 ug/L		98
79)	4-methyl-2-pentanone	12.585	58	1440	1.21 ug/L		93
80)	toluene	12.847	92	7362	1.39 ug/L		96
81)	3-methyl-1-butanol	12.600	70	2216	23.68 ug/L		91
82)	trans-1,3-dichloropropene	13.051	75	4964	1.36 ug/L		92
83)	ethyl methacrylate	13.078	69	4698	1.37 ug/L		98
84)	1,1,2-trichloroethane	13.277	83	2741	1.37 ug/L		91
85)	2-hexanone	13.497	58	1469	1.26 ug/L		89
87)	tetrachloroethene	13.465	166	3252	1.34 ug/L		96
88)	1,3-dichloropropane	13.476	76	4833	1.37 ug/L		99
90)	dibromochloromethane	13.743	129	3406	1.22 ug/L		93
91)	1,2-dibromoethane	13.906	107	3508	1.32 ug/L		97
92)	n-Butyl Ether	14.378	57	14215	1.57 ug/L	#	71
93)	chlorobenzene	14.414	112	8562	1.41 ug/L		96
94)	1,1,1,2-tetrachloroethane	14.483	131	3194	1.35 ug/L		93
95)	ethylbenzene	14.493	91	15382	1.46 ug/L		98
96)	m,p-xylene	14.608	106	11451	2.91 ug/L		96
97)	o-xylene	15.049	91	12803	1.48 ug/L		98
98)	styrene	15.054	104	9861	1.44 ug/L		98
99)	butyl acrylate	14.886	55	7513	1.44 ug/L		95
100)	bromoform	15.306	173	2421	1.14 ug/L		92
102)	isopropylbenzene	15.411	105	15762	1.47 ug/L		100
104)	bromobenzene	15.799	156	4098	1.40 ug/L		95
106)	1,1,2,2-tetrachloroethane	15.699	83	5205	1.33 ug/L		96
107)	trans-1,4-dichloro-2-b...	15.757	53	1349	1.39 ug/L		97
108)	1,2,3-trichloropropane	15.783	110	1218	1.31 ug/L		91
109)	n-propylbenzene	15.835	91	19010	1.50 ug/L		99
110)	2-chlorotoluene	15.972	126	3730	1.44 ug/L		99
111)	4-chlorotoluene	16.071	91	12208	1.52 ug/L		99

7.7.17

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Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : 4D68572.D
Acq On : 18 May 2016 8:39 pm
Operator : XimenaC
Sample : IC3019-1
Misc : MS90450,V4D3019,5,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 19 09:23:47 2016
Quant Method : C:\MSDCHEM\1\METHODS\M4D3019.M
Quant Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
QLast Update : Thu May 19 07:28:52 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
112) 1,3,5-trimethylbenzene	15.987	105	13174	1.41 ug/L	100
113) tert-butylbenzene	16.344	134	2388	1.44 ug/L #	83
114) pentachloroethane	16.402	167	2373	1.26 ug/L	92
115) 1,2,4-trimethylbenzene	16.381	105	13845	1.44 ug/L	94
116) sec-butylbenzene	16.554	105	17498	1.42 ug/L	99
117) 1,3-dichlorobenzene	16.721	146	7623	1.39 ug/L	99
118) p-isopropyltoluene	16.674	119	14490	1.44 ug/L	98
119) 1,4-dichlorobenzene	16.800	146	7883	1.43 ug/L	99
120) 1,2-dichlorobenzene	17.183	146	7404	1.35 ug/L	99
121) n-butylbenzene	17.078	92	7594	1.36 ug/L	98
122) 1,2-dibromo-3-chloropr...	17.912	157	1137	1.17 ug/L	93
123) 1,3,5-trichlorobenzene	18.095	180	5139	1.12 ug/L	98
124) 1,2,4-trichlorobenzene	18.693	180	4488	1.03 ug/L	96
125) hexachlorobutadiene	18.808	225	2506	1.10 ug/L #	99
126) naphthalene	18.960	128	12881	1.05 ug/L	99
127) 1,2,3-trichlorobenzene	19.196	180	4175	1.00 ug/L	95
128) hexachloroethane	17.440	119	2693	1.26 ug/L	94
129) Benzyl chloride	16.915	91	11842	1.64 ug/L	98

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

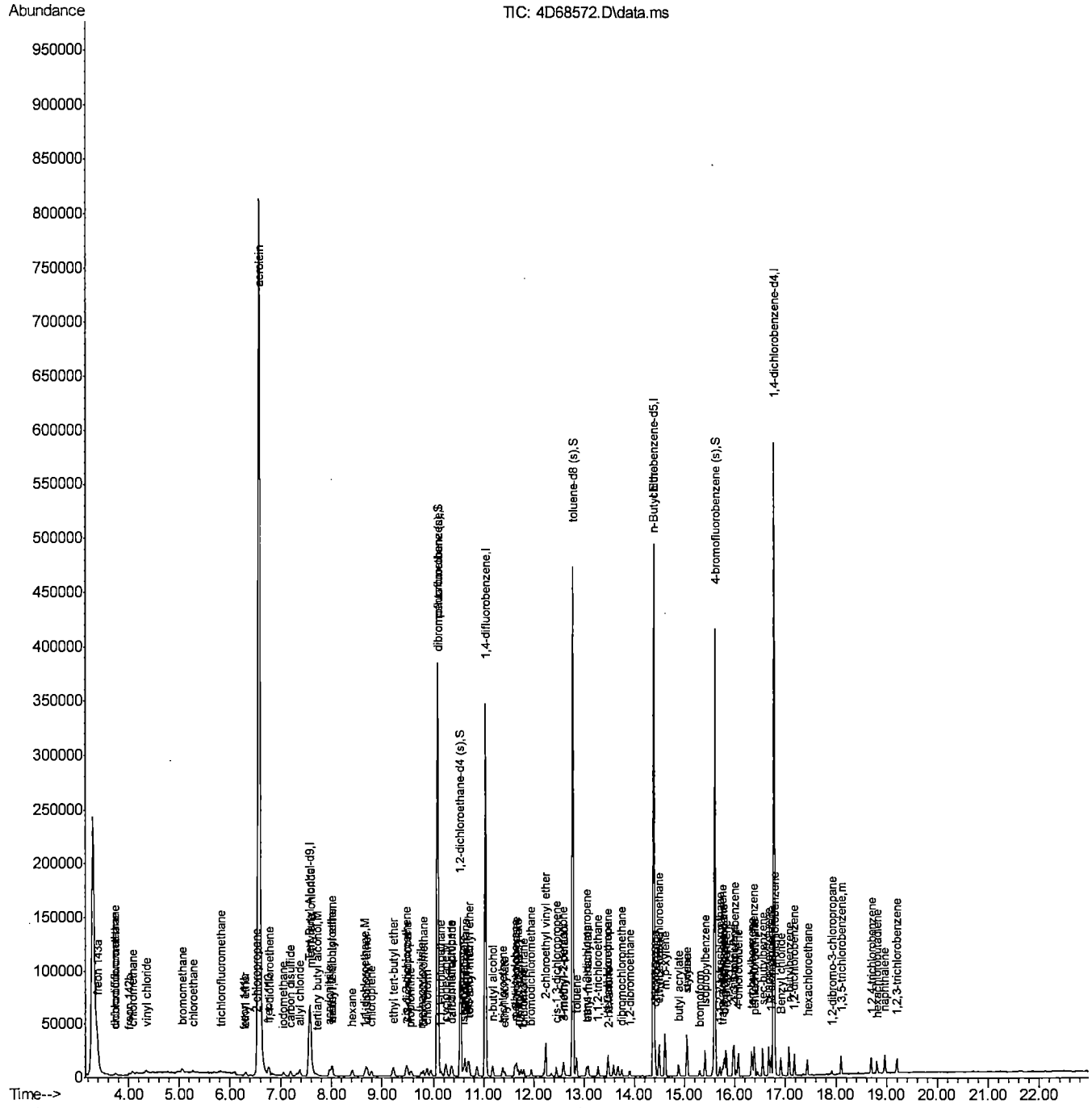
7.7.17

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : 4D68572.D
Acq On : 18 May 2016 8:39 pm
Operator : XimenaC
Sample : IC3019-1
Misc : MS90450,V4D3019,5,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 19 09:23:47 2016
Quant Method : C:\MSDCHEM\1\METHODS\M4D3019.M
Quant Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
QLast Update : Thu May 19 07:28:52 2016
Response via : Initial Calibration



SGS ACCUTEST JC20564

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : 4D68573.D
Acq On : 18 May 2016 9:07 pm
Operator : XimenaC
Sample : IC3019-2
Misc : MS90450,V4D3019,5,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 19 09:24:36 2016
Quant Method : C:\MSDCHEM\1\METHODS\M4D3019.M
Quant Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
QLast Update : Thu May 19 07:28:52 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.562	65	141964	500.00	ug/L	0.00
4) pentafluorobenzene	10.078	168	178829	50.00	ug/L	0.00
54) 1,4-difluorobenzene	11.033	114	280151	50.00	ug/L	0.00
86) chlorobenzene-d5	14.383	117	257223	50.00	ug/L	0.00
101) 1,4-dichlorobenzene-d4	16.774	152	137616	50.00	ug/L	0.00
System Monitoring Compounds						
48) dibromofluoromethane (s)	10.084	113	93539	49.86	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 99.72%			
49) 1,2-dichloroethane-d4 (s)	10.535	65	106378	50.90	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 101.80%			
78) toluene-d8 (s)	12.768	98	321931	50.05	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 100.10%			
103) 4-bromofluorobenzene (s)	15.605	95	136215	50.78	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 101.56%			
Target Compounds						Qvalue
2) 1,4-dioxane	11.777	88	1703	47.46	ug/L	81
3) tertiary butyl alcohol	7.698	59	3721	9.33	ug/L	95
5) freon 143a	3.383	65	1217	1.76	ug/L #	72
6) chlorodifluoromethane	3.734	51	4264	1.82	ug/L	97
7) dichlorodifluoromethane	3.713	85	4590	1.78	ug/L	95
8) freon 142b	3.991	65	4966	1.83	ug/L #	94
9) chloromethane	4.059	50	6071	1.96	ug/L	95
10) vinyl chloride	4.337	62	5955	1.94	ug/L	99
12) bromomethane	5.061	94	3901	2.47	ug/L	99
13) chloroethane	5.276	64	2799	2.08	ug/L	92
14) trichlorofluoromethane	5.816	101	6300	1.85	ug/L	91
16) freon 141b	6.288	81	3732	1.44	ug/L #	94
17) ethyl ether	6.298	74	2239	1.82	ug/L	91
19) 2-chloropropane	6.497	43	7077	2.00	ug/L #	92
20) acrolein	6.555	56	586543	954.05	ug/L	99
21) 1,1-dichloroethene	6.749	61	8722	2.18	ug/L	94
22) acetone	6.817	58	667	2.52	ug/L	91
23) allyl chloride	7.357	76	2380	1.98	ug/L	87
24) acetonitrile	7.310	40	3212	20.15	ug/L	88
25) iodomethane	7.037	142	8185	1.88	ug/L	99
26) iso-butyl alcohol	10.372	41	3024	26.11	ug/L	87
27) carbon disulfide	7.179	76	15836	1.99	ug/L	96
28) methylene chloride	7.567	84	5246	2.09	ug/L	97
31) methyl tert butyl ether	7.997	73	14146	1.98	ug/L	98
32) trans-1,2-dichloroethene	8.007	61	6745	2.09	ug/L	98
33) di-isopropyl ether	8.694	45	13905	2.03	ug/L	90
34) ethyl tert-butyl ether	9.213	59	14134	1.98	ug/L	96
36) 1,1-dichloroethane	8.658	63	8172	2.03	ug/L	95
37) chloroprene	8.783	53	6063	1.97	ug/L	94
38) acrylonitrile	7.950	53	10748	9.92	ug/L	97
39) vinyl acetate	8.673	86	675	1.54	ug/L	88
40) ethyl acetate	9.496	45	823	2.05	ug/L	77

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Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : 4D68573.D
Acq On : 18 May 2016 9:07 pm
Operator : XimenaC
Sample : IC3019-2
Misc : MS90450,V4D3019,5,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 19 09:24:36 2016
Quant Method : C:\MSDCHEM\1\METHODS\M4D3019.M
Quant Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
QLast Update : Thu May 19 07:28:52 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
41) 2,2-dichloropropane	9.486	77	6986	2.11 ug/L	97
42) cis-1,2-dichloroethene	9.465	96	5221	2.04 ug/L	94
43) propionitrile	9.549	54	8191	19.74 ug/L	93
44) methyl acrylate	9.570	85	890	1.91 ug/L	75
45) bromochloromethane	9.801	128	2561	1.99 ug/L	93
46) tetrahydrofuran	9.853	42	2583	2.96 ug/L	91
47) chloroform	9.874	83	8752	2.09 ug/L	100
50) freon 113	6.754	151	2690	1.78 ug/L	87
51) methacrylonitrile	9.759	67	2392	1.96 ug/L	96
52) 1,1,1-trichloroethane	10.152	97	6910	2.02 ug/L	98
53) tert-amyl methyl ether	10.697	73	14375	2.09 ug/L	94
55) epichlorohydrin	12.349	57	3949	12.28 ug/L	93
56) n-butyl alcohol	11.174	56	10111	101.31 ug/L	97
57) cyclohexane	10.241	84	6270	2.06 ug/L	98
59) carbon tetrachloride	10.367	117	6266	2.00 ug/L	90
60) 1,1-dichloropropene	10.346	75	6084	2.09 ug/L	99
61) hexane	8.401	57	5458	2.26 ug/L	100
62) benzene	10.624	78	18897	2.16 ug/L	98
63) ISO-OCTANE	10.681	57	16024	2.16 ug/L	96
64) heptane	10.860	57	3555	2.53 ug/L	95
65) isopropyl acetate	10.592	43	11375	2.28 ug/L	92
66) 1,2-dichloroethane	10.629	62	6741	2.10 ug/L	99
67) trichloroethene	11.379	95	5128	2.10 ug/L	96
68) ethyl acrylate	11.415	55	8294	2.30 ug/L	98
69) 2-nitropropane	12.202	41	1922	2.50 ug/L	93
70) 2-chloroethyl vinyl ether	12.233	63	19307	11.17 ug/L	98
71) methyl methacrylate	11.693	100	1318	1.78 ug/L #	90
72) 1,2-dichloropropane	11.657	63	4828	2.08 ug/L	94
73) methylcyclohexane	11.630	83	7018	2.11 ug/L	95
75) dibromomethane	11.803	93	3623	2.06 ug/L	97
76) bromodichloromethane	11.950	83	6856	2.04 ug/L	90
77) cis-1,3-dichloropropene	12.454	75	8233	2.11 ug/L	99
79) 4-methyl-2-pentanone	12.585	58	2401	1.97 ug/L	87
80) toluene	12.847	92	11755	2.16 ug/L	99
81) 3-methyl-1-butanol	12.595	70	3801	39.67 ug/L	94
82) trans-1,3-dichloropropene	13.051	75	7743	2.08 ug/L	93
83) ethyl methacrylate	13.083	69	7174	2.04 ug/L	97
84) 1,1,2-trichloroethane	13.271	83	4374	2.13 ug/L	90
85) 2-hexanone	13.492	58	2406	2.01 ug/L	100
87) tetrachloroethene	13.471	166	5156	2.10 ug/L	95
88) 1,3-dichloropropane	13.471	76	7627	2.13 ug/L	99
89) butyl acetate	13.586	56	4581	2.54 ug/L	91
90) dibromochloromethane	13.743	129	5445	1.92 ug/L	98
91) 1,2-dibromoethane	13.906	107	5559	2.07 ug/L	95
92) n-Butyl Ether	14.378	57	20848	2.28 ug/L #	76
93) chlorobenzene	14.414	112	13295	2.16 ug/L	98
94) 1,1,1,2-tetrachloroethane	14.477	131	4878	2.04 ug/L	98
95) ethylbenzene	14.493	91	23593	2.21 ug/L	100
96) m,p-xylene	14.608	106	17731	4.44 ug/L	98
97) o-xylene	15.049	91	19205	2.20 ug/L	99

7.7.18 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : 4D68573.D
Acq On : 18 May 2016 9:07 pm
Operator : XimenaC
Sample : IC3019-2
Misc : MS90450,V4D3019,5,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 19 09:24:36 2016
Quant Method : C:\MSDCHEM\1\METHODS\M4D3019.M
Quant Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
QLast Update : Thu May 19 07:28:52 2016
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
98)	styrene	15.054	104	14860	2.15	ug/L		97
99)	butyl acrylate	14.886	55	11774	2.22	ug/L		96
100)	bromoform	15.301	173	3968	1.84	ug/L		100
102)	isopropylbenzene	15.411	105	23279	2.14	ug/L		100
104)	bromobenzene	15.799	156	6179	2.09	ug/L		98
106)	1,1,2,2-tetrachloroethane	15.699	83	8039	2.03	ug/L		97
107)	trans-1,4-dichloro-2-b...	15.751	53	2019	2.05	ug/L		92
108)	1,2,3-trichloropropane	15.778	110	1909	2.02	ug/L		98
109)	n-propylbenzene	15.835	91	28302	2.20	ug/L		98
110)	2-chlorotoluene	15.966	126	5658	2.16	ug/L		98
111)	4-chlorotoluene	16.071	91	18429	2.27	ug/L		100
112)	1,3,5-trimethylbenzene	15.987	105	20672	2.19	ug/L		99
113)	tert-butylbenzene	16.339	134	3674	2.19	ug/L		97
114)	pentachloroethane	16.402	167	3755	1.98	ug/L		93
115)	1,2,4-trimethylbenzene	16.381	105	20929	2.15	ug/L		98
116)	sec-butylbenzene	16.554	105	26311	2.11	ug/L		98
117)	1,3-dichlorobenzene	16.721	146	12003	2.17	ug/L		98
118)	p-isopropyltoluene	16.674	119	21892	2.15	ug/L		98
119)	1,4-dichlorobenzene	16.800	146	11813	2.12	ug/L		97
120)	1,2-dichlorobenzene	17.183	146	11449	2.06	ug/L		98
121)	n-butylbenzene	17.078	92	11571	2.05	ug/L		95
122)	1,2-dibromo-3-chloropr...	17.912	157	1854	1.89	ug/L		90
123)	1,3,5-trichlorobenzene	18.095	180	8916	1.93	ug/L		98
124)	1,2,4-trichlorobenzene	18.688	180	7937	1.80	ug/L		99
125)	hexachlorobutadiene	18.813	225	4320	1.88	ug/L	#	97
126)	naphthalene	18.960	128	22373	1.80	ug/L		100
127)	1,2,3-trichlorobenzene	19.196	180	7434	1.75	ug/L		92
128)	hexachloroethane	17.440	119	4367	2.02	ug/L		96
129)	Benzyl chloride	16.915	91	15985	2.19	ug/L		99

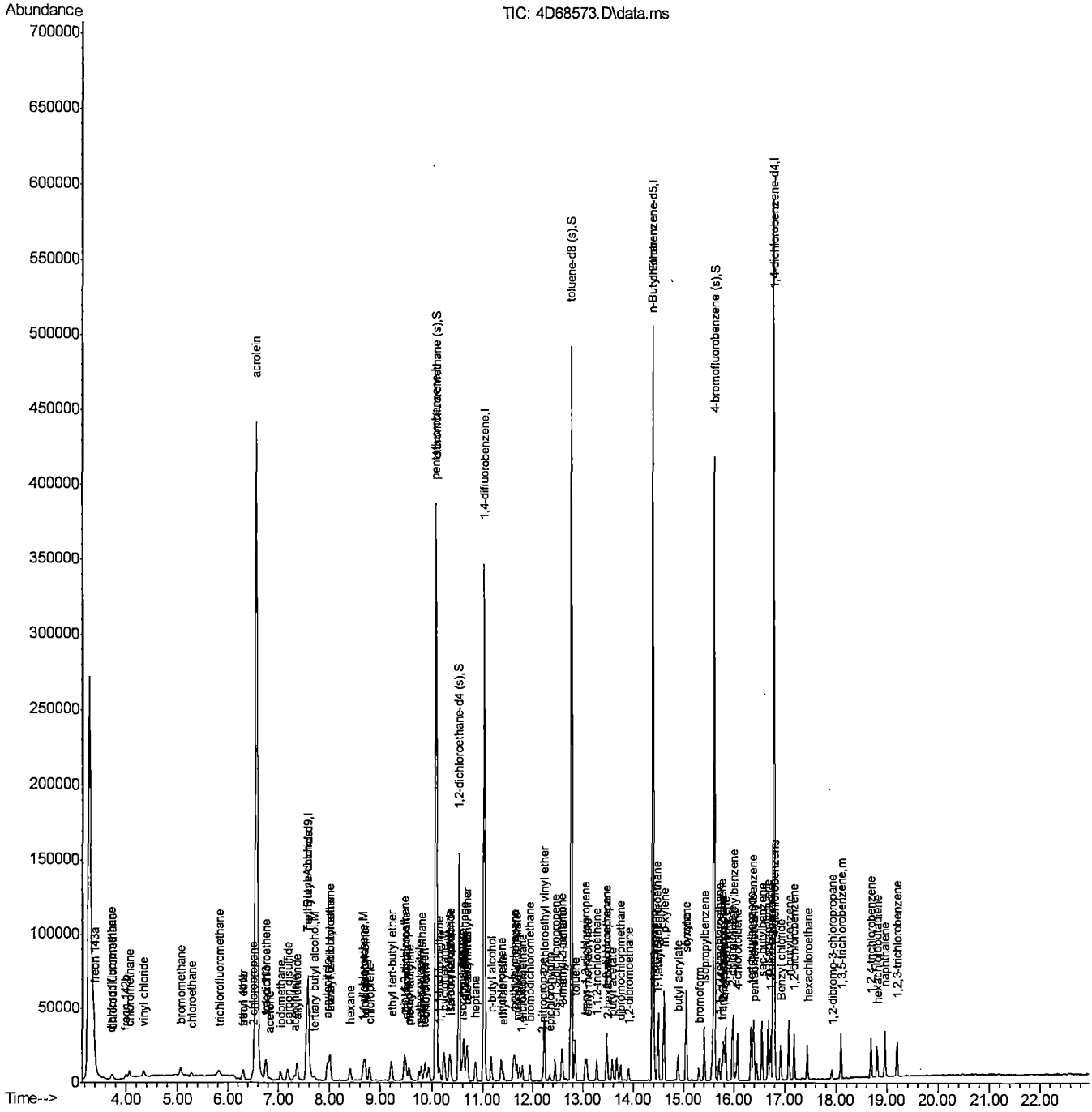
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.7.18 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : 4D68573.D
Acq On : 18 May 2016 9:07 pm
Operator : XimenaC
Sample : IC3019-2
Misc : MS90450,V4D3019,5,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 19 09:24:36 2016
Quant Method : C:\MSDCHEM\1\METHODS\M4D3019.M
Quant Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
QLast Update : Thu May 19 07:28:52 2016
Response via : Initial Calibration



SGS ACCUTEST JC20564

7.7.18 : 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : 4D68574.D
Acq On : 18 May 2016 9:35 pm
Operator : XimenaC
Sample : IC3019-5
Misc : MS90450,V4D3019,5,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 19 08:38:04 2016
Quant Method : C:\MSDCHEM\1\METHODS\M4D3019.M
Quant Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
QLast Update : Thu May 19 07:28:52 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.567	65	142362	500.00	ug/L	0.00
4) pentafluorobenzene	10.084	168	176175	50.00	ug/L	0.00
54) 1,4-difluorobenzene	11.033	114	277782	50.00	ug/L	0.00
86) chlorobenzene-d5	14.383	117	253055	50.00	ug/L	0.00
101) 1,4-dichlorobenzene-d4	16.774	152	135503	50.00	ug/L	0.00
System Monitoring Compounds						
48) dibromofluoromethane (s)	10.089	113	93706	50.70	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 101.40%			
49) 1,2-dichloroethane-d4 (s)	10.535	65	105872	51.42	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 102.84%			
78) toluene-d8 (s)	12.773	98	316196	49.58	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 99.16%			
103) 4-bromofluorobenzene (s)	15.605	95	133027	50.37	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 100.74%			
Target Compounds						Qvalue
2) 1,4-dioxane	11.777	88	4246	117.99	ug/L	95
3) tertiary butyl alcohol	7.698	59	9775	24.45	ug/L	91
5) freon 143a	3.394	65	3351	4.92	ug/L	96
6) chlorodifluoromethane	3.745	51	10906	4.74	ug/L	94
7) dichlorodifluoromethane	3.729	85	12176	4.78	ug/L	97
8) freon 142b	4.002	65	13105	4.91	ug/L	96
9) chloromethane	4.070	50	14372	4.72	ug/L	97
10) vinyl chloride	4.348	62	14103	4.67	ug/L	100
12) bromomethane	5.066	94	9443	6.07	ug/L	98
13) chloroethane	5.281	64	6974	5.27	ug/L	97
14) trichlorofluoromethane	5.832	101	16035	4.77	ug/L	98
16) freon 141b	6.293	81	11045	4.33	ug/L	98
17) ethyl ether	6.304	74	5981	4.93	ug/L	99
19) 2-chloropropane	6.508	43	17423	4.99	ug/L	96
20) acrolein	6.560	56	31807	52.52	ug/L	96
21) 1,1-dichloroethene	6.760	61	21365	5.41	ug/L	98
22) acetone	6.817	58	1289	4.94	ug/L	87
23) allyl chloride	7.368	76	5927	5.00	ug/L	93
24) acetonitrile	7.315	40	7197	45.82	ug/L	91
25) iodomethane	7.043	142	20710	4.82	ug/L	99
26) iso-butyl alcohol	10.377	41	6677	58.52	ug/L	95
27) carbon disulfide	7.179	76	38704	4.95	ug/L	100
28) methylene chloride	7.572	84	12492	5.05	ug/L	97
30) methyl acetate	7.368	74	2269	4.73	ug/L #	81
31) methyl tert butyl ether	7.997	73	35632	5.05	ug/L	97
32) trans-1,2-dichloroethene	8.013	61	16420	5.17	ug/L	96
33) di-isopropyl ether	8.700	45	35092	5.21	ug/L	99
34) ethyl tert-butyl ether	9.219	59	35772	5.09	ug/L	99
35) 2-butanone	9.460	72	1599	4.52	ug/L	91
36) 1,1-dichloroethane	8.658	63	20296	5.12	ug/L	97
37) chloroprene	8.789	53	15673	5.17	ug/L	99
38) acrylonitrile	7.955	53	26634	24.96	ug/L	98

7.7.19 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : 4D68574.D
Acq On : 18 May 2016 9:35 pm
Operator : XimenaC
Sample : IC3019-5
Misc : MS90450,V4D3019,5,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 19 08:38:04 2016
Quant Method : C:\MSDCHEM\1\METHODS\M4D3019.M
Quant Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
QLast Update : Thu May 19 07:28:52 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
39) vinyl acetate	8.679	86	1963	4.55 ug/L	80
40) ethyl acetate	9.502	45	1986	5.03 ug/L	92
41) 2,2-dichloropropane	9.491	77	16705	5.13 ug/L	96
42) cis-1,2-dichloroethene	9.470	96	12836	5.10 ug/L	98
43) propionitrile	9.549	54	20510	50.17 ug/L	98
44) methyl acrylate	9.570	85	2349	5.12 ug/L #	83
45) bromochloromethane	9.801	128	6545	5.15 ug/L	98
46) tetrahydrofuran	9.853	42	5249	6.11 ug/L	97
47) chloroform	9.879	83	21090	5.12 ug/L	97
50) freon 113	6.754	151	7092	4.77 ug/L	97
51) methacrylonitrile	9.753	67	6169	5.13 ug/L	98
52) 1,1,1-trichloroethane	10.152	97	16990	5.05 ug/L	100
53) tert-amyl methyl ether	10.697	73	35830	5.29 ug/L	96
55) epichlorohydrin	12.344	57	8349	26.18 ug/L	95
56) n-butyl alcohol	11.174	56	24572	248.29 ug/L	99
57) cyclohexane	10.236	84	15261	5.05 ug/L #	76
59) carbon tetrachloride	10.372	117	15488	4.98 ug/L	99
60) 1,1-dichloropropene	10.351	75	14808	5.12 ug/L	99
61) hexane	8.406	57	12934	5.39 ug/L	97
62) benzene	10.624	78	44273	5.10 ug/L	99
63) ISO-OCTANE	10.676	57	38251	5.19 ug/L	97
64) heptane	10.865	57	7469	5.37 ug/L	98
65) isopropyl acetate	10.592	43	24494	4.94 ug/L	92
66) 1,2-dichloroethane	10.629	62	16158	5.07 ug/L	99
67) trichloroethene	11.379	95	12163	5.01 ug/L	98
68) ethyl acrylate	11.416	55	17793	4.97 ug/L	98
69) 2-nitropropane	12.202	41	3958	5.19 ug/L	98
70) 2-chloroethyl vinyl ether	12.239	63	43140	25.17 ug/L	99
71) methyl methacrylate	11.693	100	3372	4.60 ug/L #	80
72) 1,2-dichloropropane	11.657	63	11702	5.08 ug/L	98
73) methylcyclohexane	11.630	83	16613	5.03 ug/L	99
75) dibromomethane	11.804	93	8722	4.99 ug/L	98
76) bromodichloromethane	11.956	83	16287	4.90 ug/L	98
77) cis-1,3-dichloropropene	12.454	75	19195	4.97 ug/L	100
79) 4-methyl-2-pentanone	12.585	58	6034	5.00 ug/L #	84
80) toluene	12.847	92	26808	4.98 ug/L	98
81) 3-methyl-1-butanol	12.595	70	9229	97.14 ug/L	96
82) trans-1,3-dichloropropene	13.051	75	17944	4.86 ug/L	96
83) ethyl methacrylate	13.083	69	17079	4.91 ug/L	98
84) 1,1,2-trichloroethane	13.277	83	10204	5.02 ug/L	97
85) 2-hexanone	13.492	58	5693	4.81 ug/L	97
87) tetrachloroethene	13.471	166	11923	4.94 ug/L	99
88) 1,3-dichloropropane	13.471	76	17623	5.01 ug/L	98
89) butyl acetate	13.581	56	9372	5.27 ug/L	98
90) dibromochloromethane	13.743	129	13142	4.71 ug/L	99
91) 1,2-dibromoethane	13.906	107	12766	4.82 ug/L	100
92) n-Butyl Ether	14.378	57	45843	5.09 ug/L #	91
93) chlorobenzene	14.415	112	29940	4.95 ug/L	99
94) 1,1,1,2-tetrachloroethane	14.483	131	11679	4.96 ug/L	98
95) ethylbenzene	14.493	91	52975	5.04 ug/L	100

7.7.19 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : 4D68574.D
Acq On : 18 May 2016 9:35 pm
Operator : XimenaC
Sample : IC3019-5
Misc : MS90450,V4D3019,5,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 19 08:38:04 2016
Quant Method : C:\MSDCHEM\1\METHODS\M4D3019.M
Quant Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
QLast Update : Thu May 19 07:28:52 2016
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
96)	m,p-xylene	14.609	106	39818	10.14 ug/L	100
97)	o-xylene	15.044	91	44451	5.17 ug/L	96
98)	styrene	15.054	104	34629	5.08 ug/L	99
99)	butyl acrylate	14.886	55	25809	4.94 ug/L	99
100)	bromoform	15.306	173	9508	4.47 ug/L	97
102)	isopropylbenzene	15.411	105	53199	4.98 ug/L	99
104)	bromobenzene	15.799	156	14241	4.90 ug/L	96
105)	cyclohexanone	15.563	55	13629	61.05 ug/L	97
106)	1,1,2,2-tetrachloroethane	15.704	83	19416	4.99 ug/L	99
107)	trans-1,4-dichloro-2-b...	15.752	53	4766	4.92 ug/L	98
108)	1,2,3-trichloropropane	15.778	110	4680	5.04 ug/L	98
109)	n-propylbenzene	15.835	91	63666	5.03 ug/L	99
110)	2-chlorotoluene	15.966	126	13037	5.05 ug/L	100
111)	4-chlorotoluene	16.071	91	40245	5.03 ug/L	99
112)	1,3,5-trimethylbenzene	15.987	105	46508	5.01 ug/L	99
113)	tert-butylbenzene	16.344	134	7969	4.82 ug/L	94
114)	pentachloroethane	16.402	167	8754	4.68 ug/L	94
115)	1,2,4-trimethylbenzene	16.381	105	48148	5.03 ug/L	99
116)	sec-butylbenzene	16.554	105	60742	4.96 ug/L	99
117)	1,3-dichlorobenzene	16.721	146	27506	5.04 ug/L	98
118)	p-isopropyltoluene	16.674	119	50309	5.02 ug/L	99
119)	1,4-dichlorobenzene	16.800	146	27628	5.03 ug/L	99
120)	1,2-dichlorobenzene	17.183	146	27207	4.98 ug/L	99
121)	n-butylbenzene	17.078	92	27381	4.93 ug/L	99
122)	1,2-dibromo-3-chloropr...	17.912	157	4403	4.56 ug/L	93
123)	1,3,5-trichlorobenzene	18.095	180	21452	4.70 ug/L	98
124)	1,2,4-trichlorobenzene	18.688	180	19472	4.50 ug/L	98
125)	hexachlorobutadiene	18.813	225	10720	4.74 ug/L #	100
126)	naphthalene	18.960	128	56104	4.58 ug/L	100
127)	1,2,3-trichlorobenzene	19.196	180	18912	4.53 ug/L	99
128)	hexachloroethane	17.440	119	9944	4.66 ug/L	98
129)	Benzyl chloride	16.915	91	36083	5.03 ug/L	99

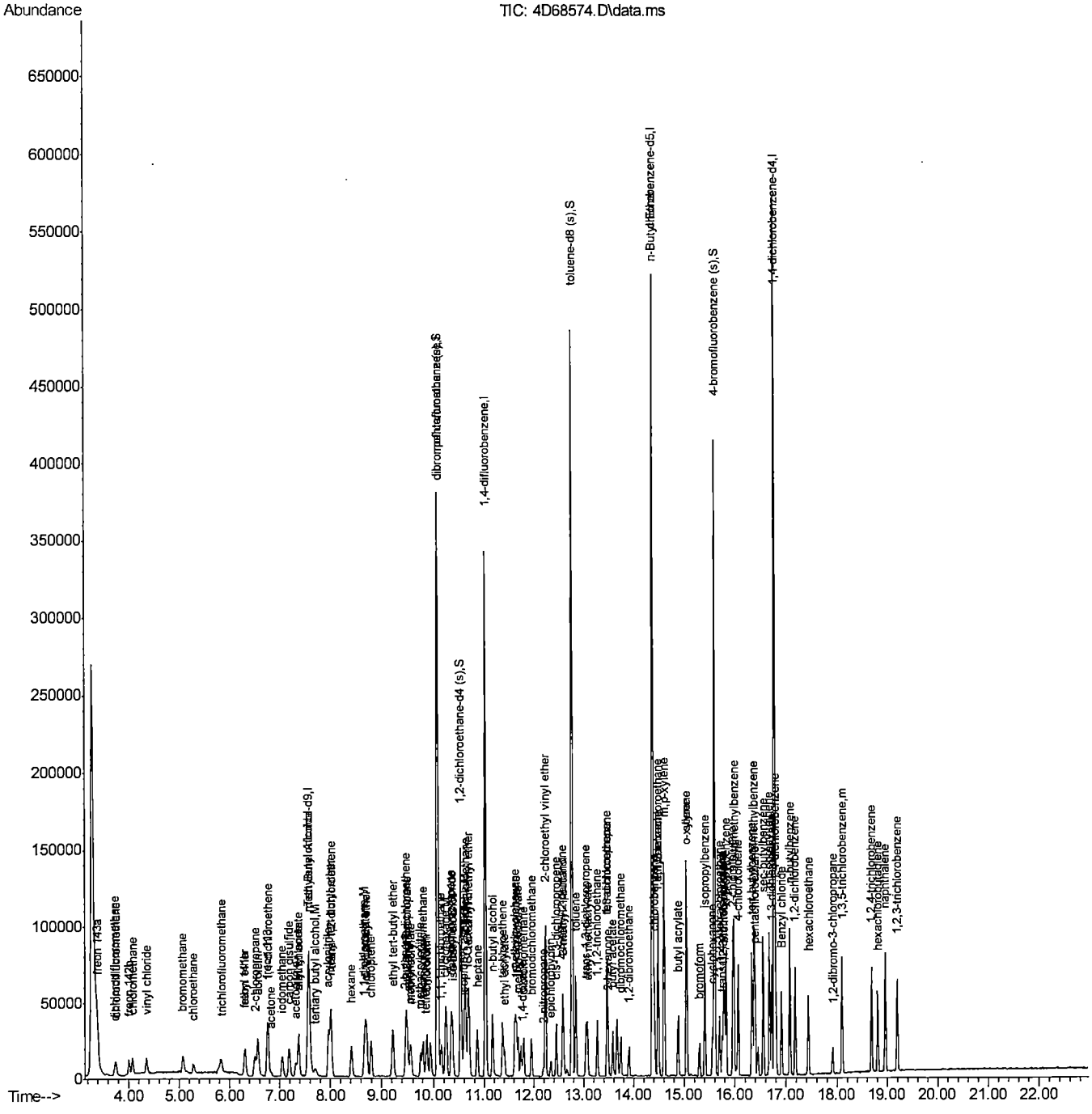
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.7.19 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : 4D68574.D
Acq On : 18 May 2016 9:35 pm
Operator : XimenaC
Sample : IC3019-5
Misc : MS90450,V4D3019,5,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 19 08:38:04 2016
Quant Method : C:\MSDCHEM\1\METHODS\M4D3019.M
Quant Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
QLast Update : Thu May 19 07:28:52 2016
Response via : Initial Calibration



SGS ACCUTEST JC20564

7.7.19 7

Manual Integrations
APPROVED
(compounds with "m" flag)
Mei Chen
05/19/16 11:13

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : 4D68575.D
Acq On : 18 May 2016 10:03 pm
Operator : XimenaC
Sample : IC3019-10
Misc : MS90450,V4D3019,5,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 19 09:25:23 2016
Quant Method : C:\MSDCHEM\1\METHODS\M4D3019.M
Quant Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
QLast Update : Thu May 19 07:28:52 2016
Response via : Initial Calibration

7.7.20 7

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.562	65	142131	500.00	ug/L	0.00
4) pentafluorobenzene	10.084	168	176683	50.00	ug/L	0.00
54) 1,4-difluorobenzene	11.033	114	272853	50.00	ug/L	0.00
86) chlorobenzene-d5	14.383	117	249477	50.00	ug/L	0.00
101) 1,4-dichlorobenzene-d4	16.774	152	133912	50.00	ug/L	0.00
System Monitoring Compounds						
48) dibromofluoromethane (s)	10.089	113	92933	50.14	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 100.28%			
49) 1,2-dichloroethane-d4 (s)	10.535	65	104278	50.50	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 101.00%			
78) toluene-d8 (s)	12.768	98	311589	49.74	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 99.48%			
103) 4-bromofluorobenzene (s)	15.605	95	131554	50.40	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 100.80%			
Target Compounds						Qvalue
2) 1,4-dioxane	11.777	88	8559	238.23	ug/L	99
3) tertiary butyl alcohol	7.693	59	19632	49.18	ug/L	97
5) freon 143a	3.399	65	6754	9.89	ug/L	97
6) chlorodifluoromethane	3.745	51	22750	9.85	ug/L	98
7) dichlorodifluoromethane	3.724	85	25279	9.90	ug/L	97
8) freon 142b	4.007	65	26699	9.98	ug/L	98
9) chloromethane	4.075	50	29938	9.80	ug/L	99
10) vinyl chloride	4.348	62	29792	9.84	ug/L	100
12) bromomethane	5.072	94	18844	12.08	ug/L	98
13) chloroethane	5.281	64	14582	10.98	ug/L	98
14) trichlorofluoromethane	5.827	101	33105	9.82	ug/L	98
16) freon 141b	6.298	81	22714	8.88	ug/L	99
17) ethyl ether	6.304	74	12200	10.02	ug/L	96
19) 2-chloropropane	6.503	43	36857	10.52	ug/L	99
20) acrolein	6.561	56	62141	102.30	ug/L	99
21) 1,1-dichloroethene	6.760	61	43890	11.08	ug/L	99
22) acetone	6.823	58	2666	10.20	ug/L	95
23) allyl chloride	7.363	76	12943	10.89	ug/L	92
24) acetonitrile	7.310	40	13510m	85.77	ug/L	
25) iodomethane	7.048	142	43840	10.18	ug/L	98
26) iso-butyl alcohol	10.378	41	12539	109.58	ug/L	95
27) carbon disulfide	7.185	76	82475	10.51	ug/L	100
28) methylene chloride	7.573	84	26160	10.54	ug/L	99
30) methyl acetate	7.373	74	4714	9.79	ug/L #	77
31) methyl tert butyl ether	7.997	73	72838	10.30	ug/L	100
32) trans-1,2-dichloroethene	8.013	61	34216	10.75	ug/L	98
33) di-isopropyl ether	8.700	45	68854	10.19	ug/L	98
34) ethyl tert-butyl ether	9.214	59	70888	10.07	ug/L	98
35) 2-butanone	9.455	72	3604	10.16	ug/L	99
36) 1,1-dichloroethane	8.658	63	41136	10.36	ug/L	99
37) chloroprene	8.789	53	31646	10.40	ug/L	98
38) acrylonitrile	7.955	53	55125	51.52	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : 4D68575.D
Acq On : 18 May 2016 10:03 pm
Operator : XimenaC
Sample : IC3019-10
Misc : MS90450,V4D3019,5,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 19 09:25:23 2016
Quant Method : C:\MSDCHEM\1\METHODS\M4D3019.M
Quant Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
QLast Update : Thu May 19 07:28:52 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
39) vinyl acetate	8.674	86	4191	9.69	ug/L		90
40) ethyl acetate	9.497	45	3960	10.00	ug/L	#	64
41) 2,2-dichloropropane	9.486	77	34942	10.70	ug/L		98
42) cis-1,2-dichloroethene	9.470	96	26535	10.50	ug/L		96
43) propionitrile	9.549	54	41739	101.82	ug/L		96
44) methyl acrylate	9.570	85	4568	9.93	ug/L		98
45) bromochloromethane	9.801	128	13003	10.21	ug/L		97
46) tetrahydrofuran	9.853	42	9754	11.32	ug/L		99
47) chloroform	9.874	83	43931	10.64	ug/L		100
50) freon 113	6.760	151	14586	9.79	ug/L		94
51) methacrylonitrile	9.759	67	12481	10.34	ug/L		99
52) 1,1,1-trichloroethane	10.157	97	34986	10.36	ug/L		98
53) tert-amyl methyl ether	10.697	73	69875	10.29	ug/L		97
55) epichlorohydrin	12.344	57	15974	50.99	ug/L		96
56) n-butyl alcohol	11.169	56	48521	499.15	ug/L		98
57) cyclohexane	10.241	84	31804	10.72	ug/L		97
59) carbon tetrachloride	10.372	117	32383	10.61	ug/L		94
60) 1,1-dichloropropene	10.346	75	30838	10.86	ug/L		98
61) hexane	8.406	57	25133	10.67	ug/L		99
62) benzene	10.624	78	91462	10.72	ug/L		99
63) ISO-OCTANE	10.682	57	76182	10.53	ug/L		99
64) heptane	10.860	57	14636	10.71	ug/L		95
65) isopropyl acetate	10.593	43	50129	10.30	ug/L		99
66) 1,2-dichloroethane	10.629	62	33320	10.63	ug/L		98
67) trichloroethene	11.379	95	25127	10.54	ug/L		100
68) ethyl acrylate	11.416	55	35222	10.01	ug/L		99
69) 2-nitropropane	12.202	41	7687	10.26	ug/L		100
70) 2-chloroethyl vinyl ether	12.239	63	85292	50.66	ug/L		99
71) methyl methacrylate	11.694	100	7220	10.03	ug/L	#	87
72) 1,2-dichloropropane	11.657	63	23926	10.57	ug/L		100
73) methylcyclohexane	11.631	83	33187	10.22	ug/L		98
75) dibromomethane	11.804	93	17887	10.42	ug/L		98
76) bromodichloromethane	11.950	83	33949	10.39	ug/L		95
77) cis-1,3-dichloropropene	12.449	75	39779	10.49	ug/L		98
79) 4-methyl-2-pentanone	12.585	58	12298	10.37	ug/L	#	82
80) toluene	12.847	92	55481	10.49	ug/L		99
81) 3-methyl-1-butanol	12.595	70	18649	199.83	ug/L		99
82) trans-1,3-dichloropropene	13.052	75	37495	10.33	ug/L		98
83) ethyl methacrylate	13.078	69	34777	10.18	ug/L		98
84) 1,1,2-trichloroethane	13.277	83	20904	10.46	ug/L		98
85) 2-hexanone	13.492	58	12327	10.59	ug/L		99
87) tetrachloroethene	13.471	166	25368	10.66	ug/L		98
88) 1,3-dichloropropane	13.471	76	36687	10.58	ug/L		99
89) butyl acetate	13.586	56	17994	10.27	ug/L		100
90) dibromochloromethane	13.744	129	27950	10.17	ug/L		98
91) 1,2-dibromoethane	13.906	107	26958	10.33	ug/L		96
92) n-Butyl Ether	14.378	57	95690	10.77	ug/L		97
93) chlorobenzene	14.415	112	63994	10.73	ug/L		98
94) 1,1,1,2-tetrachloroethane	14.483	131	24434	10.52	ug/L		97
95) ethylbenzene	14.493	91	111332	10.75	ug/L		100

7.7.20 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : 4D68575.D
Acq On : 18 May 2016 10:03 pm
Operator : XimenaC
Sample : IC3019-10
Misc : MS90450,V4D3019,5,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 19 09:25:23 2016
Quant Method : C:\MSDCHEM\1\METHODS\M4D3019.M
Quant Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
QLast Update : Thu May 19 07:28:52 2016
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
96)	m,p-xylene	14.609	106	83881	21.66	ug/L		99
97)	o-xylene	15.044	91	92734	10.93	ug/L		98
98)	styrene	15.054	104	73043	10.87	ug/L		99
99)	butyl acrylate	14.881	55	51803	10.06	ug/L		99
100)	bromoform	15.301	173	20835	9.95	ug/L		97
102)	isopropylbenzene	15.411	105	112999	10.70	ug/L		99
104)	bromobenzene	15.799	156	30017	10.44	ug/L		97
105)	cyclohexanone	15.563	55	27319	123.82	ug/L		99
106)	1,1,2,2-tetrachloroethane	15.704	83	41281	10.74	ug/L		99
107)	trans-1,4-dichloro-2-b...	15.752	53	10030	10.47	ug/L		99
108)	1,2,3-trichloropropane	15.778	110	10043	10.94	ug/L		96
109)	n-propylbenzene	15.830	91	134456	10.75	ug/L		100
110)	2-chlorotoluene	15.967	126	27274	10.68	ug/L		96
111)	4-chlorotoluene	16.071	91	85716	10.84	ug/L		99
112)	1,3,5-trimethylbenzene	15.988	105	98161	10.69	ug/L		100
113)	tert-butylbenzene	16.339	134	17577	10.75	ug/L		98
114)	pentachloroethane	16.402	167	18862	10.21	ug/L		98
115)	1,2,4-trimethylbenzene	16.381	105	101728	10.75	ug/L		99
116)	sec-butylbenzene	16.554	105	128212	10.59	ug/L		100
117)	1,3-dichlorobenzene	16.722	146	57876	10.74	ug/L		99
118)	p-isopropyltoluene	16.674	119	105639	10.66	ug/L		99
119)	1,4-dichlorobenzene	16.800	146	57780	10.65	ug/L		99
120)	1,2-dichlorobenzene	17.183	146	57507	10.64	ug/L		99
121)	n-butylbenzene	17.078	92	57628	10.50	ug/L		99
122)	1,2-dibromo-3-chloropr...	17.912	157	9640	10.10	ug/L		93
123)	1,3,5-trichlorobenzene	18.095	180	46254	10.26	ug/L		99
124)	1,2,4-trichlorobenzene	18.688	180	43168	10.08	ug/L		100
125)	hexachlorobutadiene	18.814	225	22941	10.25	ug/L	#	99
126)	naphthalene	18.960	128	121570	10.04	ug/L		99
127)	1,2,3-trichlorobenzene	19.196	180	41255	10.01	ug/L		97
128)	hexachloroethane	17.440	119	21635	10.27	ug/L		99
129)	Benzyl chloride	16.916	91	71172	10.03	ug/L		99

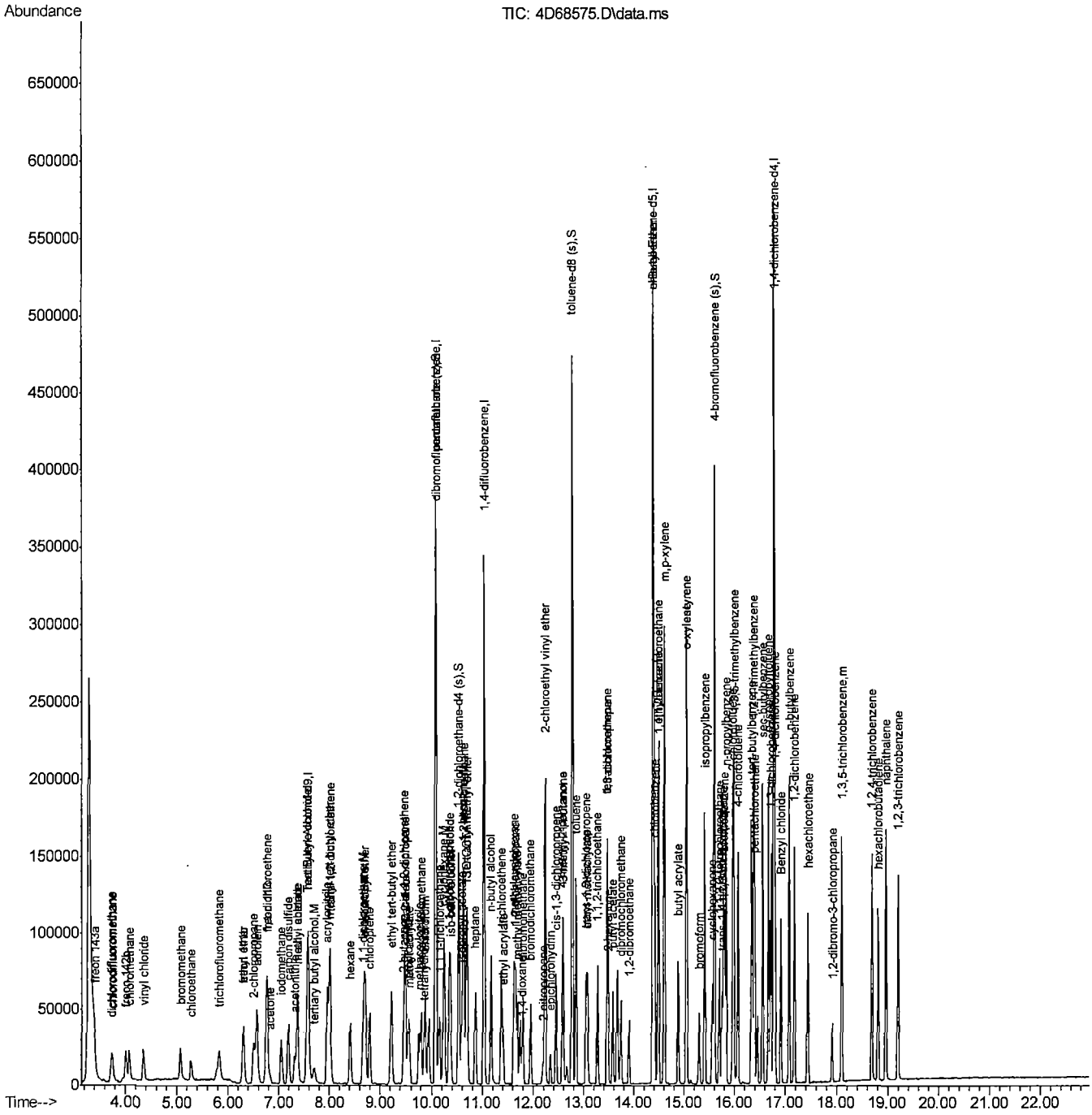
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.7.20 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : 4D68575.D
Acq On : 18 May 2016 10:03 pm
Operator : XimenaC
Sample : IC3019-10
Misc : MS90450,V4D3019,5,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 19 09:25:23 2016
Quant Method : C:\MSDCHEM\1\METHODS\M4D3019.M
Quant Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
QLast Update : Thu May 19 07:28:52 2016
Response via : Initial Calibration



SGS ACCUTEST JC20564

7.7.20 7

Manual Integration Approval Summary

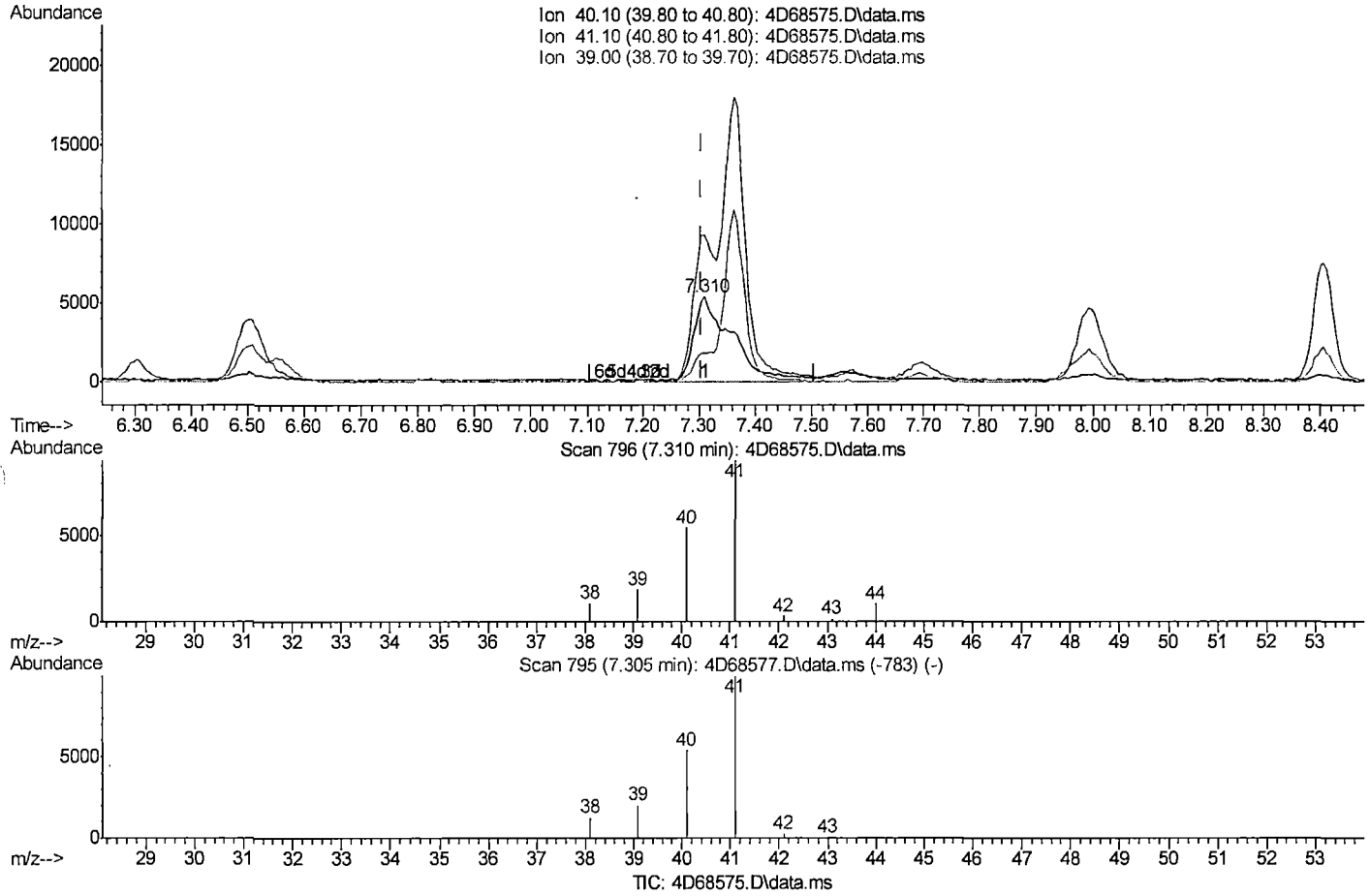
Sample Number:	V4D3019-IC3019	**Method:**	SW846 8260C
Lab FileID:	4D68575.D	**Analyst approved:**	05/19/16 09:43 Dipa Patel
Injection Time:	05/18/16 22:03	**Supervisor approved:**	05/19/16 11:13 Mei Chen

Parameter	CAS	Sig#	R.T. (min.)	Reason
Acetonitrile	75-05-8		7.31	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\
Data File : 4D68575.D
Acq On : 18 May 2016 10:03 pm
Operator : XimenaC
Sample : IC3019-10
Misc : MS90450,V4D3019,5,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 19 08:39:43 2016
Quant Method : C:\MSDCHEM\1\METHODS\M4D3019.M
Quant Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
QLast Update : Thu May 19 07:28:52 2016
Response via : Initial Calibration



(24) acetonitrile

7.310min (+0.005) 165.70ug/L

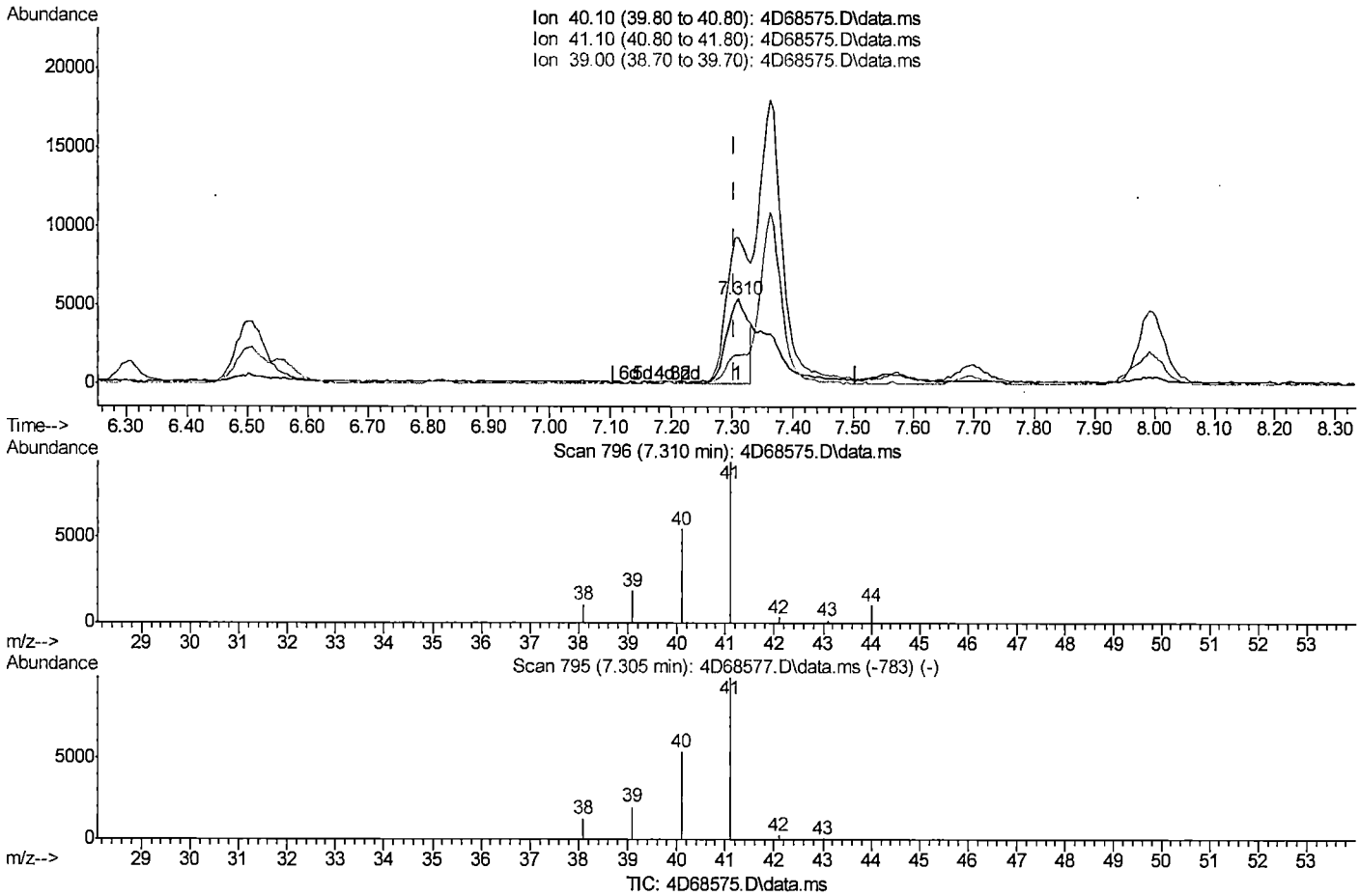
response 26101

Ion	Exp%	Act%
40.10	100	100
41.10	185.90	169.08
39.00	37.00	33.92
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\
Data File : 4D68575.D
Acq On : 18 May 2016 10:03 pm
Operator : XimenaC
Sample : IC3019-10
Misc : MS90450,V4D3019,5,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 19 08:39:43 2016
Quant Method : C:\MSDCHEM\1\METHODS\M4D3019.M
Quant Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
QLast Update : Thu May 19 07:28:52 2016
Response via : Initial Calibration



(24) acetonitrile

7.310min (+0.005) 85.77ug/L m

response 13510

Ion	Exp%	Act%
40.10	100	100
41.10	185.90	171.95
39.00	37.00	33.92
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : 4D68576.D
Acq On : 18 May 2016 10:31 pm
Operator : XimenaC
Sample : IC3019-20
Misc : MS90450,V4D3019,5,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 19 08:41:31 2016
Quant Method : C:\MSDCHEM\1\METHODS\M4D3019.M
Quant Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
QLast Update : Thu May 19 07:28:52 2016
Response via : Initial Calibration

7.7.21 7

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.562	65	139742	500.00	ug/L	0.00
4) pentafluorobenzene	10.084	168	174309	50.00	ug/L	0.00
54) 1,4-difluorobenzene	11.033	114	270057	50.00	ug/L	0.00
86) chlorobenzene-d5	14.383	117	249877	50.00	ug/L	0.00
101) 1,4-dichlorobenzene-d4	16.774	152	130734	50.00	ug/L	0.00
System Monitoring Compounds						
48) dibromofluoromethane (s)	10.089	113	92962	50.84	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 101.68%			
49) 1,2-dichloroethane-d4 (s)	10.535	65	101744	49.95	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 99.90%			
78) toluene-d8 (s)	12.773	98	309069	49.85	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 99.70%			
103) 4-bromofluorobenzene (s)	15.605	95	128012	50.24	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 100.48%			
Target Compounds						Qvalue
2) 1,4-dioxane	11.777	88	18243	516.46	ug/L	100
3) tertiary butyl alcohol	7.698	59	40183	102.38	ug/L	95
5) freon 143a	3.399	65	13852	20.57	ug/L	95
6) chlorodifluoromethane	3.745	51	47291	20.76	ug/L	98
7) dichlorodifluoromethane	3.729	85	49747	19.75	ug/L	98
8) freon 142b	4.012	65	54892	20.80	ug/L	98
9) chloromethane	4.075	50	58880	19.53	ug/L	98
10) vinyl chloride	4.353	62	58804	19.68	ug/L	99
12) bromomethane	5.071	94	35553	23.10	ug/L	97
13) chloroethane	5.276	64	27925	21.32	ug/L	99
14) trichlorofluoromethane	5.826	101	66904	20.12	ug/L	100
16) freon 141b	6.298	81	50951	20.20	ug/L	99
17) ethyl ether	6.303	74	24362	20.29	ug/L	99
19) 2-chloropropane	6.497	43	71457	20.67	ug/L	99
20) acrolein	6.560	56	122012	203.61	ug/L	98
21) 1,1-dichloroethene	6.754	61	81869	20.96	ug/L	99
22) acetone	6.817	58	5103	19.79	ug/L	100
23) allyl chloride	7.368	76	25369	21.64	ug/L	94
24) acetonitrile	7.310	40	31502	202.71	ug/L	100
25) iodomethane	7.048	142	85760	20.19	ug/L	99
26) iso-butyl alcohol	10.377	41	23401	207.29	ug/L	99
27) carbon disulfide	7.179	76	158802	20.52	ug/L	99
28) methylene chloride	7.572	84	50030	20.43	ug/L	98
30) methyl acetate	7.368	74	9468	19.93	ug/L	99
31) methyl tert butyl ether	7.997	73	140110	20.07	ug/L	98
32) trans-1,2-dichloroethene	8.013	61	65993	21.01	ug/L	98
33) di-isopropyl ether	8.700	45	138529	20.78	ug/L	98
34) ethyl tert-butyl ether	9.219	59	143665	20.68	ug/L	98
35) 2-butanone	9.455	72	6737	19.26	ug/L	96
36) 1,1-dichloroethane	8.658	63	81667	20.84	ug/L	100
37) chloroprene	8.789	53	64422	21.47	ug/L	99
38) acrylonitrile	7.955	53	106860	101.23	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : 4D68576.D
Acq On : 18 May 2016 10:31 pm
Operator : XimenaC
Sample : IC3019-20
Misc : MS90450,V4D3019,5,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 19 08:41:31 2016
Quant Method : C:\MSDCHEM\1\METHODS\M4D3019.M
Quant Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
QLast Update : Thu May 19 07:28:52 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
39) vinyl acetate	8.673	86	8497	19.91 ug/L	91
40) ethyl acetate	9.502	45	8044	20.60 ug/L	96
41) 2,2-dichloropropane	9.486	77	66905	20.77 ug/L	98
42) cis-1,2-dichloroethene	9.470	96	51450	20.64 ug/L	99
43) propionitrile	9.549	54	79791	197.29 ug/L	99
44) methyl acrylate	9.575	85	9044	19.94 ug/L #	76
45) bromochloromethane	9.801	128	25752	20.49 ug/L	98
46) tetrahydrofuran	9.853	42	17633	20.75 ug/L	99
47) chloroform	9.879	83	85198	20.92 ug/L	99
50) freon 113	6.754	151	30620	20.83 ug/L	98
51) methacrylonitrile	9.753	67	24076	20.22 ug/L	100
52) 1,1,1-trichloroethane	10.157	97	68247	20.49 ug/L	98
53) tert-amyl methyl ether	10.697	73	139130	20.76 ug/L	98
55) epichlorohydrin	12.343	57	31495	101.57 ug/L	99
56) n-butyl alcohol	11.169	56	97514	1013.54 ug/L	99
57) cyclohexane	10.241	84	60367	20.55 ug/L	98
59) carbon tetrachloride	10.372	117	62756	20.77 ug/L	100
60) 1,1-dichloropropene	10.351	75	59465	21.17 ug/L	99
61) hexane	8.406	57	50840	21.81 ug/L	99
62) benzene	10.624	78	176041	20.85 ug/L	99
63) ISO-OCTANE	10.681	57	153514	21.44 ug/L	100
64) heptane	10.865	57	29222	21.61 ug/L	99
65) isopropyl acetate	10.592	43	97984	20.33 ug/L	98
66) 1,2-dichloroethane	10.629	62	63711	20.54 ug/L	100
67) trichloroethene	11.379	95	49187	20.85 ug/L	99
68) ethyl acrylate	11.415	55	69673	20.01 ug/L	99
69) 2-nitropropane	12.197	41	14461	19.49 ug/L	98
70) 2-chloroethyl vinyl ether	12.239	63	172940	103.79 ug/L	99
71) methyl methacrylate	11.693	100	14016	19.66 ug/L	93
72) 1,2-dichloropropane	11.657	63	46771	20.87 ug/L	99
73) methylcyclohexane	11.630	83	67591	21.03 ug/L	99
75) dibromomethane	11.803	93	34840	20.50 ug/L	99
76) bromodichloromethane	11.950	83	66224	20.47 ug/L	100
77) cis-1,3-dichloropropene	12.454	75	77374	20.61 ug/L	100
79) 4-methyl-2-pentanone	12.579	58	23722	20.21 ug/L	97
80) toluene	12.847	92	108686	20.76 ug/L	99
81) 3-methyl-1-butanol	12.595	70	37495	405.94 ug/L	98
82) trans-1,3-dichloropropene	13.051	75	72967	20.32 ug/L	98
83) ethyl methacrylate	13.078	69	67687	20.01 ug/L	98
84) 1,1,2-trichloroethane	13.277	83	40598	20.53 ug/L	97
85) 2-hexanone	13.492	58	22794	19.79 ug/L	96
87) tetrachloroethene	13.471	166	48859	20.49 ug/L	99
88) 1,3-dichloropropane	13.471	76	70245	20.23 ug/L	99
89) butyl acetate	13.581	56	36071	20.55 ug/L	98
90) dibromochloromethane	13.743	129	54084	19.65 ug/L	97
91) 1,2-dibromoethane	13.906	107	52388	20.04 ug/L	97
92) n-Butyl Ether	14.378	57	184410	20.73 ug/L	98
93) chlorobenzene	14.414	112	122447	20.50 ug/L	98
94) 1,1,1,2-tetrachloroethane	14.483	131	47411	20.38 ug/L	99
95) ethylbenzene	14.493	91	215890	20.81 ug/L	100

7.7.21 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : 4D68576.D
Acq On : 18 May 2016 10:31 pm
Operator : XimenaC
Sample : IC3019-20
Misc : MS90450,V4D3019,5,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 19 08:41:31 2016
Quant Method : C:\MSDCHEM\1\METHODS\M4D3019.M
Quant Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
QLast Update : Thu May 19 07:28:52 2016
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
96)	m,p-xylene	14.608	106	159710	41.17	ug/L		98
97)	o-xylene	15.044	91	177716	20.91	ug/L		98
98)	styrene	15.054	104	139654	20.75	ug/L		100
99)	butyl acrylate	14.881	55	104176	20.20	ug/L		99
100)	bromoform	15.306	173	39787	18.96	ug/L		98
102)	isopropylbenzene	15.411	105	217782	21.12	ug/L		99
104)	bromobenzene	15.799	156	57890	20.63	ug/L		100
105)	cyclohexanone	15.563	55	45440	210.97	ug/L		98
106)	1,1,2,2-tetrachloroethane	15.704	83	75480	20.11	ug/L		98
107)	trans-1,4-dichloro-2-b...	15.751	53	18637	19.93	ug/L		99
108)	1,2,3-trichloropropane	15.778	110	18315	20.43	ug/L		98
109)	n-propylbenzene	15.830	91	255971	20.97	ug/L		100
110)	2-chlorotoluene	15.966	126	51881	20.81	ug/L		98
111)	4-chlorotoluene	16.071	91	161133	20.88	ug/L		100
112)	1,3,5-trimethylbenzene	15.987	105	185497	20.70	ug/L		100
113)	tert-butylbenzene	16.339	134	32927	20.63	ug/L		96
114)	pentachloroethane	16.402	167	36423	20.19	ug/L		98
115)	1,2,4-trimethylbenzene	16.381	105	193747	20.96	ug/L		99
116)	sec-butylbenzene	16.554	105	244151	20.65	ug/L		100
117)	1,3-dichlorobenzene	16.721	146	109245	20.77	ug/L		100
118)	p-isopropyltoluene	16.674	119	200550	20.74	ug/L		99
119)	1,4-dichlorobenzene	16.800	146	109255	20.62	ug/L		100
120)	1,2-dichlorobenzene	17.183	146	108238	20.52	ug/L		98
121)	n-butylbenzene	17.078	92	110122	20.55	ug/L		99
122)	1,2-dibromo-3-chloropr...	17.912	157	18017	19.33	ug/L		98
123)	1,3,5-trichlorobenzene	18.090	180	89379	20.31	ug/L		97
124)	1,2,4-trichlorobenzene	18.688	180	83022	19.87	ug/L		99
125)	hexachlorobutadiene	18.813	225	44758	20.49	ug/L	#	98
126)	naphthalene	18.960	128	233028	19.71	ug/L		99
127)	1,2,3-trichlorobenzene	19.196	180	79065	19.65	ug/L		100
128)	hexachloroethane	17.440	119	40955	19.91	ug/L		98
129)	Benzyl chloride	16.915	91	143416	20.70	ug/L		100

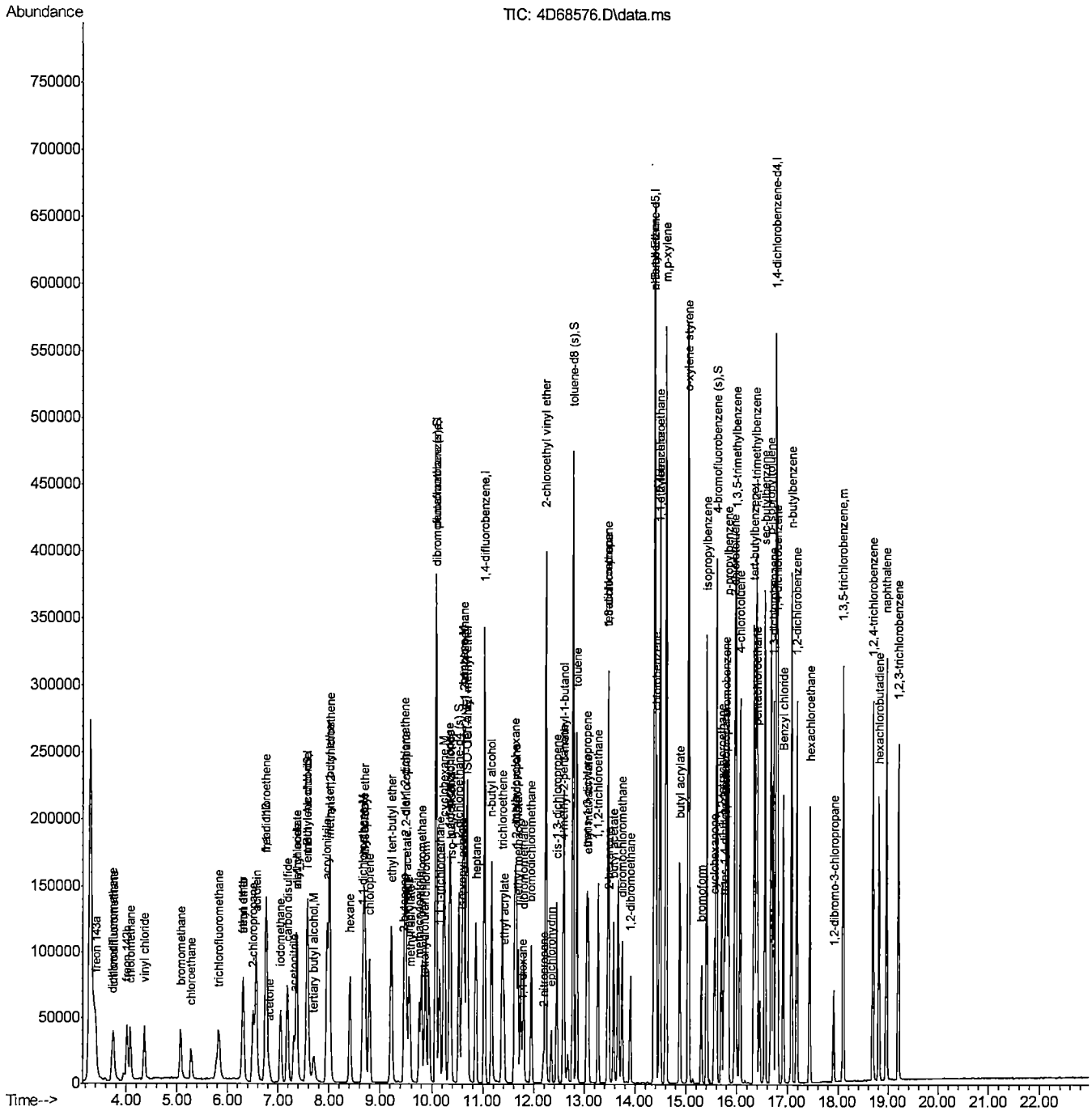
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.7.21 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : 4D68576.D
Acq On : 18 May 2016 10:31 pm
Operator : XimenaC
Sample : IC3019-20
Misc : MS90450,V4D3019,5,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 19 08:41:31 2016
Quant Method : C:\MSDCHEM\1\METHODS\M4D3019.M
Quant Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
QLast Update : Thu May 19 07:28:52 2016
Response via : Initial Calibration



SGS ACCUTEST JC20564

7.7.21 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : 4D68577.D
Acq On : 18 May 2016 11:00 pm
Operator : XimenaC
Sample : ICC3019-50
Misc : MS90450,V4D3019,5,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 19 07:25:26 2016
Quant Method : C:\MSDCHEM\1\METHODS\M4D3019.M
Quant Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 19:39:23 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.567	65	140063	500.00	ug/L	0.00
4) pentafluorobenzene	10.084	168	169406	50.00	ug/L	0.00
54) 1,4-difluorobenzene	11.033	114	265148	50.00	ug/L	0.00
86) chlorobenzene-d5	14.383	117	243618	50.00	ug/L	0.00
101) 1,4-dichlorobenzene-d4	16.774	152	130026	50.00	ug/L	0.00
System Monitoring Compounds						
48) dibromofluoromethane (s)	10.089	113	88857	58.64	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 117.28%			
49) 1,2-dichloroethane-d4 (s)	10.535	65	98985	61.56	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 123.12%#			
78) toluene-d8 (s)	12.774	98	304363	45.67	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 91.34%			
103) 4-bromofluorobenzene (s)	15.605	95	126723	45.26	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 90.52%			
Target Compounds						Qvalue
2) 1,4-dioxane	11.777	88	44255	1051.86	ug/L	92
3) tertiary butyl alcohol	7.704	59	98346	223.19	ug/L	94
5) freon 143a	3.410	65	32729	22.01	ug/L	99
6) chlorodifluoromethane	3.745	51	110701	53.16	ug/L	98
7) dichlorodifluoromethane	3.724	85	122385	62.65	ug/L	98
8) freon 142b	4.018	65	128229	37.51	ug/L	98
9) chloromethane	4.086	50	146526	62.01	ug/L	99
10) vinyl chloride	4.364	62	145205	66.53	ug/L	100
12) bromomethane	5.066	94	74806	46.13	ug/L	98
13) chloroethane	5.276	64	63652	52.20	ug/L	98
14) trichlorofluoromethane	5.827	101	161603	61.45	ug/L	99
16) freon 141b	6.298	81	122587	42.19	ug/L	100
17) ethyl ether	6.304	74	58349	57.06	ug/L	86
19) 2-chloropropane	6.503	43	168012	51.63	ug/L #	94
20) acrolein	6.561	56	291200	698.14	ug/L	98
21) 1,1-dichloroethene	6.760	61	189835	63.90	ug/L	98
22) acetone	6.823	58	12533	87.31	ug/L	92
23) allyl chloride	7.363	76	56978	51.63	ug/L	96
24) acetonitrile	7.305	40	75517	712.78	ug/L	100
25) iodomethane	7.048	142	206408	57.95	ug/L	98
26) iso-butyl alcohol	10.378	41	54858	810.25	ug/L	98
27) carbon disulfide	7.184	76	376041	55.80	ug/L	99
28) methylene chloride	7.572	84	118998	54.45	ug/L	99
30) methyl acetate	7.368	74	23082	78.46	ug/L	91
31) methyl tert butyl ether	7.997	73	339175	62.66	ug/L	100
32) trans-1,2-dichloroethene	8.008	61	152610	52.81	ug/L	99
33) di-isopropyl ether	8.700	45	323906	53.75	ug/L	93
34) ethyl tert-butyl ether	9.214	59	337596	56.02	ug/L	98
35) 2-butanone	9.455	72	16999	81.63	ug/L	85
36) 1,1-dichloroethane	8.658	63	190426	53.77	ug/L	99
37) chloroprene	8.784	53	145815	55.25	ug/L	100
38) acrylonitrile	7.955	53	256492	366.51	ug/L	98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : 4D68577.D
Acq On : 18 May 2016 11:00 pm
Operator : XimenaC
Sample : ICC3019-50
Misc : MS90450,V4D3019,5,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 19 07:25:26 2016
Quant Method : C:\MSDCHEM\1\METHODS\M4D3019.M
Quant Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 19:39:23 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
39) vinyl acetate	8.674	86	20734	66.13 ug/L	57
40) ethyl acetate	9.502	45	18979	74.51 ug/L #	31
41) 2,2-dichloropropane	9.486	77	156545	53.21 ug/L	100
42) cis-1,2-dichloroethene	9.470	96	121119	55.64 ug/L	96
43) propionitrile	9.549	54	196532	703.22 ug/L	96
44) methyl acrylate	9.570	85	22043	79.07 ug/L	86
45) bromochloromethane	9.801	128	61068	54.61 ug/L	95
46) tetrahydrofuran	9.853	42	41297	78.37 ug/L	97
47) chloroform	9.874	83	197926	55.99 ug/L	99
50) freon 113	6.755	151	71425	53.07 ug/L	96
51) methacrylonitrile	9.759	67	57866	74.24 ug/L	94
52) 1,1,1-trichloroethane	10.157	97	161842	57.72 ug/L	97
53) tert-amyl methyl ether	10.703	73	325657	57.23 ug/L	97
55) epichlorohydrin	12.344	57	76111	288.18 ug/L	98
56) n-butyl alcohol	11.169	56	236155	3034.20 ug/L	98
57) cyclohexane	10.241	84	144175	43.03 ug/L #	63
59) carbon tetrachloride	10.372	117	148295	43.50 ug/L	97
60) 1,1-dichloropropene	10.346	75	137915	41.26 ug/L	98
61) hexane	8.406	57	114451	37.85 ug/L	98
62) benzene	10.624	78	414488	42.22 ug/L	99
63) ISO-OCTANE	10.682	57	351543	41.13 ug/L #	91
64) heptane	10.860	57	66374	39.94 ug/L	99
65) isopropyl acetate	10.592	43	236581	51.88 ug/L	86
66) 1,2-dichloroethane	10.629	62	152244	45.44 ug/L	100
67) trichloroethene	11.379	95	115798	44.78 ug/L	95
68) ethyl acrylate	11.416	55	170971	34.31 ug/L	99
69) 2-nitropropane	12.197	41	36416	57.20 ug/L	94
70) 2-chloroethyl vinyl ether	12.239	63	408992	233.75 ug/L	99
71) methyl methacrylate	11.694	100	34993	61.57 ug/L #	82
72) 1,2-dichloropropane	11.657	63	110020	42.10 ug/L	96
73) methylcyclohexane	11.631	83	157755	41.23 ug/L	98
75) dibromomethane	11.804	93	83424	47.48 ug/L	98
76) bromodichloromethane	11.950	83	158787	44.90 ug/L	99
77) cis-1,3-dichloropropene	12.454	75	184268	42.69 ug/L	99
79) 4-methyl-2-pentanone	12.580	58	57627	58.19 ug/L #	71
80) toluene	12.847	92	257070	43.15 ug/L	98
81) 3-methyl-1-butanol	12.595	70	90687	1308.58 ug/L	92
82) trans-1,3-dichloropropene	13.051	75	176323	44.43 ug/L	98
83) ethyl methacrylate	13.078	69	166052	53.51 ug/L	97
84) 1,1,2-trichloroethane	13.277	83	97072	44.90 ug/L	99
85) 2-hexanone	13.492	58	56541	63.96 ug/L	96
87) tetrachloroethene	13.471	166	116215	44.05 ug/L	97
88) 1,3-dichloropropane	13.471	76	169297	44.83 ug/L	100
89) butyl acetate	13.586	56	85569	47.98 ug/L	98
90) dibromochloromethane	13.744	129	134195	46.76 ug/L	98
91) 1,2-dibromoethane	13.906	107	127414	50.84 ug/L	98
92) n-Butyl Ether	14.378	57	433706	40.12 ug/L #	98
93) chlorobenzene	14.415	112	291231	41.92 ug/L	98
94) 1,1,1,2-tetrachloroethane	14.483	131	113397	44.31 ug/L	99
95) ethylbenzene	14.493	91	505815	43.21 ug/L	100

7.7.22 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : 4D68577.D
Acq On : 18 May 2016 11:00 pm
Operator : XimenaC
Sample : ICC3019-50
Misc : MS90450,V4D3019,5,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 19 07:25:26 2016
Quant Method : C:\MSDCHEM\1\METHODS\M4D3019.M
Quant Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 19:39:23 2016
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
96)	m,p-xylene	14.609	106	378200	85.53	ug/L	99
97)	o-xylene	15.049	91	414226	43.88	ug/L	99
98)	styrene	15.054	104	328014	46.02	ug/L	98
99)	butyl acrylate	14.881	55	251374	33.37	ug/L	100
100)	bromoform	15.306	173	102277	50.03	ug/L	99
102)	isopropylbenzene	15.411	105	512854	43.33	ug/L	100
104)	bromobenzene	15.799	156	139569	43.23	ug/L	97
105)	cyclohexanone	15.563	55	107112	821.43	ug/L	96
106)	1,1,2,2-tetrachloroethane	15.704	83	186658	50.71	ug/L	99
107)	trans-1,4-dichloro-2-b...	15.752	53	46504	50.88	ug/L	96
108)	1,2,3-trichloropropane	15.778	110	44581	53.68	ug/L	98
109)	n-propylbenzene	15.830	91	607143	41.77	ug/L	100
110)	2-chlorotoluene	15.967	126	123963	42.34	ug/L	99
111)	4-chlorotoluene	16.071	91	383735	41.36	ug/L	100
112)	1,3,5-trimethylbenzene	15.988	105	445724	44.22	ug/L	99
113)	tert-butylbenzene	16.339	134	79365	43.08	ug/L	96
114)	pentachloroethane	16.402	167	89696	45.88	ug/L	97
115)	1,2,4-trimethylbenzene	16.381	105	459625	44.28	ug/L	98
116)	sec-butylbenzene	16.554	105	588034	43.24	ug/L	100
117)	1,3-dichlorobenzene	16.722	146	261613	42.15	ug/L	99
118)	p-isopropyltoluene	16.674	119	480948	44.11	ug/L	99
119)	1,4-dichlorobenzene	16.800	146	263518	42.14	ug/L	99
120)	1,2-dichlorobenzene	17.183	146	262300	43.71	ug/L	99
121)	n-butylbenzene	17.078	92	266481	43.56	ug/L	99
122)	1,2-dibromo-3-chloropr...	17.912	157	46353	64.72	ug/L	94
123)	1,3,5-trichlorobenzene	18.090	180	218807	44.33	ug/L	100
124)	1,2,4-trichlorobenzene	18.688	180	207811	46.94	ug/L	99
125)	hexachlorobutadiene	18.814	225	108621	47.72	ug/L	99
126)	naphthalene	18.960	128	588005	60.02	ug/L	100
127)	1,2,3-trichlorobenzene	19.196	180	200136	50.72	ug/L	97
128)	hexachloroethane	17.440	119	102280	41.41	ug/L	99
129)	Benzyl chloride	16.916	91	344501	47.69	ug/L	99

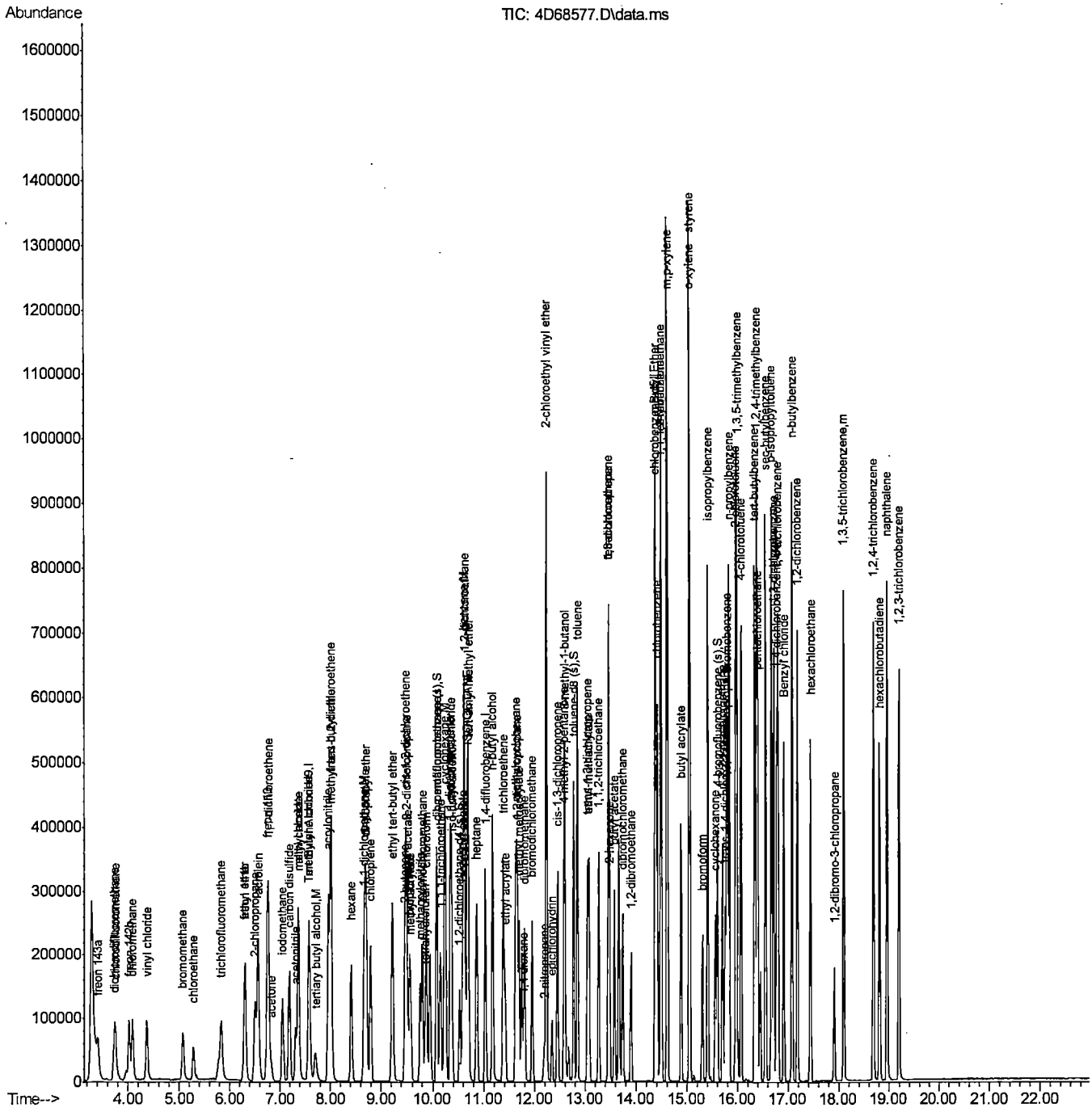
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.7.22 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : 4D68577.D
Acq On : 18 May 2016 11:00 pm
Operator : XimenaC
Sample : ICC3019-50
Misc : MS90450,V4D3019,5,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 19 07:25:26 2016
Quant Method : C:\MSDCHEM\1\METHODS\M4D3019.M
Quant Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
QLast Update : Wed May 18 19:39:23 2016
Response via : Initial Calibration



SGS ACCUTEST JC20564

7.7.22 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : 4D68578.D
Acq On : 18 May 2016 11:28 pm
Operator : XimenaC
Sample : IC3019-100
Misc : MS90450,V4D3019,5,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: May 19 08:45:43 2016
Quant Method : C:\MSDCHEM\1\METHODS\M4D3019.M
Quant Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
QLast Update : Thu May 19 07:28:52 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.572	65	127618	500.00	ug/L	0.00
4) pentafluorobenzene	10.084	168	160141	50.00	ug/L	0.00
54) 1,4-difluorobenzene	11.033	114	247904	50.00	ug/L	0.00
86) chlorobenzene-d5	14.383	117	230508	50.00	ug/L	0.00
101) 1,4-dichlorobenzene-d4	16.774	152	124722	50.00	ug/L	0.00
System Monitoring Compounds						
48) dibromofluoromethane (s)	10.089	113	83661	49.80	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 99.60%			
49) 1,2-dichloroethane-d4 (s)	10.535	65	92621	49.49	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 98.98%			
78) toluene-d8 (s)	12.774	98	285493	50.16	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 100.32%			
103) 4-bromofluorobenzene (s)	15.605	95	120298	49.48	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 98.96%			
Target Compounds						Qvalue
2) 1,4-dioxane	11.777	88	87169	2702.22	ug/L	98
3) tertiary butyl alcohol	7.704	59	186122	519.27	ug/L	100
5) freon 143a	3.415	65	62251	100.60	ug/L	99
6) chlorodifluoromethane	3.745	51	217741	104.04	ug/L	99
7) dichlorodifluoromethane	3.729	85	231193	99.92	ug/L	100
8) freon 142b	4.028	65	244795	100.97	ug/L	100
9) chloromethane	4.091	50	288691	104.21	ug/L	98
10) vinyl chloride	4.369	62	280235	102.08	ug/L	100
12) bromomethane	5.072	94	116941	82.68	ug/L	99
13) chloroethane	5.271	64	113502	94.32	ug/L	98
14) trichlorofluoromethane	5.827	101	305223	99.90	ug/L	100
16) freon 141b	6.298	81	244723	105.59	ug/L	99
17) ethyl ether	6.304	74	107966	97.87	ug/L	98
19) 2-chloropropane	6.503	43	312263	98.31	ug/L	100
20) acrolein	6.561	56	11047	20.07	ug/L	99
21) 1,1-dichloroethene	6.760	61	352061	98.09	ug/L	99
22) acetone	6.823	58	24030	101.41	ug/L	91
23) allyl chloride	7.363	76	106615	98.97	ug/L	96
24) acetonitrile	7.310	40	139432	976.59	ug/L	97
25) iodomethane	7.048	142	388082	99.45	ug/L	100
26) iso-butyl alcohol	10.378	41	103931	1002.08	ug/L	99
27) carbon disulfide	7.184	76	695280	97.80	ug/L	100
28) methylene chloride	7.572	84	225412	100.19	ug/L	98
30) methyl acetate	7.368	74	43552	99.80	ug/L	99
31) methyl tert butyl ether	7.997	73	636565	99.27	ug/L	100
32) trans-1,2-dichloroethene	8.013	61	283676	98.32	ug/L	98
33) di-isopropyl ether	8.700	45	616967	100.75	ug/L	96
34) ethyl tert-butyl ether	9.219	59	648388	101.59	ug/L	99
35) 2-butanone	9.455	72	31796	98.93	ug/L	96
36) 1,1-dichloroethane	8.658	63	357339	99.25	ug/L	100
37) chloroprene	8.784	53	278263	100.94	ug/L	99
38) acrylonitrile	7.955	53	481254	496.21	ug/L	99

7.7.23 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : 4D68578.D
Acq On : 18 May 2016 11:28 pm
Operator : XimenaC
Sample : IC3019-100
Misc : MS90450,V4D3019,5,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: May 19 08:45:43 2016
Quant Method : C:\MSDCHEM\1\METHODS\M4D3019.M
Quant Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
QLast Update : Thu May 19 07:28:52 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
39) vinyl acetate	8.679	86	40110	102.32 ug/L	83
40) ethyl acetate	9.502	45	36319	101.22 ug/L	98
41) 2,2-dichloropropane	9.486	77	289878	97.94 ug/L	99
42) cis-1,2-dichloroethene	9.470	96	225574	98.51 ug/L	99
43) propionitrile	9.554	54	365488	983.64 ug/L	85
44) methyl acrylate	9.575	85	41661	99.97 ug/L #	81
45) bromochloromethane	9.801	128	113823	98.59 ug/L	99
46) tetrahydrofuran	9.853	42	76103	97.47 ug/L	99
47) chloroform	9.874	83	371502	99.28 ug/L	99
50) freon 113	6.755	151	137799	102.05 ug/L	98
51) methacrylonitrile	9.759	67	108992	99.62 ug/L	99
52) 1,1,1-trichloroethane	10.157	97	308869	100.94 ug/L	99
53) tert-amyl methyl ether	10.703	73	626121	101.69 ug/L	100
55) epichlorohydrin	12.344	57	143771	505.09 ug/L	100
56) n-butyl alcohol	11.174	56	442055	5005.23 ug/L	99
57) cyclohexane	10.241	84	259871	96.39 ug/L	99
59) carbon tetrachloride	10.372	117	282244	101.78 ug/L	99
60) 1,1-dichloropropene	10.346	75	261309	101.33 ug/L	99
61) hexane	8.406	57	216090	100.97 ug/L	99
62) benzene	10.624	78	776272	100.16 ug/L	99
63) ISO-OCTANE	10.682	57	663629	100.95 ug/L	99
64) heptane	10.865	57	124241	100.10 ug/L	98
65) isopropyl acetate	10.592	43	446073	100.83 ug/L	99
66) 1,2-dichloroethane	10.629	62	287945	101.14 ug/L	100
67) trichloroethene	11.379	95	220855	102.00 ug/L	99
68) ethyl acrylate	11.416	55	322421	100.85 ug/L	100
69) 2-nitropropane	12.202	41	69189	101.61 ug/L	96
70) 2-chloroethyl vinyl ether	12.239	63	773804	505.90 ug/L	100
71) methyl methacrylate	11.694	100	66641	101.84 ug/L	96
72) 1,2-dichloropropane	11.657	63	209833	101.99 ug/L	100
73) methylcyclohexane	11.631	83	299568	101.55 ug/L	100
75) dibromomethane	11.804	93	158175	101.40 ug/L	98
76) bromodichloromethane	11.956	83	306777	103.32 ug/L	100
77) cis-1,3-dichloropropene	12.454	75	355032	103.04 ug/L	100
79) 4-methyl-2-pentanone	12.585	58	108781	100.95 ug/L #	83
80) toluene	12.847	92	487298	101.37 ug/L	99
81) 3-methyl-1-butanol	12.595	70	172111	2029.87 ug/L	99
82) trans-1,3-dichloropropene	13.051	75	339589	103.00 ug/L	99
83) ethyl methacrylate	13.083	69	313569	100.99 ug/L	98
84) 1,1,2-trichloroethane	13.277	83	186082	102.51 ug/L	99
85) 2-hexanone	13.492	58	106068	100.32 ug/L	98
87) tetrachloroethene	13.471	166	220512	100.27 ug/L	99
88) 1,3-dichloropropane	13.476	76	322817	100.76 ug/L	100
89) butyl acetate	13.586	56	161877	99.97 ug/L	100
90) dibromochloromethane	13.744	129	260278	102.49 ug/L	99
91) 1,2-dibromoethane	13.906	107	242106	100.41 ug/L	99
92) n-Butyl Ether	14.378	57	834678	101.70 ug/L	100
93) chlorobenzene	14.415	112	556584	100.99 ug/L	100
94) 1,1,1,2-tetrachloroethane	14.483	131	219172	102.14 ug/L	99
95) ethylbenzene	14.493	91	961919	100.49 ug/L	100

7.7.23 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : 4D68578.D
Acq On : 18 May 2016 11:28 pm
Operator : XimenaC
Sample : IC3019-100
Misc : MS90450,V4D3019,5,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: May 19 08:45:43 2016
Quant Method : C:\MSDCHEM\1\METHODS\M4D3019.M
Quant Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
QLast Update : Thu May 19 07:28:52 2016
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
96)	m,p-xylene	14.609	106	708005	197.85	ug/L		98
97)	o-xylene	15.049	91	788669	100.61	ug/L		99
98)	styrene	15.054	104	616687	99.35	ug/L		98
99)	butyl acrylate	14.881	55	479699	100.84	ug/L		99
100)	bromoform	15.306	173	202306	104.53	ug/L		99
102)	isopropylbenzene	15.411	105	975894	99.19	ug/L		99
104)	bromobenzene	15.799	156	267967	100.08	ug/L		97
105)	cyclohexanone	15.563	55	173818	845.89	ug/L		100
106)	1,1,2,2-tetrachloroethane	15.704	83	353673	98.77	ug/L		99
107)	trans-1,4-dichloro-2-b...	15.752	53	89590	100.42	ug/L		97
108)	1,2,3-trichloropropane	15.778	110	85648	100.14	ug/L		98
109)	n-propylbenzene	15.836	91	1152413	98.94	ug/L		99
110)	2-chlorotoluene	15.967	126	237507	99.87	ug/L		99
111)	4-chlorotoluene	16.071	91	739229	100.42	ug/L		100
112)	1,3,5-trimethylbenzene	15.988	105	853953	99.87	ug/L		99
113)	tert-butylbenzene	16.344	134	152635	100.25	ug/L		98
114)	pentachloroethane	16.402	167	171689	99.78	ug/L		98
115)	1,2,4-trimethylbenzene	16.381	105	869196	98.58	ug/L		100
116)	sec-butylbenzene	16.554	105	1117659	99.07	ug/L		99
117)	1,3-dichlorobenzene	16.722	146	504338	100.49	ug/L		99
118)	p-isopropyltoluene	16.674	119	925410	100.30	ug/L		100
119)	1,4-dichlorobenzene	16.800	146	504610	99.82	ug/L		99
120)	1,2-dichlorobenzene	17.183	146	508864	101.13	ug/L		100
121)	n-butylbenzene	17.078	92	510049	99.77	ug/L		99
122)	1,2-dibromo-3-chloropr...	17.912	157	90360	101.61	ug/L		99
123)	1,3,5-trichlorobenzene	18.090	180	424677	101.17	ug/L		99
124)	1,2,4-trichlorobenzene	18.688	180	408371	102.43	ug/L		99
125)	hexachlorobutadiene	18.814	225	210974	101.24	ug/L	#	98
126)	naphthalene	18.960	128	1128083	100.00	ug/L		99
127)	1,2,3-trichlorobenzene	19.196	180	382354	99.59	ug/L		99
128)	hexachloroethane	17.440	119	202128	103.01	ug/L		99
129)	Benzyl chloride	16.916	91	662015	100.17	ug/L		100

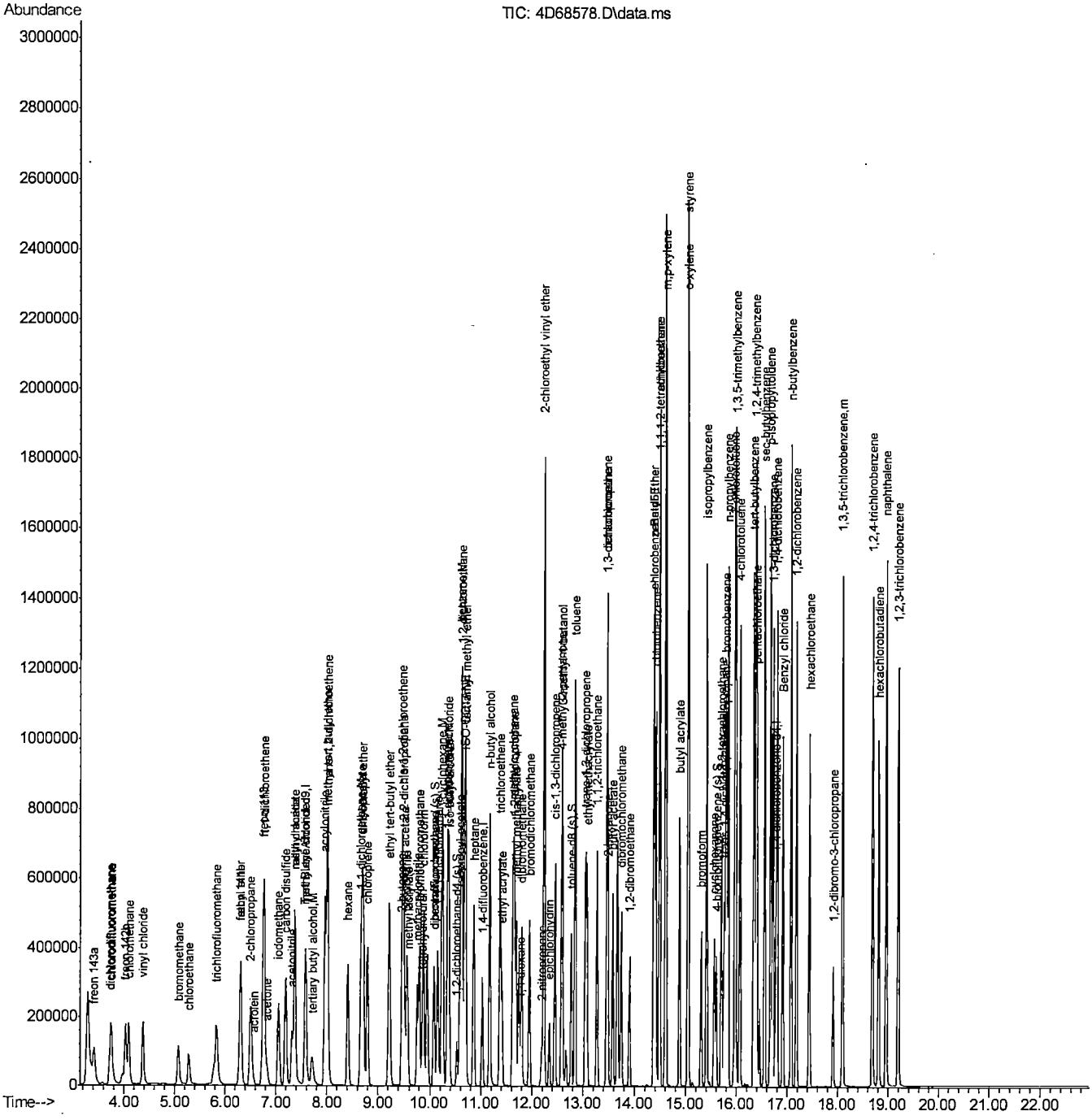
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.7.23 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : 4D68578.D
Acq On : 18 May 2016 11:28 pm
Operator : XimenaC
Sample : IC3019-100
Misc : MS90450,V4D3019,5,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: May 19 08:45:43 2016
Quant Method : C:\MSDCHEM\1\METHODS\M4D3019.M
Quant Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
QLast Update : Thu May 19 07:28:52 2016
Response via : Initial Calibration



SGS ACCUTEST JC20564

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : 4D68579.D
Acq On : 18 May 2016 11:57 pm
Operator : XimenaC
Sample : IC3019-200
Misc : MS90450,V4D3019,5,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 19 08:47:21 2016
Quant Method : C:\MSDCHEM\1\METHODS\M4D3019.M
Quant Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
QLast Update : Thu May 19 07:28:52 2016
Response via : Initial Calibration

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Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.583	65	127910	500.00	ug/L	0.02
4) pentafluorobenzene	10.084	168	166941	50.00	ug/L	0.00
54) 1,4-difluorobenzene	11.033	114	262586	50.00	ug/L	0.00
86) chlorobenzene-d5	14.383	117	239858	50.00	ug/L	0.00
101) 1,4-dichlorobenzene-d4	16.779	152	133504	50.00	ug/L	0.00
System Monitoring Compounds						
48) dibromofluoromethane (s)	10.089	113	87209	49.80	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 99.60%			
49) 1,2-dichloroethane-d4 (s)	10.535	65	97443	49.95	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 99.90%			
78) toluene-d8 (s)	12.773	98	303151	50.29	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 100.58%			
103) 4-bromofluorobenzene (s)	15.605	95	128858	49.52	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 99.04%			
Target Compounds						Qvalue
2) 1,4-dioxane	11.777	88	171075	5291.19	ug/L	98
3) tertiary butyl alcohol	7.719	59	356613	992.66	ug/L	99
5) freon 143a	3.420	65	130788	202.75	ug/L	99
6) chlorodifluoromethane	3.745	51	445797	204.32	ug/L	99
7) dichlorodifluoromethane	3.724	85	485437	201.25	ug/L	99
8) freon 142b	4.033	65	478709	189.42	ug/L	99
9) chloromethane	4.096	50	574311	198.87	ug/L	99
10) vinyl chloride	4.379	62	573531	200.41	ug/L	99
12) bromomethane	5.061	94	128400	87.09	ug/L	99
13) chloroethane	5.265	64	167253	133.32	ug/L	96
14) trichlorofluoromethane	5.821	101	615267	193.17	ug/L	99
16) freon 141b	6.298	81	502974	208.18	ug/L	100
17) ethyl ether	6.309	74	214398	186.43	ug/L	97
19) 2-chloropropane	6.503	43	638103	192.70	ug/L	99
20) acrolein	6.560	56	6031	10.51	ug/L	97
21) 1,1-dichloroethene	6.760	61	711962	190.29	ug/L	99
22) acetone	6.828	58	47775	193.41	ug/L	90
23) allyl chloride	7.363	76	220717	196.55	ug/L	100
24) acetonitrile	7.310	40	224491	1508.31	ug/L	99
25) iodomethane	7.048	142	777449	191.11	ug/L	99
26) iso-butyl alcohol	10.383	41	202521	1873.12	ug/L	98
27) carbon disulfide	7.190	76	1409453	190.17	ug/L	100
28) methylene chloride	7.578	84	455343	194.15	ug/L	96
30) methyl acetate	7.373	74	85492	187.93	ug/L	98
31) methyl tert butyl ether	8.002	73	1246511	186.47	ug/L	100
32) trans-1,2-dichloroethene	8.013	61	580485	192.99	ug/L	97
33) di-isopropyl ether	8.705	45	1207944	189.22	ug/L	94
34) ethyl tert-butyl ether	9.219	59	1283745	192.94	ug/L	99
35) 2-butanone	9.460	72	63420	189.29	ug/L	98
36) 1,1-dichloroethane	8.658	63	728174	194.02	ug/L	100
37) chloroprene	8.783	53	568899	197.96	ug/L	99
38) acrylonitrile	7.960	53	936353	926.13	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : 4D68579.D
Acq On : 18 May 2016 11:57 pm
Operator : XimenaC
Sample : IC3019-200
Misc : MS90450,V4D3019,5,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 19 08:47:21 2016
Quant Method : C:\MSDCHEM\1\METHODS\M4D3019.M
Quant Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
QLast Update : Thu May 19 07:28:52 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
39) vinyl acetate	8.679	86	77050	188.55 ug/L	91
40) ethyl acetate	9.507	45	70181	187.62 ug/L	89
41) 2,2-dichloropropane	9.491	77	578858	187.62 ug/L	99
42) cis-1,2-dichloroethene	9.470	96	462299	193.66 ug/L	99
43) propionitrile	9.554	54	710771	1834.98 ug/L	95
44) methyl acrylate	9.575	85	82721	190.41 ug/L	99
45) bromochloromethane	9.801	128	231403	192.26 ug/L	99
46) tetrahydrofuran	9.858	42	151023	185.55 ug/L	99
47) chloroform	9.874	83	766113	196.39 ug/L	100
50) freon 113	6.754	151	281063	199.66 ug/L	95
51) methacrylonitrile	9.759	67	214985	188.50 ug/L	97
52) 1,1,1-trichloroethane	10.157	97	638983	200.32 ug/L	99
53) tert-amyl methyl ether	10.702	73	1230115	191.66 ug/L	100
55) epichlorohydrin	12.349	57	286180	949.18 ug/L	99
56) n-butyl alcohol	11.180	56	859761	9190.46 ug/L	100
57) cyclohexane	10.241	84	544005	190.50 ug/L	96
59) carbon tetrachloride	10.372	117	585224	199.24 ug/L	99
60) 1,1-dichloropropene	10.351	75	542864	198.73 ug/L	99
61) hexane	8.406	57	434219	191.55 ug/L	99
62) benzene	10.624	78	1562854	190.37 ug/L	100
63) ISO-OCTANE	10.681	57	1325264	190.33 ug/L	97
64) heptane	10.865	57	248413	188.96 ug/L	98
65) isopropyl acetate	10.598	43	878466	187.47 ug/L	99
66) 1,2-dichloroethane	10.634	62	568100	188.40 ug/L	98
67) trichloroethene	11.379	95	458879	200.07 ug/L	99
68) ethyl acrylate	11.421	55	635700	187.72 ug/L	100
69) 2-nitropropane	12.202	41	139795	193.81 ug/L	95
70) 2-chloroethyl vinyl ether	12.239	63	1468990	906.69 ug/L	100
71) methyl methacrylate	11.699	100	131359	189.52 ug/L	92
72) 1,2-dichloropropane	11.662	63	427797	196.31 ug/L	99
73) methylcyclohexane	11.630	83	614667	196.72 ug/L	99
75) dibromomethane	11.803	93	321625	194.65 ug/L	100
76) bromodichloromethane	11.955	83	633795	201.52 ug/L	100
77) cis-1,3-dichloropropene	12.454	75	725966	198.91 ug/L	100
79) 4-methyl-2-pentanone	12.585	58	214415	187.85 ug/L	97
80) toluene	12.852	92	999080	196.22 ug/L	98
81) 3-methyl-1-butanol	12.600	70	328824	3661.30 ug/L	99
82) trans-1,3-dichloropropene	13.051	75	696661	199.48 ug/L	99
83) ethyl methacrylate	13.083	69	633030	192.47 ug/L	98
84) 1,1,2-trichloroethane	13.277	83	379181	197.21 ug/L	99
85) 2-hexanone	13.492	58	211377	188.75 ug/L	97
87) tetrachloroethene	13.471	166	456983	199.69 ug/L	99
88) 1,3-dichloropropane	13.476	76	644398	193.30 ug/L	99
89) butyl acetate	13.586	56	326996	194.07 ug/L	100
90) dibromochloromethane	13.743	129	535592	202.69 ug/L	98
91) 1,2-dibromoethane	13.906	107	493282	196.61 ug/L	100
92) n-Butyl Ether	14.378	57	1693582	198.31 ug/L	100
93) chlorobenzene	14.414	112	1137234	198.31 ug/L	99
94) 1,1,1,2-tetrachloroethane	14.483	131	440275	197.17 ug/L	99
95) ethylbenzene	14.493	91	1946440	195.42 ug/L	100

7.7.24 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : 4D68579.D
Acq On : 18 May 2016 11:57 pm
Operator : XimenaC
Sample : IC3019-200
Misc : MS90450,V4D3019,5,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 19 08:47:21 2016
Quant Method : C:\MSDCHEM\1\METHODS\M4D3019.M
Quant Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
QLast Update : Thu May 19 07:28:52 2016
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
96)	m,p-xylene	14.608	106	1409222	378.45	ug/L	99
97)	o-xylene	15.049	91	1563579	191.69	ug/L	99
98)	styrene	15.054	104	1221034	189.04	ug/L	97
99)	butyl acrylate	14.881	55	947545	191.43	ug/L	100
100)	bromoform	15.306	173	420056	208.57	ug/L	100
102)	isopropylbenzene	15.416	105	2009223	190.78	ug/L	99
104)	bromobenzene	15.799	156	550287	192.00	ug/L	98
105)	cyclohexanone	15.563	55	320781	1458.40	ug/L	99
106)	1,1,2,2-tetrachloroethane	15.704	83	715888	186.77	ug/L	99
107)	trans-1,4-dichloro-2-b...	15.751	53	181725	190.30	ug/L	99
108)	1,2,3-trichloropropane	15.783	110	172490	188.42	ug/L	100
109)	n-propylbenzene	15.835	91	2370635	190.14	ug/L	98
110)	2-chlorotoluene	15.972	126	483574	189.97	ug/L	98
111)	4-chlorotoluene	16.071	91	1507544	191.31	ug/L	100
112)	1,3,5-trimethylbenzene	15.987	105	1715873	187.47	ug/L	99
113)	tert-butylbenzene	16.344	134	312955	192.03	ug/L	97
114)	pentachloroethane	16.402	167	352814	191.55	ug/L	98
115)	1,2,4-trimethylbenzene	16.381	105	1753116	185.74	ug/L	99
116)	sec-butylbenzene	16.559	105	2242941	185.75	ug/L	98
117)	1,3-dichlorobenzene	16.721	146	1031175	191.95	ug/L	99
118)	p-isopropyltoluene	16.674	119	1852056	187.53	ug/L	99
119)	1,4-dichlorobenzene	16.800	146	1039912	192.17	ug/L	99
120)	1,2-dichlorobenzene	17.183	146	1028930	191.03	ug/L	99
121)	n-butylbenzene	17.078	92	1016934	185.84	ug/L	99
122)	1,2-dibromo-3-chloropr...	17.912	157	185044	194.40	ug/L	99
123)	1,3,5-trichlorobenzene	18.095	180	855983	190.51	ug/L	100
124)	1,2,4-trichlorobenzene	18.688	180	818330	191.76	ug/L	97
125)	hexachlorobutadiene	18.813	225	429614	192.61	ug/L	98
126)	naphthalene	18.960	128	2196380	181.90	ug/L	100
127)	1,2,3-trichlorobenzene	19.196	180	772781	188.03	ug/L	99
128)	hexachloroethane	17.440	119	423894	201.82	ug/L	99
129)	Benzyl chloride	16.915	91	1302717	184.15	ug/L	100

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

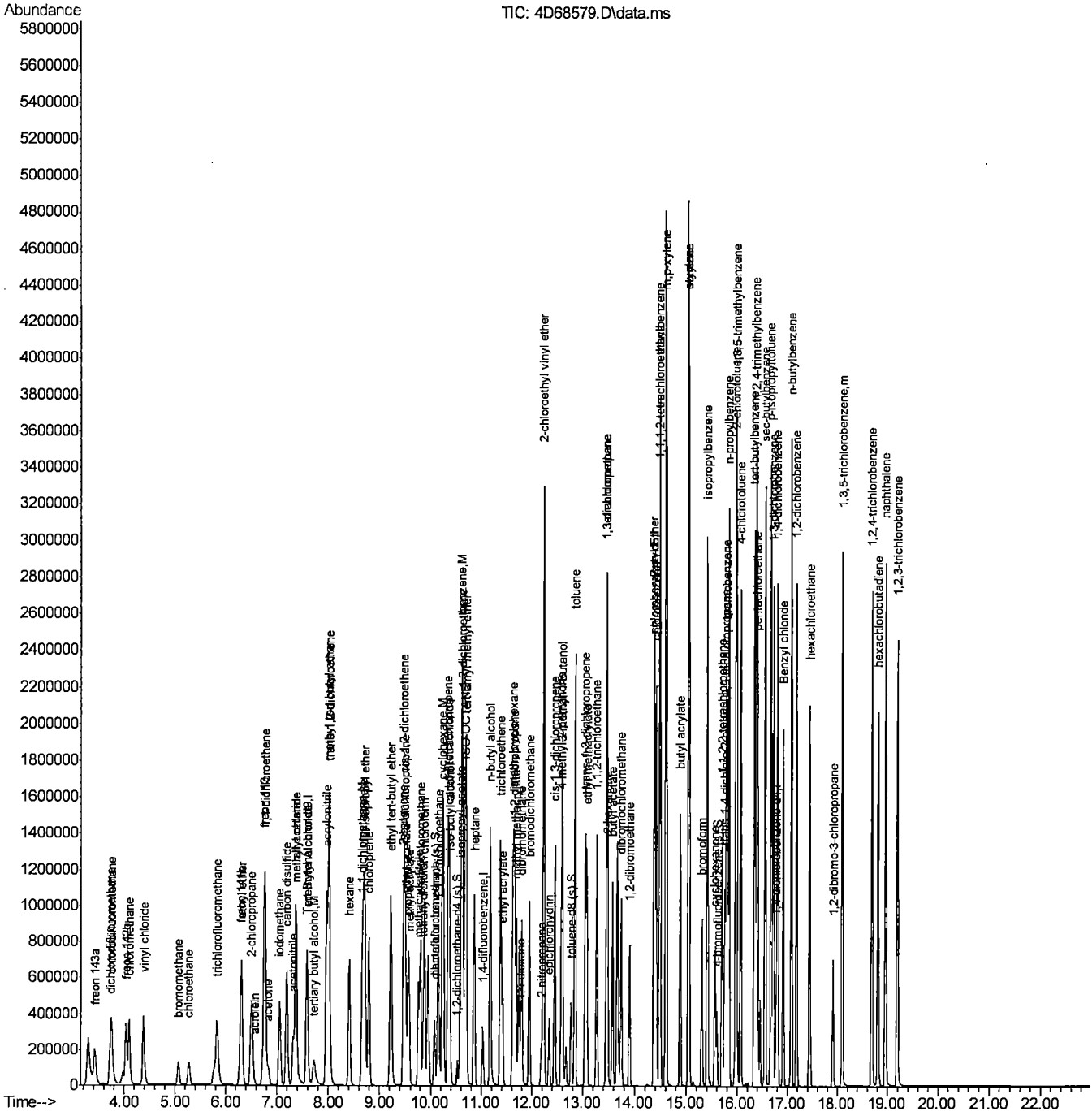
7.7.24 7

SGS ACCUTEST JC20564

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : 4D68579.D
Acq On : 18 May 2016 11:57 pm
Operator : XimenaC
Sample : IC3019-200
Misc : MS90450,V4D3019,5,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 19 08:47:21 2016
Quant Method : C:\MSDCHEM\1\METHODS\M4D3019.M
Quant Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
QLast Update : Thu May 19 07:28:52 2016
Response via : Initial Calibration



7.7.24 7

Manual Integrations
APPROVED
(compounds with "m" flag)
Mei Chen
05/19/16 11:13

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : 4D68582.D
Acq On : 19 May 2016 1:22 am
Operator : XimenaC
Sample : ICV3019-50
Misc : MS90450,V4D3019,5,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 19 09:32:08 2016
Quant Method : C:\MSDCHEM\1\METHODS\M4D3019.M
Quant Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
QLast Update : Thu May 19 09:29:44 2016
Response via : Initial Calibration

7.7.25 7

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.567	65	135817	500.00	ug/L	0.00
4) pentafluorobenzene	10.084	168	174160	50.00	ug/L	0.00
54) 1,4-difluorobenzene	11.033	114	269895	50.00	ug/L	0.00
86) chlorobenzene-d5	14.383	117	245836	50.00	ug/L	0.00
101) 1,4-dichlorobenzene-d4	16.774	152	131106	50.00	ug/L	0.00
System Monitoring Compounds						
48) dibromofluoromethane (s)	10.084	113	91961	50.25	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 100.50%			
49) 1,2-dichloroethane-d4 (s)	10.535	65	100837	49.11	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 98.22%			
78) toluene-d8 (s)	12.768	98	307565	49.59	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 99.18%			
103) 4-bromofluorobenzene (s)	15.605	95	127809	49.82	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 99.64%			
Target Compounds						Qvalue
2) 1,4-dioxane	11.777	88	42546	1214.06	ug/L	99
3) tertiary butyl alcohol	7.698	59	95070	250.66	ug/L	98
5) freon 143a	3.399	65	30434	46.58	ug/L	98
6) chlorodifluoromethane	3.740	51	99873	44.05	ug/L	100
7) dichlorodifluoromethane	3.719	85	113929	46.25	ug/L	99
8) freon 142b	4.012	65	126528	49.09	ug/L	99
9) chloromethane	4.075	50	145441	48.27	ug/L	99
10) vinyl chloride	4.353	62	142332	48.27	ug/L	100
12) bromomethane	5.061	94	72426	39.77	ug/L	100
13) chloroethane	5.271	64	63326	47.47	ug/L	99
14) trichlorofluoromethane	5.821	101	160022	50.87	ug/L	99
16) freon 141b	6.288	81	124623	54.45	ug/L	99
17) ethyl ether	6.298	74	58569	50.10	ug/L	97
19) 2-chloropropane	6.498	43	159465	44.67	ug/L	99
20) acrolein	6.555	56	284862	468.64	ug/L	98
21) 1,1-dichloroethene	6.755	61	182447	43.76	ug/L	99
22) acetone	6.817	58	12564	47.14	ug/L	95
23) allyl chloride	7.363	76	56662	47.23	ug/L	96
24) acetonitrile	7.305	40	62741m	433.44	ug/L	
25) iodomethane	7.043	142	194563	47.10	ug/L	99
26) iso-butyl alcohol	10.377	41	54432	447.61	ug/L	98
27) carbon disulfide	7.179	76	354105	44.10	ug/L	99
28) methylene chloride	7.567	84	116811	43.96	ug/L	98
30) methyl acetate	7.368	74	21180	45.70	ug/L	95
31) methyl tert butyl ether	7.992	73	658310	91.78	ug/L	96
32) trans-1,2-dichloroethene	8.008	61	148283	44.95	ug/L	99
33) di-isopropyl ether	8.700	45	318755	45.51	ug/L	97
34) ethyl tert-butyl ether	9.213	59	336339	47.21	ug/L	99
35) 2-butanone	9.455	72	17193	50.71	ug/L	96
36) 1,1-dichloroethane	8.652	63	190057	46.74	ug/L	99
37) chloroprene	8.784	53	141070	45.63	ug/L	99
38) acrylonitrile	7.950	53	263713	249.87	ug/L	100

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : 4D68582.D
Acq On : 19 May 2016 1:22 am
Operator : XimenaC
Sample : ICV3019-50
Misc : MS90450,V4D3019,5,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 19 09:32:08 2016
Quant Method : C:\MSDCHEM\1\METHODS\M4D3019.M
Quant Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
QLast Update : Thu May 19 09:29:44 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
39) vinyl acetate	8.679	86	20611	51.18 ug/L	75
40) ethyl acetate	9.497	45	18513	47.35 ug/L	77
41) 2,2-dichloropropane	9.486	77	147318	43.63 ug/L	100
42) cis-1,2-dichloroethene	9.470	96	119757	45.06 ug/L	99
43) propionitrile	9.549	54	212508	527.64 ug/L	96
44) methyl acrylate	9.570	85	21941	48.95 ug/L	87
45) bromochloromethane	9.795	128	61211	48.92 ug/L	99
46) tetrahydrofuran	9.853	42	40800	43.26 ug/L	99
47) chloroform	9.874	83	204703	45.96 ug/L	99
50) freon 113	6.755	151	71617	50.25 ug/L	93
51) methacrylonitrile	9.754	67	56252	46.54 ug/L	98
52) 1,1,1-trichloroethane	10.152	97	164916	47.67 ug/L	100
53) tert-amyl methyl ether	10.703	73	312921	43.47 ug/L	99
55) epichlorohydrin	12.344	57	73917	229.68 ug/L	98
56) n-butyl alcohol	11.169	56	226403	2325.71 ug/L	100
57) cyclohexane	10.241	84	130623	43.31 ug/L	94
59) carbon tetrachloride	10.367	117	144629	46.84 ug/L	97
60) 1,1-dichloropropene	10.346	75	143505	48.56 ug/L	99
61) hexane	8.401	57	104294	40.28 ug/L	98
62) benzene	10.624	78	411122	44.74 ug/L	100
63) ISO-OCTANE	10.682	57	314851	40.43 ug/L	98
64) heptane	10.860	57	55995	38.99 ug/L	100
65) isopropyl acetate	10.592	43	220267	41.67 ug/L	100
66) 1,2-dichloroethane	10.629	62	151718	47.20 ug/L	99
67) trichloroethene	11.379	95	114735	45.05 ug/L	98
68) ethyl acrylate	11.416	55	166943	44.44 ug/L	99
69) 2-nitropropane	12.202	41	35721	46.38 ug/L	97
70) 2-chloroethyl vinyl ether	12.239	63	421790	236.40 ug/L	100
71) methyl methacrylate	11.693	100	33814	48.39 ug/L	95
72) 1,2-dichloropropane	11.657	63	106496	45.52 ug/L	99
73) methylcyclohexane	11.631	83	144010	42.50 ug/L	97
75) dibromomethane	11.804	93	81337	46.46 ug/L	99
76) bromodichloromethane	11.950	83	156001	45.52 ug/L	99
77) cis-1,3-dichloropropene	12.448	75	179628	44.43 ug/L	99
79) 4-methyl-2-pentanone	12.585	58	57257	47.66 ug/L #	82
80) toluene	12.847	92	252445	44.82 ug/L	99
81) 3-methyl-1-butanol	12.595	70	86266	930.33 ug/L	99
82) trans-1,3-dichloropropene	13.051	75	171602	45.27 ug/L	99
83) ethyl methacrylate	13.078	69	161161	44.90 ug/L	99
84) 1,1,2-trichloroethane	13.277	83	94661	45.22 ug/L	98
85) 2-hexanone	13.492	58	55454	46.87 ug/L	100
87) tetrachloroethene	13.471	166	114369	47.16 ug/L	99
88) 1,3-dichloropropane	13.471	76	167106	45.64 ug/L	99
89) butyl acetate	13.581	56	87730	48.41 ug/L	98
90) dibromochloromethane	13.743	129	129954	48.16 ug/L	99
91) 1,2-dibromoethane	13.906	107	122951	47.00 ug/L	98
92) n-Butyl Ether	14.378	57	491235	50.67 ug/L	100
93) chlorobenzene	14.415	112	288461	45.53 ug/L	99
94) 1,1,1,2-tetrachloroethane	14.483	131	111523	46.84 ug/L	98
95) ethylbenzene	14.493	91	498212	44.22 ug/L	100

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Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : 4D68582.D
Acq On : 19 May 2016 1:22 am
Operator : XimenaC
Sample : ICV3019-50
Misc : MS90450,V4D3019,5,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 19 09:32:08 2016
Quant Method : C:\MSDCHEM\1\METHODS\M4D3019.M
Quant Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
QLast Update : Thu May 19 09:29:44 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
96) m,p-xylene	14.609	106	371230	89.88	ug/L	100
97) o-xylene	15.049	91	423696	45.63	ug/L	99
98) styrene	15.054	104	322451	45.56	ug/L	100
99) butyl acrylate	14.881	55	245823	44.81	ug/L	99
100) bromoform	15.306	173	98798	49.03	ug/L	99
102) isopropylbenzene	15.411	105	496579	44.75	ug/L	100
104) bromobenzene	15.799	156	136429	46.31	ug/L	99
105) cyclohexanone	15.563	55	89957	410.36	ug/L	99
106) 1,1,2,2-tetrachloroethane	15.704	83	178546	44.76	ug/L	99
107) trans-1,4-dichloro-2-b...	15.752	53	47736	48.51	ug/L	99
108) 1,2,3-trichloropropane	15.778	110	43409	46.08	ug/L	98
109) n-propylbenzene	15.835	91	608608	45.60	ug/L	99
110) 2-chlorotoluene	15.967	126	120354	45.37	ug/L	98
111) 4-chlorotoluene	16.071	91	378568	43.55	ug/L	99
112) 1,3,5-trimethylbenzene	15.988	105	435050	44.67	ug/L	100
113) tert-butylbenzene	16.344	134	78265	45.68	ug/L	97
114) pentachloroethane	16.402	167	87656	48.47	ug/L	98
115) 1,2,4-trimethylbenzene	16.381	105	455565	45.33	ug/L	99
116) sec-butylbenzene	16.554	105	564413	45.02	ug/L	100
117) 1,3-dichlorobenzene	16.722	146	254398	44.90	ug/L	99
118) p-isopropyltoluene	16.674	119	474170	45.66	ug/L	99
119) 1,4-dichlorobenzene	16.800	146	257698	45.24	ug/L	100
120) 1,2-dichlorobenzene	17.183	146	257022	46.43	ug/L	100
121) n-butylbenzene	17.078	92	253180	45.45	ug/L	99
122) 1,2-dibromo-3-chloropr...	17.912	157	44533	47.69	ug/L	100
123) 1,3,5-trichlorobenzene	18.090	180	214814	49.04	ug/L	99
124) 1,2,4-trichlorobenzene	18.688	180	203137	50.47	ug/L	100
125) hexachlorobutadiene	18.813	225	102573	47.67	ug/L	99
126) naphthalene	18.960	128	565478	49.76	ug/L	100
127) 1,2,3-trichlorobenzene	19.196	180	192181	50.95	ug/L	99
128) hexachloroethane	17.440	119	99565	47.54	ug/L	98
129) Benzyl chloride	16.916	91	308435	40.95	ug/L	99

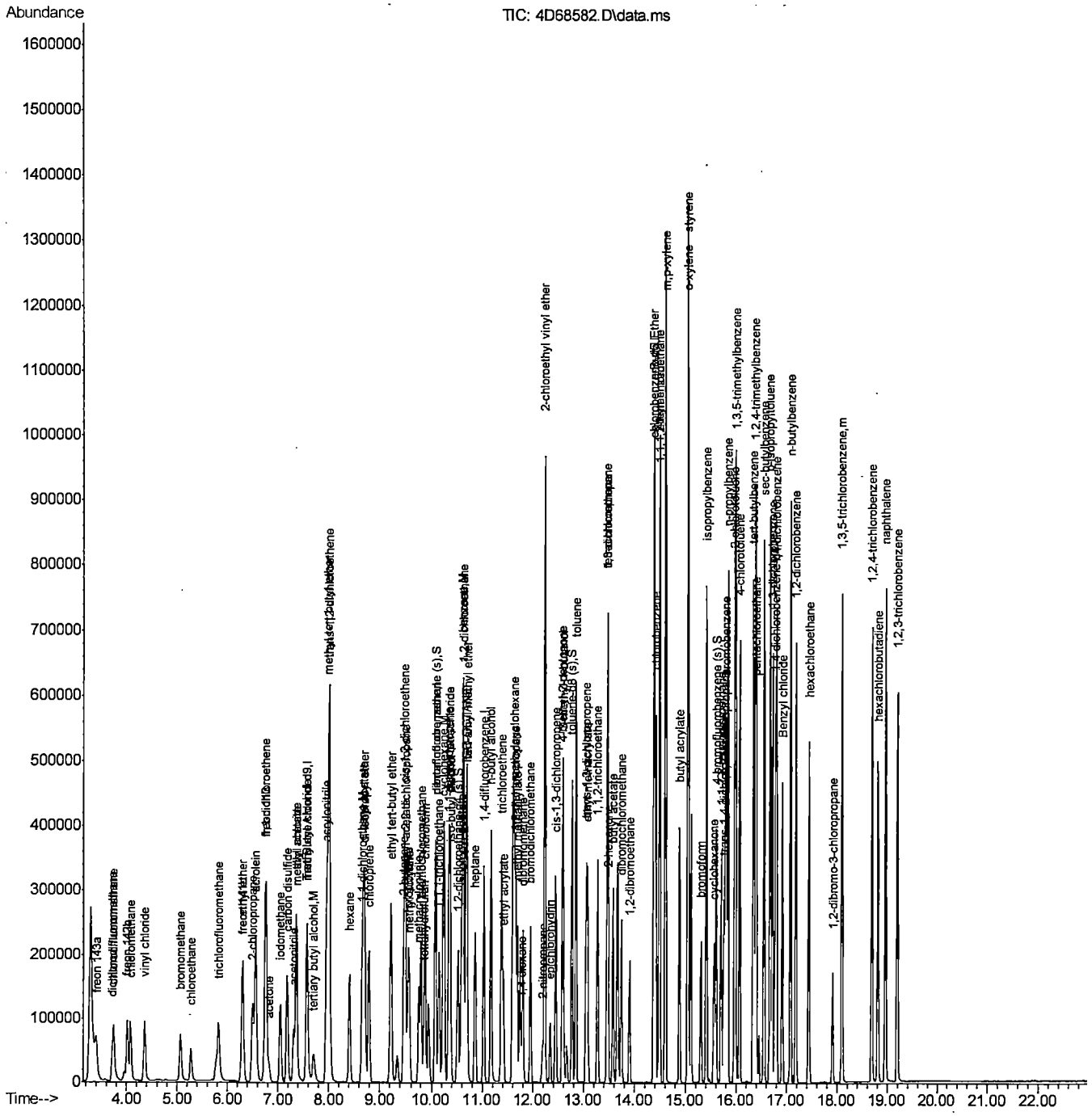
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.7.25 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\
Data File : 4D68582.D
Acq On : 19 May 2016 1:22 am
Operator : XimenaC
Sample : ICV3019-50
Misc : MS90450,V4D3019,5,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 19 09:32:08 2016
Quant Method : C:\MSDCHEM\1\METHODS\M4D3019.M
Quant Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
QLast Update : Thu May 19 09:29:44 2016
Response via : Initial Calibration



SGS ACCUTEST JC20564

7.7.25 7

Manual Integration Approval Summary

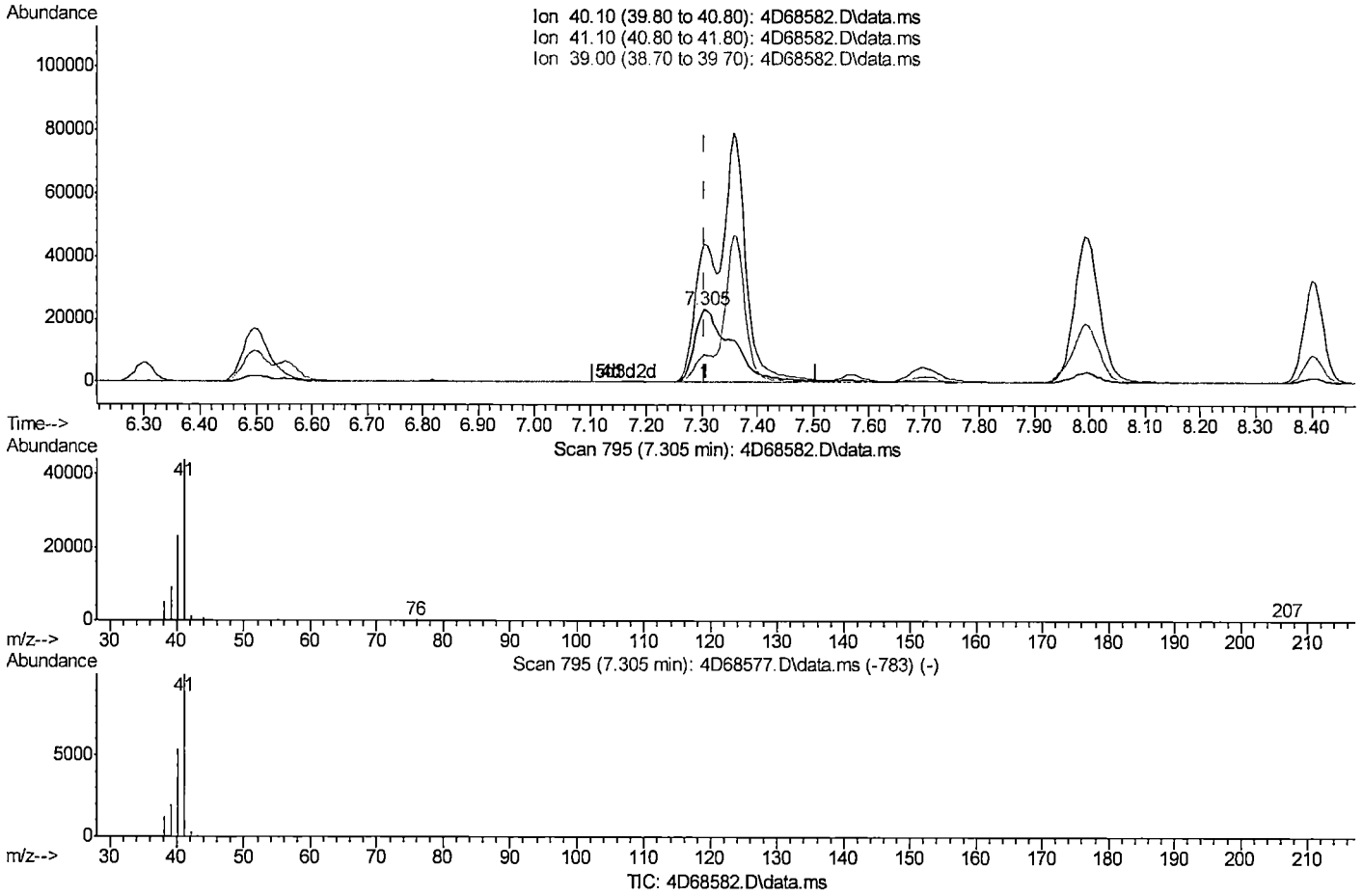
Sample Number:	V4D3019-ICV3019	**Method:**	SW846 8260C
Lab FileID:	4D68582.D	**Analyst approved:**	05/19/16 09:43 Dipa Patel
Injection Time:	05/19/16 01:22	**Supervisor approved:**	05/19/16 11:13 Mei Chen

Parameter	CAS	Sig#	R.T. (min.)	Reason
Acetonitrile	75-05-8		7.31	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\
Data File : 4D68582.D
Acq On : 19 May 2016 1:22 am
Operator : XimenaC
Sample : ICV3019-50
Misc : MS90450,V4D3019,5,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 19 09:30:02 2016
Quant Method : C:\MSDCHEM\1\METHODS\M4D3019.M
Quant Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
QLast Update : Thu May 19 09:29:44 2016
Response via : Initial Calibration



(24) acetonitrile

7.305min (-0.000) 756.57ug/L

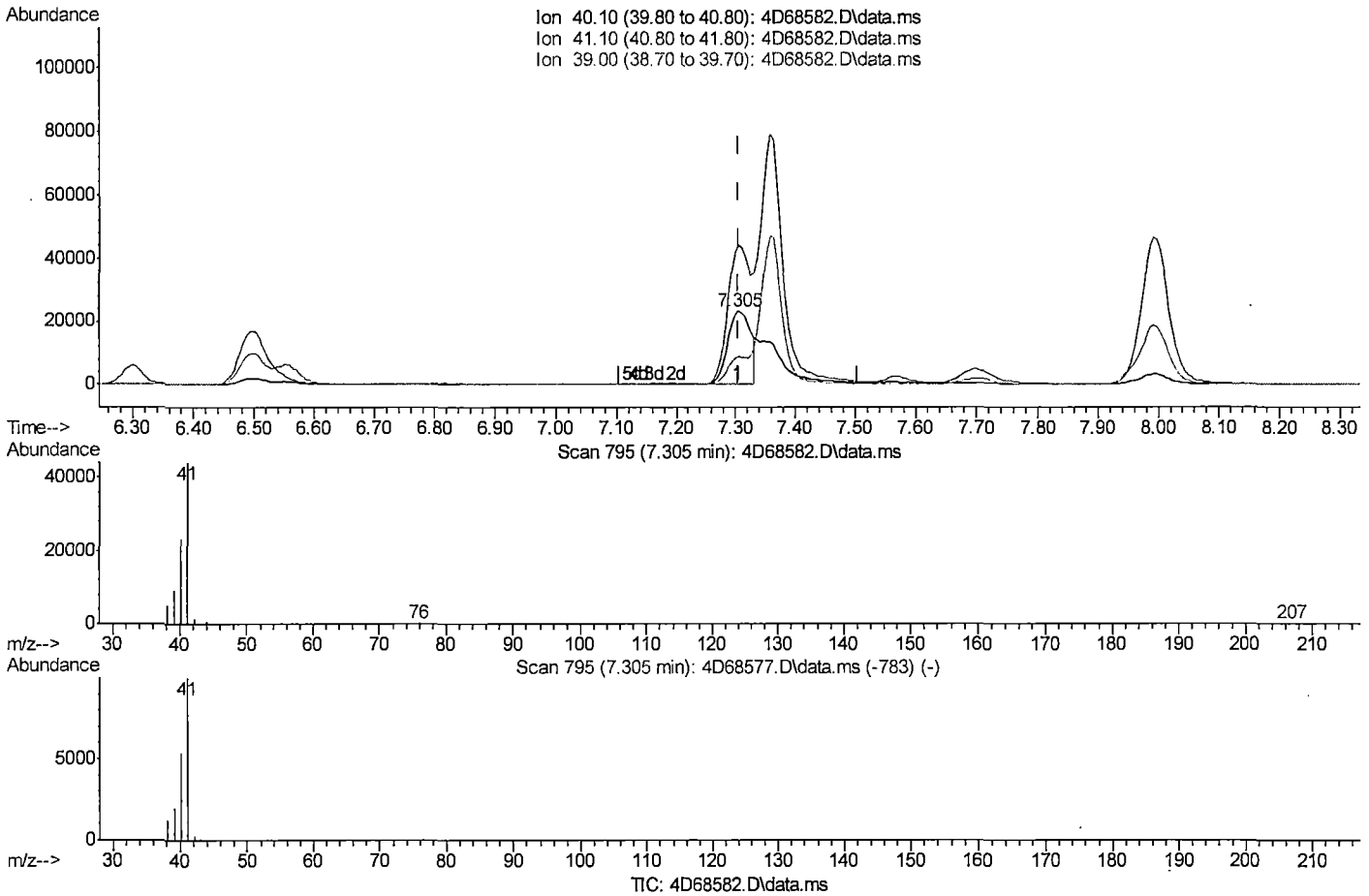
response 109514

Ion	Exp%	Act%
40.10	100	100
41.10	185.90	189.37
39.00	37.00	38.40
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\
Data File : 4D68582.D
Acq On : 19 May 2016 1:22 am
Operator : XimenaC
Sample : ICV3019-50
Misc : MS90450,V4D3019,5,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 19 09:30:02 2016
Quant Method : C:\MSDCHEM\1\METHODS\M4D3019.M
Quant Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
QLast Update : Thu May 19 09:29:44 2016
Response via : Initial Calibration



(24) acetonitrile

7.305min (-0.000) 433.44ug/L m

response 62741

Ion	Exp%	Act%
40.10	100	100
41.10	185.90	189.37
39.00	37.00	38.40
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4D\V4D3029-V4D3030\
Data File : 4D68851.D
Acq On : 27 May 2016 10:30 am
Operator : XimenaC
Sample : cc3019-20
Misc : MS2571,V4D3030,5,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 27 16:07:18 2016
Quant Method : C:\MSDCHEM\1\METHODS\M4D3019.M
Quant Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
QLast Update : Thu May 19 09:29:44 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Tert Butyl Alcohol-d9	7.551	65	124971	500.00	ug/L	-0.02
4) pentafluorobenzene	10.073	168	163513	50.00	ug/L	-0.01
54) 1,4-difluorobenzene	11.028	114	258073	50.00	ug/L	0.00
86) chlorobenzene-d5	14.378	117	243935	50.00	ug/L	0.00
101) 1,4-dichlorobenzene-d4	16.774	152	125100	50.00	ug/L	0.00
System Monitoring Compounds						
48) dibromofluoromethane (s)	10.079	113	94250	54.85	ug/L	-0.01
Spiked Amount 50.000	Range 76 - 120		Recovery = 109.70%			
49) 1,2-dichloroethane-d4 (s)	10.530	65	104299	54.10	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 108.20%			
78) toluene-d8 (s)	12.768	98	299269	50.46	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 100.92%			
103) 4-bromofluorobenzene (s)	15.600	95	121873	49.79	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 99.58%			
Target Compounds						Qvalue
2) 1,4-dioxane	11.772	88	16361	507.38	ug/L	99
3) tertiary butyl alcohol	7.688	59	34057	97.59	ug/L	93
6) chlorodifluoromethane	3.740	51	41234	19.37	ug/L	98
7) dichlorodifluoromethane	3.729	85	51679	22.35	ug/L	100
9) chloromethane	4.075	50	52542	18.57	ug/L	100
10) vinyl chloride	4.353	62	53724	19.41	ug/L	100
12) bromomethane	5.066	94	37976	22.21	ug/L	98
13) chloroethane	5.276	64	27943	22.31	ug/L	97
14) trichlorofluoromethane	5.827	101	69135	23.41	ug/L	100
17) ethyl ether	6.293	74	22517	20.52	ug/L	87
19) 2-chloropropane	6.492	43	66708	19.90	ug/L	97
20) acrolein	6.550	56	115964	203.20	ug/L	97
21) 1,1-dichloroethene	6.749	61	66716	17.04	ug/L	98
22) acetone	6.807	58	4728	18.90	ug/L	99
23) allyl chloride	7.357	76	23160	20.56	ug/L	99
24) acetonitrile	7.295	40	31706	233.30	ug/L	99
25) iodomethane	7.043	142	81822	21.10	ug/L	94
26) iso-butyl alcohol	10.372	41	19912	174.41	ug/L	94
27) carbon disulfide	7.179	76	146467	19.43	ug/L	98
28) methylene chloride	7.567	84	49496	19.84	ug/L	97
30) methyl acetate	7.357	74	8793	20.21	ug/L	94
31) methyl tert butyl ether	7.987	73	136076	20.21	ug/L	99
32) trans-1,2-dichloroethene	8.008	61	64390	20.79	ug/L	95
33) di-isopropyl ether	8.694	45	129833	19.74	ug/L	95
34) ethyl tert-butyl ether	9.208	59	128145	19.16	ug/L	99
35) 2-butanone	9.449	72	6404	20.12	ug/L	98
36) 1,1-dichloroethane	8.647	63	79252	20.76	ug/L	99
37) chloroprene	8.778	53	56588	19.49	ug/L	97
38) acrylonitrile	7.945	53	100376	101.30	ug/L	98
39) vinyl acetate	8.668	86	7447	19.70	ug/L	79
40) ethyl acetate	9.491	45	7125	19.41	ug/L	78
41) 2,2-dichloropropane	9.486	77	70025	22.09	ug/L	98
42) cis-1,2-dichloroethene	9.465	96	49858	19.98	ug/L	100
43) propionitrile	9.539	54	74432	196.84	ug/L	88
44) methyl acrylate	9.565	85	8446	20.07	ug/L #	78
45) bromochloromethane	9.790	128	25822	21.98	ug/L	100
46) tetrahydrofuran	9.848	42	16342	18.45	ug/L	97
47) chloroform	9.869	83	85009	20.33	ug/L	99
50) freon 113	6.749	151	28998	21.67	ug/L	98
51) methacrylonitrile	9.748	67	21628	19.06	ug/L	97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4D\V4D3029-V4D3030\
Data File : 4D68851.D
Acq On : 27 May 2016 10:30 am
Operator : XimenaC
Sample : cc3019-20
Misc : MS2571,V4D3030,5,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 27 16:07:18 2016
Quant Method : C:\MSDCHEM\1\METHODS\M4D3019.M
Quant Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
QLast Update : Thu May 19 09:29:44 2016
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
52)	1,1,1-trichloroethane	10.152	97	67610	20.81 ug/L	97
53)	tert-amyl methyl ether	10.692	73	129291	19.13 ug/L	96
55)	epichlorohydrin	12.338	57	28097	91.30 ug/L	99
56)	n-butyl alcohol	11.164	56	82030	881.25 ug/L	98
57)	cyclohexane	10.236	84	54720	18.97 ug/L	96
59)	carbon tetrachloride	10.367	117	64307	21.78 ug/L	97
60)	1,1-dichloropropene	10.341	75	56736	20.08 ug/L	99
61)	hexane	8.401	57	43511	17.58 ug/L	98
62)	benzene	10.619	78	169635	19.31 ug/L	99
63)	ISO-OCTANE	10.676	57	136556	18.34 ug/L	98
64)	heptane	10.860	57	25737	18.74 ug/L	98
65)	isopropyl acetate	10.587	43	89647	17.74 ug/L	96
66)	1,2-dichloroethane	10.624	62	66947	21.78 ug/L	98
67)	trichloroethene	11.374	95	47122	19.35 ug/L	99
69)	2-nitropropane	12.197	41	13554	18.41 ug/L	97
70)	2-chloroethyl vinyl ether	12.234	63	162535	95.27 ug/L	99
71)	methyl methacrylate	11.688	100	12241	18.32 ug/L #	84
72)	1,2-dichloropropane	11.652	63	44321	19.81 ug/L	97
73)	methylcyclohexane	11.625	83	59317	18.31 ug/L	99
75)	dibromomethane	11.798	93	35056	20.94 ug/L	96
76)	bromodichloromethane	11.950	83	66110	20.18 ug/L	99
77)	cis-1,3-dichloropropene	12.448	75	72409	18.73 ug/L	99
79)	4-methyl-2-pentanone	12.580	58	21458	18.68 ug/L #	84
80)	toluene	12.847	92	102894	19.11 ug/L	99
81)	3-methyl-1-butanol	12.590	70	31119	350.97 ug/L	98
82)	trans-1,3-dichloropropene	13.046	75	69158	19.08 ug/L	98
83)	ethyl methacrylate	13.078	69	59276	17.27 ug/L	100
84)	1,1,2-trichloroethane	13.272	83	39275	19.62 ug/L	97
85)	2-hexanone	13.487	58	20019	17.70 ug/L	95
87)	tetrachloroethene	13.466	166	46429	19.29 ug/L	99
88)	1,3-dichloropropane	13.471	76	68956	18.98 ug/L	100
89)	butyl acetate	13.581	56	31069	17.28 ug/L	96
90)	dibromochloromethane	13.738	129	53324	19.92 ug/L	98
91)	1,2-dibromoethane	13.901	107	50627	19.50 ug/L	99
92)	n-Butyl Ether	14.373	57	160749	16.71 ug/L	99
93)	chlorobenzene	14.415	112	118627	18.87 ug/L	97
94)	1,1,1,2-tetrachloroethane	14.478	131	46170	19.54 ug/L	98
95)	ethylbenzene	14.488	91	200688	17.95 ug/L	100
96)	m,p-xylene	14.603	106	151013	36.85 ug/L	99
97)	o-xylene	15.044	91	164876	17.89 ug/L	100
98)	styrene	15.054	104	126346	17.99 ug/L	99
100)	bromoform	15.301	173	37177	18.59 ug/L	99
102)	isopropylbenzene	15.411	105	196896	18.60 ug/L	99
104)	bromobenzene	15.799	156	55256	19.66 ug/L	96
105)	cyclohexanone	15.563	55	38620	184.63 ug/L	97
106)	1,1,2,2-tetrachloroethane	15.699	83	72601	19.08 ug/L	99
107)	trans-1,4-dichloro-2-b...	15.752	53	15824	16.85 ug/L	95
108)	1,2,3-trichloropropane	15.778	110	18398	20.47 ug/L	100
109)	n-propylbenzene	15.830	91	239562	18.81 ug/L	100
110)	2-chlorotoluene	15.967	126	49555	19.58 ug/L	98
111)	4-chlorotoluene	16.066	91	151821	18.30 ug/L	99
112)	1,3,5-trimethylbenzene	15.988	105	174554	18.78 ug/L	99
113)	tert-butylbenzene	16.339	134	29995	18.35 ug/L	97
114)	pentachloroethane	16.402	167	33586	19.46 ug/L	95
115)	1,2,4-trimethylbenzene	16.381	105	178083	18.57 ug/L	99
116)	sec-butylbenzene	16.554	105	221061	18.48 ug/L	100
117)	1,3-dichlorobenzene	16.716	146	103456	19.14 ug/L	99
118)	p-isopropyltoluene	16.674	119	181659	18.33 ug/L	99

7.7.26

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4D\V4D3029-V4D3030\
Data File : 4D68851.D
Acq On : 27 May 2016 10:30 am
Operator : XimenaC
Sample : cc3019-20
Misc : MS2571,V4D3030,5,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 27 16:07:18 2016
Quant Method : C:\MSDCHEM\1\METHODS\M4D3019.M
Quant Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
QLast Update : Thu May 19 09:29:44 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
119) 1,4-dichlorobenzene	16.800	146	103486	19.04	ug/L	99
120) 1,2-dichlorobenzene	17.183	146	101325	19.18	ug/L	99
121) n-butylbenzene	17.078	92	100130	18.84	ug/L	98
122) 1,2-dibromo-3-chloropr...	17.912	157	15211	17.07	ug/L	94
123) 1,3,5-trichlorobenzene	18.095	180	78505	18.78	ug/L	100
124) 1,2,4-trichlorobenzene	18.693	180	71254	18.55	ug/L	100
125) hexachlorobutadiene	18.814	225	36036	17.55	ug/L	96
126) naphthalene	18.960	128	196080	18.08	ug/L	99
127) 1,2,3-trichlorobenzene	19.196	180	68266	18.97	ug/L	99
128) hexachloroethane	17.440	119	38387	19.21	ug/L	95
129) Benzyl chloride	16.916	91	136072	18.93	ug/L	99

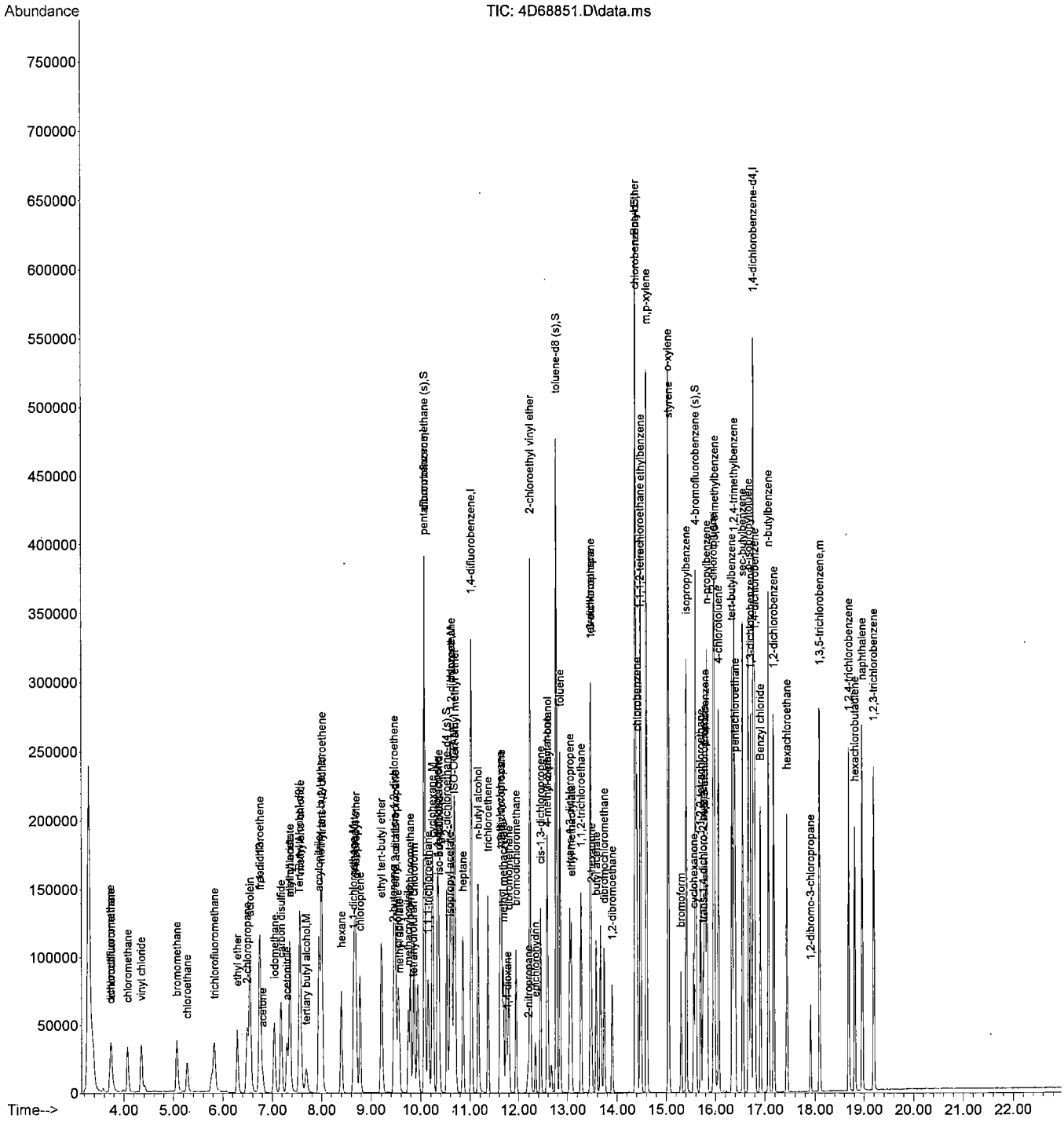
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.7.26 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\4D\V4D3029-V4D3030\
Data File : 4D68851.D
Acq On : 27 May 2016 10:30 am
Operator : XimenaC
Sample : cc3019-20
Misc : MS2571,V4D3030,5,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 27 16:07:18 2016
Quant Method : C:\MSDCHEM\1\METHODS\M4D3019.M
Quant Title : METHOD SW-846 8260C , DB-624 60m x 0.25mm x 1.4 um
QLast Update : Thu May 19 09:29:44 2016
Response via : Initial Calibration



SGS ACCUTEST JC20564

7.7.26

SGS ACCUTEST

VOLATILE ANALYSIS LOG

Batch ID: V3D5092

Print Analyst Name: Robert Szot

Date: 5/17/16

Analyst Signature: [signature]

Columns: Rxi-624 Sil MS (60m x 0.25mm x 1.4mm)

Method V8260C

Initial Cal. Method M3D5092

Standard Data

Lot #	Description	Conc.
V016-2316-01	A	100 ppm
V016-2316-15	B	100 ppm
V016-2316-29	C	100 ppm
V016-2284-139	Acrolein	1000 ppm
V016-2316-19	8260 Int Stdr	250/2500 ppm

Standard Data

Lot #	Description	Conc.
V016-2316-12	Ext A	100 ppm
V016-2316-13	Ext B	100 ppm
V016-2316-27	Ext C	100 ppm
V016-2316-17	Ext Acrolein	1000 ppm
V016-2316-26	Hexane	100 ppm

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

Supervisor Signature: [signature] **Date:** 5/18/16

R	Data File	Sample ID	Test	MTX	Vial #	ALS #	Samp. Amt (ml or g)	MOH amt. (ul)	Secondary dilution	L+	IS	SU	Status (Data)	Comments	pH* <2
	3D119264	BFB				1	5						ok		
	3D119265	IC5092-0.2	8260 initial cal.	W		2	5						ok	0.5uL A,B,C,Acrolein → 250 mL H2O	
	3D119266	IC5092-0.5	✓	W		3	5						ok	1uL A,B,C,Acrolein → 200 mL H2O	
	3D119267	IC5092-1	✓	W		4	5						ok	2uL A,B,C,Acrolein → 200 mL H2O	
	3D119268	IC5092-2	✓	W		5	5						ok	2uL A,B,C,Acrolein → 100 mL H2O	
	3D119269	IC5092-5	✓	W		6	5						ok	5uL A,B,C,Acrolein → 100 mL H2O	
	3D119270	IC5092-10	✓	W		7	5						ok	10uL A,B,C,Acrolein → 100 mL H2O	
	3D119271	IC5092-20	✓	W		8	5						ok	20uL A,B,C,Acrolein → 100 mL H2O	
	3D119272	IC5092-50	✓	W		9	5						ok	50uL A,B,C,Acrolein → 100 mL H2O	
	3D119273	IC5092-100	✓	W		10	5						ok	100uL A,B,C,Acrolein → 100 mL H2O	
	3D119274	IC5092-200	✓	W		11	5						ok	200uL A,B,C,Acrolein → 100 mL H2O	
	3D119275	IB	✓	W		12							—		
	3D119276	IB	✓	W		13							—		
	3D119277	ICV5092-50	✓	W		14	5						ok	50uL Ext A, Ext B, Ext C, Ext Acrolein, Hexane → 100 mL H2O	
	3D119278	IB	✓	W		15							—		
	~~3D119279~~													RS 5/17/16	
	3D119280														

MTX = Matrix Designate W for water, S for soil, O for oil. L+ = Library Search. IS = Internal Standard Area. SU = Surrogate.
Sample Amt = Volume (ML) or Weight (g); MOH amt. = volume (ul) extract injected * IF pH > 2, comment on sample result.
All strike outs must be initialed, dated and reason code applied as follows: 1 = reviewer correction error; 2 = transcription error; 3 = computer miscalculation; 4 = analyst's correction error

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Form: OR001-10
Rev. Date: 1/19/16

7.8.1

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SGS ACCUTEST

VOLATILE ANALYSIS LOG

Batch ID: V3D5103

Print Analyst Name: XIMENA

Date: 5/25/16

Analyst Signature: [signature]

Columns: RXI-Sil MS (60mx0.25mmx0.4um)

Method V8260 C

Initial Cal. Method M3D5092

Standard Data

Lot #	Description	Conc.
V016-2316-	12.28 Ext A	100 ppm
V016-2316-	13.32 Ext B	100 ppm
V016-2316-	44.6 Ext C	100 ppm
V016-2316-	41.1 Ext Aw	1000 ppm
V016-2316-	26.1 Hex	100 ppm

Standard Data

Lot #	Description	Conc.
V016-2316-	01.68 A	100 ppm
V016-2316-	15.59 B	100 ppm
V016-2316-	45.9 C	100 ppm
V016-2316-	33.8 Aw	1000 ppm
V016-2316-	37 I/S	250/2500 ppm

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

Supervisor Signature: [signature] **Date:** 5/27/16 PH paper 216315 exp 6/15/18

R	Data File	Sample ID	Test	MTX	Vial #	ALS #	Samp. Amt (ml or g)	MOH amt. (ul)	Secondary dilution	L+	IS	SU	Status (Data)	Comments	pH* <2
	3D119555	bfb											OK	9:14 am	
	119556	cc5092-20					5						NG	Int Area NG 20ul Std A B C Aw/100ml	
	119557	cc5092-20					5						OK		
	119558	ib					5						/		
	119559	mb					5				W		OK		
	119560	bs					5				W		OK	25ul Ext (A B C Aw hex)/50ml	
	119561	ib					5						/		
	119562	JC20564-16	2366 SL	G W			5		1X		W		OK		✓
OK	119563	JC20340-4	2219 MDVO	G W			0.25/50		200X		W		OK	+4D68730	✓
OK	119564	JC20340-8	✓	G W			0.25/50		200X		W		OK	+4D68732	✓
OK	119565	JC20340-7	✓	G W			1/50		50X		W		OK	+4D68731	✓
OK	119566	JC20343-3	2218 PAVGTMB	G W			1/50		50X		W		OK	+4D68655	✓
OK	119567	JC20343-5	✓	G W			5/50		10X		W		OK	+4D68664	✓
R	119568	JC20343-9	✓	G W			20/50		2.5X		W		OK	+4D68688	✓
	119569	JC20564-16 MS	2366 SL	G W	4		5		1X		W		OK	25ul Ext (A B C Aw hex)/50ml	✓
	119570	JC20564-16 msd	✓	G W	5		5		1X		W		OK		✓
	119571	ib					5						/		

MTX = Matrix Designate W for water, S for soil, O for oil. L+ = Library Search. IS = Internal Standard Area. SU = Surrogate.
Sample Amt = Volume (ML) or Weight (g); MOH amt. = volume (ul) extract injected * IF pH > 2, comment on sample result.
All strike outs must be initialed, dated and reason code applied as follows: 1 = reviewer correction error; 2 = transcription error; 3 = computer miscalculation; 4 = analyst's correction error

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Instrument Run Log V3D5103 page 1 of 2

SGS ACCUTEST JC20564

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SGS ACCUTEST

VOLATILE ANALYSIS LOG

Batch ID: V3D5103

Print Analyst Name: XIMENA

Date: 5/25/16

Analyst Signature: [illegible]

Columns: RXI-624 Sil MS (60m x 0.25mm x 1.4µm)

Method V8260C

Initial Cal. Method MBD5092

Standard Data

Lot #	Description	Conc.

Standard Data

Lot #	Description	Conc.
	See pg 275	

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

Supervisor Signature: [illegible] **Date:** 5/27/16

R	Data File	Sample ID	Test	MTX	Vial #	ALS #	Samp. Amt (ml or g)	MOH amt. (ul)	Secondary dilution	L+	IS	SU	Status (Data)	Comments	pH* <2
	119572	JC 20564-12	2366 SL	W	1		5		1X		✓	✓	OK		✓
	119573	JC 20564-13	✓	W	1		5		1X		✓	✓	OK		✓
	119574	JC 20564-14	✓	W	1		5		1X		✓	✓	OK		✓
	119575	JC 20564-15	✓	W	1		5		1X		✓	✓	OK		✓
	119576	JC 20564-17	✓	W	2		5		1X		✓	✓	OK	RR 1X	✓
	119577	JC 20564-18	✓	W	2		5		1X		✓	✓	OK		✓
	119578	JC 20564-19	✓	W	1		5		1X		✓	✓	OK	8.29 pM	✓
														XC 5/25/16	

MTX = Matrix Designate W for water, S for soil, O for oil. L+ = Library Search. IS = Internal Standard Area. SU = Surrogate.
Sample Amt = Volume (ML) or Weight (g); MOH amt. = volume (ul) extract injected * IF pH > 2, comment on sample result.
All strike outs must be initialed, dated and reason code applied as follows: 1 = reviewer correction error; 2 = transcription error; 3 = computer miscalculation; 4 = analyst's correction error

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Form: OR001-10
Rev. Date: 1/19/16

7.8.2

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SGS ACCUTEST

VOLATILE ANALYSIS LOG

Batch ID: V3D5104

Print Analyst Name: XIMENA

Date: 5/26/16

Analyst Signature: [signature]

Columns: RX1-624 Sil MS (60 m x 0.25 mm x 1.4 µm)

Method V8260C

Initial Cal. Method M3D5092

Standard Data

Lot #	Description	Conc.
V016-2316-12.30	Ext A	100 ppm
V016-2316-13.35	Ext B	100 ppm
V016-2316-44.2	Ext C	100 ppm
V016-2316-52.12	Hex	100 ppm
V016-2316-41.5	Ext Acr	1000 ppm

Standard Data

Lot #	Description	Conc.
V016-2316-01.68	A	100 ppm
V016-2316-15.59	B	100 ppm
V016-2316-45.9	C	100 ppm
V016-2316-33.8	Acr	1000 ppm
V016-2316-37	IS	250/2000 ppm

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

Supervisor Signature: [signature] **Date:** 6/1/16

pH paper 216315 Exp 6/15/18

R	Data File	Sample ID	Test	MTX	Vial #	ALS #	Samp. Amt (ml or g)	MOH amt. (ul)	Secondary dilution	L+	IS	SU	Status (Data)	Comments	pH* <2
	3D119586	bfb											OK	10:02am	
	119587	CC 5092-20					5						OK	20 ul Std ABC Acr/100ml	
	119588	ib					5						/		
	119589	mb					5			+		W	OK		
	119590	bs					5					W	OK	25 ul Ext (ABC Acr hex)/50ml	
	119591	ib					5						/		
R	119592	JC20564-17	2366 SL	GW	1		5		1X	+		W	OK		✓
	119593	JC20564-8	✓	GW	1		5		NO SIZE 1X	+		W	OK		✓
R	119594	JC20673-5	2469 PPTCL11+	WFB	3		5		1X			W	OK	ACNIT, Acrolein, Hept ✓	✓
R	119595	JC20673-3	2ceve ✓	GW	7		5		1X	+		W	OK	✓	✓
R	119596	JC20673-4	✓	GW	7		5		1X	+		W	OK	✓	✓
R	119597	JC20703-7	2454 PPTCL11+	GW	8		5		1X	+		W	OK	2ceve, ACNIT, Acrolein, Hept	✓
R	119598	JC20703-5	✓	GW	8		5		1X	+		W	OK	✓	✓
R	119599	JC20703-6	✓	GW	8		5		1X	+		W	OK	✓	✓
OK	119600	JC20729-8	2480 TCL11	GW	3		1/50		50X			W	OK	+3D119547	✓
R	119601	JC20729-9	✓	GW	3		5/50		10X			W	OK	+3D119552	✓
	119602	JC20564-11	2366 SL	GW	1		5		1X			W	OK	/OL 10X	✓

MTX = Matrix Designate W for water, S for soil, O for oil. L+ = Library Search. IS = Internal Standard Area. SU = Surrogate.
Sample Amt = Volume (ML) or Weight (g); MOH amt. = volume (ul) extract injected * IF pH > 2, comment on sample result.
All strike outs must be initialed, dated and reason code applied as follows: 1 = reviewer correction error; 2 = transcription error; 3 = computer miscalculation; 4 = analyst's correction error

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Form: OR001-10
Rev. Date: 1/19/16

7.8.3

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SGS ACCUTEST

VOLATILE ANALYSIS LOG

Batch ID: V3D 5104

Print Analyst Name: Ximena

Date: 5/26/16

Analyst Signature: [signature]

Columns: RX1-624Sil MS (60MX0.25MMX1.4MM)

Method V8260C

Initial Cal. Method N3D5092

Standard Data

Lot #	Description	Conc.

Standard Data

Lot #	Description	Conc.
	See pg 283	

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

Supervisor Signature: [signature] Date: 6/1/16

R	Data File	Sample ID	Test	MTX	Vial #	ALS #	Samp. Amt (ml or g)	MOH amt. (ul)	Secondary dilution	L+	IS	SU	Status (Data)	Comments	pH* <2
	3D119 603	JC20564-8 ms	2366 SL	GW	2		5		1X		W		OK	25ml Ext (ABC Am hex) 150ml sample	✓
	119 604	JC 20564 -8 msd	✓	GW	3		5		1X		W		OK		✓
	119 605	ib					5						/		
	119 606	JC 20564-1	2366 SL	WFB	1		5		1X		W		OK		✓
	119 607	JC 20564-7	✓	GW	1		5		1X		W		OK		✓
	119 608	JC 20564-6	✓	GW	1		5		1X		W		OK		✓
	119 609	JC 20564-5	✓	GW	1		5		1X		W		OK		✓
	119 610	JC 20564-4	✓	GW	1		5		1X		W		OK	9:17 pm	✓
														XC 5/26/16	

MTX = Matrix Designate W for water, S for soil, O for oil. L+ =Library Search. IS = Internal Standard Area. SU = Surrogate.
Sample Amt = Volume (ML) or Weight (g); MOH amt.= volume (ul) extract injected * IF pH > 2, comment on sample result.
All strike outs must be initialed, dated and reason code applied as follows: 1 = reviewer correction error; 2 = transcription error; 3 = computer miscalculation; 4 = analyst's correction error

OBS

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Form: OR001-10
Rev. Date: 1/19/16

7.8.3

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SGS ACCUTEST

VOLATILE ANALYSIS LOG

Batch ID: V3D5105 | V3D5106

Print Analyst Name: Ximena

Date: 5/27/16

Analyst Signature: [signature]

Columns: Rxi-624 Sil MS (60m x 0.25mm x 1.4um)

Method V8260C

Initial Cal. Method M3D5092

Standard Data

Lot #	Description	Conc.
V016-2316-12.33	GA A	100 ppm
V016-2316-50.7	GA B	100 ppm
V016-2316-59.10	GA C	100 ppm
V016-2316-41.1	GA Am	1000 ppm
V016-2316-52.7	Hex	100 ppm

Standard Data

Lot #	Description	Conc.
V016-2316-01.68	A	100 ppm
V016-2316-15.59	B	100 ppm
V016-2316-45.9	C	100 ppm
V016-2316-33.8	Am	1000 ppm
V016-2316-37	IS	250/2000 ppm

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

Supervisor Signature: [signature] **Date:** 6/1/16 PH paper 210315 Exp 6/15/18

R	Data File	Sample ID	Test	MTX	Vial #	ALS #	Samp. Amt (ml or g)	MOH amt. (ul)	Secondary dilution	L+	IS	SU	Status (Data)	Comments	pH* <2
	3D119636	bfb											OK	9:51am	
	119637	CC5092-20					5						OK	56,66 ↑ 20ml Std ABC Am/100ml	
	119638	lb					5						/		
	119639	mb2					5			+			OK		
	119640	JC20714-3 CUP	2479 BTX	G W	3		5		1X		✓	✓	OK		✓
	119641	JC20714-2 MS	STYR ✓	G W	3		5		1X		✓	✓	OK	25ml GA ABC Am hex)/50ml Smpl	✓
	119642	ib					5				✓	✓	/		
	119643	mb					5			+	✓	✓	OK		
	119644	bs					5				✓	✓	OK	56 ↑ 25ml GA ABC Am hex)/50ml	
	119645	ib					5						/		
	119646	JC21034-3	2659 TCL20+	G W	7		5		1X	+	✓	✓	OK		✓
XC	119647	JC21034-2	✓	G W	7		5		1X	+	✓	✓	OK		✓
5/27/16	119648	JC20564-10	2366 SC	G W	2		5		1X		✓	✓	OK		✓
	119649	JC20564-9	✓	G W	1		5		1X		✓	✓	OK		✓
OK	119650	JC20564-11	✓	G W	3		5/50		10X		✓	✓	OK	+3D119602	✓
R	119651	JC20647-15	2396 TCL11	G W	14		25/50		2X		✓	✓	OK	Dilution due to foaming	7
	119652	JC21034-2 MS	2659 TCL20+	G W	6		5		1X		✓	✓	OK	20ml GA ABC Am hex)/40ml Smpl	✓

MTX = Matrix Designate W for water, S for soil, O for oil. L+ = Library Search. IS = Internal Standard Area. SU = Surrogate.
Sample Amt = Volume (ML) or Weight (g); MOH amt = volume (ul) extract injected * IF pH > 2, comment on sample result.
All strike outs must be initialed, dated and reason code applied as follows: 1 = reviewer correction error; 2 = transcription error; 3 = computer miscalculation; 4 = analyst's correction error

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Form: OR001-10
Rev. Date: 1/19/16

7.8.4

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SGS ACCUTEST

VOLATILE ANALYSIS LOG

Batch ID: V3D 5106

Print Analyst Name: XIUENA

Date: 5/27/16

Analyst Signature: [illegible]

Columns: RXI-624Sil MS (60m x0.25mm x1.4m)

Method V8260C

Initial Cal. Method M3D 5092

Standard Data

Lot #	Description	Conc.

Standard Data

Lot #	Description	Conc.
See pg 291		

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

Supervisor Signature: [illegible] **Date:** 6/1/16

R	Data File	Sample ID	Test	MTX	Vial #	ALS #	Samp. Amt (ml or g)	MOH amt. (ul)	Secondary dilution	L+	IS	SU	Status (Data)	Comments	pH* <2
	3D119 653	lb					5						✓		
	119 654	JC21034-3 DUP	2659 TCL20+	GW	6		5		1X		✓	✓	OK		✓
	119 655	JC 21034-1	2659 TCL20+	GW	6		5		1X		✓	✓	OK		✓
	119 656	JC 20600-6	2377 BENZ	GW	2		2.5/50		20X		✓		Not needed	Don't report EPA TCL compounds as TICs VLS	
	119 657	JC 20600-6	✓	GW	2		2.5/50		2X		✓	✓	OK	✓ ~~R+X~~ XC 5/31/16 Dilution due to non-target	✓
	119 658	JC 20600-3	✓	GW	2		2.5/50		20X		✓	✓	Not needed	✓	✓
	119 659	JC 20600-3	✓	GW	2		2.5/50		2X		✓	✓	OK	✓ Dilution due to non-target 9:04 pm	✓
	119 660	bfb2											OK	9:31 pm	
	119 661	CC 5092-50					5						OK	25 ml std. A B C Am/50ml	
	119 662	lb					5						✓		
	119 663	mb2					5			+	✓	✓	OK		
	119 664	JC 20946-11	2605 TCL20+	WTB	1		5		1X	+	✓	✓	OK		✓
	119 665	JC 20946-2	✓	GW	5		5		1X	+	✓	✓	OK		✓
	119 666	JC 20946-3	✓	GW	5		5		1X	+	✓	✓	OK		✓
	119 667	JC 20946-4	✓	GW	5		5		1X	+	✓	✓	OK		✓
	119 668	JC 20946-5	✓	GW	5		5		1X	+	✓	✓	OK		✓
	119 669	JC 20946-7	✓	GW	5		5		1X	+	✓	✓	OK		✓
	119 670	JC 20946-8	✓	GW	4		5		1X	+	✓	✓	OK		✓
	119 671	JC 20946-9	✓	GW	4		5		1X	+	✓	✓	OK		✓
	119 672	JC 20946-1	✓	GW	5		5		1X	+	✓	✓	OK		✓
	119 673	JC 20946-6	✓	GW	4		5		1X	+	✓	✓	OK		✓

XC 5/27/16

MTX = Matrix Designate W for water, S for soil, O for oil. L+ = Library Search. IS = Internal Standard Area. SU = Surrogate.
Sample Amt = Volume (ML) or Weight (g); MOH amt. = volume (ul) extract injected * IF pH > 2, comment on sample result.
All strike outs must be initialed, dated and reason code applied as follows: 1 = reviewer correction error; 2 = transcription error; 3 = computer miscalculation; 4 = analyst's correction error

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SGS ACCUTEST JC20564

SGS ACCUTEST

VOLATILE ANALYSIS LOG

Batch ID: ~~V3~~ V4D3019 RJ5/18/16

Print Analyst Name: Robert Scot

Analyst Signature: [signature]

Columns: DB-624 (60mx0.25mmx1.4um)

Method V8260C

Initial Cal. Method ~~M4~~ MYD3019 RJ5/18/16

Date: 5/18/16

Standard Data

Lot #	Description	Conc.
Vol6-2316-01	A	100 ppm
Vol6-2316-15	B	100 ppm
Vol6-2316-29	C	100 ppm
Vol6-2316-139	Acrolein	1000 ppm
Vol6-2316-19	8260 Int/Sur	250/2500 ppm

Standard Data

Lot #	Description	Conc.
Vol6-2316-12 Vol6-2316-13	Ext A Ext B	100 ppm 100 ppm
Vol6-2316-27 Vol6-2316-17	Ext C Ext A Crolein	100 ppm 1000 ppm
Vol6-2316-26 Vol6-2316-07	Hexane Acrylates	100 ppm 100 ppm
Vol6-2316-08 Vol6-2316-30	Ext Acrylates Freon mix	100 ppm 100 ppm
Vol6-2316-31 Vol6-2316-32	Ext freons Ext F143A	100 ppm 100 ppm

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

Supervisor Signature:_____ Date:_____

R	Data File	Sample ID	Test	MTX	Vial #	ALS #	Samp. Amt (ml or g)	MOH amt. (ul)	Secondary dilution	L+	IS	SU	Status (Data)	Comments	pH* <2
	4D68569	BFB					5						On	6.58 pm	
	4D68570	IC3019-0.2	8260 initial cal.	W			5						On	0.5 uL A.B.C, Acrolein, Freon mix, Acrylates → 250 mL H_2O	
	4D68571	IC3019-0.5	✓	W			5						On	1 uL A.B.C, Acrolein, Freon mix, Acrylates → 200 mL H_2O	
	4D68572	IC3019-1	✓	W			5						On	1 uL A.B.C, Freon mix, Acrylates, 200 uL Acrolein → 100 mL H_2O	
	4D68573	IC3019-2	✓	W			5						On	2 uL A.B.C, Freon mix, Acrylates, 100 uL Acrolein → 100 mL H_2O	
	4D68574	IC3019-5	✓	W			5						On	5 uL A.B.C, Acrolein, Freon mix, Acrylates → 100 mL H_2O	
	4D68575	IC3019-10	✓	W			5						On	10 uL A.B.C, Acrolein, Freon mix, Acrylates → 100 mL H_2O	
	4D68576	IC3019-20	✓	W			5						On	20 uL A.B.C, Acrolein, Freon mix, Acrylates → 100 mL H_2O	
	4D68577	IC3019-50	✓	W			5						On	50 uL A.B.C, Acrolein, Freon mix, Acrylates → 100 mL H_2O	
	4D68578	IC3019-100	✓	W			5						On	100 uL A.B.C, ~~Acrylates~~ Freon mix, Acrylates, 2 uL Acrolein → 100 mL H_2O RJ5/18/16	
	4D68579	IC3019-200	✓	W			5						On	200 uL A.B.C, Freon mix, Acrylates, 1 uL Acrolein → 100 mL H_2O	
	4D68580	IB	✓												
	4D68581	IB	✓												
	4D68582	ICV3019-50	✓	W			5						On	50 uL Ext A, Ext B, Ext C, Ext Acrolein, Ext Acrylates, Hexane, Ext freons, Ext F143A → 100 mL H_2O	
	4D68583	IB													
														RJ5/18/16	

TX = Matrix Designate W for water, S for soil, O for oil. L+ = Library Search. IS = Internal Standard Area. SU = Surrogate.
ample Amt = Volume (ML) or Weight (g); MOH amt. = volume (ul) extract injected * IF pH > 2, comment on sample result.
l strike outs must be initialed, dated and reason code applied as follows: 1 = reviewer correction error; 2 = transcription error; 3 = computer scalculation; 4 = analyst's correction error

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MTBE 3.780/2 = 1.89 | 8.2 | 97

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m: OR001-10
Date: 1/19/16

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SGS 364 of 366 ACCUTEST JC20564

Instrument Run Log V4D3019 page 1 of 1

SGS ACCUTEST

VOLATILE ANALYSIS LOG

Batch ID: V4D 3029 / V4D 3030

Print Analyst Name: XIWEWA

Date: 5/27/16

Analyst Signature: [illegible]

Columns: DB-624 (60m x 0.15 mm x 1.4 um)

Method V8260C

Initial Cal. Method M4D 3019 / 3029 xc 6/23/16

Standard Data

Lot #	Description	Conc.
V016-2316-	12.33 BX A	100 ppm
V016-2316	57.7 BX B	100 ppm
V016-2316	59.10 BX C	100 ppm
V016-2316	41.1 BX Aw	1000 ppm
V016-2316	52.7 Hex	1000 ppm

Standard Data

Lot #	Description	Conc.
V016-2316	01.08 A	100 ppm
V016-2316	15.60 B	100 ppm
V016-2316	45.9 C	100 ppm
V016-2316	33.8 Aw	1000 ppm
V016-2316	37 IS	250/2000 ppm

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

Supervisor Signature: [illegible] **Date:** 6/1/16 PH paper 216315 Exp 6/15/18

R	Data File	Sample ID	Test	MTX	Vial #	ALS #	Samp. Amt (ml or g)	MOH amt. (ul)	Secondary dilution	L+	IS	SU	Status (Data)	Comments	pH* <2
	4D 68850	bfb											ok	9:39 am	
	68 851	cc 3019-20					5						ok	20 ul std A B C Aw	100 ml
	68 852	ib					5						—		
	68 853	mb2	~~2544~~				5						ok		
XC 5/23/16	68 854	JC 20~~647~~ 839 -20 ms	~~2396~~ 2396 TCL+10	GW	2		5		1X				ok		✓
	68 855	JC 20~~647~~ 839 -2 ms	✓	GW	1		5		1X				ok	20 ul EX1A B C Aw hex)	✓ 40 ml Smpl
	68 856	ib					5						—		
	68 857	mb					5			+			ok		
	68 858	bs					5						ok	25 ul EX1A B C Aw hex)	50 ml
	68 859	ib					5						—		
	68 860	JC 20954 -4	2640 BTX MT, ms	GW	4		5		1X	+			ok	Don't report EPA TCL compounds as TICs	✓
	68 861	JC 20954 -3	✓	GW	4		5		1X	+			ok	✓	✓
	68 862	JC 20564 -3	2366 SL	GW	1		5		1X				ok		✓
	68 863	JC 20564 -2	✓	GW	1		5		1X				ok		✓
RXC 5/23/16	68 864	JC 20703-13 ~~JC 20716b-9~~	~~2571~~ ~~TCL26~~	GW	8 ~~6~~		5		1X	+			ok	HS 2454 PP TCL 11+, 2CEVE, ACNT, ACROLEIN, HEPT	✓
	68 864A	JC 20703-15	2396 TCL1	GW	8		5		1X	+			ok	✓	
R	68 865	JC ~~20647~~ -15		GW	14								Not loaded		✓
	68 866	JC 20954-4 ms			5		5		1X				ok	Don't report EPA TCL compounds as TICs 20 ul EX1A B C Aw hex)	40 ml Smpl

MTX = Matrix Designate W for water, S for soil, O for oil. L+ = Library Search. IS = Internal Standard Area. SU = Surrogate.
Sample Amt = Volume (ML) or Weight (g); MOH amt. = volume (ul) extract injected * IF pH > 2, comment on sample result.
All strike outs must be initialed, dated and reason code applied as follows: 1 = reviewer correction error; 2 = transcription error; 3 = computer miscalculation; 4 = analyst's correction error

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Rev. Date: 1/19/16

SGS ACCUTEST

VOLATILE ANALYSIS LOG

Batch ID: V4D3030

Print Analyst Name: XIMENA

Date: 5/27/16

Analyst Signature: [signature]

Columns: DB-624 (60m x 0.15mm x 1.4µm)

Method: V8260C

Initial Cal. Method: M4D3019

Standard Data		
Lot #	Description	Conc.

Standard Data		
Lot #	Description	Conc.
	See pg 15	

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

Supervisor Signature: [signature] Date: 6/1/16

R	Data File	Sample ID	Test	MTX	Vial #	ALS #	Samp. Amt (ml or g)	MOH amt. (ul)	Secondary dilution	L+	IS	SU	Status (Data)	Comments	pH* <2
	4D68867	lb											ok	PL 5/31	
	68868	JC20954-3	DUP				5		1X		W		ok	Don't report EPA TCL compounds as TICs	✓
	68869	JC20766-9	2571 TCL20	G W	6		5		1X		W		ok		✓
	68870	JC20954-6	2640 BTX MT, VLS	G W	4		5		1X	+	W		ok	Don't report EPA TCL compounds as TICs	✓
	68871	JC20954-2	✓	G W	4		5		1X	+	W		ok	✓	✓
	68872	JC20954-1	✓	G W	4		5		1X	+	W		ok	✓	✓
	68873	JC20954-1	✓	G W	4		5/50		10X		W		Not needed	✓ 9:08 pm	✓
	68874	bfb2											ok	9:36 pm	
	68875	CC 3019-50											ok	25ml Std A B C Acm/50ml GA xc 5/27/16	
	68876	lb											—		
	68877	mb2	2707							+	W		ok		
	68878	JC21046-9	BENZ		1		5		1X	+	W		ok		✓
	68879	JC21046-8	VLS ✓		4		5		1X	+	W		ok		✓
	68880	JC21046-7	✓		4		5		1X	+	W		ok		✓
	68881	JC21046 4	✓		3		5		1X	+	W		ok		✓
	68882	JC21046-5	✓		3		5		1X	+	W		ok		✓
	68883	JC21046-6	✓		4		5		1X	+	W		ok		✓
	68884	JC21046-3	✓		3		5		1X	+	W		ok		✓
	68885	JC21046-2	✓		3		5		1X	+	W		ok		✓
	68886	JC21046-1	✓		3		5		1X	+	W		ok		✓
	68887	lb					5								

MTX = Matrix Designate W for water, S for soil, O for oil. L+ = Library Search. IS = Internal Standard Area. SU = Surrogate.
Sample Amt = Volume (ML) or Weight (g); MOH amt. = volume (ul) extract injected * IF pH > 2, comment on sample result.
All strike outs must be initialed, dated and reason code applied as follows: 1 = reviewer correction error; 2 = transcription error; 3 = computer miscalculation; 4 = analyst's correction error

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B

B

Appendix B

First Quarter 2016 Effluent Air Laboratory Analytical Reports

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6/4/2016
Mr. Peter Hollatz
AECOM Environment
4320 Winfield Road

Warrenville IL 60555

Project Name: UTAS PLANTS 1/2
Project #: 60480278
Workorder #: 1605464

Dear Mr. Peter Hollatz

The following report includes the data for the above referenced project for sample(s) received on 5/23/2016 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-14A are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Ausha Scott
Project Manager

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WORK ORDER #: 1605464

Work Order Summary

CLIENT:	Mr. Peter Hollatz AECOM Environment 4320 Winfield Road Warrenville, IL 60555	**BILL TO:**	Accounts Payable-Warrenville AECOM Environment 4320 Winfield Road Warrenville, IL 60555
PHONE:	630 829-2736	**P.O. #**	74247
FAX:	630-657-6305	**PROJECT #**	60480278 UTAS PLANTS 1/2
DATE RECEIVED:	05/23/2016	**CONTACT:**	Ausha Scott
DATE COMPLETED:	06/04/2016		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	P1SVE-EFFC1-051916	Modified TO-14A	0.4 psi	15 psi
02A	P2SVE-EFFC4-051916	Modified TO-14A	2.2 "Hg	14.6 psi
03A	P2SVE-EFFC4-051916 DUP	Modified TO-14A	2 "Hg	14.6 psi
04A	P2SVE-EFFC5-051916	Modified TO-14A	4.3 "Hg	14.9 psi
05A	P1SVE-EFFC2-051916	Modified TO-14A	4.1 "Hg	15 psi
06A	P1SVE-EFFC3-051916	Modified TO-14A	3.5 "Hg	15.1 psi
07A	Lab Blank	Modified TO-14A	NA	NA
08A	CCV	Modified TO-14A	NA	NA
09A	LCS	Modified TO-14A	NA	NA
09AA	LCSD	Modified TO-14A	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 06/04/16

Technical Director

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
TX NELAP - T104704434-15-9, UT NELAP CA0093332015-6, VA NELAP - 8113, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2015, Expiration date: 10/17/2016.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, Inc.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-14A
AECOM Environment
Workorder# 1605464

Six 1 Liter Summa Canister samples were received on May 23, 2016. The laboratory performed analysis via modified EPA Method TO-14A using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications. Please note that TO-14A was validated for specially treated canisters, and the use of Tedlar bags for sample collection is outside the scope of the method.

Requirement	*TO-14A*	*ATL Modifications*
Initial Calibration criteria	RSD</=30%	Follow TO-15 requirements of RSD</=30% with two compounds allowed out to </=40%RSD.
BFB absolute abundance criteria	Within 10% of that from previous day	CCV internal standard area counts are compared to ICAL, corrective action when recovery is less than 60%.
Blank acceptance criteria	<0.20 ppbv	<Reporting Limit
Sample Drying System	Nafion Dryer	Multibed hydrophobic sorbent
BFB ion abundance criteria	Ion abundance listed in Table 4 of TO-14A	Follow ion abundance criteria listed in Method TO-15

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

There were no analytical discrepancies.

Definition of Data Qualifying Flags

Nine qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

C - Estimated calculation due to estimated sampling rate.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

Client Sample ID: P1SVE-EFFC1-051916

Lab ID#: 1605464-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethane	0.98	14	4.0	57
cis-1,2-Dichloroethene	0.98	2.8	3.9	11
1,1,1-Trichloroethane	0.98	55	5.4	300
Trichloroethene	0.98	8.3	5.3	45
Tetrachloroethene	0.98	70	6.7	470

Client Sample ID: P2SVE-EFFC4-051916

Lab ID#: 1605464-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	1.1	9.3	5.9	51
Trichloroethene	1.1	2.4	5.8	13
Tetrachloroethene	1.1	14	7.3	97

Client Sample ID: P2SVE-EFFC4-051916 DUP

Lab ID#: 1605464-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
cis-1,2-Dichloroethene	1.1	1.6	4.2	6.2
1,1,1-Trichloroethane	1.1	14	5.8	79
Trichloroethene	1.1	3.9	5.8	21
Tetrachloroethene	1.1	21	7.2	140

Client Sample ID: P2SVE-EFFC5-051916

Lab ID#: 1605464-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	1.2	1.4	4.6	5.4
1,1-Dichloroethane	1.2	2.9	4.8	12
cis-1,2-Dichloroethene	1.2	2.2	4.6	8.5
1,1,1-Trichloroethane	1.2	100	6.4	560
Trichloroethene	1.2	2.1	6.3	12

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

Client Sample ID: P2SVE-EFFC5-051916

Lab ID#: 1605464-04A

Tetrachloroethene	1.2	9.3	8.0	63

Client Sample ID: P1SVE-EFFC2-051916

Lab ID#: 1605464-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	1.2	2.7	4.6	11
1,1-Dichloroethane	1.2	96	4.7	390
cis-1,2-Dichloroethene	1.2	3.1	4.6	12
1,1,1-Trichloroethane	1.2	210	6.4	1200
Trichloroethene	1.2	4.2	6.3	23
Tetrachloroethene	1.2	7.0	7.9	48

Client Sample ID: P1SVE-EFFC3-051916

Lab ID#: 1605464-06A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	1.1	2.7	4.5	11
1,1-Dichloroethane	1.1	110	4.6	440
cis-1,2-Dichloroethene	1.1	3.7	4.5	14
1,1,1-Trichloroethane	1.1	240	6.2	1300
Trichloroethene	1.1	4.2	6.2	23
Tetrachloroethene	1.1	6.4	7.8	43

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Client Sample ID: P1SVE-EFFC1-051916

Lab ID#: 1605464-01A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	**3052708**	**Date of Collection:**	**5/19/16 7:55:00 AM**
Dil. Factor:	**1.97**	**Date of Analysis:**	**5/27/16 02:06 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.98	Not Detected	2.5	Not Detected
Chloroethane	3.9	Not Detected	10	Not Detected
1,1-Dichloroethene	0.98	Not Detected	3.9	Not Detected
Acetone	9.8	Not Detected	23	Not Detected
Methylene Chloride	9.8	Not Detected	34	Not Detected
trans-1,2-Dichloroethene	0.98	Not Detected	3.9	Not Detected
1,1-Dichloroethane	0.98	14	4.0	57
2-Butanone (Methyl Ethyl Ketone)	3.9	Not Detected	12	Not Detected
cis-1,2-Dichloroethene	0.98	2.8	3.9	11
Chloroform	0.98	Not Detected	4.8	Not Detected
1,1,1-Trichloroethane	0.98	55	5.4	300
Carbon Tetrachloride	0.98	Not Detected	6.2	Not Detected
Benzene	0.98	Not Detected	3.1	Not Detected
1,2-Dichloroethane	0.98	Not Detected	4.0	Not Detected
Trichloroethene	0.98	8.3	5.3	45
Toluene	0.98	Not Detected	3.7	Not Detected
1,1,2-Trichloroethane	0.98	Not Detected	5.4	Not Detected
Tetrachloroethene	0.98	70	6.7	470
Ethyl Benzene	0.98	Not Detected	4.3	Not Detected
m,p-Xylene	0.98	Not Detected	4.3	Not Detected
o-Xylene	0.98	Not Detected	4.3	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	91	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	99	70-130

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Client Sample ID: P2SVE-EFFC4-051916

Lab ID#: 1605464-02A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	**3052709**	**Date of Collection:**	**5/19/16 8:00:00 AM**
Dil. Factor:	**2.15**	**Date of Analysis:**	**5/27/16 02:32 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.1	Not Detected	2.7	Not Detected
Chloroethane	4.3	Not Detected	11	Not Detected
1,1-Dichloroethene	1.1	Not Detected	4.3	Not Detected
Acetone	11	Not Detected	26	Not Detected
Methylene Chloride	11	Not Detected	37	Not Detected
trans-1,2-Dichloroethene	1.1	Not Detected	4.3	Not Detected
1,1-Dichloroethane	1.1	Not Detected	4.4	Not Detected
2-Butanone (Methyl Ethyl Ketone)	4.3	Not Detected	13	Not Detected
cis-1,2-Dichloroethene	1.1	Not Detected	4.3	Not Detected
Chloroform	1.1	Not Detected	5.2	Not Detected
1,1,1-Trichloroethane	1.1	9.3	5.9	51
Carbon Tetrachloride	1.1	Not Detected	6.8	Not Detected
Benzene	1.1	Not Detected	3.4	Not Detected
1,2-Dichloroethane	1.1	Not Detected	4.4	Not Detected
Trichloroethene	1.1	2.4	5.8	13
Toluene	1.1	Not Detected	4.0	Not Detected
1,1,2-Trichloroethane	1.1	Not Detected	5.9	Not Detected
Tetrachloroethene	1.1	14	7.3	97
Ethyl Benzene	1.1	Not Detected	4.7	Not Detected
m,p-Xylene	1.1	Not Detected	4.7	Not Detected
o-Xylene	1.1	Not Detected	4.7	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: P2SVE-EFFC4-051916 DUP

Lab ID#: 1605464-03A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	**3052710**	**Date of Collection:**	**5/19/16 8:00:00 AM**
Dil. Factor:	**2.14**	**Date of Analysis:**	**5/27/16 02:58 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.1	Not Detected	2.7	Not Detected
Chloroethane	4.3	Not Detected	11	Not Detected
1,1-Dichloroethene	1.1	Not Detected	4.2	Not Detected
Acetone	11	Not Detected	25	Not Detected
Methylene Chloride	11	Not Detected	37	Not Detected
trans-1,2-Dichloroethene	1.1	Not Detected	4.2	Not Detected
1,1-Dichloroethane	1.1	Not Detected	4.3	Not Detected
2-Butanone (Methyl Ethyl Ketone)	4.3	Not Detected	13	Not Detected
cis-1,2-Dichloroethene	1.1	1.6	4.2	6.2
Chloroform	1.1	Not Detected	5.2	Not Detected
1,1,1-Trichloroethane	1.1	14	5.8	79
Carbon Tetrachloride	1.1	Not Detected	6.7	Not Detected
Benzene	1.1	Not Detected	3.4	Not Detected
1,2-Dichloroethane	1.1	Not Detected	4.3	Not Detected
Trichloroethene	1.1	3.9	5.8	21
Toluene	1.1	Not Detected	4.0	Not Detected
1,1,2-Trichloroethane	1.1	Not Detected	5.8	Not Detected
Tetrachloroethene	1.1	21	7.2	140
Ethyl Benzene	1.1	Not Detected	4.6	Not Detected
m,p-Xylene	1.1	Not Detected	4.6	Not Detected
o-Xylene	1.1	Not Detected	4.6	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: P2SVE-EFFC5-051916

Lab ID#: 1605464-04A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	**3052713**	**Date of Collection:**	**5/19/16 8:05:00 AM**
Dil. Factor:	**2.35**	**Date of Analysis:**	**5/27/16 04:10 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.0	Not Detected
Chloroethane	4.7	Not Detected	12	Not Detected
1,1-Dichloroethene	1.2	1.4	4.6	5.4
Acetone	12	Not Detected	28	Not Detected
Methylene Chloride	12	Not Detected	41	Not Detected
trans-1,2-Dichloroethene	1.2	Not Detected	4.6	Not Detected
1,1-Dichloroethane	1.2	2.9	4.8	12
2-Butanone (Methyl Ethyl Ketone)	4.7	Not Detected	14	Not Detected
cis-1,2-Dichloroethene	1.2	2.2	4.6	8.5
Chloroform	1.2	Not Detected	5.7	Not Detected
1,1,1-Trichloroethane	1.2	100	6.4	560
Carbon Tetrachloride	1.2	Not Detected	7.4	Not Detected
Benzene	1.2	Not Detected	3.8	Not Detected
1,2-Dichloroethane	1.2	Not Detected	4.8	Not Detected
Trichloroethene	1.2	2.1	6.3	12
Toluene	1.2	Not Detected	4.4	Not Detected
1,1,2-Trichloroethane	1.2	Not Detected	6.4	Not Detected
Tetrachloroethene	1.2	9.3	8.0	63
Ethyl Benzene	1.2	Not Detected	5.1	Not Detected
m,p-Xylene	1.2	Not Detected	5.1	Not Detected
o-Xylene	1.2	Not Detected	5.1	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	99	70-130

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Client Sample ID: P1SVE-EFFC2-051916

Lab ID#: 1605464-05A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	**3052714**	**Date of Collection:**	**5/19/16 8:20:00 AM**
Dil. Factor:	**2.34**	**Date of Analysis:**	**5/27/16 04:37 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.0	Not Detected
Chloroethane	4.7	Not Detected	12	Not Detected
1,1-Dichloroethene	1.2	2.7	4.6	11
Acetone	12	Not Detected	28	Not Detected
Methylene Chloride	12	Not Detected	41	Not Detected
trans-1,2-Dichloroethene	1.2	Not Detected	4.6	Not Detected
1,1-Dichloroethane	1.2	96	4.7	390
2-Butanone (Methyl Ethyl Ketone)	4.7	Not Detected	14	Not Detected
cis-1,2-Dichloroethene	1.2	3.1	4.6	12
Chloroform	1.2	Not Detected	5.7	Not Detected
1,1,1-Trichloroethane	1.2	210	6.4	1200
Carbon Tetrachloride	1.2	Not Detected	7.4	Not Detected
Benzene	1.2	Not Detected	3.7	Not Detected
1,2-Dichloroethane	1.2	Not Detected	4.7	Not Detected
Trichloroethene	1.2	4.2	6.3	23
Toluene	1.2	Not Detected	4.4	Not Detected
1,1,2-Trichloroethane	1.2	Not Detected	6.4	Not Detected
Tetrachloroethene	1.2	7.0	7.9	48
Ethyl Benzene	1.2	Not Detected	5.1	Not Detected
m,p-Xylene	1.2	Not Detected	5.1	Not Detected
o-Xylene	1.2	Not Detected	5.1	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	91	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: P1SVE-EFFC3-051916

Lab ID#: 1605464-06A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	**3052715**	**Date of Collection:**	**5/19/16 8:50:00 AM**
Dil. Factor:	**2.29**	**Date of Analysis:**	**5/27/16 05:21 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.1	Not Detected	2.9	Not Detected
Chloroethane	4.6	Not Detected	12	Not Detected
1,1-Dichloroethene	1.1	2.7	4.5	11
Acetone	11	Not Detected	27	Not Detected
Methylene Chloride	11	Not Detected	40	Not Detected
trans-1,2-Dichloroethene	1.1	Not Detected	4.5	Not Detected
1,1-Dichloroethane	1.1	110	4.6	440
2-Butanone (Methyl Ethyl Ketone)	4.6	Not Detected	14	Not Detected
cis-1,2-Dichloroethene	1.1	3.7	4.5	14
Chloroform	1.1	Not Detected	5.6	Not Detected
1,1,1-Trichloroethane	1.1	240	6.2	1300
Carbon Tetrachloride	1.1	Not Detected	7.2	Not Detected
Benzene	1.1	Not Detected	3.6	Not Detected
1,2-Dichloroethane	1.1	Not Detected	4.6	Not Detected
Trichloroethene	1.1	4.2	6.2	23
Toluene	1.1	Not Detected	4.3	Not Detected
1,1,2-Trichloroethane	1.1	Not Detected	6.2	Not Detected
Tetrachloroethene	1.1	6.4	7.8	43
Ethyl Benzene	1.1	Not Detected	5.0	Not Detected
m,p-Xylene	1.1	Not Detected	5.0	Not Detected
o-Xylene	1.1	Not Detected	5.0	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	90	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	99	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1605464-07A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	**3052706**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/27/16 11:42 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
Chloroethane	2.0	Not Detected	5.3	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Acetone	5.0	Not Detected	12	Not Detected
Methylene Chloride	5.0	Not Detected	17	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	2.0	Not Detected	5.9	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Chloroform	0.50	Not Detected	2.4	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
1,1,2-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	91	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	97	70-130

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Client Sample ID: CCV

Lab ID#: 1605464-08A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	**3052702**	**Date of Collection: NA**
Dil. Factor:	**1.00**	**Date of Analysis: 5/27/16 10:03 AM**

Compound	%Recovery
Vinyl Chloride	90
Chloroethane	88
1,1-Dichloroethene	84
Acetone	78
Methylene Chloride	86
trans-1,2-Dichloroethene	88
1,1-Dichloroethane	91
2-Butanone (Methyl Ethyl Ketone)	84
cis-1,2-Dichloroethene	85
Chloroform	91
1,1,1-Trichloroethane	87
Carbon Tetrachloride	88
Benzene	94
1,2-Dichloroethane	90
Trichloroethene	91
Toluene	91
1,1,2-Trichloroethane	92
Tetrachloroethene	99
Ethyl Benzene	93
m,p-Xylene	92
o-Xylene	91

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	88	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: LCS

Lab ID#: 1605464-09A

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	**3052703**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/27/16 10:27 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	95	70-130
Chloroethane	96	70-130
1,1-Dichloroethene	85	70-130
Acetone	81	70-130
Methylene Chloride	86	70-130
trans-1,2-Dichloroethene	91	70-130
1,1-Dichloroethane	90	70-130
2-Butanone (Methyl Ethyl Ketone)	84	70-130
cis-1,2-Dichloroethene	82	70-130
Chloroform	90	70-130
1,1,1-Trichloroethane	86	70-130
Carbon Tetrachloride	88	70-130
Benzene	93	70-130
1,2-Dichloroethane	88	70-130
Trichloroethene	90	70-130
Toluene	89	70-130
1,1,2-Trichloroethane	88	70-130
Tetrachloroethene	94	70-130
Ethyl Benzene	88	70-130
m,p-Xylene	86	70-130
o-Xylene	87	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	89	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: LCSD

Lab ID#: 1605464-09AA

MODIFIED EPA METHOD TO-14A GC/MS FULL SCAN

File Name:	**3052704**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 5/27/16 10:51 AM**	

Compound	**%Recovery**	**Method Limits**
Vinyl Chloride	93	70-130
Chloroethane	95	70-130
1,1-Dichloroethene	85	70-130
Acetone	81	70-130
Methylene Chloride	85	70-130
trans-1,2-Dichloroethene	89	70-130
1,1-Dichloroethane	90	70-130
2-Butanone (Methyl Ethyl Ketone)	83	70-130
cis-1,2-Dichloroethene	81	70-130
Chloroform	90	70-130
1,1,1-Trichloroethane	86	70-130
Carbon Tetrachloride	86	70-130
Benzene	92	70-130
1,2-Dichloroethane	87	70-130
Trichloroethene	89	70-130
Toluene	90	70-130
1,1,2-Trichloroethane	89	70-130
Tetrachloroethene	95	70-130
Ethyl Benzene	88	70-130
m,p-Xylene	86	70-130
o-Xylene	88	70-130

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	88	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	101	70-130

Appendix C

First Quarter 2016 Phase1/Phase 2 AS/SVE System Operations Data Sheets

DAILY DOCUMENTATION SHEET

Control Panel Touch Screen

DATE	6-29-16	6-30-16	7-1-16	7-2-16	7-3-16	7-4-16	7-5-16	7-6-16	7-7-16	7-8-16
TIME	8:18 AM	8:16 AM	9:59 AM	9:06 AM	9:32 AM	9:30 AM	3:05 PM	9:00 AM	0800	7:00 AM
OBSERVER'S INITIALS	RK	RK	DE	DE	KA	KA	KA	JM	A.H	JM
ALARMS										
Shut Down Alarm Code	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Non-critical Alarm Code	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HOURS METERS										
B-701 SVE (hrs)	40385	40409	40435	40458	40482	40506	40536	40553	40576	40559
C-2201 SPRG (hrs)	35059	35089	35109	35132	35157	35181	35211	35229	35252	35275
F-2501 H-XCH (hrs)	35059	35089	35109	35132	35157	35181	35211	35229	35252	35275
ANALOGS										
MV-701 SVE POS (%)	29	29	29	29	29	29	29	29	29	29
PT-701 SVE (-wc)	-81.6	-81.6	-81.6	-81.6	-68.0	-68.0	-68.0	-81.6	-68.0	-68.0
PT-2501 SPRG (psi)	13.4	13.5	13.4	14.0	13.3	12.1	12.1	13.5	13.3	12.4
SET POINTS										
PTLA-2501 SPRG (psi)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
PTHA-2501 SPRG (psi)	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0
SET POINTS 2										
SVON-101 SVE (min)	60	60	60	60	60	60	60	60	60	60
SVON-102 SVE (min)	60	60	60	60	60	60	60	60	60	60
SVON-103 SVE (min)	180	180	180	180	180	180	180	190	180	180
SET POINTS 3										
SVON-2801 SPRG (min)	60	60	60	60	60	60	60	60	60	60
SVON-2802 SPRG (min)	60	60	60	60	60	60	60	60	60	60
SVON-2803 SPRG (min)	180	180	180	180	180	180	180	180	180	180
SPRG DELAY (min)	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø
SET POINTS 4										
MV-701 SVE POS (%)	30	30	30	30	30	30	30	30	30	30

DAILY DOCUMENTATION SHEET

Control Panel Touch Screen

DATE	6-19-16	6-20-16	6-21-16	6-22-16	6-23-16	6-24-16	6-25-16	6-26-16	6-27-16	6-28-16
TIME	7:18 AM	10:45Am	0400	08:54	10:25Am	8:11 Am	6:45Am	10:40AM	7:57 Am	7:45AM
OBSERVER'S INITIALS	[illegible]	RK	A.A.	RK	RK	RK	RK	JM	RK	JM
ALARMS										
Shut Down Alarm Code	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Non-critical Alarm Code	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HOURS METERS										
B-701 SVE (hrs)	40144	40172	40194	40218	40243	40265	40288	40316	40337	40360
C-2201 SPRG (hrs)	34816	34844	34866	34890	34916	34938	34961	34989	35010	35034
F-2501 H-XCH (hrs)	34816	34844	34866	34890	34916	34938	34961	34989	35010	35034
ANALOGS										
MV-701 SVE POS (%)	29	29	29	29	29	29	29	29	29	29
PT-701 SVE (-wc)	-68.0	-81.6	-68.0	-81.6	-68.0	-81.6	68.0	-81.6	81.6	-81.6
PT-2501 SPRG (psi)	12.3	13.6	12.3	13.4	12.3	13.6	12.4	13.5	13.5	13.5
SET POINTS										
PTLA-2501 SPRG (psi)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
PTHA-2501 SPRG (psi)	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0
SET POINTS 2										
SVON-101 SVE (min)	60	60	60	60	60	60	60	60	60	60
SVON-102 SVE (min)	60	60	60	60	60	60	60	60	60	60
SVON-103 SVE (min)	180	180	180	180	180	180	180	180	180	180
SET POINTS 3										
SVON-2801 SPRG (min)	60	60	60	60	60	60	60	60	60	60
SVON-2802 SPRG (min)	60	60	60	60	60	60	60	60	60	60
SVON-2803 SPRG (min)	180	180	180	180	180	180	180	180	180	180
SPRG DELAY (min)	0	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø
SET POINTS 4										
MV-701 SVE POS (%)	30	30	30	30	30	30	30	30	30	30

DAILY DOCUMENTATION SHEET

Control Panel Touch Screen

DATE	6-9-16	6-10-16	6-11-16	6-12-16	6-13-16	6-14-16	6-15-16	6-16-16	6-17-16	6-18-16
TIME	10:30Am	7:17 Am	5:50Am	10:10Am	0930	07:36Am	9:53Am	7:34 Am	7:23Am	7:20AM
OBSERVER'S INITIALS	RK	RK	RK	KA	AH.	RK	RK	RK	RK	9:40 [illegible]
ALARMS										
Shut Down Alarm Code	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Non-critical Alarm Code	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HOURS METERS										
B-701 SVE (hrs)	39908	39929	39951	39979	40003	40025	40051	40073	40096	40120
C-2201 SPRG (hrs)	34577	34598	34621	34649	34673	34695	34722	34743	34768	34792
F-2501 H-XCH (hrs)	34577	34598	34621	34649	34673	34695	34722	34743	34768	34792
ANALOGS										
MV-701 SVE POS (%)	29	29	29	29	29	29	29	29	29	29
PT-701 SVE (-wc)	-68.0	-81.6	-68.0	-81.6	-81.6	-81.6	-68.0	-81.6	-81.6	-68.0
PT-2501 SPRG (psi)	13.3	13.6	12.3	13.5	13.6	13.5	13.4	13.6	13.9	13.4
SET POINTS										
PTLA-2501 SPRG (psi)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
PTHA-2501 SPRG (psi)	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0
SET POINTS 2										
SVON-101 SVE (min)	60	60	60	60	60	60	60	60	60	60
SVON-102 SVE (min)	60	60	60	60	60	60	60	60	60	60
SVON-103 SVE (min)	180	180	180	180	180	180	180	180	180	180
SET POINTS 3										
SVON-2801 SPRG (min)	60	60	60	60	60	60	60	60	60	60
SVON-2802 SPRG (min)	60	60	60	60	60	60	60	60	60	60
SVON-2803 SPRG (min)	180	180	180	180	180	180	180	180	180	180
SPRG DELAY (min)	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø
SET POINTS 4										
MV-701 SVE POS (%)	30	30	30	30	30	30	30	30	30	30

DAILY DOCUMENTATION SHEET

Control Panel Touch Screen

DATE	5-31-16	6-1-16	6-2-16	6-3-16	6-4-16	6-5-16	6-6-16	6-7-16	6-7-16	6-8-16
TIME	1:25 PM	8:10 AM	12:34 AM	7:53 AM	6:35 AM	8:53 AM	1154	12:54 Pm	10:30 AM	7:38 am
OBSERVER'S INITIALS	DE	RK	RK	RK	RK	DE	RH	RK	RK	RK
ALARMS										
Shut Down Alarm Code	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Non-critical Alarm Code	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HOURS METERS										
B-701 SVE (hrs)	39695	39714	39742	39767	39784	39810	39837	39838	39860	39881
C-2201 SPRG (hrs)	34362	34381	34410	34429	34452	34479	34506	34507	34529	34550
F-2501 H-XCH (hrs)	34362	34381	34410	34429	34452	34479	34506	34507	34529	34550
ANALOGS										
MV-701 SVE POS (%)	29	29	29	29	29	29	29	29	29	29
PT-701 SVE (-wc)	-68.0	-68.0	-81.6	-81.6	-68.0	-81.6	-68.0	-68.0	-81.6	-81.6
PT-2501 SPRG (psi)	13.4	12.4	13.5	13.6	13.3	13.6	12.3	13.3	13.5	13.4
SET POINTS										
PTLA-2501 SPRG (psi)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
PTHA-2501 SPRG (psi)	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0
SET POINTS 2										
SVON-101 SVE (min)	60	60	60	60	60	60	60	60	60	60
SVON-102 SVE (min)	60	60	60	60	60	60	60	60	60	60
SVON-103 SVE (min)	180	180	180	180	180	180	180	180	180	180
SET POINTS 3										
SVON-2801 SPRG (min)	60	60	60	60	60	60	60	60	60	60
SVON-2802 SPRG (min)	60	60	60	60	60	60	60	60	60	60
SVON-2803 SPRG (min)	180	180	180	180	180	180	180	180	180	180
SPRG DELAY (min)	0	0	0	0	0	0	0	0	0	0
SET POINTS 4										
MV-701 SVE POS (%)	30	30	30	30	30	30	30	30	30	[illegible]

DAILY DOCUMENTATION SHEET

Control Panel Touch Screen

DATE	5-21-16	5-22-16	5-23-16	5-24-16	5-25-16	5-26-16	5-27-16	5-28-16	5-29-16	5-30-16
TIME	11:25 AM	6:58 AM	8:07 AM	8:17 AM	—	7:40 AM	7:29 AM	7:54 AM	9:55 AM	9:09 AM
OBSERVER'S INITIALS	[illegible]	RK	RK	RK	RK	RK	RK	DE	KA	KA
ALARMS										
Shut Down Alarm Code	NA	NA	NA	NA	V	NA	NA	NA	NA	NA
Non-critical Alarm Code	NA	NA	NA	NA	READING	NA	NA	NA	NA	NA
HOURS METERS										
B-701 SVE (hrs)	39454	39473	39498	39522	NOT	39570	39593	39618	39644	39667
C-2201 SPRG (hrs)	34118	34138	34163	34187	TAKEN	34235	34259	34284	34310	34334
F-2501 H-XCH (hrs)	34118	34138	34163	34187		34235	34259	34284	34310	34334
ANALOGS										
MV-701 SVE POS (%)	29	29	29	29		29	29	29	29	29
PT-701 SVE (-wc)	-81.6	-81.6	-81.6	-81.6		-81.6	-81.6	-81.6	-81.6	-81.6
PT-2501 SPRG (psi)	13.6	13.7	13.6	13.9		13.5	13.5	13.6	13.6	13.5
SET POINTS										
PTLA-2501 SPRG (psi)	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0
PTHA-2501 SPRG (psi)	17.0	17.0	17.0	17.0		17.0	17.0	17.0	17.0	17.0
SET POINTS 2										
SVON-101 SVE (min)	60	60	60	60		60	60	60	60	60
SVON-102 SVE (min)	60	60	60	60		60	60	60	60	60
SVON-103 SVE (min)	180	180	180	180		180	180	180	180	180
SET POINTS 3										
SVON-2801 SPRG (min)	60	60	60	60		60	60	60	60	60
SVON-2802 SPRG (min)	60	60	60	60		60	60	60	60	60
SVON-2803 SPRG (min)	180	180	180	180		180	180	180	180	180
SPRG DELAY (min)	Ø	Ø	Ø	Ø		Ø	Ø	Ø	Ø	Ø
SET POINTS 4										
MV-701 SVE POS (%)	30	30	30	30	V	30	30	30	30	30

DAILY DOCUMENTATION SHEET

Control Panel Touch Screen

5/19/16

DATE	3-11-16	3-12-16	3-13-16	3-14-16	3-15-16	3-16-16	3-17-16	3-18-16	[illegible]	3-20-16
TIME	8:02 Am	11:15 AM	8:20 Am	9:58 Am	8:47 Am	12:47 Pm	12:35 Pm	0813	1000	7:43 Am
OBSERVER'S INITIALS	RK	[illegible]	[illegible]	RK	RK	RK	RK	AT	NP	RK
ALARMS										
Shut Down Alarm Code	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Non-critical Alarm Code	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HOURS METERS										
B-701 SVE (hrs)	39232	39259	39279	39305	39328	39356	39379	39399	39404	39426
C-2201 SPRG (hrs)	33894	33922	33942	33966	33991	34019	34043	34063	34068	34090
F-2501 H-XCH (hrs)	33894	33922	33942	33966	33991	34019	34043	34063	34068	34090
ANALOGS										
MV-701 SVE POS (%)	29	29	29	29	29	29	29	29	29	29
PT-701 SVE (-wc)	-81.6	-81.6	-81.6	-81.6	-81.6	-81.6	-81.6	-81.6	-81.6	81.6
PT-2501 SPRG (psi)	13.5	12.2	12.1	13.2	13.4	13.4	13.1	13.2	13.6	13.6
SET POINTS										
PTLA-2501 SPRG (psi)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
PTHA-2501 SPRG (psi)	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0
SET POINTS 2										
SVON-101 SVE (min)	60	60	60	60	60	60	60	60	60	60
SVON-102 SVE (min)	60	60	60	60	60	60	60	60	60	60
SVON-103 SVE (min)	180	180	180	180	180	180	180	180	180	180
SET POINTS 3										
SVON-2801 SPRG (min)	60	60	60	60	60	60	60	60	60	60
SVON-2802 SPRG (min)	60	60	60	60	60	60	60	60	60	60
SVON-2803 SPRG (min)	180	180	180	180	180	180	180	180	180	180
SPRG DELAY (min)	0	0	0	0	0	0	0	0	0	0
SET POINTS 4										
MV-701 SVE POS (%)	30	30	30	30	30	30	30	30	30	3

WEEKLY DOCUMENTATION SHEET

SYSTEM COMPONENTS

DATE	6-6-16	6-13-16	6-21-16	6-27-16	7-6-16	7-11-16	7-18-16		
TIME	1155	0930	0900	7:59 AM	9:00 AM	10:15 AM	10:07 AM		
OBSERVER'S INITIALS	A.H.	A.H.	A.H	TK	JM	TK	TK		

SYSTEM LEAKS, EXCESSIVE OR UNFAMILAR NOISE, MOISTURE, ETC.

Comments and Notes	NA	NA	NA	NA	NA	NA	NA		

SOIL VAPOR EXTRACTION (SVE)

Hours of Operation (hrs)	39637	40003	40194	40337	40553	40674	40842		
Inlet Vacuum (-wc)	85	88	86	-85	84	-80	88		
Pre-Filter Vacuum (-wc)	70.3	73.8	71.5	-73.6	-72.7	-65.2	45.9		
Post-Filter Vacuum (-wc)	74	78	75	-78	-78	-69	71		
Outlet Pressure (wc)	7.0	7.0	7.0	7.0	5.0	7.0	7.0		
Outlet Temperature (°F)	157	158	158	162	162	159	164		
Outlet Magnehelic* (in H_2O)	~~0.9~~ AH	~~0.9~~ AH	0.9	0.9	0.9	0.9	0.9		
Water Level Sight Glass (in)	Ø	Ø	Ø	Ø	Ø	Ø	Ø		

AIR SPARGE (SPRG)

Hours Operation (hrs)	34506	34673	34866	35010	35229	35351	35522		
Oil Sight Glass (half pt.)	OK	OK	OK	OK	OK	OK	OK		

HEAT EXCHANGER (H-XCH)

Hours Operation (hrs)	34506	34673	34866	35010	35229	35351	35522		
Inlet Temperature (°F)	215	215	215	220	220	224	220		
Inlet Pressure (psi)	15	17.0	16.0	17.0	17.0	17.0	16.0		
Outlet Temperature (°F)	112	110	114	118	112	119	117		
Outlet Pressure (psi)	11.5	13.5	12.0	13.0	13.0	13.0	12.0		
Outlet Magnehelic* (in H_2O)	4+	4+	4+	4+	4+	4+	4+		

ELECTRICAL USAGE (see display panel below main breaker and next to control panel)

Kilowatts (kwh)	196097	196936	197927	198669	199780	200400	201262		

* Keep plastic pinch valves on tubing to magnehelic gauge closed except when taking a reading.

WEEKLY DOCUMENTATION SHEET

SYSTEM COMPONENTS

DATE	2-10-16	2-15-16	2-22-16	2-29-16	3-7-16	3-14-16	5/19/16	5-23-16	6-1-16
TIME	1205	0905	10:10Am	10:00Am	10:20Am	10:00Am	1000	8:09Am	8:11Am
OBSERVER'S INITIALS	A.H.	A.H	RL	RL	RL	RL	NP	BH	RL

SYSTEM LEAKS, EXCESSIVE OR UNFAMILAR NOISE, MOISTURE, ETC.

Comments and Notes	N/A	NA.	NA	NA	NA	NA	NA	NA	NA

SOIL VAPOR EXTRACTION (SVE)

Hours of Operation (hrs)	38519	38636	38805	38970	39138	39305	39404	39498	39714
Inlet Vacuum (-wc)	94	98	98	98	98	88	88	88	86
Pre-Filter Vacuum (-wc)	81.6	82.7	82.8	78.0	82.0	72.9	72.7	58.7	71.2
Post-Filter Vacuum (-wc)	85.0	87.0	88.0	88	86	78	78	78	78
Outlet Pressure (wc)	7.0	6.0	6.0	6	6	6	6	6	6
Outlet Temperature (°F)	124	136	140	142	150	150	142	150	152
Outlet Magnehelic* (in H_2O)	0.9	0.8	0.8	0.8	0.8	0.9	0.9	0.9	0.9
Water Level Sight Glass (in)	Ø	6"	14"	4"	1"	1½"	0"	0	0

AIR SPARGE (SPRG)

Hours Operation (hrs)	33174	33292	33463	33630	33800	33968	34068	34163	34381
Oil Sight Glass (half pt.)	OK	OK	OK	OK	OK	OK	OK	OK	OK

HEAT EXCHANGER (H-XCH)

Hours Operation (hrs)	33174	33292	33463	33630	33800	33968	34068	34163	34381
Inlet Temperature (°F)	158	185	190	200	200	205	205	205	202
Inlet Pressure (psi)	17.5	18.0	18.0	18	16.5	16.5	16.5	16.5	[illegible]
Outlet Temperature (°F)	78	84	90	92	99	100	100	100	105
Outlet Pressure (psi)	19.0	14.5	15.5	14	14.5	14.0	13.5	13.5	12
Outlet Magnehelic* (in H_2O)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0

ELECTRICAL USAGE (see display panel below main breaker and next to control panel)

Kilowatts (kwh)	188924	189557	190448	191360	192248	193103	193910	194383	195477

* K[illegible]astic pinch valves on tubing to magnehelic gauge closed except wh[illegible]ting a reading

MONTHLY DOCUMENTATION SHEET

AIR SPARGE MANIFOLD

DATE		11-20-15	1-19-16	2-15-16	3-18-16	5/19/16	6-21-16				
TIME		1145	1020	0905	0815	1000	0900				
INITIALS		A.H.	A.H.	A.H.	A.H.	MP	A.H.				
ROTOMETER											
CELL 1	AS-1 (scfm)	20	19	20	20	20.0	20.0				
	AS-2 (scfm)	21	21	21	20	20.5	20.0				
	AS-3 (scfm)	20	21	20	20	20.0	20.0				
	AS-4 (scfm)	19	19	20	19	19.0	18.0				
	AS-5 (scfm)	21	19	20	20	20.0	19.0				
CELL 2	AS-6 (scfm)	16.5	16.0	16.0	16.0	17.0	16.0				
	AS-7 (scfm)	16.5	16.5	16.0	16.0	16.5	16.5				
	AS-8 (scfm)	22.0	22.0	21.0	21.0	22.0	21.0				
	AS-9 (scfm)	20.0	21.0	21.0	20.0	18.0	16.0				
	AS-10 (scfm)	25.0	25.0	24.0	24.0	24.5	24.0				
CELL 3	AS-11 (scfm)	16.5	16.0	16.0	17.0	16.0	18.0				
	AS-12 (scfm)	19.0	19.0	19.0	18.5	17.0	17.0				
	AS-13 (scfm)	17.5	18.0	17.0	16.5	17.5	16.0				
	AS-14 (scfm)	22.5	22.5	23.0	21.0	21.5	20.0				
	AS-15 (scfm)	23.0	23.0	23.0	23.0	23.0	21.5				
PRESSURE GAUGE											
CELL 1	AS-1 (psi)	10.5	12.0	11.0	11.0	11.0	10.0				
	AS-2 (psi)	10.5	12.0	11.0	11.0	11.0	10.0				
	AS-3 (psi)	10.0	12.0	10.5	10.0	10.0	10.0				
	AS-4 (psi)	10.5	13.0	11.0	12.0	10.5	12.0				
	AS-5 (psi)	10.5	13.5	13.5	13.0	12.5	10.5				
CELL 2	AS-6 (psi)	10.0	13.0	11.5	13.0	10.5	10.5				
	AS-7 (psi)	11.0	13.0	11.5	12.0	10.5	10.5				
	AS-8 (psi)	11.0	12.0	12.0	11.0	11.0	11.0				
	AS-9 (psi)	11.5	14.0	12.5	11.5	12.0	12.0				
	AS-10 (psi)	12.0	13.0	11.5	13.0	10.5	12.0				
CELL 3	AS-11 (psi)	10.5	12.5	11.0	11.0	11.0	11.0				
	AS-12 (psi)	13.5	13.0	13.5	13.5	14.0	13.5				
	AS-13 (psi)	11.0	13.0	11.5	13.0	10.5	13.0				
	AS-14 (psi)	14.0	13.0	13.5	12.0	11.0	11.5				
	AS-15 (psi)	13.5	13.5	13.0	13.0	13.0	12.5				

MONTHLY DOCUMENTATION SHEET

WELL HEAD GAUGES

DATE		5/9/16	6-21-16								
TIME		1000	0900								
INITIALS		NP	R.H.								
CELL 1	AS-1 (psi)	9.53	9.44								
	AS-2 (psi)	9.41	9.34								
	AS-3 (psi)	9.63	9.52								
	AS-4 (psi)	9.79	9.72								
	AS-5 (psi)	9.69	9.54								
CELL 2	AS-6 (psi)	9.62	9.80								
	AS-7 (psi)	9.94	10.05								
	AS-8 (psi)	10.14	10.23								
	AS-9 (psi)	11.03	11.23								
	AS-10 (psi)	10.15	10.20								
CELL 3	AS-11 (psi)	9.43	9.81								
	AS-12 (psi)	10.41	11.22								
	AS-13 (psi)	10.35	11.11								
	AS-14 (psi)	10.32	10.93								
	AS-15 (psi)	10.37	10.92								
CELL 1	SVE-1 (in H_2O)	5.7	5.6								
	SVE-2 (in H_2O)	7.8	7.7								
CELL 2	SVE-3 (in H_2O)	7.2	7.4								
	SVE-4 (in H_2O)	6.8	7.0								
CELL 3	SVE-5 (in H_2O)	9.1	9.7								
	SVE-6 (in H_2O)	7.2	7.7								

MONTHLY DOCUMENTATION SHEET

SVE MANIFOLD

DATE		11-20-15	1-14-16	2-15-16	3-18-16	5/19/16	6-21-16				
TIME		1145	1620	0905	0815	1000	0900				
INITIALS		A.H.	A.H.	A.H.	A.H.	NP	A.H.				
MAGNEHELIC GAUGE*											
CELL 1	SVE-1 (in H_2O)	1.1	1.1	1.1	1.2	1.2	1.2				
	SVE-2 (in H_2O)	1.5	1.4	1.4	1.5	1.4	1.4				
CELL 2	SVE-3 (in H_2O)	1.3	1.3	1.3	1.4	1.3	1.2				
	SVE-4 (in H_2O)	1.2	1.3	1.3	1.4	1.3	1.3				
CELL 3	SVE-5 (in H_2O)	1.0	0.8	1.0	1.1	1.1	1.2				
	SVE-6 (in H_2O)	0.3	0.0	0.0	0.0	0.0	0.5				
VACUUM GAUGE											
CELL 1	SVE-1 (-wc)	31	32	31	31	28.0	30.0				
	SVE-2 (-wc)	29	30	30	31	28.0	28.0				
CELL 2	SVE-3 (-wc)	20	22	20	20	20.0	19.0				
	SVE-4 (-wc)	20	22	22	20	18.0	19.0				
CELL 3	SVE-5 (-wc)	36	36	37	36	32.0	34.0				
	SVE-6 (-wc)	40	40	40	40	36.0	36.0				

* Keep plastic pinch valves on tubing to magnehelic gauge closed except when taking a reading.

DAILY DOCUMENTATION SHEET

BUILDINGS 1 - 2

Control Panel Touch Screen

DATE	6-26-16	6-27-16	6-28-16	6-29-16	6-30-16	7-1-16	7-2-16	7-3-16	7-4-16
TIME	10:30 AM	8:16 Am	7:52 Am	8:22 Am	8:03 Am	9:50 AM	9:12 AM	9:24 AM	9:22 AM
OBSERVER'S INITIALS	[illegible]	RK	RK	RK	RK	DE	DE	KA	KA

WEATHER CONDITIONS

Indoor Room Temp (°F), Outdoor Conditions: (Rain, Snow, Clear, Overcast, etc.)	RAINY	SUNNY 86°F	SUNNY 76°F	SUNNY 78°F	SUNNY 76°F	CLOUDY 76°F	SUNNY 76°F	SUNNY 80°F	CLOUDY 78°F

ALARMS

Alarm Code	NA	NA	NA	NA	NA	NA	NA	NA	NA

P&ID

PDT-701 SVE (-wc)	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PT-701 SVE (-wc)	-30	-31	-29	-29	-32	-29	-28	-30	-31
PT-702 SVE (-wc)	67.8	68.0	69.4	69.2	69.6	69.5	70.0	68.7	68.1
PT-2201 SPRG (psi)	13.3	16.1	15.7	12.8	15.7	11.9	14.6	14.5	11.9
P-401 PUMP (cycles)	69	69	69	69	69	69	69	69	69

P&ID2

PDT-801 SVE (-wc)	0.00	0.02	0.01	0.05	0.04	0.02	0.05	0.02	0.01
PT-801 SVE (-wc)	-79	-77	-74	-73	-76	-75	-73	-75	-80
PT-802 SVE (-wc)	59.3	59.0	61.1	60.6	60.3	60.5	60.6	60.0	59.4
PT-2301 SPRG (psi)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
P-501 PUMP (cycles)	565	565	565	565	565	565	565	565	565

DAILY DOCUMENTATION SHEET

BUILDINGS 1 - 2

Control Panel Touch Screen

DATE	6-26-16	6-27-16	6-28-16	6-29-16	6-30-16	7-1-16	7-2-16	7-3-16	7-4-16
TIME	10:30 AM	8:16 Am	7:52 Am	8:22 Am	8:03 Am	9:50 Am	9:12 AM	9:24 AM	9:22 AM
OBSERVER'S INITIALS	[illegible]	RK	RK	RK	RK	DE	DE	KA	KA
HOURS METERS									
B-701 SVE (hrs)	10059	10080	10104	10128	10152	10178	10201	10225	10249
C-2201 SPRG (hrs)	9991	10013	10037	10068	10085	10111	10134	10158	10182
C-2202 SPRG (hrs)	9686	9708	9731	9756	9779	9805	9828	9853	9877
B-801 SVE (hrs)	9995	10017	10040	10065	10089	10114	10138	10162	10186
C-2301 SPRG (hrs)	9950	9971	9995	10019	10043	10069	10092	10116	10140
C-2302 SPRG (hrs)	9949	9971	9995	10019	10043	10069	10092	10116	10140
SET POINTS									
PAL-701 SVE (wc)	-27	-27	-27	-27	-27	-27	-27	-27	-27
PAH-702 SVE (wc)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
PAL-702 SVE (wc)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
PAH-2201 SPRG (psi)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
PAL-2201 SPRG (psi)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PAL-801 SVE (wc)	-25	-25	-25	-25	-25	-25	-25	-25	-25
PAH-802 SVE (wc)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
PAL-802 SVE (wc)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
PAH-2301 SPRG (psi)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
PAL-2301 SPRG (psi)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SV-2801 SPRG (min)	40	40	40	40	40	40	40	40	40
SV-2802 SPRG (min)	20	20	20	20	20	20	20	20	20
SV-2901 SPRG (min)	20	20	20	20	20	20	20	20	20
SV-2902 SPRG (min)	20	20	20	20	20	20	20	20	20

DAILY DOCUMENTATION SHEET

BUILDINGS 1 - 2

Control Panel Touch Screen

DATE	6-17-16	6-18-16	6-19-16	6-20-16	6-21-16	6-22-16	6-23-16	6-24-16	6-25-16
TIME	7:28 Am	7:15 AM	7:25 AM	10:56 Am	0824	8:59 Am	10:29 Am	8:19 Am	6:49 Am
OBSERVER'S INITIALS	RK	[illegible]	[illegible]	RK	A.H.	RK	RK	RK	RK
WEATHER CONDITIONS									
Indoor Room Temp (°F), Outdoor Conditions: (Rain, Snow, Clear, Overcast, etc.)	76°F Sunny	74°F Sunny	78°F SUNNY	94°F Part Sun	78°F Sunny	74°F Rain	80°F Cloudy	78°F Sunny	78°F Sunny
ALARMS									
Alarm Code	NA	NA	NA	NA	NA	NA	NA	NA	NA
P&ID									
PDT-701 SVE (-wc)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PT-701 SVE (-wc)	-30	-28	-28	-30	-30	-32	-33	-30	-30
PT-702 SVE (-wc)	69.2	68.5	69.0	67.2	69.4	68.9	67.6	68.0	68.4
PT-2201 SPRG (psi)	16.4	13.0	12.9	15.9	15.9	12.7	15.7	13.2	12.5
P-401 PUMP (cycles)	69	69	69	69	69	69	69	69	69
P&ID2									
PDT-801 SVE (-wc)	0.04	0.02	0.05	0.0	0.02	0.03	0.04	0.03	0.01
PT-801 SVE (-wc)	-74	-72	-72	-77	-75	-79	-78	-76	-76
PT-802 SVE (-wc)	61.0	60.7	60.3	58.1	60.7	59.4	60.0	59.4	60.0
PT-2301 SPRG (psi)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PUMP (cycles)	565	565	565	565	565	565	565	565	565

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BUILDINGS 1 - 2

Control Panel Touch Screen

DATE	6-17-16	6-18-16	6-19-16	6-20-16	6-21-16	6-22-16	6-23-16	6-24-16	6-25-16
TIME	7:28A	7:15AM	7:25AM	10:56am	0824	8:59am	10:29Am	8:19Am	6:49Am
OBSERVER'S INITIALS	TK	[illegible]	[illegible]	TK	A.H.	RL	TRK	TRK	TRK
HOURS METERS									
B-701 SVE (hrs)	9840	9864	9888	9915	9937	9961	9987	10009	10031
C-2201 SPRG (hrs)	9772	9796	9820	9848	9869	9894	9919	9941	9964
C-2202 SPRG (hrs)	9467	9491	9515	9542	9564	9588	9614	9636	9658
B-801 SVE (hrs)	9777	9800	9824	9852	9873	9898	9923	9945	9967
C-2301 SPRG (hrs)	9735	9759	9783	9810	9828	9852	9877	9899	9922
C-2302 SPRG (hrs)	9735	9759	9783	9810	9828	9852	9877	9899	9922
SET POINTS									
PAL-701 SVE (wc)	-27	-27	-27	-27	-27	-27	-27	-27	-27
PAH-702 SVE (wc)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
PAL-702 SVE (wc)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
PAH-2201 SPRG (psi)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
PAL-2201 SPRG (psi)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PAL-801 SVE (wc)	-25	-25	-25	-25	-25	-25	-25	-25	-25
PAH-802 SVE (wc)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
PAL-802 SVE (wc)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
PAH-2301 SPRG (psi)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
PAL-2301 SPRG (psi)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SV-2801 SPRG (min)	40	40	40	40	40	40	40	40	40
SV-2802 SPRG (min)	20	20	20	20	20	20	20	20	20
SV-2901 SPRG (min)	20	20	20	20	20	20	20	20	20
SV-2902 SPRG (min)	20	20	20	20	20	20	20	20	20

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BUILDINGS 1 - 2

Control Panel Touch Screen

DATE	6-8-16	6-9-16	6-10-16	6-11-16	6-12-16	6-13-16	6-14-15	6-15-16	6-16-16
TIME	7:45 AM	10:35 AM	7:21 AM.	5:57 AM	10:03 AM	0945	7:48 Am	9:56 Am	7:38 Am
OBSERVER'S INITIALS	RK	RK	RK	RK	KA	A.H.	RK	RK	RK
WEATHER CONDITIONS									
Indoor Room Temp (°F), Outdoor Conditions: (Rain, Snow, Clear, Overcast, etc.)	74°F Sunny	80°F Rain	79°F Sunny	82°F * TURNED OFF VAVE 47 - HOSE BAD. EARLY	76°F Cloudy	76°F Sunny	79°F Sunny.	86°F Sunny	79°F Sunny
ALARMS									
Alarm Code	NA	NA	NA	NA	NA	NA.	NA	NA	NA
P&ID									
PDT-701 SVE (-wc)	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PT-701 SVE (-wc)	-30	-30	-30	-31	-29	-29	-32	-34	-33
PT-702 SVE (-wc)	70.7	70.5	69.4	68.7	69.1	68.3	67.6	67.5	[illegible]
PT-2201 SPRG (psi)	13.3	14.3	11.8	14.5	14.5	13.1	17.0	16.3	16.2
P-401 PUMP (cycles)	69	69	69	69	69	69	69	69	69
P&ID2									
PDT-801 SVE (-wc)	0.10	0.05	0.07	0.04	0.02	0.07	0.04	0.06	0.02
PT-801 SVE (-wc)	-73	-76	-75	-77	-72	-73	-78	-81	-79
PT-802 SVE (-wc)	62.7	61.6	60.0	60.8	61.7	60.0	60.5	58.5	60.1
PT-2301 SPRG (psi)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
P-501 PUMP (cycles)	565	565	565	565	565	565	565	565	565

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BUILDINGS 1 - 2

Control Panel Touch Screen

DATE	6-8-16	6-9-16	6-10-16	6-11-16	6-12-16	6-13-16	6-14-16	6-15-16	6-16-16
TIME	7:45Am	10:35Am	7:21 A.M.	5:57Am	10:03Am	0945	7:43am	9:56Am	7:38Am
OBSERVER'S INITIALS	RK	RK	RK	RK	KA	A.H.	RK	RK	RK
HOURS METERS									
B-701 SVE (hrs)	9636	9663	9684	9707	9735	9747	9768	9794	9816
C-2201 SPRG (hrs)	9569	9596	9616	9639	9667	9679	9701	9727	9749
C-2202 SPRG (hrs)	9264	9290	9311	9334	9362	9374	9395	9422	9443
B-801 SVE (hrs)	9573	9599	9620	9643	9671	9683	9705	9731	9753
C-2301 SPRG (hrs)	9555	9581	9602	9618	9636	9648	9670	9694	9711
C-2302 SPRG (hrs)	9555	9581	9602	9617	9636	9648	9670	9694	9711
SET POINTS									
PAL-701 SVE (wc)	-27	-27	-27	-27	-27	-27	-27	-27	-27
PAH-702 SVE (wc)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
PAL-702 SVE (wc)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
PAH-2201 SPRG (psi)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
PAL-2201 SPRG (psi)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PAL-801 SVE (wc)	-25	-25	-25	-25	-25	-25	-25	-25	-25
PAH-802 SVE (wc)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
PAL-802 SVE (wc)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
PAH-2301 SPRG (psi)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
PAL-2301 SPRG (psi)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SV-2801 SPRG (min)	40	40	40	40	40	40	40	40	40
SV-2802 SPRG (min)	20	20	20	20	20	20	20	20	20
SV-2901 SPRG (min)	20	20	20	20	20	20	20	20	20
SV-2902 SPRG (min)	20	20	20	20	20	20	20	20	20

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BUILDINGS 1 - 2

Control Panel Touch Screen

DATE	5-30-16	5-31-16	6-1-16	6-2-16	6-3-16	6-4-16	6-5-16	6-6-16	6-7-16
TIME	9:15 AM	1:31 P.M.	8:27 AM	12:38 pm	7:59 Am	6:39 Am	9:00 AM	1205	10:34 Am
OBSERVER'S INITIALS	JM	DE	RK	RK	RK	RK	DE	A.H.	RK
WEATHER CONDITIONS	Sunny								
Indoor Room Temp (°F), Outdoor Conditions: (Rain, Snow, Clear, Overcast, etc.)	Clear + Sunny	78°F Rainy	79°F Cloudy	88°F Sunny	84°F Sun	76°F Part Sun	80°F Cloudy	84°F Sunny	78°F Sunny
ALARMS									
Alarm Code	NA	NA	NA	NA	NA	NA	NA	NA	NA
P&ID									
PDT-701 SVE (-wc)	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PT-701 SVE (-wc)	-30	-30	-31	-29	-29	-31	-34	-33	-31
PT-702 SVE (-wc)	68.2	70.2	69.0	68.6	70.0	69.3	69.2	67.5	69.0
PT-2201 SPRG (psi)	17.8	17.2	13.5	13.2	13.0	17.2	17.1	17.1	12.9
P-401 PUMP (cycles)	69	69	69	69	69	69	69	69	69
P&ID2									
PDT-801 SVE (-wc)	.03	0.02	0.07	0.01	0.03	0.06	0.08	0.02	0.01
PT-801 SVE (-wc)	-74	-75	-76	-75	-72	-78	-79	-82	-77
PT-802 SVE (-wc)	60.1	61.9	61.5	60.4	61.3	60.4	60.7	59.2	61.4
PT-2301 SPRG (psi)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
P-501 PUMP (cycles)	565	565	565	565	565	565	565	565	565

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BUILDINGS 1 - 2

Control Panel Touch Screen

DATE	5-30-16	5-31-16	6-1-16	6-2-16	6-3-16	6-4-16	6-5-16	6-6-16	6-7-16
TIME	8:15 AM	1:31 PM	8:23	12:38 pm	7:59 Am	7:39 Am	9:00 AM	1205	10:34 Am
OBSERVER'S INITIALS	QM	DE	RK	RK	RK	RK	DE	RH	RK
HOURS METERS									
B-701 SVE (hrs)	9422	9450	9469	9497	9517	9539	9566	9593	9615
C-2201 SPRG (hrs)	9355	9383	9402	9430	9449	9472	9498	9525	9548
C-2202 SPRG (hrs)	9049	9077	9096	9125	9144	9167	9193	9220	9242
B-801 SVE (hrs)	9358	9386	9405	9434	9453	9476	9502	9529	9551
C-2301 SPRG (hrs)	9340	9369	9387	9416	9435	9458	9484	9511	9533
C-2302 SPRG (hrs)	9340	9368	9387	9416	9435	9458	9484	9511	9533
SET POINTS									
PAL-701 SVE (wc)	-27	-27	-27	-27	-27		-27	-27	-27
PAH-702 SVE (wc)	100.0	100.0	100.0	100.0	100.0		100.0	100	100.0
PAL-702 SVE (wc)	10.0	10.0	10.0	10.0	10.0		10.0	10.0	10.0
PAH-2201 SPRG (psi)	30.0	30.0	30.0	30.0	30.0		30.0	30.0	10.0
PAL-2201 SPRG (psi)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
PAL-801 SVE (wc)	-25	-25	-25	-25	-25		-25	-25	-25
PAH-802 SVE (wc)	100.0	100.0	100.0	100.0	100.0		100.0	100.0	100.0
PAL-802 SVE (wc)	10.0	10.0	10.0	10.0	10.0		10.0	10.0	10.0
PAH-2301 SPRG (psi)	30.0	30.0	30.0	30.0	30.0		30.0	30.0	30.0
PAL-2301 SPRG (psi)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
SV-2801 SPRG (min)	40	40	40	40	40		40	40	40
SV-2802 SPRG (min)	20	20	20	20	20		20	20	20
SV-2901 SPRG (min)	20	20	20	20	20		20	20	20
SV-2902 SPRG (min)	20	20	20	20	20		20	20	20

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BUILDINGS 1 - 2

Control Panel Touch Screen

DATE	5-22-16	5-23-16	5-24-16	5-24-16	5-25-16	5-26-16	5-27-16	5-28-16	5-29-16
TIME	7:04 Am	8:29 Am	9:05 Am	8:22 Am	—	7:32 Am	7:33 Am	8:01 AM	9:45 Am
OBSERVER'S INITIALS	RK	RK	RK	RK	RK	RK	RK	DE	KA
WEATHER CONDITIONS									
Indoor Room Temp (°F), Outdoor Conditions: (Rain, Snow, Clear, Overcast, etc.)	68°F CLEAR	78°F CLEAR	VOID ALREADY DONE	80°F CLEAR	NO READINGS	78°F CLOUDY	80°F CLOUDY	80°F CLOUDY	80°F CLOUDY
ALARMS									
Alarm Code	NA	NA		NA		NA	NA	NA	NA
P&ID									
PDT-701 SVE (-wc)	0.00	0.00		0.01		0.00	0.00	0.00	0.00
PT-701 SVE (-wc)	-29	-30		-31		-31	-32	-33	-31
PT-702 SVE (-wc)	71.7	69.7		68.4		69.9	68.9	68.1	69.6
PT-2201 SPRG (psi)	18.5	18.1		18.0		18.6	13.2	17.6	14.5
P-401 PUMP (cycles)	69	69		69		69	69	69	69
P&ID2									
PDT-801 SVE (-wc)	0.01	0.08		0.07		0.04	0.04	0.02	0.09
PT-801 SVE (-wc)	-70	-72		-74		-76	-77	-78	-74
PT-802 SVE (-wc)	63.1	61.6		61.8		60.8	60.6	59.9	61.4
PT-2301 SPRG (psi)	0.0	0.0		0.0		0.0	0.0	0.0	0.0
P-501 PUMP (cycles)	565	565		565		565	565	565	565

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BUILDINGS 1 - 2

Control Panel Touch Screen

DATE	5-22-16	5-23-16	5-23-16	5-24-16	5-25-16	5-26-16	5-27-16	5-28-16	5-29-16
TIME	7:04Am	8:29Am	9:05A	8:22A	—	7:32Am	7:33Am	8:01AM	9:45AM
OBSERVER'S INITIALS	RK	RL	RL	RL	RL	RL	RL	DE	KA
HOURS METERS									
B-701 SVE (hrs)	9228	9253	VOID	9277	NO	9324	9348	9373	9399
C-2201 SPRG (hrs)	9161	9186	ALREADY	9210	READINGS	9257	9281	9305	9331
C-2202 SPRG (hrs)	8855	8881	DONE	8904		8952	8976	9000	9026
B-801 SVE (hrs)	9164	9190		9213		9261	9285	9309	9335
C-2301 SPRG (hrs)	9146	9172		9196		9243	9267	9291	9317
C-2302 SPRG (hrs)	9146	9172		9196		9243	9267	9291	9317
SET POINTS									
PAL-701 SVE (wc) —	-27	-27		-27		-27	-27	-27	-27
PAH-702 SVE (wc)	100.0	100.0		100.0		100.0	100.0	100.0	100.0
PAL-702 SVE (wc)	10.0	10.0		10.0		10.0	10.0	10.0	10.0
PAH-2201 SPRG (psi)	30.0	30.0		30.0		30.0	30.0	30.0	30.0
PAL-2201 SPRG (psi)	0.0	0.0		0.0		0.0	0.0	0.0	0.0
PAL-801 SVE (wc) —	-25	-25		-25		-25	-25	-25	-25
PAH-802 SVE (wc)	100.0	100.0		100.0		100.0	100.0	100.0	100.0
PAL-802 SVE (wc)	10.0	10.0		10.0		10.0	10.0	10.0	10.0
PAH-2301 SPRG (psi)	30.0	30.0		30.0		30.0	30.0	30.0	30.0
PAL-2301 SPRG (psi)	0.0	0.0		0.0		0.0	0.0	0.0	0.0
SV-2801 SPRG (min)	40	40		40		40	40	40	40
SV-2802 SPRG (min)	20	20		20		20	20	20	20
SV-2901 SPRG (min)	20	20		20		20	20	20	20
SV-2902 SPRG (min)	20	20		20		20	20	20	20

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BUILDINGS 1 - 2

Control Panel Touch Screen

5/19/16

DATE	3-13-16	3-14-16	3-15-16	3-16-16	3-17-16	3-18-16	[illegible]	5-20-16	5-21-16
TIME	8:25AM	10:15Am	8:50Am	12:50Pm	12:39Pm	0920	0930	7:50Am	11:18 AM
OBSERVER'S INITIALS	[illegible]	RK	RK	RK	RK	A.H.	NP	RK	[illegible]

WEATHER CONDITIONS

Indoor Room Temp (°F), Outdoor Conditions: (Rain, Snow, Clear, Overcast, etc.)	76° CLOUDY	79°F Cloudy	76°F Cloudy	72°F Sunny	78°F Sunny	76°F Sunny	70° SUNNY	70°F Sunny	80°F Sunny

ALARMS

Alarm Code	NA	NA	NA	NA	NA	NA	N/A	NA	NA

P&ID

PDT-701 SVE (-wc)	0.17	0.11	0.16	0.08	0.11	0.09	0.05	0.04	0.00
PT-701 SVE (-wc)	-63	-65	-66	-65	-62	-62	-27	-28	-28
PT-702 SVE (-wc)	57.7	56.3	56.5	58.7	57.8	59.6	71.8	70.0	68.1
PT-2201 SPRG (psi)	11.8	14.1	11.8	12.4	15.4	12.3	20.2	19.7	13.7
P-401 PUMP (cycles)	68	68	68	68	68	68	69	69	69

P&ID2

PDT-801 SVE (-wc)	0.56	0.59	0.60	0.52	0.50	0.54	0.07	0.05	0.04
PT-801 SVE (-wc)	-164	-167	-170	-161	-169	-161	-67	-68	-71
PT-802 SVE (-wc)	44.5	44.0	44.5	46.3	45.3	45.1	63.0	63.3	60.7
PT-2301 SPRG (psi)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
P-501 PUMP (cycles)	551	553	555	556	559	561	565	565	565

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BUILDINGS 1 - 2

Control Panel Touch Screen

DATE	3-13-16	3-14-16	3-15-16	3-16-16	3-17-16	3-18-16	5/19/16 BURBANK	5-20-16	5-21-16
TIME	8:25 AM	10:15 Am	8:50 Am	12:50 Pm	12:39 Pm	0920	0930	7:50 Am	11:16 AM
OBSERVER'S INITIALS	[illegible]	RK	RK	RK	RK	N.H.	WD	RK	[illegible]
HOURS METERS									
B-701 SVE (hrs)	9034	9060	9083	9111	9134	9155	9159	9181	9208
C-2201 SPRG (hrs)	8967	8993	9015	9043	9067	9088	9091	9113	9141
C-2202 SPRG (hrs)	8661	8687	8710	8738	8762	9782	8786	8808	8835
B-801 SVE (hrs)	8970	8996	9019	9047	9071	9091	9095	9117	9144
C-2301 SPRG (hrs)	8952	8978	9001	9029	9053	9073	9077	9099	9127
C-2302 SPRG (hrs)	8952	8978	9001	9029	9053	9073	9077	9099	9126
SET POINTS									
PAL-701 SVE (wc)	-27	-27	-27	-27	-27	-27	-27	-27	-27
PAH-702 SVE (wc)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
PAL-702 SVE (wc)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
PAH-2201 SPRG (psi)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
PAL-2201 SPRG (psi)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PAL-801 SVE (wc)	-25	-25	-25	-25	-25	-25	-25	-25	-25
PAH-802 SVE (wc)	100.0	100.0	100.0	100.0	100.0	100	100.0	100.0	100.0
PAL-802 SVE (wc)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
PAH-2301 SPRG (psi)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
PAL-2301 SPRG (psi)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SV-2801 SPRG (min)	40	40	40	40	40	40	40	40	40
SV-2802 SPRG (min)	20	20	20	20	20	20	20	20	20
SV-2901 SPRG (min)	20	20	20	20	20	20	20	20	20
SV-2902 SPRG (min)	20	20	20	20	20	20	20	20	20

WEEKLY DOCUMENTATION SHEET
BUILDING 1
SYSTEM COMPONENTS

DATE	6-13-16	6-21-16	6-27-16	7-6-16	7-11-16	7-18-16			
TIME	0945	0828	8:13Am	9:15AM	10:28Am	10:17Am			
OBSERVER'S INITIALS	A.H.	A.H	RK	JM	RK	RK			
SYSTEM LEAKS, EXCESSIVE OR UNFAMILAR NOISE; MOISTURE, ETC.									
Comments and Notes	NA.	NA.	NA	NA	NA	NA			
SOIL VAPOR EXTRACTION (SVE) BLOWER B-701									
Pre-Filter Vacuum (-wc)	23	24	22	24	22	23			
Post-Filter Vacuum (-wc)	74	24	24	+26.0	24	20			
Inlet Magnehelic* (in H_2O)	0.05	0.05	0.10	.05	.05	0.1			
Inlet Vacuum (-wc)	-26.0	-26.1	-26.2	-26.4	-25.2	-25.8			
SOIL VAPOR EXTRACTION (SVE) HEAT EXCHANGER (H-XCH)									
Inlet Pressure (wc)	10	10	8	10	8	8			
Inlet Temperature (°F)	115	115	125	120	125	125			
Outlet Pressure (wc)	10	10	10	10	10	9			
Outlet Temperature (°F)	96	96	102	100	105	99			
Water Level Sight Glass (in)	Ø	Ø	Ø	Ø	Ø				
AIR SPARGE (SPRG) COMPRESSOR C-2201									
Upper Oil Sight Glass (half pt.)	OK	OK	OK	OK	LOW	LOW			
Lower Oil Sight Glass (half pt.)	OK	OK	OK	OK	OK	OK			
AIR SPARGE (SPRG) HEAT EXCHANGER (H-XCH)									
Inlet Pressure (psi)	13.0	16.0	16.5	14.5	14.5	15.5			
Inlet Temperature (°F)	200	210	202	180	200	200			
Outlet Pressure (psi)	14.0	17.5	17.5	15	16.0	16.0			
Outlet Temperature (°F)	97	98	101	92	90	92			

* p plastic pinch valves on tubing to magnehelic gauge closed except [illegible] taking a reading.

WEEKLY DOCUMENTATION SHEET
BUILDING 1
SYSTEM COMPONENTS

DATE	2-15-16	2-22-16	2-29-16	3-7-16	3-14-16	5/16/16	5-23-16	6-1-16	6-6-16
TIME	0940	10:20 Am	10:17 Am	10:33 Am	10:0 Am	0930	8:25 Am	8:20 Am	1205
OBSERVER'S INITIALS	A.H.	RK	RK	RK	RK	NP	RK	RK	AH.

SYSTEM LEAKS, EXCESSIVE OR UNFAMILAR NOISE; MOISTURE, ETC.

Comments and Notes	NA	NA	NA	NA	NA	N/A	NA	NA	NA

SOIL VAPOR EXTRACTION (SVE) BLOWER B-701

Pre-Filter Vacuum (-wc)	70	52	52	51	54	20	21	21	20
Post-Filter Vacuum (-wc)	100	95	100+	100+	100+	70	74	74	74
Inlet Magnehelic* (in H_2O)	0.0	0.0	0	0.1	0.1	0.05	.05	0.05	0.05
Inlet Vacuum (-wc)	-73.0	-58.6	-56.7	-57.4	-59.6	-	-25.1	-25.2	-24.4

SOIL VAPOR EXTRACTION (SVE) HEAT EXCHANGER (H-XCH)

Inlet Pressure (wc)	2.0	4	2	0	0	12	10	10	10
Inlet Temperature (°F)	110	105	105	110	110	105	110	105	125
Outlet Pressure (wc)	8.0	9	8	8	8	10	9	10	10
Outlet Temperature (°F)	86.0	82	94	91	91	88	92	92	106
Water Level Sight Glass (in)	12"	19"	13"	12"	9"	0	Ø	Ø	Ø

AIR SPARGE (SPRG) COMPRESSOR C-2201

Upper Oil Sight Glass (half pt.)	OK	OK	OK	OK	OK	OK	OK	OK	OK
Lower Oil Sight Glass (half pt.)	OK	OK	OK	OK	OK	OK	OK	OK	OK

AIR SPARGE (SPRG) HEAT EXCHANGER (H-XCH)

Inlet Pressure (psi)	13.5	12.0	16	16	14.5	18.0	16.5	15	16
Inlet Temperature (°F)	200	210	215	220	225	210	210	210	225
Outlet Pressure (psi)	13.5	16	17	16.5	16.5	21.0	19	16.5	18.5
Outlet Temperature (°F)	102	110	100	110	100	98	100	98	112

* Keep plastic pinch valves on tubing to magnehelic gauge closed except when taking a reading.

WEEKLY DOCUMENTATION SHEET
BUILDING 2
SYSTEM COMPONENTS

DATE	6-27-16	7-6-16	7-11-16	7-18-16					
TIME	8:07 Am	9:15 AM	10:22 Am	10:13 Am					
OBSERVER'S INITIALS	RK	DE	RK	RC					
SYSTEM LEAKS, EXCESSIVE OR UNFAMILAR NOISE, MOISTURE, ETC.									
Comments and Notes	82°F NA	78°F NA	90°F NA	84°F NA					
SOIL VAPOR EXTRACTION (SVE) BLOWER B-801									
Pre-Filter Vacuum (-wc)	22	22	22	22					
Post-Filter Vacuum (-wc)	26	27	28	28					
Inlet Magnehelic* (in H_2O)	0.1	0.1	0.1	0.015					
Inlet Vacuum (-wc)	-25.8	-26.4	-26.1	-26.6					
SOIL VAPOR EXTRACTION (SVE) HEAT EXCHANGER (H-XCH)									
Inlet Pressure (wc)	60+	60+	59	60+					
Inlet Temperature (°F)	140	115	125	125					
Outlet Pressure (wc)	2.0	2.0	2.0	2					
Outlet Temperature (°F)	98	94	110	100					
Water Level Sight Glass (in)	Ø	Ø	Ø	0					
AIR SPARGE (SPRG) COMPRESSOR C-2301									
Upper Oil Sight Glass (half pt.)	OK	OK	OK	OK					
Lower Oil Sight Glass (half pt.)	OK	OK	OK	OK					
AIR SPARGE (SPRG) HEAT EXCHANGER (H-XCH)									
Inlet Pressure (psi)	16.5	15.0	16.0	16					
Inlet Temperature (°F)	226	225	226	226					
Outlet Pressure (psi)	16.0	15.0	16.0	16					
Outlet Temperature (°F)	120	114	115	120					

Keep plastic pinch valves on tubing to magnehelic gauge closed except when taking a reading

WEEKLY DOCUMENTATION SHEET
BUILDING 2
SYSTEM COMPONENTS

DATE	2-29-16	3-7-16	3-14-16	5/19/16	5-23-16	6-1-16	6-6-16	6-13-16	6-21-16
TIME	10:10 Am	10:27 Am	10:06 Am	0915	8:19 Am	8:30 Am	1000	0940	0840
OBSERVER'S INITIALS	RK	RK	RK	NP	RK	RK	A.H.	A.H.	A.H.

SYSTEM LEAKS, EXCESSIVE OR UNFAMILAR NOISE, MOISTURE, ETC.

Comments and Notes	79°F NA	79°F NA	72°F NA	70°F N/A	71°F NA	74°F NA	86°F NA	74°F NA	76°F NA

SOIL VAPOR EXTRACTION (SVE) BLOWER B-801

Pre-Filter Vacuum (-wc)	70	70	72	20	20	20	20	20	23
Post-Filter Vacuum (-wc)	76	76	79	25	24	25	25	25	25
Inlet Magnehelic* (in H_2O)	.6	.6	.6	.1	.1	.105	0.15	0.15	0.15
Inlet Vacuum (-wc)	-77.9	-76.7	-81.5	-	-23	-24.1	-23.1	-23.8	-25.0

SOIL VAPOR EXTRACTION (SVE) HEAT EXCHANGER (H-XCH)

Inlet Pressure (wc)	47	45	44	60+	60+	+60	+60	+60	+60
Inlet Temperature (°F)	110	125	120	105	105	105	125	115	115
Outlet Pressure (wc)	2	1	1	2	.2	.3	3.0	2.0	2.0
Outlet Temperature (°F)	100	92	90	88	84	78	104	92	94
Water Level Sight Glass (in)	8"	10"	12"	0"	OK	0	Ø	Ø	Ø

AIR SPARGE (SPRG) COMPRESSOR C-2301

Upper Oil Sight Glass (half pt.)	OK	OK	OK	OK	OK	OK	OK	OK	OK
Lower Oil Sight Glass (half pt.)	OK	OK	OK	OK	OK	OK	OK	OK	OK

AIR SPARGE (SPRG) HEAT EXCHANGER (H-XCH)

Inlet Pressure (psi)	16	16.0	14.5	18.0	16.5	16.5	13.5	18.0	17.0
Inlet Temperature (°F)	224	225	225	210	210	225	230	215	220
Outlet Pressure (psi)	14.5	13.0	14	17.0	16.0	16.0	13.0	17.0	16.5
Outlet Temperature (°F)	118	118	126	115	116	116	126	116	116

* Keep plastic pinch valves on tubing to magnehelic gauge closed except when taking

MONTHLY DOCUMENTATION SHEET
BUILDING 1
SVE MANIFOLD

DATE	6-24-15	7-16-15	9/22/15	10-29-15	11-20-15	1-19-16	2-15-16	3-18-16	5/19/16	6-21-16
TIME	0930	1030	1100	0950	1250	1140	0940	0920	0930	0831
INITIALS	A.H.	A.H.	NP	A.H.	A.H.	A.H.	A.H.	A.H.	NP	A.H.
MAGNEHELIC GAUGE*										
SVE-15 (in H_2O)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SVE-14 (in H_2O)	0.0	0.0	0.0	0.0	0.0	1.8	1.75	1.75	1.75	1.65
SVE-13 (in H_2O)	0.0	0.0	0.0	1.0	0.0	0.50	0.0	0.25	0.0	0.0
SVE-11 (in H_2O)	0.25	0.40	0.25	0.30	0.40	0.40	0.50	0.35	0.15	0.10 ~~0.20~~ AH
SVE-9 (in H_2O)	0.55	0.~~40~~	0.40	0.60	0.70	0.40	0.05	0.60 ~~0.00~~ AH	0.20	0.20
VACUUM GAUGE										
SVE-15 (-wc)	50	55	40	57	65	43	70	55	20	23
SVE-14 (-wc)	53	55	40	60	65	45	20	58	20	25
SVE-13 (-wc)	55	60	40	60	65	45	70	60	25	25 ~~30~~ AH
SVE-11 (-wc)	18	20	14.5	28	32	22	32	26	10	12
SVE-9 (-wc)	50	55	35	55	70	25	70	53	0	23

:p plastic pinch valves on tubing to magnehelic gauge closed except taking a reading.

MONTHLY DOCUMENTATION SHEET
BUILDING 1 UPPER CELL
AIR SPARGE MANIFOLD

DATE	10-21-16									
TIME	0835									
INITIALS	A.U.									

ROTOMETER

UPPER CELL	AS-47 (scfm)	0.6									
	AS-38 (scfm)	10									
	AS-37 (scfm)	10									
	AS-23 (scfm)	10.5									
	AS-24 (scfm)	11.0									
	AS-39 (scfm)	10.0									
	AS-48 (scfm)	10.5									
	AS-52 (scfm)	10.0									
	AS-56 (scfm)	10.0									
	AS-54 (scfm)	10.0									
	AS-58 (scfm)	9.0									

PRESSURE GAUGE

UPPER CELL	AS-47 (psi)	6.0									
	AS-38 (psi)	16.5									
	AS-37 (psi)	8.0									
	AS-23 (psi)	11.5									
	AS-24 (psi)	12.5									
	AS-39 (psi)	11.5									
	AS-48 (psi)	11.0									
	AS-52 (psi)	10.5									
	AS-56 (psi)	11.0									
	AS-54 (psi)	12.5									
	AS-58 (psi)	12.0									

MONTHLY DOCUMENTATION SHEET
BUILDING 1 UPPER CELL
AIR SPARGE MANIFOLD

	DATE	5-15-15	6-29-15	7-16-15	9/22/15	10-29-15	11-20-15	1-19-16	2-15-16	3-18-16	5/19/16
	TIME	0905	0930	1030	1100	0950	1250	1140	0940	0920	0830
	INITIALS	A.H.	A.H	A.H.	NP	A.H	A.H	A.H.	A.H.	A.H.	NP
	ROTOMETER										
UPPER CELL	AS-47 (scfm)	0	0	10	16	10	6	7	5.0	6.0	0.0
UPPER CELL	AS-38 (scfm)	10	5	5	6	6	6	0	10.0	10.0	13.0
UPPER CELL	AS-37 (scfm)	16	8	7	11	9	9	11.5	8.0	9.0	12.0
UPPER CELL	AS-23 (scfm)	15	7.5	6	11	9	9	12.0	8.0	9.0	12.0
UPPER CELL	AS-24 (scfm)	14	7.0	6.5	10	8	7.5	10.5	7.0	8.0	11.0
UPPER CELL	AS-39 (scfm)	16	8.0	7	11	8.5	8.5	11.5	8.0	9.0	12.0
UPPER CELL	AS-48 (scfm)	17.5	9.0	8.5	13	10	10.0	14.0	9.5	10.0	14.0
UPPER CELL	AS-52 (scfm)	15	7.5	7	10.5	8.5	10.0	11.0	8.0	9.0	11.5
UPPER CELL	AS-56 (scfm)	14	7.5	6.5	10	8.0	8.5	10.0	7.0	8.0	11.0
UPPER CELL	AS-54 (scfm)	22	10	10	14.5	11.5	11.5	16.5	10.5	12.0	17.0
UPPER CELL	AS-58 (scfm)	12.5	6.5	5.5	9	7.0	6.5	9.0	6.5	7.0	9.5
	PRESSURE GAUGE										
UPPER CELL	AS-47 (psi)	11.5	0	12	17	14	13.5	13.0	13.0	15.0	19.0
UPPER CELL	AS-38 (psi)	17	13	14	14	14	11.5	18.0	14.0	17.0	19.0
UPPER CELL	AS-37 (psi)	8.5	7.5	7	8	7	7.0	8.0	7.5	7.0	8.0
UPPER CELL	AS-23 (psi)	13	11	10.5	12.5	10.5	10.0	11.0	11.0	11.5	12.0
UPPER CELL	AS-24 (psi)	13	12	11	13	11	11.0	12.0	12.0	12.0	12.5
UPPER CELL	AS-39 (psi)	12	11	10	12	10	10.0	11.0	11.0	11.0	11.5
UPPER CELL	AS-48 (psi)	11.5	11	10	11.5	10	10.0	11.0	10.5	11.0	11.0
UPPER CELL	AS-52 (psi)	11	10.5	9.5	11	9.5	9.5	10.0	10.0	10.5	11.0
UPPER CELL	AS-56 (psi)	11	10.0	9.5	11	9.5	9.5	10.0	10.0	10.5	11.0
UPPER CELL	AS-54 (psi)	14	13.0	14	13.5	13.0	11.5	12.0	11.5	12.0	14.0
UPPER CELL	AS-58 (psi)	9.5	12.0	11.5	10	[illegible]	10.0	9.0	9.0	10.0	9.0

*Note: 6-29-15 reading low due to [illegible] not in [illegible]

MONTHLY DOCUMENTATION SHEET
BUILDING 1 LOWER CELL
AIR SPARGE MANIFOLD

DATE		6-21-16									
TIME		0835									
INITIALS		A.H.									
ROTOMETER											
LOWER CELL	AS-49 (scfm)	8.5									
	AS-44 (scfm)	10.0									
	AS-31 (scfm)	9.0									
	AS-32 (scfm)	9.0									
	AS-45 (scfm)	9.5									
	AS-51 (scfm)	10.0									
	AS-55 (scfm)	12.5									
	AS-53 (scfm)	10.5									
	AS-59 (scfm)	9.5									
	AS-57 (scfm)	8.5									
	AS-50 (scfm)	13.0									
PRESSURE GAUGE											
LOWER CELL	AS-49 (psi)	10.5									
	AS-44 (psi)	12.0									
	AS-31 (psi)	11.0									
	AS-32 (psi)	10.5									
	AS-45 (psi)	12.0									
	AS-51 (psi)	11.0									
	AS-55 (psi)	11.0									
	AS-53 (psi)	11.5									
	AS-59 (psi)	11.5									
	AS-57 (psi)	12.0									
	AS-50 (psi)	12.0									

MONTHLY DOCUMENTATION SHEET
BUILDING 1 LOWER CELL
AIR SPARGE MANIFOLD

DATE		5-15-15	6-29-15	7-16-15	9/22/15	10-27-15	11-20-15	1-19-16	2-15-16	3-18-16	5/19/16
TIME		0905	0930	1030	1100	0950	1250	1140	0940	0920	0930
INITIALS		A.H.	A.H.	A.H.	NP	A.H.	A.H.	A.H.	A.H.	A.H.	NP
ROTOMETER											
LOWER CELL	AS-49 (scfm)	15	8	7.5	11	10.0	9.0	13.0	10.0	9.0	12.5
	AS-44 (scfm)	14	8	7.5	12	9.0	7.0	0.0	0.0	9.0	9.5
	AS-31 (scfm)	12	7	7.5	10.	8.5	8.0	10.0	8.5	9.0	10.5
	AS-32 (scfm)	12	7.5	7.5	10	8.5	8.5	10.0	8.5	9.0	10.5
	AS-45 (scfm)	14.5	6	6.5	11	8.5	8.0	12.0	9.0	8.5	12.0
	AS-51 (scfm)	15	7	7.5	11.5	9.5	9.0	12.0	9.0	9.5	12.5
	AS-55 (scfm)	18	10	10	14.5	12.0	11.5	15.0	12.0	11.5	15.0
	AS-53 (scfm)	17	8	7.5	12	10.0	9.0	14.5	10.0	9.5	14.0
	AS-59 (scfm)	14.5	8	7.5	11	9.5	8.5	12.0	9.0	8.5	12.0
	AS-57 (scfm)	16.5	6	6	11.5	8.0	6.5	14.0	8.0	6.0	12.0
	AS-50 (scfm)	22	10	9.5	17	17.5	11.5	18.5	11.5	11.0	17.0
PRESSURE GAUGE											
LOWER CELL	AS-49 (psi)	10.5	10	10	10.5	10.0	11.0	10.5	10.5	11.0	13.5
	AS-44 (psi)	12.5	10.5	11	12	11.0	12.0	13.0	12.0	12.0	15.0
	AS-31 (psi)	10	10	10	10	10.0	11.0	10.5	10.5	11.0	12.5
	AS-32 (psi)	9	10	10	9.5	11.0	11.0	10.5	10.0	10.5	12.5
	AS-45 (psi)	11.5	10.5	11	11.5	10.0	12.0	12.0	11.5	12.0	13.5
	AS-51 (psi)	10.5	10	10	10.5	10.0	11.0	11.0	10.5	11.0	12.0
	AS-55 (psi)	10.5	10	10	10.5	10.5	11.0	10.5	10.5	11.0	12.0
	AS-53 (psi)	11.5	10	10.5	11.5	10.0	11.5	11.0	11.0	12.0	13.0
	AS-59 (psi)	11	10	10.5	11	10.0	11.5	11.0	11.0	11.5	12.5
	AS-57 (psi)	12	10.5	11	12	11.0	12.0	12.0	11.5	12.0	14.0
	AS-50 (psi)	12	10.5	11	12	[illegible]0	12.0	12.0	12.0	12.5	13.5

Note 6-29-15 [illegible]

MONTHLY DOCUMENTATION SHEET
BUILDING 1
PID MEASUREMENTS

DATE	5/19/16	6-21-16										
TIME	0930	0835										
INITIALS	MP	AH.										

SVE Effluent	0.0	0.0										
SVE - 15	0.0	0.0										
SVE - 14	0.0	0.0										
SVE - 13	0.0	0.0										
SVE - 11	0.0	0.0										
SVE - 9	0.0	0 0										
Exhaust	0.0	0.0										

MONTHLY DOCUMENTATION SHEET
BUILDING 2
SVE MANIFOLD

DATE	6-29-15	7-16-15	9/22/15	10-29-15	11-20-15	1-19-16	2-15-16	3-18-16	5-19-16	6-21-16
TIME	0905	1020	1040	0940	1220	1130	0925	0910	0915	0840
INITIALS	A.H.	A.H.	NP	A.H.	A.H.	A.H.	A.H.	A.H.	NP	A.H.

MAGNEHELIC GAUGE*

SVE-10 (in H_2O)	0.35	0.25	0.25	0.50	0.60	0.25	1.10	0.45	0.25	0.0
SVE-12 (in H_2O)	0.60	0.60	0.50	0.75	0.90	0.25	0.0	0.0	0.0	0.0
SVE-8 (in H_2O)	0.60	0.70	0.50	1.2	1.4	0.5	2.0	1.3	0.10	0.15
SVE-7 (in H_2O)	0.40	0.35	0.25	0.50	0.40	0.40	0.20	0.40	0.10	0.0

VACUUM GAUGE

SVE-10 (-wc)	55	80	90	100	100	100	43	100 ~~76~~ A.H	100	30
SVE-12 (-wc)	55	55	48	70	74	58	55	76 ~~32~~ A.H	85	35
SVE-8 (-wc)	57	55	50	73	80	0	15	32	30	30
SVE-7 (-wc)	65	68	65	75	70	73	60	70	70	65

ELECTRICAL USAGE

Kilowatts (kwh)	133860.60	36654.60	37152.70	130167.43	157780.10	163169.80	207571.70	294838.90	AREA LOCKED	338375.40

276890.90

* .. plastic pinch valves on tubing to magnehelic gauge closed except \ taking a reading.

MONTHLY DOCUMENTATION SHEET
BUILDING 2 UPPER CELL
AIR SPARGE MANIFOLD

DATE		6-21-16									
TIME		0840									
INITIALS		A.H.									
ROTOMETER											
UPPER CELL	AS-20 (scfm)	13.5									
	AS-26 (scfm)	7.0									
	AS-16 (scfm)	15.0									
	AS-18 (scfm)	8.0									
	AS-22 (scfm)	11.5									
	AS-28 (scfm)	11.5									
	AS-30 (scfm)	16.5									
	AS-36 (scfm)	13.0									
	AS-42 (scfm)	9.0									
	AS-40 (scfm)	17.0									
	AS-34 (scfm)	24.0									
PRESSURE GAUGE											
UPPER CELL	AS-20 (psi)	10.5									
	AS-26 (psi)	11.0									
	AS-16 (psi)	10.5									
	AS-18 (psi)	15.0									
	AS-22 (psi)	10.5									
	AS-28 (psi)	11.5									
	AS-30 (psi)	11.0									
	AS-36 (psi)	12.5									
	AS-42 (psi)	11.0									
	AS-40 (psi)	11.5									
	AS-34 (psi)	12.0									

MONTHLY DOCUMENTATION SHEET
BUILDING 2 UPPER CELL
AIR SPARGE MANIFOLD

DATE	5-15-15	10-29-15	7-16-15	9/22/15	10-29-15	11-20-15	1-19-16	2-15-16	3-18-16	5-19-16
TIME	1036	0905	1020	1140	0940	1220	1130	0925	0910	0915
INITIALS	A.H.	A.H.	A.H.	NP	A.H.	A.H.	A.H.	A.H.	A.H.	NP
ROTOMETER										
UPPER CELL										
AS-20 (scfm)	15	15	15	15	14	13.0	16.0	13.5	12.0	15.0
AS-26 (scfm)	9	8	8.5	9	7.5	7.0	9.0	7.5	6.5	8.0
AS-16 (scfm)	17	16	17	17	15	14.5	18.0	15.0	13.5	17.0
AS-18 (scfm)	11	10	10	10	8.5	8.0	10.5	9.0	7.0	9.5
AS-22 (scfm)	13.5	13	13	13.5	12	11.5	14.0	12.0	10.0	12.5
AS-28 (scfm)	13	12	13	13.5	11.5	10.5	13.5	11.0	9.5	13.0
AS-30 (scfm)	20	18	19	19.5	17	16.0	20.0	16.5	14.0	18.0
AS-36 (scfm)	16	16	15.5	16	13.5	13.0	16.0	13.0	11.5	15.0
AS-42 (scfm)	15.5	16	10	10.5	9	9.0	11.0	9.0	8.0	10.0
AS-40 (scfm)	16	15.5	19	19.5	17	16.0	20.0	16.5	14.5	19.0
AS-34 (scfm)	17	27	27	29	25	23.5	30.0	24.0	21	28.0
PRESSURE GAUGE										
UPPER CELL										
AS-20 (psi)	10	10	10	10	10	10.0	10.0	10.0	10.0	10.5
AS-26 (psi)	10	10.5	10	10.5	10	10.0	11.0	11.0	11.0	11.0
AS-16 (psi)	10	10	10	10	10	10.0	10.0	10.0	10.0	10.5
AS-18 (psi)	14.5	14.5	15	15	14.5	14.0	15.5	14.0	14.0	16.0
AS-22 (psi)	10	10	10	10	10	9.5	10.0	10.0	10.0	11.0
AS-28 (psi)	10.5	10.5	10.5	10.5	10.5	10.5	11.0	11.0	11.0	11.0
AS-30 (psi)	10	10	10	10.5	10.5	10.0	11.0	10.5	11.0	11.0
AS-36 (psi)	11.5	11.0	11.5	12	12	12.0	12.0	12.0	12.0	12.5
AS-42 (psi)	10.5	10.5	10	10.5	10.5	10.5	11.0	11.0	11.0	11.0
AS-40 (psi)	10	10.5	10.5	11	[illegible]	11.0	11.0	11.0	11.0	11.5
AS-34 (psi)	10	11.0	11.5	11.5	[illegible]	11.0	12.0	12.0	12.0	[illegible]

MONTHLY DOCUMENTATION SHEET
BUILDING 2 LOWER CELL
AIR SPARGE MANIFOLD

DATE		6-21-16									
TIME		0840									
INITIALS		A.H.									
ROTOMETER											
LOWER CELL	AS-27 (scfm)	13.0									
	AS-25 (scfm)	15.0									
	AS-17 (scfm)	13.0									
	AS-19 (scfm)	14.0									
	AS-21 (scfm)	14.5									
	AS-29 (scfm)	9.5									
	AS-43 (scfm)	16.0									
	AS-46 (scfm)	20.0									
	AS-41 (scfm)	11.0									
	AS-33 (scfm)	16.0									
	AS-35 (scfm)	12.5									
PRESSURE GAUGE											
LOWER CELL	AS-27 (psi)	12.0									
	AS-25 (psi)	11.5									
	AS-17 (psi)	11.5									
	AS-19 (psi)	13.5									
	AS-21 (psi)	12.0									
	AS-29 (psi)	12.5									
	AS-43 (psi)	11.0									
	AS-46 (psi)	11.5									
	AS-41 (psi)	11.0									
	AS-33 (psi)	11.5									
	AS-35 (psi)	11.5									

MONTHLY DOCUMENTATION SHEET
BUILDING 2 LOWER CELL
AIR SPARGE MANIFOLD

DATE		5-15-15	6-29-15	7-16-15	9/22/15	10-29-15	11-20-15	1-19-16	2-15-16	3-18-16	5/19/16
TIME		1070	0905	1020	1140	0940	1220	1130	0925	0910	0915
INITIALS		A.H.	A.H.	A.H.	NP	A.H	A.H.	A.H.	A.H.	A.H.	NP
ROTOMETER											
LOWER CELL	AS-27 (scfm)	14	14	15	15.5	13.5	13.0	14.0	13.0	12.0	14.0
	AS-25 (scfm)	15.5	15	17	18	15.0	14.5	15.0	15.0	13.5	16.0
	AS-17 (scfm)	15	14	15	16	14.0	13.5	14.0	13.5	12.0	14.5
	AS-19 (scfm)	15	15	16	17	15.0	14.0	15.0	14.5	12.0	16.0
	AS-21 (scfm)	18	20	20	22	20.0	19.5	21.0	19.0	16.0	22.0
	AS-29 (scfm)	10.5	20	15	16.5	11.0	7.0	0.0	8.0	7.5	10.0
	AS-43 (scfm)	11.5	10	11	10.5	10.0	9.5	10.0	10.0	8.5	10.5
	AS-46 (scfm)	21	21	22	24	21.5	20.0	22.0	20.0	17.5	22.0
	AS-41 (scfm)	13	12	12.5	13	11.5	11.0	14.5	12.0	10.0	13.0
	AS-33 (scfm)	17	17	18	19.5	17.0	16.0	17.0	16.0	16.5	18.0
	AS-35 (scfm)	13.5	13	13.5	14.5	13.0	13.0	14.0	12.5	11.0	13.5
PRESSURE GAUGE											
LOWER CELL	AS-27 (psi)	12	11.5	10.5	11	10.0	10.5	13.0	11.5	12.5	12.0
	AS-25 (psi)	11	10.5	10.5	10.5	10.0	10.0	13.0	11.0	11.0	11.5
	AS-17 (psi)	11	10.5	11.0	11.5	10.0	10.0	12.0	11.0	11.0	11.5
	AS-19 (psi)	13	12.5	13	12.5	11.0	11.5	14.5	12.5	12.5	13.5
	AS-21 (psi)	12.5	11.5	12	11.5	10.5	10.5	13.5	11.5	11.5	12.0
	AS-29 (psi)	14	12.5	13.5	13.5	12.5	12.5	6.0	12.5	12.0	13.0
	AS-43 (psi)	11	10.5	10.5	10.5	10.0	10.0	11.5	10.5	10.5	11.0
	AS-46 (psi)	12.5	12	12	12	11.0	11.0	13.0	12.0	11.5	12.5
	AS-41 (psi)	10.5	10	10.5	10	9.5	10.0	11.0	10.5	10.5	11.0
	AS-33 (psi)	11.5	11	11	11	[illegible]	10.0	12.0	11.0	11.0	11.5
	AS-35 (psi)	11.5	11	11	10.5	[illegible]	10.0	12.0	11.0	11.0	[illegible]

MONTHLY DOCUMENTATION SHEET
BUILDING 2
PID MEASUREMENTS

DATE	5/19/16	10-21-16										
TIME	0915	0846										
INITIALS	NP	A.H.										

SVE Effluent	0.0	0.0										
SVE - 10	0.0	0.6										
SVE - 12	0.0	0.0										
SVE - 8	0.0	0.0										
SVE - 7	0.0	0.0										
Exhaust	0.0	0.0										

Appendix D

First Quarter 2016 Groundwater Sampling Data Sheets

AECOM

Well ID:	GMZ-01

Ground Water Sample Collection Record

Client: UTAS Plants 1/2 Facility	Date: 5/16/2016	Time:	Start	1200	(24hr)
Project No: 60480278-4213			Finish	1335	
Site Location: Rockford, Illinois					
Weather: CLEAR - 60°s	Collector(s): N. PINS				

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 47.75 Screen interval(ft): 15 Approx. depth of pump intake(ft): 40

Water table depth (ft): 32.23 Casing type/diameter: 2" PVC Minimum purge volume: 7.6 (gals)

Water column length (ft): 15.52 (calculations on reverse)

2. WELL PURGE DATA

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals.
If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	11F53
	Lamotte	2020	2485-3312
	Lamotte	Smart 2 Colorimeter	7798-3510
Begin purge at 1220			

Time (24hr)	Purge Vol. (ml)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1230	5000	14.61	6.97	1816	21.2	1.57	684	500	32.23	CLOUDY
1235	7500	14.73	6.95	1794	29.5	1.64	609	500	32.23	
1240	10000	14.85	6.95	1807	31.8	1.76	560	500	32.23	
1245	12500	14.80	6.94	1815	37.5	1.85	336	500	32.23	
1250	15000	15.16	6.94	1827	37.7	1.84	119	500	32.23	
1255	17500	15.21	6.95	1837	39.9	1.88	100.7	500	32.23	
1300	20000	15.20	6.95	1846	41.2	1.90	79.9	500	32.23	
1305	22500	15.47	6.95	1851	43.6	1.89	64.7	500	32.23	
1310	25000	15.67	6.96	1862	44.3	1.92	50.5	500	32.23	
1315	27500	15.52	6.95	1863	46.3	1.93	42.2	500	32.23	
1320	30000	15.65	6.96	1867	46.0	1.91	35.9	500	32.23	✓
				* PURGED 3 WELL VOLUMES:						
						NOT STABLE: TURBIDITY				

(continued on back)

Sample Collector(s): N. PINS Date: 5/16/2016

SAMPLE COLLECTION DATA Well ID: **GMZ-01**

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-GMZ01- 051616	VOC's	3 - 40mL Clear Vials	1320	500	
	Ferrous Iron	9.45 mg/L			

VOCs - Volatile organic compounds

G - Glass
HCl - Hydrchloric acid

AECOM

Well ID:	GMZ-02

Ground Water Sample Collection Record

Client:	UTAS Plants 1/2 Facility	Date:	5/18/2016	Time: Start	0925 (24hr)
Project No:	60480278-4213			Finish	1055
Site Location:	Rockford, Illinois				
Weather:	CLEAR – 50°s	Collector(s):	N. Pins		

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 44.75 Screen interval(ft): 15 Approx. depth of pump intake(ft): 37

Water table depth (ft): 29.80 Casing type/diameter: 2" PVC Minimum purge volume: 7.3 (gals)

Water column length (ft): 14.95 (calculations on reverse)

2. WELL PURGE DATA

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals.
If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	11F53
	Lamotte	2020	2485-3310
	Lamotte	Smart 2 Colorimeter	7798-3512
Begin purge at 0935			

Time (24hr)	Purge Vol. (ml)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
0945	5000	13.65	7.21	1422	110.1	9.82	6.32	500	29.81	CLEAR
0950	7500	13.86	7.23	1411	111.1	9.33	4.57	500	29.81	↓
0955	10000	14.31	7.27	1419	110.8	9.16	4.02	500	29.81	↓
1000	12500	14.45	7.28	1415	110.4	9.21	3.01	500	29.81	↓
1005	15000	15.01	7.29	1410	109.8	8.90	2.74	500	29.81	↓
1010	17500	15.10	7.31	1408	108.3	8.47	2.53	500	29.81	↓
1015	20000	15.28	7.33	1407	107.6	8.03	2.45	500	29.81	↓
1020	22500	15.47	7.34	1406	106.8	7.95	2.37	500	29.81	↓
1025	25000	15.64	7.35	1406	106.6	8.13	2.09	500	29.81	↓
1030	27500	15.76	7.38	1411	105.4	8.00	1.90	500	29.81	↓
1035	30000	15.74	7.39	1407	104.3	7.99	1.72	500	29.81	↓
				* PURGED	3 WELL	VOLUMES				
						NOT	STABLE	: TURB	IDITY	

(continued on back)

Sample Collector(s): N. Pins Date: 5/18/2016

SAMPLE COLLECTION DATA Well ID: **GMZ-02**

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-GMZ02- 051816	VOC's	3 - 40mL Clear Vials	1035	500	
HSSER_MS01- 051816	VOC's	3 - 40mL Clear Vials	1035	500	
HSSER-MSD01- 051816	VOC's	3 - 40mL Clear Vials	1035	500	
	Ferrous Iron	0.60 mg/L			

VOCs - Volatile organic compounds

G - Glass
HCl - Hydrchloric acid

AECOM

Well ID:	GMZ-03

Ground Water Sample Collection Record

Client:	UTAS Plants 1/2 Facility	Date:	5/18/2016	Time: Start	1055 (24hr)
Project No:	60480278-4213			Finish	1145
Site Location:	Rockford, Illinois				
Weather:	CLEAR - 50's	Collector(s):	N. Pins		

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 44.60 Screen interval(ft): 15 Approx. depth of pump intake(ft): 37

Water table depth (ft): 29.19 Casing type/diameter: 2" PVC Minimum purge volume: 7.5 (gals)

Water column length (ft): 15.40 (calculations on reverse)

2. WELL PURGE DATA

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals. If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	11F53
	Lamotte	2020	2485-3312
	Lamotte	Smart 2 Colorimeter	7798-3510
Begin purge at 1100			

Time (24hr)	Purge Vol. (ml)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1110	5000	14.31	7.71	1077	99.0	9.84	4.94	500	29.20	CLEAR
1115	7500	14.59	7.70	1080	101.6	9.66	4.53	500	29.20	↓
1120	10000	14.61	7.76	1086	105.6	9.45	4.25	500	29.20	↓
1125	12500	14.74	7.69	1088	107.0	9.52	4.21	500	29.20	↓

(continued on back)

Sample Collector(s): N. Pins Date: 5/18/2016

SAMPLE COLLECTION DATA Well ID: **GMZ-03**

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-GMZ03- 051816	VOC's	3 - 40mL Clear Vials	1125	500	
HSSER-Dup01- 051816	VOC's	3 - 40mL Clear Vials	0000	500	
	Ferrous Iron	1.82 mg/L			

VOCs - Volatile organic compounds

G - Glass
HCl - Hydrchloric acid

AECOM

Well ID:	GMZ-04

Ground Water Sample Collection Record

Client:	UTAS Plants 1/2 Facility	Date: 5-17-16	Time:	Start	1440 (24hr)
Project No:	60480278-4213			Finish	1600
Site Location:	Rockford, Illinois				
Weather:	cloudy 55-65°F	Collector(s):	A. Helle		

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 44.98 Screen interval(ft): 15 Approx. depth of pump intake(ft): 38
Water table depth (ft): 27.47 Casing type/diameter: 2" PVC Minimum purge volume: 8.6 (gals)
Water column length (ft): 17.51 (calculations on reverse)

2. WELL PURGE DATA

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals.
If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	11M64
	Lamotte	2020	2476-3312
	Lamotte	Smart 2 Colorimeter	0844-0702
Begin purge at 1450			

Time (24hr)	Purge Vol. (ml)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1500	5000	15.53	7.86	1858	94.1	10.10	41.3	500	27.48	clear/none
1505	7500	15.57	7.90	1839	92.4	9.92	15.4	500	27.48	
1510	10,000	15.57	7.91	1826	87.5	10.09	10.92	500	27.48	
1515	12,500	15.54	7.92	1822	83.8	9.69	6.55	500	27.48	
1520	15,000	15.57	7.93	1814	81.1	9.63	4.96	500	27.48	
1525	17,500	15.54	7.93	1801	78.9	9.51	3.65	500	27.48	
1530	20,000	15.52	7.92	1801	77.6	9.45	3.04	500	27.48	
1535	22,500	15.47	7.93	1797	63.6	9.53	2.98	500	27.48	
1540	25,000	15.49	7.92	1794	54.0	9.47	2.63	500	27.48	
1545	27,500	15.53	7.92	1788	57.1	9.41	2.69	500	27.48	
1550	30,000	15.57	7.93	1793	55.4	9.24	2.55	500	27.48	

(continued on back)

Sample Collector(s): [signature] Date: 5-17-16

SAMPLE COLLECTION DATA Well ID: **GMZ-04**

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-GMZ04-051716	VOC's	3 - 40mL Clear Vials	1550	500	
	Ferrous Iron	0.10 mg/L			

VOCs - Volatile organic compounds

G - Glass
HCl - Hydrchloric acid

AECOM

Well ID:	MW07FGA

Ground Water Sample Collection Record

Client:	UTAS Plants 1/2 Facility	Date: 5/17/2016	Time:	Start	1010 (24hr)
Project No:	60480278-4213			Finish	1110
Site Location:	Rockford, Illinois				
Weather:	PARTLY CLOUDY - 50°s	Collector(s):	N. PINS		

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 46.62 Screen interval(ft): 15 Approx. depth of pump intake(ft): 39

Water table depth (ft): 27.53 Casing type/diameter: 4" SS Minimum purge volume: 37.4 (gals)

Water column length (ft): 19.09 (calculations on reverse)

2. WELL PURGE DATA

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals.
If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	11F53
	Lamotte	2020	2485-3312
	Lamotte	Smart 2 Colorimeter	7798-3510
Begin purge at 1020			

Time (24hr)	Purge Vol. (ml)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1030	5000	13.96	6.79	2732	108.4	3.64	40.5	500	27.54	CLOUDY
1035	7500	14.73	6.81	2769	111.0	3.47	51.5	500	27.54	↓
1040	10000	14.39	6.80	2765	113.1	3.44	49.5	500	27.54	↓
1045	12500	14.27	6.80	2778	114.4	3.44	47.1	500	27.54	↓
1050	15000	14.41	6.81	2772	115.6	3.41	49.7	500	27.54	↓

(continued on back)

Sample Collector(s): N. PINS Date: 5/17/2016

SAMPLE COLLECTION DATA Well ID: **MW-07FGA**

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-MW07FGA-051716	VOC's	3 - 40mL Clear Vials	1050	500	
	Ferrous Iron	1.93 mg/L			

VOCs - Volatile organic compounds

G - Glass
HCl - Hydrchloric acid

AECOM

Well ID:	MW-203

Ground Water Sample Collection Record

Client: UTAS Plants 1/2 Facility Date: 5/17/2016 Time: Start 0920 (24hr)
Project No: 60480278-4213 Finish 1010
Site Location: Rockford, Illinois
Weather: MOSTLY SUNNY - 50's Collector(s): N. PINS

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 49.50 Screen interval(ft): 15 Approx. depth of pump intake(ft): 40
Water table depth (ft): 28.20 Casing type/diameter: 2" SS Minimum purge volume: 10.4 (gals)
Water column length (ft): 21.30 (calculations on reverse)

2. WELL PURGE DATA

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals.
If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	11F53
	Lamotte	2020	2485-3312
	Lamotte	Smart 2 Colorimeter	7798-3510

Begin purge at 0925

Time (24hr)	Purge Vol. (ml)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
0935	5000	13.40	6.74	1076	113.2	3.40	5.49	500	28.23	CLEAR
0940	7500	13.12	6.73	1079	117.5	3.27	5.37	500	28.23	↓
0945	10000	13.29	6.73	1077	119.3	3.16	5.06	500	28.23	↓
0950	12500	13.30	6.73	1079	120.1	3.16	4.97	500	28.23	↓

(continued on back)

Sample Collector(s): N. PINS Date: 5/17/2016

SAMPLE COLLECTION DATA Well ID: **MW-203**

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-MW203- 051716	VOC's	3 - 40mL Clear Vials	0950	500	
	Ferrous Iron	1.82 mg/L			

VOCs - Volatile organic compounds

G - Glass
HCl - Hydrchloric acid

AECOM

Well ID:	PMW-01

Ground Water Sample Collection Record

Client:	UTAS Plants 1/2 Facility	Date:	5/17/2016	Time: Start	1420 (24hr)
Project No:	60480278-4213			Finish	1535
Site Location:	Rockford, Illinois				
Weather:	MOSTLY CLOUDY - 60's	Collector(s):	N. PINS		

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 44.28 Screen interval(ft): 25 Approx. depth of pump intake(ft): 37

Water table depth (ft): 29.91 Casing type/diameter: 2" PVC Minimum purge volume: 7.0 (gals)

Water column length (ft): 14.37 (calculations on reverse)

2. WELL PURGE DATA

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals.
If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	11F53
	Lamotte	2020	2485-3312
	Lamotte	Smart 2 Colorimeter	7798-3510

Begin purge at 1430

Time (24hr)	Purge Vol. (ml)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1440	5000	14.25	7.07	1045	105.9	3.40	52.1	500	29.93	CLOUDY
1445	7500	14.45	7.02	1068	110.2	3.15	42.9	500	29.93	↓
1450	10000	14.39	6.97	1122	108.5	2.90	27.5	500	29.93	↓
1455	12500	14.34	6.92	1217	92.4	2.74	12.8	500	29.93	CLEAR
1500	15000	14.54	6.91	1250	71.4	2.57	6.98	500	29.93	↓
1505	17500	14.68	6.92	1256	52.3	2.50	5.89	500	29.93	↓
1510	20000	14.96	6.93	1252	55.3	2.57	5.63	500	29.93	↓
1515	22500	14.53	6.94	1255	56.5	2.66	5.53	500	29.93	↓

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Sample Collector(s): N. PINS Date: 5/17/2016

SAMPLE COLLECTION DATA Well ID: **PMW-01**

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-PMW01- 051716	VOC's	3 - 40mL Clear Vials	1515	500	
	Ferrous Iron	0.72 mg/L			

VOCs - Volatile organic compounds

G - Glass
HCl - Hydrchloric acid

AECOM

Well ID:	PMW-02

Ground Water Sample Collection Record

Client:	UTAS Plants 1/2 Facility	Date: 5/18/2016	Time:	Start	0755 (24hr)
Project No:	60480278-4213			Finish	0925
Site Location:	Rockford, Illinois				
Weather:	CLEAR - 50°s	Collector(s):	N. PINS		

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 45.00 Screen interval(ft): 25 Approx. depth of pump intake(ft): 37

Water table depth (ft): 29.88 Casing type/diameter: 2" PVC Minimum purge volume: 7.4 (gals)

Water column length (ft): 15.12 (calculations on reverse)

2. WELL PURGE DATA

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals. If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	11F53
	Lamotte	2020	2485-3312
	Lamotte	Smart 2 Colorimeter	7798-3510
Begin purge at 0815			

Time (24hr)	Purge Vol. (ml)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
0825	5000	11.99	6.36	1411	162.0	1.82	39.5	500	29.90	CLOUDY
0830	7500	11.83	6.37	1411	140.7	1.99	28.9	500	29.90	↓
0835	10000	12.05	6.37	1403	113.7	2.32	21.4	500	29.90	↓
0840	12500	12.23	6.38	1402	105.3	2.39	15.8	500	29.90	CLEAR
0845	15000	12.29	6.38	1401	104.3	2.34	8.72	500	29.90	↓
0850	17500	12.38	6.39	1399	105.5	2.33	6.67	500	29.90	↓
0855	20000	12.45	6.39	1398	106.4	2.31	5.02	500	29.90	↓
0900	22500	12.49	6.40	1398	108.2	2.32	4.53	500	29.90	↓
0905	25000	12.54	6.41	1397	110.8	2.30	3.44	500	29.90	↓
0910	27500	12.61	6.41	1396	112.4	2.29	3.59	500	29.90	↓
0915	30000	12.67	6.42	1397	114.7	2.30	2.60	500	29.90	↓
				* PURGED 3 WELL VOLUMES						
						NOT STABLE: TURBIDITY				

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Sample Collector(s): N. PINS Date: 5/18/2016

SAMPLE COLLECTION DATA Well ID: **PMW-02**

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-PMW02-051816	VOC's	3 - 40mL Clear Vials	0915	500	
HSSER-EBLK01-051816	VOC's	3 - 40mL Clear Vials	0800	—	
	Ferrous Iron	0.02 mg/L			

VOCs - Volatile organic compounds

G - Glass
HCl - Hydrchloric acid

AECOM

Well ID:	RAMW-01

Ground Water Sample Collection Record

Client:	UTAS Plants 1/2 Facility	Date: 5-17-16	Time:	Start	1325 (24hr)
Project No:	60480278-4213			Finish	1435
Site Location:	Rockford, Illinois				
Weather:	Sunny 55-65°F	Collector(s): A. Hollard			

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 45.99 Screen interval(ft): 15 Approx. depth of pump intake(ft): 38

Water table depth (ft): 29.81 Casing type/diameter: 2" PVC Minimum purge volume: 8.0 (gals)

Water column length (ft): 16.18 (calculations on reverse)

2. WELL PURGE DATA

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals.
If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	11M64
	Lamotte	2020	2476-3312
	Lamotte	Smart 2 Colorimeter	0244-0202
Begin purge at 1335			

Time (24hr)	Purge Vol. (ml)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1345	5000	16.02	6.95	1099	102.1	5.75	23.2	500	29.83	clear/none
1350	7500	16.06	6.88	1091	101.5	5.29	21.0	500	29.83	
1355	10,000	16.01	6.85	1088	103.7	5.06	16.1	500	29.83	
1400	12,500	16.04	6.84	1085	103.1	4.95	10.85	500	29.83	
1405	15,000	16.05	6.84	1078	104.3	4.88	6.42	500	29.83	
1410	17,500	16.04	6.83	1074	105.6	4.77	4.71	500	29.83	
1415	20,000	16.04	6.83	1072	106.1	4.76	4.78	500	29.83	
1420	22,500	16.03	6.83	1072	105.4	4.78	4.57	500	29.83	

(continued on back)

Sample Collector(s): [signature] Date: 5-17-16

SAMPLE COLLECTION DATA Well ID: **RAMW-01**

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-RAMW01-051716	VOC's	3 - 40mL Clear Vials	1420	500	
HSSER-FBLK02-051716	VOC's	3 - 40mL Clear Vials	1330	—	
	Ferrous Iron	0.41 mg/L			

VOCs - Volatile organic compounds

G - Glass
HCl - Hydrchloric acid

AECOM

Well ID:	RAMW-02

Ground Water Sample Collection Record

Client: UTAS Plants 1/2 Facility Date: 5-17-16 Time: Start 1200 (24hr)
Project No: 60480278-4213 Finish 1320
Site Location: Rockford, Illinois
Weather: Sunny 55-65°F Collector(s): A. Hellatz

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 44.80 Screen interval(ft): 15 Approx. depth of pump intake(ft): 37
Water table depth (ft): 29.69 ft Casing type/diameter: 2" PVC Minimum purge volume: 7.4 (gals)
Water column length (ft): 15.13 (calculations on reverse)

2. WELL PURGE DATA

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals.
If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	11M64
	Lamotte	2020	2476-3312
	Lamotte	Smart 2 Colorimeter	0244-0702

Begin purge at 1205

Time (24hr)	Purge Vol. (ml)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1215	5000	15.91	6.98	1077	-30.0	2.40	11.1	500	29.69	clear/none
1220	7500	16.16	6.96	1056	-22.2	2.37	11.76	500	29.69	
1225	10,000	16.11	6.94	1045	-16.7	2.45	10.16	500	29.69	
1230	12,500	16.24	6.93	1038	-15.1	2.64	8.04	500	29.69	
1235	15,000	16.05	6.92	1037	-14.1	2.75	6.37	500	29.69	
1240	17,500	16.21	6.91	1037	-13.8	2.64	5.49	500	29.69	
1245	20,000	16.23	6.91	1041	-14.6	2.62	4.42	500	29.69	
1250	22,500	16.27	6.90	1038	-16.3	2.66	3.96	500	29.69	
1255	25,000	16.34	6.90	1037	-18.7	2.55	3.45	500	29.69	
1300	27,500	16.36	6.90	1035	-21.8	2.53	3.03	500	29.69	
1305	30,000	16.46	6.90	1034	-23.6	2.51	2.76	500	29.69	
	* Turbidity / ORP not stable; removed 3 well volumes									

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Sample Collector(s): [signature] Date: 5-17-16

SAMPLE COLLECTION DATA Well ID: **RAMW-02**

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-RAMW02-051716	VOC's	3 - 40mL Clear Vials	1305	500	
HSSER-MS02-051716	VOC's	3 - 40mL Clear Vials	1305	500	
HESSER-MSD02-051716	VOC's	3 - 40mL Clear Vials	1305	500	
	Ferrous Iron	0.51 mg/L			

VOCs - Volatile organic compounds

G - Glass
HCl - Hydrchloric acid

AECOM

Well ID:	RAMW-03

Ground Water Sample Collection Record

Client: UTAS Plants 1/2 Facility Date: 5-17-16 Time: Start 1030 (24hr)
Project No: 60480278-4213 Finish 1150
Site Location: Rockford, Illinois
Weather: Sunny 50-60°F Collector(s): A. Hollatz

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 45.28 Screen interval(ft): 15 Approx. depth of pump intake(ft): 38
Water table depth (ft): 29.49 Casing type/diameter: 2" PVC Minimum purge volume: 7.8 (gals)
Water column length (ft): 15.79 (calculations on reverse)

2. WELL PURGE DATA

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals. If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	11M64
	Lamotte	2020	2476-3372
	Lamotte	Smart 2 Colorimeter	0244-0702
Begin purge at 1035			

Time (24hr)	Purge Vol. (ml)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1045	5000	17.62	7.30	734	101.2	8.13	11.5	500	29.52	clear/none
1050	7500	17.96	7.36	759	89.7	7.72	12.04	500	29.52	
1055	10000	17.71	7.31	800	85.9	7.39	8.66	500	29.52	
1100	12,500	18.05	7.28	823	82.3	7.01	6.74	500	29.52	
1105	15,000	18.12	7.27	859	79.4	6.79	5.45	500	29.52	
1110	17,500	18.35	7.26	880	75.7	6.57	4.48	500	29.52	
1115	20,000	18.54	7.25	904	70.0	6.46	3.86	500	29.52	
1120	22,500	18.45	7.25	919	66.1	6.31	3.69	500	29.52	
1125	25,000	18.57	7.24	935	64.3	6.22	2.95	500	29.52	
1130	27,500	18.17	7.23	951	65.4	6.10	2.90	500	29.52	
1135	30,000	18.39	7.20	954	67.0	5.87	3.25	500	29.52	
	* Turbidity not stable, removed 3 well volumes.									

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Sample Collector(s): [signature] Date: 5-17-16

SAMPLE COLLECTION DATA Well ID: **RAMW-03**

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-RAMW03- 051716	VOC's	3 - 40mL Clear Vials	1135	500	
HSSER-Dup02-051716	VOC's	3 - 40mL Clear Vials	0000	500	
	Ferrous Iron	0.00 mg/L			

VOCs - Volatile organic compounds

G - Glass
HCl - Hydrochloric acid

AECOM

Well ID:	RAMW-04

Ground Water Sample Collection Record

Client:	UTAS Plants 1/2 Facility	Date: 5-17-16	Time:	Start	0930 (24hr)
Project No:	60480278-4213			Finish	1025
Site Location:	Rockford, Illinois				
Weather:	Sunny 50-60°F	Collector(s): A. Hollatz			

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 44.82 Screen interval(ft): 15 Approx. depth of pump intake(ft): 37
Water table depth (ft): 29.33 Casing type/diameter: 2" PVC Minimum purge volume: 7.6 (gals)
Water column length (ft): 15.49 (calculations on reverse)

2. WELL PURGE DATA

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals.
If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	11M64
	Lamotte	2020	2476-3312
	Lamotte	Smart 2 Colorimeter	0244-0702

Begin purge at 0940

Time (24hr)	Purge Vol. (ml)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
0950	5000	15.47	7.14	941	109.1	4.71	4.51	500	29.35	clear/none
0955	7500	15.52	7.21	937	99.9	4.65	5.14	500	29.35	↓
1000	10,000	15.49	7.21	938	96.0	4.45	3.69	500	29.35	↓
1005	12,500	15.55	7.20	936	95.0	4.31	3.61	500	29.35	↓
1010	15,000	15.58	7.20	939	92.8	4.15	3.36	500	29.35	↓

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Sample Collector(s): [signature] Date: 5-17-16

SAMPLE COLLECTION DATA Well ID: **RAMW-04**

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-RAMW04-051716	VOC's	3 - 40mL Clear Vials	1010	500	
HSSER-EBLK02-051716	VOC's	3 - 40mL Clear Vials	0930	—	
	Ferrous Iron	0.00 mg/L			

VOCs - Volatile organic compounds

G - Glass
HCl - Hydrchloric acid

AECOM

Well ID:	RAMW-05

Ground Water Sample Collection Record

Client: UTAS Plants 1/2 Facility Date: 5-17-16 Time: Start 0805 (24hr)
Project No: 60480278-4213 Finish 0925
Site Location: Rockford, Illinois
Weather: Sunny 50-60°F Collector(s): A. Holight

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 43.81 Screen interval(ft): 15 Approx. depth of pump intake(ft): 36
Water table depth (ft): 28.21 Casing type/diameter: 2" PVC Minimum purge volume: 7.7 (gals)
Water column length (ft): 15.60 (calculations on reverse)

2. WELL PURGE DATA

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals.
If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	11M164
	Lamotte	2020	2476-3312
	Lamotte	Smart 2 Colorimeter	0244-0702
Begin purge at 0810			

Time (24hr)	Purge Vol. (ml)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
0820	5000	15.45	7.33	1215	255.3	9.52	30.0	500	28.23	clear/none
0825	7500	15.60	7.37	1195	242.3	9.60	28.4	500	28.23	
0830	10,000	15.61	7.42	1181	229.1	9.34	14.2	500	28.23	
0835	12,500	15.63	7.45	1175	219.0	9.22	9.98	500	28.23	
0840	15,000	15.64	7.47	1171	206.3	9.11	7.98	500	28.23	
0845	17,500	15.73	7.49	1169	194.2	8.91	5.67	500	28.23	
0850	20,000	15.77	7.50	1170	183.2	8.82	5.11	500	28.23	
0855	22,500	15.80	7.51	1168	172.2	8.94	3.89	500	28.23	
0900	25,000	15.85	7.52	1168	161.8	8.68	3.31	500	28.23	
0905	27,500	15.87	7.53	1167	151.9	8.64	2.85	500	28.23	
0910	30,000	15.90	7.50	1167	146.6	8.46	3.01	500	28.23	
	* Turbidity / ORP not stable, removed 3 well volumes.									

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Sample Collector(s): [signature] Date: 5-17-16

SAMPLE COLLECTION DATA Well ID: **RAMW-05**

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-RAMW05-050716	VOC's	3 - 40mL Clear Vials	0910	500	
	Ferrous Iron	1.03 mg/L			

VOCs - Volatile organic compounds

G - Glass
HCl - Hydrchloric acid

AECOM

Well ID:	RAMW-06

Ground Water Sample Collection Record

Client:	UTAS Plants 1/2 Facility	Date: 5-16-16	Time:	Start	1505 (24hr)
Project No:	60480278-4213			Finish	1600
Site Location:	Rockford, Illinois				
Weather:	Overcast 60-65°F	Collector(s):	A. Hollatz		

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 44.26 Screen interval(ft): 15 Approx. depth of pump intake(ft): 37

Water table depth (ft): 28.24 Casing type/diameter: 2" PVC Minimum purge volume: 7.9 (gals)

Water column length (ft): 16.02 (calculations on reverse)

2. WELL PURGE DATA

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals.
If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	11M164
	Lamotte	2020	2476-3312
	Lamotte	Smart 2 Colorimeter	0244-0702
Begin purge at 1515			

Time (24hr)	Purge Vol. (ml)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1525	5000	17.08	7.53	1240	77.3	7.86	4.62	500	28.26	clear/none
1530	7500	17.16	7.55	1209	74.9	7.93	3.98	500	28.26	
1535	10,000	17.10	7.55	1211	75.4	8.00	3.20	500	28.26	
1540	12,500	17.39	7.57	1200	74.1	7.72	2.85	500	28.26	
1545	15,000	17.56	7.60	1182	72.2	7.78	2.74	500	28.26	
1550	17,500	17.48	7.61	1173	74.2	7.85	2.66	500	28.26	

(continued on back)

Sample Collector(s): [signature] Date: 5-16-16

SAMPLE COLLECTION DATA Well ID: **RAMW-06**

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-RAMW06-05/10/16	VOC's	3 - 40mL Clear Vials	1550	500	
	Ferrous Iron	0.14 mg/L			

VOCs - Volatile organic compounds

G - Glass
HCl - Hydrchloric acid

AECOM

Well ID:	RAMW-07

Ground Water Sample Collection Record

Client:	UTAS Plants 1/2 Facility	Date: 5-16-16	Time:	Start	1340 (24hr)
Project No:	60480278-4213			Finish	1455
Site Location:	Rockford, Illinois				
Weather:	Sunny 60-65°F	Collector(s):	A. Hollatz		

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 48.60 Screen interval(ft): 15 Approx. depth of pump intake(ft): 41

Water table depth (ft): 32.70 Casing type/diameter: 2" PVC Minimum purge volume: 7.80. (gals)

Water column length (ft): 15.90 (calculations on reverse)

2. WELL PURGE DATA

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals. If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	11 M 64
	Lamotte	2020	2476.3312
	Lamotte	Smart 2 Colorimeter	0244-0702
Begin purge at 1345			

Time (24hr)	Purge Vol. (ml)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1355	5000	18.32	6.68	1367	-73.8	0.51	4.21	500	32.70	clear/none
1400	7500	18.61	6.69	1369	-70.9	0.27	4.13	500	32.70	
1405	10,000	18.37	6.69	1377	-65.0	0.31	3.27	500	32.70	
1410	12,500	18.15	6.67	1376	-46.2	0.38	3.43	500	32.70	
1415	15,000	18.38	6.67	1376	-44.3	0.55	3.97	500	32.70	
1420	17,500	18.72	6.70	1384	-38.1	0.62	3.73	500	32.70	
1425	20,000	18.60	6.71	1390	-31.9	0.58	3.44	500	32.70	
1430	22,500	18.27	6.70	1392	-28.1	0.81	3.64	500	32.70	
1435	25,000	18.10	6.66	1389	-24.7	0.78	3.73	500	32.70	
1440	27,500	17.91	6.65	1388	-20.8	0.86	4.04	500	32.70	
1445	30,000	17.91	6.65	1391	-18.1	0.49	3.84	500	32.70	
	* ORP/DO not stable, removed 3 well volumes.									

(continued on back)

Sample Collector(s): [signature] Date: 5-16-16

SAMPLE COLLECTION DATA Well ID: **RAMW-07**

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-RAMW07-051616	VOC's	3 - 40mL Clear Vials	1445	500	
	Ferrous Iron	1.73 mg/L			

VOCs - Volatile organic compounds

G - Glass
HCl - Hydrchloric acid

AECOM

Well ID:	RAMW-08

Ground Water Sample Collection Record

Client:	UTAS Plants 1/2 Facility	Date:	5-16-16	Time: Start	1215 (24hr)
Project No:	60480278-4213			Finish	1330
Site Location:	Rockford, Illinois				
Weather:	Sunny 60°F	Collector(s):	A. Hollatz		

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 44.27 Screen interval(ft): 15 Approx. depth of pump intake(ft): 37
Water table depth (ft): 28.84 Casing type/diameter: 2" PVC Minimum purge volume: 7.6 (gals)
Water column length (ft): 15.43 (calculations on reverse)

2. WELL PURGE DATA

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals.
If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	11M64
	Lamotte	2020	2476-3312
	Lamotte	Smart 2 Colorimeter	0244-0702
Begin purge at 1220			

Time (24hr)	Purge Vol. (ml)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1220	5000	18.46	6.98	1306	-154.6	0.35	13.87	500	28.93	clear/ sulfur.
1235	7500	18.36	6.98	1290	-165.9	0.26	13.59	500	28.93	
1240	10,000	18.07	7.00	1290	-170.9	0.37	9.73	500	28.93	
1245	12,500	18.09	7.00	1290	-166.3	0.29	12.08	500	28.93	
1250	15,000	18.47	7.01	1306	-157.4	0.27	9.50	500	28.93	
1255	17,500	18.43	7.02	1337	-158.6	0.17	7.66	500	28.93	
1300	20,000	18.27	7.03	1349	-151.6	0.33	6.71	500	28.93	
1305	22,500	18.42	7.03	1360	-148.6	0.17	6.88	500	28.93	
1310	25,000	18.29	7.03	1378	-151.1	0.17	6.59	500	28.93	
1315	27,500	18.20	7.02	1381	-144.1	0.24	6.46	500	28.93	
1320	30,000	18.18	7.01	1384	-147.9	0.23	5.70	500	28.93	
	* DO/Turbidity not stable, removed 3 well volumes.									

(continued on back)

Sample Collector(s): Allen Hollatz Date: 5-16-16

SAMPLE COLLECTION DATA Well ID: **RAMW-08**

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-RAMW08-05[illegible]/16	VOC's	3 - 40mL Clear Vials	1320	500	
	Ferrous Iron	Overrange (0.10 mg/L) mg/L			

VOCs - Volatile organic compounds

G - Glass
HCl - Hydrchloric acid

AECOM

Well ID:	SMW-01

Ground Water Sample Collection Record

Client:	UTAS Plants 1/2 Facility	Date:	5/16/2016	Time: Start	1335 (24hr)
Project No:	60480278-4213			Finish	1450
Site Location:	Rockford, Illinois				
Weather:	CLEAR - 60's	Collector(s):	N. PINS		

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 39.30 Screen interval(ft): 15 Approx. depth of pump intake(ft): 32

Water table depth (ft): 30.25 Casing type/diameter: 2" PVC Minimum purge volume: 4.4 (gals)

Water column length (ft): 9.05 (calculations on reverse)

2. WELL PURGE DATA

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals.
If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	11F53
	Lamotte	2020	2485-3312
	Lamotte	Smart 2 Colorimeter	7798-3510
Begin purge at 1350			

Time (24hr)	Purge Vol. (ml)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1400	5000	15.07	7.15	1634	76.9	4.95	89.2	500	30.27	CLOUDY
1405	7500	15.10	7.14	1603	85.4	4.48	52.6	500	30.27	↓
1410	10000	14.33	7.11	1590	89.6	4.13	28.4	500	30.27	↓
1420	12500	15.17	7.08	1580	88.5	3.36	13.3	500	30.27	CLEAR
1425	15000	15.38	7.10	1579	81.2	3.36	6.94	500	30.27	↓
1430	17500	15.52	7.09	1578	76.9	3.25	5.12	500	30.27	↓
				* PURGED 3 WELL VOLUMES:						
						NOT STABLE: TURBIDITY				

(continued on back)

Sample Collector(s): N. PINS Date: 5/16/2016

SAMPLE COLLECTION DATA Well ID: **SMW-01**

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-SMW01- 051616	VOC's	3 - 40mL Clear Vials	1430	500	
	Ferrous Iron	3.90 mg/L			

VOCs - Volatile organic compounds

G - Glass
HCl - Hydrchloric acid

AECOM

Well ID:	SMW-02

Ground Water Sample Collection Record

Client:	UTAS Plants 1/2 Facility	Date: 5/17/2016	Time:	Start	0800 (24hr)
Project No:	60480278-4213			Finish	0920
Site Location:	Rockford, Illinois				
Weather:	PARTLY CLOUDY - 50's	Collector(s):	N. PINS		

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 39.99 Screen interval(ft): 15 Approx. depth of pump intake(ft): 32

Water table depth (ft): 26.72 Casing type/diameter: 2" PVC Minimum purge volume: 6.5 (gals)

Water column length (ft): 13.27 (calculations on reverse)

2. WELL PURGE DATA

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals.
If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	11E53
	Lamotte	2020	2485-3312
	Lamotte	Smart 2 Colorimeter	7798-3510
Begin purge at 0815			

Time (24hr)	Purge Vol. (ml)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
0825	5000	12.40	6.61	1459	182.1	5.73	47.9	500	26.74	CLOUDY
0830	7500	12.50	6.59	1466	150.8	5.64	36.8	500	26.74	↓
0835	10000	12.64	6.62	1472	140.2	5.51	27.4	500	26.74	↓
0840	12500	12.55	6.64	1473	128.6	5.44	21.9	500	26.74	↓
0845	15000	12.81	6.65	1481	123.3	5.35	18.4	500	26.74	CLEAR
0850	17500	12.92	6.67	1487	122.0	5.29	14.0	500	26.74	↓
0855	20000	12.80	6.68	1485	122.3	5.26	11.2	500	26.74	↓
0900	22500	13.03	6.69	1482	122.1	5.14	7.02	500	26.74	↓
0905	25000	13.13	6.69	1483	121.5	5.09	6.22	500	26.74	↓
				* PURGED 3 WELL VOLUMES:						
						NOT	STABLE	: TURBIDITY		

(continued on back)

Sample Collector(s): N. PINS Date: 5/17/2016

SAMPLE COLLECTION DATA Well ID: **SMW-02**

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-SMW02- 051716	VOC's	3 - 40mL Clear Vials	0905	500	
	Ferrous Iron	6.70 mg/L			

VOCs - Volatile organic compounds

G - Glass
HCl - Hydrchloric acid

AECOM

Well ID:	SMW-04

Ground Water Sample Collection Record

Client:	UTAS Plants 1/2 Facility	Date:	5/17/2016	Time: Start	1306 (24hr)
Project No:	60480278-4213			Finish	1420
Site Location:	Rockford, Illinois				
Weather:	MOSTLY SUNNY - 60°S	Collector(s):	N. PINS		

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 42.56 Screen interval(ft): 15 Approx. depth of pump intake(ft): 35

Water table depth (ft): 29.46 Casing type/diameter: 2" PVC Minimum purge volume: 6.4 (gals)

Water column length (ft): 13.10 (calculations on reverse)

2. WELL PURGE DATA

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals.
If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	11F53
	Lamotte	2020	2485-3312
	Lamotte	Smart 2 Colorimeter	7798-3510

Begin purge at 1315

Time (24hr)	Purge Vol. (ml)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1325	5000	13.63	6.88	1697	9.4	1.62	16.6	500	29.47	CLEAR
1330	7500	13.84	6.87	1689	13.1	1.49	15.8	500	29.47	↓
1335	10000	13.32	6.86	1700	16.7	1.70	11.4	500	29.47	↓
1340	12500	13.64	6.86	1690	15.0	1.73	6.03	500	29.47	↓
1345	15000	13.70	6.85	1686	19.3	1.89	4.77	500	29.47	↓
1350	17500	13.54	6.85	1697	19.1	1.98	3.53	500	29.47	↓
1355	20000	13.30	6.84	1683	22.6	2.01	3.08	500	29.47	↓
1400	22500	13.61	6.83	1670	27.4	2.02	2.53	500	29.47	↓
1405	25000	13.46	6.83	1674	29.1	2.02	2.37	500	29.47	↓
				* PURGED 3 WELL VOLUMES:						
						NOT	STABLE:	ORP		
								TURBIDITY		

(continued on back)

Sample Collector(s): N. PINS Date: 5/17/2016

SAMPLE COLLECTION DATA Well ID: **SMW-04**

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-SMW04- 051716	VOC's	3 - 40mL Clear Vials	1405	500	
	Ferrous Iron	1.28 mg/L			

VOCs - Volatile organic compounds

G - Glass
HCl - Hydrchloric acid

AECOM

Well ID:	SMW-08

Ground Water Sample Collection Record

Client: UTAS Plants 1/2 Facility Date: 5/16/2016 Time: Start 1015 (24hr)
Project No: 60480278-4213 Finish 1145
Site Location: Rockford, Illinois
Weather: CLEAR - 60's Collector(s): N. PINS

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 41.80 Screen interval(ft): 15 Approx. depth of pump intake(ft): 34
Water table depth (ft): 29.65 Casing type/diameter: 2" PVC Minimum purge volume: 5.9 (gals)
Water column length (ft): 12.15 (calculations on reverse)

2. WELL PURGE DATA

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals.
If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	11FS3
	Lamotte	2020	2485-3312
	Lamotte	Smart 2 Colorimeter	7798-3510
Begin purge at 1040			

Time (24hr)	Purge Vol. (ml)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1050	5000	14.08	6.71	1765	61.7	1.85	117	500	29.68	CLOUDY
1055	7500	13.96	6.69	1769	64.9	1.80	95.8	500	29.68	↓
1100	10000	13.98	6.68	1766	67.3	1.74	61.3	500	29.68	↓
1105	12500	13.94	6.69	1763	69.4	1.65	36.1	500	29.68	↓
1110	15000	14.04	6.70	1755	71.7	1.58	23.9	500	29.68	↓
1115	17500	14.03	6.70	1751	73.0	1.55	16.4	500	29.68	CLEAR
1120	20000	14.10	6.71	1740	74.8	1.44	8.60	500	29.68	↓
1125	22500	14.17	6.72	1750	77.0	1.51	6.72	500	29.68	↓
				* PURGED	3 WELL	VOLUMES;				
						NOT	STABLE	TURBIDITY		

(continued on back)

Sample Collector(s): N PINS Date: 5/16/2016

SAMPLE COLLECTION DATA Well ID: **SMW-08**

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-SMW08- 051616	VOC's	3 - 40mL Clear Vials	1125	500	
HSSER-FBLK01- 051616	VOC's	3 - 40mL Clear Vials	1020	~	
	Ferrous Iron	7.48 mg/L			

VOCs - Volatile organic compounds

G - Glass
HCl - Hydrchloric acid

AECOM

Well ID:	SMW-19

Ground Water Sample Collection Record

Client:	UTAS Plants 1/2 Facility	Date: 5/17/2016	Time:	Start	1130 (24hr)
Project No:	60480278-4213			Finish	1250
Site Location:	Rockford, Illinois				
Weather:	PARTLY CLOUDY - 50's	Collector(s):	N. PINS		

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 41.10 Screen interval(ft): 15 Approx. depth of pump intake(ft): 35

Water table depth (ft): 28.40 Casing type/diameter: 2" SS Minimum purge volume: 6.2 (gals)

Water column length (ft): 12.70 (calculations on reverse)

2. WELL PURGE DATA

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals.
If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	11F53
	Lamotte	2020	2485-3312
	Lamotte	Smart 2 Colorimeter	7798-3510

Begin purge at 1145

Time (24hr)	Purge Vol. (ml)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1155	5000	14.47	7.04	2195	119.1	4.68	890	500	28.43	CLOUDY
1200	7500	14.24	7.04	2199	121.1	4.58	685	500	28.43	↓
1205	10000	14.44	7.03	2186	122.8	4.33	364	500	28.43	↓
1210	12500	14.62	7.04	2168	123.3	4.18	129	500	28.43	↓
1215	15000	14.63	7.04	2158	122.9	4.12	64.5	500	28.43	↓
1220	17500	14.75	7.04	2143	120.7	3.94	51.1	500	28.43	↓
1225	20000	14.84	7.04	2137	118.6	3.87	43.0	500	28.43	↓
1230	22500	15.13	7.04	2129	114.6	3.68	38.8	500	28.43	↓
1235	25000	15.10	7.05	2131	113.4	3.67	35.8	500	28.43	↓
				* PURGED 3 WELL VOLUMES						
						NOT	STABLE	TURBIDITY		

(continued on back)

Sample Collector(s): N. PINS Date: 5/17/2016

SAMPLE COLLECTION DATA Well ID: **SMW-19**

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-SMW19- 051716	VOC's	3 - 40mL Clear Vials	1235	500	
	Ferrous Iron	9.10 mg/L			

VOCs - Volatile organic compounds

G - Glass
HCl - Hydrchloric acid

AECOM

Well ID:	SMW-20

Ground Water Sample Collection Record

Client: UTAS Plants 1/2 Facility Date: 5-18-16 Time: Start 0920 (24hr)
Project No: 60480278-4213 Finish 1025
Site Location: Rockford, Illinois
Weather: Sunny 45-55°F Collector(s): A. Hallatz

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 40.07 Screen interval(ft): 15 Approx. depth of pump intake(ft): 33
Water table depth (ft): 28.60 Casing type/diameter: 2" PVC Minimum purge volume: 5.6 (gals)
Water column length (ft): 11.47 (calculations on reverse)

2. WELL PURGE DATA
Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals.
If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	11M64
	Lamotte	2020	2476-3312
	Lamotte	Smart 2 Colorimeter	0244-0702

Begin purge at 0925

Time (24hr)	Purge Vol. (ml)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
0935	5000	14.97	7.80	1073	142.6	9.71	15.4	500	28.62	clear/none
0940	7500	15.14	7.80	1083	140.2	9.39	13.23	500	28.62	
0945	10000	15.18	7.79	1090	138.3	9.26	9.47	500	28.62	
0950	12,500	15.25	7.79	1096	135.9	9.20	7.37	500	28.62	
0955	15,000	15.32	7.80	1102	134.2	9.04	5.40	500	28.62	
1000	17,500	15.39	7.80	1108	132.3	9.27	5.16	500	28.62	
1005	20,000	15.44	7.80	1113	130.7	8.95	4.58	500	28.62	
1010	22500	15.61	7.81	1119	70.8	9.09	3.56	500	28.62	
	* Turbidity/ORP not stable, removed 3 well volumes.									

(continued on back)

Sample Collector(s): [signature] Date: 5-18-16

SAMPLE COLLECTION DATA Well ID: **SMW-20**

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-SMW20-05/9/10	VOC's	3 - 40mL Clear Vials	1010	500	
	Ferrous Iron	0.26 mg/L			

VOCs - Volatile organic compounds

G - Glass
HCl - Hydrchloric acid

AECOM

Well ID:	SMW-21

Ground Water Sample Collection Record

Client: UTAS Plants 1/2 Facility Date: 5-18-16 Time: Start 0810 (24hr)
Project No: 60480278-4213 Finish 0920
Site Location: Rockford, Illinois
Weather: Sunny 45-55°F Collector(s): A. Hollitz

1. WELL and WATER LEVEL DATA: (measured from Top of Casing)

Total well length (ft): 41.42 Screen interval(ft): 15 Approx. depth of pump intake(ft): 34
Water table depth (ft): 28.08 Casing type/diameter: 2" PVC Minimum purge volume: 6.6 (gals)
Water column length (ft): 13.34 (calculations on reverse)

2. WELL PURGE DATA

Purge/Sample Method: Proactive SS Monsoon Pump

Well is stable when readings stabilize to +/- 10% over three (3) consecutive readings collected at 5-minute intervals.
If three (3) well volumes have been removed, and the readings have not stabilized, a sample shall be collected.

Field Testing Equipment Used:	Make	Model	Serial Number(s)
	YSI	556 MPS	11M64
	Lamotte	2020	2476-3312
	Lamotte	Smart 2 Colorimeter	0244-0702
Begin purge at 0815			

Time (24hr)	Purge Vol. (ml)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
0825	5000	14.13	7.39	1526	156.4	10.16	55.5	500	28.04	cloudy/odorless
0830	7500	14.12	7.54	1538	153.6	9.90	32.0	500	28.02	clear/none
0835	10,000	14.17	7.64	1530	152.2	9.74	14.4	500	28.02	
0840	12,500	14.24	7.70	1523	151.2	9.66	13.14	500	28.02	
0845	15,000	14.30	7.75	1517	150.0	9.77	8.45	500	28.02	
0850	17,500	14.32	7.78	1509	149.3	9.69	7.04	500	28.02	
0855	20,000	14.09	7.79	1511	149.3	9.44	7.43	500	28.02	
0900	22,500	14.05	7.78	1508	149.8	9.46	6.16	500	28.02	
0905	25,000	14.22	7.79	1506	148.5	9.10	6.04	500	28.02	
	* Turbidity not stable, removed 3 well volumes.									

(continued on back)

Sample Collector(s): [signature] Date: 5-18-16

SAMPLE COLLECTION DATA Well ID: **SMW-21**

Sample ID	Parameters	Bottles/Preservatives	Time (24 hr)	Flow Rate (ml/min)	Comments
HSSER-SMW21-051816	VOC's	3 - 40mL Clear Vials	0905	500	
	Ferrous Iron	0.30 mg/L			

VOCs - Volatile organic compounds

G - Glass
HCl - Hydrchloric acid

Project Name: UTAS Plants1/2 Facility

Project Number: 60480278.4213

Date: 5-16-16

Calibration Form

Parameter	Instrument Manf/Model	Instrument Serial No.	Standard Manf/Model	Standard SN/Exp. Date	Standard Value @ C	Ambient Temp. C	Initial Value	Adjusted Value	Initials & Time	Comments
pH 4.00	YSI 556 MPS	11m64		34415110 11-10-17	4.00 @ 25C	20.18	4.21	4.00	AH 0945	
								---		
pH 7.00				34714085 8-5-16	7.00 @ 25C	20.20	6.83	7.00	AH 0942	
								---		
pH 10.00				13501408 11 8-11-16	10.00 @ 25C	20.63	10.32	10.05	AH 0947	

Specific Cond.				16L100084 9-17	1,000 uS/cm @ 25C	20.51	955	1000	0939 AH	

ORP			YST	16L100183 3-15-18	244 mV @ 25 C	20.33	240.2	244.0	AH 0950	

DO			H2O Saturated Air	—	100% H20 Sat. Air	19.67	93.0	96.1	0936 AH	

Turbidity	LaMotte 2020	2476 3312.	—	—	0 NTU	NA	0.00	0.00	0936 AH	
						NA		---		
					10 NTU	NA	10.07	10.01	0936 AH.	
						NA		---		

BP = Barometric Pressure (mmHg)

Project Name: UTAS Plants1/2 Facility

Project Number: 60480278.4213

Date: 5/16/2016

Calibration Form

Parameter	Instrument Manf/Model	Instrument Serial No.	Standard Manf/Model	Standard SN/Exp. Date	Standard Value @ __C	Ambient Temp. C	Initial Value	Adjusted Value	Initials & Time	Comments
pH 4.00	YSI 556 mpS	11F53	B44151110	11/2017	4.00 @ 25C	18.58	4.17	4.00	AD 0945	
								---		
pH 7.00			B47140805	8/2016	7.00 @ 25C	18.77	6.93	7.00	AD 0943	
								---		
pH 10.00			B50140811	8/2016	10.00 @ 25C	18.85	10.18	10.03	AD 0947	

Specific Cond.			16C 100084	9/2017	1,000 uS/cm @ 25C	18.78	1016	1000	AD 0940	

ORP			20BELL 3682	6/2017	244 mV @ 25 C	18.57	238.7	244.0	AD 0951	

DO			H2O Saturated Air	\	100% H20 Sat. Air	18.56	115.8	97.1	AD 0937	

Turbidity	LAMOTTE 2020	2485-3312	\	\	0 NTU	NA	0.22	0.00	AD 0954	
						NA		---		
					10 NTU	NA	9.78	10.00	AD 0955	
						NA		---		

BP = Barometric Pressure (mmHg)

Project Name: UTAS Plants1/2 Facility

Project Number: 60480278.4213

Date: 5-17-16

Calibration Form

Parameter	Instrument Manf/Model	Instrument Serial No.	Standard Manf/Model	Standard SN/Exp. Date	Standard Value @ __C	Ambient Temp. C	Initial Value	Adjusted Value	Initials & Time	Comments
pH 4.00	YSI 556MPS	11M64		B4415110 11-10-17	4.00 @ 25C	18.84	4.14	4.00	AH 0741	
pH 7.00				B4714065 8-5-16	7.00 @ 25C	18.84	6.95	7.00	AH 0738	
pH 10.00				B5014081 8-11-16	10.00 @ 25C	19.07	10.25	10.04	AH 0744	
Specific Cond.				16C100084 9-17	1,000 uS/cm @ 25C	19.08	1052	1000	AH 0735	
ORP			YSI	16C100183 3-15-18	244 mV @ 15 C	18.91	246.9	244.0	AH 0747	
DO			H2O Saturated Air	—	100% H20 Sat. Air	19.19	93.3	96.2	0733 AH	
Turbidity	LaMotte 2020	2476 3312	—	—	0 NTU	NA	0.00	0.00	0733 AH	
						NA				
					10 NTU	NA	9.91	10.01	0733 AH	
						NA				

BP = Barometric Pressure (mmHg)

Project Name: UTAS Plants1/2 Facility

Project Number: 60480278.4213

Date: 5/17/2016

Calibration Form

Parameter	Instrument Manf/Model	Instrument Serial No.	Standard Manf/Model	Standard SN/Exp. Date	Standard Value @ C	Ambient Temp. C	Initial Value	Adjusted Value	Initials & Time	Comments
pH 4.00	Ysi 556 MPS	11F53	B4415110	11/2017	4.00 @ 25C	17.55	4.20	4.00	RD 0747	
								---		
pH 7.00			B4714080 5	8/2016	7.00 @ 25C	17.45	7.05	7.00	RD 0744	
								---		
pH 10.00			B5014081 1	8/2016	10.00 @ 25C	17.68	10.24	10.04	RD 0749	

Specific Cond.			16C100084	9/2017	1,000 uS/cm @ 25C	17.49	991	1000	RD 0741	

ORP			ZOBELL 3682	6/2016	244 mV @ 25 C	17.54	243.1	244.0	RD 0751	

DO			H2O Saturated Air	\	100% H20 Sat. Air	17.09	92.4	96.1	RD 0739	

Turbidity	LAMOTTE 2020	2485-3312	\	\	0 NTU	NA	0.07	0.00	RD 0754	
						NA		---		
					10 NTU	NA	10.11	10.00	RD 0755	
						NA		---		

BP = Barometric Pressure (mmHg)

Project Name: UTAS Plants1/2 Facility

Project Number: 60480278.4213

Date: 5-18-16

Calibration Form

Parameter	Instrument Manf/Model	Instrument Serial No.	Standard Manf/Model	Standard SN/Exp. Date	Standard Value @ __C	Ambient Temp. C	Initial Value	Adjusted Value	Initials & Time	Comments
pH 4.00	YSI 556MPS	11M64		B4115110 11-10-17	4.00 @ 25C	16.91	4.17	4.00	AH 0744	
								---		
pH 7.00				B4714080 8-5-16	7.00 @ 25C	16.90	6.92	7.00	AH 0742	
								---		
pH 10.00				B5014081 8-11-16	10.00 @ 25C	17.04	10.31	10.05	AH 0747	

Specific Cond.				16C100084 9-17	1,000 uS/cm @ 25C	16.98	10.51	1000 ~~244~~	AH 0738 AH	

ORP				16C100183 3-15-18	244 mV @ 15 C	16.91	246.2	244.0	AH 0752	

DO			H2O Saturated Air	—	100% H20 Sat. Air	16.77	99.5	96.1	0735 A.H	

Turbidity	LaMotte 2020	2474 3312	—	—	0 NTU	NA	0.00	0.00	0735 AH	
						NA		---		
					10 NTU	NA	10.05	10.01	0735 AH	
						NA		---		

BP = Barometric Pressure (mmHg)

Project Name: UTAS Plants1/2 Facility

Project Number: 60480278.4213

Date: 5/18/2016

Calibration Form

Parameter	Instrument Manf/Model	Instrument Serial No.	Standard Manf/Model	Standard SN/Exp. Date	Standard Value @ __C	Ambient Temp. C	Initial Value	Adjusted Value	Initials & Time	Comments
pH 4.00	YSI 556 mps	11F53	B44151110	11/2017	4.00 @ 25C	16.53	4.15	4.00	KD 0744	
								---		
pH 7.00			B47140805	8/2016	7.00 @ 25C	16.58	6.96	7.00	KD 0742	
								---		
pH 10.00			B50140811	8/2016	10.00 @ 25C	16.65	10.25	10.04	KD 0747	

Specific Cond.			16C100084	9/2017	1,000 uS/cm @ 25C	16.35	1046	1000	KD 0739	

ORP			20BE-L 3682	6/2016	244 mV @ 25 C	16.60	241.9	244.0	KD 0750	

DO			H2O Saturated Air	\	100% H20 Sat. Air	16.12	84.6	96.2	KD 0736	

Turbidity	LAMOTTE 2020	2485-3312	\	\	0 NTU	NA	0.22	0.00	KD 0752	
						NA		---		
					10 NTU	NA	9.91	10.00	KD 0753	
						NA		---		

BP = Barometric Pressure (mmHg)

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

FED-EX Tracking #: 6514 9168 7159
Bottle Order Control #:
SGS Accutest Quote #:
SGS Accutest Job #:

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 #: N. PINS / A. HOLLATZ

Project Information

Project Name: UTAS PLANTS 1/2 FACILITY
Street:
City / State: ROCKFORD IL
Project #: 60480278
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	DI Water	MEOH	ENCORE	VOCs										LAB USE ONLY
	HSSER-FBLK01-051616		5/16/16	1020	NP	GW	3	3								X										
	HSSER-SMW08-051616		5/16/16	1125	NP	GW	3	3								X										
	HSSER-GMZ01-051616		5/16/16	1320	NP	GW	3	3								X										
	HSSER-SMW01-051616		5/16/16	1430	NP	GW	3	3								X										
	HSSER-SMW02-051716		5/17/16	0905	NP	GW	3	3								X										
	HSSER-MW203-051716		5/17/16	0950	NP	GW	3	3								X										
	HSSER-MW07FGA-051716		5/17/16	1050	NP	GW	3	3								X										
	HSSER-SMW19-051716		5/17/16	1235	NP	GW	3	3								X										
	HSSER-SMW04-051716		5/17/16	1405	NP	GW	3	3								X										
	HSSER-PMW01-051716		5/17/16	1515	NP	GW	3	3								X										
	HSSER-GMZ04-051716		5/17/16	1550	AH	GW	3	3								X										
	HSSER-EBLK01-051816		5/18/16	0800	NP	GW	3	3								X										

Turnaround Time (Business days)

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

Approved By (SGS Accutest PM): / Date:

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information

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

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

Comments / Special Instructions

LIST OF 13 VOCs
LEVEL IV DATA

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 T- (AECOM)	5/18/16 1400	1	2		2
3		3	4		4
5		5			

Custody Seal # [ ] Intact [ ] Not Intact — Preserved where applicable [ ] — On Ice [ ] — Cooler Temp.

CHAIN OF CUSTODY

SGS ACCUTEST

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

FED-EX Tracking #: 6514 9168 7159
Bottle Order Control #:
SGS Accutest Quote #:
SGS Accutest Job #:

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 #: N. PINS / A. HOLLATZ

Project Information

Project Name: UTAS PLANTS 1/2 FACILITY
Street:
City / State: ROCKFORD IL
Project #: 60480278
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	DI Water	MEOH	ENCORE	VOCs	LAB USE ONLY
	HSSER-SMW21-051816		5/18/16	0905	AH	GW	3	3								X	
	HSSER-PMW02-051816		5/18/16	0915	NP	GW	3	3								X	
	HSSER-SMW20-051816		5/18/16	1010	AH	GW	3	3								X	
	HSSER-GMZ02-051816		5/18/16	1035	NP	GW	3	3								X	
	HSSER-MS01-051816		5/18/16	1035	NP	GW	3	3								X	
	HSSER-MSD01-051816		5/18/16	1035	NP	GW	3	3								X	
	HSSER-GMZ03-051816		5/18/16	1125	NP	GW	3	3								X	
	HSSER-DUP01-051816		5/18/16	0000	NP	GW	3	3								X	
	HSSER-TRIP01-051816		5/18/16	—	—	GW	2	2								X	

Turnaround Time (Business days)

Approved By (SGS Accutest PM): / Date:

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

Emergency & Rush T/A data available VIA Leblink

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 DATA

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)	5/18/16 1400	1	2		2
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished 5	Date Time:	Received By: 5	Custody Seal #	[ ] Intact [ ] Not intact	Preserved where applicable [ ] On Ice [ ] Temp.

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Sampler(s) Name(s) / Phone #: N. PINS / A. HOLLATZ

Project Information

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Street:
City / State: ROCKFORD IL
Project #: 60480278
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	DI Water	MEOH	ENCORE	VOCs	LAB USE ONLY
	HSSER-RAMW08-051616		5/16/16	1320	AH	GW	3	3								X	
	HSSER-RAMW07-051616		5/16/16	1445	AH	GW	3	3								X	
	HSSER-RAMW06-051616		5/16/16	1550	AH	GW	3	3								X	
	HSSER-RAMW05-051716		5/17/16	0910	AH	GW	3	3								X	
	HSSER-EBLK02-051716		5/17/16	0930	AH	GW	3	3								X	
	HSSER-RAMW04-051716		5/17/16	1010	AH	GW	3	3								X	
	HSSER-RAMW03-051716		5/17/16	1135	AH	GW	3	3								X	
	HSSER-RAMW02-051716		5/17/16	1305	AH	GW	3	3								X	
	HSSER-MS02-051716		5/17/16	1305	AH	GW	3	3								X	
	HSSER-MSD02-051716		5/17/16	1305	AH	GW	3	3								X	
	HSSER-FBLK02-051716		5/17/16	1330	AH	GW	3	3								X	
	HSSER-RAMW01-051716		5/17/16	1420	AH	GW	3	3								X	

Turnaround Time (Business days)

Approved By (SGS Accutest PM): / Date:

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

Emergency & Rush T/A data available VIA Lablink

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- [ ] 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 DATA

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Relinquished by Sampler:	Date/Time:	Received By:	Relinquished By:	Date/Time:	Received By:
1 Nick P. (AECOM)	5/18/16 1400	1	2		2
Relinquished by Sampler: 3	Date/Time:	Received By: 3	Relinquished By: 4	Date/Time:	Received By: 4
Relinquished by: 5	Date/Time:	Received By: 5	Custody Seal #	[ ] Intact [ ] Not Intact	Preserved where applicable [ ] On Ice [ ] Cooler Temp.

SGS ACCUTEST

CHAIN OF CUSTODY

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FED-EX Tracking # 6514 9168 7159
Bottle Order Control #
SGS Accutest Quote #
SGS Accutest Job #

Client / Reporting Information

Company Name: AECOM
Street Address: 4320 WINFIELD RD
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Project Contact / E-mail: PETER HOLLATZ / peter.hollatz@aecom.com
Phone # / Fax #: 630.918.9648
Sampler(s) Name(s) / Phone #: N. PINS / A. HOLLATZ

Project Information

Project Name: UTAS PLANTS 1/2 FACILITY
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Project #: 60480278
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): VOCs

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	DI Water	MeOH	ENCORE	VOCs	LAB USE ONLY
	HSSER-DUP02-051716		5/17/16	0000	AH	GW	3	3								X	
	HSSER-TRIP02-051816		5/18/16	—	—	GW	2	2								X	

Turnaround Time (Business days)

Approved By (SGS Accutest PM): / Date:

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

Emergency & Rush T/A data available VIA 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 DATA

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 T (AECOM)	5/18/16 1400	1	2		2
3		3	4		4
5		5			

Custody Seal # [ ] Intact [ ] Not Intact
Preserved where applicable [ ]
On Ice [ ]
Temp.

E

E

Appendix E

Second Quarter 2016 Progress Report

AECOM

Submitted to:
UTC Aerospace Systems
Rockford, IL

Submitted by:
AECOM
Warrenville, IL
60480278
September 2016

QUARTERLY PROGRESS REPORT – Third Quarter 2016 (June 2016 – August 2016)

UTC Aerospace Systems Plants 1/2 Facility
Southeast Rockford Groundwater Contamination
Superfund Site
2421 11th Street
Rockford, Illinois 61104
ILD981000417, ILD010219665
AECOM Project No. 60480283

This Quarterly Progress Report has been prepared on behalf of UTC Aerospace Systems (UTAS, fka Hamilton Sundstrand Corporation or HSC) by AECOM Technical Services, Inc. (AECOM). This report summarizes activities that occurred during the months of June, July, and August of the Third Quarter of 2016 at the above-referenced facility.

Progress Report- Reporting Quarters			
Q1	December	January	February
Q2	March	April	May
Q3	June	July	August
Q4	September	October	November

This report is the fifteenth in the series of Quarterly Progress Reports and consistent with United States Environmental Protection Agency (USEPA) approval of combining project reporting documents from a letter dated April 15, 2011. Quarterly Progress Reports are included as attachments to the Groundwater Management Zone (GMZ) Monitoring and System Performances Reports.

This Quarterly Progress Report follows the requirements outlined in Section X of the Consent Decree (CD) and includes the following:

Actions taken during the prior quarter to maintain compliance with the CD:

- Summaries of sampling results and tests.
- An identification of work plans and other deliverables completed in accordance with the CD.
- Actions scheduled for the next quarter.
- Information on the progress, percentage of completion, delays, and efforts to mitigate delays.
- Modifications to Work Plans and/or schedules.
- Activities undertaken in support of the Community Relations Plan.

Tasks completed during this period to fulfill each of these actions are summarized (by action) below.

Actions Taken During the Third Quarter to Achieve Compliance with the Consent Decree

The following actions were taken during June, July, and August of the Third Quarter of 2016:

- On June 13, 2016, AECOM submitted to the USEPA the First Quarter 2016 GMZ Monitoring and System Performance Report.
- Phase 1 and Phase 2 air sparge/soil vapor extraction (AS/SVE) system air sampling of the SVE system effluent after being deactivated (switched to the pulse-off mode). SVE process air effluent sampling was conducted on July 22, 2016.
- AECOM completed GMZ and performance well quarterly monitoring (3rd quarter 2016) well network sampling August 1 - 4, 2016. The following wells were sampled for volatile organic compounds (VOCs): GMZ wells (which include the Phase 1 AS/SVE performance monitoring network) SMW01, SMW02, SMW04, SMW08, SMW19, SMW20, SMW21, MW07FG, MW203, GMZ01, GMZ02, GMZ03, GMZ04, PMW01 and PMW02; and

performance monitoring wells RAMW01 RAMW02, RAMW03, RAMW04, RAMW05, RAMW06, RAMW07, and RAMW08.

Summary of Sampling and Tests

- Three process air samples were collected from the Phase 1 AS/SVE system effluent during the July 22, 2016 sampling events.
- Two process air samples were collected from the Phase 2 AS/SVE system effluent during the July 22, 2016 sampling events.

Work Plans and Other Deliverables Completed In Accordance With the CD

- The *First Quarter 2016 GMZ Monitoring and System Performance Report, Area 9/10 Remedial Action* (June 2016) was submitted in accordance with Section X, paragraph 30, of the CD and consistent with Section V of the Statement of Work (SOW).

Actions Scheduled for Next Quarter

The following actions are scheduled for the next quarter:

- Operation of the Phase 1 and Phase 2 AS/SVE systems will be in pulse-off mode (system not in operation) from approximately July 22, 2016, to approximately September 22, 2016.
- Operation of the Phase 1 and Phase 2 AS/SVE systems will be in pulse-on mode (system in run mode) from September 22, 2016, until approximately November 18, 2016.

Percentage of Completion/Anticipated Delays

There are 39 specific deliverables or activities required to be completed as part of the CD. Some of these are ongoing activities and others, such as submittal of documents, require approval by the USEPA/Illinois Environmental Protection Agency to fulfill the requirements of the CD. To date, UTAS has completed their current obligations for 28 of the 39 items, or 72 percent of the CD requirements. There are currently no anticipated delays to the schedule.

Modifications to Work Plans/Schedules Proposed

None

Activities Undertaken In Support of Community Relations Plan

No activities are required with regard to the Community Relations Plan at this time.