1st Quarter 2015 (Final) Groundwater Monitoring Report

Former Purtee Plating

2300 to 2306 East 44th Street, Indianapolis, Indiana
State Cleanup No. 2006-05-304; 2006-06-154
April 29, 2015

Burns Environmental Engineering, Inc.

Anthony Deak, Project Scientist

Perre E. Burns, Ph.D., P.E., Principal Engineer

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1st Quarter 2015 (Final) Groundwater Monitoring Report

Former Purtee Plating

2300 to 2306 East 44th Street

State Cleanup No. 2006-05-304, 2006-06-154

1.0 INTRODUCTION

On behalf of Purtee Property and Management, LLC (PPM), Burns Environmental Engineering Inc. (BEE) has prepared this *1st Quarter 2015 (Final) Groundwater Monitoring Report* for the Former Purtee Plating Facility located at 2300 to 2306 East 44th Street, Indianapolis, IN (the Site). A Site Vicinity Map and General Site Map is provided as Figures 1 and 2, respectively. This document, which is being submitted pursuant to the requirements of the Indiana Department of Environmental Management's (IDEM) State Cleanup Program, summarizes quarterly groundwater monitoring performed at the Site on February 4, 2015. Sampling activities were performed per the Site's approved *Corrective Action Plan* (CAP). Per the Site's CAP, this report documents the final quarterly monitoring of the groundwater monitoring well network.

1.1 Site Location

County:	Marion	***UTM Coordinates:***	Easting - 575,026
Township:	Washington	*(Zone 16 NAD 83)*	Northing - 4,410,007
Elevation:	735 ± 3 feet AMSL		

1.2 Project Contact Information

Property Owner:	Purtee Property and Management	***Technical:***	Burns Environmental Engineering
Mailing Address:	P.O. Box 323	*Mailing Address:*	609 East Washington Street
City, State, ZIP:	Carmel, Indiana 46062	*City, State, ZIP:*	Lebanon, IN 46052
Contact Person:	Mrs. Courtney Purtee	*Contact Person:*	Dr. Perre Burns, P.E.
Contact Phone:	317-531-4592	*Contact Phone:*	317-408-6342
Email:	cocopurtee@yahoo.com	*Email:*	pburns@burnsenviro.com

Legal Counsel:	Bose McKinney & Evans, LLP
Mailing Address:	111 Monument Circle, Suite 2700
City, State, ZIP:	Indianapolis, IN 46204
Contact Person:	Mr. Daniel McInerny, Esquire
Contact Phone:	317-684-5102
Email:	dmcinerny@boselaw.com

2.0 METHODS AND MATERIALS

2.1 Groundwater Gauging

The depth to groundwater in each of the Site's existing monitoring wells was measured to a resolution of ± 0.01 feet on February 4, 2015 using an electronic water probe. Prior to gauging activities, monitoring well vault covers and gripper plugs were removed, and the static water level in the monitoring wells were allowed to equalize for no less than 30 minutes. The depth to groundwater was subtracted from previously surveyed top of casing elevations for each monitoring well in order to determine relative groundwater elevations. The relative groundwater elevations were combined to create the potentiometric surface map provided as Figure 3.

2.2 Groundwater Sampling

Sampling was conducted in accordance with the IDEM's purge sampling policy and the approved *Corrective Action Plan* (CAP). Following groundwater gauging, three well volumes were purged from each monitoring well using a new disposable bailer. Groundwater samples were collected and placed in labeled 40-mL, acid-preserved glass vials. The samples were transferred on ice to ENVision Laboratories, Inc. using chain-of-custody protocols. Samples were submitted for analysis of volatile organic compounds (VOCs) using USEPA SW-846 Method 8260. The samples were collected, processed and analyzed to meet level IV data quality objectives.

3.0 RESULTS

3.1 Groundwater Gauging Results

Groundwater gauging data is summarized in Table 1. As shown in Figures 3a and 3b, groundwater flow in the uppermost water-bearing zone occurs in a southwesterly direction, which is consistent with historic observations.

3.2 Groundwater Analytical Results

VOC analytical results from historic quarterly groundwater monitoring events are summarized in Table 2. Analytical results from recent groundwater monitoring events are summarized in Figure 4 along with laboratory analytical reports in Attachment 2.

4.0 CONCLUSIONS AND RECOMMENDATIONS

Groundwater flow in the uppermost water-bearing zone in the immediate vicinity of the Site has historically been observed to occur in a southwesterly direction. In addition, localized groundwater flow directions beneath the Former Tuchman Cleaners and Thomas Catering facilities, both situated to the east of the Site, have been historically documented to occur in a west-northwesterly to west-southwesterly direction. In considering

groundwater flow in relation to the VOC impacts documented below these facilities, it is apparent the Site is situated hydraulically downgradient of the plume(s) originating from one or both of these facilities.

BEE has completed the groundwater sampling and analysis proposed and approved in the Site's CAP. Sampling of the Site's monitoring well network has historically indicated on-Site concentrations of VOCs are highest in the upgradient monitoring well (PMW-2) and decline moving downgradient across the Site (Figure 4). This distribution indicates a negligible on-Site contribution to the regional groundwater impacts in comparison to those originating from upgradient. Per the methodology outlined in Section 6.5 of the RCG, BEE calculated the 95% upper confidence level (UCL) for contaminants of concern (COCs) identified in groundwater above regulatory screening levels in PMW-2 using the Hall's Bootstrap method and compare those value to mean concentrations in other monitoring wells in the network. A summary of this analysis is provided as Attachment 2. In all cases, the mean concentrations of COCs (PCE, TCE, cis-DCE) in the other on-Site monitoring wells are less than the 95% UCLs in PMW-2. Per the RCG, this analysis indicates the Site is not a source of the VOC impacts to groundwater observed in the region. Given the results of our analysis, we request the Site receive a *No Further Action* determination be issued by the IDEM's State Cleanup Program.

The IDEM's *Vapor Remedy Selection and Implementation Guidance* (February 2014) calls for the implementation of vapor intrusion mitigation when sub-slab sampling results exceed Site-specific screening levels by more than a factor of two. BEE's *Vapor Intrusion Screening Report*, dated September 3, 2013, documented sub-slab concentrations of COCs exceeding these threshold values; therefore, we have recommended the installation of a sub-slab depressurization system within the Site building. BEE is in the process of completing design testing and installation of the mitigation system. As built schematics and results from system verification testing will be provided to the IDEM under separate cover upon completion. We anticipate these activities will be completed by the end of May 2015.

FIGURES

- Floodplains

- Wetlands

- Schools

- Hospitals

- Daycares

271694 *- IDNR Well Reference Number*

Water Wells (IDNR)

- Located

- Location Estimated

- City of Indianapolis Well

Notes:

- *The Site is situated in a mixed commercial, light industrial and residential setting.*
- *There are no known sensitive populations in the immediate vicinity of the Site.*
- *Ecological receptors in the vicinity of the Site include Fall Creek and associated wetlands. There are no known impacts to these receptors.*

City of Indianapolis Well Fields

Site Vicinity

271694 **160577**

Site Vicinity

63639

63654

One Mile Radius

Source: Indiana Geological Survey Online Map, http://inmap.indiana.edu/index.html

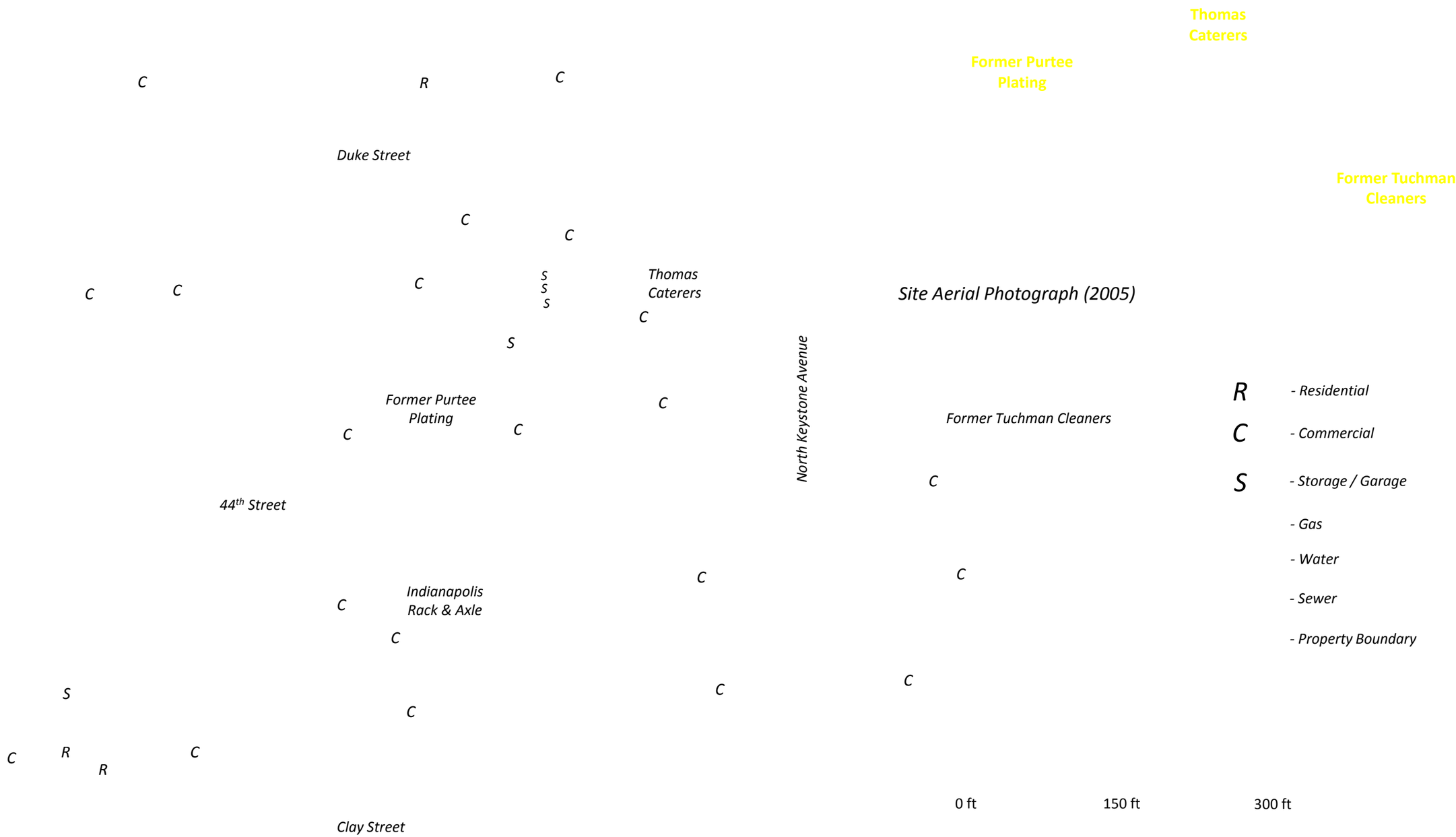
Former Purtee Plating
2300 to 2306 East 44th Street
Indianapolis, Indiana

Drawn by: JF

11/1/2011

Figure 1

Site Vicinity Map



Site Aerial Photograph (2005)

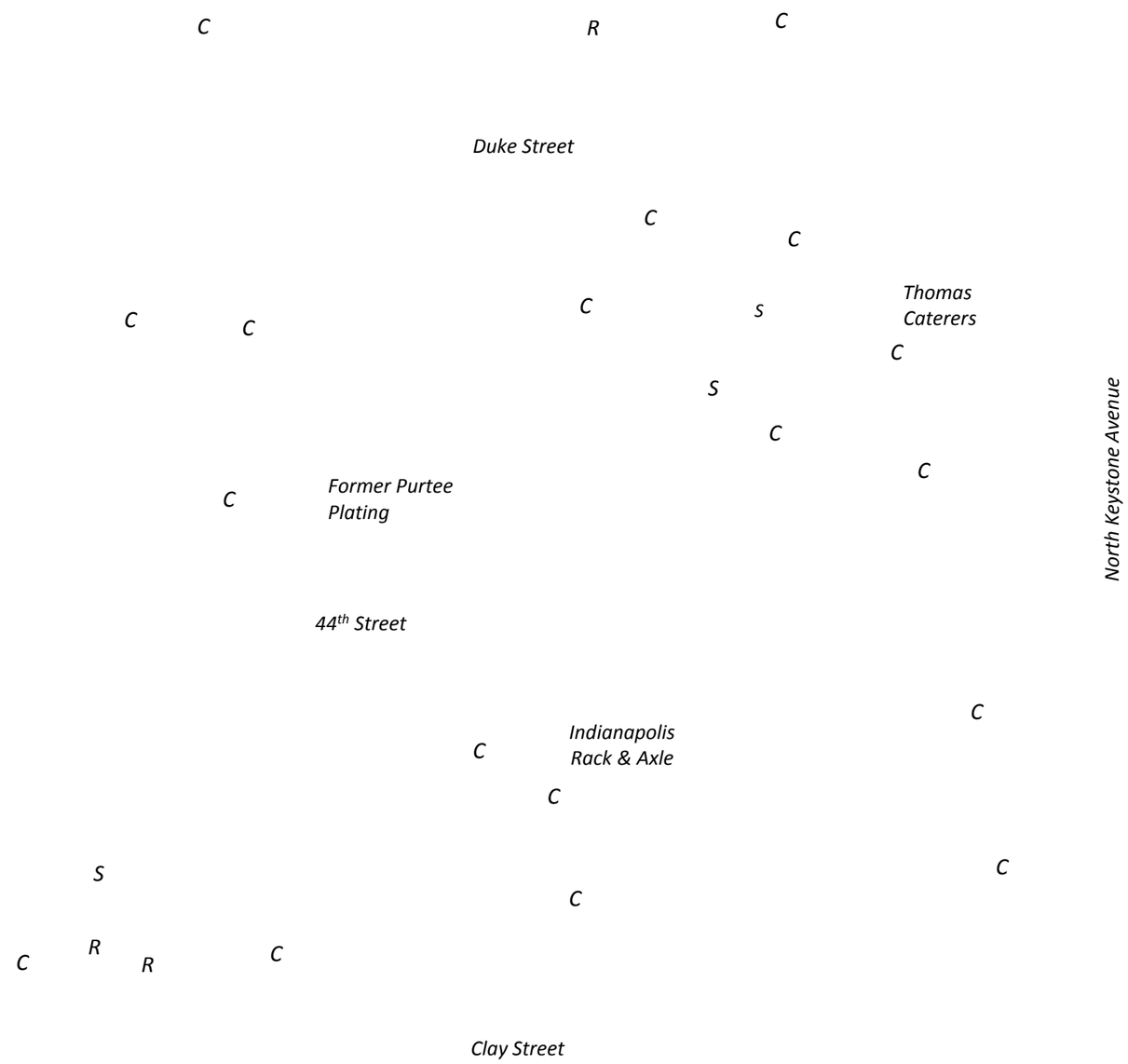
UTM Zone 16 NAD 83

Former Purtee Plating
2300 to 2306 East 44th Street
Indianapolis, Indiana

Drawn by: JF
10/15/2012

Figure 2

General Site Map



R - *Residential*

C - *Commercial*

S - *Storage / Garage*

- *Monitoring Wells*

- *Potentiometric Contour*

PMW-2
Aquifer 1: 716.66 - *Groundwater Elevation*

0 ft 150 ft 300 ft

Elevations in feet relative to mean sea level (MSL)

PMW – Purtee Monitoring Wells

Former Purtee Plating
2300 to 2306 East 44th Street
Indianapolis, Indiana

Drawn by: AD
2/5/2015
Scale as Shown

Figure 3

Groundwater Flow
(February 4, 2015)

- *Monitoring Well*
- *Temporary Sampling Point*
- *Gas*
- *Water*
- *Sewer*

0 ft 25 ft 50 ft

ID	Depth	Date	cis-DCE	PCE	TCE	VC
PMW-5	15.5-25.5	8/20/2011	**5.5**	628	62.6	<2
		5/22/2013	**8.75**	548	48.4	<2
		9/18/2013	**13.2**	749	48.1	<2
		12/13/2013	**11.5**	880	41.5	<2
		3/31/2014	**7.43**	510	49.8	<2
		6/17/2014	*98.8*	550	52.8	<2
		9/30/2014	**33.1**	1540	49.4	<2
		11/25/2014	<5	*375*	*22.6*	<2
		2/4/2015	<5	*329*	*20*	<2

ID	Depth	Date	cis-DCE	PCE	TCE	VC
PMW-1	17-27	11/11/2009	**30.9**	660	47.2	<2
		8/20/2011	**20.7**	1000	56.6	*2*
		5/22/2013	**6.81**	655	40.2	<2
		9/18/2013	**20.5**	1180	45.2	<2
		12/13/2013	**58.6**	1420	51.8	<2
		3/31/2014	**51.2**	618	*35.2*	<2
		6/17/2014	*87.1*	473	47.4	<2
		9/30/2014	**14**	715	38.9	<2
		11/25/2014	**21.4**	762	48.8	<2
		2/4/2015	**34.2**	1010	47.3	<2

ID	Depth	Date	cis-DCE	PCE	TCE	VC
PMW-2	14.5-24.5	11/11/2009	**43.2**	1040	105	<2
		8/20/2011	**16.1**	1820	50.8	<2
		5/22/2013	**43.1**	3200	93.4	<2
		9/18/2013	*206*	5280	439	<2
		12/13/2013	*392*	7650	742	<40
		3/31/2014	*107*	3950	332	<2
		6/17/2014	*290*	4270	464	<2
		9/30/2014	*164*	5320	695	<2
		11/25/2014	*97.8*	2200	197	<2
		2/4/2015	*253*	4670	512	<20

ID	Depth	Date	cis-DCE	PCE	TCE	VC
PMW-3	14.5-24.5	11/11/2009	**34.9**	907	63	<2
		8/20/2011	**9.1**	1510	92.4	<2
		5/22/2013	**21.9**	1130	72.3	<2
		9/18/2013	**24.7**	1690	127	<2
		12/13/2013	**17.4**	1830	87.8	<2
		3/31/2014	**43.1**	935	91.3	<2
		6/17/2014	**20.3**	839	43.3	<2
		9/30/2014	**12.4**	695	59	<2
		12/3/2014	**9.19**	807	49.4	<2
		2/4/2015	**6.53**	754	38.7	<2

Former Purtee Plating

ID	Depth	Date	cis-DCE	PCE	TCE	VC
PMW-4	11.5-21.5	12/29/2009	<5	702	42.7	<2
		8/20/2011	<5	1450	50.2	<2
		5/22/2013	<5	*285*	*8.58*	<2
		9/18/2013	**16.9**	1260	51.1	<2
		12/13/2013	**58.7**	1560	53.9	<2
		4/21/2014	<5	669	*21.8*	<2
		6/17/2014	**10.8**	1960	63.4	<2
		9/30/2014	**30.8**	1560	48.2	<2
		11/25/2014	**6**	1140	*27.1*	<2
		2/4/2015	**42.1**	693	*34.7*	<2

All units in µg/L (ppb)

	cis-DCE	PCE	TCE	VC
Residential - Tap	*70*	*5*	*5*	*2*
Residential - Vapor Intrusion		*110*	*9.1*	*2*
Industrial/Commercial - Vapor Intrusion		470	38	35

Former Purtee Plating
2300 to 2306 East 44th Street
Indianapolis, Indiana

Drawn by: AD
12/8/2014

Figure 4

cVOCs in Groundwater

TABLES

Table 1. Groundwater Gauging Data
Former Purtee Plating
2300 to 2306 East 44th Street, Indianapolis, IN

Gauging Point	Screen Interval (ft)	Top of Casing (ft)	Date	Depth to Water (ft)	Groundwater Elevation (ft)
PMW-1	17-27	737.07	8/20/2011	21.34	715.73
			11/11/2009	22.18	714.89
			5/22/2013	20.37	716.7
			9/18/2013	21.19	715.88
			12/13/2013	22.01	715.06
			3/31/2014	20.21	716.86
			4/21/2014	20.36	716.71
			6/17/2014	21.45	715.62
			9/30/2014	21.13	715.94
			11/25/2014	21.15	715.92
			2/4/2015	21.55	715.52
PMW-2	15-25	734.64	8/20/2011	17.98	716.66
			11/11/2009	18.80	715.84
			5/22/2013	16.89	717.75
			9/18/2013	17.62	717.02
			12/13/2013	18.69	715.95
			3/31/2014	16.75	717.89
			4/21/2014	16.96	717.68
			6/17/2014	17.98	716.66
			9/30/2014	17.89	716.75
			11/25/2014	17.78	716.86
			2/4/2015	18.00	716.64
PMW-3	15-25	736.67	8/20/2011	20.15	716.52
			11/11/2009	21.04	715.63
			5/22/2013	19.01	717.66
			9/18/2013	19.89	716.78
			12/13/2013	20.76	715.91
			3/31/2014	18.87	717.80
			4/21/2014	19.11	717.56
			6/17/2014	20.16	716.51
			9/30/2014	19.97	716.70
			12/3/2014	20.15	716.52
			2/4/2015	20.21	716.46
PMW-4	11-21	733.96	8/20/2011	17.84	716.12
			11/11/2009	18.45	715.51
			5/22/2013	17.15	716.81
			9/18/2013	17.99	715.97
			12/13/2013	18.21	715.75
			3/31/2014	NA	NA
			4/21/2014	17.09	716.87
			6/17/2014	18.33	715.63
			9/30/2014	17.68	716.28
			11/25/2014	17.82	716.14
			11/25/2014	18.15	715.81
PMW-5	15-25	737.28	8/20/2011	20.89	716.39
			11/11/2009	22.01	715.27
			5/22/2013	20.12	717.16
			9/18/2013	20.79	716.49
			12/13/2013	21.89	715.39
			3/31/2014	20.03	717.25
			4/21/2014	20.16	717.12
			6/17/2014	21.15	716.13
			9/30/2014	20.71	716.57
			11/25/2014	22.79	714.49
			2/4/2015	20.93	716.35

NA - Not Analyzed

Table 2. VOCs in Groundwater (ug/L)
Former Purtee Plating
2300 to 2306 East 44th Street, Indianapolis, IN

ID	Depth	Date	Dichloroethane, 1,1-	Dichloroethylene, 1,2-cis-	Dichloroethylene, 1,2-trans-	Tetrachloroethylene	Trichloroethane, 1,1,1-	Trichloroethylene	Vinyl chloride
PMW-1	17-27	11/11/2009	<5	**30.9**	<5	**660**	**15.3**	**47.2**	<2
		8/20/2011	**5.8**	**20.7**	<5	**1000**	**44.2**	**56.6**	***2***
		5/22/2013	<5	**6.81**	<5	**655**	**32.4**	**40.2**	<2
		9/18/2013	<5	**20.5**	<5	**1180**	**20.4**	**45.2**	<2
		12/13/2013	<5	**58.6**	<5	**1420**	**16.2**	**51.8**	<2
		3/31/2014	<5	**51.2**	<5	**618**	**14.4**	***35.2***	<2
		6/17/2014	<5	***87.1***	<5	**473**	**16.8**	**47.4**	<2
		9/30/2014	<5	**14**	<5	**715**	**18.5**	**38.9**	<2
		11/25/2014	<5	**21.4**	<5	**762**	**27.2**	**48.8**	<2
		2/4/2015	<5	**34.2**	<5	**1010**	**14.9**	**47.3**	<2
PMW-2	14.5-24.5	11/11/2009	<5	**43.2**	<5	**1040**	<5	**105**	<2
		8/20/2011	<5	**16.1**	<5	**1820**	<5	**50.8**	<2
		5/22/2013	<5	**43.1**	<5	**3200**	<5	**93.4**	<2
		9/18/2013	<5	***206***	**12**	**5280**	<5	**439**	<2
		12/13/2013	<100	***392***	<100	**7650**	<100	**742**	<40
		3/31/2014	<5	***107***	<5	**3950**	<5	**332**	<2
		6/17/2014	<5	***290***	**5.78**	**4270**	<5	**464**	<2
		9/30/2014	<5	***164***	**15.8**	**5320**	<5	**695**	<2
		9/30/2014Dup	<5	***274***	**27.3**	**4980**	<5	**653**	<2
		11/25/2014	<5	***97.8***	<5	**2200**	<5	**197**	<2
		2/4/2015	<50	***253***	<50	**4670**	<50	**512**	<20
		2/4/2015 Dup	<50	***220***	<50	**4920**	<50	**453**	<20
PMW-3	14.5-24.5	11/11/2009	<5	**34.9**	<5	**907**	<5	**63**	<2
		8/20/2011	<5	**9.1**	<5	**1510**	<5	**92.4**	<2
		5/22/2013	<5	**21.9**	<5	**1130**	**9.11**	**72.3**	<2
		5/22/2013 Dup	<5	**21.2**	<5	**1090**	**10.8**	**71.2**	<2
		9/18/2013	<5	**24.7**	<5	**1690**	<5	**127**	<2
		9/18/2013 Dup	<5	**22.9**	<5	**1690**	<5	**122**	<2
		12/13/2013	<5	**17.4**	<5	**1830**	<5	**87.8**	<2
		12/13/2013 Dup	<5	**17.5**	<5	**1710**	<5	**88.2**	<2
		3/31/2014	<5	**43.1**	<5	**935**	<5	**91.3**	<2
		3/31/2014 Dup	<5	**46.3**	<5	**944**	<5	**94.3**	<2
		6/17/2014	<5	**20.3**	<5	**839**	<5	**43.3**	<2
		6/17/2014 Dup	<5	**23**	<5	**863**	**5.23**	**48.6**	<2
		9/30/2014	<5	**12.4**	<5	**695**	**8.02**	**59**	<2
		12/3/2014	<5	**9.19**	<5	**807**	**5.58**	**49.4**	<2
		2/4/2015	<5	**6.53**	<5	**754**	<5	**38.7**	<2

PMW- Purtee Monitoring Well
Table includes all constituents historically found above laboratory detection limits.

Table 2. VOCs in Groundwater (ug/L)
Former Purtee Plating
2300 to 2306 East 44th Street, Indianapolis, IN

ID	Depth	Date	Dichloroethane, 1,1-	Dichloroethylene, 1,2-cis-	Dichloroethylene, 1,2-trans-	Tetrachloroethylene	Trichloroethane, 1,1,1-	Trichloroethylene	Vinyl chloride
PMW-4	11.5-21.5	12/29/2009	<5	<5	<5	**702**	<5	**42.7**	<2
		8/20/2011	<5	<5	<5	**1450**	<5	**50.2**	<2
		5/22/2013	<5	<5	<5	***285***	<5	***8.58***	<2
		9/18/2013	<5	**16.9**	<5	**1260**	**24.9**	**51.1**	<2
		12/13/2013	<5	**58.7**	<5	**1560**	**15.9**	**53.9**	<2
		4/21/2014	<5	<5	<5	**669**	<5	***21.8***	<2
		4/21/2014 Dup	<5	<5	<5	**868**	<5	***21.9***	<2
		6/17/2014	<5	**10.8**	<5	**1960**	<5	**63.4**	<2
		9/30/2014	<5	**30.8**	<5	**1560**	<5	**48.2**	<2
		11/25/2014	<5	**6**	<5	**1140**	<5	***27.1***	<2
		2/4/2015	<5	**42.1**	<5	**693**	<5	***34.7***	<2
PMW-5	15.5-25.5	8/20/2011	<5	**5.5**	<5	**628**	<5	**62.6**	<2
		5/22/2013	**5.45**	**8.75**	<5	**548**	**38**	**48.4**	<2
		9/18/2013	<5	**13.2**	<5	**749**	<5	**48.1**	<2
		12/13/2013	<5	**11.5**	<5	**880**	<5	**41.5**	<2
		3/31/2014	<5	**7.43**	<5	**510**	<5	**49.8**	<2
		6/17/2014	<5	***98.8***	<5	**550**	**17.5**	**52.8**	<2
		9/30/2014	<5	**33.1**	<5	**1540**	<5	**49.4**	<2
		11/25/2014	<5	<5	<5	***375***	<5	***22.6***	<2
		11/25/2014 Dup	<5	<5	<5	***340***	<5	***23.7***	<2
		2/4/2015	<5	<5	<5	***329***	<5	***20***	<2
Residential - Tap			***24***	***70***	***100***	***5***	***200***	***5***	***2***
Residential - Vapor Intrusion			***110***			***110***	***13000***	***9.1***	***2***
Industrial/Commercial - Vapor Intrusion			**550**			**470**	**54000**	**38**	**35**

PMW- Purtee Monitoring Well
Table includes all constituents historically found above laboratory detection limits.

ATTACHMENT 1

Mr. Perre Burns
Burns Environmental
609 E. Washington Street
Lebanon, IN 46052-2219

February 10, 2015

ENVision Project Number: 2015-255
Client Project Name: FPP Former Purtee Plating

Dear Mr. Burns,

Please find the attached analytical report for the samples received February 4, 2015. All test methods performed were fully compliant with local, state, and federal EPA methods unless otherwise noted. The project was analyzed as requested on the enclosed chain of custody record. Please review the comments section for additional information about your results or Quality Control data.

Feel free to contact me if you have any questions or comments regarding your analytical report or service.

Thank you for your business. ENVision Laboratories looks forward to working with you on your next project.

Yours Sincerely,

David Norris

Client Services Manager
ENVision Laboratories, Inc.
PA DEP Lab Code: 68-04846 NELAP Cert:004

Analytical Report

Client Name: BURNS ENVIRONMENTAL ENGINEERING

Project ID: (FPP) FORMER PURTEE PLATING

Client Project Manager: PERRE BURNS

ENVision Project Number: 2015-255

Analytical Method: EPA 8260
Prep Method: EPA 5030B
Analytical Batch: 020515CVW

Client Sample ID: PMW-1 **Sample Collection Date/Time:** 2/4/15 11:00
Envision Sample Number: 15-1905 **Sample Received Date/Time:** 2/4/15 16:00
Sample Matrix: water

Compounds	Sample Results (ug/L)	Reporting Limit (ug/L)	Flags
Acetone	< 100	100	
Acrolein	< 1	1	
Acrylonitrile	< 0.45	1	1
Benzene	< 5	5	
Bromobenzene	< 5	5	
Bromochloromethane	< 5	5	
Bromodichloromethane	< 5	5	
Bromoform	< 5	5	
Bromomethane	< 5	5	
n-Butanol	< 50	50	
2-Butanone (MEK)	< 10	10	
n-Butylbenzene	< 5	5	
sec-Butylbenzene	< 5	5	
tert-Butylbenzene	< 5	5	
Carbon Disulfide	< 5	5	
Carbon Tetrachloride	< 5	5	
Chlorobenzene	< 5	5	
Chloroethane	< 5	5	
2-Chloroethylvinylether	< 50	50	
Chloroform	< 5	5	
Chloromethane	< 5	5	
2-Chlorotoluene	< 5	5	
4-Chlorotoluene	< 5	5	
1,2-Dibromo-3-chloropropane	< 1	1	
Dibromochloromethane	< 5	5	
1,2-Dibromoethane (EDB)	< 1	1	
Dibromomethane	< 5	5	
1,2-Dichlorobenzene	< 5	5	
1,3-Dichlorobenzene	< 5	5	
1,4-Dichlorobenzene	< 5	5	
trans-1,4-Dichloro-2-butene	< 1	1	
Dichlorodifluoromethane	< 5	5	

8260 continued…

Compounds	Sample Results (ug/L)	Reporting Limit (ug/L)	Flags
1,1-Dichloroethane	< 5	5	
1,2-Dichloroethane	< 5	5	
1,1-Dichloroethene	< 5	5	
cis-1,2-Dichloroethene	**34.2**	5	
trans-1,2-Dichloroethene	< 5	5	
1,2-Dichloropropane	< 5	5	
1,3-Dichloropropane	< 5	5	
2,2-Dichloropropane	< 5	5	
1,1-Dichloropropene	< 5	5	
1,3-Dichloropropene	< 4.1	4.1	
Ethylbenzene	< 5	5	
Ethyl methacrylate	< 100	100	
Hexachloro-1,3-butadiene	< 2.6	2.6	
n-Hexane	< 10	10	
2-Hexanone	< 10	10	
Iodomethane	< 10	10	
Isopropylbenzene (Cumene)	< 5	5	
p-Isopropyltoluene	< 5	5	
Methylene chloride	< 5	5	
4-Methyl-2-pentanone (MIBK)	< 10	10	
Methyl-tert-butyl-ether	< 5	5	
1-Methylnaphthalene	< 5	5	
2-Methylnaphthalene	< 5	5	
Naphthalene	< 1.4	1.4	
n-Propylbenzene	< 5	5	
Styrene	< 5	5	
1,1,1,2-Tetrachloroethane	< 5	5	
1,1,2,2-Tetrachloroethane	< 0.66	1	1
Tetrachloroethene	**1,010**	50	2
Toluene	< 5	5	
1,2,3-Trichlorobenzene	< 5	5	
1,2,4-Trichlorobenzene	< 5	5	
1,1,1-Trichloroethane	**14.9**	5	
1,1,2-Trichloroethane	< 5	5	
Trichloroethene	**47.3**	5	
Trichlorofluoromethane	< 5	5	
1,2,3-Trichloropropane	< 1	1	
1,2,4-Trimethylbenzene	< 5	5	
1,3,5-Trimethylbenzene	< 5	5	
Vinyl acetate	< 10	10	
Vinyl chloride	< 2	2	
Xylene, M&P	< 5	5	
Xylene, 0rtho	< 5	5	
Xylene (Total)	< 10	10	
Dibromofluoromethane (surrogate)	106%		
1,2-Dichloroethane-d4 (surrogate)	94%		
Toluene-d8 (surrogate)	103%		
4-bromofluorobenzene (surrogate)	89%		
Analysis Date/Time:	2-6-15/07:38		
Analyst Initials	tjg		

Analytical Report

Client Name: BURNS ENVIRONMENTAL ENGINEERING

Project ID: (FPP) FORMER PURTEE PLATING

Client Project Manager: PERRE BURNS

ENVision Project Number: 2015-255

Analytical Method: EPA 8260
Prep Method: EPA 5030B
Analytical Batch: 020915VW

Client Sample ID: PMW-2 **Sample Collection Date/Time:** 2/4/15 10:40
Envision Sample Number: 15-1906 **Sample Received Date/Time:** 2/4/15 16:00
Sample Matrix: water

Compounds	Sample Results (ug/L)	Reporting Limit (ug/L)	Flags
Acetone	< 1000	1000	2
Acrolein	< 10	10	2
Acrylonitrile	< 4.5	10	1,2
Benzene	< 5	50	1,2
Bromobenzene	< 50	50	2
Bromochloromethane	< 50	50	2
Bromodichloromethane	< 50	50	2
Bromoform	< 50	50	2
Bromomethane	< 50	50	2
n-Butanol	< 500	500	2
2-Butanone (MEK)	< 100	100	2
n-Butylbenzene	< 50	50	2
sec-Butylbenzene	< 50	50	2
tert-Butylbenzene	< 50	50	2
Carbon Disulfide	< 50	50	2
Carbon Tetrachloride	< 50	50	2
Chlorobenzene	< 50	50	2
Chloroethane	< 50	50	2
2-Chloroethylvinylether	< 500	500	2
Chloroform	< 50	50	2
Chloromethane	< 50	50	2
2-Chlorotoluene	< 50	50	2
4-Chlorotoluene	< 50	50	2
1,2-Dibromo-3-chloropropane	< 10	10	2
Dibromochloromethane	< 50	50	2
1,2-Dibromoethane (EDB)	< 10	10	2
Dibromomethane	< 50	50	2
1,2-Dichlorobenzene	< 50	50	2
1,3-Dichlorobenzene	< 50	50	2
1,4-Dichlorobenzene	< 50	50	2
trans-1,4-Dichloro-2-butene	< 10	10	2
Dichlorodifluoromethane	< 50	50	2

8260 continued…

Compounds	Sample Results (ug/L)	Reporting Limit (ug/L)	Flags
1,1-Dichloroethane	< 50	50	2
1,2-Dichloroethane	< 50	50	2
1,1-Dichloroethene	< 50	50	2
cis-1,2-Dichloroethene	**253**	50	2
trans-1,2-Dichloroethene	< 50	50	2
1,2-Dichloropropane	< 50	50	2
1,3-Dichloropropane	< 50	50	2
2,2-Dichloropropane	< 50	50	2
1,1-Dichloropropene	< 50	50	2
1,3-Dichloropropene	< 41	41	2
Ethylbenzene	< 50	50	2
Ethyl methacrylate	< 1000	1000	2
Hexachloro-1,3-butadiene	< 26	26	2
n-Hexane	< 100	100	2
2-Hexanone	< 100	100	2
Iodomethane	< 100	100	2
Isopropylbenzene (Cumene)	< 50	50	2
p-Isopropyltoluene	< 50	50	2
Methylene chloride	< 50	50	2
4-Methyl-2-pentanone (MIBK)	< 100	100	2
Methyl-tert-butyl-ether	< 40	50	1,2
1-Methylnaphthalene	< 50	50	2
2-Methylnaphthalene	< 50	50	2
Naphthalene	< 14	14	2
n-Propylbenzene	< 50	50	2
Styrene	< 50	50	2
1,1,1,2-Tetrachloroethane	< 50	50	2
1,1,2,2-Tetrachloroethane	< 6.6	10	1,2
Tetrachloroethene	**4,670**	250	3
Toluene	< 50	50	2
1,2,3-Trichlorobenzene	< 50	50	2
1,2,4-Trichlorobenzene	< 50	50	2
1,1,1-Trichloroethane	< 50	50	2
1,1,2-Trichloroethane	< 50	50	2
Trichloroethene	**512**	50	2
Trichlorofluoromethane	< 50	50	2
1,2,3-Trichloropropane	< 10	10	2
1,2,4-Trimethylbenzene	< 50	50	2
1,3,5-Trimethylbenzene	< 50	50	2
Vinyl acetate	< 100	100	2
Vinyl chloride	< 20	20	2
Xylene, M&P	< 50	50	2
Xylene, 0rtho	< 50	50	2
Xylene (Total)	< 100	100	2
Dibromofluoromethane (surrogate)	106%		
1,2-Dichloroethane-d4 (surrogate)	94%		
Toluene-d8 (surrogate)	98%		
4-bromofluorobenzene (surrogate)	89%		
Analysis Date/Time:	2-10-15/06:28		
Analyst Initials	tjg		

Analytical Report

Client Name: BURNS ENVIRONMENTAL ENGINEERING

Project ID: (FPP) FORMER PURTEE PLATING

Client Project Manager: PERRE BURNS

ENVision Project Number: 2015-255

Analytical Method: EPA 8260
Prep Method: EPA 5030B
Analytical Batch: 020615VW

Client Sample ID: PMW-3 **Sample Collection Date/Time:** 2/4/15 10:15
Envision Sample Number: 15-1907 **Sample Received Date/Time:** 2/4/15 16:00
Sample Matrix: water

Compounds	Sample Results (ug/L)	Reporting Limit (ug/L)	Flags
Acetone	< 100	100	
Acrolein	< 1	1	
Acrylonitrile	< 0.45	1	1
Benzene	< 5	5	
Bromobenzene	< 5	5	
Bromochloromethane	< 5	5	
Bromodichloromethane	< 5	5	
Bromoform	< 5	5	
Bromomethane	< 5	5	
n-Butanol	< 50	50	
2-Butanone (MEK)	< 10	10	
n-Butylbenzene	< 5	5	
sec-Butylbenzene	< 5	5	
tert-Butylbenzene	< 5	5	
Carbon Disulfide	< 5	5	
Carbon Tetrachloride	< 5	5	
Chlorobenzene	< 5	5	
Chloroethane	< 5	5	
2-Chloroethylvinylether	< 50	50	
Chloroform	< 5	5	
Chloromethane	< 5	5	
2-Chlorotoluene	< 5	5	
4-Chlorotoluene	< 5	5	
1,2-Dibromo-3-chloropropane	< 1	1	
Dibromochloromethane	< 5	5	
1,2-Dibromoethane (EDB)	< 1	1	
Dibromomethane	< 5	5	
1,2-Dichlorobenzene	< 5	5	
1,3-Dichlorobenzene	< 5	5	
1,4-Dichlorobenzene	< 5	5	
trans-1,4-Dichloro-2-butene	< 1	1	
Dichlorodifluoromethane	< 5	5	

8260 continued…

Compounds	Sample Results (ug/L)	Reporting Limit (ug/L)	Flags
1,1-Dichloroethane	< 5	5	
1,2-Dichloroethane	< 5	5	
1,1-Dichloroethene	< 5	5	
cis-1,2-Dichloroethene	**6.53**	5	
trans-1,2-Dichloroethene	< 5	5	
1,2-Dichloropropane	< 5	5	
1,3-Dichloropropane	< 5	5	
2,2-Dichloropropane	< 5	5	
1,1-Dichloropropene	< 5	5	
1,3-Dichloropropene	< 4.1	4.1	
Ethylbenzene	< 5	5	
Ethyl methacrylate	< 100	100	
Hexachloro-1,3-butadiene	< 2.6	2.6	
n-Hexane	< 10	10	
2-Hexanone	< 10	10	
Iodomethane	< 10	10	
Isopropylbenzene (Cumene)	< 5	5	
p-Isopropyltoluene	< 5	5	
Methylene chloride	< 5	5	
4-Methyl-2-pentanone (MIBK)	< 10	10	
Methyl-tert-butyl-ether	< 5	5	
1-Methylnaphthalene	< 5	5	
2-Methylnaphthalene	< 5	5	
Naphthalene	< 1.4	1.4	
n-Propylbenzene	< 5	5	
Styrene	< 5	5	
1,1,1,2-Tetrachloroethane	< 5	5	
1,1,2,2-Tetrachloroethane	< 0.66	1	1
Tetrachloroethene	**754**	50	2
Toluene	< 5	5	
1,2,3-Trichlorobenzene	< 5	5	
1,2,4-Trichlorobenzene	< 5	5	
1,1,1-Trichloroethane	< 5	5	
1,1,2-Trichloroethane	< 5	5	
Trichloroethene	**38.7**	5	
Trichlorofluoromethane	< 5	5	
1,2,3-Trichloropropane	< 1	1	
1,2,4-Trimethylbenzene	< 5	5	
1,3,5-Trimethylbenzene	< 5	5	
Vinyl acetate	< 10	10	
Vinyl chloride	< 2	2	
Xylene, M&P	< 5	5	
Xylene, 0rtho	< 5	5	
Xylene (Total)	< 10	10	
Dibromofluoromethane (surrogate)	100%		
1,2-Dichloroethane-d4 (surrogate)	92%		
Toluene-d8 (surrogate)	98%		
4-bromofluorobenzene (surrogate)	92%		
Analysis Date/Time:	2-6-15/16:24		
Analyst Initials	tjg		

Analytical Report

Client Name: BURNS ENVIRONMENTAL ENGINEERING

Project ID: (FPP) FORMER PURTEE PLATING

Client Project Manager: PERRE BURNS

ENVision Project Number: 2015-255

Analytical Method: EPA 8260
Prep Method: EPA 5030B
Analytical Batch: 020915VW

Client Sample ID: PMW-4 **Sample Collection Date/Time:** 2/4/15 11:10
Envision Sample Number: 15-1908 **Sample Received Date/Time:** 2/4/15 16:00
Sample Matrix: water

Compounds	Sample Results (ug/L)	Reporting Limit (ug/L)	Flags
Acetone	< 100	100	
Acrolein	< 1	1	
Acrylonitrile	< 0.45	1	1
Benzene	< 5	5	
Bromobenzene	< 5	5	
Bromochloromethane	< 5	5	
Bromodichloromethane	< 5	5	
Bromoform	< 5	5	
Bromomethane	< 5	5	
n-Butanol	< 50	50	
2-Butanone (MEK)	< 10	10	
n-Butylbenzene	< 5	5	
sec-Butylbenzene	< 5	5	
tert-Butylbenzene	< 5	5	
Carbon Disulfide	< 5	5	
Carbon Tetrachloride	< 5	5	
Chlorobenzene	< 5	5	
Chloroethane	< 5	5	
2-Chloroethylvinylether	< 50	50	
Chloroform	< 5	5	
Chloromethane	< 5	5	
2-Chlorotoluene	< 5	5	
4-Chlorotoluene	< 5	5	
1,2-Dibromo-3-chloropropane	< 1	1	
Dibromochloromethane	< 5	5	
1,2-Dibromoethane (EDB)	< 1	1	
Dibromomethane	< 5	5	
1,2-Dichlorobenzene	< 5	5	
1,3-Dichlorobenzene	< 5	5	
1,4-Dichlorobenzene	< 5	5	
trans-1,4-Dichloro-2-butene	< 1	1	
Dichlorodifluoromethane	< 5	5	

8260 continued…

Compounds	Sample Results (ug/L)	Reporting Limit (ug/L)	Flags
1,1-Dichloroethane	< 5	5	
1,2-Dichloroethane	< 5	5	
1,1-Dichloroethene	< 5	5	
cis-1,2-Dichloroethene	**42.1**	5	
trans-1,2-Dichloroethene	< 5	5	
1,2-Dichloropropane	< 5	5	
1,3-Dichloropropane	< 5	5	
2,2-Dichloropropane	< 5	5	
1,1-Dichloropropene	< 5	5	
1,3-Dichloropropene	< 4.1	4.1	
Ethylbenzene	< 5	5	
Ethyl methacrylate	< 100	100	
Hexachloro-1,3-butadiene	< 2.6	2.6	
n-Hexane	< 10	10	
2-Hexanone	< 10	10	
Iodomethane	< 10	10	
Isopropylbenzene (Cumene)	< 5	5	
p-Isopropyltoluene	< 5	5	
Methylene chloride	< 5	5	
4-Methyl-2-pentanone (MIBK)	< 10	10	
Methyl-tert-butyl-ether	< 5	5	
1-Methylnaphthalene	< 5	5	
2-Methylnaphthalene	< 5	5	
Naphthalene	< 1.4	1.4	
n-Propylbenzene	< 5	5	
Styrene	< 5	5	
1,1,1,2-Tetrachloroethane	< 5	5	
1,1,2,2-Tetrachloroethane	< 0.66	1	1
Tetrachloroethene	**693**	50	2
Toluene	< 5	5	
1,2,3-Trichlorobenzene	< 5	5	
1,2,4-Trichlorobenzene	< 5	5	
1,1,1-Trichloroethane	< 5	5	
1,1,2-Trichloroethane	< 5	5	
Trichloroethene	**34.7**	5	
Trichlorofluoromethane	< 5	5	
1,2,3-Trichloropropane	< 1	1	
1,2,4-Trimethylbenzene	< 5	5	
1,3,5-Trimethylbenzene	< 5	5	
Vinyl acetate	< 10	10	
Vinyl chloride	< 2	2	
Xylene, M&P	< 5	5	
Xylene, 0rtho	< 5	5	
Xylene (Total)	< 10	10	
Dibromofluoromethane (surrogate)	103%		
1,2-Dichloroethane-d4 (surrogate)	94%		
Toluene-d8 (surrogate)	99%		
4-bromofluorobenzene (surrogate)	88%		
Analysis Date/Time:	2-10-15/05:50		
Analyst Initials	tjg		

Analytical Report

Client Name: BURNS ENVIRONMENTAL ENGINEERING

Project ID: (FPP) FORMER PURTEE PLATING

Client Project Manager: PERRE BURNS

ENVision Project Number: 2015-255

Analytical Method: EPA 8260
Prep Method: EPA 5030B
Analytical Batch: 020915VW

Client Sample ID: PMW-5 **Sample Collection Date/Time:** 2/4/15 10:10
Envision Sample Number: 15-1909 **Sample Received Date/Time:** 2/4/15 16:00
Sample Matrix: water

Compounds	Sample Results (ug/L)	Reporting Limit (ug/L)	Flags
Acetone	< 100	100	
Acrolein	< 1	1	
Acrylonitrile	< 0.45	1	1
Benzene	< 5	5	
Bromobenzene	< 5	5	
Bromochloromethane	< 5	5	
Bromodichloromethane	< 5	5	
Bromoform	< 5	5	
Bromomethane	< 5	5	
n-Butanol	< 50	50	
2-Butanone (MEK)	< 10	10	
n-Butylbenzene	< 5	5	
sec-Butylbenzene	< 5	5	
tert-Butylbenzene	< 5	5	
Carbon Disulfide	< 5	5	
Carbon Tetrachloride	< 5	5	
Chlorobenzene	< 5	5	
Chloroethane	< 5	5	
2-Chloroethylvinylether	< 50	50	
Chloroform	< 5	5	
Chloromethane	< 5	5	
2-Chlorotoluene	< 5	5	
4-Chlorotoluene	< 5	5	
1,2-Dibromo-3-chloropropane	< 1	1	
Dibromochloromethane	< 5	5	
1,2-Dibromoethane (EDB)	< 1	1	
Dibromomethane	< 5	5	
1,2-Dichlorobenzene	< 5	5	
1,3-Dichlorobenzene	< 5	5	
1,4-Dichlorobenzene	< 5	5	
trans-1,4-Dichloro-2-butene	< 1	1	
Dichlorodifluoromethane	< 5	5	

8260 continued…

Compounds	Sample Results (ug/L)	Reporting Limit (ug/L)	Flags
1,1-Dichloroethane	< 5	5	
1,2-Dichloroethane	< 5	5	
1,1-Dichloroethene	< 5	5	
cis-1,2-Dichloroethene	< 5	5	
trans-1,2-Dichloroethene	< 5	5	
1,2-Dichloropropane	< 5	5	
1,3-Dichloropropane	< 5	5	
2,2-Dichloropropane	< 5	5	
1,1-Dichloropropene	< 5	5	
1,3-Dichloropropene	< 4.1	4.1	
Ethylbenzene	< 5	5	
Ethyl methacrylate	< 100	100	
Hexachloro-1,3-butadiene	< 2.6	2.6	
n-Hexane	< 10	10	
2-Hexanone	< 10	10	
Iodomethane	< 10	10	
Isopropylbenzene (Cumene)	< 5	5	
p-Isopropyltoluene	< 5	5	
Methylene chloride	< 5	5	
4-Methyl-2-pentanone (MIBK)	< 10	10	
Methyl-tert-butyl-ether	< 5	5	
1-Methylnaphthalene	< 5	5	
2-Methylnaphthalene	< 5	5	
Naphthalene	< 1.4	1.4	
n-Propylbenzene	< 5	5	
Styrene	< 5	5	
1,1,1,2-Tetrachloroethane	< 5	5	
1,1,2,2-Tetrachloroethane	< 0.66	1	1
Tetrachloroethene	**329**	50	2
Toluene	< 5	5	
1,2,3-Trichlorobenzene	< 5	5	
1,2,4-Trichlorobenzene	< 5	5	
1,1,1-Trichloroethane	< 5	5	
1,1,2-Trichloroethane	< 5	5	
Trichloroethene	**20.0**	5	
Trichlorofluoromethane	< 5	5	
1,2,3-Trichloropropane	< 1	1	
1,2,4-Trimethylbenzene	< 5	5	
1,3,5-Trimethylbenzene	< 5	5	
Vinyl acetate	< 10	10	
Vinyl chloride	< 2	2	
Xylene, M&P	< 5	5	
Xylene, 0rtho	< 5	5	
Xylene (Total)	< 10	10	
Dibromofluoromethane (surrogate)	106%		
1,2-Dichloroethane-d4 (surrogate)	95%		
Toluene-d8 (surrogate)	102%		
4-bromofluorobenzene (surrogate)	90%		
Analysis Date/Time:	2-10-15/06:09		
Analyst Initials	tjg		

Analytical Report

Client Name: BURNS ENVIRONMENTAL ENGINEERING

Project ID: (FPP) FORMER PURTEE PLATING

Client Project Manager: PERRE BURNS

ENVision Project Number: 2015-255

Analytical Method: EPA 8260
Prep Method: EPA 5030B
Analytical Batch: 020515CVW

Client Sample ID: DUP
Envision Sample Number: 15-1910
Sample Matrix: water

Sample Collection Date/Time: 2/4/15 10:15
Sample Received Date/Time: 2/4/15 16:00

Compounds	Sample Results (ug/L)	Reporting Limit (ug/L)	Flags
Acetone	< 1000	1000	2
Acrolein	< 10	10	2
Acrylonitrile	< 4.5	10	1,2
Benzene	< 5	50	1,2
Bromobenzene	< 50	50	2
Bromochloromethane	< 50	50	2
Bromodichloromethane	< 50	50	2
Bromoform	< 50	50	2
Bromomethane	< 50	50	2
n-Butanol	< 500	500	2
2-Butanone (MEK)	< 100	100	2
n-Butylbenzene	< 50	50	2
sec-Butylbenzene	< 50	50	2
tert-Butylbenzene	< 50	50	2
Carbon Disulfide	< 50	50	2
Carbon Tetrachloride	< 50	50	2
Chlorobenzene	< 50	50	2
Chloroethane	< 50	50	2
2-Chloroethylvinylether	< 500	500	2
Chloroform	< 50	50	2
Chloromethane	< 50	50	2
2-Chlorotoluene	< 50	50	2
4-Chlorotoluene	< 50	50	2
1,2-Dibromo-3-chloropropane	< 10	10	2
Dibromochloromethane	< 50	50	2
1,2-Dibromoethane (EDB)	< 10	10	2
Dibromomethane	< 50	50	2
1,2-Dichlorobenzene	< 50	50	2
1,3-Dichlorobenzene	< 50	50	2
1,4-Dichlorobenzene	< 50	50	2
trans-1,4-Dichloro-2-butene	< 10	10	2
Dichlorodifluoromethane	< 50	50	2

8260 continued…

Compounds	Sample Results (ug/L)	Reporting Limit (ug/L)	Flags
1,1-Dichloroethane	< 50	50	2
1,2-Dichloroethane	< 50	50	2
1,1-Dichloroethene	< 50	50	2
cis-1,2-Dichloroethene	**220**	50	2
trans-1,2-Dichloroethene	< 50	50	2
1,2-Dichloropropane	< 50	50	2
1,3-Dichloropropane	< 50	50	2
2,2-Dichloropropane	< 50	50	2
1,1-Dichloropropene	< 50	50	2
1,3-Dichloropropene	< 41	41	2
Ethylbenzene	< 50	50	2
Ethyl methacrylate	< 1000	1000	2
Hexachloro-1,3-butadiene	< 26	26	2
n-Hexane	< 100	100	2
2-Hexanone	< 100	100	2
Iodomethane	< 100	100	2
Isopropylbenzene (Cumene)	< 50	50	2
p-Isopropyltoluene	< 50	50	2
Methylene chloride	< 50	50	2
4-Methyl-2-pentanone (MIBK)	< 100	100	2
Methyl-tert-butyl-ether	< 40	50	1,2
1-Methylnaphthalene	< 50	50	2
2-Methylnaphthalene	< 50	50	2
Naphthalene	< 14	14	2
n-Propylbenzene	< 50	50	2
Styrene	< 50	50	2
1,1,1,2-Tetrachloroethane	< 50	50	2
1,1,2,2-Tetrachloroethane	< 6.6	10	1,2
Tetrachloroethene	**4,920**	250	3
Toluene	< 50	50	2
1,2,3-Trichlorobenzene	< 50	50	2
1,2,4-Trichlorobenzene	< 50	50	2
1,1,1-Trichloroethane	< 50	50	2
1,1,2-Trichloroethane	< 50	50	2
Trichloroethene	**453**	50	2
Trichlorofluoromethane	< 50	50	2
1,2,3-Trichloropropane	< 10	10	2
1,2,4-Trimethylbenzene	< 50	50	2
1,3,5-Trimethylbenzene	< 50	50	2
Vinyl acetate	< 100	100	2
Vinyl chloride	< 20	20	2
Xylene, M&P	< 50	50	2
Xylene, 0rtho	< 50	50	2
Xylene (Total)	< 100	100	2
Dibromofluoromethane (surrogate)	105%		
1,2-Dichloroethane-d4 (surrogate)	96%		
Toluene-d8 (surrogate)	102%		
4-bromofluorobenzene (surrogate)	93%		
Analysis Date/Time:	2-6-15/10:49		
Analyst Initials	tjg		

Analytical Report

Client Name: BURNS ENVIRONMENTAL ENGINEERING

Project ID: (FPP) FORMER PURTEE PLATING

Client Project Manager: PERRE BURNS

ENVision Project Number: 2015-255

Analytical Method: EPA 8260
Prep Method: EPA 5030B
Analytical Batch: 020615VW

Client Sample ID: TRIP BLANK **Sample Collection Date/Time:** 2/4/15
Envision Sample Number: 15-1911 **Sample Received Date/Time:** 2/4/15 16:00
Sample Matrix: water

Compounds	Sample Results (ug/L)	Reporting Limit (ug/L)	Flags
Acetone	< 100	100	
Acrolein	< 1	1	
Acrylonitrile	< 0.45	1	1
Benzene	< 5	5	
Bromobenzene	< 5	5	
Bromochloromethane	< 5	5	
Bromodichloromethane	< 5	5	
Bromoform	< 5	5	
Bromomethane	< 5	5	
n-Butanol	< 50	50	
2-Butanone (MEK)	< 10	10	
n-Butylbenzene	< 5	5	
sec-Butylbenzene	< 5	5	
tert-Butylbenzene	< 5	5	
Carbon Disulfide	< 5	5	
Carbon Tetrachloride	< 5	5	
Chlorobenzene	< 5	5	
Chloroethane	< 5	5	
2-Chloroethylvinylether	< 50	50	
Chloroform	< 5	5	
Chloromethane	< 5	5	
2-Chlorotoluene	< 5	5	
4-Chlorotoluene	< 5	5	
1,2-Dibromo-3-chloropropane	< 1	1	
Dibromochloromethane	< 5	5	
1,2-Dibromoethane (EDB)	< 1	1	
Dibromomethane	< 5	5	
1,2-Dichlorobenzene	< 5	5	
1,3-Dichlorobenzene	< 5	5	
1,4-Dichlorobenzene	< 5	5	
trans-1,4-Dichloro-2-butene	< 1	1	
Dichlorodifluoromethane	< 5	5	

8260 continued…

Compounds	Sample Results (ug/L)	Reporting Limit (ug/L)	Flags
1,1-Dichloroethane	< 5	5	
1,2-Dichloroethane	< 5	5	
1,1-Dichloroethene	< 5	5	
cis-1,2-Dichloroethene	< 5	5	
trans-1,2-Dichloroethene	< 5	5	
1,2-Dichloropropane	< 5	5	
1,3-Dichloropropane	< 5	5	
2,2-Dichloropropane	< 5	5	
1,1-Dichloropropene	< 5	5	
1,3-Dichloropropene	< 4.1	4.1	
Ethylbenzene	< 5	5	
Ethyl methacrylate	< 100	100	
Hexachloro-1,3-butadiene	< 2.6	2.6	
n-Hexane	< 10	10	
2-Hexanone	< 10	10	
Iodomethane	< 10	10	
Isopropylbenzene (Cumene)	< 5	5	
p-Isopropyltoluene	< 5	5	
Methylene chloride	< 5	5	
4-Methyl-2-pentanone (MIBK)	< 10	10	
Methyl-tert-butyl-ether	< 5	5	
1-Methylnaphthalene	< 5	5	
2-Methylnaphthalene	< 5	5	
Naphthalene	< 1.4	1.4	
n-Propylbenzene	< 5	5	
Styrene	< 5	5	
1,1,1,2-Tetrachloroethane	< 5	5	
1,1,2,2-Tetrachloroethane	< 0.66	1	1
Tetrachloroethene	< 5	5	
Toluene	< 5	5	
1,2,3-Trichlorobenzene	< 5	5	
1,2,4-Trichlorobenzene	< 5	5	
1,1,1-Trichloroethane	< 5	5	
1,1,2-Trichloroethane	< 5	5	
Trichloroethene	< 5	5	
Trichlorofluoromethane	< 5	5	
1,2,3-Trichloropropane	< 1	1	
1,2,4-Trimethylbenzene	< 5	5	
1,3,5-Trimethylbenzene	< 5	5	
Vinyl acetate	< 10	10	
Vinyl chloride	< 2	2	
Xylene, M&P	< 5	5	
Xylene, 0rtho	< 5	5	
Xylene (Total)	< 10	10	
Dibromofluoromethane (surrogate)	99%		
1,2-Dichloroethane-d4 (surrogate)	92%		
Toluene-d8 (surrogate)	100%		
4-bromofluorobenzene (surrogate)	89%		
Analysis Date/Time:	2-6-15/17:22		
Analyst Initials	tjg		

EPA 8260 Quality Control Data

ENVision Batch Number: 020515CVW

Method Blank (MB):	MB Results (ug/L)	Rep Lim (ug/L)	Flag
Acetone	< 100	100	
Acrolein	< 1	1	
Acrylonitrile	< 0.45	1	1
Benzene	< 5	5	
Bromobenzene	< 5	5	
Bromochloromethane	< 5	5	
Bromodichloromethane	< 5	5	
Bromoform	< 5	5	
Bromomethane	< 5	5	
n-Butanol	< 50	50	
2-Butanone (MEK)	< 10	10	
n-Butylbenzene	< 5	5	
sec-Butylbenzene	< 5	5	
tert-Butylbenzene	< 5	5	
Carbon Disulfide	< 5	5	
Carbon Tetrachloride	< 5	5	
Chlorobenzene	< 5	5	
Chloroethane	< 5	5	
2-Chloroethylvinylether	< 50	50	
Chloroform	< 5	5	
Chloromethane	< 5	5	
2-Chlorotoluene	< 5	5	
4-Chlorotoluene	< 5	5	
1,2-Dibromo-3-chloropropane	< 1	1	
Dibromochloromethane	< 5	5	
1,2-Dibromoethane (EDB)	< 1	1	
Dibromomethane	< 5	5	
1,2-Dichlorobenzene	< 5	5	
1,3-Dichlorobenzene	< 5	5	
1,4-Dichlorobenzene	< 5	5	
trans-1,4-Dichloro-2-butene	< 1	1	
Dichlorodifluoromethane	< 5	5	
1,1-Dichloroethane	< 5	5	
1,2-Dichloroethane	< 5	5	
1,1-Dichloroethene	< 5	5	
cis-1,2-Dichloroethene	< 5	5	
trans-1,2-Dichloroethene	< 5	5	
1,2-Dichloropropane	< 5	5	
1,3-Dichloropropane	< 5	5	
2,2-Dichloropropane	< 5	5	
1,1-Dichloropropene	< 5	5	
1,3-Dichloropropene	< 4.1	4.1	
Ethylbenzene	< 5	5	
Ethyl methacrylate	< 100	100	

8260 QC Continued…

Method Blank (MB):	MB Results (ug/L)	Rep Lim (ug/L)	Flag
Hexachloro-1,3-butadiene	< 2.6	2.6	
2-Hexanone	< 10	10	
n-Hexane	< 10	10	
Iodomethane	< 10	10	
Isopropylbenzene (Cumene)	< 5	5	
p-Isopropyltoluene	< 5	5	
Methylene chloride	< 5	5	
4-Methyl-2-pentanone (MIBK)	< 10	10	
Methyl-tert-butyl-ether	< 5	5	
1-Methylnaphthalene	< 5	5	
2-Methylnaphthalene	< 5	5	
Naphthalene	< 1.4	1.4	
n-Propylbenzene	< 5	5	
Styrene	< 5	5	
1,1,1,2-Tetrachloroethane	< 5	5	
1,1,2,2-Tetrachloroethane	< 0.66	1	1
Tetrachloroethene	< 5	5	
Toluene	< 5	5	
1,2,3-Trichlorobenzene	< 5	5	
1,2,4-Trichlorobenzene	< 5	5	
1,1,1-Trichloroethane	< 5	5	
1,1,2-Trichloroethane	< 5	5	
Trichloroethene	< 5	5	
Trichlorofluoromethane	< 5	5	
1,2,3-Trichloropropane	< 1	1	
1,2,4-Trimethylbenzene	< 5	5	
1,3,5-Trimethylbenzene	< 5	5	
Vinyl acetate	< 10	10	
Vinyl chloride	< 2	2	
Xylene, M&P	< 5	5	
Xylene, 0rtho	< 5	5	
Xylene (total)	< 10	10	
Dibromofluoromethane (surrogate)	100%		
1,2-Dichloroethane-d4 (surrogate)	93%		
Toluene-d8 (surrogate)	99%		
4-bromofluorobenzene (surrogate)	93%		
Analysis Date/Time:	2-6-15/00:18		
Analyst Initials	tjg		

8260 QC Continued…

LCS/LCSD	LCS Results (ug/L)	LCS/LCSD Conc. (ug/L)	LCSD Result (ug/L)	LCS Rec.	LCSD Rec.	% D	Flag
Vinyl Chloride	46.4	50	48.4	93%	97%	4.2	
1,1-Dichloroethene	46.4	50	48.5	93%	97%	4.4	
trans-1,2-Dichloroethene	52.9	50	52.9	106%	106%	0.0	
Methyl-tert-butyl-ether	45.2	50	47.0	90%	94%	3.9	
1,1-Dichloroethane	47.2	50	47.7	94%	95%	1.1	
cis-1,2-Dichloroethene	47.0	50	48.4	94%	97%	2.9	
Chloroform	48.1	50	48.1	96%	96%	0.0	
1,1,1-Trichloroethane	49.0	50	49.1	98%	98%	0.2	
Benzene	46.8	50	49.1	94%	98%	4.8	
Trichloroethene	47.7	50	49.7	95%	99%	4.1	
Toluene	47.5	50	49.0	95%	98%	3.1	
1,1,1,2-Tetracholorethane	47.2	50	49.6	94%	99%	5.0	
Chlorobenzene	47.9	50	49.8	96%	100%	3.9	
Ethylbenzene	45.0	50	48.0	90%	96%	6.5	
o-Xylene	45.9	50	48.6	92%	97%	5.7	
n-Propylbenzene	45.6	50	49.1	91%	98%	7.4	
Dibromofluoromethane (surrogate)	104%		100%				
1,2-Dichloroethane-d4 (surrogate)	101%		101%				
Toluene-d8 (surrogate)	101%		101%				
4-bromofluorobenzene (surrogate)	92%		96%				
Analysis Date/Time:	2-5-15/23:40		2-5-15/23:59				
Analyst Initials	tjg		tjg				

EPA 8260 Quality Control Data

ENVision Batch Number: 020615VW

Method Blank (MB):	MB Results (ug/L)	Rep Lim (ug/L)	Flag
Acetone	< 100	100	
Acrolein	< 1	1	
Acrylonitrile	< 0.45	1	1
Benzene	< 5	5	
Bromobenzene	< 5	5	
Bromochloromethane	< 5	5	
Bromodichloromethane	< 5	5	
Bromoform	< 5	5	
Bromomethane	< 5	5	
n-Butanol	< 50	50	
2-Butanone (MEK)	< 10	10	
n-Butylbenzene	< 5	5	
sec-Butylbenzene	< 5	5	
tert-Butylbenzene	< 5	5	
Carbon Disulfide	< 5	5	
Carbon Tetrachloride	< 5	5	
Chlorobenzene	< 5	5	
Chloroethane	< 5	5	
2-Chloroethylvinylether	< 50	50	
Chloroform	< 5	5	
Chloromethane	< 5	5	
2-Chlorotoluene	< 5	5	
4-Chlorotoluene	< 5	5	
1,2-Dibromo-3-chloropropane	< 1	1	
Dibromochloromethane	< 5	5	
1,2-Dibromoethane (EDB)	< 1	1	
Dibromomethane	< 5	5	
1,2-Dichlorobenzene	< 5	5	
1,3-Dichlorobenzene	< 5	5	
1,4-Dichlorobenzene	< 5	5	
trans-1,4-Dichloro-2-butene	< 1	1	
Dichlorodifluoromethane	< 5	5	
1,1-Dichloroethane	< 5	5	
1,2-Dichloroethane	< 5	5	
1,1-Dichloroethene	< 5	5	
cis-1,2-Dichloroethene	< 5	5	
trans-1,2-Dichloroethene	< 5	5	
1,2-Dichloropropane	< 5	5	
1,3-Dichloropropane	< 5	5	
2,2-Dichloropropane	< 5	5	
1,1-Dichloropropene	< 5	5	
1,3-Dichloropropene	< 4.1	4.1	
Ethylbenzene	< 5	5	
Ethyl methacrylate	< 100	100	

8260 QC Continued…

Method Blank (MB):	MB Results (ug/L)	Rep Lim (ug/L)	Flag
Hexachloro-1,3-butadiene	< 2.6	2.6	
2-Hexanone	< 10	10	
n-Hexane	< 10	10	
Iodomethane	< 10	10	
Isopropylbenzene (Cumene)	< 5	5	
p-Isopropyltoluene	< 5	5	
Methylene chloride	< 5	5	
4-Methyl-2-pentanone (MIBK)	< 10	10	
Methyl-tert-butyl-ether	< 5	5	
1-Methylnaphthalene	< 5	5	
2-Methylnaphthalene	< 5	5	
Naphthalene	< 1.4	1.4	
n-Propylbenzene	< 5	5	
Styrene	< 5	5	
1,1,1,2-Tetrachloroethane	< 5	5	
1,1,2,2-Tetrachloroethane	< 0.66	1	1
Tetrachloroethene	< 5	5	
Toluene	< 5	5	
1,2,3-Trichlorobenzene	< 5	5	
1,2,4-Trichlorobenzene	< 5	5	
1,1,1-Trichloroethane	< 5	5	
1,1,2-Trichloroethane	< 5	5	
Trichloroethene	< 5	5	
Trichlorofluoromethane	< 5	5	
1,2,3-Trichloropropane	< 1	1	
1,2,4-Trimethylbenzene	< 5	5	
1,3,5-Trimethylbenzene	< 5	5	
Vinyl acetate	< 10	10	
Vinyl chloride	< 2	2	
Xylene, M&P	< 5	5	
Xylene, 0rtho	< 5	5	
Xylene (total)	< 10	10	
Dibromofluoromethane (surrogate)	104%		
1,2-Dichloroethane-d4 (surrogate)	95%		
Toluene-d8 (surrogate)	97%		
4-bromofluorobenzene (surrogate)	89%		
Analysis Date/Time:	2-6-15/15:46		
Analyst Initials	tjg		

8260 QC Continued…

LCS/LCSD	LCS Results (ug/L)	LCS/LCSD Conc. (ug/L)	LCSD Result (ug/L)	LCS Rec.	LCSD Rec.	% D	Flag
Vinyl Chloride	47.1	50	45.5	94%	91%	3.5	
1,1-Dichloroethene	48.3	50	48.5	97%	97%	0.4	
trans-1,2-Dichloroethene	57.7	50	54.9	115%	110%	5.0	
Methyl-tert-butyl-ether	50.5	50	48.7	101%	97%	3.6	
1,1-Dichloroethane	49.6	50	48.4	99%	97%	2.4	
cis-1,2-Dichloroethene	49.1	50	48.5	98%	97%	1.2	
Chloroform	50.4	50	49.0	101%	98%	2.8	
1,1,1-Trichloroethane	53.6	50	51.5	107%	103%	4.0	
Benzene	50.6	50	49.5	101%	99%	2.2	
Trichloroethene	51.8	50	49.6	104%	99%	4.3	
Toluene	51.7	50	50.0	103%	100%	3.3	
1,1,1,2-Tetracholorethane	50.3	50	49.8	101%	100%	1.0	
Chlorobenzene	49.6	50	48.7	99%	97%	1.8	
Ethylbenzene	45.0	50	46.9	90%	94%	4.1	
o-Xylene	47.9	50	47.7	96%	95%	0.4	
n-Propylbenzene	49.9	50	48.5	100%	97%	2.8	
Dibromofluoromethane (surrogate)	104%		102%				
1,2-Dichloroethane-d4 (surrogate)	102%		94%				
Toluene-d8 (surrogate)	102%		103%				
4-bromofluorobenzene (surrogate)	92%		96%				
Analysis Date/Time:	2-6-15/14:55		2-6-15/15:15				
Analyst Initials	tjg		tjg				

Matrix Spike/Matrix Spike Dup:	Sample Results (ug/L)	MS Res (ug/L)	MSD Res (ug/L)	Spk Conc (ug/L)	MS Rec	MSD Rec	% D	Flag
Vinyl Chloride	0.0	454	440	500	91%	88%	3.1	
1,1-Dichloroethene	0.0	468	489	500	94%	98%	4.4	
trans-1,2-Dichloroethene	0.0	553	536	500	111%	107%	3.1	
Methyl-tert-butyl-ether	0.0	423	394	500	85%	79%	7.1	
1,1-Dichloroethane	0.0	460	448	500	92%	90%	2.6	
cis-1,2-Dichloroethene	6.53	454	443	500	89%	87%	2.5	
Chloroform	0.0	457	446	500	91%	89%	2.4	
1,1,1-Trichloroethane	0.0	502	484	500	100%	97%	3.7	
Benzene	0.0	469	447	500	94%	89%	4.8	
Trichloroethene	38.7	520	514	500	96%	95%	1.3	
Toluene	0.0	474	453	500	95%	91%	4.5	
1,1,1,2-Tetracholorethane	0.0	462	464	500	92%	93%	0.4	
Chlorobenzene	0.0	432	435	500	86%	87%	0.7	
Ethylbenzene	0.0	475	482	500	95%	96%	1.5	
o-Xylene	0.0	506	514	500	101%	103%	1.6	
n-Propylbenzene	0.0	470	476	500	94%	95%	1.3	
Dibromofluoromethane (surrogate)	100%	103%	103%					
1,2-Dichloroethane-d4 (surrogate)	92%	96%	100%					
Toluene-d8 (surrogate)	98%	100%	102%					
4-bromofluorobenzene (surrogate)	92%	94%	99%					
Analysis Date/Time:	2-6-15/16:24	2-6-15/16:44	2-6-15/17:03					
Analyst Initials	tjg	tjg	tjg					
Originial Sample Number Spiked:	15-1907:10							

EPA 8260 Quality Control Data

ENVision Batch Number: 020915VW

Method Blank (MB):	MB Results (ug/L)	Rep Lim (ug/L)	Flag
Acetone	< 100	100	
Acrolein	< 1	1	
Acrylonitrile	< 0.45	1	1
Benzene	< 5	5	
Bromobenzene	< 5	5	
Bromochloromethane	< 5	5	
Bromodichloromethane	< 5	5	
Bromoform	< 5	5	
Bromomethane	< 5	5	
n-Butanol	< 50	50	
2-Butanone (MEK)	< 10	10	
n-Butylbenzene	< 5	5	
sec-Butylbenzene	< 5	5	
tert-Butylbenzene	< 5	5	
Carbon Disulfide	< 5	5	
Carbon Tetrachloride	< 5	5	
Chlorobenzene	< 5	5	
Chloroethane	< 5	5	
2-Chloroethylvinylether	< 50	50	
Chloroform	< 5	5	
Chloromethane	< 5	5	
2-Chlorotoluene	< 5	5	
4-Chlorotoluene	< 5	5	
1,2-Dibromo-3-chloropropane	< 1	1	
Dibromochloromethane	< 5	5	
1,2-Dibromoethane (EDB)	< 1	1	
Dibromomethane	< 5	5	
1,2-Dichlorobenzene	< 5	5	
1,3-Dichlorobenzene	< 5	5	
1,4-Dichlorobenzene	< 5	5	
trans-1,4-Dichloro-2-butene	< 1	1	
Dichlorodifluoromethane	< 5	5	
1,1-Dichloroethane	< 5	5	
1,2-Dichloroethane	< 5	5	
1,1-Dichloroethene	< 5	5	
cis-1,2-Dichloroethene	< 5	5	
trans-1,2-Dichloroethene	< 5	5	
1,2-Dichloropropane	< 5	5	
1,3-Dichloropropane	< 5	5	
2,2-Dichloropropane	< 5	5	
1,1-Dichloropropene	< 5	5	
1,3-Dichloropropene	< 4.1	4.1	
Ethylbenzene	< 5	5	
Ethyl methacrylate	< 100	100	

8260 QC Continued…

Method Blank (MB):	MB Results (ug/L)	Rep Lim (ug/L)	Flag
Hexachloro-1,3-butadiene	< 2.6	2.6	
2-Hexanone	< 10	10	
n-Hexane	< 10	10	
Iodomethane	< 10	10	
Isopropylbenzene (Cumene)	< 5	5	
p-Isopropyltoluene	< 5	5	
Methylene chloride	< 5	5	
4-Methyl-2-pentanone (MIBK)	< 10	10	
Methyl-tert-butyl-ether	< 5	5	
1-Methylnaphthalene	< 5	5	
2-Methylnaphthalene	< 5	5	
Naphthalene	< 1.4	1.4	
n-Propylbenzene	< 5	5	
Styrene	< 5	5	
1,1,1,2-Tetrachloroethane	< 5	5	
1,1,2,2-Tetrachloroethane	< 0.66	1	1
Tetrachloroethene	< 5	5	
Toluene	< 5	5	
1,2,3-Trichlorobenzene	< 5	5	
1,2,4-Trichlorobenzene	< 5	5	
1,1,1-Trichloroethane	< 5	5	
1,1,2-Trichloroethane	< 5	5	
Trichloroethene	< 5	5	
Trichlorofluoromethane	< 5	5	
1,2,3-Trichloropropane	< 1	1	
1,2,4-Trimethylbenzene	< 5	5	
1,3,5-Trimethylbenzene	< 5	5	
Vinyl acetate	< 10	10	
Vinyl chloride	< 2	2	
Xylene, M&P	< 5	5	
Xylene, 0rtho	< 5	5	
Xylene (total)	< 10	10	
Dibromofluoromethane (surrogate)	101%		
1,2-Dichloroethane-d4 (surrogate)	93%		
Toluene-d8 (surrogate)	99%		
4-bromofluorobenzene (surrogate)	89%		
Analysis Date/Time:	2-10-15/01:22		
Analyst Initials	tjg		

8260 QC Continued…

LCS/LCSD	LCS Results (ug/L)	LCS/LCSD Conc. (ug/L)	LCSD Result (ug/L)	LCS Rec.	LCSD Rec.	% D	Flag
Vinyl Chloride	46.6	50	45.4	93%	91%	2.6	
1,1-Dichloroethene	52.4	50	51.7	105%	103%	1.3	
trans-1,2-Dichloroethene	53.8	50	53.7	108%	107%	0.2	
Methyl-tert-butyl-ether	48.7	50	47.5	97%	95%	2.5	
1,1-Dichloroethane	51.8	50	49.7	104%	99%	4.1	
cis-1,2-Dichloroethene	51.1	50	50.3	102%	101%	1.6	
Chloroform	52.2	50	51.4	104%	103%	1.5	
1,1,1-Trichloroethane	53.7	50	52.4	107%	105%	2.5	
Benzene	51.5	50	50.5	103%	101%	2.0	
Trichloroethene	52.3	50	51.4	105%	103%	1.7	
Toluene	52.0	50	51.5	104%	103%	1.0	
1,1,1,2-Tetracholorethane	50.9	50	50.7	102%	101%	0.4	
Chlorobenzene	50.9	50	50.3	102%	101%	1.2	
Ethylbenzene	51.5	50	50.9	103%	102%	1.2	
o-Xylene	53.9	50	55.1	108%	110%	2.2	
n-Propylbenzene	50.7	50	50.5	101%	101%	0.4	
Dibromofluoromethane (surrogate)	105%		104%				
1,2-Dichloroethane-d4 (surrogate)	100%		103%				
Toluene-d8 (surrogate)	101%		101%				
4-bromofluorobenzene (surrogate)	91%		93%				
Analysis Date/Time:	2-10-15/00:44		2-10-15/01:03				
Analyst Initials	tjg		tjg				

Flag Number	Comments
1	Reported value is below the reporting limit but above the MDL.
2	Reported value is from a 10x dilution. DAE 2-9-15
3	Reported value is from a 50x dilution. DAE 2-9-15

ENVision Proj#: 2015-255 Page 1 of 1

CHAIN OF CUSTODY RECORD

ENVision Laboratories, Inc. | 1439 Sadlier Circle West Drive | Indianapolis, IN 46239 | Phone: (317) 351-8632 | Fax: (317) 351-8639

Client: BEE BURNS ENVIRO ENGNRNG	Invoice Address: SAME
Report Address: 609 E. WASHINGTON ST LEBANON, IN 46052	Project Name: FORMER PURTEE FPP PLATING
Report To: PERRE E. BURNS	Lab Contact: DAVE
Phone: 317.408.6342	Sampled by: AD
Fax: —	P.O. Number: —
Desired TAT: (Please Circle One) 1-2 days 3-6 days Std (7 bus. days)	QA/QC Required: (circle if applicable) Level III Level IV

REQUESTED PARAMETERS

VOCs

Sample Integrity:

Cooler Temp: 6 °C (Circle)
Samples on Ice? Yes No
Samples Intact? Yes No
Custody Seal: Yes No
ENVision provided bottles: Yes No
VOC vials free of head-space: Yes No N/A
pH checked? Yes No N/A
Method 5035 collection used? Yes No
5035 samples received within 48 hr of Collection? Yes No

Please Indicate number of containers per preservative below

Sample ID	Coll. Date	Coll. Time	Comp (C) Grab (G)	Matrix	VOCs	HCl	HNO_3	H_2SO_4	NaOH	Other	None	ENVision Sample ID
PMW-1	2.4	11:00	G	H_2O	X	3						15-1905
PMW-2	2.4	10:40	G	H_2O	X	3						15-1906
PMW-3	2.4	10:15	G	H_2O	X	3						15-1907
PMW-4	2.4	11:10	G	H_2O	X	3						15-1908
PMW-5	2.4	10:10	G	H_2O	X	3						15-1909
MS/MSD - PMW-3	2.4	10:15	G	H_2O	X	3						~~15-1910~~
DUP	2.4	—	G	H_2O	X	3						15-1910
TRIP	2.4	10:00	G	H_2O	X	3						15-1912

Comments:

Relinquished by:	Date	Time	Received by:	Date	Time
Anthony Dean	2.4.15	4:00	[illegible]	2-4-15	16:00

ENVISION

ENVision Laboratories, Inc.
1439 Sadlier Circle West Drive
Indianapolis, IN 46239
Tel: 317.351.8632
Fax: 317.351.8639
www.envisionlaboratories.com

8260 VOC
Package Review

ENVision Project#: 2015-255

✓ Sequence Log

✓ 8260 Soil / Water Limits

Initial Calibration Data Calibration Curve: 020515RC_VOL

✓ Tune

✓ Initial Calibration Summary

✓ Initial Calibration Quant Reports

✓ Initial Calibration Verification Summary

Continuing Calibration Data

✓ Tune Data

✓ Continuing Calibration Verification Summary

✓ Continuing Calibration Verification (CCV) Quant Report

✓ Internal Standard Area Summary

Quality Control Data

✓ Method Blank (MB)

✓ Laboratory Control Standard (LCS)

✓ Matrix Spike/Matrix Spike Duplicate (MS/MSD)

✓ Raw Sample Data (if applicable – Level IV)

The contents of this Level QA/QC package have been reviewed for completeness and compliance with method requirements.

QA Manager Signature of approval: Cheryl Crum

Your Projects. Our Passion.

ENVISION

ENVision Laboratories, Inc.
1439 Sadlier Circle West Drive
Indianapolis, IN 46239
Tel: 317.351.8632
Fax: 317.351.8639
www.envisionlaboratories.com

8260 VOC

- Sequence Log
- 8260 Soil / Water Limits

Injection Log

Directory: C:\HPCHEM\1\DATA\020515C

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	0101001.D	1.	50ppb	qc	5 Feb 2015 10:27
2	2	0201001.D	1.	b	qc	5 Feb 2015 10:51
3	3	0301002.D	1.	1ppb 8260 ical	ical	5 Feb 2015 11:11
4	4	0401003.D	1.	5ppb 8260 ical	ical	5 Feb 2015 11:30
5	5	0501004.D	1.	10ppb 8260 ical	ical	5 Feb 2015 11:49
6	6	0601005.D	1.	20ppb 8260 ical	ical	5 Feb 2015 12:08
7	7	0701006.D	1.	50ppb 8260 ical	ical	5 Feb 2015 12:27
8	8	0801007.D	1.	100ppb 8260 ical	ical	5 Feb 2015 12:47
9	9	0901008.D	1.	b	ical	5 Feb 2015 13:06
10	10	1001009.D	1.	200ppb 8260 ical	ical	5 Feb 2015 13:25
11	11	1101010.D	1.	b	ical	5 Feb 2015 13:44
12	12	1201011.D	1.	50ppb icv	ical verification	5 Feb 2015 14:04
13	13	1301012.D	1.	mb	qc	5 Feb 2015 14:23
14	14	1401013.D	1.	15-1642	a	5 Feb 2015 14:42
15	15	1501014.D	1.	15-1643	a	5 Feb 2015 15:01
16	16	1601015.D	1.	15-1644	a	5 Feb 2015 15:20
17	17	1701016.D	1.	15-1645	a	5 Feb 2015 15:40
18	18	1801017.D	1.	15-1646	a	5 Feb 2015 15:59
19	19	1901018.D	1.	15-1647	a	5 Feb 2015 16:18
20	20	2001019.D	1.	15-1648:10	a	5 Feb 2015 16:37
21	21	2101020.D	1.	15-1649	a	5 Feb 2015 16:57
22	22	2201021.D	1.	15-1650:10	a	5 Feb 2015 17:16
23	23	2301022.D	1.	15-1651:10	a	5 Feb 2015 17:35
24	24	2401023.D	1.	15-1652:10	a	5 Feb 2015 17:54
25	25	2501024.D	1.	15-1653:10	a	5 Feb 2015 18:13
26	26	2601025.D	1.	15-1654 tb	a	5 Feb 2015 18:33
27	27	2701026.D	1.	15-1956 rush	a	5 Feb 2015 18:52
28	28	2801027.D	1.	15-1661	a	5 Feb 2015 19:11
29	29	2901028.D	1.	15-1690	a	5 Feb 2015 19:30
30	30	3001029.D	1.	15-1691	a	5 Feb 2015 19:50
31	31	3101030.D	1.	15-1692	a	5 Feb 2015 20:09
32	32	3201031.D	1.	15-1617 tb	a	5 Feb 2015 20:28
33	33	3301032.D	1.	15-1693	a	5 Feb 2015 20:47
34	34	3401033.D	1.	15-1694	a	5 Feb 2015 21:06
35	35	3501034.D	1.	15-1744	a	5 Feb 2015 21:25
36	36	3601035.D	1.	15-1746	a	5 Feb 2015 21:45
37	37	3701036.D	1.	15-1748	a	5 Feb 2015 22:04
38	38	3801037.D	1.	15-1750	a	5 Feb 2015 22:23
39	39	3901038.D	1.	15-1750:10	a	5 Feb 2015 22:42
40	40	4001039.D	1.	15-1762 tb	a	5 Feb 2015 23:01
41	41	4101040.D	1.	bfb/ccv 50ppb	qc	5 Feb 2015 23:21
42	42	4201041.D	1.	lcs 50ppb	qc	5 Feb 2015 23:40
43	43	4301042.D	1.	lcsd 50ppb	qc	5 Feb 2015 23:59
44	44	4401043.D	1.	mb	qc	6 Feb 2015 00:18
45	45	4501044.D	1.	15-1763	a	6 Feb 2015 00:37
46	46	4601045.D	1.	15-1763ms	b	6 Feb 2015 00:56
47	47	4701046.D	1.	15-1763msd	c	6 Feb 2015 01:16
48	48	4801047.D	1.	15-1764	a	6 Feb 2015 01:35
49	49	4901048.D	1.	15-1765	a	6 Feb 2015 01:54
50	50	5001049.D	1.	15-1767	a	6 Feb 2015 02:13
51	51	5101050.D	1.	15-1768	a	6 Feb 2015 02:32
52	52	5201051.D	1.	15-1769	a	6 Feb 2015 02:51
53	53	5301052.D	1.	15-1771	a	6 Feb 2015 03:10
54	54	5401053.D	1.	15-1772	a	6 Feb 2015 03:30
55	55	5501054.D	1.	15-1773	a	6 Feb 2015 03:49

Injection Log

Directory: C:\HPCHEM\1\DATA\020515C

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
56	56	5601055.D	1.	15-1774 dup	a	6 Feb 2015 04:08
57	57	5701056.D	1.	15-1776 tb	a	6 Feb 2015 04:27
58	58	5801057.D	1.	15-1864 tb	a	6 Feb 2015 04:46
59	59	5901058.D	1.	15-1865	a	6 Feb 2015 05:05
60	60	6001059.D	1.	15-1866	a	6 Feb 2015 05:24
61	61	6101060.D	1.	15-1867	a	6 Feb 2015 05:44
62	62	6201061.D	1.	15-1876	a	6 Feb 2015 06:03
63	63	6301062.D	1.	15-1888:20	a	6 Feb 2015 06:22
64	64	6401063.D	1.	15-1898	a	6 Feb 2015 06:41
65	65	6501064.D	1.	15-1899	a	6 Feb 2015 07:00
66	66	6601065.D	1.	15-1900	a	6 Feb 2015 07:19
67	67	6701066.D	1.	15-1905	a	6 Feb 2015 07:38
68	68	6801067.D	1.	15-1905:10	a	6 Feb 2015 07:57
69	69	6901068.D	1.	15-1648 rr st	a	6 Feb 2015 08:16
70	70	7001069.D	1.	15-1650 rr st	a	6 Feb 2015 08:36
71	71	7101070.D	1.	15-1651 rr st	a	6 Feb 2015 08:55
72	72	7201071.D	1.	15-1652 rr st	a	6 Feb 2015 09:14
73	73	7301072.D	1.	15-1653 rr st	a	6 Feb 2015 09:33
74	74	7401073.D	1.	15-1906:50	a	6 Feb 2015 09:52
75	75	7501074.D	1.	15-1908:10	a	6 Feb 2015 10:11
76	76	7601075.D	1.	15-1909:10	a	6 Feb 2015 10:30
77	77	7701076.D	1.	15-1910:10	a	6 Feb 2015 10:49

Injection Log

Directory: C:\HPCHEM\1\DATA\020615

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	0101001.D	1.	bfb/ccv 50ppb	qc	6 Feb 2015 14:13
2	2	0201002.D	1.	bfb/ccv 50ppb	qc	6 Feb 2015 14:32
3	3	0301003.D	1.	lcs 50ppb	qc	6 Feb 2015 14:55
4	4	0401004.D	1.	lcsd-50ppb	qc	6 Feb 2015 15:15
5	5	0501001.D	1.	mb	qc	6 Feb 2015 15:46
6	6	0601002.D	1.	15-1910:50 pce rr	a	6 Feb 2015 16:05
7	7	0701003.D	1.	15-1907:10	a	6 Feb 2015 16:24
8	8	0801004.D	1.	ms15-1907:10	b	6 Feb 2015 16:44
9	9	0901005.D	1.	msd15-1907:10	c	6 Feb 2015 17:03
10	10	1001006.D	1.	15-1911	a	6 Feb 2015 17:22
11	11	1101007.D	1.	15-1914	a	6 Feb 2015 17:41
12	12	1201008.D	1.	15-1915	a	6 Feb 2015 18:01
13	13	1301009.D	1.	15-1915ms	b	6 Feb 2015 18:20
14	14	1401010.D	1.	15-1915msd	c	6 Feb 2015 18:39
15	15	1501011.D	1.	15-1916 dup	a	6 Feb 2015 18:58
16	16	1601012.D	1.	15-1917 tb	a	6 Feb 2015 19:17
17	17	1701013.D	1.	15-1907 rr st	a	6 Feb 2015 19:37
18	18	1801014.D	1.	15-1920	a	6 Feb 2015 19:56
19	19	1901015.D	1.	15-1921 1 of 1	a	6 Feb 2015 20:15
20	20	2001016.D	1.	15-1922:50	a	6 Feb 2015 20:34
21	21	2101017.D	1.	15-1922:100	a	6 Feb 2015 20:53
22	22	2201018.D	1.	15-1923:10	a	6 Feb 2015 21:13
23	23	2301019.D	1.	15-1923:100	a	6 Feb 2015 21:32
24	24	2401020.D	1.	15-1924	a	6 Feb 2015 21:51
25	25	2501021.D	1.	15-1925	a	6 Feb 2015 22:10
26	26	2601022.D	1.	15-1926	a	6 Feb 2015 22:29
27	27	2701023.D	1.	15-1927	a	6 Feb 2015 22:49
28	28	2801024.D	1.	15-1928	a	6 Feb 2015 23:08
29	29	2901025.D	1.	15-1929	a	6 Feb 2015 23:27
30	30	3001026.D	1.	15-1930	a	6 Feb 2015 23:46
31	31	3101027.D	1.	15-1931	a	7 Feb 2015 00:05
32	32	3201028.D	1.	15-1932	a	7 Feb 2015 00:25
33	33	3301029.D	1.	15-1933	a	7 Feb 2015 00:44
34	34	3401030.D	1.	15-1934	a	7 Feb 2015 01:03
35	35	3501031.D	1.	bfb/ccv 50ppb	qc	7 Feb 2015 01:22
36	36	3601032.D	1.	lcs 50ppb	qc	7 Feb 2015 01:41
37	37	3701033.D	1.	lcsd 50ppb	qc	7 Feb 2015 02:00
38	38	3801034.D	1.	mb	qc	7 Feb 2015 02:20
39	39	3901035.D	1.	15-1935	a	7 Feb 2015 02:39
40	40	4001036.D	1.	15-1936:10	a	7 Feb 2015 02:58
41	41	4101037.D	1.	15-1936:100	a	7 Feb 2015 03:17
42	42	4201038.D	1.	15-1937:10	a	7 Feb 2015 03:36
43	43	4301039.D	1.	15-1937:100	a	7 Feb 2015 03:55
44	44	4401040.D	1.	15-1938:10	a	7 Feb 2015 04:14
45	45	4501041.D	1.	15-1938:1000	a	7 Feb 2015 04:33
46	46	4601042.D	1.	15-1939	a	7 Feb 2015 04:53
47	47	4701043.D	1.	15-1939:10	a	7 Feb 2015 05:12
48	48	4801044.D	1.	15-1940	a	7 Feb 2015 05:31
49	49	4901045.D	1.	15-1941	a	7 Feb 2015 05:50
50	50	5001046.D	1.	15-1942	a	7 Feb 2015 06:09
51	51	5101047.D	1.	15-1944	a	7 Feb 2015 06:28
52	52	5201048.D	1.	15-1945	a	7 Feb 2015 06:47
53	53	5301049.D	1.	15-1946:10	a	7 Feb 2015 07:06
54	54	5401050.D	1.	15-1946:100	a	7 Feb 2015 07:26
55	55	5501051.D	1.	15-1947	a	7 Feb 2015 07:45

Injection Log

Directory: C:\HPCHEM\1\DATA\020615

Line	Vial	FileName	Multiplier	SampleName	MiscInfo	Injected
56	56	5601052.D	1.	15-1948	a	7 Feb 2015 08:04
57	57	5701053.D	1.	15-1949	a	7 Feb 2015 08:23
58	58	5801054.D	1.	15-1950:10	a	7 Feb 2015 08:42
59	59	5901001.D	1.	15-1950:100	a	7 Feb 2015 09:03
60	60	6001002.D	1.	15-1951	a	7 Feb 2015 09:23
61	61	6101003.D	1.	15-1952 tb	a	7 Feb 2015 09:42
62	62	6201004.D	1.	15-1953	a	7 Feb 2015 10:01
63	63	6301005.D	1.	15-1954	a	7 Feb 2015 10:20
64	64	6401006.D	1.	15-1959	a	7 Feb 2015 10:40
65	65	6501007.D	1.	15-1959:10	a	7 Feb 2015 10:59
66	66	6601008.D	1.	15-1960	a	7 Feb 2015 11:18
67	67	6701009.D	1.	15-1961	a	7 Feb 2015 11:37
68	68	6801010.D	1.	15-1962	a	7 Feb 2015 11:57
69	69	6901011.D	1.	15-1963	a	7 Feb 2015 12:16

Injection Log

Directory: C:\HPCHEM\1\DATA\020915

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	0101001.D	1.	bfb/ccv 50ppb	qc	9 Feb 2015 12:29
2	2	0201002.D	1.	lcs 50ppb	qc	9 Feb 2015 13:31
3	3	0301003.D	1.	lcsd 50ppb	qc	9 Feb 2015 13:51
4	4	0401004.D	1.	mb	qc	9 Feb 2015 14:10
5	5	0501005.D	1.	15-1964	a	9 Feb 2015 14:29
6	6	0601006.D	1.	15-1964ms	b	9 Feb 2015 14:49
7	7	0701007.D	1.	15-1964msd	c	9 Feb 2015 15:08
8	8	0801008.D	1.	15-1965	a	9 Feb 2015 15:27
9	9	0901009.D	1.	15-1966	a	9 Feb 2015 15:46
10	10	1001010.D	1.	15-1967	a	9 Feb 2015 16:05
11	11	1101011.D	1.	15-1967:10	a	9 Feb 2015 16:25
12	12	1201012.D	1.	15-1968	a	9 Feb 2015 16:44
13	13	1301013.D	1.	15-1969	a	9 Feb 2015 17:03
14	14	1401014.D	1.	15-1970	a	9 Feb 2015 17:22
15	15	1501015.D	1.	15-1982	a	9 Feb 2015 17:42
16	16	1601016.D	1.	15-1982ms	b	9 Feb 2015 18:01
17	17	1701017.D	1.	15-1982msd	c	9 Feb 2015 18:20
18	18	1801018.D	1.	15-1983	a	9 Feb 2015 18:39
19	19	1901019.D	1.	15-1984	a	9 Feb 2015 18:58
20	20	2001020.D	1.	15-1985	a	9 Feb 2015 19:18
21	21	2101021.D	1.	15-1986	a	9 Feb 2015 19:37
22	22	2201022.D	1.	15-1987:10	a	9 Feb 2015 19:56
23	23	2301023.D	1.	15-1987:500	a	9 Feb 2015 20:15
24	24	2401024.D	1.	15-1988:10	a	9 Feb 2015 20:34
25	25	2501025.D	1.	15-1988:50	a	9 Feb 2015 20:54
26	26	2601026.D	1.	15-1989	a	9 Feb 2015 21:13
27	27	2701027.D	1.	15-1989:10	a	9 Feb 2015 21:32
28	28	2801028.D	1.	15-1990:10	a	9 Feb 2015 21:51
29	29	2901029.D	1.	15-1990:100	a	9 Feb 2015 22:10
30	30	3001030.D	1.	15-1991	a	9 Feb 2015 22:30
31	31	3101031.D	1.	15-1992	a	9 Feb 2015 22:49
32	32	3201032.D	1.	15-1993	a	9 Feb 2015 23:08
33	33	3301033.D	1.	15-1994	a	9 Feb 2015 23:27
34	34	3401034.D	1.	15-1995:10	a	9 Feb 2015 23:46
35	35	3501035.D	1.	15-1995:100	a	10 Feb 2015 00:05
36	36	3601036.D	1.	bfb/ccv 50ppb	qc	10 Feb 2015 00:24
37	37	3701037.D	1.	lcs 50ppb	qc	10 Feb 2015 00:44
38	38	3801038.D	1.	lcsd 50ppb	qc	10 Feb 2015 01:03
39	39	3901039.D	1.	mb	qc	10 Feb 2015 01:22
40	40	4001040.D	1.	15-1996	a	10 Feb 2015 01:41
41	41	4101041.D	1.	15-1997	a	10 Feb 2015 02:00
42	42	4201042.D	1.	15-1998	a	10 Feb 2015 02:19
43	43	4301043.D	1.	15-1999	a	10 Feb 2015 02:38
44	44	4401044.D	1.	15-2000	a	10 Feb 2015 02:58
45	45	4501045.D	1.	15-2001:10	a	10 Feb 2015 03:17
46	46	4601046.D	1.	15-2001:50	a	10 Feb 2015 03:36
47	47	4701047.D	1.	15-2002	a	10 Feb 2015 03:55
48	48	4801048.D	1.	15-2003	a	10 Feb 2015 04:14
49	49	4901049.D	1.	15-2003:10	a	10 Feb 2015 04:33
50	50	5001050.D	1.	15-2004	a	10 Feb 2015 04:52
51	51	5101051.D	1.	15-2004:10	a	10 Feb 2015 05:11
52	52	5201052.D	1.	15-2005 tb	a	10 Feb 2015 05:31
53	53	5301053.D	1.	15-1908 rr st ✓	a	10 Feb 2015 05:50
54	54	5401054.D	1.	15-1909 rr st ✓	a	10 Feb 2015 06:09
55	55	5501055.D	1.	15-1906:10 ✓	a	10 Feb 2015 06:28

Injection Log

Directory: C:\HPCHEM\1\DATA\020915

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
56	56	5601056.D	1.	15-2011:10	a	10 Feb 2015 06:47
57	57	5701057.D	1.	15-2011:50	a	10 Feb 2015 07:06
58	58	5801058.D	1.	15-2012:100	a	10 Feb 2015 07:25
59		5901059.D	1.			

ENVision Laboratories, Inc.

8260 Volatiles Statistical Control Limits - Effective 01-15-14

Surrogate	Water Limits % Rec	Soil Limits % Rec.
Dibromofluoromethane (surrogate)	76-128	75-126
1,2-Dichloroethane-d4 (surrogate)	65-129	73-131
Toluene-d8 (surrogate)	66-123	69-123
4-bromofluorobenzene (surrogate)	77-127	74-124

LCS	Water Limits % Rec	Soil Limits % Rec.
Vinyl Chloride	71-121	76-130
1,1-Dichloroethene	79-126	80-136
trans-1,2-Dichloroethene	79-124	80-129
Methyl-tert-butyl-ether	67-127	79-126
1,1-Dichloroethane	80-125	79-125
cis-1,2-Dichloroethene	79-125	80-126
Chloroform	79-120	77-120
1,1,1-Trichloroethane	79-125	80-126
Benzene	78-124	79-127
Trichloroethene	80-125	78-125
Toluene	79-127	79-131
1,1,1,2-Tetracholorethane	79-125	79-121
Chlorobenzene	78-129	79-130
Ethylbenzene	79-130	78-131
o-Xylene	78-129	79-122
N-propylbenzene	77-130	75-130

MS/MSD	Water Limits % Rec	Soil Limits % Rec.
Vinyl Chloride	67-123	75-120
1,1-Dichloroethene	71-134	72-120
trans-1,2-Dichloroethene	74-128	72-122
Methyl-tert-butyl-ether	61-135	68-121
1,1-Dichloroethane	71-136	72-117
cis-1,2-Dichloroethene	66-140	67-124
Chloroform	72-124	61-123
1,1,1-Trichloroethane	65-135	74-126
Benzene	71-123	70-122
Trichloroethene	55-147	66-130
Toluene	71-126	58-149
1,1,1,2-Tetracholorethane	81-117	74-121
Chlorobenzene	78-119	72-121
Ethylbenzene	73-122	66-122
o-Xylene	76-119	74-121
N-propylbenzene	60-127	69-120

LCS	Water Limits % Rec	Soil Limits % Rec.
Methyl-tert-butyl-ether	70-134	79-121
Benzene	80-130	79-128
Toluene	80-128	76-128
Ethylbenzene	79-132	79-125
Xylene, M&P	77-133	75-129
Xylene, Ortho	75-134	78-121
Naphthalene	75-131	79-120

MS/MSD	Water Limits % Rec	Soil Limits % Rec.
Methyl-tert-butyl-ether	75-124	77-128
Benzene	74-125	72-127
Toluene	80-127	61-125
Ethylbenzene	73-141	73-140
Xylene, M&P	76-138	71-145
Xylene, Ortho	77-132	73-128
Naphthalene	70-130	60-120

ENVISION

ENVision Laboratories, Inc.
1439 Sadlier Circle West Drive
Indianapolis, IN 46239
Tel: 317.351.8632
Fax: 317.351.8639
www.envisionlaboratories.com

8260 VOC
Initial Calibration Data

- Tune
- Initial Calibration Summary
- Initial Calibration Quant Reports
- Initial Calibration Verification Summary

Injection Log

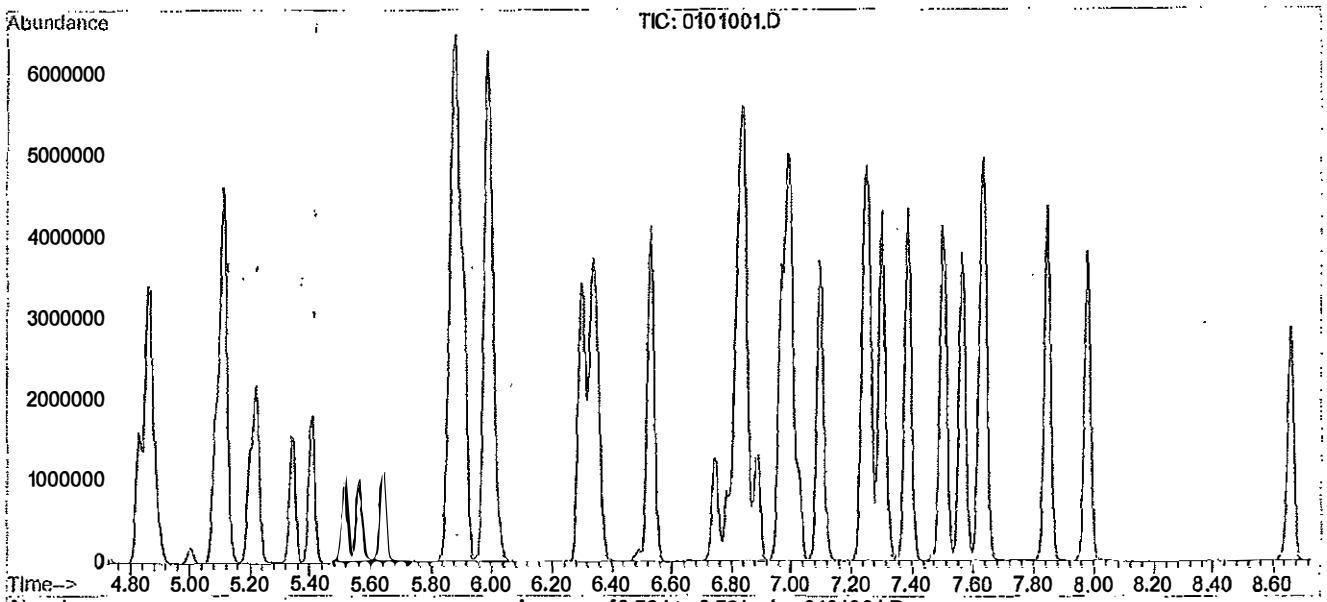
Directory: C:\HPCHEM\1\DATA\020515C

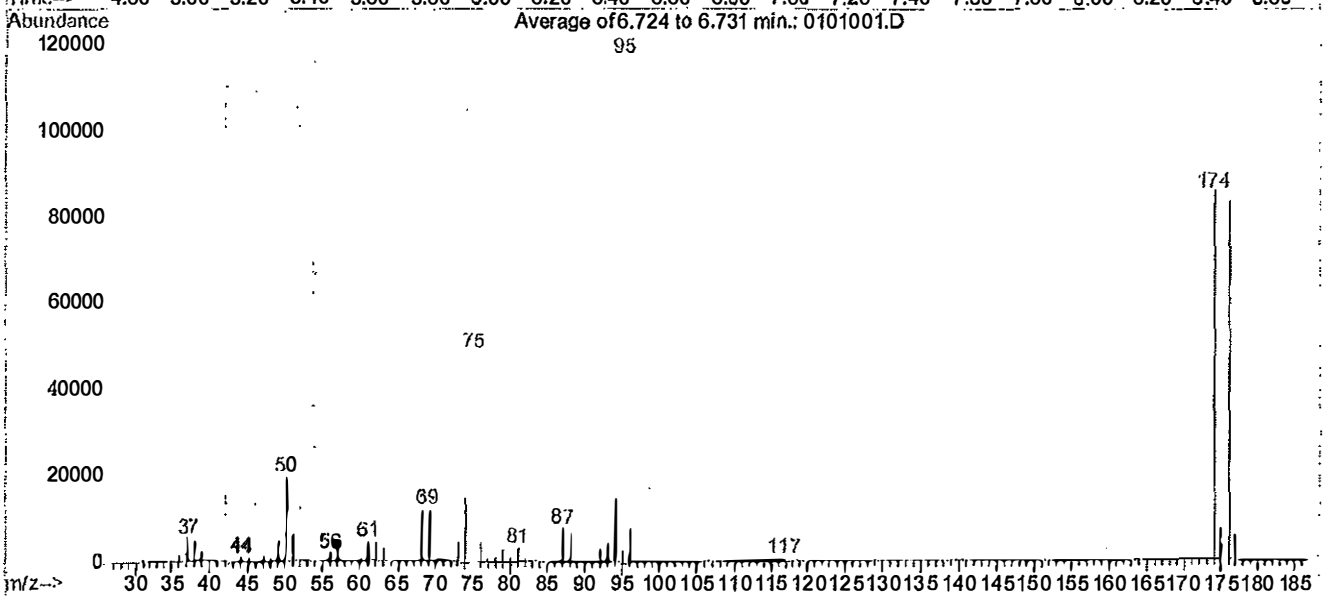
Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	0101001.D	1.	50ppb	qc	5 Feb 2015 10:27
2	2	0201001.D	1.	b	qc	5 Feb 2015 10:51
3	3	0301002.D	1.	1ppb 8260 ical	ical	5 Feb 2015 11:11
4	4	0401003.D	1.	5ppb 8260 ical	ical	5 Feb 2015 11:30
5	5	0501004.D	1.	10ppb 8260 ical	ical	5 Feb 2015 11:49
6	6	0601005.D	1.	20ppb 8260 ical	ical	5 Feb 2015 12:08
7	7	0701006.D	1.	50ppb 8260 ical	ical	5 Feb 2015 12:27
8	8	0801007.D	1.	100ppb 8260 lcal	lcal	5 Feb 2015 12:47
9	9	0901008.D	1.	b	ical	5 Feb 2015 13:06
10	10	1001009.D	1.	200ppb 8260 ical	ical	5 Feb 2015 13:25
11	11	1101010.D	1.	b	ical	5 Feb 2015 13:44
12	12	1201011.D	1.	50ppb icv	ical verification	5 Feb 2015 14:04
13	13	1301012.D	1.	mb	qc	5 Feb 2015 14:23
14	14	1401013.D	1.	15-1642	a	5 Feb 2015 14:42
15	15	1501014.D	1.	15-1643	a	5 Feb 2015 15:01
16	16	1601015.D	1.	15-1644	a	5 Feb 2015 15:20
17	17	1701016.D	1.	15-1645	a	5 Feb 2015 15:40
18	18	1801017.D	1.	15-1646	a	5 Feb 2015 15:59
19	19	1901018.D	1.	15-1647	a	5 Feb 2015 16:18
20	20	2001019.D	1.	15-1648:10	a	5 Feb 2015 16:37
21	21	2101020.D	1.	15-1649	a	5 Feb 2015 16:57
22	22	2201021.D	1.	15-1650:10	a	5 Feb 2015 17:16
23	23	2301022.D	1.	15-1651:10	a	5 Feb 2015 17:35
24	24	2401023.D	1.	15-1652:10	a	5 Feb 2015 17:54
25	25	2501024.D	1.	15-1653:10	a	5 Feb 2015 18:13
26	26	2601025.D	1.	15-1654 tb	a	5 Feb 2015 18:33
27	27	2701026.D	1.	15-1956 rush	a	5 Feb 2015 18:52
28	28	2801027.D	1.	15-1661	a	5 Feb 2015 19:11
29	29	2901028.D	1.	15-1690	a	5 Feb 2015 19:30
30	30	3001029.D	1.	15-1691	a	5 Feb 2015 19:50
31	31	3101030.D	1.	15-1692	a	5 Feb 2015 20:09
32	32	3201031.D	1.	15-1617.tb	a	5 Feb 2015 20:28
33	33	3301032.D	1.	15-1693	a	5 Feb 2015 20:47
34	34	3401033.D	1.	15-1694	a	5 Feb 2015 21:06
35	35	3501034.D	1.	15-1744	a	5 Feb 2015 21:25
36	36	3601035.D	1.	15-1746	a	5 Feb 2015 21:45
37	37	3701036.D	1.	15-1748	a	5 Feb 2015 22:04
38	38	3801037.D	1.	15-1750	a	5 Feb 2015 22:23
39	39	3901038.D	1.	15-1750:10	a	5 Feb 2015 22:42
40	40	4001039.D	1.	15-1762 tb	a	5 Feb 2015 23:01
41	41	4101040.D	1.	bfb/ccv 50ppb	qc	5 Feb 2015 23:21
42	42	4201041.D	1.	lcs 50ppb	qc	5 Feb 2015 23:40
43	43	4301042.D	1.	lcsd 50ppb	qc	5 Feb 2015 23:59
44	44	4401043.D	1.	mb	qc	6 Feb 2015 00:18
45	45	4501044.D	1.	15-1763	a	6 Feb 2015 00:37
46	46	4601045.D	1.	15-1763ms	b	6 Feb 2015 00:56
47	47	4701046.D	1.	15-1763msd	c	6 Feb 2015 01:16
48	48	4801047.D	1.	15-1764	a	6 Feb 2015 01:35
49	49	4901048.D	1.	15-1765	a	6 Feb 2015 01:54
50	50	5001049.D	1.	15-1767	a	6 Feb 2015 02:13
51	51	5101050.D	1.	15-1768	a	6 Feb 2015 02:32
52	52	5201051.D	1.	15-1769	a	6 Feb 2015 02:51
53	53	5301052.D	1.	15-1771	a	6 Feb 2015 03:10
54	54	5401053.D	1.	15-1772	a	6 Feb 2015 03:30
55	55	5501054.D	1.	15-1773	a	6 Feb 2015 03:49

BFB

Data File : C:\HPCHEM\1\DATA\020515C\0101001.D
Acq On : 5 Feb 2015 10:27 am
Sample : 50ppb
Misc : qc
MS Integration Params: EVENTS.E
Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :

Vial: 1
Operator: tjg
Inst : Volatile
Multiplr: 1.00





Spectrum Information: Average of 6.724 to 6.731 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	16.7	19493	PASS
75	95	30	60	41.4	48376	PASS
95	95	100	100	100.0	116756	PASS
96	95	5	9	6.5	7535	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	73.1	85368	PASS
175	174	5	9	8.9	7577	PASS
176	174	95	101	97.0	82808	PASS
177	176	5	9	7.0	5782	PASS

Response Factor Report Volatile

Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration

Calibration Files
5 =0401003.D 100 =0801007.D 20 =0601005.D
10 =0501004.D 200 =1001009.D 1 =0301003.D

		Compound	5	100	20	10	200	1	Avg	%RSD
1)		Fluorobenzene (IS)	ISTD							
2)		Dichlorodifluoromet	0.551	0.583	0.606	0.590	0.612		0.589	3.68
3)		Chlormethane	0.643	0.634	0.662	0.648	0.638		0.644	1.52
4)		Vinyl Chloride (CCC	0.546	0.562	0.573	0.552	0.561	0.698	0.579	9.22
5)		Bromomethane	0.210	0.190	0.249	0.223	0.228		0.223	9.18
6)		Chloroethane	0.231	0.218	0.256	0.255	0.188		0.232	11.09
7)		Acrolein	0.230	0.253	0.254	0.254	0.257		0.250	3.96
8)		Trichlorofluorometh	0.414	0.417	0.434	0.415	0.401		0.417	2.59
9)		Acetone	0.058	0.046	0.049	0.051	0.053		0.051	8.91
10)		1,1-Dichloroethene	0.446	0.451	0.476	0.459	0.456		0.457	2.27
11)		Iodomethane	0.430	0.535	0.494	0.478	0.496		0.492	7.46
12)		Carbon Disulfide	1.079	1.173	1.130	1.117	1.114		1.126	2.81
13)		Acrylonitrile	0.581	0.607	0.645	0.604	0.591		0.605	3.61
14)		Methylene Chloride	0.375	0.381	0.449	0.443	0.380		0.400	8.99
15)		trans-1,2-Dichloroe	0.318	0.345	0.339	0.333	0.304		0.330	4.70
16)		Methyl-tert-butyl e	0.744	0.776	0.798	0.792	0.795		0.780	2.55
17)		1,1-Dichloroethane	0.676	0.686	0.726	0.726	0.661		0.698	3.94
18)		Vinyl Acetate	0.230	0.248	0.246	0.270	0.253		0.250	5.07
19)		n-Hexane	0.516	0.546	0.551	0.553	0.553		0.544	2.60
20)		n-Butanol	0.270	0.293	0.311	0.305	0.299		0.298	4.96
21)		2-Butanone (MEK)	0.111	0.107	0.116	0.115	0.114		0.113	2.98
22)		cis-1,2-Dichloroeth	0.518	0.527	0.541	0.559	0.519		0.534	2.96
23)		Bromochloromethane	0.263	0.286	0.296	0.290	0.289		0.286	4.12
24)		2,2-Dichloropropane	0.504	0.541	0.549	0.545	0.533		0.537	3.16
25)		Chloroform	0.687	0.700	0.724	0.732	0.678		0.706	3.02
26)		1,1,1-Trichloroetha	0.515	0.547	0.558	0.552	0.531		0.544	3.16
27)		1,1-Dichloropropene	0.499	0.525	0.532	0.533	0.521		0.523	2.45
28)		Carbon Tetrachlorid	0.506	0.545	0.568	0.549	0.529		0.543	4.13
29)	S	Dibromofluoromethan	0.310	0.298	0.306	0.312	0.298		0.305	1.95
30)	S	1,2-Dichloroethane-	0.222	0.219	0.233	0.222	0.222		0.226	3.36
31)		Benzene	1.499	1.500	1.571	1.563	1.423		1.516	3.60
32)		1,2-Dichloroethane	0.422	0.434	0.455	0.463	0.430		0.442	3.57
33)		Trichloroethene	0.402	0.428	0.441	0.440	0.427		0.428	3.31
34)		Dibromomethane	0.261	0.268	0.284	0.273	0.279		0.274	2.96
35)		1,2-Dichloropropane	0.361	0.383	0.388	0.394	0.379		0.382	3.06
36)		Bromodichloromethan	0.511	0.551	0.556	0.551	0.542		0.546	3.47
37)		2-Chloroethyl-vinyl	0.153	0.176	0.177	0.162	0.180		0.170	6.30
38)		cis-1,3-Dichloropro	0.586	0.637	0.635	0.636	0.628		0.629	3.58
39)	S	Toluene-d8 (SURR)	0.856	0.864	0.860	0.858	0.855		0.858	0.51
40)		Toluene	1.538	1.551	1.633	1.619	1.537		1.577	2.65
41)		trans-1,3-Dichlorop	0.498	0.519	0.537	0.527	0.505		0.518	2.83
42)		4-Methyl-2-Pentanon	0.224	0.209	0.234	0.228	0.212		0.222	4.19
43)		Tetrachloroethene (	0.475	0.471	0.524	0.517	0.407		0.482	8.85
44)		Ethyl Methacrylate	0.291	0.335	0.340	0.336	0.358		0.332	6.60
45)		1,1,2-Trichloroetha	0.266	0.265	0.281	0.280	0.274		0.273	2.59
46)		Dibromochloromethan	0.417	0.453	0.453	0.446	0.443		0.445	3.24
47)		1,3-Dichloropropane	0.529	0.531	0.554	0.558	0.546		0.545	2.21
48)		1,2-Dibromoethane (	0.360	0.393	0.384	0.379	0.405		0.386	4.15
49)		2-Hexanone	0.145	0.127	0.140	0.129	0.138		0.136	4.99
50)		Chlorobenzene-d5 (IS)	ISTD							
51)		1,1,1,2-Tetrachloro	0.510	0.574	0.579	0.625	0.541		0.571	7.14
52)		Chlorobenzene	1.449	1.516	1.603	1.727	1.408		1.548	7.48
53)		Ethyl Benzene	2.077	2.263	2.380	2.486	2.029		2.260	7.84
54)		m,p-Xylene	1.674	1.493	1.716	1.863	1.531		1.663	8.09
55)		o-Xylene	1.485	1.731	1.728	1.874	1.724		1.713	7.33
56)		Styrene	1.288	1.618	1.554	1.649	1.582		1.554	8.67
57)		Bromoform	0.275	0.338	0.342	0.360	0.335		0.332	8.84
58)	S	4-Bromofluorobenzen	0.390	0.435	0.412	0.437	0.472		0.428	6.53
59)		1,1,2,2-Tetrachloro	0.455	0.528	0.509	0.552	0.576		0.523	7.88
60)		trans-1,4-Dichloro-	0.100	0.110	0.094	0.102	0.106		0.102	5.31
61)		Isopropylbenzene	2.127	2.282	2.318	2.565	2.145		2.301	6.99
62)		Bromobenzene	0.661	0.661	0.757	0.796	0.610		0.700	9.86
63)		N-Propylbenzene	2.435	2.660	2.789	2.977	2.443		2.670	7.81
64)		2-Chlorotoluene	1.566	1.767	1.766	1.953	1.790		1.774	6.96
65)		4-Chlorotoluene	0.611	0.674	0.663	0.727	0.662		0.670	5.57

66)	1,3,5-Trimethylbenz	1.677	1.808	1.854	2.043	1.689		1.827	7.47
67)	tert-butylbenzene	1.761	1.917	1.996	2.170	1.695		1.923	9.01
68)	1,2,4-Trimethylbenz	1.634	1.847	1.890	2.051	1.829		1.858	7.25
69)	sec-Butylbenzene	2.225	2.419	2.582	2.745	2.271		2.466	8.05
70)	p-Isopropyltoluene	1.898	2.091	2.133	2.354	1.905		2.077	8.10
71)	1,4-Dichlorobenzene-d	----------ISTD----------							
72)	1,3-Dichlorobenzene	2.528	2.540	2.713	2.685	2.305		2.563	5.73
73)	1,4-Dichlorobenzene	1.700	1.629	1.742	1.737	1.490		1.667	5.72
74)	1,2,3-Trichloroprop	0.922	0.751	0.769	0.805	0.768		0.796	8.09
75)	n-Butylbenzene	3.077	3.540	3.555	3.450	3.254		3.392	5.56
76)	1,2-Dichlorobenzene	2.349	2.460	2.514	2.452	2.183		2.411	5.25
77)	1,2-Dibromo-3-chlor	0.078	0.081	0.082	0.087	0.076		0.081	4.94
78)	Hexachloro-1,3-buta	0.436	0.467	0.492	0.484	0.415		0.461	6.42
79)	1,2,4-Trichlorobenz	1.080	1.224	1.256	1.314	1.176		1.220	6.76
80)	Naphthalene	2.088	2.509	2.285	2.128	2.310	2.165	2.294	8.16
81)	1,2,3-Trichlorobenz	1.080	1.224	1.256	1.314	1.176		1.220	6.76
82)	1-methylnapthalene	0.798	0.900	0.821	0.923	0.907		0.864	6.05
83)	2-methylnapthalene	1.016	1.170	1.001	1.075	1.153		1.075	6.69

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

020515RC.M Fri Feb 06 16:51:18 2015

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020515C\0301002.D
Acq On : 5 Feb 2015 11:11 am
Sample : 1ppb 8260 ical
Misc : ical
MS Integration Params: EVENTS.E
Quant Time: Feb 6 16:51 2015

Vial: 3
Operator: tjg
Inst : Volatile
Multiplr: 1.00

Quant Results File: 020515RC.RES

Quant Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	3.91	96	14004283	50.00 ug/L	0.00
50) Chlorobenzene-d5 (IS)	5.86	117	11200161	50.00 ug/L	0.00
71) 1,4-Dichlorobenzene-d4 (IS	7.62	152	5433375	50.00 ug/L	0.00
System Monitoring Compounds					
29) Dibromofluoromethane (SURR	3.47	113	4356263	51.02 ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 102.04%					
30) 1,2-Dichloroethane-d4 (SUR	3.76	65	3197470	50.48 ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 100.96%					
39) Toluene-d8 (SURR)	4.83	98	12592626	52.43 ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 104.86%					
58) 4-Bromofluorobenzene (SURR	6.74	95	4539064	47.39 ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 94.78%					

Target Compounds					Qvalue
3) Chloromethane	1.54	50	224275	1.24 ug/L #	50
4) Vinyl Chloride (CCC)	1.55	62	206284	1.27 ug/L	75
5) Bromomethane	1.79	94	130893	2.10 ug/L	96
6) Chloroethane	1.86	64	59349	0.91 ug/L #	56
7) Acrolein	2.68	56	81414	1.16 ug/L #	71
8) Trichlorofluoromethane	1.95	101	140295	1.20 ug/L	97
9) Acetone	2.67	43	184694	13.02 ug/L #	44
10) 1,1-Dichloroethene	2.24	61	168382	1.32 ug/L	96
11) Iodomethane	2.32	142	94900	0.69 ug/L #	88
12) Carbon Disulfide	2.27	76	383567	1.22 ug/L	93
13) Acrylonitrile	2.94	53	202185	1.19 ug/L	87
14) Methylene Chloride	2.55	49	158738	1.42 ug/L #	79
15) trans-1,2-Dichloroethene	2.64	96	130960	1.42 ug/L	93
16) Methyl-tert-butyl ether (M	2.68	73	287069	1.31 ug/L	99
17) 1,1-Dichloroethane	2.96	63	241428	1.24 ug/L #	34
18) Vinyl Acetate	3.42	43	73198	1.05 ug/L #	79
19) n-Hexane	2.68	57	204208	1.34 ug/L #	84
20) n-Butanol	3.06	57	89480	1.07 ug/L #	67
21) 2-Butanone (MEK)	3.53	43	106045	3.35 ug/L #	50
22) cis-1,2-Dichloroethene	3.24	61	192713	1.29 ug/L	95
23) Bromochloromethane	3.34	128	85891	1.07 ug/L #	94
24) 2,2-Dichloropropane	3.30	77	191163	1.27 ug/L #	1
25) Chloroform	3.37	83	245537	1.24 ug/L #	78
26) 1,1,1-Trichloroethane	3.50	97	172002	1.13 ug/L	96
27) 1,1-Dichloropropene	3.56	75	192244	1.31 ug/L #	63
28) Carbon Tetrachloride	3.46	117	174861	1.15 ug/L	92
31) Benzene	3.69	78	557628	1.31 ug/L #	1
32) 1,2-Dichloroethane	3.80	62	158095	1.28 ug/L #	39
33) Trichloroethene	3.91	95	1441084	12.02 ug/L #	23
34) Dibromomethane	4.25	93	93671	1.22 ug/L	88
35) 1,2-Dichloropropane	4.31	63	133439	1.25 ug/L #	90
36) Bromodichloromethane	4.33	83	184061	1.20 ug/L	94
37) 2-Chloroethyl-vinyl-ether	4.66	63	215565	4.52 ug/L	96
38) cis-1,3-Dichloropropene	4.71	75	231206	1.31 ug/L	96
40) Toluene	4.86	91	585964	1.33 ug/L	99
41) trans-1,3-Dichloropropene	5.11	75	184575	1.27 ug/L	96
42) 4-Methyl-2-Pentanone (MIBK	5.09	43	202188	3.25 ug/L	96
43) Tetrachloroethene (PCE)	5.11	166	183695	1.36 ug/L	95
44) Ethyl Methacrylate	5.20	69	90074	0.97 ug/L	79
45) 1,1,2-Trichloroethane	5.22	83	85721	1.12 ug/L	96
46) Dibromochloromethane	5.34	129	132364	1.06 ug/L	96
47) 1,3-Dichloropropane	5.41	76	186197	1.22 ug/L #	92
48) 1,2-Dibromoethane (EDB)	5.52	107	141146	1.30 ug/L #	99
49) 2-Hexanone	5.64	43	122110	3.21 ug/L #	84

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020515C\0301002.D
Acq On : 5 Feb 2015 11:11 am
Sample : 1ppb 8260 ical
Misc : ical
MS Integration Params: EVENTS.E
Quant Time: Feb 6 16:51 2015

Vial: 3
Operator: tjg
Inst : Volatile
Multiplr: 1.00
Quant Results File: 020515RC.RES

Quant Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration
DataAcq Meth : VOC2

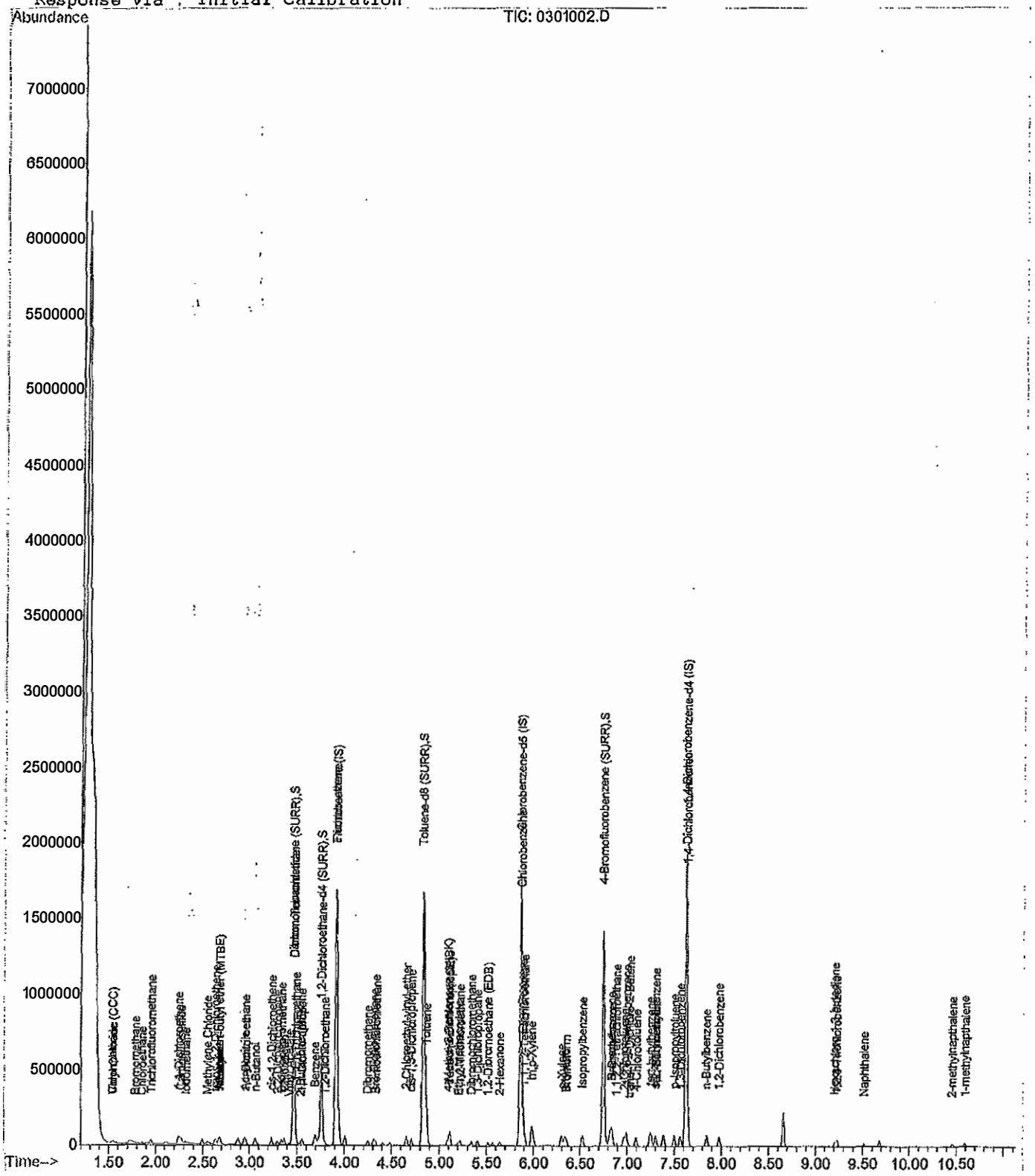
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
51) 1,1,1,2-Tetrachloroethane	5.91	131	136467	1.07 ug/L #	85
52) Chlorobenzene	5.87	112	429686	1.24 ug/L #	88
53) Ethyl Benzene	5.88	91	630398	1.25 ug/L	94
54) m,p-Xylene	5.98	91	913371	2.45 ug/L	99
55) o-Xylene	6.30	91	471716	1.23 ug/L #	89
56) Styrene	6.33	104	389552	1.12 ug/L	94
57) Bromoform	6.35	173	73482	0.99 ug/L #	89
59) 1,1,2,2-Tetrachloroethane	6.89	83	120681	1.03 ug/L #	95
60) trans-1,4-Dichloro-2-Buten	7.02	53	10248	0.45 ug/L #	23
61) Isopropylbenzene	6.53	105	611463	1.19 ug/L #	88
62) Bromobenzene	6.83	156	187030	1.19 ug/L	94
63) N-Propylbenzene	6.84	91	717072	1.20 ug/L	99
64) 2-Chlorotoluene	6.97	91	414938	1.04 ug/L	98
65) 4-Chlorotoluene	7.10	126	155626	1.04 ug/L #	79
66) 1,3,5-Trimethylbenzene	6.99	105	465435	1.14 ug/L	97
67) tert-butylbenzene	7.25	119	501706	1.16 ug/L	99
68) 1,2,4-Trimethylbenzene	7.30	105	467014	1.12 ug/L #	1
69) sec-Butylbenzene	7.30	105	467018	0.85 ug/L #	73
70) p-Isopropyltoluene	7.50	119	501382	1.08 ug/L #	81
72) 1,3-Dichlorobenzene	7.56	146	359705	1.29 ug/L	97
73) 1,4-Dichlorobenzene	7.63	148	243936	1.35 ug/L	88
75) n-Butylbenzene	7.84	91	429224	1.16 ug/L	98
76) 1,2-Dichlorobenzene	7.98	146	323399	1.23 ug/L	97
78) Hexachloro-1,3-butadiene	9.21	225	65891	1.32 ug/L	93
79) 1,2,4-Trichlorobenzene	9.23	180	188215	1.42 ug/L	92
80) Naphthalene	9.52	128	188931	0.76 ug/L #	68
81) 1,2,3-Trichlorobenzene	9.23	180	188215	1.42 ug/L	92
82) 1-methylnapthalene	10.60	142	112436	1.20 ug/L	79
83) 2-methylnapthalene	10.46	142	146198	1.25 ug/L	96

(#) = qualifier out of range (m) = manual integration
0301002.D 020515RC.M Fri Feb 06 16:51:35 2015

Quantitation Report

Data File : C:\HPCHEM\1\DATA\020515C\0301002.D Vial: 3
Acq On : 5 Feb 2015 11:11 am Operator: tjg
Sample : 1ppb 8260 ical Inst : Volatile
Misc : ical Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Feb 6 16:51 2015 Quant Results File: 020515RC.RES

Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020515C\0401003.D
Acq On : 5 Feb 2015 11:30 am
Sample : 5ppb 8260 ical
Misc : ical
MS Integration Params: EVENTS.E
Quant Time: Feb 5 13:03 2015

Vial: 4
Operator: tjg
Inst : Volatile
Multiplr: 1.00
Quant Results File: 020515RC.RES

Quant Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Tue Jan 13 10:26:17 2015
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	3.91	96	14266063m	50.00 ug/L	0.00
50) Chlorobenzene-d5 (IS)	5.86	117	11285348	50.00 ug/L	0.00
71) 1,4-Dichlorobenzene-d4 (IS	7.62	152	5344170	50.00 ug/L	0.00
System Monitoring Compounds					
29) Dibromofluoromethane (SURR	3.47	113	4428507	50.15 ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 100.30%					
30) 1,2-Dichloroethane-d4 (SUR	3.76	65	3162943	51.65 ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 103.30%					
39) Toluene-d8 (SURR)	4.83	98	12209319	49.44 ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 98.88%					
58) 4-Bromofluorobenzene (SURR	6.74	95	4400833	47.55 ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 95.10%					

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.35	85	785457m	4.54 ug/L	
3) Chlormethane	1.52	50	917219	5.02 ug/L	98
4) Vinyl Chloride (CCC)	1.56	62	778650	4.65 ug/L	97
5) Bromomethane	1.76	94	467391m	5.80 ug/L	
6) Chloroethane	1.84	64	329110m	4.57 ug/L	
7) Acrolein	2.67	56	328418	4.79 ug/L #	97
8) Trichlorofluoromethane	1.95	101	590152	4.26 ug/L	96
9) Acetone	2.57	43	206527	17.67 ug/L #	88
10) 1,1-Dichloroethene	2.24	61	635670	4.70 ug/L	98
11) Iodomethane	2.32	142	613437	3.58 ug/L #	92
12) Carbon Disulfide	2.27	76	1539946	4.65 ug/L	97
13) Acrylonitrile	2.94	53	828886	4.74 ug/L #	89
14) Methylene Chloride	2.55	49	534566	4.66 ug/L	83
15) trans-1,2-Dichloroethene	2.64	96	454071	4.38 ug/L	99
16) Methyl-tert-butyl ether (M	2.68	73	1061793	4.90 ug/L	99
17) 1,1-Dichloroethane	2.96	63	964504	4.75 ug/L #	89
18) Vinyl Acetate	3.42	43	328445	5.06 ug/L #	100
19) n-Hexane	2.67	57	736630	4.95 ug/L	96
20) n-Butanol	3.06	57	385408	4.60 ug/L #	84
21) 2-Butanone (MEK)	3.53	43	394468	15.04 ug/L #	90
22) cis-1,2-Dichloroethene	3.24	61	738485	4.76 ug/L	97
23) Bromochloromethane	3.34	128	375584	4.70 ug/L #	90
24) 2,2-Dichloropropane	3.30	77	719697	4.64 ug/L #	88
25) Chloroform	3.37	83	980250	4.84 ug/L #	81
26) 1,1,1-Trichloroethane	3.49	97	735284	4.49 ug/L	98
27) 1,1-Dichloropropene	3.56	75	711768	4.78 ug/L	99
28) Carbon Tetrachloride	3.46	117	722483	4.41 ug/L #	93
31) Benzene	3.69	78	2138931	4.82 ug/L	99
32) 1,2-Dichloroethane	3.80	62	602059	4.82 ug/L	99
33) Trichloroethene	4.01	95	573483	4.65 ug/L	95
34) Dibromomethane	4.25	93	373042	5.01 ug/L	95
35) 1,2-Dichloropropane	4.31	63	514403	4.70 ug/L	91
36) Bromodichloromethane	4.33	83	728771	4.83 ug/L	97
37) 2-Chloroethyl-vinyl-ether	4.66	63	870263	23.74 ug/L	99
38) cis-1,3-Dichloropropene	4.71	75	836429	4.84 ug/L	97
40) Toluene	4.86	91	2193663	4.76 ug/L	100
41) trans-1,3-Dichloropropene	5.12	75	709829	5.05 ug/L	92
42) 4-Methyl-2-Pentanone (MIBK	5.09	43	798431	14.49 ug/L	96
43) Tetrachloroethene (PCE)	5.11	166	678077	4.34 ug/L	96
44) Ethyl Methacrylate	5.20	69	415671	4.43 ug/L	89
45) 1,1,2-Trichloroethane	5.22	83	379599	5.16 ug/L	98
46) Dibromochloromethane	5.34	129	595021	4.92 ug/L	96
47) 1,3-Dichloropropane	5.41	76	754639	5.14 ug/L	99
48) 1,2-Dibromoethane (EDB)	5.52	107	513337	4.89 ug/L #	99

(#) = qualifier out of range (m) = manual integration
0401003.D 020515RC.M Fri Feb 06 16:51:56 2015

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020515C\0401003.D
Acq On : 5 Feb 2015 11:30 am
Sample : 5ppb 8260 ical
Misc : ical
MS Integration Params: EVENTS.E
Quant Time: Feb 5 13:03 2015

Vial: 4
Operator: tjg
Inst : Volatile
Multiplr: 1.00
Quant Results File: 020515RC.RES

Quant Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Tue Jan 13 10:26:17 2015
Response via : Initial Calibration
DataAcq Meth : VOC2

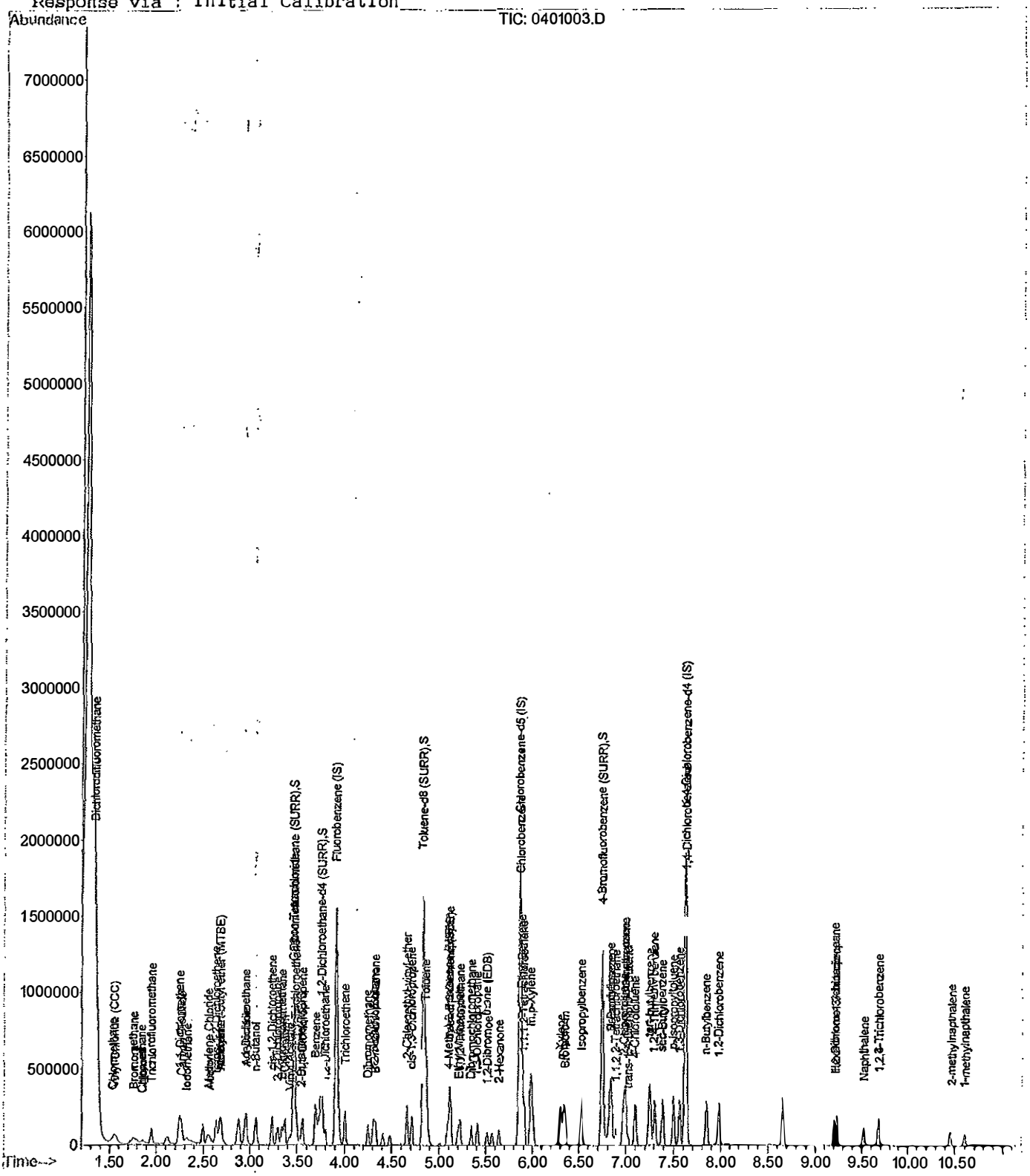
Compound	R.T.	QIon	Response	Conc Unit		Qvalue
49) 2-Hexanone	5.64	43	517893	13.56 ug/L		97
51) 1,1,1,2-Tetrachlorbethane	5.91	131	575173	4.67 ug/L	#	92
52) Chlorobenzene	5.87	112	1635429	4.65 ug/L		96
53) Ethyl Benzene	5.88	91	2343664	4.48 ug/L		98
54) m,p-Xylene	5.99	91	3437984	8.68 ug/L		94
55) o-Xylene	6.30	91	1676389	3.87 ug/L		96
56) Styrene	6.34	104	1453166	3.91 ug/L		95
57) Bromoform	6.35	173	309943	4.95 ug/L	#	98
59) 1,1,2,2-Tetrachloroethane	6.89	83	513192	5.05 ug/L		96
60) trans-1,4-Dichloro-2-Buten	7.03	53	92470	4.91 ug/L		84
61) Isopropylbenzene	6.53	105	2400938	4.60 ug/L		100
62) Bromobenzene	6.83	156	746256	4.97 ug/L		96
63) N-Propylbenzene	6.84	91	2748474	4.59 ug/L		99
64) 2-Chlorotoluene	6.97	91	1767410	4.49 ug/L		98
65) 4-Chlorotoluene	7.10	126	689906	4.64 ug/L		93
66) 1,3,5-Trimethylbenzene	6.99	105	1892534	4.62 ug/L		99
67) tert-butylbenzene	7.25	119	1987429	4.61 ug/L		94
68) 1,2,4-Trimethylbenzene	7.30	105	1844126	4.36 ug/L	#	1
69) sec-Butylbenzene	7.39	105	2511453	4.54 ug/L	#	100
70) p-Isopropyltoluene	7.50	119	2141451	4.55 ug/L		99
72) 1,3-Dichlorobenzene	7.56	146	1351026	4.90 ug/L		98
73) 1,4-Dichlorobenzene	7.63	148	908305	5.13 ug/L		97
74) 1,2,3-Trichloropropane	7.00	75	492640	6.79 ug/L	#	70
75) n-Butylbenzene	7.84	91	1644331	4.49 ug/L		99
76) 1,2-Dichlorobenzene	7.98	146	1255150	4.92 ug/L		98
77) 1,2-Dibromo-3-chloropropan	9.21	155	29688	3.33 ug/L	#	57
78) Hexachloro-1,3-butadiene	9.21	225	233064	4.82 ug/L		96
79) 1,2,4-Trichlorobenzene	9.68	180	577102	4.66 ug/L		96
80) Naphthalene	9.52	128	915787	3.86 ug/L		97
81) 1,2,3-Trichlorobenzene	9.68	180	577102	4.66 ug/L		96
82) 1-methylnapthalene	10.60	142	426587	4.07 ug/L		89
83) 2-methylnapthalene	10.46	142	543212	4.06 ug/L		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\020515C\0401003.D Vial: 4
Acq On : 5 Feb 2015 11:30 am Operator: tjg
Sample : 5ppb 8260 ical Inst : Volatile
Misc : ical Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Feb 5 13:03 2015 Quant Results File: 020515RC.RES

Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020515C\0501004.D
Acq On : 5 Feb 2015 11:49 am
Sample : 10ppb 8260 ical
Misc : ical
MS Integration Params: EVENTS.E
Quant Time: Feb 5 13:00 2015

Vial: 5
Operator: tjg
Inst : Volatile
Multiplr: 1.00
Quant Results File: 020515RC.RES

Quant Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:00:07 2015
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	3.91	96	13703469m	50.00 ug/L	0.00
50) Chlorobenzene-d5 (IS)	5.86	117	9488955	50.00 ug/L	0.00
71) 1,4-Dichlorobenzene-d4 (IS	7.62	152	5177850	50.00 ug/L	0.00
System Monitoring Compounds					
29) Dibromofluoromethane (SURR	3.47	113	4273816	50.44 ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 100.88%					
30) 1,2-Dichloroethane-d4 (SUR	3.76	65	3048584	51.80 ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 103.60%					
39) Toluene-d8 (SURR)	4.83	98	11763179	49.61 ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 99.22%					
58) 4-Bromofluorobenzene (SURR	6.74	95	4149429	52.86 ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 105.72%					

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.38	85	1616109	9.79 ug/L	97
3) Chlormethane	1.53	50	1776108	10.05 ug/L	100
4) Vinyl Chloride (CCC)	1.55	62	1512231	9.39 ug/L	99
5) Bromomethane	1.76	94	959577m	11.92 ug/L	
6) Chloroethane	1.84	64	699893m	10.39 ug/L	
7) Acrolein	2.67	56	694920	10.56 ug/L #	99
8) Trichlorofluoromethane	1.95	101	1138037	8.76 ug/L	100
9) Acetone	2.57	43	351002	29.20 ug/L #	96
10) 1,1-Dichloroethene	2.24	61	1258753	9.76 ug/L	99
11) Iodomethane	2.32	142	1311246	8.22 ug/L	98
12) Carbon Disulfide	2.27	76	3061913	9.57 ug/L	97
13) Acrylonitrile	2.94	53	1655618	9.82 ug/L #	91
14) Methylene Chloride	2.55	49	1215098	10.88 ug/L	99
15) trans-1,2-Dichloroethene	2.64	96	912073	9.39 ug/L	98
16) Methyl-tert-butyl ether (M	2.68	73	2170858	10.40 ug/L	99
17) 1,1-Dichloroethane	2.96	63	1989552	10.25 ug/L #	89
18) Vinyl Acetate	3.42	43	738692	11.65 ug/L #	100
19) n-Hexane	2.68	57	1516750	10.59 ug/L	98
20) n-Butanol	3.06	57	835277	10.43 ug/L #	93
21) 2-Butanone (MEK)	3.53	43	789597	30.41 ug/L	91
22) cis-1,2-Dichloroethene	3.24	61	1530818	10.30 ug/L	97
23) Bromochloromethane	3.34	128	794750	10.28 ug/L #	99
24) 2,2-Dichloropropane	3.30	77	1493946	10.09 ug/L	97
25) Chloroform	3.37	83	2006274	10.30 ug/L	99
26) 1,1,1-Trichloroethane	3.49	97	1512822	9.74 ug/L	98
27) 1,1-Dichloropropene	3.56	75	1462007	10.15 ug/L	99
28) Carbon Tetrachloride	3.46	117	1505328	9.69 ug/L	97
31) Benzene	3.69	78	4284768	10.12 ug/L	99
32) 1,2-Dichloroethane	3.80	62	1268963	10.63 ug/L	98
33) Trichloroethene	4.01	95	1206261	10.20 ug/L	98
34) Dibromomethane	4.25	93	748210	10.44 ug/L	94
35) 1,2-Dichloropropane	4.31	63	1080095	10.29 ug/L	99
36) Bromodichloromethane	4.33	83	1509977	10.34 ug/L	97
37) 2-Chloroethyl-vinyl-ether	4.66	63	1778261	48.08 ug/L	98
38) cis-1,3-Dichloropropene	4.71	75	1743720	10.46 ug/L	98
40) Toluene	4.86	91	4437904	10.14 ug/L	98
41) trans-1,3-Dichloropropene	5.12	75	1444551	10.53 ug/L	95
42) 4-Methyl-2-Pentanone (MIBK	5.09	43	1560009	28.80 ug/L	98
43) Tetrachloroethene (PCE)	5.11	166	1416627	9.66 ug/L	97
44) Ethyl Methacrylate	5.20	69	920217	10.32 ug/L	96
45) 1,1,2-Trichloroethane	5.22	83	768052	10.77 ug/L	97
46) Dibromochloromethane	5.34	129	1222651	10.35 ug/L	97
47) 1,3-Dichloropropane	5.41	76	1529198	10.74 ug/L	99
48) 1,2-Dibromoethane (EDB)	5.52	107	1037832	10.25 ug/L	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020515C\0501004.D
Acq On : 5 Feb 2015 11:49 am
Sample : 10ppb 8260 ical
Misc : ical
MS Integration Params: EVENTS.E
Quant Time: Feb 5 13:00 2015

Vial: 5
Operator: tjg
Inst : Volatile
Multiplr: 1.00
Quant Results File: 020515RC.RES

Quant Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:00:07 2015
Response via : Initial Calibration
DataAcq Meth : VOC2

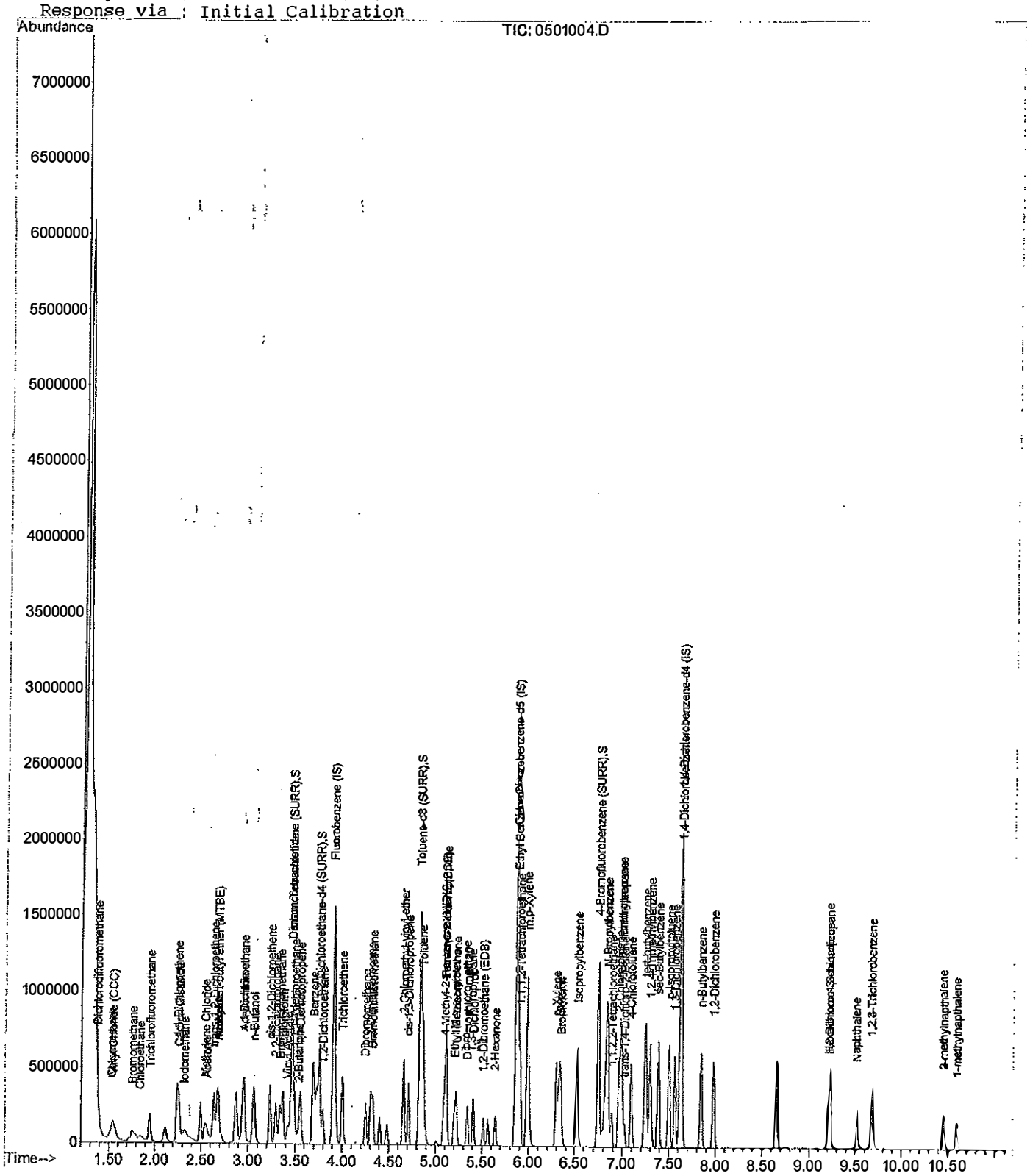
Compound	R.T.	QIon	Response	Conc Unit		Qvalue
49) 2-Hexanone	5.64	43	884533	23.82 ug/L	#	83
51) 1,1,1,2-Tetrachloroethane	5.91	131	1186444	11.30 ug/L	#	95
52) Chlorobenzene	5.87	112	3277440	11.07 ug/L		97
53) Ethyl Benzene	5.88	91	4717743	10.76 ug/L		99
54) m,p-Xylene	5.99	91	7070921	21.43 ug/L		95
55) o-Xylene	6.30	91	3556324	9.92 ug/L		98
56) Styrene	6.34	104	3130099	10.16 ug/L		98
57) Bromoform	6.35	173	684110	12.56 ug/L		98
59) 1,1,2,2-Tetrachloroethane	6.89	83	1048123	11.98 ug/L		99
60) trans-1,4-Dichloro-2-Buten	7.03	53	193818	11.80 ug/L		92
61) Isopropylbenzene	6.53	105	4867705	11.07 ug/L		99
62) Bromobenzene	6.83	156	1510416	11.97 ug/L		97
63) N-Propylbenzene	6.84	91	5649313	11.22 ug/L		100
64) 2-Chlorotoluene	6.97	91	3705466	11.20 ug/L		99
65) 4-Chlorotoluene	7.10	126	1380076	10.93 ug/L		97
66) 1,3,5-Trimethylbenzene	6.99	105	3877020	11.23 ug/L		99
67) tert-butylbenzene	7.25	119	4117520	11.36 ug/L		96
68) 1,2,4-Trimethylbenzene	7.30	105	3891551	11.02 ug/L	#	1
69) sec-Butylbenzene	7.39	105	5209368	11.22 ug/L	#	99
70) p-Isopropyltoluene	7.50	119	4466851	11.24 ug/L		99
72) 1,3-Dichlorobenzene	7.56	146	2780168	10.51 ug/L		97
73) 1,4-Dichlorobenzene	7.64	148	1799217	10.45 ug/L		98
74) 1,2,3-Trichloropropane	7.00	75	833497	11.23 ug/L		90
75) n-Butylbenzene	7.84	91	3573013	10.20 ug/L		99
76) 1,2-Dichlorobenzene	7.98	146	2539646	10.30 ug/L		98
77) 1,2-Dibromo-3-chloropropan	9.21	155	89896	10.88 ug/L		89
78) Hexachloro-1,3-butadiene	9.21	225	501639	10.73 ug/L		100
79) 1,2,4-Trichlorobenzene	9.68	180	1360365	11.49 ug/L		99
80) Naphthalene	9.52	128	2203739	9.92 ug/L		99
81) 1,2,3-Trichlorobenzene	9.68	180	1360365	11.49 ug/L		99
82) 1-methylnapthalene	10.59	142	955416	9.53 ug/L		95
83) 2-methylnapthalene	10.46	142	1113734	8.69 ug/L		97

(#) = qualifier out of range (m) = manual integration
0501004.D 020515RC.M Fri Feb 06 16:52:01 2015

Quantitation Report

Data File : C:\HPCHEM\1\DATA\020515C\0501004.D Vial: 5
Acq On : 5 Feb 2015 11:49 am Operator: tjg
Sample : 10ppb 8260 ical Inst : Volatile
Misc : ical Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Feb 5 13:00 2015 Quant Results File: 020515RC.RES

Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020515C\0601005.D
Acq On : 5 Feb 2015 12:08 pm
Sample : 20ppb 8260 ical
Misc : ical
MS Integration Params: EVENTS.E
Quant Time: Feb 5 13:01 2015

Vial: 6
Operator: tjg
Inst : Volatile
Multiplr: 1.00
Quant Results File: 020515RC.RES

Quant Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:00:42 2015
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	3.91	96	13414729m	50.00	ug/L	0.00
50) Chlorobenzene-d5 (IS)	5.86	117	10145622	50.00	ug/L	0.00
71) 1,4-Dichlorobenzene-d4 (IS	7.62	152	5170906	50.00	ug/L	0.00
System Monitoring Compounds						
29) Dibromofluoromethane (SURR	3.47	113	4106861	49.74	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 99.48%						
30) 1,2-Dichloroethane-d4 (SUR	3.76	65	3128308	53.84	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 107.68%						
39) Toluene-d8 (SURR)	4.83	98	11533163	49.82	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 99.64%						
58) 4-Bromofluorobenzene (SURR	6.75	95	4182520	49.53	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 99.06%						

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.38	85	3250822	20.12	ug/L #	53
3) Chlormethane	1.53	50	3550417	20.50	ug/L	98
4) Vinyl Chloride (CCC)	1.55	62	3077242	19.56	ug/L	98
5) Bromomethane	1.76	94	1678889	20.55	ug/L	98
6) Chloroethane	1.84	64	1374128m	20.91	ug/L	
7) Acrolein	2.67	56	1364657	20.88	ug/L #	99
8) Trichlorofluoromethane	1.95	101	2330380	18.84	ug/L	99
9) Acetone	2.57	43	652763	54.34	ug/L #	95
10) 1,1-Dichloroethene	2.24	61	2552783	20.33	ug/L	96
11) Iodomethane	2.32	142	2649934	17.40	ug/L	99
12) Carbon Disulfide	2.27	76	6060936	19.37	ug/L	96
13) Acrylonitrile	2.95	53	3460930	20.96	ug/L #	87
14) Methylene Chloride	2.55	49	2407571	21.54	ug/L	99
15) trans-1,2-Dichloroethene	2.64	96	1819330	19.39	ug/L	96
16) Methyl-tert-butyl ether (M	2.68	73	4280361	20.83	ug/L	99
17) 1,1-Dichloroethane	2.96	63	3897164	20.48	ug/L	99
18) Vinyl Acetate	3.42	43	1322652	20.72	ug/L #	100
19) n-Hexane	2.67	57	2956278	20.79	ug/L	98
20) n-Butanol	3.06	57	1666908	21.05	ug/L #	91
21) 2-Butanone (MEK)	3.53	43	1550296	58.32	ug/L	95
22) cis-1,2-Dichloroethene	3.24	61	2904368	19.95	ug/L	99
23) Bromochloromethane	3.34	128	1590929	20.89	ug/L #	96
24) 2,2-Dichloropropane	3.30	77	2946817	20.28	ug/L	100
25) Chloroform	3.37	83	3884370	20.22	ug/L	99
26) 1,1,1-Trichloroethane	3.49	97	2996125	19.81	ug/L	99
27) 1,1-Dichloropropene	3.56	75	2853384	20.15	ug/L	98
28) Carbon Tetrachloride	3.46	117	3048079	20.12	ug/L	99
31) Benzene	3.69	78	8428761	20.36	ug/L	99
32) 1,2-Dichloroethane	3.80	62	2439221	20.76	ug/L	97
33) Trichloroethene	4.01	95	2366699	20.39	ug/L	97
34) Dibromomethane	4.25	93	1522269	21.42	ug/L	95
35) 1,2-Dichloropropane	4.31	63	2082423	20.17	ug/L	98
36) Bromodichloromethane	4.33	83	2985011	20.68	ug/L	99
37) 2-Chloroethyl-vinyl-ether	4.66	63	3806143	100.10	ug/L	99
38) cis-1,3-Dichloropropene	4.71	75	3406072	20.71	ug/L	99
40) Toluene	4.87	91	8761105	20.51	ug/L	100
41) trans-1,3-Dichloropropene	5.12	75	2883265	21.12	ug/L	96
42) 4-Methyl-2-Pentanone (MIBK	5.09	43	3133347	57.37	ug/L	96
43) Tetrachloroethene (PCE)	5.11	166	2810630	20.11	ug/L	98
44) Ethyl Methacrylate	5.20	69	1822855	20.77	ug/L	96
45) 1,1,2-Trichloroethane	5.22	83	1510191	21.37	ug/L	99
46) Dibromochloromethane	5.35	129	2430507	20.70	ug/L	99
47) 1,3-Dichloropropane	5.41	76	2974100	21.05	ug/L	99
48) 1,2-Dibromoethane (EDB)	5.52	107	2058448	20.59	ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020515C\0601005.D
Acq On : 5 Feb 2015 12:08 pm
Sample : 20ppb 8260 ical
Misc : ical
MS Integration Params: EVENTS.E
Quant Time: Feb 5 13:01 2015

Vial: 6
Operator: tjg
Inst : Volatile
Multiplr: 1.00
Quant Results File: 020515RC.RES

Quant Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:00:42 2015
Response via : Initial Calibration
DataAcq Meth : VOC2

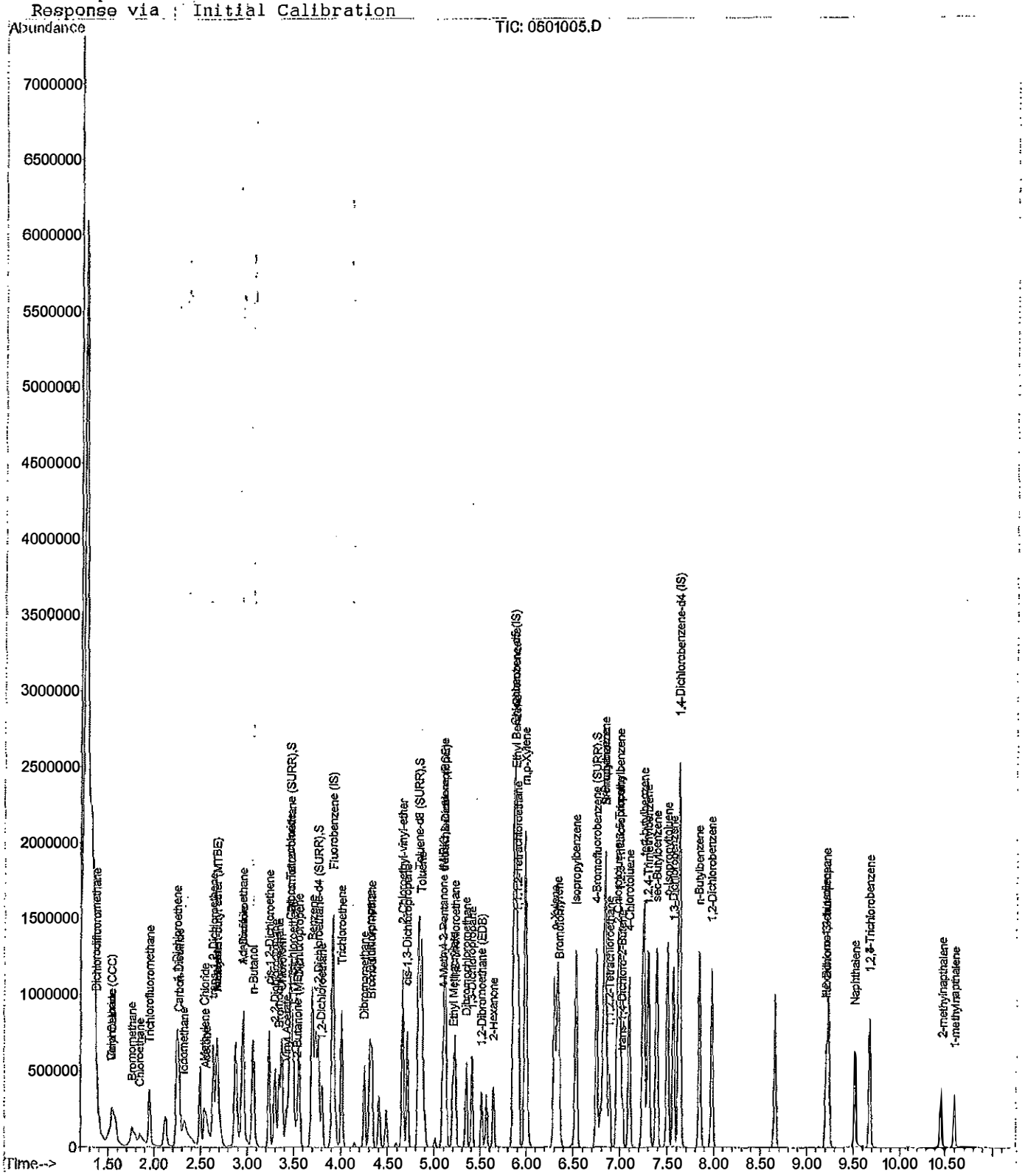
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
49) 2-Hexanone	5.64	43	1877156	51.53 ug/L	92
51) 1,1,1,2-Tetrachloroethane	5.91	131	2350175	20.76 ug/L #	91
52) Chlorobenzene	5.87	112	6507144	20.45 ug/L	99
53) Ethyl Benzene	5.88	91	9660377	20.61 ug/L	99
54) m,p-Xylene	5.99	91	13924043	39.68 ug/L	94
55) o-Xylene	6.30	91	7012063	18.45 ug/L	96
56) Styrene	6.34	104	6305569	19.22 ug/L	99
57) Bromoform	6.36	173	1389515	22.61 ug/L	99
59) 1,1,2,2-Tetrachloroethane	6.89	83	2067613	21.48 ug/L	99
60) trans-1,4-Dichloro-2-Buten	7.03	53	381041	20.90 ug/L	98
61) Isopropylbenzene	6.53	105	9405886	19.89 ug/L	99
62) Bromobenzene	6.83	156	3072133	22.59 ug/L	96
63) N-Propylbenzene	6.84	91	11316917	20.89 ug/L	99
64) 2-Chlorotoluene	6.97	91	7165264	20.05 ug/L	99
65) 4-Chlorotoluene	7.10	126	2691082	19.73 ug/L	98
66) 1,3,5-Trimethylbenzene	6.99	105	7524698	20.20 ug/L	100
67) tert-butylbenzene	7.25	119	8100811	20.78 ug/L	96
68) 1,2,4-Trimethylbenzene	7.30	105	7671287	20.23 ug/L #	99
69) sec-Butylbenzene	7.39	105	10478514	20.99 ug/L #	99
70) p-Isopropyltoluene	7.50	119	8654712	20.24 ug/L	99
72) 1,3-Dichlorobenzene	7.56	146	5612342	20.97 ug/L	98
73) 1,4-Dichlorobenzene	7.64	148	3603616	20.89 ug/L	98
74) 1,2,3-Trichloropropane	7.00	75	1590709	20.70 ug/L	93
75) n-Butylbenzene	7.85	91	7353004	20.92 ug/L	99
76) 1,2-Dichlorobenzene	7.98	146	5199946	21.00 ug/L	98
77) 1,2-Dibromo-3-chloropropan	9.21	155	170100	20.75 ug/L	99
78) Hexachloro-1,3-butadiene	9.21	225	1017345	21.77 ug/L	97
79) 1,2,4-Trichlorobenzene	9.68	180	2597082	21.36 ug/L	99
80) Naphthalene	9.52	128	4726434	21.50 ug/L	99
81) 1,2,3-Trichlorobenzene	9.68	180	2597082	21.36 ug/L	99
82) 1-methylnapthalene	10.59	142	1698802	17.47 ug/L	99
83) 2-methylnapthalene	10.46	142	2069927	16.76 ug/L	99

(#) = qualifier out of range (m) = manual integration
0601005.D 020515RC.M Fri Feb 06 16:52:04 2015

Quantitation Report

Data File : C:\HPCHEM\1\DATA\020515C\0601005.D Vial: 6
Acq On : 5 Feb 2015 12:08 pm Operator: tjg
Sample : 20ppb 8260 ical Inst : Volatile
Misc : ical Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Feb 5 13:01 2015 Quant Results File: 020515RC.RES

Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020515C\0701006.D
Acq On : 5 Feb 2015 12:27 pm
Sample : 50ppb 8260 ical
Misc : ical
MS Integration Params: EVENTS.E
Quant Time: Feb 5 13:02 2015

Vial: 7
Operator: tjg
Inst : Volatile
Multiplr: 1.00

Quant Results File: 020515RC.RES

Quant Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:01:11 2015
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	3.91	96	13387114m	50.00	ug/L	0.00
50) Chlorobenzene-d5 (IS)	5.86	117	9903405	50.00	ug/L	0.00
71) 1,4-Dichlorobenzene-d4 (IS	7.62	152	5100190	50.00	ug/L	0.00
System Monitoring Compounds						
29) Dibromofluoromethane (SURR	3.47	113	4080082	50.06	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 100.12%						
30) 1,2-Dichloroethane-d4 (SUR	3.76	65	3186671	54.41	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 108.82%						
39) Toluene-d8 (SURR)	4.83	98	11401088	49.64	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 99.28%						
58) 4-Bromofluorobenzene (SURR	6.75	95	4141421	49.92	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 99.84%						

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.38	85	7921228	50.04	ug/L #	33
3) Chlormethane	1.52	50	8577235	49.95	ug/L	99
4) Vinyl Chloride (CCC)	1.55	62	7470807	48.12	ug/L	99
5) Bromomethane	1.76	94	3165658	38.47	ug/L	97
6) Chloroethane	1.84	64	3224759	50.09	ug/L	98
7) Acrolein	2.67	56	3351615	51.70	ug/L #	100
8) Trichlorofluoromethane	1.95	101	5646751	47.54	ug/L	100
9) Acetone	2.57	43	1571683	128.85	ug/L #	93
10) 1,1-Dichloroethene	2.24	61	6056502	49.12	ug/L	96
11) Iodomethane	2.32	142	6971671	48.42	ug/L #	97
12) Carbon Disulfide	2.27	76	15342888	50.04	ug/L	100
13) Acrylonitrile	2.95	53	8036961	49.08	ug/L #	87
14) Methylene Chloride	2.54	49	4968269	43.94	ug/L	84
15) trans-1,2-Dichloroethene	2.64	96	4536299	50.07	ug/L	98
16) Methyl-tert-butyl ether (M	2.68	73	10403568	50.78	ug/L	99
17) 1,1-Dichloroethane	2.96	63	9529290	50.73	ug/L	100
18) Vinyl Acetate	3.42	43	3369037	52.46	ug/L #	100
19) n-Hexane	2.68	57	7258062	51.27	ug/L	99
20) n-Butanol	3.06	57	4112605	52.13	ug/L #	89
21) 2-Butanone (MEK)	3.53	43	3834151	139.19	ug/L	96
22) cis-1,2-Dichloroethene	3.24	61	7232995	50.41	ug/L	98
23) Bromochloromethane	3.34	128	3918571	51.62	ug/L #	97
24) 2,2-Dichloropropane	3.30	77	7342715	51.18	ug/L #	32
25) Chloroform	3.37	83	9581812	50.51	ug/L	99
26) 1,1,1-Trichloroethane	3.50	97	7484111	50.49	ug/L	98
27) 1,1-Dichloropropene	3.56	75	7094486	50.47	ug/L	99
28) Carbon Tetrachloride	3.46	117	7503715	50.46	ug/L	99
31) Benzene	3.69	78	20573661	50.32	ug/L	100
32) 1,2-Dichloroethane	3.80	62	5999522	51.03	ug/L	100
33) Trichloroethene	4.01	95	5769868	50.06	ug/L	97
34) Dibromomethane	4.25	93	3710056	51.87	ug/L	95
35) 1,2-Dichloropropane	4.31	63	5187871	50.77	ug/L	97
36) Bromodichloromethane	4.33	83	7571203	52.60	ug/L	99
37) 2-Chloroethyl-vinyl-ether	4.66	63	9338371	232.07	ug/L	99
38) cis-1,3-Dichloropropene	4.71	75	8738989	52.86	ug/L	99
40) Toluene	4.87	91	21181210	50.18	ug/L	99
41) trans-1,3-Dichloropropene	5.12	75	6993763	51.23	ug/L	97
42) 4-Methyl-2-Pentanone (MIBK	5.09	43	7546331	134.78	ug/L	99
43) Tetrachloroethene (PCE)	5.11	166	6686774	49.49	ug/L	98
44) Ethyl Methacrylate	5.20	69	4483505	50.96	ug/L	97
45) 1,1,2-Trichloroethane	5.22	83	3600267	50.74	ug/L	97
46) Dibromochloromethane	5.35	129	6103398	51.86	ug/L	99
47) 1,3-Dichloropropane	5.41	76	7356251	51.87	ug/L	99
48) 1,2-Dibromoethane (EDB)	5.52	107	5330702	53.45	ug/L	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020515C\0701006.D
Acq On : 5 Feb 2015 12:27 pm
Sample : 50ppb 8260 ical
Misc : ical
MS Integration Params: EVENTS.E
Quant Time: Feb 5 13:02 2015

Vial: 7
Operator: tjg
Inst : Volatile
Multiplr: 1.00
Quant Results File: 020515RC.RES

Quant Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:01:11 2015
Response via : Initial Calibration
DataAcq Meth : VOC2

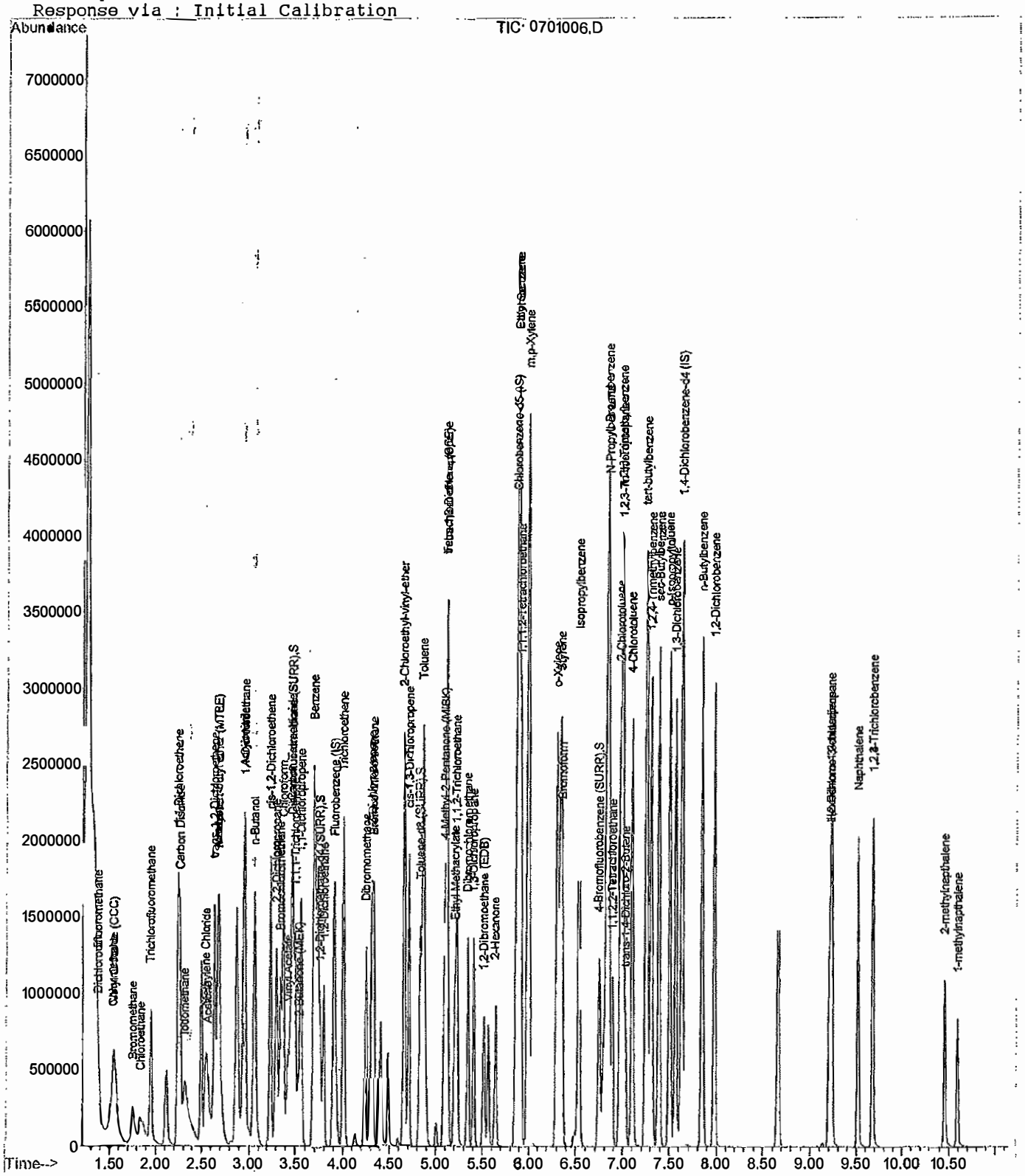
Compound	R.T.	QIon	Response	Conc Unit		Qvalue
49) 2-Hexanone	5.64	43	4557425	124.72 ug/L		90
51) 1,1,1,2-Tetrachloroethane	5.91	131	5903854	53.18 ug/L	#	93
52) Chlorobenzene	5.87	112	15720561	50.79 ug/L		100
53) Ethyl Benzene	5.89	91	23024995	50.52 ug/L		100
54) m,p-Xylene	5.99	91	33648521	99.84 ug/L		96
55) o-Xylene	6.30	91	17182762	47.30 ug/L		99
56) Styrene	6.34	104	16140218	51.17 ug/L		95
57) Bromoform	6.36	173	3352551	54.23 ug/L		98
59) 1,1,2,2-Tetrachloroethane	6.89	83	5146142	53.44 ug/L		98
60) trans-1,4-Dichloro-2-Buten	7.03	53	997300	54.53 ug/L		96
61) Isopropylbenzene	6.53	105	23458544	51.24 ug/L		100
62) Bromobenzene	6.83	156	7096260	52.92 ug/L		98
63) N-Propylbenzene	6.84	91	26917300	50.82 ug/L		99
64) 2-Chlorotoluene	6.97	91	17829751	51.09 ug/L		99
65) 4-Chlorotoluene	7.10	126	6743103	50.87 ug/L		92
66) 1,3,5-Trimethylbenzene	6.99	105	18714874	51.67 ug/L		100
67) tert-butylbenzene	7.25	119	19793080	52.04 ug/L		98
68) 1,2,4-Trimethylbenzene	7.30	105	18797934	50.93 ug/L	#	98
69) sec-Butylbenzene	7.39	105	25290431	51.72 ug/L	#	100
70) p-Isopropyltoluene	7.50	119	20630813	49.66 ug/L		100
72) 1,3-Dichlorobenzene	7.56	146	13293602	50.11 ug/L		99
73) 1,4-Dichlorobenzene	7.64	148	8673085	50.90 ug/L		99
74) 1,2,3-Trichloropropane	7.00	75	3876676	50.16 ug/L		94
75) n-Butylbenzene	7.85	91	17736915	50.83 ug/L		100
76) 1,2-Dichlorobenzene	7.98	146	12790179	51.93 ug/L		98
77) 1,2-Dibromo-3-chloropropan	9.21	155	428829	53.88 ug/L		92
78) Hexachloro-1,3-butadiene	9.21	225	2403488	51.81 ug/L		98
79) 1,2,4-Trichlorobenzene	9.68	180	6470374	53.26 ug/L		99
80) Naphthalene	9.52	128	13115490	60.10 ug/L		98
81) 1,2,3-Trichlorobenzene	9.68	180	6470374	53.26 ug/L		99
82) 1-methylnapthalene	10.59	142	4254541	46.37 ug/L		100
83) 2-methylnapthalene	10.45	142	5262719	45.34 ug/L		99

(#) = qualifier out of range (m) = manual integration
0701006.D 020515RC.M Fri Feb 06 16:52:07 2015

Quantitation Report

Data File : C:\HPCHEM\1\DATA\020515C\0701006.D Vial: 7
Acq On : 5 Feb 2015 12:27 pm Operator: tjg
Sample : 50ppb 8260 ical Inst : Volatile
Misc : ical Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Feb 5 13:02 2015 Quant Results File: 020515RC.RES

Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020515C\0801007.D
Acq On : 5 Feb 2015 12:47 pm
Sample : 100ppb 8260 ical
Misc : ical
MS Integration Params: EVENTS.E
Quant Time: Feb 5 13:02 2015

Vial: 8
Operator: tjg
Inst : Volatile
Multiplr: 1.00
Quant Results File: 020515RC.RES

Quant Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:02:31 2015
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	3.91	96	13835830m	50.00	ug/L	0.00
50) Chlorobenzene-d5 (IS)	5.86	117	9899343	50.00	ug/L	0.00
71) 1,4-Dichlorobenzene-d4 (IS	7.62	152	5035206	50.00	ug/L	0.00
System Monitoring Compounds						
29) Dibromofluoromethane (SURR	3.47	113	4127977	49.01	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 98.02%						
30) 1,2-Dichloroethane-d4 (SUR	3.76	65	3033341	48.94	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 97.88%						
39) Toluene-d8 (SURR)	4.83	98	11959977	50.39	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 100.78%						
58) 4-Bromofluorobenzene (SURR	6.74	95	4309862	51.47	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 102.94%						

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.38	85	16124922	98.48	ug/L	99
3) Chlormethane	1.53	50	17534896	98.43	ug/L	100
4) Vinyl Chloride (CCC)	1.54	62	15561457	96.98	ug/L	100
5) Bromomethane	1.75	94	5267456m	64.59	ug/L	
6) Chloroethane	1.84	64	6045261	91.73	ug/L	98
7) Acrolein	2.67	56	7014726	103.57	ug/L #	96
8) Trichlorofluoromethane	1.95	101	11531466	95.96	ug/L	99
9) Acetone	2.57	43	2866673	219.99	ug/L	97
10) 1,1-Dichloroethene	2.24	61	12491998	98.81	ug/L	97
11) Iodomethane	2.32	142	14810138	102.41	ug/L	99
12) Carbon Disulfide	2.27	76	32459926	102.65	ug/L	96
13) Acrylonitrile	2.95	53	16801791	99.61	ug/L	98
14) Methylene Chloride	2.54	49	10542790	90.03	ug/L	99
15) trans-1,2-Dichloroethene	2.64	96	9555140	102.74	ug/L	99
16) Methyl-tert-butyl ether (M	2.68	73	21463381	100.23	ug/L	99
17) 1,1-Dichloroethane	2.96	63	18976683	97.60	ug/L	99
18) Vinyl Acetate	3.42	43	6868071	101.35	ug/L	100
19) n-Hexane	2.68	57	15117365	102.05	ug/L	100
20) n-Butanol	3.06	57	8110004	98.18	ug/L #	99
21) 2-Butanone (MEK)	3.53	43	7405873	248.82	ug/L	98
22) cis-1,2-Dichloroethene	3.24	61	14582508	98.01	ug/L	97
23) Bromochloromethane	3.34	128	7918711	100.03	ug/L #	99
24) 2,2-Dichloropropane	3.30	77	14981898	100.36	ug/L	100
25) Chloroform	3.37	83	19368566	98.61	ug/L	100
26) 1,1,1-Trichloroethane	3.50	97	15132312	98.97	ug/L	99
27) 1,1-Dichloropropene	3.56	75	14526914	99.45	ug/L	99
28) Carbon Tetrachloride	3.46	117	15079743	98.48	ug/L	100
31) Benzene	3.70	78	41510829	98.00	ug/L	100
32) 1,2-Dichloroethane	3.80	62	12005192	97.78	ug/L	99
33) Trichloroethene	4.01	95	11838387	99.09	ug/L	98
34) Dibromomethane	4.25	93	7405159	98.64	ug/L	99
35) 1,2-Dichloropropane	4.31	63	10595361	99.87	ug/L	100
36) Bromodichloromethane	4.33	83	15242965	101.27	ug/L	100
37) 2-Chloroethyl-vinyl-ether	4.66	63	19454250	446.08	ug/L	98
38) cis-1,3-Dichloropropene	4.71	75	17628094	102.03	ug/L	97
40) Toluene	4.87	91	42930308	98.72	ug/L	99
41) trans-1,3-Dichloropropene	5.12	75	14361374	100.67	ug/L	99
42) 4-Methyl-2-Pentanone (MIBK	5.09	43	14488160	241.74	ug/L	99
43) Tetrachloroethene (PCE)	5.11	166	13043084	95.37	ug/L	99
44) Ethyl Methacrylate	5.20	69	9277992	101.60	ug/L	98
45) 1,1,2-Trichloroethane	5.22	83	7336379	98.82	ug/L	99
46) Dibromochloromethane	5.35	129	12546928	102.26	ug/L	99
47) 1,3-Dichloropropane	5.41	76	14695361	98.53	ug/L	99
48) 1,2-Dibromoethane (EDB)	5.52	107	10866463	103.44	ug/L	98

(#) = qualifier out of range (m) = manual integration
0801007.D 020515RC.M Fri Feb 06 16:52:11 2015

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020515C\0801007.D
Vial: 8
Acq On : 5 Feb 2015 12:47 pm
Operator: tjg
Sample : 100ppb 8260 ical
Inst : Volatile
Misc : ical
Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Feb 5 13:02 2015
Quant Results File: 020515RC.RES

Quant Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:02:31 2015
Response via : Initial Calibration
DataAcq Meth : VOC2

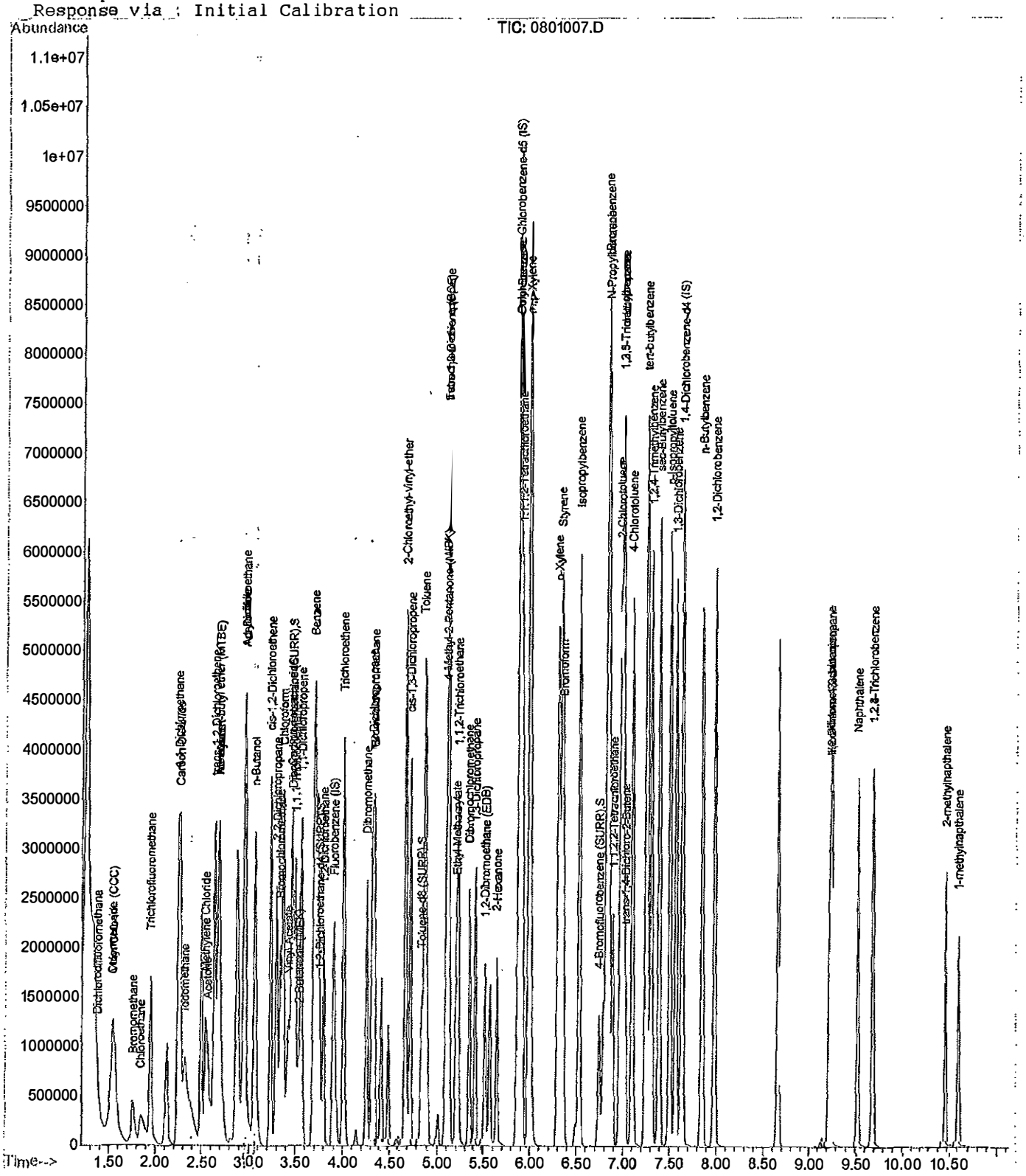
Compound	R.T.	QIon	Response	Conc Unit		Qvalue
49) 2-Hexanone	5.64	43	8803318	230.67 ug/L		97
51) 1,1,1,2-Tetrachloroethane	5.91	131	11370892	100.97 ug/L	#	82
52) Chlorobenzene	5.87	112	30022171	97.07 ug/L		98
53) Ethyl Benzene	5.89	91	44813233	98.24 ug/L		99
54) m,p-Xylene	5.99	91	59112671	176.77 ug/L		95
55) o-Xylene	6.30	91	34274708	95.98 ug/L		99
56) Styrene	6.34	104	32038873	102.03 ug/L		99
57) Bromoform	6.36	173	6698081	105.73 ug/L		99
59) 1,1,2,2-Tetrachloroethane	6.89	83	10455939	105.12 ug/L		98
60) trans-1,4-Dichloro-2-Buten	7.03	53	2172326	115.92 ug/L		91
61) Isopropylbenzene	6.53	105	45180569	98.00 ug/L		98
62) Bromobenzene	6.83	156	13089264	96.93 ug/L		95
63) N-Propylbenzene	6.84	91	52670914	99.22 ug/L		99
64) 2-Chlorotoluene	6.97	91	34983512	99.42 ug/L		99
65) 4-Chlorotoluene	7.10	126	13339686	100.41 ug/L		96
66) 1,3,5-Trimethylbenzene	7.00	105	35791789	98.00 ug/L		99
67) tert-butylbenzene	7.25	119	37947646	99.35 ug/L		99
68) 1,2,4-Trimethylbenzene	7.30	105	36569322	99.02 ug/L	#	99
69) sec-Butylbenzene	7.39	105	47892416	97.35 ug/L	#	98
70) p-Isopropyltoluene	7.50	119	41406112	99.66 ug/L		99
72) 1,3-Dichlorobenzene	7.57	146	25581901	97.45 ug/L		99
73) 1,4-Dichlorobenzene	7.64	148	16407164	97.08 ug/L		98
74) 1,2,3-Trichloropropane	7.00	75	7559600	96.16 ug/L		95
75) n-Butylbenzene	7.85	91	35652147	102.90 ug/L		99
76) 1,2-Dichlorobenzene	7.98	146	24774252	101.17 ug/L		98
77) 1,2-Dibromo-3-chloropropan	9.21	155	819938	103.34 ug/L		94
78) Hexachloro-1,3-butadiene	9.21	225	4704967	102.28 ug/L		99
79) 1,2,4-Trichlorobenzene	9.68	180	12321497	101.23 ug/L		99
80) Naphthalene	9.52	128	25265289	114.50 ug/L		99
81) 1,2,3-Trichlorobenzene	9.68	180	12321497	101.23 ug/L		99
82) 1-methylnapthalene	10.59	142	9067124	101.59 ug/L		96
83) 2-methylnapthalene	10.46	142	11780616	106.05 ug/L		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\020515C\0801007.D Vial: 8
Acq On : 5 Feb 2015 12:47 pm Operator: tjg
Sample : 100ppb 8260 ical Inst : Volatile
Misc : ical Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Feb 5 13:02 2015 Quant Results File: 020515RC.RES

Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020515C\1001009.D
Acq On : 5 Feb 2015 1:25 pm
Sample : 200ppb 8260 ical
Misc : ical
MS Integration Params: EVENTS.E
Quant Time: Feb 5 13:52 2015

Vial: 10
Operator: tjg
Inst : Volatile
Multiplr: 1.00
Quant Results File: 020515RC.RES

Quant Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:03:48 2015
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	3.91	96	13318011m	50.00	ug/L	0.00
50) Chlorobenzene-d5 (IS)	5.86	117	8983468	50.00	ug/L	0.00
71) 1,4-Dichlorobenzene-d4 (IS	7.62	152	4760634	50.00	ug/L	0.00
System Monitoring Compounds						
29) Dibromofluoromethane (SURR	3.47	113	3964045	49.11	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 98.22%						
30) 1,2-Dichloroethane-d4 (SUR	3.76	65	2958964	49.55	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 99.10%						
39) Toluene-d8 (SURR)	4.83	98	11388548	49.81	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 99.62%						
58) 4-Bromofluorobenzene (SURR	6.75	95	4242720	55.56	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 111.12%						

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.37	85	32617665	208.56	ug/L	99
3) Chlormethane	1.52	50	34006674	198.72	ug/L	100
4) Vinyl Chloride (CCC)	1.54	62	29902145	193.85	ug/L	100
5) Bromomethane	1.75	94	12156635m	161.56	ug/L	
6) Chloroethane	1.86	64	10030214m	160.47	ug/L	
7) Acrolein	2.68	56	13706808	208.09	ug/L #	100
8) Trichlorofluoromethane	1.94	101	21377802	188.48	ug/L	100
9) Acetone	2.57	43	7113278m	563.71	ug/L	
10) 1,1-Dichloroethene	2.24	61	24320816m	201.30	ug/L	
11) Iodomethane	2.32	142	26406092	193.92	ug/L #	96
12) Carbon Disulfide	2.26	76	59320307	195.28	ug/L	86
13) Acrylonitrile	2.95	53	31505318	194.79	ug/L	99
14) Methylene Chloride	2.54	49	20265668	184.47	ug/L	96
15) trans-1,2-Dichloroethene	2.64	96	16211281	181.50	ug/L	94
16) Methyl-tert-butyl ether (M	2.69	73	42336920	205.23	ug/L	99
17) 1,1-Dichloroethane	2.96	63	35205893	188.79	ug/L	98
18) Vinyl Acetate	3.42	43	13494927	205.98	ug/L	100
19) n-Hexane	2.68	57	29483000	205.12	ug/L	99
20) n-Butanol	3.07	57	15943655	201.81	ug/L #	99
21) 2-Butanone (MEK)	3.53	43	15216154	523.73	ug/L	98
22) cis-1,2-Dichloroethene	3.24	61	27632307	193.99	ug/L	97
23) Bromochloromethane	3.34	128	15401020	202.70	ug/L #	67
24) 2,2-Dichloropropane	3.30	77	28369889	197.93	ug/L	99
25) Chloroform	3.37	83	36120457	191.95	ug/L	99
26) 1,1,1-Trichloroethane	3.50	97	28312332	194.28	ug/L	98
27) 1,1-Dichloropropene	3.56	75	27765077	198.22	ug/L	99
28) Carbon Tetrachloride	3.46	117	28178048	193.53	ug/L	99
31) Benzene	3.70	78	75801334	186.74	ug/L	98
32) 1,2-Dichloroethane	3.80	62	22918753	194.93	ug/L	98
33) Trichloroethene	4.01	95	22762507	199.01	ug/L	95
34) Dibromomethane	4.25	93	14866992	206.06	ug/L	96
35) 1,2-Dichloropropane	4.31	63	20189744	198.42	ug/L	99
36) Bromodichloromethane	4.34	83	28861268	199.06	ug/L	98
37) 2-Chloroethyl-vinyl-ether	4.66	63	38396207	892.52	ug/L	99
38) cis-1,3-Dichloropropene	4.72	75	33449483	201.65	ug/L	98
40) Toluene	4.86	91	81867297m	196.20	ug/L	
41) trans-1,3-Dichloropropene	5.12	75	26884031	195.65	ug/L	98
42) 4-Methyl-2-Pentanone (MIBK	5.09	43	28282110	487.22	ug/L	98
43) Tetrachloroethene (PCE)	5.11	166	21664860	167.26	ug/L	96
44) Ethyl Methacrylate	5.20	69	19061532	217.40	ug/L	97
45) 1,1,2-Trichloroethane	5.23	83	14588958	203.99	ug/L	98
46) Dibromochloromethane	5.35	129	23590862	200.14	ug/L	99
47) 1,3-Dichloropropane	5.41	76	29086428	202.72	ug/L	98
48) 1,2-Dibromoethane (EDB)	5.52	107	21557670	212.68	ug/L	99

(#) = qualifier out of range (m) = manual integration
1001009.D 020515RC.M Fri Feb 06 16:52:16 2015

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020515C\1001009.D
Acq On : 5 Feb 2015 1:25 pm
Sample : 200ppb 8260 ical
Misc : ical
MS Integration Params: EVENTS.E
Quant Time: Feb 5 13:52 2015

Vial: 10
Operator: tjg
Inst : Volatile
Multiplr: 1.00
Quant Results File: 020515RC.RES

Quant Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:03:48 2015
Response via : Initial Calibration
DataAcq Meth : VOC2

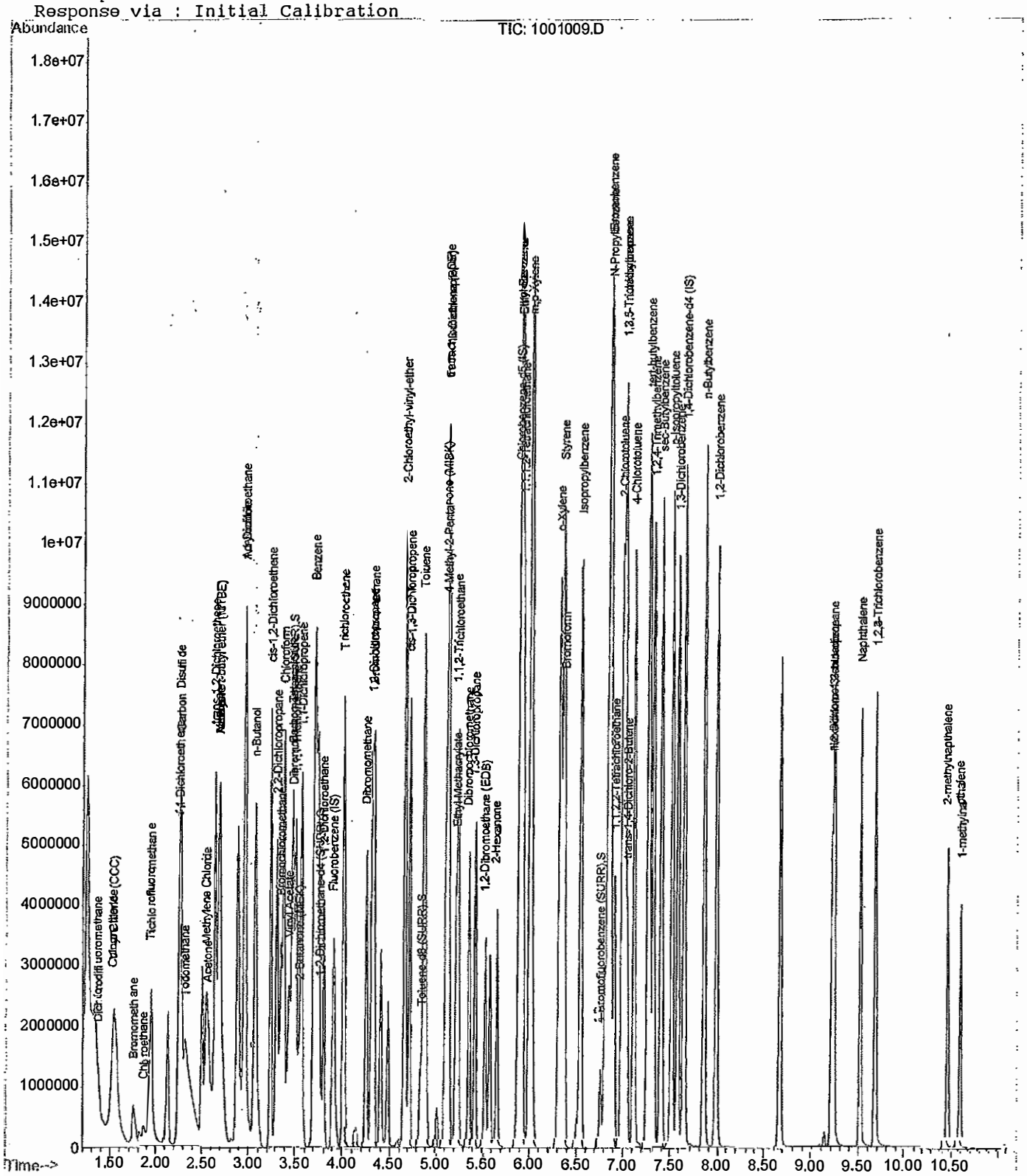
Compound	R.T.	QIon	Response	Conc Unit		Qvalue
49) 2-Hexanone	5.64	43	18420069	510.61 ug/L		97
51) 1,1,1,2-Tetrachloroethane	5.91	131	19437529	189.71 ug/L	#	85
52) Chlorobenzene	5.87	112	50582434	181.06 ug/L		93
53) Ethyl Benzene	5.89	91	72902894	177.20 ug/L		97
54) m,p-Xylene	5.99	91	94414034	319.18 ug/L		92
55) o-Xylene	6.30	91	61952574	195.94 ug/L		98
56) Styrene	6.34	104	56857440	201.59 ug/L		92
57) Bromoform	6.36	173	12048607	206.32 ug/L		99
59) 1,1,2,2-Tetrachloroethane	6.89	83	20680397	225.33 ug/L		99
60) trans-1,4-Dichloro-2-Buten	7.03	53	4527267	260.93 ug/L		98
61) Isopropylbenzene	6.53	105	77092361	185.14 ug/L		95
62) Bromobenzene	6.83	156	18919848	153.96 ug/L	#	78
63) N-Propylbenzene	6.85	91	87775653	182.36 ug/L		99
64) 2-Chlorotoluene	6.97	91	64319151	202.13 ug/L		97
65) 4-Chlorotoluene	7.10	126	23791390	197.68 ug/L		94
66) 1,3,5-Trimethylbenzene	7.00	105	60692965	184.20 ug/L		97
67) tert-butylbenzene	7.25	119	60923453	175.96 ug/L		93
68) 1,2,4-Trimethylbenzene	7.31	105	65726768	196.89 ug/L	#	97
69) sec-Butylbenzene	7.39	105	81595985	183.82 ug/L	#	94
70) p-Isopropyltoluene	7.51	119	68460227	182.64 ug/L		95
72) 1,3-Dichlorobenzene	7.57	146	43883654	178.06 ug/L		96
73) 1,4-Dichlorobenzene	7.64	148	28380280	177.88 ug/L		95
74) 1,2,3-Trichloropropane	7.00	75	14631406	195.05 ug/L		95
75) n-Butylbenzene	7.85	91	61958951	188.94 ug/L		96
76) 1,2-Dichlorobenzene	7.98	146	41567209	179.57 ug/L		95
77) 1,2-Dibromo-3-chloropropan	9.21	155	1440120	191.84 ug/L		80
78) Hexachloro-1,3-butadiene	9.21	225	7903067	180.30 ug/L		99
79) 1,2,4-Trichlorobenzene	9.68	180	22403006	194.55 ug/L		98
80) Naphthalene	9.52	128	43986399m	210.14 ug/L		
81) 1,2,3-Trichlorobenzene	9.68	180	22403006	194.55 ug/L		98
82) 1-methylnapthalene	10.60	142	17276872	207.11 ug/L		99
83) 2-methylnapthalene	10.46	142	21950661m	210.31 ug/L		

(#) = qualifier out of range (m) = manual integration
1001009.D 020515RC.M Fri Feb 06 16:52:16 2015

Quantitation Report

Data File : C:\HPCHEM\1\DATA\020515C\1001009.D Vial: 10
Acq On : 5 Feb 2015 1:25 pm Operator: tjg
Sample : 200ppb 8260 ical Inst : Volatile
Misc : ical Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Feb 5 13:52 2015 Quant Results File: 020515RC.RES

Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\020515C\1201011.D
Acq On : 5 Feb 2015 2:04 pm
Sample : 50ppb icv
Misc : ical verification
MS Integration Params: EVENTS.E

Vial: 12
Operator: tjg
Inst : Volatile
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 50% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1		Fluorobenzene (IS)	1.000	1.000	0.0	97	0.00
2		Dichlorodifluoromethane	0.589	0.582	1.2	96	0.00
3		Chlormethane	0.644	0.658	-2.2	100	0.00
4		Vinyl Chloride (CCC)	0.579	0.570	1.6	99	0.00
5		Bromomethane	0.223	0.245	-9.9	101	0.00
6		Chloroethane	0.232	0.248	-6.9	100	0.00
7		Acrolein	0.250	0.244	2.4	95	0.00
8		Trichlorofluoromethane	0.417	0.424	-1.7	98	0.00
9		Acetone	0.051	0.045	11.8	94	0.00
10		1,1-Dichloroethene	0.457	0.419	8.3	90	0.00
11		Iodomethane	0.492	0.516	-4.9	96	0.00
12		Carbon Disulfide	1.126	1.192	-5.9	101	0.00
13		Acrylonitrile	0.605	0.630	-4.1	102	0.00
14		Methylene Chloride	0.400	0.407	-1.7	107	0.00
15		trans-1,2-Dichloroethene	0.330	0.346	-4.8	99	0.00
16		Methyl-tert-butyl ether (MT	0.780	0.791	-1.4	99	0.00
17		1,1-Dichloroethane	0.698	0.737	-5.6	101	0.00
18		Vinyl Acetate	0.250	0.250	0.0	97	0.00
19		n-Hexane	0.544	0.537	1.3	96	0.00
20		n-Butanol	0.298	0.310	-4.0	98	0.00
21		2-Butanone (MEK)	0.113	0.117	-3.5	99	0.00
22		cis-1,2-Dichloroethene	0.534	0.568	-6.4	102	0.00
23		Bromochloromethane	0.286	0.296	-3.5	98	0.00
24		2,2-Dichloropropane	0.537	0.538	-0.2	96	0.00
25		Chloroform	0.706	0.749	-6.1	102	0.00
26		1,1,1-Trichloroethane	0.544	0.572	-5.1	100	0.00
27		1,1-Dichloropropene	0.523	0.539	-3.1	99	0.00
28		Carbon Tetrachloride	0.543	0.574	-5.7	100	0.00
29	S	Dibromofluoromethane (SURR)	0.305	0.307	-0.7	98	0.00
30	S	1,2-Dichloroethane-d4 (SURR	0.226	0.239	-5.8	98	0.00
31		Benzene	1.516	1.613	-6.4	102	0.00
32		1,2-Dichloroethane	0.442	0.452	-2.3	98	0.00
33		Trichloroethene	0.428	0.441	-3.0	100	0.00
34		Dibromomethane	0.274	0.283	-3.3	99	0.00
35		1,2-Dichloropropane	0.382	0.401	-5.0	101	0.00
36		Bromodichloromethane	0.546	0.570	-4.4	98	0.00
37		2-Chloroethyl-vinyl-ether	0.170	0.187	-10.0	104	0.00
38		cis-1,3-Dichloropropene	0.629	0.672	-6.8	100	0.00
39	S	Toluene-d8 (SURR)	0.858	0.860	-0.2	98	0.00
40		Toluene	1.577	1.650	-4.6	102	0.00
41		trans-1,3-Dichloropropene	0.518	0.559	-7.9	104	0.00
42		4-Methyl-2-Pentanone (MIBK)	0.222	0.228	-2.7	99	0.00
43		Tetrachloroethene (PCE)	0.482	0.552	-14.5	108	0.00
44		Ethyl Methacrylate	0.332	0.347	-4.5	101	0.00
45		1,1,2-Trichloroethane	0.273	0.281	-2.9	102	0.00
46		Dibromochloromethane	0.445	0.462	-3.8	99	0.00
47		1,3-Dichloropropane	0.545	0.548	-0.6	97	0.00
48		1,2-Dibromoethane (EDB)	0.386	0.402	-4.1	98	0.00
49		2-Hexanone	0.136	0.141	-3.7	100	0.00
50		Chlorobenzene-d5 (IS)	1.000	1.000	0.0	97	0.00
51		1,1,1,2-Tetrachloroethane	0.571	0.597	-4.6	98	0.00
52		Chlorobenzene	1.548	1.643	-6.1	101	0.00
53		Ethyl Benzene	2.260	2.379	-5.3	100	0.00
54		m,p-Xylene	1.663	1.708	-2.7	98	0.00
55		o-Xylene	1.713	1.819	-6.2	102	0.00
56		Styrene	1.554	1.642	-5.7	98	0.00
57		Bromoform	0.332	0.345	-3.9	99	0.00
58	S	4-Bromofluorobenzene (SURR)	0.428	0.431	-0.7	100	0.00
59		1,1,2,2-Tetrachloroethane	0.523	0.530	-1.3	99	0.00
60		trans-1,4-Dichloro-2-Butene	0.102	0.105	-2.9	102	0.00
61		Isopropylbenzene	2.301	2.386	-3.7	98	0.00

62	Bromobenzene	0.700	0.749	-7.0	102	0.00
63	N-Propylbenzene	2.670	2.807	-5.1	101	0.00
64	2-Chlorotoluene	1.774	1.842	-3.8	100	0.00
65	4-Chlorotoluene	0.670	0.702	-4.8	100	0.00
66	1,3,5-Trimethylbenzene	1.827	1.968	-7.7	101	0.00
67	tert-butylbenzene	1.923	1.984	-3.2	97	0.00
68	1,2,4-Trimethylbenzene	1.858	1.944	-4.6	100	0.00
69	sec-Butylbenzene	2.466	2.583	-4.7	99	0.00
70	p-Isopropyltoluene	2.077	2.235	-7.6	105	0.00
71	1,4-Dichlorobenzene-d4 (IS)	1.000	1.000	0.0	96	0.00
72	1,3-Dichlorobenzene	2.563	2.762	-7.8	101	0.00
73	1,4-Dichlorobenzene	1.667	1.783	-7.0	100	0.00
74	1,2,3-Trichloropropane	0.796	0.805	-1.1	101	0.00
75	n-Butylbenzene	3.392	3.641	-7.3	100	0.00
76	1,2-Dichlorobenzene	2.411	2.633	-9.2	100	0.00
77	1,2-Dibromo-3-chloropropane	0.081	0.084	-3.7	95	0.00
78	Hexachloro-1,3-butadiene	0.461	0.486	-5.4	99	0.00
79	1,2,4-Trichlorobenzene	1.220	1.348	-10.5	102	0.00
80	Naphthalene	2.294	2.575	-12.2	96	0.00
81	1,2,3-Trichlorobenzene	1.220	1.348	-10.5	102	0.00
82	1-methylnapthalene	0.864	0.855	1.0	98	0.00
83	2-methylnapthalene	1.075	1.085	-0.9	101	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
0701006.D 020515RC.M Fri Feb 06 16:52:20 2015

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020515C\1201011.D
Acq On : 5 Feb 2015 2:04 pm
Sample : 50ppb icv
Misc : ical verification
MS Integration Params: EVENTS.E
Quant Time: Feb 5 16:30 2015

Vial: 12
Operator: tjg
Inst : Volatile
Multiplr: 1.00
Quant Results File: 020515RC.RES

Quant Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	3.91	96	13031072m	50.00	ug/L	0.00
50) Chlorobenzene-d5 (IS)	5.86	117	9651104	50.00	ug/L	0.00
71) 1,4-Dichlorobenzene-d4 (IS	7.62	152	4879823	50.00	ug/L	0.00
System Monitoring Compounds						
29) Dibromofluoromethane (SURR	3.47	113	4000719	50.35	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 100.70%						
30) 1,2-Dichloroethane-d4 (SUR	3.76	65	3111822	52.80	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 105.60%						
39) Toluene-d8 (SURR)	4.83	98	11210829	50.16	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 100.32%						
58) 4-Bromofluorobenzene (SURR	6.75	95	4160726	50.42	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 100.84%						

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.37	85	7578039	49.38	ug/L	98
3) Chlormethane	1.52	50	8570493	51.04	ug/L	100
4) Vinyl Chloride (CCC)	1.54	62	7424113	49.22	ug/L	99
5) Bromomethane	1.75	94	3198033	55.07	ug/L	99
6) Chloroethane	1.84	64	3235811	53.60	ug/L	97
7) Acrolein	2.67	56	3174347	48.74	ug/L #	97
8) Trichlorofluoromethane	1.95	101	5522711	50.80	ug/L	100
9) Acetone	2.57	43	1481119	112.19	ug/L	99
10) 1,1-Dichloroethene	2.24	61	5460581	45.87	ug/L	99
11) Iodomethane	2.32	142	6717617	52.35	ug/L #	93
12) Carbon Disulfide	2.26	76	15537991	52.93	ug/L	98
13) Acrylonitrile	2.95	53	8206926	52.06	ug/L	99
14) Methylene Chloride	2.54	49	5309832	50.95	ug/L	94
15) trans-1,2-Dichloroethene	2.64	96	4502310	52.39	ug/L	97
16) Methyl-tert-butyl ether (M	2.68	73	10304021	50.67	ug/L	98
17) 1,1-Dichloroethane	2.96	63	9608688	52.84	ug/L	100
18) Vinyl Acetate	3.42	43	3255257	49.98	ug/L	100
19) n-Hexane	2.68	57	6996887	49.37	ug/L	98
20) n-Butanol	3.06	57	4039159	52.09	ug/L #	99
21) 2-Butanone (MEK)	3.53	43	3810111	129.51	ug/L	100
22) cis-1,2-Dichloroethene	3.24	61	7404202	53.21	ug/L	100
23) Bromochloromethane	3.34	128	3857048	51.69	ug/L #	99
24) 2,2-Dichloropropane	3.30	77	7016014	50.14	ug/L	100
25) Chloroform	3.37	83	9765836	53.07	ug/L	99
26) 1,1,1-Trichloroethane	3.50	97	7449278	52.56	ug/L	99
27) 1,1-Dichloropropene	3.56	75	7023825	51.49	ug/L	99
28) Carbon Tetrachloride	3.46	117	7482297	52.87	ug/L	100
31) Benzene	3.69	78	21021211	53.22	ug/L	100
32) 1,2-Dichloroethane	3.80	62	5893798	51.17	ug/L	100
33) Trichloroethene	4.01	95	5747587	51.50	ug/L	99
34) Dibromomethane	4.25	93	3684362	51.66	ug/L	99
35) 1,2-Dichloropropane	4.31	63	5225883	52.49	ug/L	98
36) Bromodichloromethane	4.33	83	7433829	52.24	ug/L	99
37) 2-Chloroethyl-vinyl-ether	4.66	63	9749507	219.54	ug/L	99
38) cis-1,3-Dichloropropene	4.71	75	8756539	53.40	ug/L	99
40) Toluene	4.87	91	21506298	52.34	ug/L	100
41) trans-1,3-Dichloropropene	5.12	75	7279627	53.92	ug/L	96
42) 4-Methyl-2-Pentanone (MIBK	5.09	43	7436701	128.50	ug/L	99
43) Tetrachloroethene (PCE)	5.11	166	7199151	57.28	ug/L	99
44) Ethyl Methacrylate	5.20	69	4526355	52.24	ug/L	99
45) 1,1,2-Trichloroethane	5.22	83	3658325	51.49	ug/L	98
46) Dibromochloromethane	5.35	129	6022524	51.96	ug/L	99
47) 1,3-Dichloropropane	5.41	76	7144942	50.34	ug/L	99
48) 1,2-Dibromoethane (EDB)	5.52	107	5238135	52.03	ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020515C\1201011.D
Acq On : 5 Feb 2015 2:04 pm
Sample : 50ppb icv
Misc : ical verification
MS Integration Params: EVENTS.E
Quant Time: Feb 5 16:30 2015

Vial: 12
Operator: tjg
Inst : Volatile
Multiplr: 1.00
Quant Results File: 020515RC.RES

Quant Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration
DataAcq Meth : VOC2

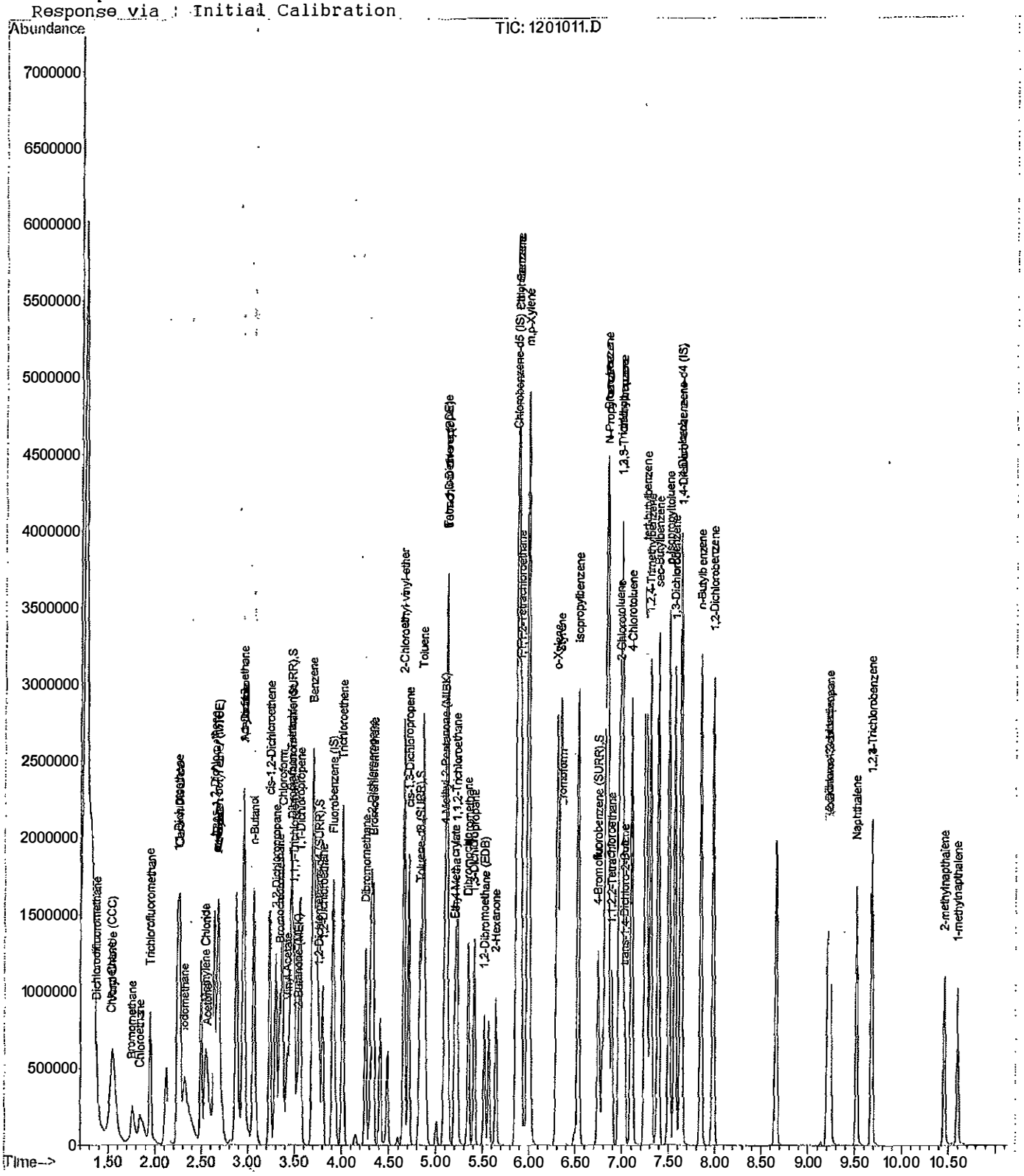
Compound	R.T.	QIon	Response	Conc Unit		Qvalue
49) 2-Hexanone	5.64	43	4580015	129.22 ug/L		99
51) 1,1,1,2-Tetrachloroethane	5.91	131	5764363	52.31 ug/L		97
52) Chlorobenzene	5.87	112	15854742	53.04 ug/L		99
53) Ethyl Benzene	5.89	91	22958134	52.63 ug/L		100
54) m,p-Xylene	5.99	91	32965195	102.73 ug/L		100
55) o-Xylene	6.30	91	17559895	53.11 ug/L		99
56) Styrene	6.34	104	15843446	52.84 ug/L		94
57) Bromoform	6.36	173	3334345	52.09 ug/L		100
59) 1,1,2,2-Tetrachloroethane	6.89	83	5118984	50.68 ug/L		98
60) trans-1,4-Dichloro-2-Buten	7.03	53	1015624	51.59 ug/L		96
61) Isopropylbenzene	6.53	105	23027606	51.85 ug/L		99
62) Bromobenzene	6.83	156	7228136	53.47 ug/L		97
63) N-Propylbenzene	6.84	91	27086382	52.55 ug/L		99
64) 2-Chlorotoluene	6.97	91	17780437	51.94 ug/L		100
65) 4-Chlorotoluene	7.10	126	6773289	52.40 ug/L		96
66) 1,3,5-Trimethylbenzene	6.99	105	18988579	53.85 ug/L		99
67) tert-butylbenzene	7.25	119	19145791	51.58 ug/L		100
68) 1,2,4-Trimethylbenzene	7.30	105	18759189	52.30 ug/L	#	100
69) sec-Butylbenzene	7.39	105	24933103	52.38 ug/L	#	100
70) p-Isopropyltoluene	7.50	119	21574173	53.81 ug/L		99
72) 1,3-Dichlorobenzene	7.57	146	13476889	53.88 ug/L		99
73) 1,4-Dichlorobenzene	7.64	148	8700653	53.49 ug/L		97
74) 1,2,3-Trichloropropane	7.00	75	3926845m	50.56 ug/L		
75) n-Butylbenzene	7.85	91	17765022	53.66 ug/L		99
76) 1,2-Dichlorobenzene	7.98	146	12850431	54.61 ug/L		99
77) 1,2-Dibromo-3-chloropropan	9.21	155	409496	51.55 ug/L		91
78) Hexachloro-1,3-butadiene	9.21	225	2372792	52.74 ug/L		99
79) 1,2,4-Trichlorobenzene	9.68	180	6578641	55.27 ug/L		99
80) Naphthalene	9.52	128	12567001	56.14 ug/L		99
81) 1,2,3-Trichlorobenzene	9.68	180	6578641	55.27 ug/L		99
82) 1-methylnapthalene	10.59	142	4170944	49.46 ug/L		100
83) 2-methylnapthalene	10.46	142	5295897	50.50 ug/L		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\020515C\1201011.D Vial: 12
Acq On : 5 Feb 2015 2:04 pm Operator: tjg
Sample : 50ppb icv Inst : Volatile
Misc : ical verification Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Feb 5 16:30 2015 Quant Results File: 020515RC.RES

Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration



ENVISION

ENVision Laboratories, Inc.
1439 Sadlier Circle West Drive
Indianapolis, IN 46239
Tel: 317.351.8632
Fax: 317.351.8639
www.envisionlaboratories.com

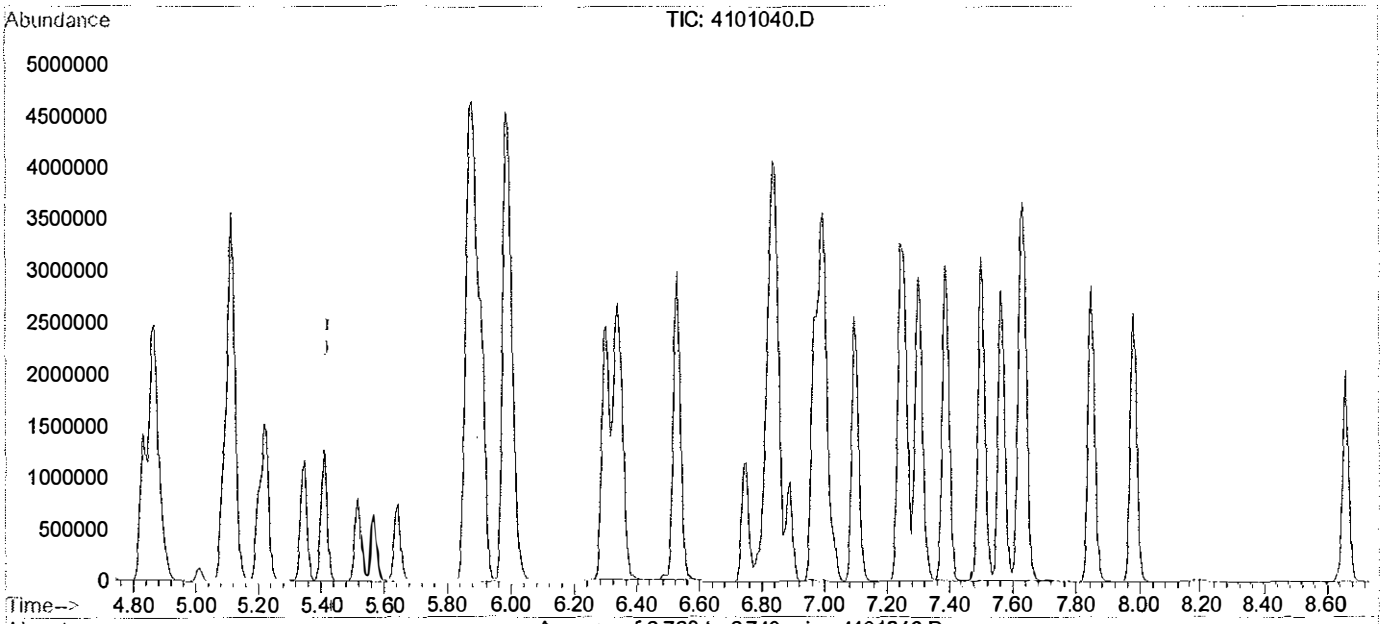
8260 VOC
Continuing Calibration Data

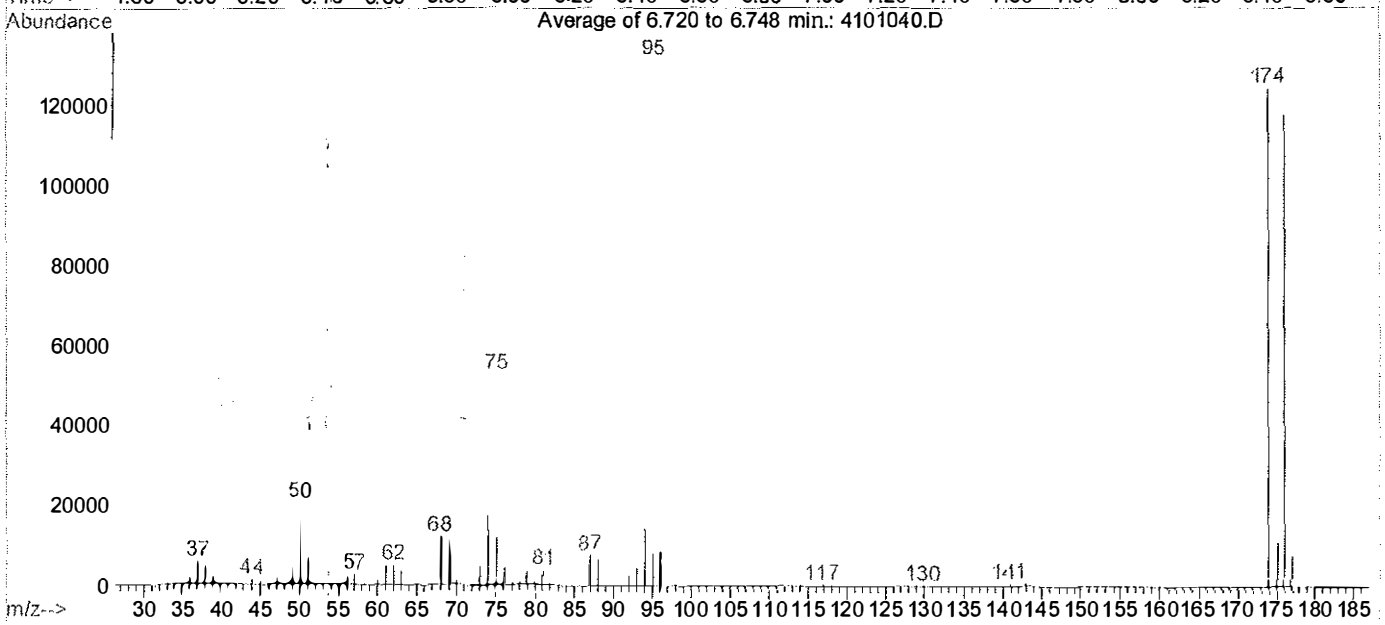
- Tune Data
- Continuing Calibration Verification Summary
- Continuing Calibration Verification (CCV) Quant Report
- Internal Standard Area Summary

BFB

Data File : C:\HPCHEM\1\DATA\020515C\4101040.D
Acq On : 5 Feb 2015 11:21 pm
Sample : bfb/ccv 50ppb
Misc : qc
MS Integration Params: EVENTS.E
Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :

Vial: 41
Operator: tjg
Inst : Volatile
Multiplr: 1.00





Spectrum Information: Average of 6.720 to 6.748 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	15.9	20827	PASS
75	95	30	60	40.3	52875	PASS
95	95	100	100	100.0	131362	PASS
96	95	5	9	6.5	8515	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	94.5	124173	PASS
175	174	5	9	8.9	11033	PASS
176	174	95	101	94.7	117596	PASS
177	176	5	9	6.4	7484	PASS

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\020515C\4101040.D Vial: 41
Acq On : 5 Feb 2015 11:21 pm Operator: tjg
Sample : bfb/ccv 50ppb Inst : Volatile
Misc : qc Multiplr: 1.00
MS Integration Params: EVENTS.E

Method : C:\HPCHEM\1\METHODS\020515RC M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 50% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1		Fluorobenzene (IS)	1.000	1.000	0.0	93	0.00
2		Dichlorodifluoromethane	0.589	0.565	4.1	89	0.00
3		Chlormethane	0.644	0.610	5.3	88	0.00
4		Vinyl Chloride (CCC)	0.579	0.527	9.0	88	0.00
5		Bromomethane	0.223	0.262	-17.5	103	0.00
6		Chloroethane	0.232	0.244	-5.2	94	0.00
7		Acrolein	0.250	0.241	3.6	89	0.00
8		Trichlorofluoromethane	0.417	0.474	-13.7	104	0.00
9		Acetone	0.051	0.044	13.7	88	0.00
10		1,1-Dichloroethene	0.457	0.429	6.1	88	0.00
11		Iodomethane	0.492	0.551	-12.0	98	0.00
12		Carbon Disulfide	1.126	1.129	-0.3	91	0.00
13		Acrylonitrile	0.605	0.581	4.0	90	0.00
14		Methylene Chloride	0.400	0.441	-10.2	110	0.00
15		trans-1,2-Dichloroethene	0.330	0.362	-9.7	99	0.00
16		Methyl-tert-butyl ether (MT	0.780	0.718	7.9	86	0.00
17		1,1-Dichloroethane	0.698	0.684	2.0	89	0.00
18		Vinyl Acetate	0.250	0.236	5.6	87	0.12
19		n-Hexane	0.544	0.516	5.1	88	0.00
20		n-Butanol	0.298	0.273	8.4	82	0.00
21		2-Butanone (MEK)	0.113	0.094	16.8	76	0.00
22		cis-1,2-Dichloroethene	0.534	0.506	5.2	87	0.00
23		Bromochloromethane	0.286	0.289	-1.0	92	0.00
24		2,2-Dichloropropane	0.537	0.465	13.4	79	0.00
25		Chloroform	0.706	0.694	1.7	90	0.00
26		1,1,1-Trichloroethane	0.544	0.550	-1.1	91	0.00
27		1,1-Dichloropropene	0.523	0.513	1.9	90	0.00
28		Carbon Tetrachloride	0.543	0.575	-5.9	95	0.00
29	S	Dibromofluoromethane (SURR)	0.305	0.320	-4.9	97	0.00
30	S	1,2-Dichloroethane-d4 (SURR	0.226	0.232	-2.7	90	0.00
31		Benzene	1.516	1.485	2.0	90	0.00
32		1,2-Dichloroethane	0.442	0.416	5.9	86	0.00
33		Trichloroethene	0.428	0.426	0.5	92	0.00
34		Dibromomethane	0.274	0.255	6.9	85	0.00
35		1,2-Dichloropropane	0.382	0.373	2.4	89	0.00
36		Bromodichloromethane	0.546	0.530	2.9	87	0.00
37		2-Chloroethyl-vinyl-ether	0.170	0.159	6.5	85	0.00
38		cis-1,3-Dichloropropene	0.629	0.592	5.9	84	0.00
39	S	Toluene-d8 (SURR)	0.858	0.871	-1.5	95	0.00
40		Toluene	1.577	1.571	0.4	92	0.00
41		trans-1,3-Dichloropropene	0.518	0.478	7.7	85	0.00
42		4-Methyl-2-Pentanone (MIBK)	0.222	0.187	15.8	77	0.00
43		Tetrachloroethene (PCE)	0.482	0.491	-1.9	91	0.00
44		Ethyl Methacrylate	0.332	0.304	8.4	84	0.00
45		1,1,2-Trichloroethane	0.273	0.259	5.1	90	0.00
46		Dibromochloromethane	0.445	0.436	2.0	89	0.00
47		1,3-Dichloropropane	0.545	0.496	9.0	84	0.00
48		1,2-Dibromoethane (EDB)	0.386	0.367	4.9	85	0.00
49		2-Hexanone	0.136	0.120	11.8	82	0.00
50		Chlorobenzene-d5 (IS)	1.000	1.000	0.0	98	0.00
51		1,1,1,2-Tetrachloroethane	0.571	0.554	3.0	91	0.00
52		Chlorobenzene	1.548	1.516	2.1	93	0.00
53		Ethyl Benzene	2.260	2.168	4.1	91	0.00
54		m,p-Xylene	1.663	1.473	11.4	85	0.00
55		o-Xylene	1.713	1.657	3.3	93	0.00
56		Styrene	1.554	1.509	2.9	90	0.00
57		Bromoform	0.332	0.300	9.6	86	0.00
58	S	4-Bromofluorobenzene (SURR)	0.428	0.397	7.2	93	0.00
59		1,1,2,2-Tetrachloroethane	0.523	0.440	15.9	83	0.00
60		trans-1,4-Dichloro-2-Butene	0.102	0.089	12.7	86	0.00
61		Isopropylbenzene	2.301	2.226	3.3	92	0.00

62	Bromobenzene	0.700	0.699	0.1	95	0.00
63	N-Propylbenzene	2.670	2.539	4.9	91	0.00
64	2-Chlorotoluene	1.774	1.639	7.6	89	0.00
65	4-Chlorotoluene	0.670	0.635	5.2	91	0.00
66	1,3,5-Trimethylbenzene	1.827	1.798	1.6	93	0.00
67	tert-butylbenzene	1.923	1.813	5.7	89	0.00
68	1,2,4-Trimethylbenzene	1.858	1.868	-0.5	96	0.00
69	sec-Butylbenzene	2.466	2.384	3.3	91	0.00
70	p-Isopropyltoluene	2.077	2.057	1.0	96	0.00
71	1,4-Dichlorobenzene-d4 (IS)	1.000	1.000	0.0	94	0.00
72	1,3-Dichlorobenzene	2.563	2.720	-6.1	98	0.00
73	1,4-Dichlorobenzene	1.667	1.644	1.4	91	0.00
74	1,2,3-Trichloropropane	0.796	0.817	-2.6	101	0.00
75	n-Butylbenzene	3.392	3.274	3.5	88	0.00
76	1,2-Dichlorobenzene	2.411	2.421	-0.4	90	0.00
77	1,2-Dibromo-3-chloropropane	0.081	0.074	8.6	83	0.00
78	Hexachloro-1,3-butadiene	0.461	0.451	2.2	90	0.00
79	1,2,4-Trichlorobenzene	1.220	1.272	-4.3	94	0.00
80	Naphthalene	2.294	2.398	-4.5	87	0.00
81	1,2,3-Trichlorobenzene	1.220	1.272	-4.3	94	0.00
82	1-methylnapthalene	0.864	0.767	11.2	86	0.00
83	2-methylnapthalene	1.075	0.963	10.4	87	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
0701006.D 020515RC.M Tue Feb 10 07:41:10 2015

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020515C\4101040.D
Acq On : 5 Feb 2015 11:21 pm
Sample : bfb/ccv 50ppb
Misc : qc
MS Integration Params: EVENTS.E
Quant Time: Feb 9 13:53 2015

Vial: 41
Operator: tjg
Inst : Volatile
Multiplr: 1.00
Quant Results File: 020515RC.RES

Quant Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	3.92	96	12432558m	50.00	ug/L	0.00
50) Chlorobenzene-d5 (IS)	5.86	117	9665278	50.00	ug/L	0.00
71) 1,4-Dichlorobenzene-d4 (IS	7.63	152	4780062	50.00	ug/L	0.00
System Monitoring Compounds						
29) Dibromofluoromethane (SURR	3.47	113	3975159	52.44	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 104.88%						
30) 1,2-Dichloroethane-d4 (SUR	3.77	65	2880965	51.24	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 102.48%						
39) Toluene-d8 (SURR)	4.84	98	10827865	50.78	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 101.56%						
58) 4-Bromofluorobenzene (SURR	6.75	95	3834120	46.39	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 92.78%						

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.38	85	7026985	48.00	ug/L	100
3) Chlormethane	1.53	50	7578639	47.31	ug/L	99
4) Vinyl Chloride (CCC)	1.55	62	6547433	45.50	ug/L	98
5) Bromomethane	1.76	94	3253140	58.71	ug/L	97
6) Chloroethane	1.85	64	3029702	52.60	ug/L	99
7) Acrolein	2.68	56	2999104	48.27	ug/L #	99
8) Trichlorofluoromethane	1.95	101	5892070	56.80	ug/L	100
9) Acetone	2.57	43	1381270m	109.66	ug/L	
10) 1,1-Dichloroethene	2.25	61	5338758	47.01	ug/L	93
11) Iodomethane	2.32	142	6854512	55.99	ug/L	100
12) Carbon Disulfide	2.27	76	14033925	50.10	ug/L	99
13) Acrylonitrile	2.95	53	7222715	48.03	ug/L	98
14) Methylene Chloride	2.55	49	5477002	55.08	ug/L	89
15) trans-1,2-Dichloroethene	2.64	96	4506168	54.96	ug/L	94
16) Methyl-tert-butyl ether (M	2.69	73	8922908	45.99	ug/L	98
17) 1,1-Dichloroethane	2.96	63	8509665	49.04	ug/L	99
18) Vinyl Acetate	3.53	43	2932675	47.20	ug/L	99
19) n-Hexane	2.68	57	6417394	47.46	ug/L	99
20) n-Butanol	3.07	57	3390632	45.83	ug/L #	93
21) 2-Butanone (MEK)	3.53	43	2932671	104.49	ug/L	97
22) cis-1,2-Dichloroethene	3.24	61	6293808	47.41	ug/L	97
23) Bromochloromethane	3.34	128	3598011	50.54	ug/L #	99
24) 2,2-Dichloropropane	3.30	77	5780984	43.31	ug/L	99
25) Chloroform	3.37	83	8626027	49.13	ug/L	99
26) 1,1,1-Trichloroethane	3.50	97	6841553	50.59	ug/L	98
27) 1,1-Dichloropropene	3.56	75	6380227	49.03	ug/L	100
28) Carbon Tetrachloride	3.46	117	7142889	52.90	ug/L	99
31) Benzene	3.70	78	18457249	48.98	ug/L	100
32) 1,2-Dichloroethane	3.80	62	5177709	47.11	ug/L	99
33) Trichloroethene	4.01	95	5293234	49.71	ug/L	98
34) Dibromomethane	4.25	93	3169006	46.57	ug/L	95
35) 1,2-Dichloropropane	4.31	63	4631363	48.76	ug/L	100
36) Bromodichloromethane	4.34	83	6594462	48.57	ug/L	99
37) 2-Chloroethyl-vinyl-ether	4.66	63	7905519	186.58	ug/L	98
38) cis-1,3-Dichloropropene	4.72	75	7355208	47.01	ug/L	98
40) Toluene	4.87	91	19531801	49.82	ug/L	99
41) trans-1,3-Dichloropropene	5.12	75	5948485	46.18	ug/L	97
42) 4-Methyl-2-Pentanone (MIBK	5.09	43	5813030	105.28	ug/L	99
43) Tetrachloroethene (PCE)	5.11	166	6105570m	50.92	ug/L	
44) Ethyl Methacrylate	5.20	69	3773679	45.65	ug/L	97
45) 1,1,2-Trichloroethane	5.23	83	3223472	47.55	ug/L	98
46) Dibromochloromethane	5.35	129	5421319	49.03	ug/L	99
47) 1,3-Dichloropropane	5.41	76	6172479	45.58	ug/L	99
48) 1,2-Dibromoethane (EDB)	5.52	107	4557357	47.45	ug/L	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020515C\4101040.D Vial: 41
Acq On : 5 Feb 2015 11:21 pm Operator: tjg
Sample : bfb/ccv 50ppb Inst : Volatile
Misc : qc Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Feb 9 13:53 2015 Quant Results File: 020515RC.RES

Quant Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration
DataAcq Meth : VOC2

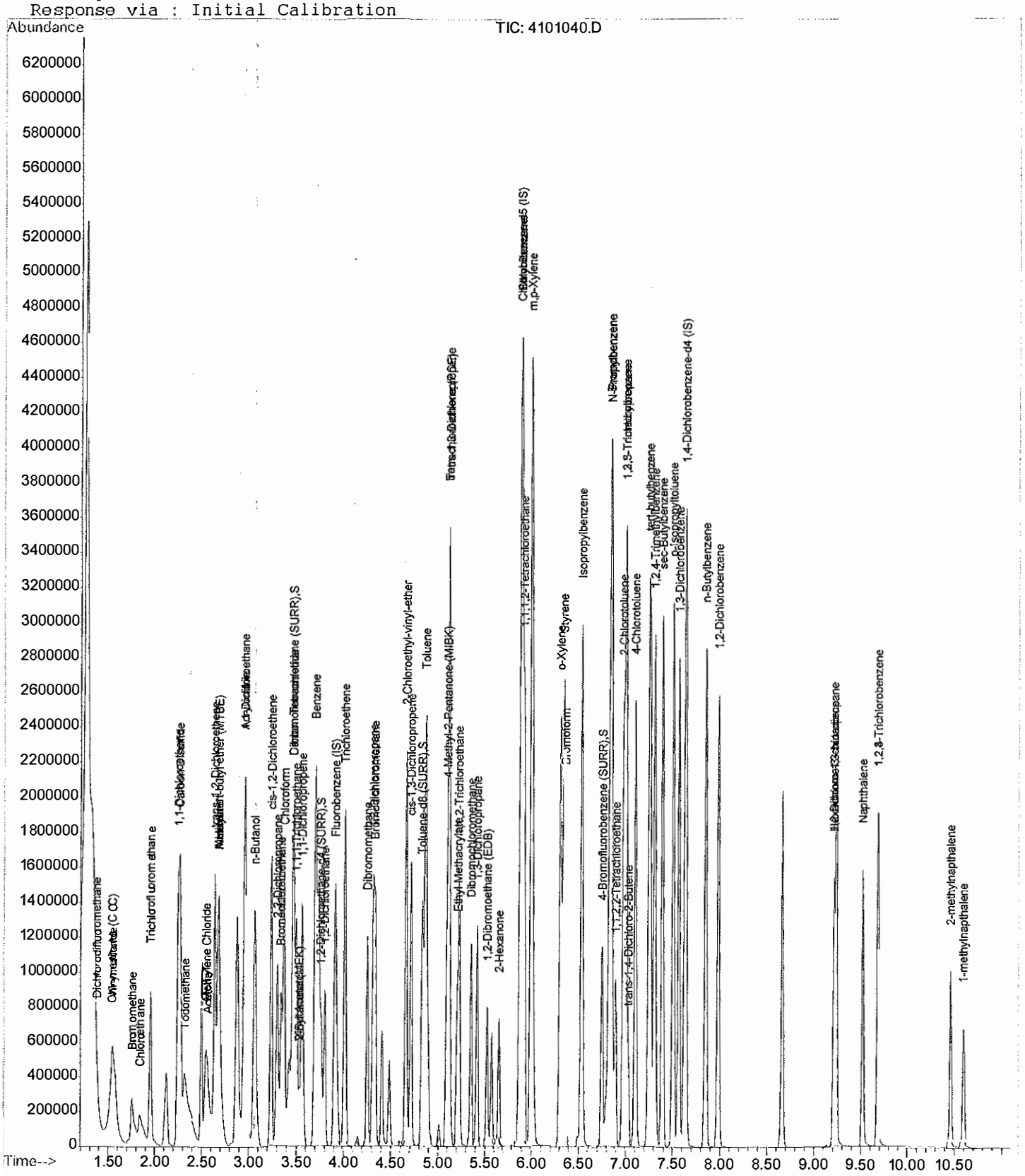
Compound	R.T.	QIon	Response	Conc Unit		Qvalue
49) 2-Hexanone	5.65	43	3740971	110.63 ug/L		97
51) 1,1,1,2-Tetrachloroethane	5.91	131	5350421	48.48 ug/L	#	86
52) Chlorobenzene	5.88	112	14648922	48.94 ug/L		97
53) Ethyl Benzene	5.89	91	20951793	47.96 ug/L		99
54) m,p-Xylene	5.99	91	28473628	88.60 ug/L		96
55) o-Xylene	6.30	91	16016206	48.37 ug/L		97
56) Styrene	6.34	104	14586755	48.57 ug/L		93
57) Bromoform	6.36	173	2897828	45.21 ug/L		98
59) 1,1,2,2-Tetrachloroethane	6.89	83	4250668	42.02 ug/L		100
60) trans-1,4-Dichloro-2-Buten	7.03	53	856773m	43.46 ug/L		
61) Isopropylbenzene	6.53	105	21514939	48.37 ug/L		99
62) Bromobenzene	6.83	156	6753165	49.89 ug/L		95
63) N-Propylbenzene	6.85	91	24539976	47.54 ug/L		98
64) 2-Chlorotoluene	6.97	91	15845710	46.22 ug/L		99
65) 4-Chlorotoluene	7.10	126	6138289	47.41 ug/L		99
66) 1,3,5-Trimethylbenzene	7.00	105	17378912	49.21 ug/L		99
67) tert-butylbenzene	7.25	119	17527456	47.15 ug/L		99
68) 1,2,4-Trimethylbenzene	7.31	105	18055351	50.27 ug/L	#	100
69) sec-Butylbenzene	7.39	105	23045318	48.34 ug/L	#	99
70) p-Isopropyltoluene	7.50	119	19881848	49.51 ug/L		100
72) 1,3-Dichlorobenzene	7.57	146	13002048	53.07 ug/L		98
73) 1,4-Dichlorobenzene	7.64	148	7857007	49.31 ug/L		100
74) 1,2,3-Trichloropropane	7.00	75	3903211	51.30 ug/L		84
75) n-Butylbenzene	7.85	91	15651387	48.26 ug/L		98
76) 1,2-Dichlorobenzene	7.98	146	11572398	50.21 ug/L		100
77) 1,2-Dibromo-3-chloropropan	9.21	155	355605	45.70 ug/L		92
78) Hexachloro-1,3-butadiene	9.21	225	2158048	48.97 ug/L		99
79) 1,2,4-Trichlorobenzene	9.68	180	6081558	52.16 ug/L		97
80) Naphthalene	9.52	128	11461123	52.27 ug/L		99
81) 1,2,3-Trichlorobenzene	9.68	180	6081558	52.16 ug/L		97
82) 1-methylnapthalene	10.59	142	3667196m	44.40 ug/L		
83) 2-methylnapthalene	10.46	142	4604775	44.83 ug/L		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\020515C\4101040.D Vial: 41
Acq On : 5 Feb 2015 11:21 pm Operator: tjg
Sample : bfb/ccv 50ppb Inst : Volatile
Misc : qc Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Feb 9 13:53 2015 Quant Results File: 020515RC.RES

Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration



GC/MS QA-QC Check Report

Tune File : C:\HPCHEM\1\DATA\020515C\4101040.D
Tune Time : 5 Feb 2015 11:21 pm

Daily Calibration File : C:\HPCHEM\1\DATA\020515C\4101040.D

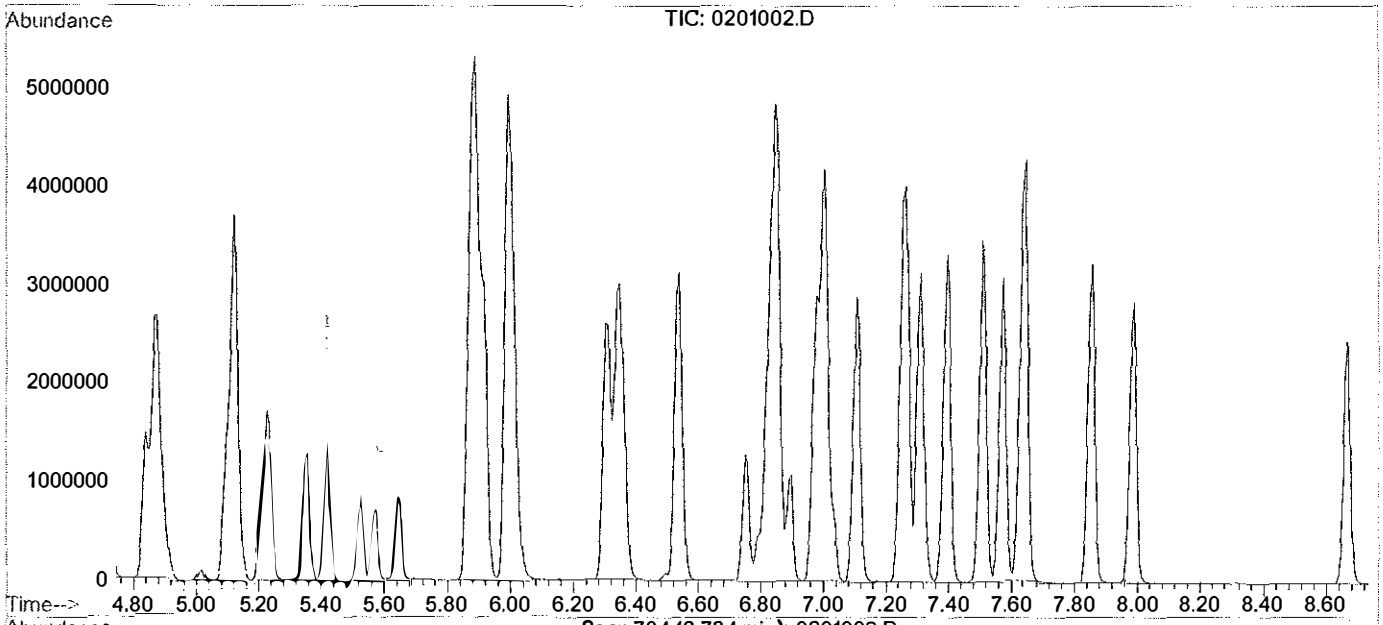
File	Sample	Surrogate Recovery %				Internal Standard Responses		
						12432600	9665280	4780060
4201041.D	lcs 50pp	104	101	101	92	13374473	10348882	5244086
4301042.D	lcsd 50p	100	101	101	96	12927136	9723987	4880224
4401043.D	mb	100	93	99	93	14102772	10816813	5199996
6701066.D	15-1905	106	94	103	89	12663471	9823230	4786744
6801067.D	15-1905:	103	94	101	89	12275652	9633674	4868584
7401073.D	15-1906:	102	97	102	95	13364217	10267782	4936910
7501074.D	15-1908:	103	95	104	96	13424966	10210970	5163903
7601075.D	15-1909:	102	97	102	94	13464336	10413085	5324659
7701076.D	15-1910:	105	96	101	93	13250789	10276180	5146000

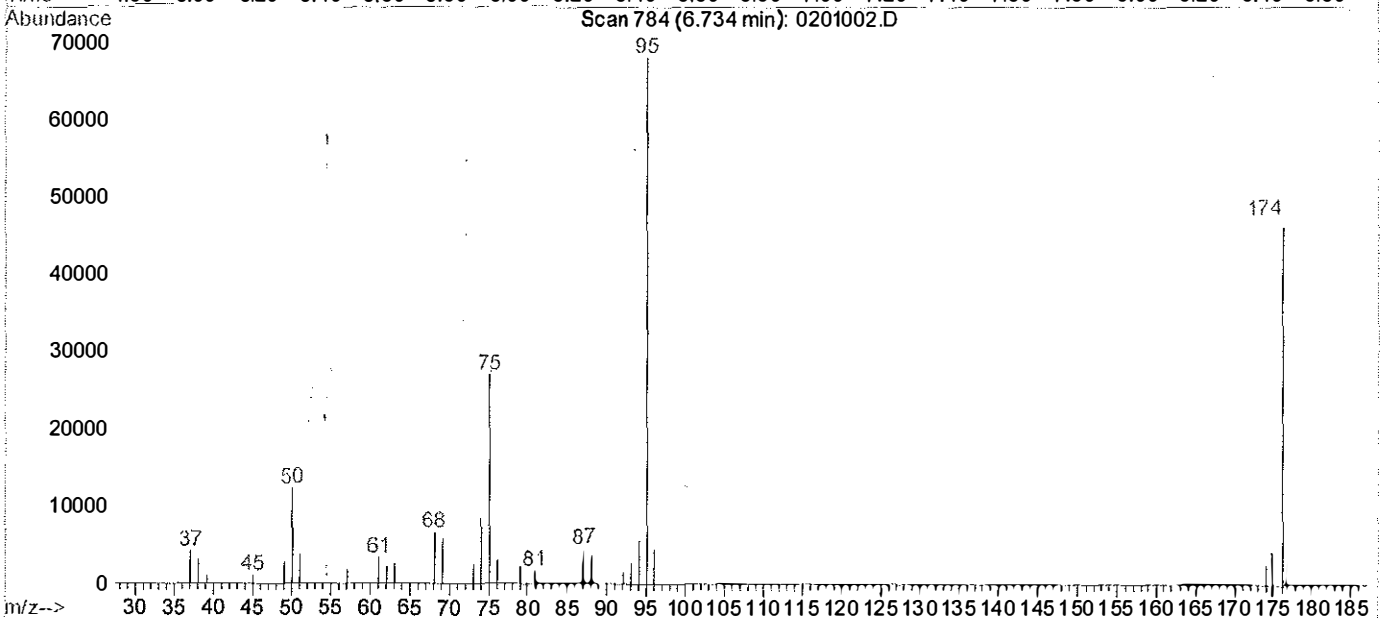
t - fails 12hr time check * - fails criteria

Created: Tue Feb 10 07:43:13 2015 Volatile

Data File : C:\HPCHEM\1\DATA\020615\0201002.D
Acq On : 6 Feb 2015 2:32 pm
Sample : bfb/ccv 50ppb
Misc : qc
MS Integration Params: EVENTS.E
Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :

Vial: 2
Operator: tjg
Inst : Volatile
Multiplr: 1.00





Spectrum Information: Scan 784

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	18.0	12256	PASS
75	95	30	60	39.6	26936	PASS
95	95	100	100	100.0	67992	PASS
96	95	5	9	6.6	4497	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	69.2	47072	PASS
175	174	5	9	8.7	4075	PASS
176	174	95	101	98.6	46400	PASS
177	176	5	9	7.4	3442	PASS

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\020615\0201002.D Vial: 2
Acq On : 6 Feb 2015 2:32 pm Operator: tjg
Sample : bfb/ccv 50ppb Inst : Volatile
Misc : qc Multiplr: 1.00
MS Integration Params: EVENTS.E

Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 50% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1		Fluorobenzene (IS)	1.000	1.000	0.0	101	0.01
2		Dichlorodifluoromethane	0.589	0.563	4.4	96	0.02
3		Chlormethane	0.644	0.604	6.2	95	0.02
4		Vinyl Chloride (CCC)	0.579	0.538	7.1	97	0.01
5		Bromomethane	0.223	0.259	-16.1	111	0.01
6		Chloroethane	0.232	0.248	-6.9	104	0.01
7		Acrolein	0.250	0.260	-4.0	105	0.02
8		Trichlorofluoromethane	0.417	0.476	-14.1	114	0.02
9		Acetone	0.051	0.054	-5.9	116	0.00
10		1,1-Dichloroethene	0.457	0.445	2.6	99	0.02
11		Iodomethane	0.492	0.584	-18.7	113	0.01
12		Carbon Disulfide	1.126	1.134	-0.7	100	0.02
13		Acrylonitrile	0.605	0.599	1.0	101	0.02
14		Methylene Chloride	0.400	0.397	0.8	108	0.01
15		trans-1,2-Dichloroethene	0.330	0.365	-10.6	109	0.02
16		Methyl-tert-butyl ether (MT	0.780	0.762	2.3	99	0.02
17		1,1-Dichloroethane	0.698	0.686	1.7	97	0.01
18		Vinyl Acetate	0.250	0.249	0.4	100	0.02
19		n-Hexane	0.544	0.552	-1.5	103	0.02
20		n-Butanol	0.298	0.280	6.0	92	0.01
21		2-Butanone (MEK)	0.113	0.100	11.5	88	0.01
22		cis-1,2-Dichloroethene	0.534	0.518	3.0	97	0.01
23		Bromochloromethane	0.286	0.298	-4.2	103	0.01
24		2,2-Dichloropropane	0.537	0.542	-0.9	100	0.02
25		Chloroform	0.706	0.704	0.3	99	0.01
26		1,1,1-Trichloroethane	0.544	0.569	-4.6	103	0.02
27		1,1-Dichloropropene	0.523	0.528	-1.0	101	0.02
28		Carbon Tetrachloride	0.543	0.591	-8.8	106	0.02
29	S	Dibromofluoromethane (SURR)	0.305	0.312	-2.3	103	0.01
30	S	1,2-Dichloroethane-d4 (SURR	0.226	0.233	-3.1	99	0.01
31		Benzene	1.516	1.522	-0.4	100	0.01
32		1,2-Dichloroethane	0.442	0.423	4.3	95	0.01
33		Trichloroethene	0.428	0.436	-1.9	102	0.01
34		Dibromomethane	0.274	0.263	4.0	96	0.01
35		1,2-Dichloropropane	0.382	0.379	0.8	99	0.01
36		Bromodichloromethane	0.546	0.542	0.7	97	0.01
37		2-Chloroethyl-vinyl-ether	0.170	0.167	1.8	97	0.00
38		cis-1,3-Dichloropropene	0.629	0.624	0.8	96	0.01
39	S	Toluene-d8 (SURR)	0.858	0.855	0.3	101	0.00
40		Toluene	1.577	1.590	-0.8	102	0.00
41		trans-1,3-Dichloropropene	0.518	0.505	2.5	98	0.00
42		4-Methyl-2-Pentanone (MIBK)	0.222	0.198	10.8	89	0.00
43		Tetrachloroethene (PCE)	0.482	0.521	-8.1	105	0.00
44		Ethyl Methacrylate	0.332	0.322	3.0	97	0.00
45		1,1,2-Trichloroethane	0.273	0.260	4.8	98	0.00
46		Dibromochloromethane	0.445	0.458	-2.9	101	0.00
47		1,3-Dichloropropane	0.545	0.516	5.3	95	0.01
48		1,2-Dibromoethane (EDB)	0.386	0.395	-2.3	100	0.00
49		2-Hexanone	0.136	0.128	5.9	95	0.00
50		Chlorobenzene-d5 (IS)	1.000	1.000	0.0	104	0.00
51		1,1,1,2-Tetrachloroethane	0.571	0.588	-3.0	102	0.00
52		Chlorobenzene	1.548	1.548	0.0	101	0.00
53		Ethyl Benzene	2.260	2.196	2.8	98	0.00
54		m,p-Xylene	1.663	1.337	19.6	82	0.00
55		o-Xylene	1.713	1.699	0.8	102	0.00
56		Styrene	1.554	1.534	1.3	98	0.00
57		Bromoform	0.332	0.318	4.2	97	0.00
58	S	4-Bromofluorobenzene (SURR)	0.428	0.400	6.5	99	0.00
59		1,1,2,2-Tetrachloroethane	0.523	0.461	11.9	92	0.00
60		trans-1,4-Dichloro-2-Butene	0.102	0.090	11.8	92	0.00
61		Isopropylbenzene	2.301	2.351	-2.2	103	0.00

62	Bromobenzene	0.700	0.737	-5.3	107	0.00
63	N-Propylbenzene	2.670	2.714	-1.6	104	0.00
64	2-Chlorotoluene	1.774	1.729	2.5	100	0.00
65	4-Chlorotoluene	0.670	0.684	-2.1	104	0.00
66	1,3,5-Trimethylbenzene	1.827	1.891	-3.5	104	0.00
67	tert-butylbenzene	1.923	2.012	-4.6	104	0.00
68	1,2,4-Trimethylbenzene	1.858	1.843	0.8	101	0.00
69	sec-Butylbenzene	2.466	2.495	-1.2	101	0.00
70	p-Isopropyltoluene	2.077	2.147	-3.4	107	0.00
71	1,4-Dichlorobenzene-d4 (IS)	1.000	1.000	0.0	107	0.00
72	1,3-Dichlorobenzene	2.563	2.553	0.4	105	0.00
73	1,4-Dichlorobenzene	1.667	1.682	-0.9	106	0.00
74	1,2,3-Trichloropropane	0.796	0.851	-6.9	120	0.00
75	n-Butylbenzene	3.392	3.284	3.2	101	0.00
76	1,2-Dichlorobenzene	2.411	2.340	2.9	100	0.00
77	1,2-Dibromo-3-chloropropane	0.081	0.077	4.9	98	0.00
78	Hexachloro-1,3-butadiene	0.461	0.488	-5.9	111	0.00
79	1,2,4-Trichlorobenzene	1.220	1.183	3.0	100	0.00
80	Naphthalene	2.294	2.222	3.1	93	0.00
81	1,2,3-Trichlorobenzene	1.220	1.183	3.0	100	0.00
82	1-methylnapthalene	0.864	0.771	10.8	99	0.00
83	2-methylnapthalene	1.075	1.032	4.0	107	0.01

(#) = Out of Range SPCC's out = 0 CCC's out = 0
0701006.D 020515RC.M Tue Feb 10 07:44:14 2015

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020615\0201002.D Vial: 2
Acq On : 6 Feb 2015 2:32 pm Operator: tjg
Sample : bfb/ccv 50ppb Inst : Volatile
Misc : qc Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Feb 10 7:44 2015 Quant Results File: 020515RC.RES

Quant Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	3.93	96	13522797m	50.00	ug/L	0.01
50) Chlorobenzene-d5 (IS)	5.87	117	10269041	50.00	ug/L	0.00
71) 1,4-Dichlorobenzene-d4 (IS	7.63	152	5467466	50.00	ug/L	0.00
System Monitoring Compounds						
29) Dibromofluoromethane (SURR	3.48	113	4221586	51.20	ug/L	0.01
Spiked Amount 50.000 Range 60 - 140 Recovery = 102.40%						
30) 1,2-Dichloroethane-d4 (SUR	3.77	65	3155418	51.59	ug/L	0.01
Spiked Amount 50.000 Range 60 - 140 Recovery = 103.18%						
39) Toluene-d8 (SURR)	4.84	98	11567477	49.88	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 99.76%						
58) 4-Bromofluorobenzene (SURR	6.75	95	4109980	46.80	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 93.60%						

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.40	85	7610461	47.79	ug/L	98
3) Chlormethane	1.54	50	8169779	46.89	ug/L	99
4) Vinyl Chloride (CCC)	1.56	62	7274524	46.48	ug/L	99
5) Bromomethane	1.77	94	3503192	58.13	ug/L	99
6) Chloroethane	1.86	64	3357378	53.59	ug/L	98
7) Acrolein	2.69	56	3511467	51.96	ug/L #	94
8) Trichlorofluoromethane	1.97	101	6434311	57.03	ug/L	99
9) Acetone	2.57	43	1817146m	132.63	ug/L	
10) 1,1-Dichloroethene	2.26	61	6012677	48.67	ug/L	87
11) Iodomethane	2.33	142	7891974	59.27	ug/L #	92
12) Carbon Disulfide	2.28	76	15340678	50.35	ug/L #	75
13) Acrylonitrile	2.97	53	8096517	49.50	ug/L	96
14) Methylene Chloride	2.56	49	5366888	49.62	ug/L	98
15) trans-1,2-Dichloroethene	2.65	96	4939063	55.38	ug/L	94
16) Methyl-tert-butyl ether (M	2.70	73	10309558	48.85	ug/L	97
17) 1,1-Dichloroethane	2.97	63	9270063	49.12	ug/L	99
18) Vinyl Acetate	3.54	43	3372695	49.90	ug/L	99
19) n-Hexane	2.69	57	7470461	50.80	ug/L	98
20) n-Butanol	3.08	57	3786437	47.06	ug/L	99
21) 2-Butanone (MEK)	3.54	43	3372709	110.48	ug/L	98
22) cis-1,2-Dichloroethene	3.25	61	6999700	48.47	ug/L	96
23) Bromochloromethane	3.35	128	4028638	52.03	ug/L #	99
24) 2,2-Dichloropropane	3.31	77	7330079	50.48	ug/L	100
25) Chloroform	3.38	83	9526286	49.88	ug/L	99
26) 1,1,1-Trichloroethane	3.51	97	7687769	52.27	ug/L	98
27) 1,1-Dichloropropene	3.57	75	7140116	50.44	ug/L	97
28) Carbon Tetrachloride	3.48	117	7987180	54.38	ug/L	100
31) Benzene	3.71	78	20578698	50.21	ug/L	100
32) 1,2-Dichloroethane	3.81	62	5725980	47.90	ug/L	99
33) Trichloroethene	4.02	95	5892837	50.88	ug/L	97
34) Dibromomethane	4.26	93	3557952	48.07	ug/L	95
35) 1,2-Dichloropropane	4.32	63	5123484	49.59	ug/L	99
36) Bromodichloromethane	4.34	83	7332755	49.65	ug/L	100
37) 2-Chloroethyl-vinyl-ether	4.67	63	9028915	195.92	ug/L	97
38) cis-1,3-Dichloropropene	4.72	75	8431533	49.55	ug/L	97
40) Toluene	4.87	91	21500894	50.42	ug/L	100
41) trans-1,3-Dichloropropene	5.13	75	6829777	48.75	ug/L	89
42) 4-Methyl-2-Pentanone (MIBK	5.10	43	6683100	111.28	ug/L	99
43) Tetrachloroethene (PCE)	5.12	166	7044138	54.01	ug/L	97
44) Ethyl Methacrylate	5.21	69	4357311	48.46	ug/L	99
45) 1,1,2-Trichloroethane	5.23	83	3511954	47.63	ug/L	99
46) Dibromochloromethane	5.36	129	6193266	51.49	ug/L	99
47) 1,3-Dichloropropane	5.42	76	6975497	47.36	ug/L	98
48) 1,2-Dibromoethane (EDB)	5.53	107	5347337	51.18	ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020615\0201002.D Vial: 2
Acq On : 6 Feb 2015 2:32 pm Operator: tjg
Sample : bfb/ccv 50ppb Inst : Volatile
Misc : qc Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Feb 10 7:44 2015 Quant Results File: 020515RC.RES

Quant Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration
DataAcq Meth : VOC2

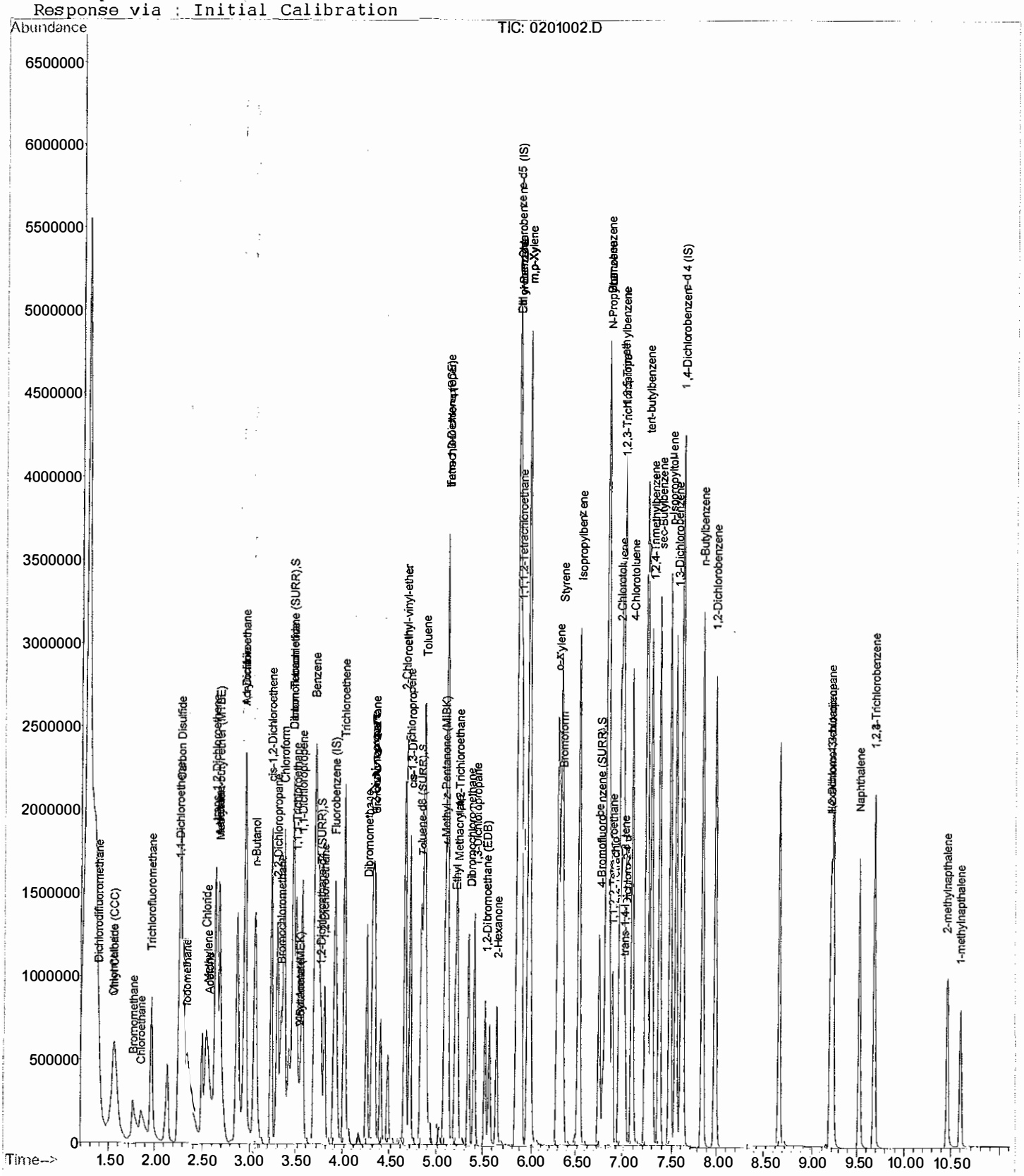
Compound	R.T.	QIon	Response	Conc Unit		Qvalue
49) 2-Hexanone	5.65	43	4333262	117.81 ug/L		97
51) 1,1,1,2-Tetrachloroethane	5.92	131	6038807	51.50 ug/L	#	78
52) Chlorobenzene	5.88	112	15898970	49.99 ug/L		96
53) Ethyl Benzene	5.89	91	22548639	48.58 ug/L		99
54) m,p-Xylene	6.00	91	27463239	80.43 ug/L		96
55) o-Xylene	6.31	91	17442470	49.58 ug/L		94
56) Styrene	6.35	104	15751019	49.37 ug/L		93
57) Bromoform	6.37	173	3265986	47.95 ug/L		99
59) 1,1,2,2-Tetrachloroethane	6.90	83	4737800	44.08 ug/L		99
60) trans-1,4-Dichloro-2-Buten	7.03	53	920414m	43.94 ug/L		
61) Isopropylbenzene	6.54	105	24143770	51.09 ug/L		99
62) Bromobenzene	6.84	156	7573146	52.65 ug/L		96
63) N-Propylbenzene	6.85	91	27871251	50.82 ug/L		98
64) 2-Chlorotoluene	6.98	91	17758808	48.75 ug/L		98
65) 4-Chlorotoluene	7.11	126	7021362	51.05 ug/L		99
66) 1,3,5-Trimethylbenzene	7.00	105	19414537	51.75 ug/L		99
67) tert-butylbenzene	7.26	119	20658693	52.31 ug/L		97
68) 1,2,4-Trimethylbenzene	7.31	105	18927327	49.59 ug/L	#	100
69) sec-Butylbenzene	7.40	105	25616717	50.58 ug/L	#	100
70) p-Isopropyltoluene	7.51	119	22049260	51.68 ug/L		99
72) 1,3-Dichlorobenzene	7.57	146	13960042	49.81 ug/L		99
73) 1,4-Dichlorobenzene	7.64	148	9197345	50.47 ug/L		98
74) 1,2,3-Trichloropropane	7.01	75	4652110	53.46 ug/L	#	79
75) n-Butylbenzene	7.85	91	17957254	48.41 ug/L		98
76) 1,2-Dichlorobenzene	7.99	146	12794427	48.53 ug/L		99
77) 1,2-Dibromo-3-chloropropan	9.22	155	421776	47.39 ug/L		99
78) Hexachloro-1,3-butadiene	9.22	225	2667705	52.92 ug/L		99
79) 1,2,4-Trichlorobenzene	9.69	180	6468177	48.50 ug/L		100
80) Naphthalene	9.53	128	12150638	48.44 ug/L		99
81) 1,2,3-Trichlorobenzene	9.69	180	6468177	48.50 ug/L		100
82) 1-methylnapthalene	10.60	142	4214629	44.61 ug/L		98
83) 2-methylnapthalene	10.47	142	5639981	48.00 ug/L		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\020615\0201002.D Vial: 2
Acq On : 6 Feb 2015 2:32 pm Operator: tjg
Sample : bfb/ccv 50ppb Inst : Volatile
Misc : qc Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Feb 10 7:44 2015 Quant Results File: 020515RC.RES

Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration



GC/MS QA-QC Check Report

Tune File : C:\HPCHEM\1\DATA\020615\0201002.D
Tune Time : 6 Feb 2015 2:32 pm

Daily Calibration File : C:\HPCHEM\1\DATA\020615\0201002.D

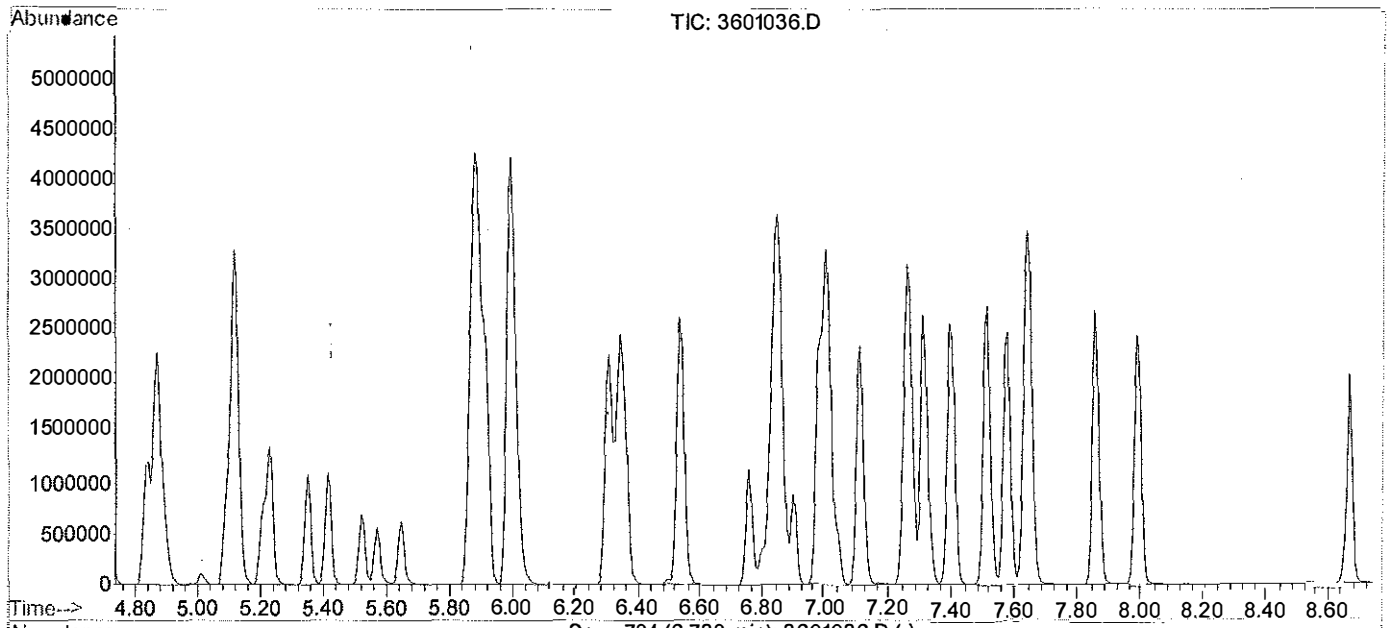
						13522800	10269000	5467470
File	Sample	Surrogate Recovery %				Internal Standard Responses		
0301003.D	lcs 50pp	104	102	102	92	13814709	10735349	5523482
0401004.D	lcsd-50	102	94	103	96	13380052	10296821	5457552
0501001.D	mb	104	95	97	89	14824987	11137311	5560916
0601002.D	15-1910:	100	88	101	90	13125658	10056097	4978054
0701003.D	15-1907:	100	92	98	92	13199313	10177796	5229168
0801004.D	ms15-190	103	96	100	94	13100773	9950779	5144117
0901005.D	msd15-19	103	100	102	99	12278970	8852858	4888209
1001006.D	15-1911	99	92	100	89	12925923	10173828	5165860
1701013.D	15-1907	105	93	104	88	12254300	9725598	4602344

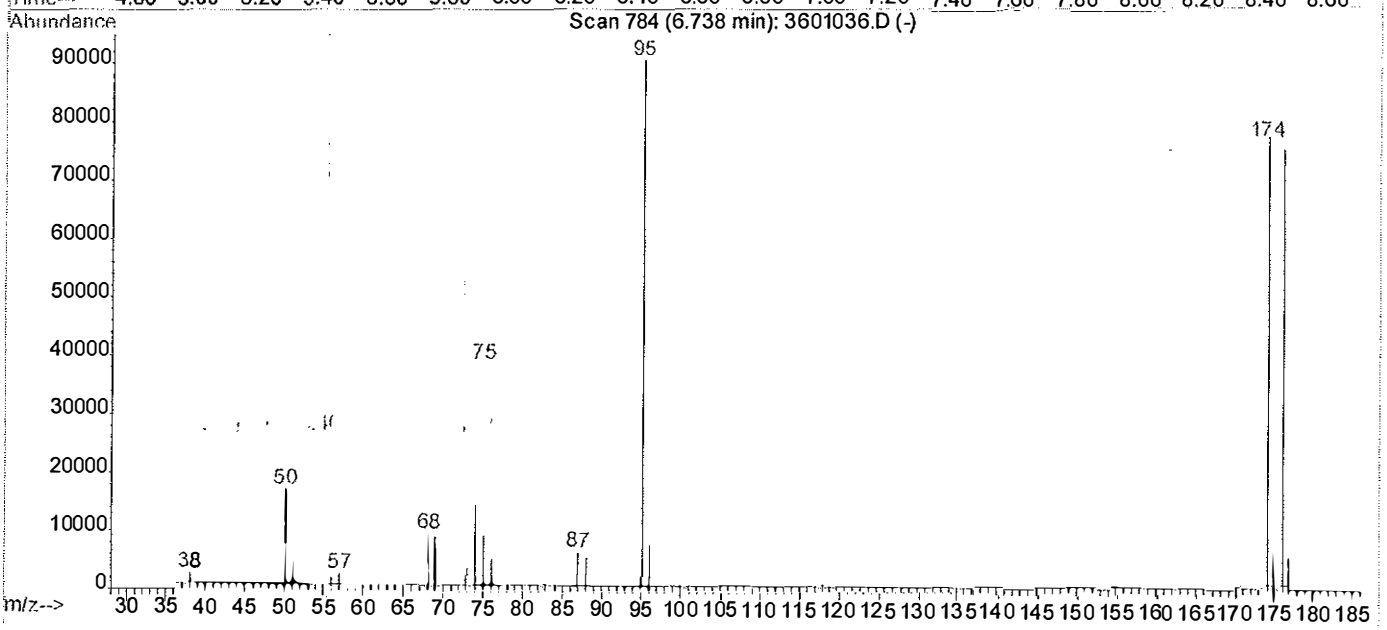
t - fails 12hr time check * - fails criteria

Created: Tue Feb 10 07:46:46 2015 Volatile

Data File : C:\HPCHEM\1\DATA\020915\3601036.D
Acq On : 10 Feb 2015 12:24 am
Sample : bfb/ccv 50ppb
Misc : qc
MS Integration Params: EVENTS.E
Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :

Vial: 36
Operator: tjg
Inst : Volatile
Multiplr: 1.00





Spectrum Information: Scan 784

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.9	16200	PASS
75	95	30	60	42.1	37960	PASS
95	95	100	100	100.0	90255	PASS
96	95	5	9	8.0	7241	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	85.2	76864	PASS
175	174	5	9	8.3	6416	PASS
176	174	95	101	97.0	74584	PASS
177	176	5	9	7.2	5393	PASS

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\020915\3601036.D
Acq On : 10 Feb 2015 12:24 am
Sample : bfb/ccv 50ppb
Misc : qc
MS Integration Params: EVENTS.E

Vial: 36
Operator: tjg
Inst : Volatile
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 50% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1		Fluorobenzene (IS)	1.000	1.000	0.0	80	0.01
2		Dichlorodifluoromethane	0.589	0.565	4.1	76	0.01
3		Chlormethane	0.644	0.622	3.4	77	0.01
4		Vinyl Chloride (CCC)	0.579	0.564	2.6	80	0.00
5		Bromomethane	0.223	0.219	1.8	74	0.00
6		Chloroethane	0.232	0.274	-18.1	91	0.01
7		Acrolein	0.250	0.240	4.0	76	0.01
8		Trichlorofluoromethane	0.417	0.453	-8.6	85	0.01
9		Acetone	0.051	0.048	5.9	81	0.00
10		1,1-Dichloroethene	0.457	0.510	-11.6	90	0.01
11		Iodomethane	0.492	0.470	4.5	72	0.00
12		Carbon Disulfide	1.126	1.252	-11.2	87	0.01
13		Acrylonitrile	0.605	0.612	-1.2	81	0.01
14		Methylene Chloride	0.400	0.415	-3.7	89	0.00
15		trans-1,2-Dichloroethene	0.330	0.341	-3.3	80	0.01
16		Methyl-tert-butyl ether (MT	0.780	0.753	3.5	77	0.00
17		1,1-Dichloroethane	0.698	0.734	-5.2	82	0.01
18		Vinyl Acetate	0.250	0.222	11.2	70	0.00
19		n-Hexane	0.544	0.519	4.6	76	0.01
20		n-Butanol	0.298	0.279	6.4	72	0.00
21		2-Butanone (MEK)	0.113	0.093	17.7	65	0.00
22		cis-1,2-Dichloroethene	0.534	0.555	-3.9	82	0.01
23		Bromochloromethane	0.286	0.312	-9.1	85	0.00
24		2,2-Dichloropropane	0.537	0.491	8.6	71	0.01
25		Chloroform	0.706	0.755	-6.9	84	0.01
26		1,1,1-Trichloroethane	0.544	0.609	-11.9	87	0.01
27		1,1-Dichloropropene	0.523	0.542	-3.6	81	0.01
28		Carbon Tetrachloride	0.543	0.619	-14.0	88	0.01
29	S	Dibromofluoromethane (SURR)	0.305	0.350	-14.8	91	0.00
30	S	1,2-Dichloroethane-d4 (SURR	0.226	0.251	-11.1	84	0.01
31		Benzene	1.516	1.598	-5.4	83	0.01
32		1,2-Dichloroethane	0.442	0.453	-2.5	80	0.00
33		Trichloroethene	0.428	0.463	-8.2	85	0.01
34		Dibromomethane	0.274	0.270	1.5	78	0.00
35		1,2-Dichloropropane	0.382	0.392	-2.6	81	0.00
36		Bromodichloromethane	0.546	0.560	-2.6	79	0.00
37		2-Chloroethyl-vinyl-ether	0.170	0.168	1.2	76	0.00
38		cis-1,3-Dichloropropene	0.629	0.628	0.2	77	0.00
39	S	Toluene-d8 (SURR)	0.858	0.933	-8.7	87	0.00
40		Toluene	1.577	1.700	-7.8	85	0.00
41		trans-1,3-Dichloropropene	0.518	0.501	3.3	76	0.00
42		4-Methyl-2-Pentanone (MIBK)	0.222	0.187	15.8	66	0.00
43		Tetrachloroethene (PCE)	0.482	0.432	10.4	69	0.00
44		Ethyl Methacrylate	0.332	0.314	5.4	75	0.00
45		1,1,2-Trichloroethane	0.273	0.264	3.3	78	0.00
46		Dibromochloromethane	0.445	0.476	-7.0	83	0.00
47		1,3-Dichloropropane	0.545	0.524	3.9	76	0.00
48		1,2-Dibromoethane (EDB)	0.386	0.393	-1.8	79	0.00
49		2-Hexanone	0.136	0.121	11.0	70	0.00
50		Chlorobenzene-d5 (IS)	1.000	1.000	0.0	91	0.00
51		1,1,1,2-Tetrachloroethane	0.571	0.556	2.6	85	0.00
52		Chlorobenzene	1.548	1.422	8.1	82	0.00
53		Ethyl Benzene	2.260	2.226	1.5	87	0.00
54		m,p-Xylene	1.663	1.703	-2.4	91	0.00
55		o-Xylene	1.713	1.801	-5.1	95	0.00
56		Styrene	1.554	1.465	5.7	82	0.00
57		Bromoform	0.332	0.285	14.2	77	0.00
58	S	4-Bromofluorobenzene (SURR)	0.428	0.399	6.8	87	0.00
59		1,1,2,2-Tetrachloroethane	0.523	0.420	19.7	74	0.00
60		trans-1,4-Dichloro-2-Butene	0.102	0.093	8.8	84	0.00
61		Isopropylbenzene	2.301	2.220	3.5	85	0.00

62	Bromobenzene	0.700	0.717	-2.4	91	0.00
63	N-Propylbenzene	2.670	2.535	5.1	85	0.00
64	2-Chlorotoluene	1.774	1.639	7.6	83	0.00
65	4-Chlorotoluene	0.670	0.653	2.5	87	0.00
66	1,3,5-Trimethylbenzene	1.827	1.768	3.2	85	0.00
67	tert-butylbenzene	1.923	1.818	5.5	83	0.00
68	1,2,4-Trimethylbenzene	1.858	1.829	1.6	88	0.00
69	sec-Butylbenzene	2.466	2.331	5.5	83	0.00
70	p-Isopropyltoluene	2.077	2.035	2.0	89	0.00
71	1,4-Dichlorobenzene-d4 (IS)	1.000	1.000	0.0	94	0.00
72	1,3-Dichlorobenzene	2.563	2.521	1.6	91	0.00
73	1,4-Dichlorobenzene	1.667	1.597	4.2	88	0.00
74	1,2,3-Trichloropropane	0.796	0.758	4.8	94	0.00
75	n-Butylbenzene	3.392	2.966	12.6	80	0.00
76	1,2-Dichlorobenzene	2.411	2.375	1.5	89	0.00
77	1,2-Dibromo-3-chloropropane	0.081	0.075	7.4	84	0.00
78	Hexachloro-1,3-butadiene	0.461	0.456	1.1	91	0.00
79	1,2,4-Trichlorobenzene	1.220	1.119	8.3	83	0.00
80	Naphthalene	2.294	2.213	3.5	81	0.01
81	1,2,3-Trichlorobenzene	1.220	1.119	8.3	83	0.00
82	1-methylnapthalene	0.864	0.738	14.6	83	0.00
83	2-methylnapthalene	1.075	0.963	10.4	88	0.01

(#) = Out of Range SPCC's out = 0 CCC's out = 0
0701006.D 020515RC.M Tue Feb 10 07:39:17 2015

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020915\3601036.D
Acq On : 10 Feb 2015 12:24 am
Sample : bfb/ccv 50ppb
Misc : qc
MS Integration Params: EVENTS.E
Quant Time: Feb 10 7:39 2015

Vial: 36
Operator: tjg
Inst : Volatile
Multiplr: 1.00

Quant Results File: 020515RC.RES

Quant Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	3.92	96	10650130m	50.00	ug/L	0.01
50) Chlorobenzene-d5 (IS)	5.87	117	9022891	50.00	ug/L	0.00
71) 1,4-Dichlorobenzene-d4 (IS	7.63	152	4792156	50.00	ug/L	0.00
System Monitoring Compounds						
29) Dibromofluoromethane (SURR	3.48	113	3723168	57.33	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 114.66%						
30) 1,2-Dichloroethane-d4 (SUR	3.77	65	2668448	55.40	ug/L	0.01
Spiked Amount 50.000 Range 60 - 140 Recovery = 110.80%						
39) Toluene-d8 (SURR)	4.84	98	9940096	54.42	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 108.84%						
58) 4-Bromofluorobenzene (SURR	6.75	95	3604389	46.72	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 93.44%						

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.39	85	6020345	48.00	ug/L	99
3) Chlormethane	1.54	50	6626017	48.29	ug/L	99
4) Vinyl Chloride (CCC)	1.55	62	6011526	48.77	ug/L	99
5) Bromomethane	1.76	94	2328980m	49.07	ug/L	
6) Chloroethane	1.85	64	2922986	59.24	ug/L	100
7) Acrolein	2.69	56	2552999	47.97	ug/L #	92
8) Trichlorofluoromethane	1.96	101	4823952m	54.29	ug/L	
9) Acetone	2.57	43	1268937m	117.60	ug/L	
10) 1,1-Dichloroethene	2.25	61	5430936	55.82	ug/L	96
11) Iodomethane	2.33	142	5001745m	47.70	ug/L	
12) Carbon Disulfide	2.28	76	13335427	55.58	ug/L	98
13) Acrylonitrile	2.96	53	6515971	50.58	ug/L	98
14) Methylene Chloride	2.55	49	4420040	51.89	ug/L	97
15) trans-1,2-Dichloroethene	2.65	96	3632172m	51.71	ug/L	
16) Methyl-tert-butyl ether (M	2.69	73	8015812	48.23	ug/L	98
17) 1,1-Dichloroethane	2.97	63	7819787	52.61	ug/L	99
18) Vinyl Acetate	3.43	43	2360931	44.35	ug/L	99
19) n-Hexane	2.69	57	5522910	47.68	ug/L	99
20) n-Butanol	3.07	57	2974205	46.93	ug/L	93
21) 2-Butanone (MEK)	3.54	43	2484057	103.31	ug/L	95
22) cis-1,2-Dichloroethene	3.25	61	5908361	51.95	ug/L	95
23) Bromochloromethane	3.35	128	3321176	54.46	ug/L #	100
24) 2,2-Dichloropropane	3.31	77	5226195	45.70	ug/L	98
25) Chloroform	3.38	83	8044483	53.48	ug/L	99
26) 1,1,1-Trichloroethane	3.51	97	6485552	55.99	ug/L	99
27) 1,1-Dichloropropene	3.57	75	5774164	51.80	ug/L	97
28) Carbon Tetrachloride	3.47	117	6594658	57.01	ug/L	98
31) Benzene	3.71	78	17020934	52.73	ug/L	99
32) 1,2-Dichloroethane	3.81	62	4826988	51.27	ug/L	98
33) Trichloroethene	4.02	95	4932208	54.07	ug/L	96
34) Dibromomethane	4.26	93	2875681	49.33	ug/L	93
35) 1,2-Dichloropropane	4.32	63	4179569	51.36	ug/L	100
36) Bromodichloromethane	4.34	83	5960843	51.25	ug/L	100
37) 2-Chloroethyl-vinyl-ether	4.67	63	7135959	196.61	ug/L	97
38) cis-1,3-Dichloropropene	4.72	75	6689967	49.92	ug/L	98
40) Toluene	4.87	91	18106257	53.91	ug/L	99
41) trans-1,3-Dichloropropene	5.13	75	5333067	48.33	ug/L	91
42) 4-Methyl-2-Pentanone (MIBK	5.10	43	4981132	105.31	ug/L	98
43) Tetrachloroethene (PCE)	5.12	166	4598272m	44.76	ug/L	
44) Ethyl Methacrylate	5.21	69	3347807	47.27	ug/L	98
45) 1,1,2-Trichloroethane	5.23	83	2807606	48.35	ug/L	99
46) Dibromochloromethane	5.36	129	5066686	53.49	ug/L	99
47) 1,3-Dichloropropane	5.42	76	5581618	48.11	ug/L	99
48) 1,2-Dibromoethane (EDB)	5.53	107	4189366	50.92	ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020915\3601036.D Vial: 36
Acq On : 10 Feb 2015 12:24 am Operator: tjg
Sample : bfb/ccv 50ppb Inst : Volatile
Misc : qc Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Feb 10 7:39 2015 Quant Results File: 020515RC.RES

Quant Method : C:\HPCHEM\1\METHODS\020515RC M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration
DataAcq Meth : VOC2

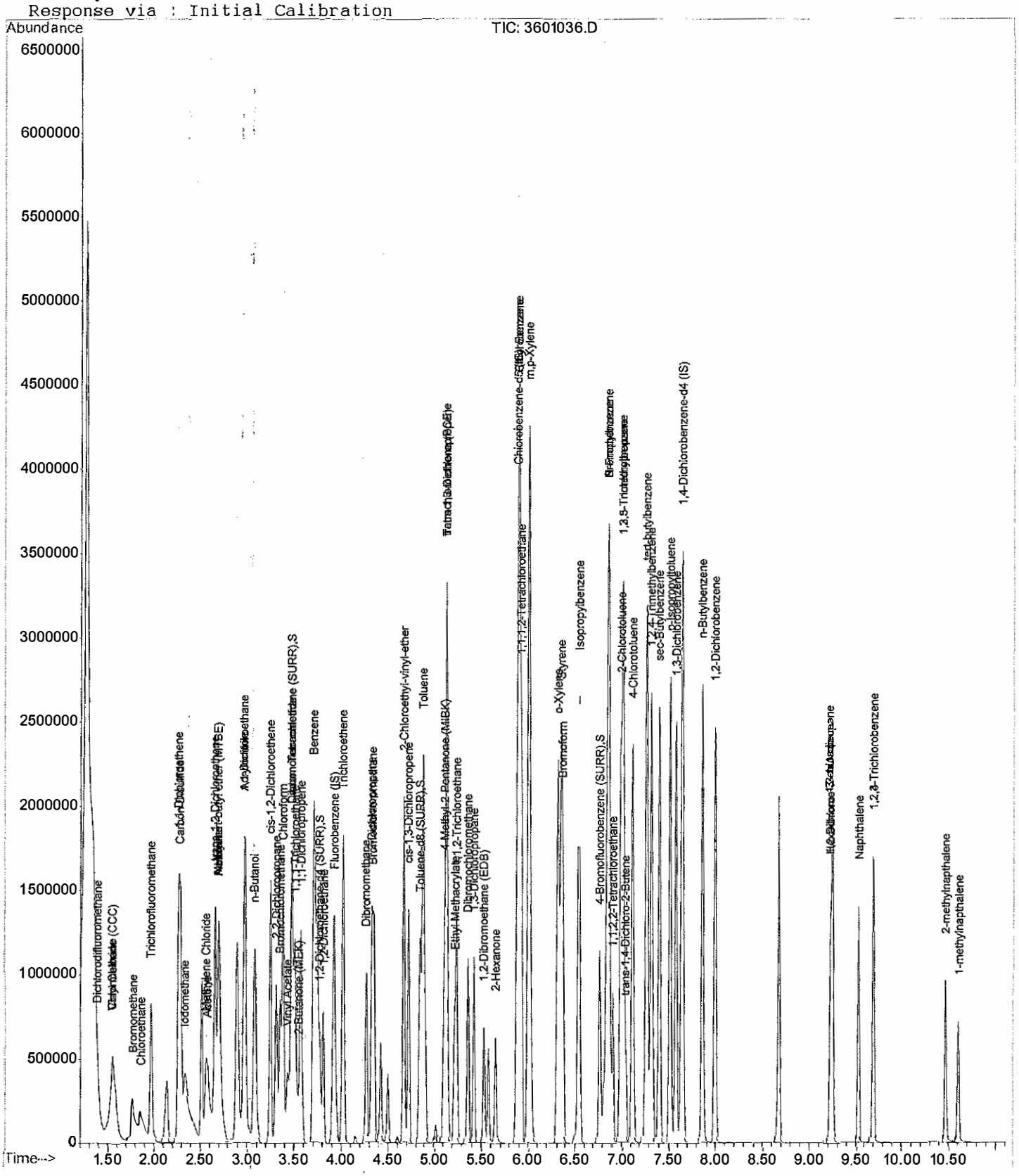
Compound	R.T.	QIon	Response	Conc Unit		Qvalue
49) 2-Hexanone	5.65	43	3208767	110.77 ug/L		95
51) 1,1,1,2-Tetrachloroethane	5.92	131	5020314	48.73 ug/L	#	80
52) Chlorobenzene	5.88	112	12830782	45.92 ug/L		95
53) Ethyl Benzene	5.89	91	20085148m	49.25 ug/L		
54) m,p-Xylene	6.00	91	30736640m	102.45 ug/L		
55) o-Xylene	6.31	91	16254005m	52.58 ug/L		
56) Styrene	6.35	104	13221098	47.16 ug/L		99
57) Bromoform	6.37	173	2574859	43.03 ug/L		98
59) 1,1,2,2-Tetrachloroethane	6.89	83	4606286m	48.78 ug/L		
60) trans-1,4-Dichloro-2-Buten	7.04	53	842395m	45.77 ug/L		
61) Isopropylbenzene	6.54	105	20032379	48.24 ug/L		99
62) Bromobenzene	6.84	156	6469341	51.19 ug/L		91
63) N-Propylbenzene	6.85	91	22873307	47.47 ug/L		99
64) 2-Chlorotoluene	6.98	91	14788436	46.21 ug/L		97
65) 4-Chlorotoluene	7.11	126	5893034	48.76 ug/L		97
66) 1,3,5-Trimethylbenzene	7.00	105	15954384	48.40 ug/L		98
67) tert-butylbenzene	7.26	119	16406891	47.28 ug/L		99
68) 1,2,4-Trimethylbenzene	7.31	105	16501378	49.21 ug/L	#	99
69) sec-Butylbenzene	7.40	105	21030182	47.26 ug/L	#	100
70) p-Isopropyltoluene	7.51	119	18357398	48.97 ug/L		99
72) 1,3-Dichlorobenzene	7.57	146	12082445	49.19 ug/L		98
73) 1,4-Dichlorobenzene	7.65	148	7652359	47.91 ug/L		100
74) 1,2,3-Trichloropropane	7.01	75	3632870	47.63 ug/L	#	80
75) n-Butylbenzene	7.85	91	14212511	43.71 ug/L		99
76) 1,2-Dichlorobenzene	7.99	146	11379741	49.25 ug/L		98
77) 1,2-Dibromo-3-chloropropan	9.22	155	359062	46.03 ug/L		91
78) Hexachloro-1,3-butadiene	9.22	225	2183445	49.42 ug/L		99
79) 1,2,4-Trichlorobenzene	9.69	180	5363792	45.89 ug/L		99
80) Naphthalene	9.53	128	10606629	48.25 ug/L		99
81) 1,2,3-Trichlorobenzene	9.69	180	5363792	45.89 ug/L		99
82) 1-methylnapthalene	10.60	142	3538311	42.73 ug/L		98
83) 2-methylnapthalene	10.46	142	4616088	44.82 ug/L		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\020915\3601036.D Vial: 36
Acq On : 10 Feb 2015 12:24 am Operator: tjg
Sample : bfb/ccv 50ppb Inst : Volatile
Misc : qc Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Feb 10 7:39 2015 Quant Results File: 020515RC.RES

Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration



GC/MS QA-QC Check Report

Tune File : C:\HPCHEM\1\DATA\020915\3601036.D
Tune Time : 10 Feb 2015 12:24 am

Daily Calibration File : C:\HPCHEM\1\DATA\020915\3601036.D

						10650100	9022890	4792160
File	Sample	Surrogate Recovery %				Internal Standard Responses		
3701037.D	lcs 50pp	105	100	101	91	11177189	8758070	4344195
3801038.D	lcsd 50p	104	103	101	93	11521120	8875236	4686564
3901039.D	mb	101	93	99	89	13110815	10385246	5223917
5301053.D	15-1908	103	94	99	88	11012823	8739435	4422138
5401054.D	15-1909	106	95	102	90	10089237	7965123	4011261
5501055.D	15-1906:	106	94	98	89	10321587	8285799	4318839

t - fails 12hr time check * - fails criteria

Created: Tue Feb 10 07:47:17 2015 Volatile

ENVISION

ENVision Laboratories, Inc.
1439 Sadlier Circle West Drive
Indianapolis, IN 46239
Tel: 317.351.8632
Fax: 317.351.8639
www.envisionlaboratories.com

8260 VOC
Quality Control Data

- Method Blank (MB)
- Laboratory Control Standard (LCS)
- Matrix Spike/Matrix Spike Duplicate (MS/MSD)

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020515C\4401043.D Vial: 44
Acq On : 6 Feb 2015 12:18 am Operator: tjg
Sample : mb Inst : Volatile
Misc : qc Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Feb 7 11:30 2015 Quant Results File: 020515RC.RES

Quant Method : C:\HPCHEM\1\METHODS\020515RC M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	3.92	96	14102772m	50.00	ug/L	0.00
50) Chlorobenzene-d5 (IS)	5.86	117	10816813	50.00	ug/L	0.00
71) 1,4-Dichlorobenzene-d4 (IS	7.63	152	5199996	50.00	ug/L	0.00

System Monitoring Compounds

29) Dibromofluoromethane (SURR	3.47	113	4286649	49.85	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 99.70%						
30) 1,2-Dichloroethane-d4 (SUR	3.77	65	2958540	46.38	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 92.76%						
39) Toluene-d8 (SURR)	4.83	98	12013786	49.67	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 99.34%						
58) 4-Bromofluorobenzene (SURR	6.75	95	4294016	46.42	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 92.84%						

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
4401043.D 020515RC.M Tue Feb 10 07:41:43 2015

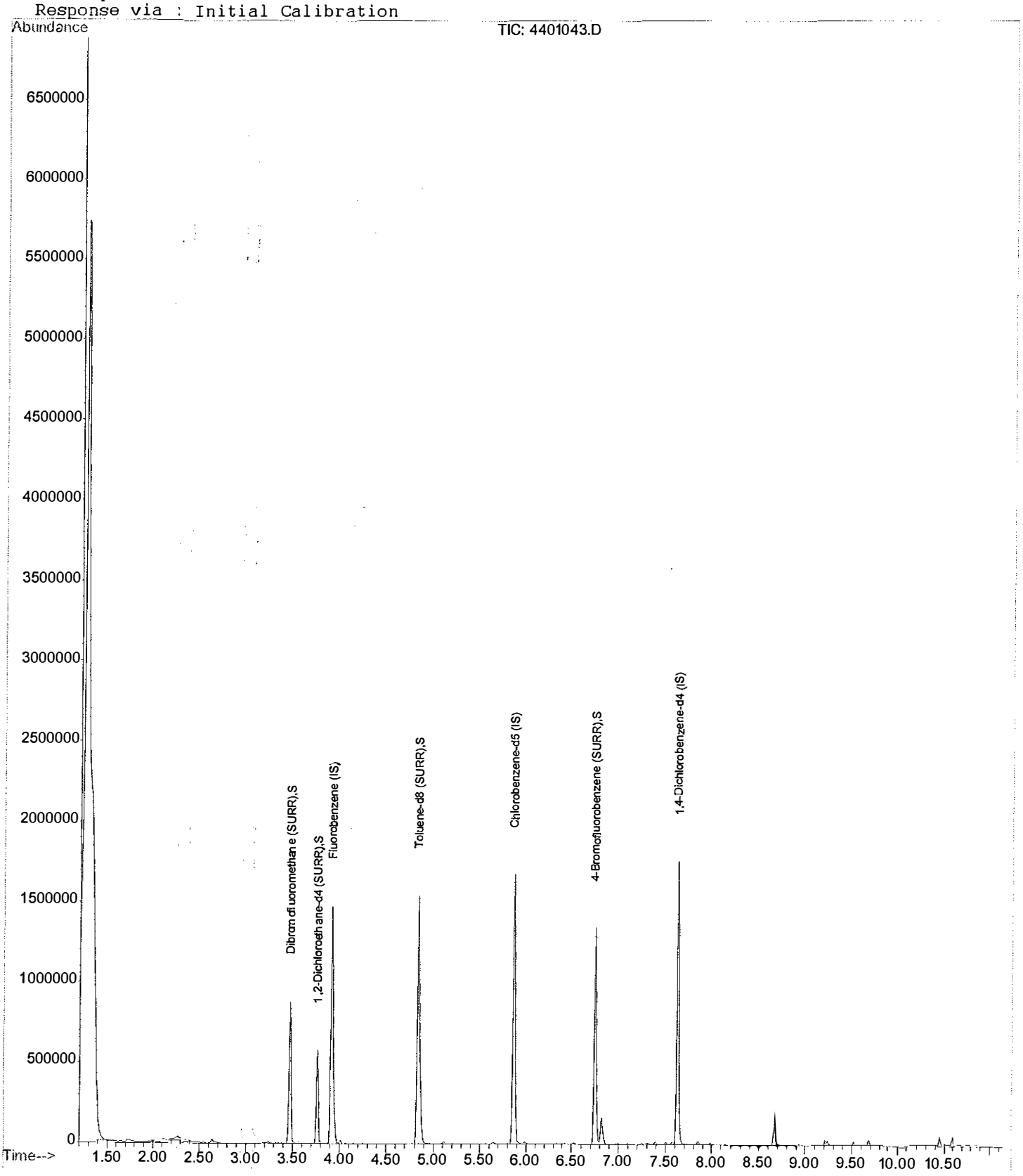
Quantitation Report

Data File : C:\HPCHEM\1\DATA\020515C\4401043.D
Acq On : 6 Feb 2015 12:18 am
Sample : mb
Misc : qc
MS Integration Params: EVENTS.E
Quant Time: Feb 7 11:30 2015

Vial: 44
Operator: tjg
Inst : Volatile
Multiplr: 1.00

Quant Results File: 020515RC.RES

Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020515C\4201041.D
Acq On : 5 Feb 2015 11:40 pm
Sample : lcs 50ppb
Misc : qc
MS Integration Params: EVENTS.E
Quant Time: Feb 9 13:54 2015

Vial: 42
Operator: tjg
Inst : Volatile
Multiplr: 1.00

Quant Results File: 020515RC.RES

Quant Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	3.92	96	13374473m	50.00	ug/L	0.00
50) Chlorobenzene-d5 (IS)	5.86	117	10348882	50.00	ug/L	0.00
71) 1,4-Dichlorobenzene-d4 (IS	7.63	152	5244086	50.00	ug/L	0.00
System Monitoring Compounds						
29) Dibromofluoromethane (SURR	3.47	113	4233116	51.91	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 103.82%						
30) 1,2-Dichloroethane-d4 (SUR	3.77	65	3047088	50.37	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 100.74%						
39) Toluene-d8 (SURR)	4.84	98	11571462	50.45	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 100.90%						
58) 4-Bromofluorobenzene (SURR	6.75	95	4073450	46.03	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 92.06%						

Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.34	85	6415523m	40.73	ug/L		
3) Chlormethane	1.53	50	7658188	44.44	ug/L		99
4) Vinyl Chloride (CCC)	1.54	62	7185614m	46.42	ug/L		
5) Bromomethane	1.76	94	3271613	54.89	ug/L		97
6) Chloroethane	1.85	64	3130906	50.53	ug/L		98
7) Acrolein	2.68	56	2895575	43.32	ug/L	#	93
8) Trichlorofluoromethane	1.96	101	5651002	50.64	ug/L		100
9) Acetone	2.57	43	1302777	96.14	ug/L		95
10) 1,1-Dichloroethene	2.25	61	5666291	46.38	ug/L		97
11) Iodomethane	2.33	142	7512300	57.04	ug/L		99
12) Carbon Disulfide	2.27	76	14844061	49.26	ug/L		99
13) Acrylonitrile	2.95	53	7257489	44.86	ug/L		99
14) Methylene Chloride	2.55	49	5703736	53.32	ug/L		89
15) trans-1,2-Dichloroethene	2.64	96	4665438	52.89	ug/L		96
16) Methyl-tert-butyl ether (M	2.69	73	9429852	45.18	ug/L		95
17) 1,1-Dichloroethane	2.96	63	8803945	47.17	ug/L		99
18) Vinyl Acetate	3.42	43	2753093	41.19	ug/L		99
19) n-Hexane	2.68	57	6186694	42.53	ug/L		99
20) n-Butanol	3.07	57	3572704	44.89	ug/L	#	93
21) 2-Butanone (MEK)	3.53	43	3114667	103.15	ug/L		96
22) cis-1,2-Dichloroethene	3.24	61	6711560	46.99	ug/L		97
23) Bromochloromethane	3.35	128	3665251	47.86	ug/L	#	96
24) 2,2-Dichloropropane	3.30	77	5985366	41.68	ug/L		99
25) Chloroform	3.38	83	9091748	48.13	ug/L		99
26) 1,1,1-Trichloroethane	3.50	97	7124841	48.98	ug/L		99
27) 1,1-Dichloropropene	3.56	75	6354496	45.39	ug/L		97
28) Carbon Tetrachloride	3.46	117	7087348	48.79	ug/L		99
31) Benzene	3.70	78	18988935	46.84	ug/L		100
32) 1,2-Dichloroethane	3.80	62	5466491	46.24	ug/L		99
33) Trichloroethene	4.01	95	5467715	47.74	ug/L		98
34) Dibromomethane	4.25	93	3356644	45.85	ug/L		95
35) 1,2-Dichloropropane	4.32	63	4857422	47.53	ug/L		99
36) Bromodichloromethane	4.34	83	6884584	47.13	ug/L		99
37) 2-Chloroethyl-vinyl-ether	4.66	63	8350745	183.21	ug/L		98
38) cis-1,3-Dichloropropene	4.71	75	7826270	46.50	ug/L		98
40) Toluene	4.87	91	20044672	47.53	ug/L		100
41) trans-1,3-Dichloropropene	5.12	75	6340790	45.76	ug/L		96
42) 4-Methyl-2-Pentanone (MIBK	5.09	43	6230410	104.89	ug/L		99
43) Tetrachloroethene (PCE)	5.12	166	7553472	58.56	ug/L		98
44) Ethyl Methacrylate	5.20	69	3974177	44.69	ug/L		98
45) 1,1,2-Trichloroethane	5.23	83	3315732	45.47	ug/L		99
46) Dibromochloromethane	5.35	129	5772363	48.52	ug/L		99
47) 1,3-Dichloropropane	5.41	76	6616889	45.42	ug/L		99
48) 1,2-Dibromoethane (EDB)	5.52	107	4895695	47.38	ug/L		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020515C\4201041.D Vial: 42
Acq On : 5 Feb 2015 11:40 pm Operator: tjg
Sample : lcs 50ppb Inst : Volatile
Misc : qc Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Feb 9 13:54 2015 Quant Results File: 020515RC.RES

Quant Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration
DataAcq Meth : VOC2

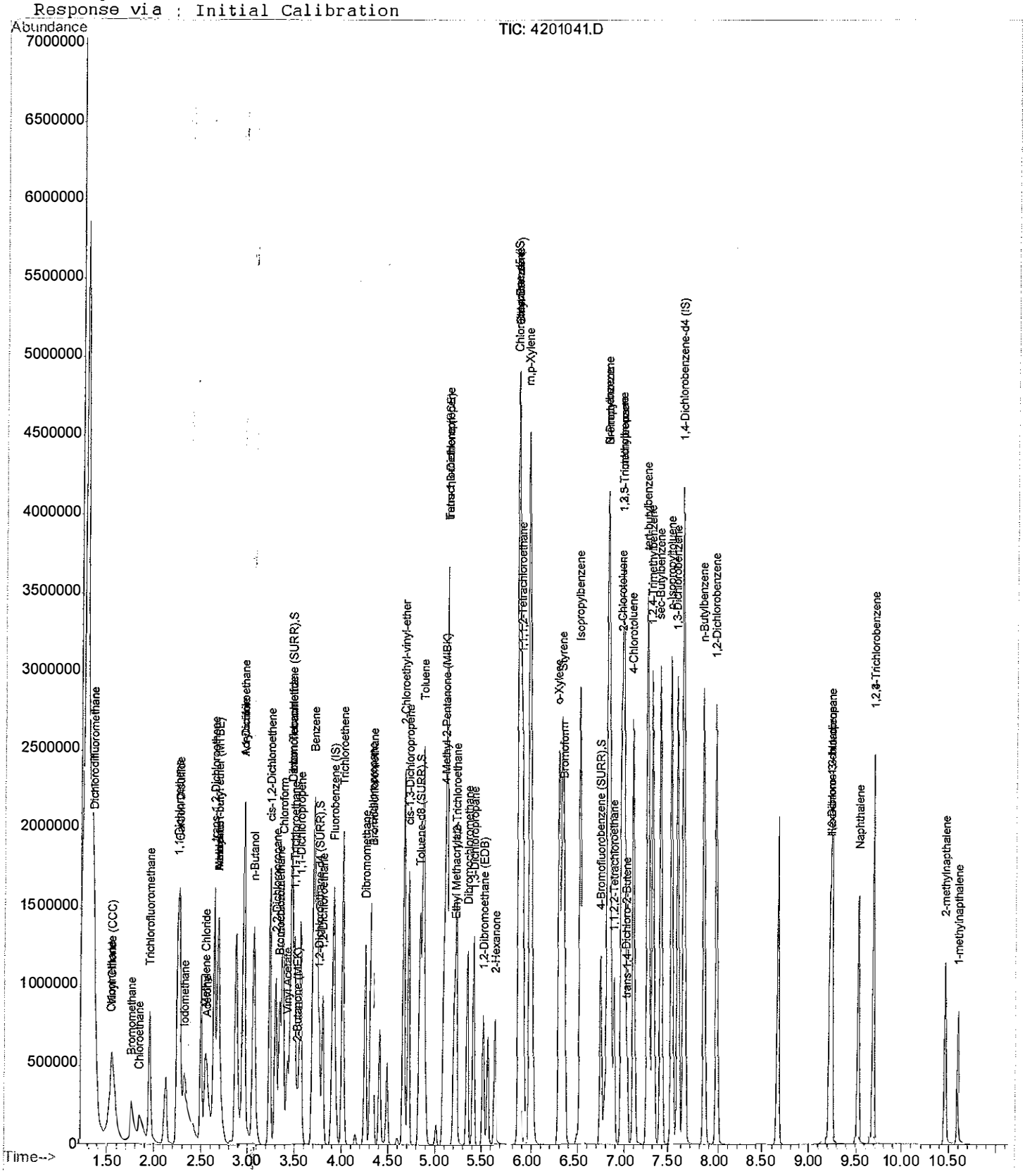
Compound	R.T.	QIon	Response	Conc Unit		Qvalue
49) 2-Hexanone	5.65	43	4062283	111.67 ug/L		96
51) 1,1,1,2-Tetrachloroethane	5.91	131	5571700	47.15 ug/L	#	84
52) Chlorobenzene	5.88	112	15354764	47.91 ug/L		97
53) Ethyl Benzene	5.89	91	21063739	45.03 ug/L		99
54) m,p-Xylene	5.99	91	29439579	85.55 ug/L		97
55) o-Xylene	6.30	91	16270752	45.89 ug/L		98
56) Styrene	6.34	104	15126631	47.04 ug/L		96
57) Bromoform	6.36	173	3105143	45.24 ug/L		98
59) 1,1,2,2-Tetrachloroethane	6.89	83	4527495	41.80 ug/L		100
60) trans-1,4-Dichloro-2-Buten	7.03	53	909851m	43.10 ug/L		
61) Isopropylbenzene	6.53	105	21820794	45.82 ug/L		99
62) Bromobenzene	6.83	156	7158078	49.38 ug/L		93
63) N-Propylbenzene	6.85	91	25212212	45.62 ug/L		98
64) 2-Chlorotoluene	6.97	91	16750598	45.63 ug/L		98
65) 4-Chlorotoluene	7.10	126	6359665	45.88 ug/L		96
66) 1,3,5-Trimethylbenzene	7.00	105	17826518	47.15 ug/L		99
67) tert-butylbenzene	7.25	119	18295419	45.97 ug/L		99
68) 1,2,4-Trimethylbenzene	7.31	105	18016709	46.84 ug/L	#	100
69) sec-Butylbenzene	7.39	105	23469474	45.98 ug/L	#	100
70) p-Isopropyltoluene	7.50	119	20173492	46.92 ug/L		99
72) 1,3-Dichlorobenzene	7.57	146	13085655	48.68 ug/L		99
73) 1,4-Dichlorobenzene	7.64	148	8571362	49.04 ug/L		99
74) 1,2,3-Trichloropropane	7.00	75	3365302	40.32 ug/L		99
75) n-Butylbenzene	7.85	91	16336384	45.92 ug/L		99
76) 1,2-Dichlorobenzene	7.98	146	12458413	49.27 ug/L		99
77) 1,2-Dibromo-3-chloropropan	9.21	155	378603	44.35 ug/L		99
78) Hexachloro-1,3-butadiene	9.21	225	2292942	47.43 ug/L		98
79) 1,2,4-Trichlorobenzene	9.68	180	6495371	50.78 ug/L		100
80) Naphthalene	9.52	128	12171474	50.59 ug/L		99
81) 1,2,3-Trichlorobenzene	9.68	180	6495371	50.78 ug/L		100
82) 1-methylnapthalene	10.60	142	3842361	42.40 ug/L		97
83) 2-methylnapthalene	10.46	142	5455796	48.41 ug/L		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\020515C\4201041.D Vial: 42
Acq On : 5 Feb 2015 11:40 pm Operator: tjg
Sample : lcs 50ppb Inst : Volatile
Misc : qc Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Feb 9 13:54 2015 Quant Results File: 020515RC.RES

Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020515C\4301042.D Vial: 43
Acq On : 5 Feb 2015 11:59 pm Operator: tjg
Sample : lcsd 50ppb Inst : Volatile
Misc : qc Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Feb 9 13:54 2015 Quant Results File: 020515RC.RES

Quant Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	3.91	96	12927136m	50.00	ug/L	0.00
50) Chlorobenzene-d5 (IS)	5.86	117	9723987	50.00	ug/L	0.00
71) 1,4-Dichlorobenzene-d4 (IS	7.63	152	4880224	50.00	ug/L	0.00
System Monitoring Compounds						
29) Dibromofluoromethane (SURR	3.47	113	3953908	50.16	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 100.32%						
30) 1,2-Dichloroethane-d4 (SUR	3.77	65	2944732	50.37	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 100.74%						
39) Toluene-d8 (SURR)	4.84	98	11228427	50.65	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 101.30%						
58) 4-Bromofluorobenzene (SURR	6.75	95	4004787	48.16	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 96.32%						

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.38	85	6508553	42.75	ug/L #	70
3) Chlormethane	1.53	50	7570120	45.45	ug/L	99
4) Vinyl Chloride (CCC)	1.54	62	7235274m	48.36	ug/L	
5) Bromomethane	1.76	94	3309237	57.44	ug/L	95
6) Chloroethane	1.84	64	3284173m	54.84	ug/L	
7) Acrolein	2.68	56	2908591	45.02	ug/L #	93
8) Trichlorofluoromethane	1.96	101	5614045	52.05	ug/L	98
9) Acetone	2.57	43	1297303	99.05	ug/L	97
10) 1,1-Dichloroethene	2.25	61	5727607	48.50	ug/L	96
11) Iodomethane	2.33	142	7455184	58.57	ug/L #	93
12) Carbon Disulfide	2.27	76	15010075	51.54	ug/L	97
13) Acrylonitrile	2.95	53	7452172	47.66	ug/L	98
14) Methylene Chloride	2.55	49	5731715	55.44	ug/L	87
15) trans-1,2-Dichloroethene	2.64	96	4511719	52.92	ug/L	96
16) Methyl-tert-butyl ether (M	2.69	73	9481916	47.00	ug/L	98
17) 1,1-Dichloroethane	2.96	63	8603482	47.69	ug/L	99
18) Vinyl Acetate	3.42	43	2837448	43.92	ug/L	98
19) n-Hexane	2.68	57	6389011	45.44	ug/L	99
20) n-Butanol	3.07	57	3581552	46.56	ug/L #	97
21) 2-Butanone (MEK)	3.53	43	3169789	108.61	ug/L	98
22) cis-1,2-Dichloroethene	3.24	61	6678736	48.38	ug/L	99
23) Bromochloromethane	3.35	128	3670793	49.59	ug/L #	98
24) 2,2-Dichloropropane	3.30	77	5904968	42.54	ug/L	100
25) Chloroform	3.38	83	8775010	48.07	ug/L	99
26) 1,1,1-Trichloroethane	3.50	97	6900076	49.07	ug/L	99
27) 1,1-Dichloropropene	3.56	75	6507708	48.09	ug/L	98
28) Carbon Tetrachloride	3.46	117	7107406	50.62	ug/L	100
31) Benzene	3.70	78	19246244	49.12	ug/L	100
32) 1,2-Dichloroethane	3.80	62	5420944	47.44	ug/L	100
33) Trichloroethene	4.01	95	5505580	49.73	ug/L	99
34) Dibromomethane	4.25	93	3385751	47.85	ug/L	98
35) 1,2-Dichloropropane	4.32	63	4781943	48.41	ug/L	99
36) Bromodichloromethane	4.34	83	6858585	48.58	ug/L	100
37) 2-Chloroethyl-vinyl-ether	4.66	63	8451301	191.84	ug/L	98
38) cis-1,3-Dichloropropene	4.71	75	7915605	48.66	ug/L	97
40) Toluene	4.87	91	19960079	48.97	ug/L	100
41) trans-1,3-Dichloropropene	5.12	75	6305225	47.08	ug/L	96
42) 4-Methyl-2-Pentanone (MIBK	5.09	43	6090529	106.08	ug/L	98
43) Tetrachloroethene (PCE)	5.12	166	7614965	61.07	ug/L	99
44) Ethyl Methacrylate	5.21	69	4073481	47.39	ug/L	99
45) 1,1,2-Trichloroethane	5.23	83	3304566	46.89	ug/L	98
46) Dibromochloromethane	5.35	129	5763083	50.12	ug/L	98
47) 1,3-Dichloropropane	5.41	76	6652326	47.24	ug/L	99
48) 1,2-Dibromoethane (EDB)	5.52	107	4851234	48.58	ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020515C\4301042.D Vial: 43
Acq On : 5 Feb 2015 11:59 pm Operator: tjg
Sample : lcsd 50ppb Inst : Volatile
Misc : qc Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Feb 9 13:54 2015 Quant Results File: 020515RC.RES

Quant Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration
DataAcq Meth : VOC2

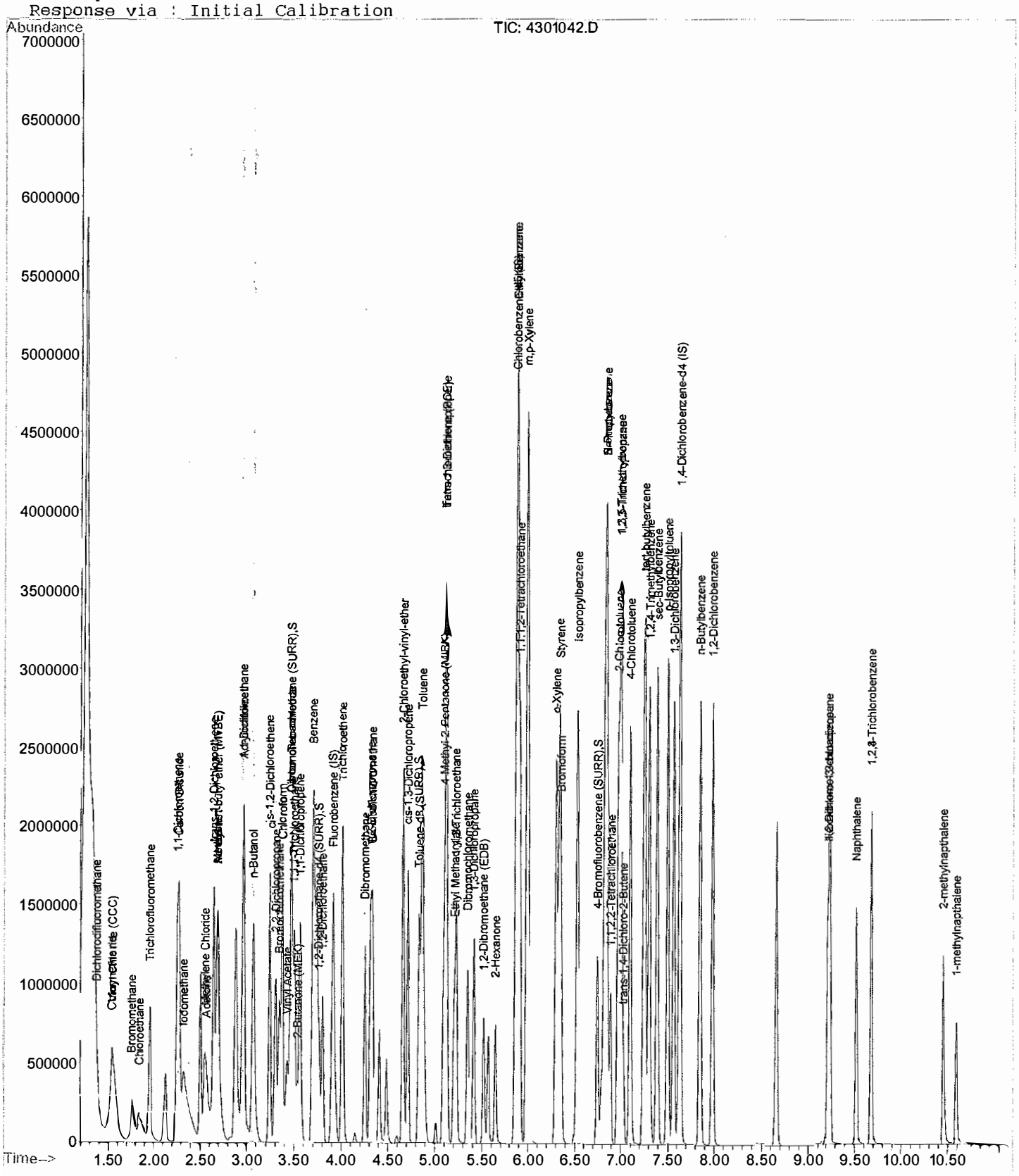
Compound	R.T.	QIon	Response	Conc Unit		Qvalue
49) 2-Hexanone	5.65	43	3973849	113.02 ug/L		97
51) 1,1,1,2-Tetrachloroethane	5.91	131	5501459	49.55 ug/L	#	86
52) Chlorobenzene	5.88	112	14981008	49.75 ug/L		97
53) Ethyl Benzene	5.89	91	21086004	47.97 ug/L		100
54) m,p-Xylene	5.99	91	29167258	90.21 ug/L		96
55) o-Xylene	6.30	91	16185924	48.59 ug/L		97
56) Styrene	6.34	104	14800357	48.99 ug/L		91
57) Bromoform	6.36	173	3041730	47.17 ug/L	#	99
59) 1,1,2,2-Tetrachloroethane	6.89	83	4324773	42.50 ug/L		99
60) trans-1,4-Dichloro-2-Buten	7.03	53	1038552m	52.36 ug/L		
61) Isopropylbenzene	6.53	105	22439319	50.14 ug/L		99
62) Bromobenzene	6.83	156	7012485	51.49 ug/L		95
63) N-Propylbenzene	6.85	91	25512812	49.13 ug/L		99
64) 2-Chlorotoluene	6.97	91	16637752	48.24 ug/L		98
65) 4-Chlorotoluene	7.10	126	6497282	49.88 ug/L		99
66) 1,3,5-Trimethylbenzene	7.00	105	17390262	48.95 ug/L		99
67) tert-butylbenzene	7.25	119	18424230	49.27 ug/L		99
68) 1,2,4-Trimethylbenzene	7.30	105	18151197	50.23 ug/L	#	100
69) sec-Butylbenzene	7.39	105	23171210	48.32 ug/L	#	100
70) p-Isopropyltoluene	7.50	119	20084167	49.71 ug/L		99
72) 1,3-Dichlorobenzene	7.57	146	12733798	50.90 ug/L		99
73) 1,4-Dichlorobenzene	7.64	148	8174823	50.26 ug/L		100
74) 1,2,3-Trichloropropane	7.00	75	3343068	43.04 ug/L		99
75) n-Butylbenzene	7.85	91	16352617	49.39 ug/L		99
76) 1,2-Dichlorobenzene	7.98	146	12023956	51.10 ug/L		100
77) 1,2-Dibromo-3-chloropropan	9.21	155	377064	47.46 ug/L		96
78) Hexachloro-1,3-butadiene	9.21	225	2316391	51.48 ug/L		99
79) 1,2,4-Trichlorobenzene	9.68	180	6191552	52.01 ug/L		100
80) Naphthalene	9.52	128	11627535	51.94 ug/L		99
81) 1,2,3-Trichlorobenzene	9.68	180	6191552	52.01 ug/L		100
82) 1-methylnapthalene	10.60	142	3863049	45.81 ug/L		98
83) 2-methylnapthalene	10.46	142	5427869	51.75 ug/L		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\020515C\4301042.D Vial: 43
Acq On : 5 Feb 2015 11:59 pm Operator: tjg
Sample : lcsd 50ppb Inst : Volatile
Misc : qc Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Feb 9 13:54 2015 Quant Results File: 020515RC.RES

Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020615\0501001.D
Acq On : 6 Feb 2015 3:46 pm
Sample : mb
Misc : qc
MS Integration Params: EVENTS.E
Quant Time: Feb 6 16:12 2015

Vial: 5
Operator: tjg
Inst : Volatile
Multiplr: 1.00

Quant Results File: 020515RC.RES

Quant Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	3.92	96	14824987m	50.00	ug/L	0.00
50) Chlorobenzene-d5 (IS)	5.87	117	11137311	50.00	ug/L	0.01
71) 1,4-Dichlorobenzene-d4 (IS	7.63	152	5560916	50.00	ug/L	0.00

System Monitoring Compounds

29) Dibromofluoromethane (SURR	3.48	113	4710364	52.11	ug/L	0.00
Spiked Amount 50.000	Range 60 - 140		Recovery = 104.22%			
30) 1,2-Dichloroethane-d4 (SUR	3.77	65	3169992	47.28	ug/L	0.00
Spiked Amount 50.000	Range 60 - 140		Recovery = 94.56%			
39) Toluene-d8 (SURR)	4.84	98	12300767	48.38	ug/L	0.00
Spiked Amount 50.000	Range 60 - 140		Recovery = 96.76%			
58) 4-Bromofluorobenzene (SURR	6.76	95	4217730	44.29	ug/L	0.01
Spiked Amount 50.000	Range 60 - 140		Recovery = 88.58%			

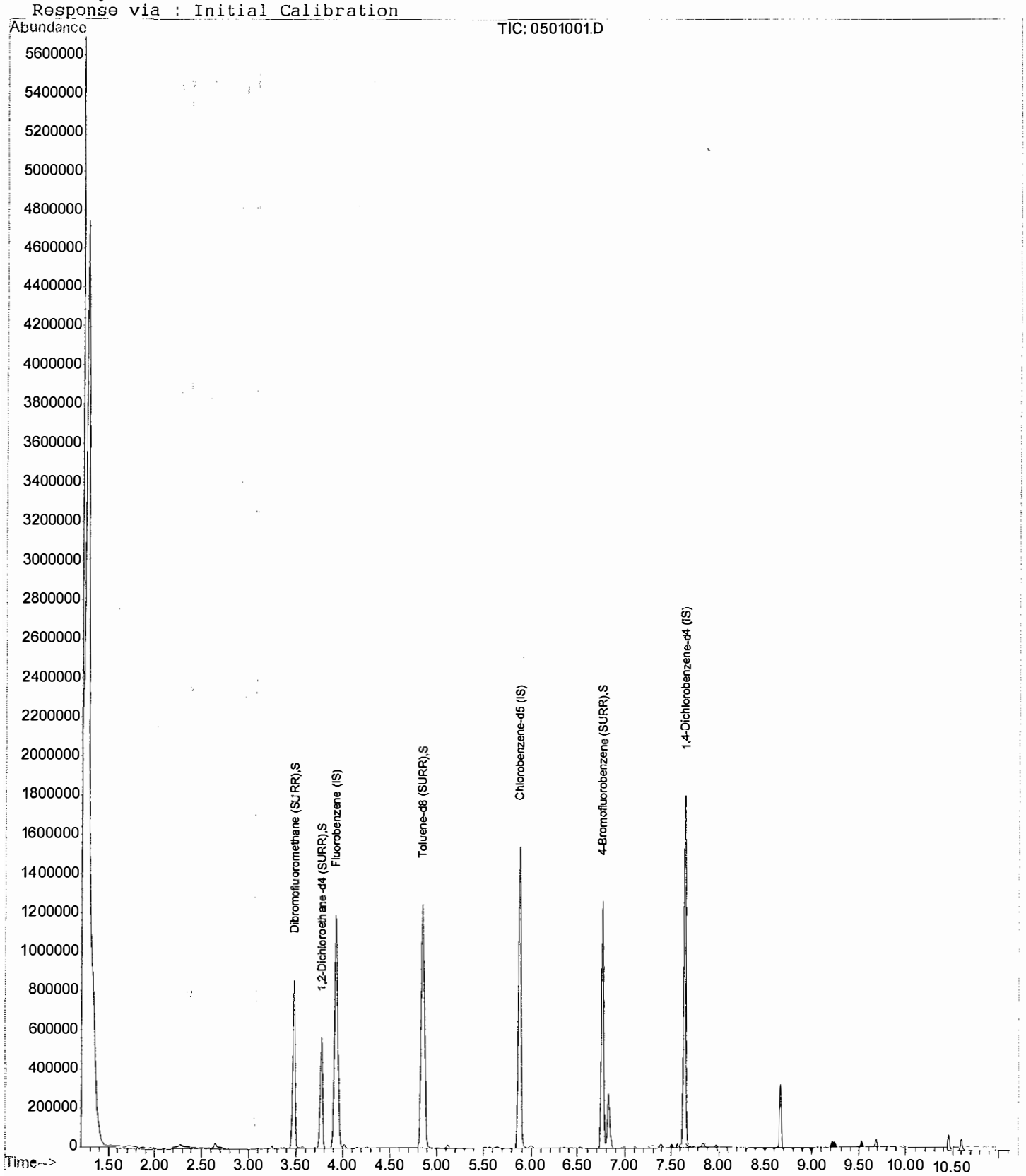
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0501001.D 020515RC.M Tue Feb 10 07:45:10 2015

Quantitation Report

Data File : C:\HPCHEM\1\DATA\020615\0501001.D Vial: 5
Acq On : 6 Feb 2015 3:46 pm Operator: tjg
Sample : mb Inst : Volatile
Misc : qc Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Feb 6 16:12 2015 Quant Results File: 020515RC.RES

Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020615\0301003.D Vial: 3
Acq On : 6 Feb 2015 2:55 pm Operator: tjg
Sample : lcs 50ppb Inst : Volatile
Misc : qc Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Feb 10 7:44 2015 Quant Results File: 020515RC.RES

Quant Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	3.93	96	13814709m	50.00	ug/L	0.02
50) Chlorobenzene-d5 (IS)	5.87	117	10735349	50.00	ug/L	0.00
71) 1,4-Dichlorobenzene-d4 (IS	7.63	152	5523482	50.00	ug/L	0.00
System Monitoring Compounds						
29) Dibromofluoromethane (SURR	3.48	113	4371172	51.89	ug/L	0.01
Spiked Amount 50.000 Range 60 - 140 Recovery = 103.78%						
30) 1,2-Dichloroethane-d4 (SUR	3.78	65	3192890	51.10	ug/L	0.01
Spiked Amount 50.000 Range 60 - 140 Recovery = 102.20%						
39) Toluene-d8 (SURR)	4.84	98	12085681	51.01	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 102.02%						
58) 4-Bromofluorobenzene (SURR	6.75	95	4216237	45.93	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 91.86%						

Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.40	85	7571984	46.54	ug/L		99
3) Chlormethane	1.55	50	8533566	47.94	ug/L		100
4) Vinyl Chloride (CCC)	1.56	62	7532948	47.11	ug/L		100
5) Bromomethane	1.77	94	3606214	58.57	ug/L		98
6) Chloroethane	1.86	64	3511436	54.87	ug/L		98
7) Acrolein	2.69	56	3700819	53.60	ug/L	#	96
8) Trichlorofluoromethane	1.97	101	6616954	57.41	ug/L		100
9) Acetone	2.58	43	1407150	100.54	ug/L	#	84
10) 1,1-Dichloroethene	2.26	61	6098934	48.33	ug/L		90
11) Iodomethane	2.34	142	8584054	63.11	ug/L		100
12) Carbon Disulfide	2.28	76	16148517	51.88	ug/L		97
13) Acrylonitrile	2.97	53	8103660	48.49	ug/L		100
14) Methylene Chloride	2.56	49	5509451	49.87	ug/L		98
15) trans-1,2-Dichloroethene	2.65	96	5256662	57.69	ug/L		94
16) Methyl-tert-butyl ether (M	2.70	73	10896081	50.54	ug/L		97
17) 1,1-Dichloroethane	2.97	63	9552863	49.55	ug/L		99
18) Vinyl Acetate	3.43	43	3039933	44.03	ug/L		97
19) n-Hexane	2.69	57	7893337	52.54	ug/L		98
20) n-Butanol	3.08	57	3970021	48.29	ug/L	#	97
21) 2-Butanone (MEK)	3.54	43	3535785	113.37	ug/L		96
22) cis-1,2-Dichloroethene	3.25	61	7248381	49.14	ug/L		97
23) Bromochloromethane	3.35	128	4175305	52.79	ug/L	#	99
24) 2,2-Dichloropropane	3.31	77	7594190	51.20	ug/L		99
25) Chloroform	3.38	83	9840863	50.44	ug/L		100
26) 1,1,1-Trichloroethane	3.51	97	8050387	53.57	ug/L		99
27) 1,1-Dichloropropene	3.57	75	7456291	51.56	ug/L		98
28) Carbon Tetrachloride	3.48	117	8182593	54.54	ug/L		99
31) Benzene	3.71	78	21204651	50.64	ug/L		99
32) 1,2-Dichloroethane	3.81	62	6064138	49.66	ug/L		99
33) Trichloroethene	4.02	95	6132029	51.83	ug/L		96
34) Dibromomethane	4.26	93	3739552	49.46	ug/L		95
35) 1,2-Dichloropropane	4.32	63	5339667	50.59	ug/L		99
36) Bromodichloromethane	4.35	83	7635035	50.61	ug/L		100
37) 2-Chloroethyl-vinyl-ether	4.67	63	9606568	204.05	ug/L		97
38) cis-1,3-Dichloropropene	4.72	75	8848727	50.90	ug/L		97
40) Toluene	4.88	91	22506014	51.66	ug/L		100
41) trans-1,3-Dichloropropene	5.13	75	7161531	50.04	ug/L		90
42) 4-Methyl-2-Pentanone (MIBK	5.10	43	6979258	113.75	ug/L		98
43) Tetrachloroethene (PCE)	5.12	166	7225653	54.23	ug/L		98
44) Ethyl Methacrylate	5.21	69	4605985	50.14	ug/L		99
45) 1,1,2-Trichloroethane	5.23	83	3695471	49.06	ug/L		98
46) Dibromochloromethane	5.36	129	6519167	53.06	ug/L		99
47) 1,3-Dichloropropane	5.42	76	7343487	48.80	ug/L		99
48) 1,2-Dibromoethane (EDB)	5.53	107	5490237	51.44	ug/L		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020615\0301003.D
Acq On : 6 Feb 2015 2:55 pm
Sample : lcs 50ppb
Misc : qc
MS Integration Params: EVENTS.E
Quant Time: Feb 10 7:44 2015

Vial: 3
Operator: tjg
Inst : Volatile
Multiplr: 1.00

Quant Results File: 020515RC.RES

Quant Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration
DataAcq Meth : VOC2

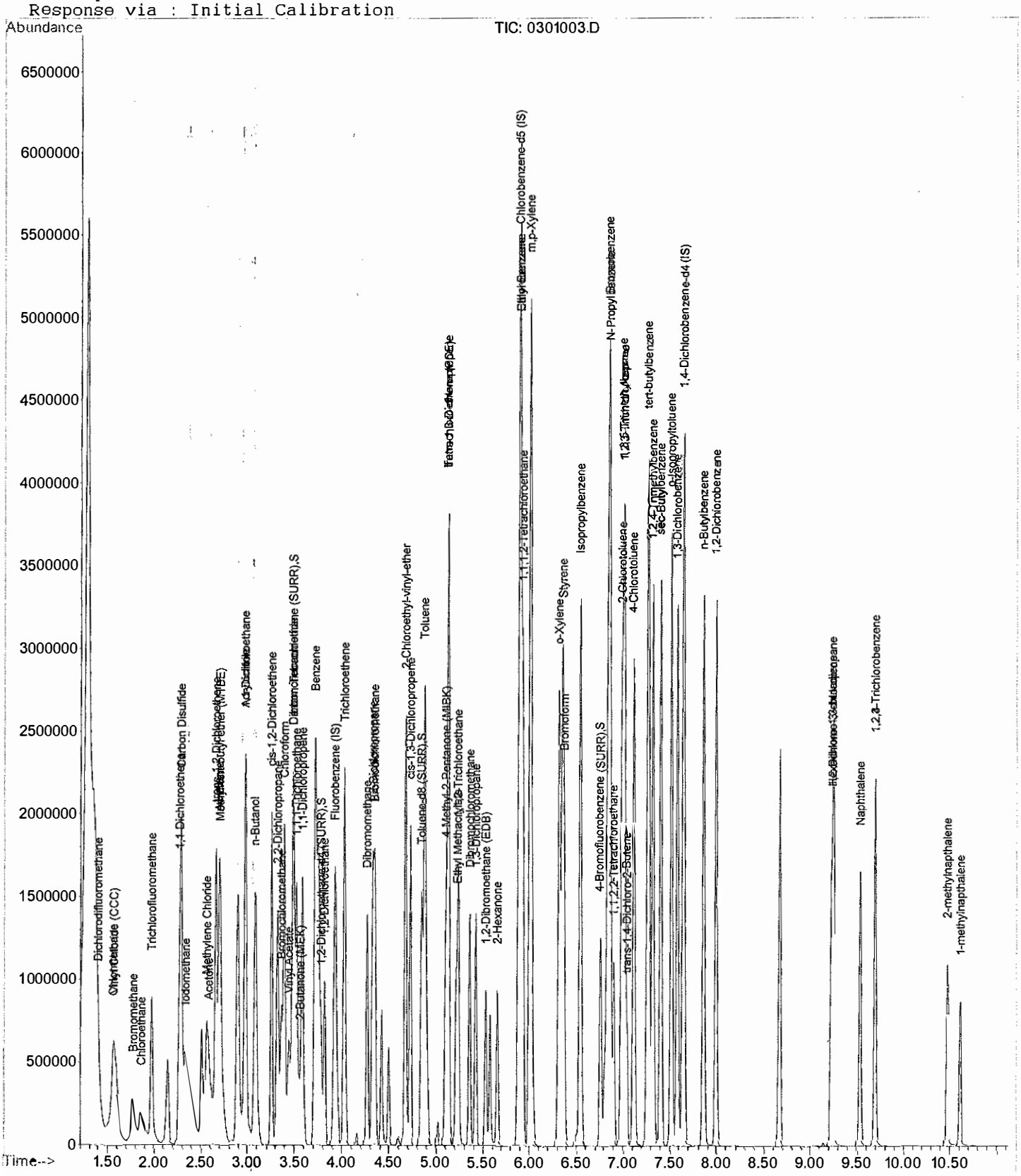
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
49)	2-Hexanone	5.65	43	4809019	127.98 ug/L		98
51)	1,1,1,2-Tetrachloroethane	5.92	131	6164972	50.30 ug/L	#	77
52)	Chlorobenzene	5.88	112	16497236	49.62 ug/L		96
53)	Ethyl Benzene	5.89	91	21851977	45.03 ug/L		98
54)	m,p-Xylene	6.00	91	28006992	78.46 ug/L		97
55)	o-Xylene	6.31	91	17617780	47.90 ug/L		95
56)	Styrene	6.35	104	15810696	47.40 ug/L		92
57)	Bromoform	6.37	173	3425984	48.12 ug/L		99
59)	1,1,2,2-Tetrachloroethane	6.90	83	5034627	44.81 ug/L		99
60)	trans-1,4-Dichloro-2-Buten	7.04	53	1068147m	48.78 ug/L		
61)	Isopropylbenzene	6.54	105	25259954	51.13 ug/L		99
62)	Bromobenzene	6.84	156	7904501	52.57 ug/L		94
63)	N-Propylbenzene	6.85	91	28626404	49.93 ug/L		99
64)	2-Chlorotoluene	6.98	91	18507583	48.60 ug/L		99
65)	4-Chlorotoluene	7.11	126	7383441	51.35 ug/L		96
66)	1,3,5-Trimethylbenzene	7.00	105	19659652	50.12 ug/L		99
67)	tert-butylbenzene	7.26	119	21222221	51.40 ug/L		97
68)	1,2,4-Trimethylbenzene	7.31	105	20223123	50.69 ug/L	#	99
69)	sec-Butylbenzene	7.40	105	26516934	50.08 ug/L	#	100
70)	p-Isopropyltoluene	7.51	119	22942456	51.44 ug/L		99
72)	1,3-Dichlorobenzene	7.57	146	14387736	50.82 ug/L		99
73)	1,4-Dichlorobenzene	7.64	148	9413332	51.13 ug/L		100
74)	1,2,3-Trichloropropane	7.01	75	3739426	42.54 ug/L		96
75)	n-Butylbenzene	7.85	91	17980093	47.98 ug/L		98
76)	1,2-Dichlorobenzene	7.99	146	14011276	52.61 ug/L		99
77)	1,2-Dibromo-3-chloropropan	9.22	155	432104	48.06 ug/L		96
78)	Hexachloro-1,3-butadiene	9.22	225	2664632	52.33 ug/L		97
79)	1,2,4-Trichlorobenzene	9.69	180	6822232	50.64 ug/L		99
80)	Naphthalene	9.53	128	12915769	50.97 ug/L		100
81)	1,2,3-Trichlorobenzene	9.69	180	6822232	50.64 ug/L		99
82)	1-methylnapthalene	10.60	142	4224218	44.26 ug/L		98
83)	2-methylnapthalene	10.47	142	5861833	49.38 ug/L		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\020615\0301003.D Vial: 3
Acq On : 6 Feb 2015 2:55 pm Operator: tjg
Sample : lcs 50ppb Inst : Volatile
Misc : qc Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Feb 10 7:44 2015 Quant Results File: 020515RC.RES

Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020615\0401004.D
Acq On : 6 Feb 2015 3:15 pm
Sample : lcsd-50ppb
Misc : qc
MS Integration Params: EVENTS.E
Quant Time: Feb 10 7:44 2015

Vial: 4
Operator: tjg
Inst : Volatile
Multiplr: 1.00
Quant Results File: 020515RC.RES

Quant Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	3.93	96	13380052m	50.00	ug/L	0.01
50) Chlorobenzene-d5 (IS)	5.87	117	10296821	50.00	ug/L	0.00
71) 1,4-Dichlorobenzene-d4 (IS	7.63	152	5457552	50.00	ug/L	0.00
System Monitoring Compounds						
29) Dibromofluoromethane (SURR	3.48	113	4179407	51.23	ug/L	0.01
Spiked Amount 50.000 Range 60 - 140 Recovery = 102.46%						
30) 1,2-Dichloroethane-d4 (SUR	3.78	65	2850395	47.10	ug/L	0.01
Spiked Amount 50.000 Range 60 - 140 Recovery = 94.20%						
39) Toluene-d8 (SURR)	4.84	98	11803486	51.44	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 102.88%						
58) 4-Bromofluorobenzene (SURR	6.75	95	4223867	47.97	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 95.94%						

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.39	85	6986229m	44.34	ug/L	
3) Chlormethane	1.55	50	7883388	45.73	ug/L	100
4) Vinyl Chloride (CCC)	1.56	62	7042059	45.47	ug/L	100
5) Bromomethane	1.77	94	3311466	55.53	ug/L	97
6) Chloroethane	1.86	64	3263598	52.65	ug/L	99
7) Acrolein	2.69	56	3416444	51.09	ug/L #	94
8) Trichlorofluoromethane	1.97	101	6175382	55.32	ug/L	99
9) Acetone	2.58	43	1416120	104.47	ug/L #	89
10) 1,1-Dichloroethene	2.65	61	5929111	48.51	ug/L	88
11) Iodomethane	2.34	142	8009297	60.79	ug/L #	96
12) Carbon Disulfide	2.28	76	15751317	52.25	ug/L	95
13) Acrylonitrile	2.97	53	7764176	47.97	ug/L	100
14) Methylene Chloride	2.56	49	5271583	49.26	ug/L	97
15) trans-1,2-Dichloroethene	2.65	96	4848381	54.94	ug/L	95
16) Methyl-tert-butyl ether (M	2.70	73	10161617	48.67	ug/L	98
17) 1,1-Dichloroethane	2.97	63	9037023	48.40	ug/L	100
18) Vinyl Acetate	3.54	43	3403356	50.89	ug/L	99
19) n-Hexane	2.69	57	7304471	50.20	ug/L	99
20) n-Butanol	3.08	57	3721502	46.74	ug/L #	94
21) 2-Butanone (MEK)	3.54	43	3403836	112.68	ug/L	98
22) cis-1,2-Dichloroethene	3.25	61	6935320	48.54	ug/L	97
23) Bromochloromethane	3.35	128	4008360	52.32	ug/L #	98
24) 2,2-Dichloropropane	3.32	77	7180482	49.98	ug/L	100
25) Chloroform	3.38	83	9259859	49.00	ug/L	100
26) 1,1,1-Trichloroethane	3.51	97	7501197	51.54	ug/L	99
27) 1,1-Dichloropropene	3.57	75	6954291	49.65	ug/L	99
28) Carbon Tetrachloride	3.48	117	7593611	52.26	ug/L	100
31) Benzene	3.71	78	20063601	49.47	ug/L	100
32) 1,2-Dichloroethane	3.81	62	5700953	48.20	ug/L	99
33) Trichloroethene	4.02	95	5678458	49.55	ug/L	96
34) Dibromomethane	4.26	93	3521414	48.08	ug/L	95
35) 1,2-Dichloropropane	4.32	63	5006004	48.97	ug/L	100
36) Bromodichloromethane	4.35	83	7201445	49.28	ug/L	99
37) 2-Chloroethyl-vinyl-ether	4.67	63	9184162	201.41	ug/L	98
38) cis-1,3-Dichloropropene	4.72	75	8407562	49.94	ug/L	97
40) Toluene	4.88	91	21112097	50.04	ug/L	100
41) trans-1,3-Dichloropropene	5.13	75	6875861	49.60	ug/L	88
42) 4-Methyl-2-Pentanone (MIBK	5.10	43	6679686	112.41	ug/L	99
43) Tetrachloroethene (PCE)	5.12	166	6736583	52.20	ug/L	97
44) Ethyl Methacrylate	5.21	69	4372058	49.14	ug/L	99
45) 1,1,2-Trichloroethane	5.23	83	3544141	48.58	ug/L	99
46) Dibromochloromethane	5.36	129	5978068	50.23	ug/L	98
47) 1,3-Dichloropropane	5.42	76	6969402	47.82	ug/L	98
48) 1,2-Dibromoethane (EDB)	5.53	107	5283416	51.11	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020615\0401004.D
Acq On : 6 Feb 2015 3:15 pm
Sample : lcsd-50ppb
Misc : ¶c
MS Integration Params: EVENTS.E
Quant Time: Feb 10 7:44 2015

Vial: 4
Operator: tjg
Inst : Volatile
Multiplr: 1.00
Quant Results File: 020515RC.RES

Quant Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration
DataAcq Meth : VOC2

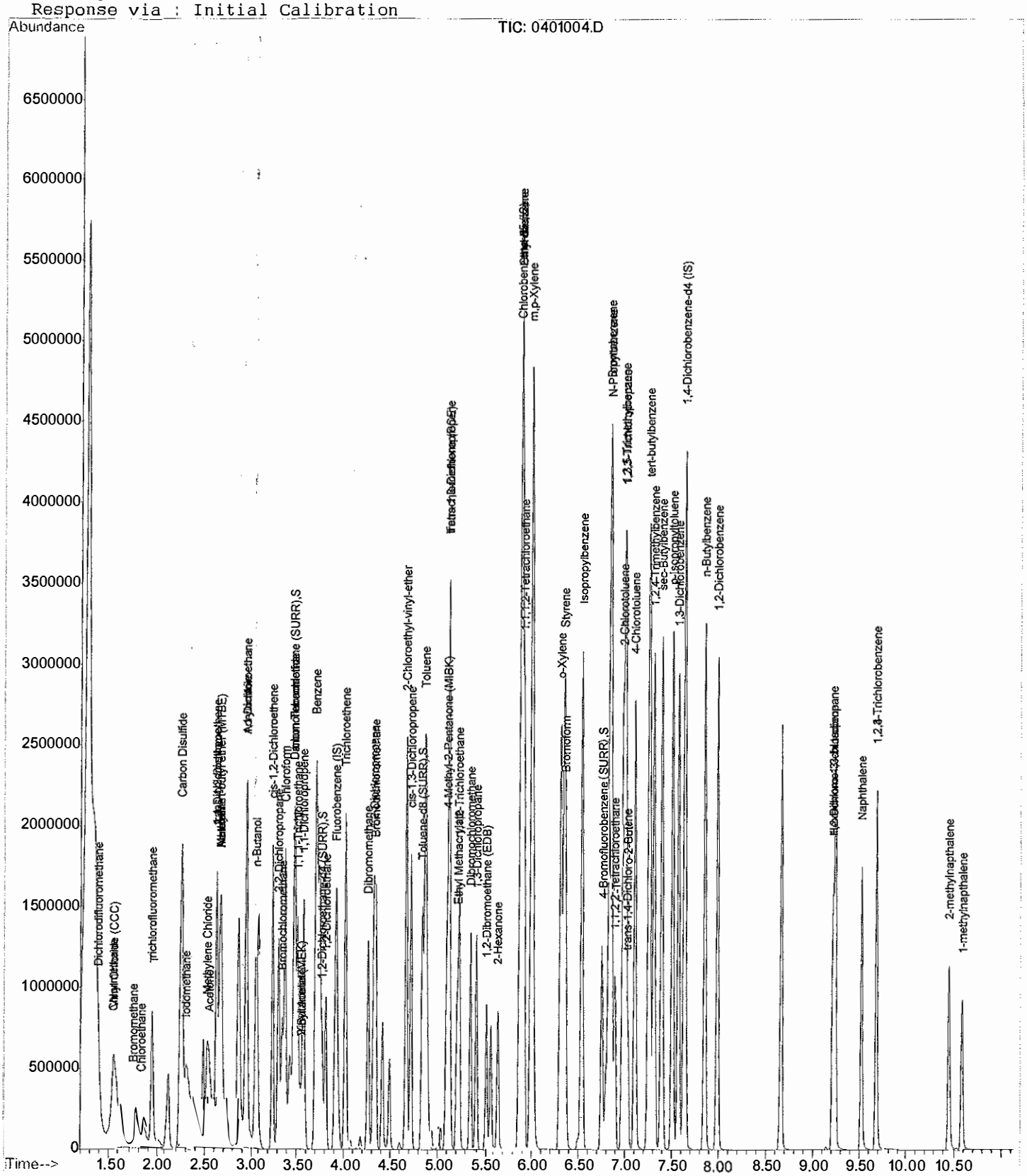
Compound	R.T.	QIon	Response	Conc Unit		Qvalue
49) 2-Hexanone	5.65	43	4532769	124.55 ug/L		96
51) 1,1,1,2-Tetrachloroethane	5.92	131	5850938	49.77 ug/L	#	79
52) Chlorobenzene	5.88	112	15539168	48.73 ug/L		96
53) Ethyl Benzene	5.89	91	21837718	46.92 ug/L		99
54) m,p-Xylene	6.00	91	26013136	75.98 ug/L		96
55) o-Xylene	6.31	91	16827803	47.70 ug/L	#	95
56) Styrene	6.35	104	14980931	46.83 ug/L		91
57) Bromoform	6.37	173	3255953	47.68 ug/L		98
59) 1,1,2,2-Tetrachloroethane	6.90	83	4854442	45.05 ug/L		99
60) trans-1,4-Dichloro-2-Buten	7.03	53	1025495m	48.83 ug/L		
61) Isopropylbenzene	6.54	105	23367818	49.31 ug/L		99
62) Bromobenzene	6.84	156	7337818	50.88 ug/L		95
63) N-Propylbenzene	6.85	91	26650399	48.46 ug/L		99
64) 2-Chlorotoluene	6.98	91	17528291	47.99 ug/L		98
65) 4-Chlorotoluene	7.11	126	6854312	49.70 ug/L		98
66) 1,3,5-Trimethylbenzene	7.00	105	18683992	49.67 ug/L		99
67) tert-butylbenzene	7.26	119	20092200	50.74 ug/L		97
68) 1,2,4-Trimethylbenzene	7.31	105	19223001	50.23 ug/L	#	100
69) sec-Butylbenzene	7.40	105	25118798	49.46 ug/L	#	99
70) p-Isopropyltoluene	7.51	119	21087278	49.29 ug/L		99
72) 1,3-Dichlorobenzene	7.57	146	13940040	49.83 ug/L		99
73) 1,4-Dichlorobenzene	7.64	148	9033983	49.66 ug/L		100
74) 1,2,3-Trichloropropane	7.01	75	3638302	41.88 ug/L		96
75) n-Butylbenzene	7.85	91	17882002	48.29 ug/L		99
76) 1,2-Dichlorobenzene	7.99	146	13307503	50.57 ug/L		100
77) 1,2-Dibromo-3-chloropropan	9.22	155	416681	46.90 ug/L		96
78) Hexachloro-1,3-butadiene	9.22	225	2619862	52.07 ug/L		100
79) 1,2,4-Trichlorobenzene	9.69	180	6492796	48.77 ug/L		99
80) Naphthalene	9.53	128	12493992	49.90 ug/L		99
81) 1,2,3-Trichlorobenzene	9.69	180	6492796	48.77 ug/L		99
82) 1-methylnapthalene	10.60	142	4633322	49.13 ug/L		97
83) 2-methylnapthalene	10.46	142	6076368	51.81 ug/L		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\020615\0401004.D Vial: 4
Acq On : 6 Feb 2015 3:15 pm Operator: tjg
Sample : lcsd-50ppb Inst : Volatile
Misc : qc Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Feb 10 7:44 2015 Quant Results File: 020515RC.RES

Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020615\1701013.D Vial: 17
Acq On : 6 Feb 2015 7:37 pm Operator: tjg
Sample : 15-1907 rr st Inst : Volatile
Misc : a Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Feb 9 15:24 2015 Quant Results File: 020515RC.RES

Quant Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	3.93	96	12254300m	50.00	ug/L	0.01
50) Chlorobenzene-d5 (IS)	5.87	117	9725598	50.00	ug/L	0.01
71) 1,4-Dichlorobenzene-d4 (IS	7.63	152	4602344	50.00	ug/L	0.01
System Monitoring Compounds						
29) Dibromofluoromethane (SURR	3.48	113	3913899	52.38	ug/L	0.01
Spiked Amount 50.000 Range 60 - 140 Recovery = 104.76%						
30) 1,2-Dichloroethane-d4 (SUR	3.77	65	2582109	46.59	ug/L	0.01
Spiked Amount 50.000 Range 60 - 140 Recovery = 93.18%						
39) Toluene-d8 (SURR)	4.84	98	10894797	51.84	ug/L	0.01
Spiked Amount 50.000 Range 60 - 140 Recovery = 103.68%						
58) 4-Bromofluorobenzene (SURR	6.75	95	3678104	44.23	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 88.46%						

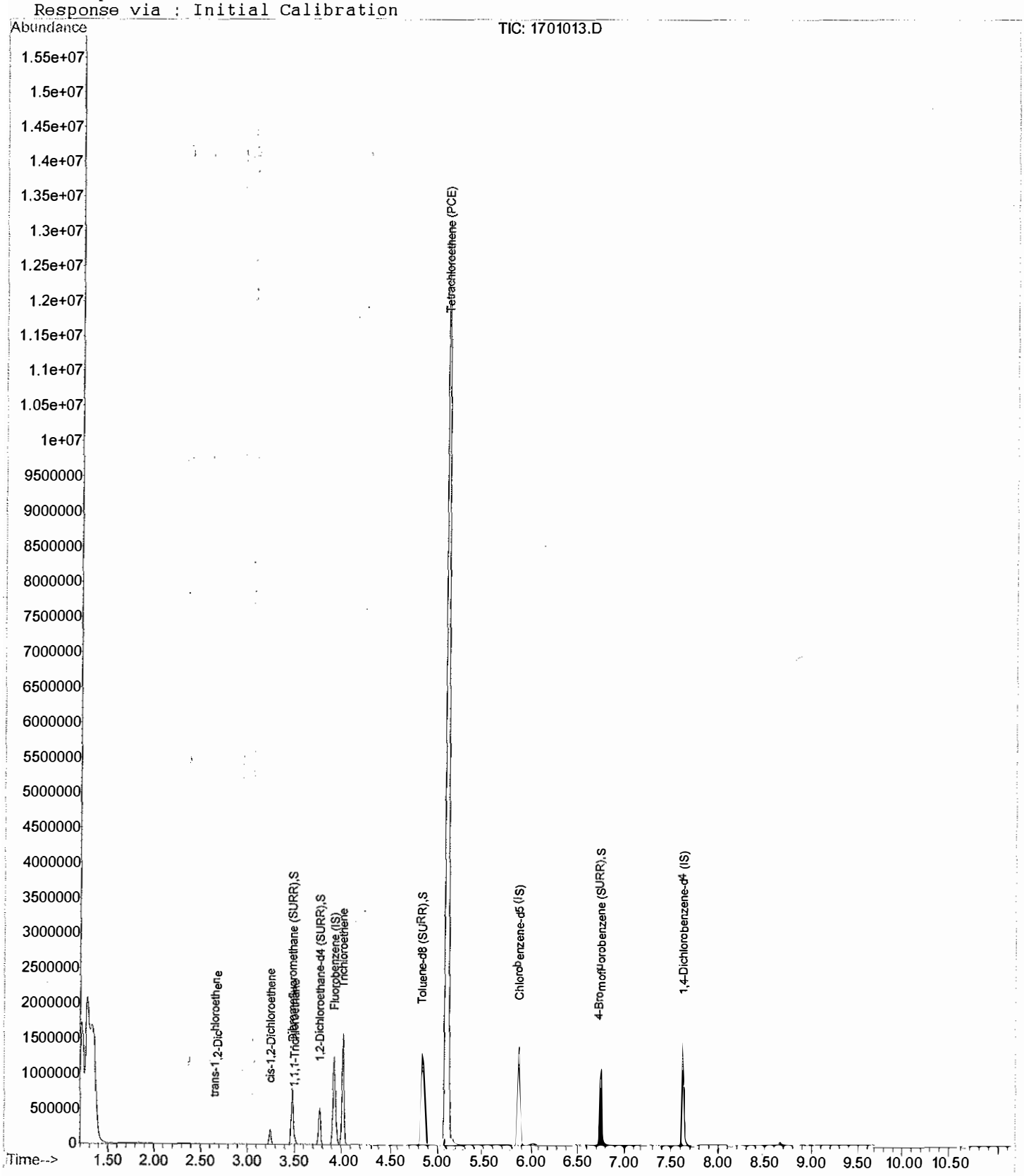
Target Compounds						Qvalue
15) trans-1,2-Dichloroethene	2.65	96	35795	0.44	ug/L #	68
22) cis-1,2-Dichloroethene	3.25	61	854945	6.53	ug/L	96
26) 1,1,1-Trichloroethane	3.51	97	469623	3.52	ug/L	96
33) Trichloroethene	4.02	95	4056026	38.65	ug/L	97
43) Tetrachloroethene (PCE)	5.13	166	48405143	409.54	ug/L	94

(#) = qualifier out of range (m) = manual integration
1701013.D 020515RC.M Tue Feb 10 07:46:27 2015

Quantitation Report

Data File : C:\HPCHEM\1\DATA\020615\1701013.D Vial: 17
Acq On : 6 Feb 2015 7:37 pm Operator: tjg
Sample : 15-1907 rr st Inst : Volatile
Misc : a Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Feb 9 15:24 2015 Quant Results File: 020515RC.RES

Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020615\0701003.D
Acq On : 6 Feb 2015 4:24 pm
Sample : 15-1907:10
Misc : a
MS Integration Params: EVENTS.E
Quant Time: Feb 9 15:22 2015

Vial: 7
Operator: tjg
Inst : Volatile
Multiplr: 1.00

Quant Results File: 020515RC.RES

Quant Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	3.92	96	13199313m	50.00	ug/L	0.01
50) Chlorobenzene-d5 (IS)	5.87	117	10177796	50.00	ug/L	0.00
71) 1,4-Dichlorobenzene-d4 (IS	7.63	152	5229168	50.00	ug/L	0.00

System Monitoring Compounds

29) Dibromofluoromethane (SURR	3.48	113	4013257	49.87	ug/L	0.01
Spiked Amount 50.000	Range 60 - 140		Recovery = 99.74%			
30) 1,2-Dichloroethane-d4 (SUR	3.77	65	2733069	45.78	ug/L	0.01
Spiked Amount 50.000	Range 60 - 140		Recovery = 91.56%			
39) Toluene-d8 (SURR)	4.84	98	11129928	49.17	ug/L	0.00
Spiked Amount 50.000	Range 60 - 140		Recovery = 98.34%			
58) 4-Bromofluorobenzene (SURR	6.75	95	3993266	45.88	ug/L	0.00
Spiked Amount 50.000	Range 60 - 140		Recovery = 91.76%			

Target Compounds						Qvalue
22) cis-1,2-Dichloroethene	3.25	61	106130	0.75	ug/L	86
33) Trichloroethene	4.02	95	489018	4.33	ug/L	99
43) Tetrachloroethene (PCE)	5.12	166	9602437	75.43	ug/L	99

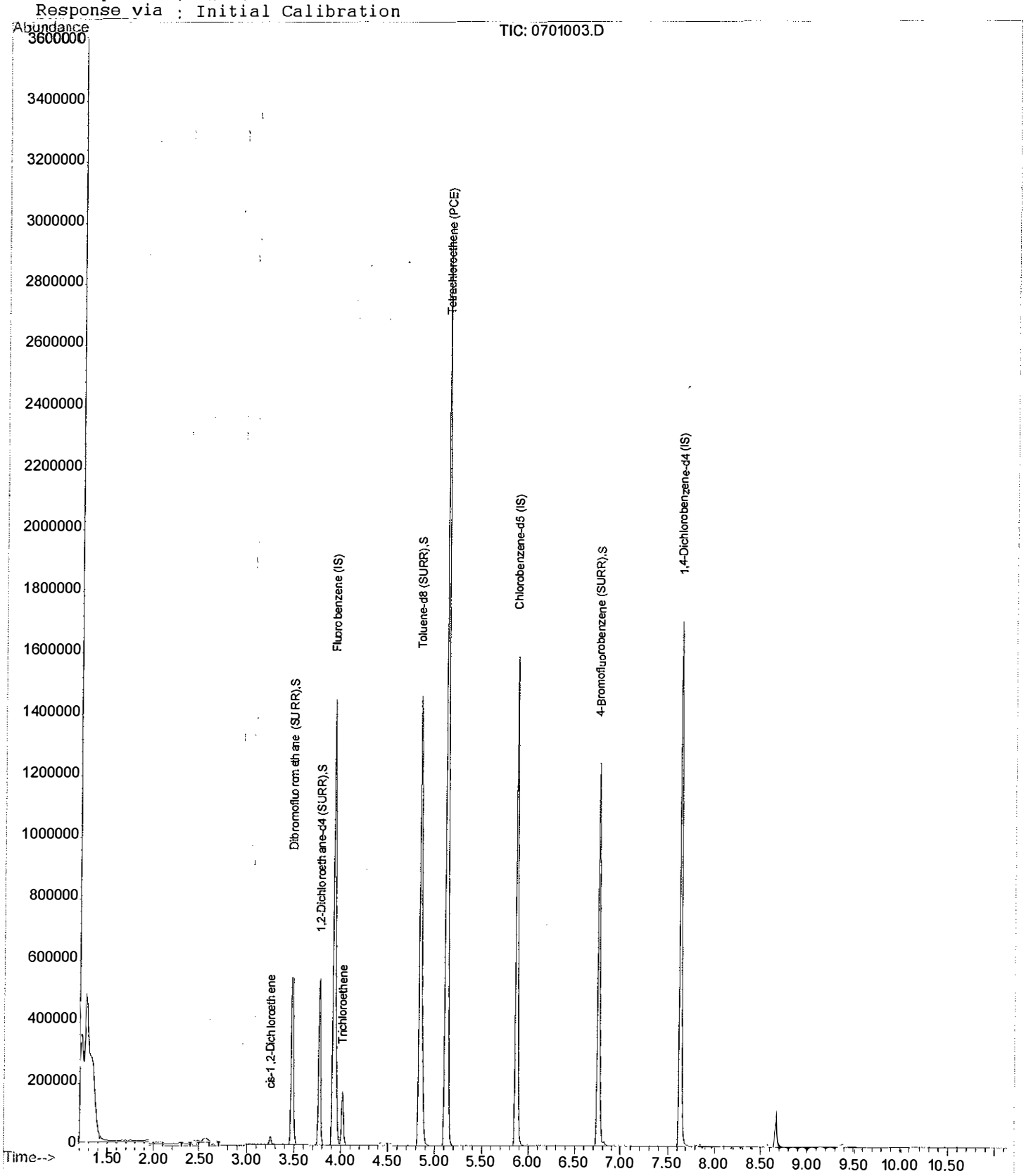
(#) = qualifier out of range (m) = manual integration
0701003.D 020515RC.M Tue Feb 10 07:45:15 2015

Quantitation Report

Data File : C:\HPCHEM\1\DATA\020615\0701003.D
Acq On : 6 Feb 2015 4:24 pm
Sample : 15-1907:10
Misc : a
MS Integration Params: EVENTS.E
Quant Time: Feb 9 15:22 2015

Vial: 7
Operator: tjg
Inst : Volatile
Multiplr: 1.00
Quant Results File: 020515RC.RES

Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020615\0801004.D
Acq On : 6 Feb 2015 4:44 pm
Sample : ms15-1907:10
Misc : b
MS Integration Params: EVENTS.E
Quant Time: Feb 10 7:45 2015

Vial: 8
Operator: tjg
Inst : Volatile
Multiplr: 1.00
Quant Results File: 020515RC.RES

Quant Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	3.92	96	13100773m	50.00	ug/L	0.01
50) Chlorobenzene-d5 (IS)	5.87	117	9950779	50.00	ug/L	0.01
71) 1,4-Dichlorobenzene-d4 (IS	7.63	152	5144117	50.00	ug/L	0.00
System Monitoring Compounds						
29) Dibromofluoromethane (SURR	3.48	113	4112635	51.48	ug/L	0.01
Spiked Amount 50.000 Range 60 - 140 Recovery = 102.96%						
30) 1,2-Dichloroethane-d4 (SUR	3.78	65	2858041	48.24	ug/L	0.01
Spiked Amount 50.000 Range 60 - 140 Recovery = 96.48%						
39) Toluene-d8 (SURR)	4.84	98	11263908	50.13	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 100.26%						
58) 4-Bromofluorobenzene (SURR	6.75	95	3986930	46.86	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 93.72%						

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.40	85	7194166	46.63	ug/L	85
3) Chlormethane	1.54	50	7704572	45.64	ug/L	99
4) Vinyl Chloride (CCC)	1.56	62	6880191	45.38	ug/L	100
5) Bromomethane	1.76	94	2915008m	49.93	ug/L	
6) Chloroethane	1.86	64	3146860	51.85	ug/L	98
7) Acrolein	2.69	56	3360406	51.33	ug/L #	99
8) Trichlorofluoromethane	1.97	101	6320676	57.83	ug/L	100
9) Acetone	2.58	43	1052384	79.29	ug/L	95
10) 1,1-Dichloroethene	2.65	61	5594631	46.75	ug/L	85
11) Iodomethane	2.34	142	7925760	61.44	ug/L	100
12) Carbon Disulfide	2.29	76	14853374	50.32	ug/L	98
13) Acrylonitrile	2.97	53	7540628	47.58	ug/L	98
14) Methylene Chloride	2.56	49	5626595	53.70	ug/L	88
15) trans-1,2-Dichloroethene	2.65	96	4777450	55.29	ug/L	93
16) Methyl-tert-butyl ether (M	2.70	73	8644830	42.29	ug/L	89
17) 1,1-Dichloroethane	2.97	63	8409937	46.00	ug/L	99
18) Vinyl Acetate	3.43	43	2464748	37.64	ug/L	96
19) n-Hexane	2.69	57	6878357	48.28	ug/L	96
20) n-Butanol	3.08	57	3240094	41.56	ug/L #	98
21) 2-Butanone (MEK)	3.54	43	2570093	86.90	ug/L	94
22) cis-1,2-Dichloroethene	3.25	61	6347369	45.37	ug/L	96
23) Bromochloromethane	3.36	128	3497245	46.62	ug/L #	99
24) 2,2-Dichloropropane	3.32	77	6686952	47.54	ug/L	99
25) Chloroform	3.38	83	8462509	45.74	ug/L	99
26) 1,1,1-Trichloroethane	3.51	97	7152357	50.19	ug/L	100
27) 1,1-Dichloropropene	3.57	75	6522985	47.57	ug/L	98
28) Carbon Tetrachloride	3.48	117	7401767	52.02	ug/L	99
31) Benzene	3.71	78	18620973	46.89	ug/L	99
32) 1,2-Dichloroethane	3.81	62	4956479	42.80	ug/L	99
33) Trichloroethene	4.02	95	5833692	51.99	ug/L	96
34) Dibromomethane	4.26	93	2998450	41.82	ug/L	94
35) 1,2-Dichloropropane	4.32	63	4496762	44.92	ug/L	99
36) Bromodichloromethane	4.35	83	6339422	44.31	ug/L	100
38) cis-1,3-Dichloropropene	4.72	75	7375843	44.74	ug/L	99
40) Toluene	4.88	91	19575969	47.39	ug/L	100
41) trans-1,3-Dichloropropene	5.13	75	5787814	42.64	ug/L	87
42) 4-Methyl-2-Pentanone (MIBK	5.10	43	5128138	88.14	ug/L	97
43) Tetrachloroethene (PCE)	5.12	166	15104754	119.54	ug/L	99
44) Ethyl Methacrylate	5.21	69	3650787	41.91	ug/L	99
45) 1,1,2-Trichloroethane	5.23	83	2985684	41.80	ug/L	99
46) Dibromochloromethane	5.36	129	5348195	45.90	ug/L	99
47) 1,3-Dichloropropane	5.42	76	5872932	41.16	ug/L	98
48) 1,2-Dibromoethane (EDB)	5.53	107	4429907	43.77	ug/L	99
49) 2-Hexanone	5.65	43	3347128	93.93	ug/L	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020615\0801004.D Vial: 8
Acq On : 6 Feb 2015 4:44 pm Operator: tjg
Sample : ms15-1907:10 Inst : Volatile
Misc : b Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Feb 10 7:45 2015 Quant Results File: 020515RC.RES

Quant Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration
DataAcq Meth : VOC2

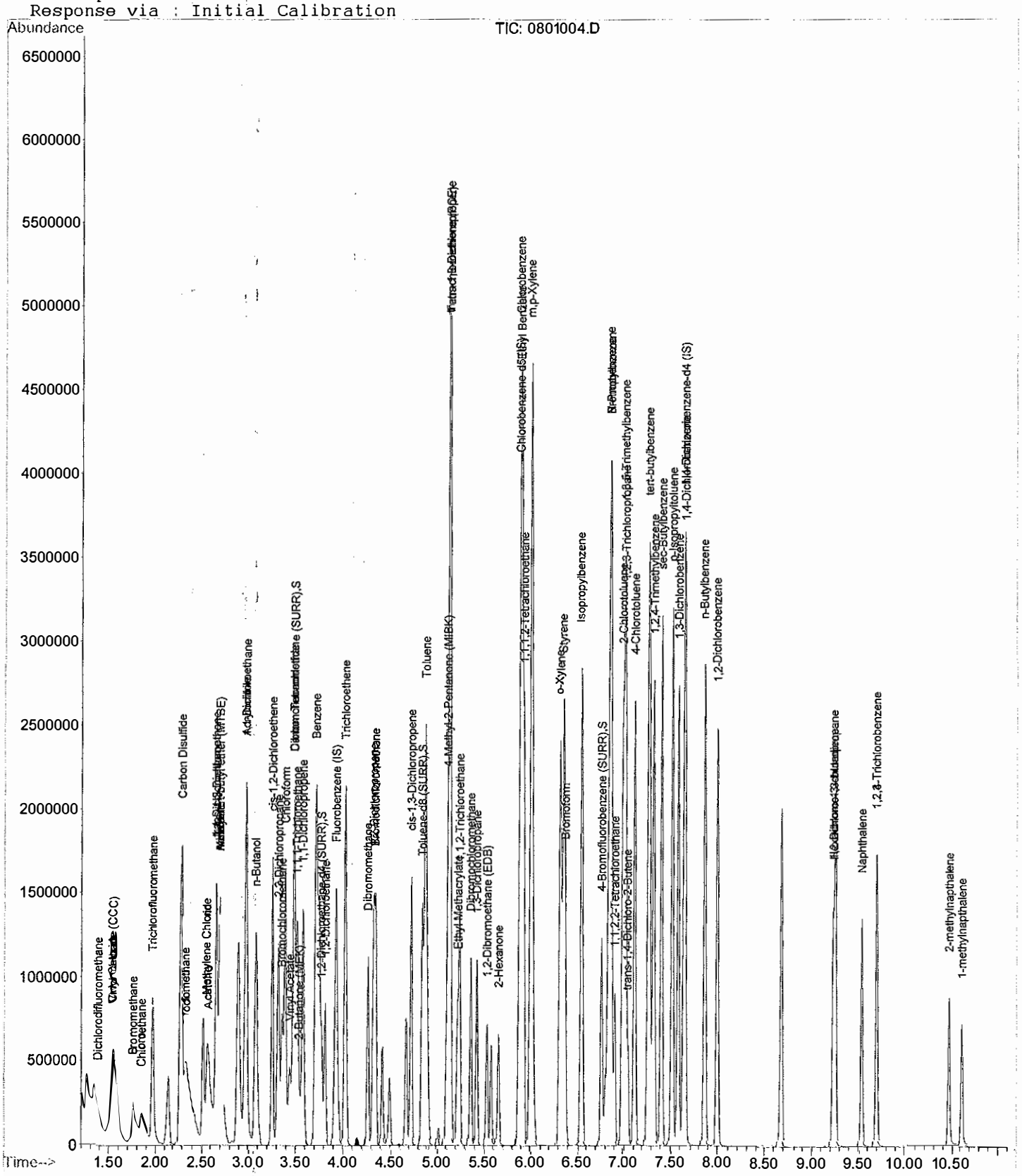
Compound	R.T.	QIon	Response	Conc Unit		Qvalue
51) 1,1,1,2-Tetrachloroethane	5.92	131	5251291	46.22 ug/L	#	75
52) Chlorobenzene	5.88	112	13323539	43.23 ug/L		94
53) Ethyl Benzene	5.90	91	21359334m	47.49 ug/L		
54) m,p-Xylene	5.99	91	33262341m	100.53 ug/L		
55) o-Xylene	6.31	91	17245620m	50.59 ug/L		
56) Styrene	6.35	104	13779963	44.57 ug/L		99
57) Bromoform	6.37	173	2793192	42.32 ug/L		99
59) 1,1,2,2-Tetrachloroethane	6.90	83	3914383	37.59 ug/L		97
60) trans-1,4-Dichlor●-2-Buten	7.03	53	903045m	44.49 ug/L		
61) Isopropylbenzene	6.54	105	21687362	47.36 ug/L		98
62) Bromobenzene	6.84	156	6659189	47.78 ug/L		95
63) N-Propylbenzene	6.85	91	24950432	46.95 ug/L		98
64) 2-Chlorotoluene	6.98	91	15989127	45.30 ug/L		98
65) 4-Chlorotoluene	7.11	126	6352374	47.66 ug/L		96
66) 1,3,5-Trimethylbenzene	7.00	105	17286287	47.55 ug/L		98
67) tert-butylbenzene	7.26	119	18989884	49.62 ug/L		96
68) 1,2,4-Trimethylbenzene	7.31	105	17259766	46.67 ug/L	#	100
69) sec-Butylbenzene	7.40	105	23135054	47.14 ug/L	#	100
70) p-Isopropyltoluene	7.51	119	20217891	48.91 ug/L		99
72) 1,3-Dichlorobenzene	7.57	146	12082035	45.82 ug/L		99
73) 1,4-Dichlorobenzene	7.65	148	7866565	45.88 ug/L		100
74) 1,2,3-Trichloropropane	7.01	75	3998897	48.84 ug/L		81
75) n-Butylbenzene	7.85	91	16089589	46.10 ug/L		99
76) 1,2-Dichlorobenzene	7.99	146	11097372	44.74 ug/L		99
77) 1,2-Dibromo-3-chloropropan	9.22	155	403527	48.19 ug/L		83
78) Hexachloro-1,3-butadiene	9.22	225	2367888	49.93 ug/L		100
79) 1,2,4-Trichlorobenzene	9.69	180	5400951	43.04 ug/L		99
80) Naphthalene	9.53	128	10013038	42.43 ug/L		99
81) 1,2,3-Trichlorobenzene	9.69	180	5400951	43.04 ug/L		99
82) 1-methylnapthalene	10.60	142	3491526	39.28 ug/L		99
83) 2-methylnapthalene	10.47	142	4401171	39.81 ug/L		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\020615\0801004.D Vial: 8
Acq On : 6 Feb 2015 4:44 pm Operator: tjg
Sample : ms15-1907:10 Inst : Volatile
Misc : b Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Feb 10 7:45 2015 Quant Results File: 020515RC.RES

Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020615\0901005.D
Acq On : 6 Feb 2015 5:03 pm
Sample : msd15-1907:10
Misc : c
MS Integration Params: EVENTS.E
Quant Time: Feb 10 7:46 2015

Vial: 9
Operator: tjg
Inst : Volatile
Multiplr: 1.00

Quant Results File: 020515RC.RES

Quant Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	3.92	96	12278970m	50.00	ug/L	0.01
50) Chlorobenzene-d5 (IS)	5.87	117	8852858m	50.00	ug/L	0.00
71) 1,4-Dichlorobenzene-d4 (IS	7.63	152	4888209	50.00	ug/L	0.01
System Monitoring Compounds						
29) Dibromofluoromethane (SURR	3.48	113	3848634	51.40	ug/L	0.01
Spiked Amount 50.000 Range 60 - 140 Recovery = 102.80%						
30) 1,2-Dichloroethane-d4 (SUR	3.78	65	2767657	49.84	ug/L	0.01
Spiked Amount 50.000 Range 60 - 140 Recovery = 99.68%						
39) Toluene-d8 (SURR)	4.84	98	10722964	50.92	ug/L	0.01
Spiked Amount 50.000 Range 60 - 140 Recovery = 101.84%						
58) 4-Bromofluorobenzene (SURR	6.76	95	3738687	49.39	ug/L	0.01
Spiked Amount 50.000 Range 60 - 140 Recovery = 98.78%						

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.39	85	6633912	45.88	ug/L	99
3) Chlormethane	1.54	50	6867881	43.41	ug/L	100
4) Vinyl Chloride (CCC)	1.56	62	6251291	43.99	ug/L	100
5) Bromomethane	1.77	94	3200767	58.49	ug/L	98
6) Chloroethane	1.86	64	2859674	50.27	ug/L	99
7) Acrolein	2.69	56	3046397	49.64	ug/L #	98
8) Trichlorofluoromethane	1.97	101	5602571	54.69	ug/L	100
9) Acetone	2.58	43	937932	75.39	ug/L	95
10) 1,1-Dichloroethene	2.26	61	5490201	48.94	ug/L	98
11) Iodomethane	2.34	142	6912954	57.18	ug/L	99
12) Carbon Disulfide	2.28	76	13881088	50.18	ug/L	100
13) Acrylonitrile	2.97	53	6732298	45.32	ug/L	98
14) Methylene Chloride	2.56	49	4458752	45.40	ug/L	98
15) trans-1,2-Dichloroethene	2.65	96	4339159	53.58	ug/L	93
16) Methyl-tert-butyl ether (M	2.70	73	7545789	39.38	ug/L	87
17) 1,1-Dichloroethane	2.98	63	7680436	44.82	ug/L	98
18) Vinyl Acetate	3.54	43	2312022	37.67	ug/L	97
19) n-Hexane	2.69	57	6181293	46.29	ug/L	96
20) n-Butanol	3.08	57	2819508	38.59	ug/L #	92
21) 2-Butanone (MEK)	3.54	43	2312068	83.41	ug/L	95
22) cis-1,2-Dichloroethene	3.25	61	5812371	44.33	ug/L	97
23) Bromochloromethane	3.36	128	3122389	44.41	ug/L #	98
24) 2,2-Dichloropropane	3.32	77	6077746	46.10	ug/L	100
25) Chloroform	3.39	83	7732413	44.59	ug/L	99
26) 1,1,1-Trichloroethane	3.51	97	6468719	48.43	ug/L	98
27) 1,1-Dichloropropene	3.58	75	6002588	46.70	ug/L	98
28) Carbon Tetrachloride	3.48	117	6675434	50.06	ug/L	100
31) Benzene	3.71	78	16622295	44.66	ug/L	100
32) 1,2-Dichloroethane	3.81	62	4541384	41.84	ug/L	98
33) Trichloroethene	4.02	95	5407006	51.42	ug/L	99
34) Dibromomethane	4.26	93	2722460	40.51	ug/L	95
35) 1,2-Dichloropropane	4.33	63	4018876	42.84	ug/L	99
36) Bromodichloromethane	4.35	83	5753721	42.91	ug/L	100
38) cis-1,3-Dichloropropene	4.72	75	6546671	42.37	ug/L	98
40) Toluene	4.88	91	17541782	45.30	ug/L	100
41) trans-1,3-Dichloropropene	5.13	75	5250057	41.27	ug/L #	85
42) 4-Methyl-2-Pentanone (MIBK	5.10	43	4605279	84.45	ug/L	98
43) Tetrachloroethene (PCE)	5.13	166	14614920	123.40	ug/L	99
44) Ethyl Methacrylate	5.21	69	3142887	38.49	ug/L	97
45) 1,1,2-Trichloroethane	5.24	83	2685823	40.12	ug/L	97
46) Dibromochloromethane	5.36	129	4739779	43.40	ug/L	98
47) 1,3-Dichloropropane	5.42	76	5280539	39.48	ug/L	99
48) 1,2-Dibromoethane (EDB)	5.53	107	3996810	42.13	ug/L	99
49) 2-Hexanone	5.65	43	3029462	90.71	ug/L	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020615\0901005.D Vial: 9
Acq On : 6 Feb 2015 5:03 pm Operator: tjg
Sample : msd15-1907:10 Inst : Volatile
Misc : c Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Feb 10 7:46 2015 Quant Results File: 020515RC RES

Quant Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration
DataAcq Meth : VOC2

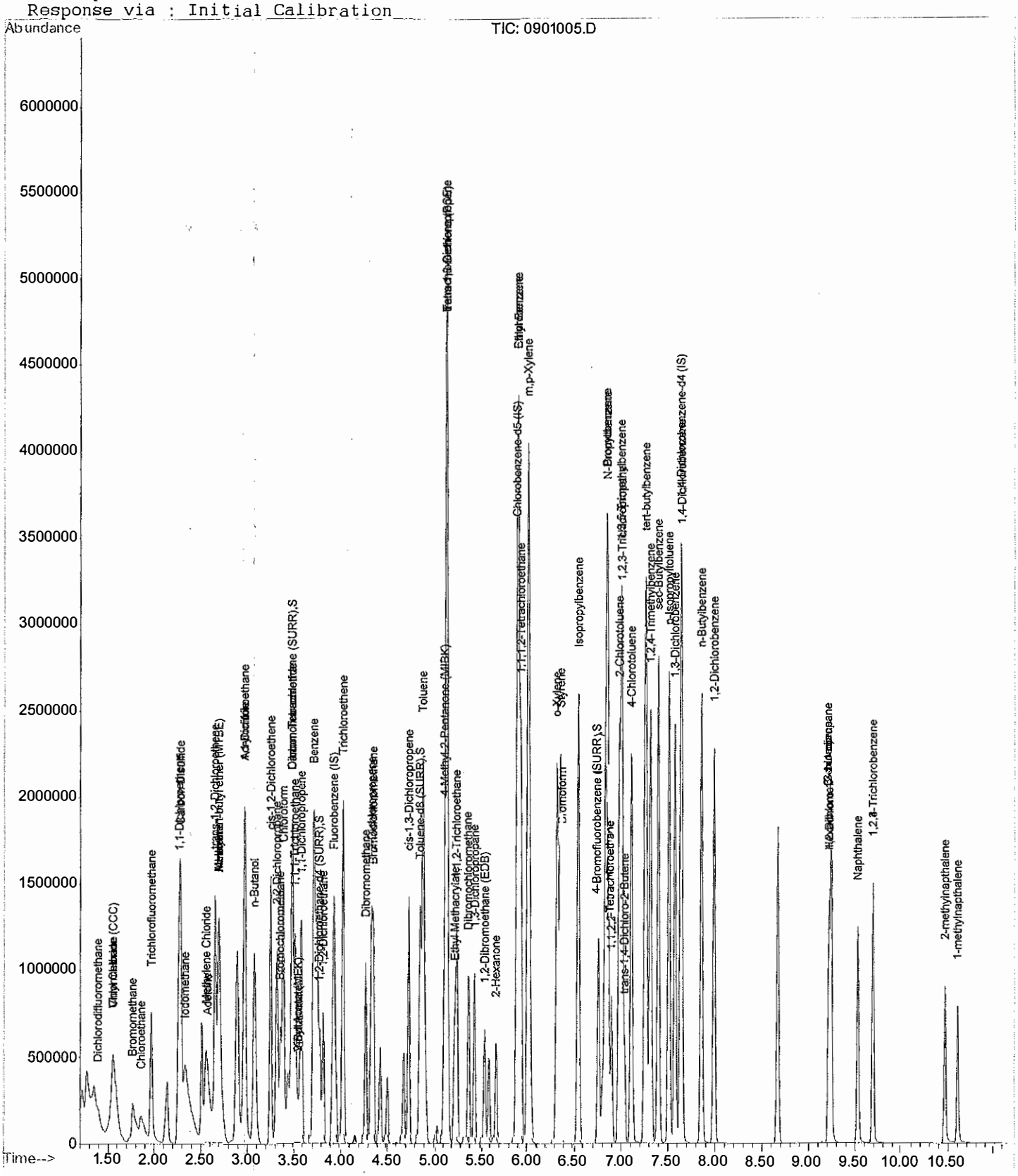
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
51)	1,1,1,2-Tetrachloroethane	5.92	131	4684949	46.35 ug/L	#	79
52)	Chlorobenzene	5.89	112	11912487	43.45 ug/L		94
53)	Ethyl Benzene	5.90	91	19278553m	48.18 ug/L		
54)	m,p-Xylene	5.99	91	29829525m	101.34 ug/L		
55)	o-Xylene	6.31	91	15595792m	51.42 ug/L		
56)	Styrene	6.35	104	13646047m	49.61 ug/L		
57)	Bromoform	6.37	173	2375141	40.45 ug/L		97
59)	1,1,2,2-Tetrachloroethane	6.89	83	4590320m	49.54 ug/L		
60)	trans-1,4-Dichloro-2-Buten	7.04	53	602433	33.36 ug/L		93
61)	Isopropylbenzene	6.54	105	19642248	48.21 ug/L		98
62)	Bromobenzene	6.84	156	5950945	47.99 ug/L		95
63)	N-Propylbenzene	6.86	91	22504344	47.60 ug/L		99
64)	2-Chlorotoluene	6.98	91	14275982	45.46 ug/L		99
65)	4-Chlorotoluene	7.11	126	5547303	46.78 ug/L		97
66)	1,3,5-Trimethylbenzene	7.00	105	15245139	47.13 ug/L		99
67)	tert-butylbenzene	7.26	119	16830021	49.43 ug/L		97
68)	1,2,4-Trimethylbenzene	7.31	105	15495821	47.10 ug/L	#	100
69)	sec-Butylbenzene	7.40	105	21090737	48.30 ug/L	#	100
70)	p-Isopropyltoluene	7.51	119	17973796	48.87 ug/L		100
72)	1,3-Dichlorobenzene	7.58	146	11201891	44.71 ug/L		99
73)	1,4-Dichlorobenzene	7.65	148	7204263	44.22 ug/L		99
74)	1,2,3-Trichloropropane	7.01	75	3468923	44.59 ug/L		84
75)	n-Butylbenzene	7.86	91	14608085	44.05 ug/L		99
76)	1,2-Dichlorobenzene	7.99	146	10274454	43.59 ug/L		98
77)	1,2-Dibromo-3-chloropropan	9.22	155	362744	45.59 ug/L		90
78)	Hexachloro-1,3-butadiene	9.22	225	2145338	47.60 ug/L		99
79)	1,2,4-Trichlorobenzene	9.69	180	4805328	40.30 ug/L		98
80)	Naphthalene	9.53	128	9300995	41.48 ug/L		99
81)	1,2,3-Trichlorobenzene	9.69	180	4805328	40.30 ug/L		98
82)	1-methylnapthalene	10.60	142	3189510	37.76 ug/L		95
83)	2-methylnapthalene	10.47	142	4226645	40.23 ug/L		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\020615\0901005.D Vial: 9
Acq On : 6 Feb 2015 5:03 pm Operator: tjg
Sample : msd15-1907:10 Inst : Volatile
Misc : c Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Feb 10 7:46 2015 Quant Results File: 020515RC.RES

Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020915\3901039.D Vial: 39
Acq On : 10 Feb 2015 1:22 am Operator: tjg
Sample : mb Inst : Volatile
Misc : qc Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Feb 10 7:32 2015 Quant Results File: 020515RC.RES

Quant Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	3.92	96	13110815m	50.00	ug/L	0.01
50) Chlorobenzene-d5 (IS)	5.87	117	10385246	50.00	ug/L	0.00
71) 1,4-Dichlorobenzene-d4 (IS	7.63	152	5223917	50.00	ug/L	0.00

System Monitoring Compounds

29) Dibromofluoromethane (SURR	3.48	113	4043039	50.57	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 101.14%						
30) 1,2-Dichloroethane-d4 (SUR	3.77	65	2762537	46.59	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 93.18%						
39) Toluene-d8 (SURR)	4.84	98	11146087	49.57	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 99.14%						
58) 4-Bromofluorobenzene (SURR	6.75	95	3939185	44.36	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 88.72%						

Target Compounds Qvalue

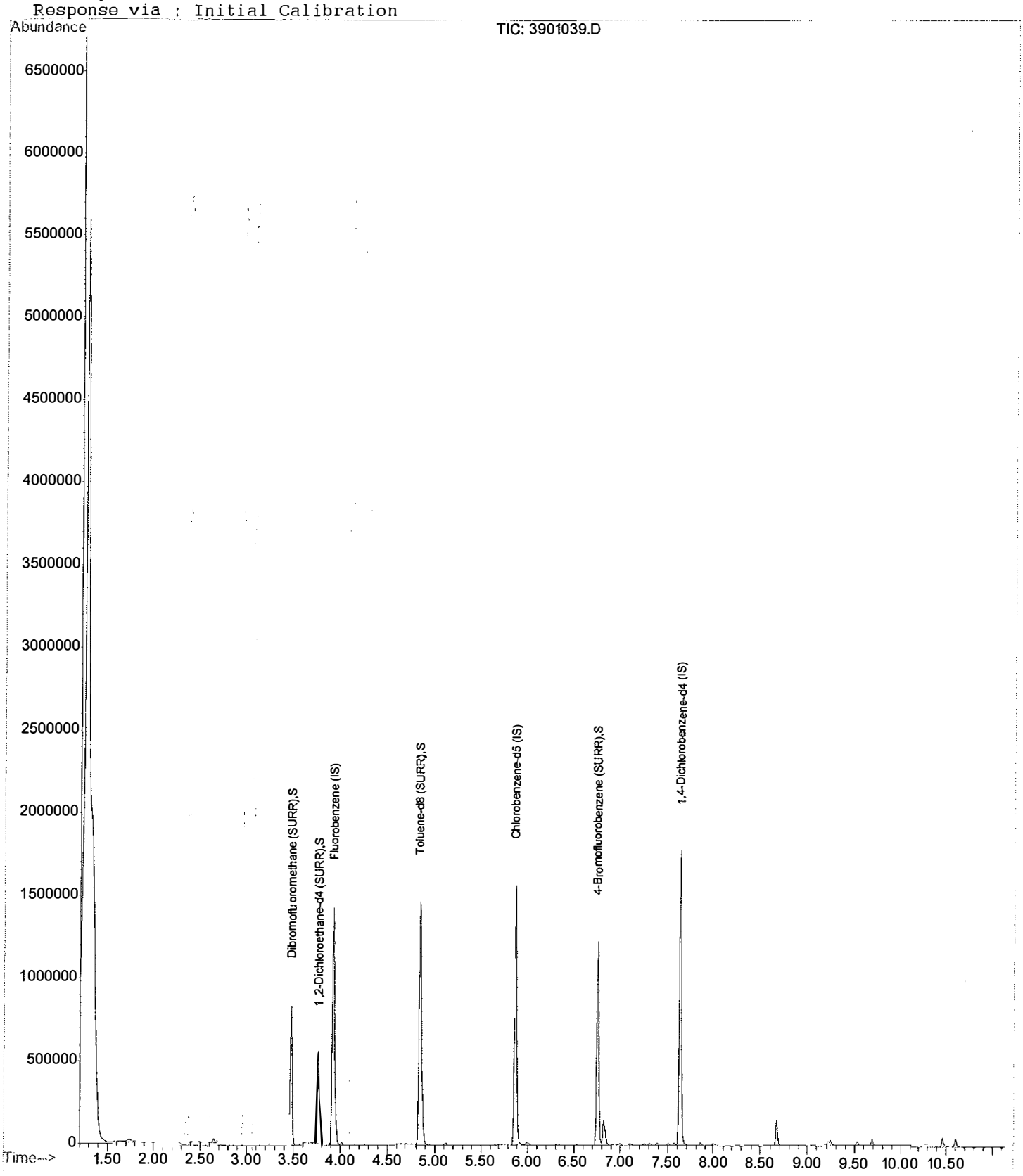
(#) = qualifier out of range (m) = manual integration
3901039.D 020515RC.M Tue Feb 10 07:40:21 2015

Quantitation Report

Data File : C:\HPCHEM\1\DATA\020915\3901039.D
Acq On : 10 Feb 2015 1:22 am
Sample : mb
Misc : qc
MS Integration Params: EVENTS.E
Quant Time: Feb 10 7:32 2015

Vial: 39
Operator: tjg
Inst : Volatile
Multiplr: 1.00
Quant Results File: 020515RC.RES

Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020915\3701037.D
Acq On : 10 Feb 2015 12:44 am
Sample : lcs 50ppb
Misc : qc
MS Integration Params: EVENTS.E
Quant Time: Feb 10 7:39 2015

Vial: 37
Operator: tjg
Inst : Volatile
Multiplr: 1.00
Quant Results File: 020515RC.RES

Quant Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	3.92	96	11177189m	50.00	ug/L	0.00
50) Chlorobenzene-d5 (IS)	5.87	117	8758070	50.00	ug/L	0.00
71) 1,4-Dichlorobenzene-d4 (IS	7.63	152	4344195	50.00	ug/L	0.00
System Monitoring Compounds						
29) Dibromofluoromethane (SURR	3.48	113	3582864	52.57	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 105.14%						
30) 1,2-Dichloroethane-d4 (SUR	3.77	65	2520724	49.86	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 99.72%						
39) Toluene-d8 (SURR)	4.84	98	9646737	50.32	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 100.64%						
58) 4-Bromofluorobenzene (SURR	6.75	95	3410916	45.54	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 91.08%						

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.38	85	5678901	43.15	ug/L	99
3) Chlormethane	1.53	50	6655745	46.22	ug/L	99
4) Vinyl Chloride (CCC)	1.55	62	6030719	46.62	ug/L	99
5) Bromomethane	1.76	94	2556827m	51.33	ug/L	
6) Chloroethane	1.85	64	2922721	56.45	ug/L #	84
7) Acrolein	2.68	56	2549917	45.65	ug/L #	94
8) Trichlorofluoromethane	1.96	101	4970913m	53.30	ug/L	
9) Acetone	2.57	43	1252703m	110.62	ug/L	
10) 1,1-Dichloroethene	2.25	61	5354682	52.44	ug/L	96
11) Iodomethane	2.33	142	4988766m	45.33	ug/L	
12) Carbon Disulfide	2.28	76	13855809	55.02	ug/L	99
13) Acrylonitrile	2.96	53	6770088	50.07	ug/L	98
14) Methylene Chloride	2.55	49	4417574	49.42	ug/L	95
15) trans-1,2-Dichloroethene	2.65	96	3962152m	53.75	ug/L	
16) Methyl-tert-butyl ether (M	2.69	73	8493103	48.69	ug/L	94
17) 1,1-Dichloroethane	2.97	63	8082035	51.81	ug/L	99
18) Vinyl Acetate	3.43	43	2458919	44.02	ug/L	100
19) n-Hexane	2.69	57	5501344	45.26	ug/L	100
20) n-Butanol	3.07	57	3106690	46.71	ug/L	96
21) 2-Butanone (MEK)	3.54	43	2634500	104.40	ug/L	95
22) cis-1,2-Dichloroethene	3.25	61	6097895	51.09	ug/L	98
23) Bromochloromethane	3.35	128	3426660	53.54	ug/L #	100
24) 2,2-Dichloropropane	3.31	77	5295067	44.12	ug/L #	3
25) Chloroform	3.38	83	8231624	52.15	ug/L	99
26) 1,1,1-Trichloroethane	3.51	97	6526075	53.68	ug/L	98
27) 1,1-Dichloropropene	3.57	75	5898847	50.42	ug/L	98
28) Carbon Tetrachloride	3.47	117	6680623	55.03	ug/L	99
31) Benzene	3.70	78	17461239	51.54	ug/L	100
32) 1,2-Dichloroethane	3.81	62	4888090	49.47	ug/L	97
33) Trichloroethene	4.02	95	5005102	52.29	ug/L	96
34) Dibromomethane	4.26	93	2979762	48.71	ug/L	94
35) 1,2-Dichloropropane	4.32	63	4298877	50.34	ug/L	99
36) Bromodichloromethane	4.34	83	6171027	50.56	ug/L	100
37) 2-Chloroethyl-vinyl-ether	4.67	63	7367869	193.43	ug/L	97
38) cis-1,3-Dichloropropene	4.72	75	6973892	49.58	ug/L	97
40) Toluene	4.87	91	18326211	52.00	ug/L	100
41) trans-1,3-Dichloropropene	5.13	75	5555100	47.97	ug/L	88
42) 4-Methyl-2-Pentanone (MIBK	5.09	43	5883558m	118.52	ug/L	
43) Tetrachloroethene (PCE)	5.12	166	5132561m	47.61	ug/L	
44) Ethyl Methacrylate	5.21	69	3574914	48.10	ug/L	99
45) 1,1,2-Trichloroethane	5.23	83	2897117	47.54	ug/L	99
46) Dibromochloromethane	5.35	129	5188319	52.19	ug/L	99
47) 1,3-Dichloropropane	5.42	76	5811840	47.74	ug/L	98
48) 1,2-Dibromoethane (EDB)	5.53	107	4364018	50.54	ug/L	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020915\3701037.D Vial: 37
Acq On : 10 Feb 2015 12:44 am Operator: tjg
Sample : lcs 50ppb Inst : Volatile
Misc : qc Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Feb 10 7:39 2015 Quant Results File: 020515RC.RES

Quant Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration
DataAcq Meth : VOC2

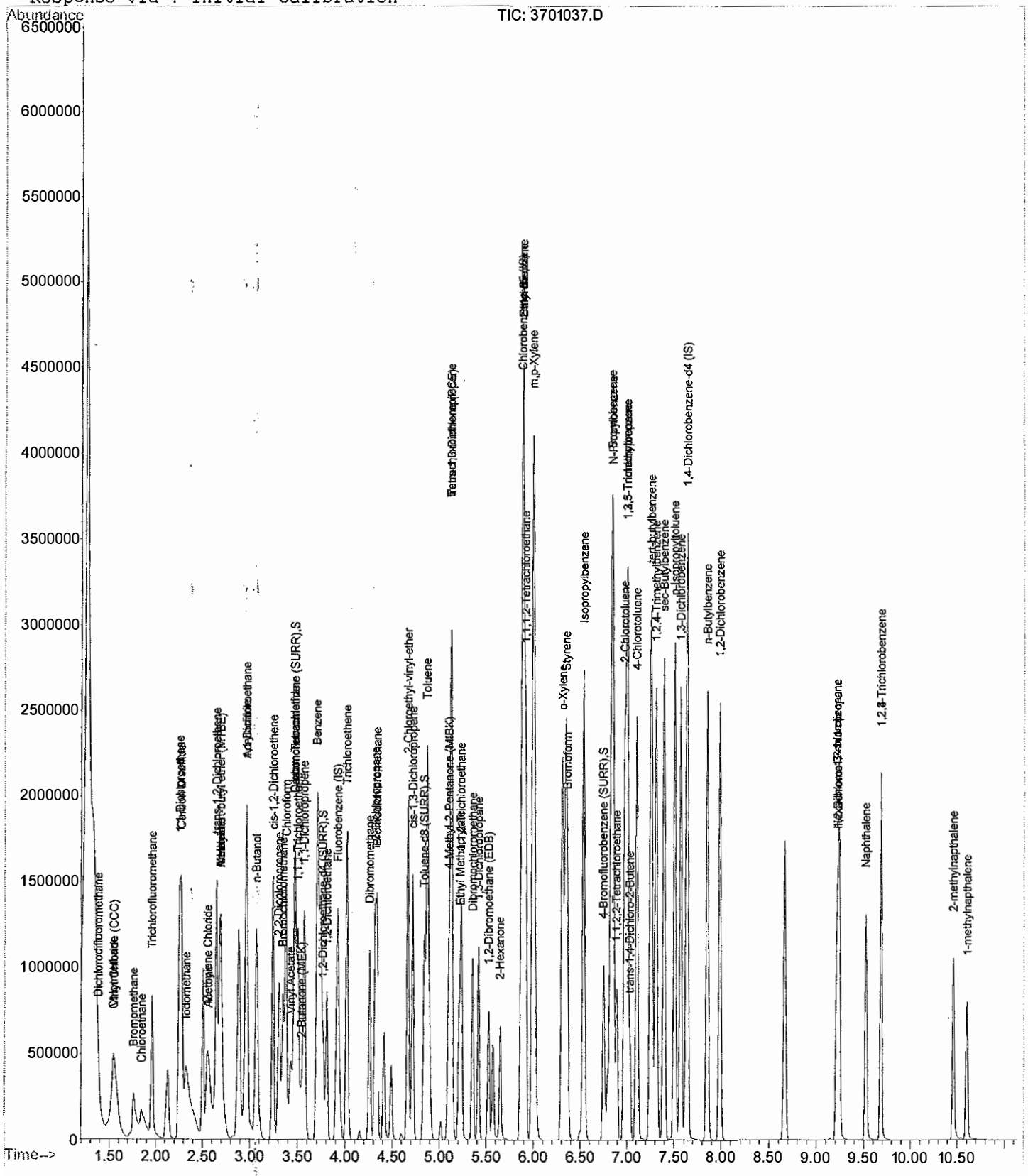
Compound	R.T.	QIon	Response	Conc Unit		Qvalue
49) 2-Hexanone	5.65	43	3396692	111.73 ug/L		96
51) 1,1,1,2-Tetrachloroethane	5.92	131	5091384	50.91 ug/L	#	78
52) Chlorobenzene	5.88	112	13793420	50.85 ug/L		95
53) Ethyl Benzene	5.89	91	20401040m	51.53 ug/L		
54) m,p-Xylene	5.99	91	31066832m	106.68 ug/L		
55) o-Xylene	6.31	91	16157012m	53.85 ug/L		
56) Styrene	6.35	104	14633275m	53.78 ug/L		
57) Bromoform	6.37	173	2744913	47.26 ug/L		99
59) 1,1,2,2-Tetrachloroethane	6.90	83	4457418m	48.63 ug/L		
60) trans-1,4-Dichloro-2-Buten	7.04	53	772694m	43.26 ug/L		
61) Isopropylbenzene	6.54	105	20706611	51.37 ug/L		98
62) Bromobenzene	6.84	156	6635648	54.10 ug/L		92
63) N-Propylbenzene	6.85	91	23702433	50.67 ug/L		99
64) 2-Chlorotoluene	6.98	91	15344389	49.39 ug/L		98
65) 4-Chlorotoluene	7.11	126	5981604	50.99 ug/L		99
66) 1,3,5-Trimethylbenzene	7.00	105	16343518	51.08 ug/L		99
67) tert-butylbenzene	7.26	119	16739394	49.70 ug/L		98
68) 1,2,4-Trimethylbenzene	7.31	105	16896075	51.91 ug/L	#	100
69) sec-Butylbenzene	7.40	105	22095737	51.15 ug/L	#	99
70) p-Isopropyltoluene	7.51	119	18519927	50.90 ug/L		99
72) 1,3-Dichlorobenzene	7.57	146	12198406	54.78 ug/L		98
73) 1,4-Dichlorobenzene	7.65	148	7727382	53.37 ug/L		99
74) 1,2,3-Trichloropropane	7.01	75	3025063	43.75 ug/L		98
75) n-Butylbenzene	7.85	91	14703494	49.89 ug/L		98
76) 1,2-Dichlorobenzene	7.99	146	11181893	53.38 ug/L		99
77) 1,2-Dibromo-3-chloropropan	9.22	155	357608	50.57 ug/L		92
78) Hexachloro-1,3-butadiene	9.22	225	2233308	55.76 ug/L		98
79) 1,2,4-Trichlorobenzene	9.69	180	5845386	55.16 ug/L		99
80) Naphthalene	9.53	128	10869260	54.54 ug/L		99
81) 1,2,3-Trichlorobenzene	9.69	180	5845386	55.16 ug/L		99
82) 1-methylnapthalene	10.60	142	3964832	52.82 ug/L		95
83) 2-methylnapthalene	10.47	142	5256517	56.30 ug/L		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\020915\3701037.D Vial: 37
Acq On : 10 Feb 2015 12:44 am Operator: tjg
Sample : lcs 50ppb Inst : Volatile
Misc : qc Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Feb 10 7:39 2015 Quant Results File: 020515RC.RES

Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020915\3801038.D
Acq On : 10 Feb 2015 1:03 am
Sample : lcsd 50ppb
Misc : qc
MS Integration Params: EVENTS.E
Quant Time: Feb 10 7:40 2015

Vial: 38
Operator: tjg
Inst : Volatile
Multiplr: 1.00

Quant Results File: 020515RC.RES

Quant Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	3.92	96	11521120m	50.00	ug/L	0.00
50) Chlorobenzene-d5 (IS)	5.87	117	8875236	50.00	ug/L	0.00
71) 1,4-Dichlorobenzene-d4 (IS	7.63	152	4686564	50.00	ug/L	0.00
System Monitoring Compounds						
29) Dibromofluoromethane (SURR	3.48	113	3652811	52.00	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 104.00%						
30) 1,2-Dichloroethane-d4 (SUR	3.77	65	2688476	51.59	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 103.18%						
39) Toluene-d8 (SURR)	4.84	98	9987331	50.54	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 101.08%						
58) 4-Bromofluorobenzene (SURR	6.75	95	3523108	46.42	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 92.84%						

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.38	85	5818278	42.88	ug/L #	71
3) Chlormethane	1.54	50	6653357	44.82	ug/L	99
4) Vinyl Chloride (CCC)	1.55	62	6049029	45.36	ug/L	100
5) Bromomethane	1.76	94	2588349m	50.41	ug/L	
6) Chloroethane	1.85	64	2942591	55.13	ug/L	98
7) Acrolein	2.68	56	2654129	46.10	ug/L #	93
8) Trichlorofluoromethane	1.96	101	5124879m	53.31	ug/L	
9) Acetone	2.57	43	1341599m	114.94	ug/L	
10) 1,1-Dichloroethene	2.25	61	5444914	51.73	ug/L	95
11) Iodomethane	2.33	142	5500355m	48.49	ug/L	
12) Carbon Disulfide	2.28	76	14176346	54.62	ug/L	98
13) Acrylonitrile	2.96	53	6884943	49.40	ug/L	99
14) Methylene Chloride	2.55	49	4501729	48.86	ug/L	96
15) trans-1,2-Dichloroethene	2.65	96	4083292m	53.74	ug/L	
16) Methyl-tert-butyl ether (M	2.69	73	8533161	47.46	ug/L	95
17) 1,1-Dichloroethane	2.97	63	7996789	49.74	ug/L	99
18) Vinyl Acetate	3.43	43	2536614	44.05	ug/L	100
19) n-Hexane	2.69	57	5640644	45.02	ug/L	98
20) n-Butanol	3.07	57	3151133	45.96	ug/L	96
21) 2-Butanone (MEK)	3.54	43	2724414	104.74	ug/L	96
22) cis-1,2-Dichloroethene	3.25	61	6184240	50.27	ug/L	96
23) Bromochloromethane	3.35	128	3495961	53.00	ug/L #	98
24) 2,2-Dichloropropane	3.31	77	5362408	43.35	ug/L	99
25) Chloroform	3.38	83	8369202	51.44	ug/L	98
26) 1,1,1-Trichloroethane	3.51	97	6569095	52.42	ug/L	98
27) 1,1-Dichloropropene	3.57	75	6059072	50.24	ug/L	98
28) Carbon Tetrachloride	3.47	117	6810262	54.43	ug/L	100
31) Benzene	3.70	78	17618812	50.45	ug/L	100
32) 1,2-Dichloroethane	3.81	62	4962256	48.73	ug/L	98
33) Trichloroethene	4.02	95	5070495	51.39	ug/L	96
34) Dibromomethane	4.26	93	2967200	47.05	ug/L	93
35) 1,2-Dichloropropane	4.32	63	4270907	48.52	ug/L	99
36) Bromodichloromethane	4.34	83	6222929	49.46	ug/L	100
37) 2-Chloroethyl-vinyl-ether	4.67	63	7690778	195.88	ug/L	97
38) cis-1,3-Dichloropropene	4.72	75	6891834	47.54	ug/L	98
40) Toluene	4.87	91	18702703	51.48	ug/L	99
41) trans-1,3-Dichloropropene	5.13	75	5686380	47.64	ug/L	94
42) 4-Methyl-2-Pentanone (MIBK	5.09	43	6161137m	120.41	ug/L	
43) Tetrachloroethene (PCE)	5.12	166	5842566m	52.58	ug/L	
44) Ethyl Methacrylate	5.21	69	3663710	47.82	ug/L	98
45) 1,1,2-Trichloroethane	5.23	83	2956450	47.06	ug/L	99
46) Dibromochloromethane	5.35	129	5242206	51.16	ug/L	99
47) 1,3-Dichloropropane	5.42	76	5780831	46.06	ug/L	97
48) 1,2-Dibromoethane (EDB)	5.53	107	4374879	49.15	ug/L	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020915\3801038.D Vial: 38
Acq On : 10 Feb 2015 1:03 am Operator: tjg
Sample : lcsd 50ppb Inst : Volatile
Misc : qc Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Feb 10 7:40 2015 Quant Results File: 020515RC.RES

Quant Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration
DataAcq Meth : VOC2

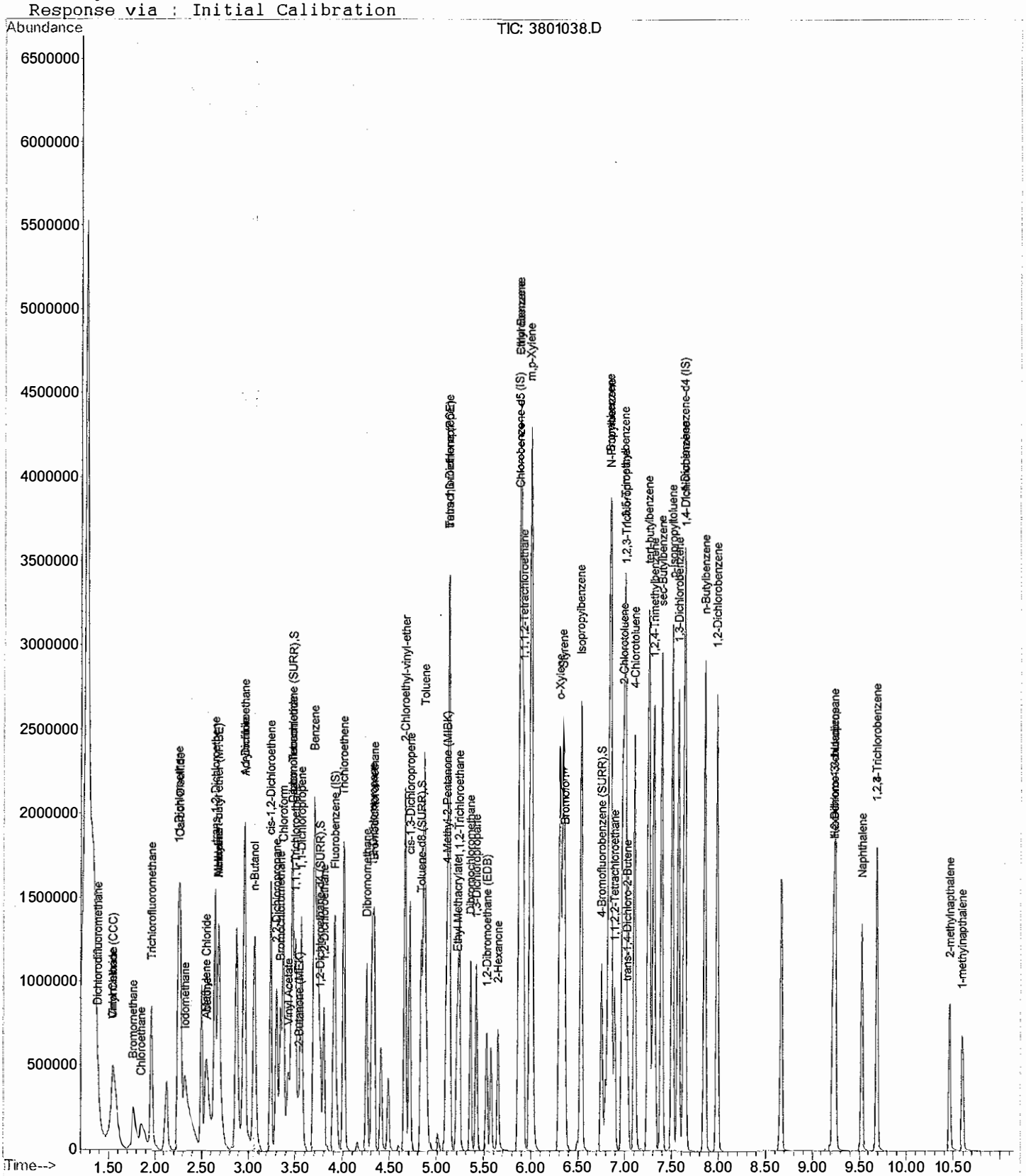
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
49) 2-Hexanone	5.65	43	3541099	113.00 ug/L	98
51) 1,1,1,2-Tetrachloroethane	5.92	131	5135154	50.67 ug/L #	76
52) Chlorobenzene	5.88	112	13816751	50.27 ug/L	95
53) Ethyl Benzene	5.89	91	20433611m	50.94 ug/L	
54) m,p-Xylene	5.99	91	31386965m	106.36 ug/L	
55) o-Xylene	6.30	91	16745781m	55.08 ug/L	
56) Styrene	6.35	104	13641506	49.47 ug/L	93
57) Bromoform	6.37	173	2812573	47.78 ug/L	99
59) 1,1,2,2-Tetrachloroethane	6.89	83	4472527m	48.15 ug/L	
60) trans-1,4-Dichloro-2-Buten	7.03	53	928872m	51.31 ug/L	
61) Isopropylbenzene	6.54	105	20974186	51.35 ug/L	99
62) Bromobenzene	6.84	156	6600278	53.10 ug/L	94
63) N-Propylbenzene	6.85	91	23923860	50.47 ug/L	99
64) 2-Chlorotoluene	6.98	91	15355766	48.78 ug/L	98
65) 4-Chlorotoluene	7.11	126	6035699	50.77 ug/L	99
66) 1,3,5-Trimethylbenzene	7.00	105	16998447	52.42 ug/L	99
67) tert-butylbenzene	7.25	119	16895415	49.50 ug/L	99
68) 1,2,4-Trimethylbenzene	7.31	105	17005347	51.56 ug/L #	100
69) sec-Butylbenzene	7.40	105	22002325	50.27 ug/L #	99
70) p-Isopropyltoluene	7.51	119	19426319	52.69 ug/L	99
72) 1,3-Dichlorobenzene	7.57	146	12485543	51.97 ug/L	99
73) 1,4-Dichlorobenzene	7.64	148	7896357	50.55 ug/L	99
74) 1,2,3-Trichloropropane	7.01	75	3966975	53.18 ug/L	81
75) n-Butylbenzene	7.85	91	15260917	48.00 ug/L	99
76) 1,2-Dichlorobenzene	7.99	146	11829986	52.35 ug/L	100
77) 1,2-Dibromo-3-chloropropan	9.22	155	370651	48.58 ug/L	95
78) Hexachloro-1,3-butadiene	9.22	225	2147922	49.71 ug/L	99
79) 1,2,4-Trichlorobenzene	9.69	180	5376495	47.03 ug/L	99
80) Naphthalene	9.52	128	10157845	47.25 ug/L	99
81) 1,2,3-Trichlorobenzene	9.69	180	5376495	47.03 ug/L	99
82) 1-methylnapthalene	10.60	142	3730997	46.07 ug/L	100
83) 2-methylnapthalene	10.46	142	4480650	44.49 ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\020915\3801038.D Vial: 38
Acq On : 10 Feb 2015 1:03 am Operator: tjg
Sample : lcsd 50ppb Inst : Volatile
Misc : qc Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Feb 10 7:40 2015 Quant Results File: 020515RC.RES

Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration



ENVISION

ENVision Laboratories, Inc.
1439 Sadlier Circle West Drive
Indianapolis, IN 46239
Tel: 317.351.8632
Fax: 317.351.8639
www.envisionlaboratories.com

8260 VOC

• Raw Sample Data

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020515C\6701066.D Vial: 67
Acq On : 6 Feb 2015 7:38 am Operator: tjg
Sample : 15-1905 Inst : Volatile
Misc : a Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Feb 9 15:18 2015 Quant Results File: 020515RC.RES

Quant Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	3.92	96	12663471m	50.00	ug/L	0.00
50) Chlorobenzene-d5 (IS)	5.87	117	9823230	50.00	ug/L	0.00
71) 1,4-Dichlorobenzene-d4 (IS	7.63	152	4786744	50.00	ug/L	0.00
System Monitoring Compounds						
29) Dibromofluoromethane (SURR	3.48	113	4090995	52.98	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 105.96%						
30) 1,2-Dichloroethane-d4 (SUR	3.77	65	2688395	46.94	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 93.88%						
39) Toluene-d8 (SURR)	4.84	98	11157237	51.37	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 102.74%						
58) 4-Bromofluorobenzene (SURR	6.75	95	3749008	44.63	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 89.26%						

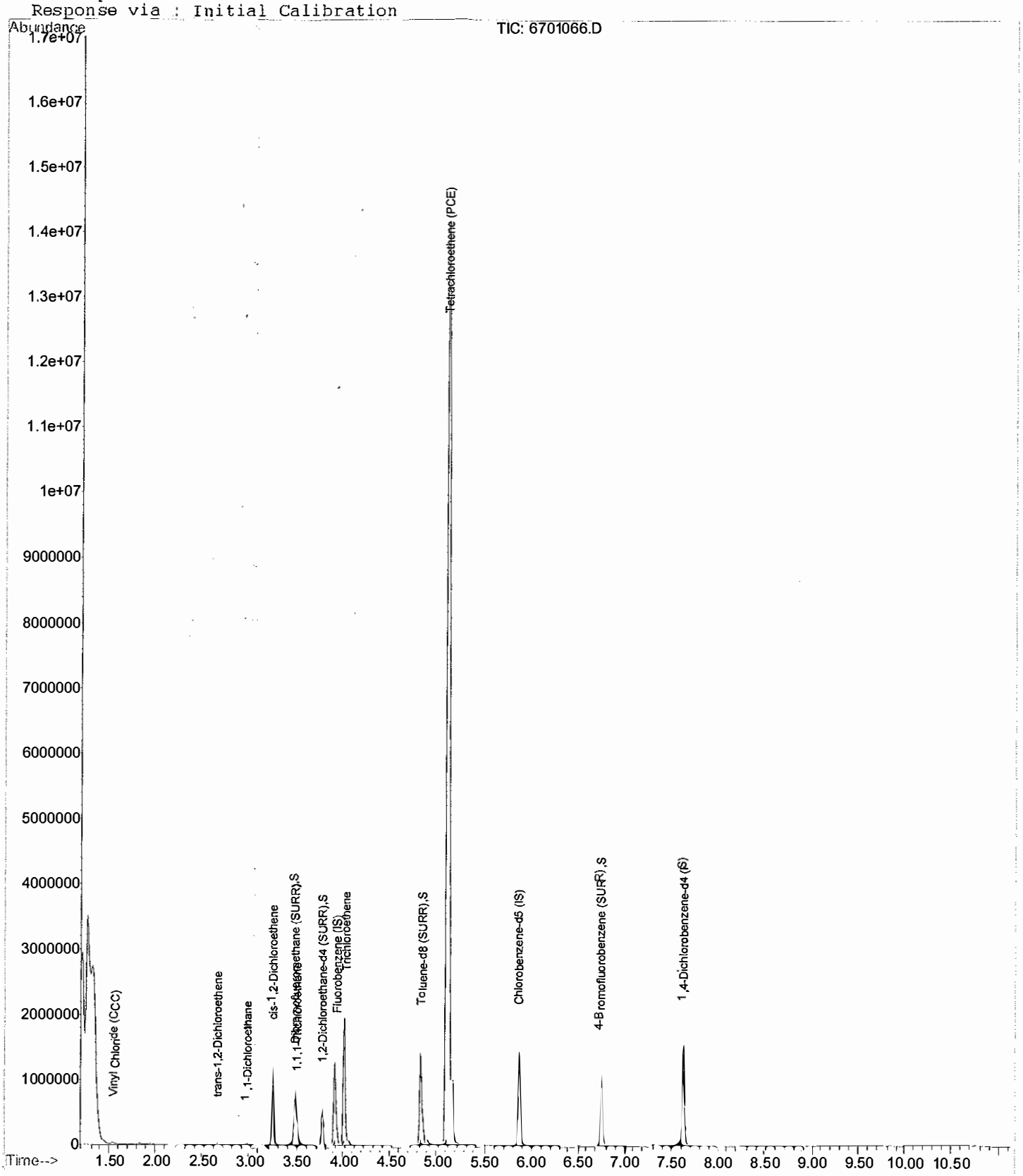
Target Compounds						Qvalue
4) Vinyl Chloride (CCC)	1.56	62	186016	1.27	ug/L	94
15) trans-1,2-Dichloroethene	2.65	96	60189	0.72	ug/L	96
17) 1,1-Dichloroethane	2.97	63	191471m	1.08	ug/L	
22) cis-1,2-Dichloroethene	3.24	61	4624576	34.20	ug/L	97
26) 1,1,1-Trichloroethane	3.50	97	2048345	14.87	ug/L	99
33) Trichloroethene	4.01	95	5133879	47.34	ug/L	97
43) Tetrachloroethene (PCE)	5.12	166	53023957	434.12	ug/L e	93

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\020515C\6701066.D Vial: 67
Acq On : 6 Feb 2015 7:38 am Operator: tjg
Sample : 15-1905 Inst : Volatile
Misc : a Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Feb 9 15:18 2015 Quant Results File: 020515RC.RES

Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020515C\6801067.D Vial: 68
Acq On : 6 Feb 2015 7:57 am Operator: tjg
Sample : 15-1905:10 Inst : Volatile
Misc : a Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Feb 9 15:19 2015 Quant Results File: 020515RC.RES

Quant Method : C:\HPCHEM\1\METHODS\020515RC M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	3.92	96	12275652m	50.00	ug/L	0.00
50) Chlorobenzene-d5 (IS)	5.87	117	9633674	50.00	ug/L	0.00
71) 1,4-Dichlorobenzene-d4 (IS	7.63	152	4868584	50.00	ug/L	0.00
System Monitoring Compounds						
29) Dibromofluoromethane (SURR	3.48	113	3872723	51.74	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 103.48%						
30) 1,2-Dichloroethane-d4 (SUR	3.77	65	2596022	46.76	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 93.52%						
39) Toluene-d8 (SURR)	4.84	98	10663100	50.65	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 101.30%						
58) 4-Bromofluorobenzene (SURR	6.75	95	3651928	44.33	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 88.66%						
Target Compounds						Qvalue
22) cis-1,2-Dichloroethene	3.24	61	547925	4.18	ug/L	98
26) 1,1,1-Trichloroethane	3.50	97	203787	1.53	ug/L	94
33) Trichloroethene	4.01	95	566504	5.39	ug/L	95
43) Tetrachloroethene (PCE)	5.12	166	11998918	101.34	ug/L	99

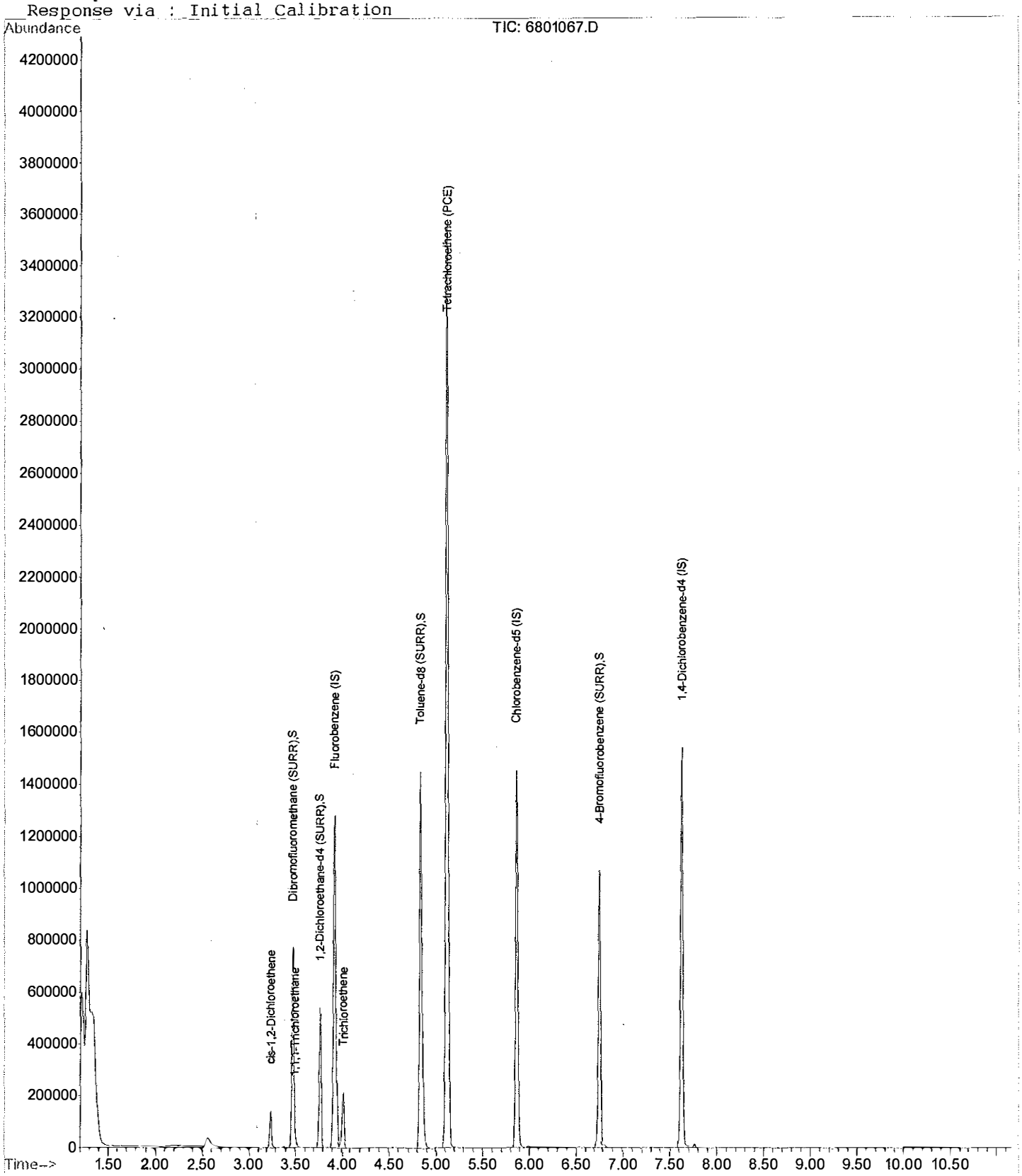
(#) = qualifier out of range (m) = manual integration
6801067.D 020515RC.M Tue Feb 10 07:42:33 2015

Quantitation Report

Data File : C:\HPCHEM\1\DATA\020515C\6801067.D
Acq On : 6 Feb 2015 7:57 am
Sample : 15-1905:10
Misc : a
MS Integration Params: EVENTS.E
Quant Time: Feb 9 15:19 2015

Vial: 68
Operator: tjg
Inst : Volatile
Multiplr: 1.00
Quant Results File: 020515RC.RES

Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020915\5501055.D
Acq On : 10 Feb 2015 6:28 am
Sample : 15-1906:10
Misc : a
MS Integration Params: EVENTS.E
Quant Time: Feb 10 7:30 2015

Vial: 55
Operator: tjg
Inst : Volatile
Multiplr: 1.00

Quant Results File: 020515RC.RES

Quant Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	3.92	96	10321587m	50.00	ug/L	0.00
50) Chlorobenzene-d5 (IS)	5.87	117	8285799	50.00	ug/L	0.00
71) 1,4-Dichlorobenzene-d4 (IS	7.63	152	4318839	50.00	ug/L	0.00

System Monitoring Compounds

29) Dibromofluoromethane (SURR	3.48	113	3327708	52.88	ug/L	0.00
Spiked Amount 50.000	Range 60 - 140		Recovery = 105.76%			
30) 1,2-Dichloroethane-d4 (SUR	3.77	65	2187764	46.86	ug/L	0.00
Spiked Amount 50.000	Range 60 - 140		Recovery = 93.72%			
39) Toluene-d8 (SURR)	4.84	98	8680690	49.04	ug/L	0.00
Spiked Amount 50.000	Range 60 - 140		Recovery = 98.08%			
58) 4-Bromofluorobenzene (SURR	6.75	95	3136197	44.26	ug/L	0.00
Spiked Amount 50.000	Range 60 - 140		Recovery = 88.52%			

Target Compounds						Qvalue
22) cis-1,2-Dichloroethene	3.24	61	2788109	25.30	ug/L	96
33) Trichloroethene	4.01	95	4523876	51.18	ug/L	94
43) Tetrachloroethene (PCE)	5.12	166	36435406	365.99	ug/L e	96

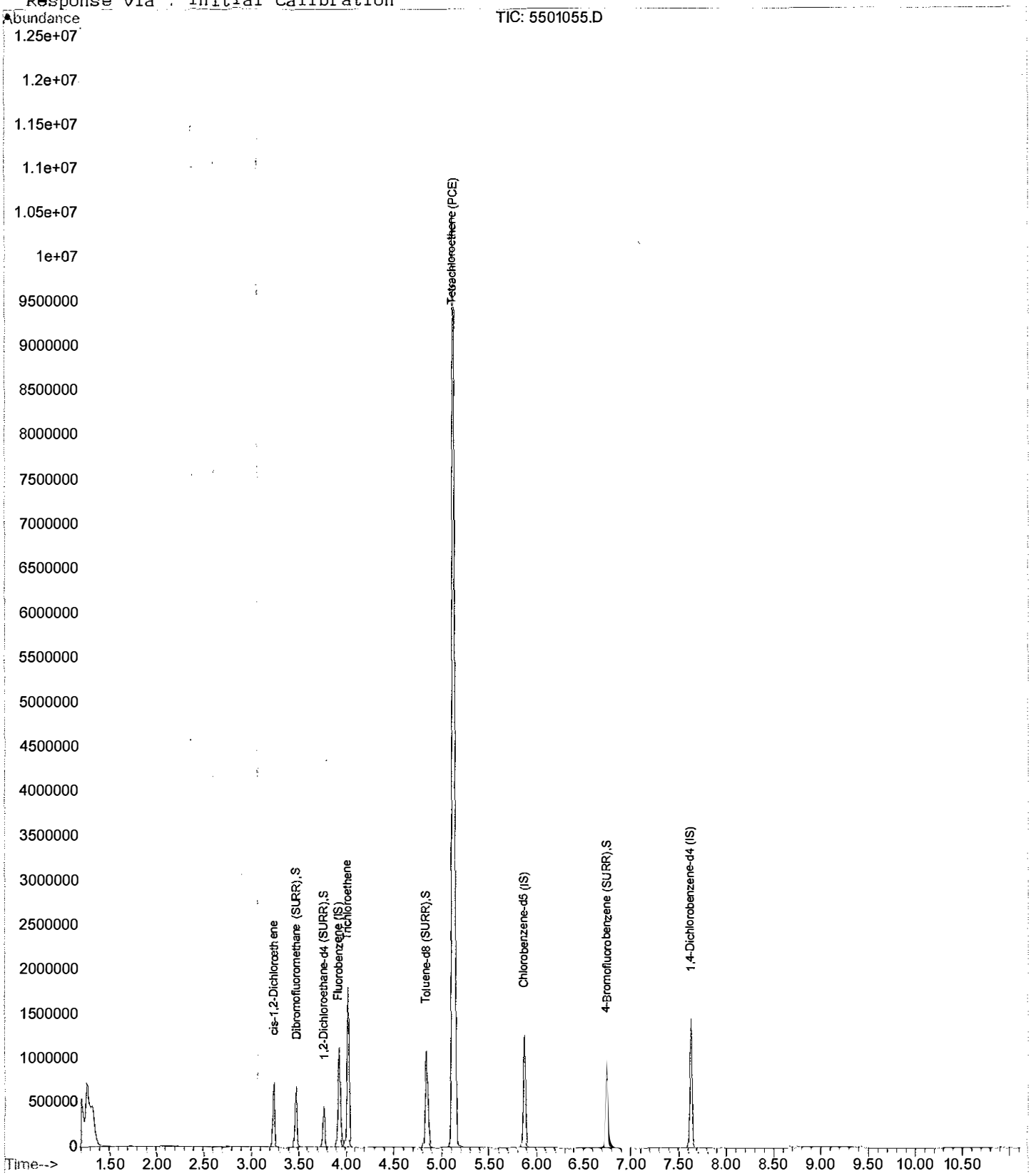
(#) = qualifier out of range (m) = manual integration
5501055.D 020515RC.M Tue Feb 10 07:40:36 2015

Quantitation Report

Data File : C:\HPCHEM\1\DATA\020915\5501055.D
Acq On : 10 Feb 2015 6:28 am
Sample : 15-1906:10
Misc : a
MS Integration Params: EVENTS.E
Quant Time: Feb 10 7:30 2015

Vial: 55
Operator: tjg
Inst : Volatile
Multiplr: 1.00
Quant Results File: 020515RC.RES

Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020515C\7401073.D Vial: 74
Acq On : 6 Feb 2015 9:52 am Operator: tjg
Sample : 15-1906:50 Inst : Volatile
Misc : a Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Feb 9 15:19 2015 Quant Results File: 020515RC.RES

Quant Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	3.92	96	13364217m	50.00	ug/L	0.00
50) Chlorobenzene-d5 (IS)	5.87	117	10267782	50.00	ug/L	0.00
71) 1,4-Dichlorobenzene-d4 (IS	7.63	152	4936910	50.00	ug/L	0.00
System Monitoring Compounds						
29) Dibromofluoromethane (SURR	3.48	113	4145461	50.87	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 101.74%						
30) 1,2-Dichloroethane-d4 (SUR	3.77	65	2923370	48.37	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 96.74%						
39) Toluene-d8 (SURR)	4.84	98	11703160	51.06	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 102.12%						
58) 4-Bromofluorobenzene (SURR	6.75	95	4175391	47.56	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 95.12%						
Target Compounds						Qvalue
22) cis-1,2-Dichloroethene	3.24	61	688153	4.82	ug/L	96
33) Trichloroethene	4.02	95	1161168	10.15	ug/L	98
43) Tetrachloroethene (PCE)	5.12	166	12036464	93.38	ug/L	98

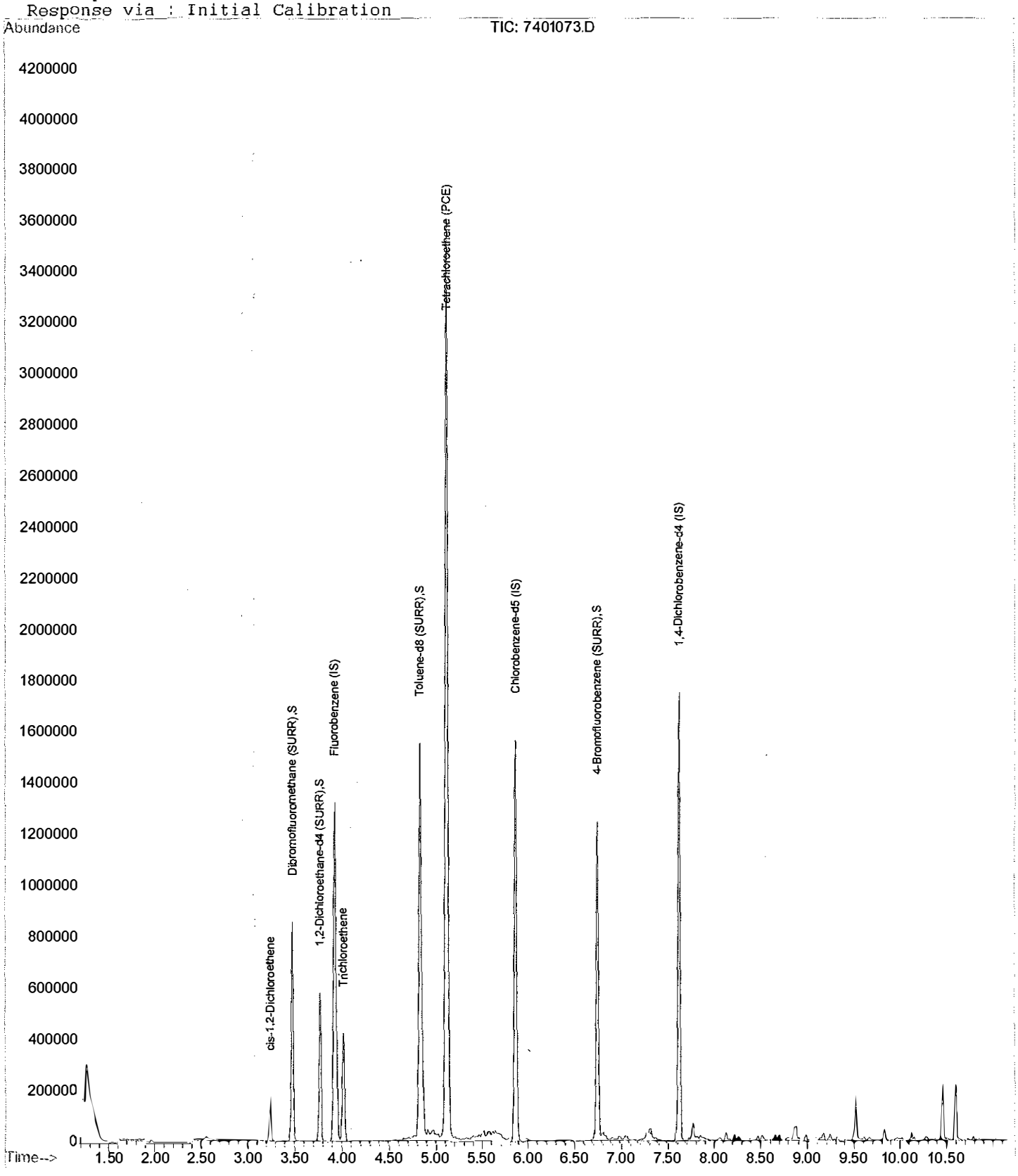
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\020515C\7401073.D
Acq On : 6 Feb 2015 9:52 am
Sample : 15-1906:50
Misc : a
MS Integration Params: EVENTS.E
Quant Time: Feb 9 15:19 2015

Vial: 74
Operator: tjg
Inst : Volatile
Multiplr: 1.00
Quant Results File: 020515RC.RES

Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020915\5301053.D Vial: 53
Acq On : 10 Feb 2015 5:50 am Operator: tjg
Sample : 15-1908 rr st Inst : Volatile
Misc : a Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Feb 10 7:29 2015 Quant Results File: 020515RC.RES

Quant Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	3.92	96	11012823m	50.00	ug/L	0.00
50) Chlorobenzene-d5 (IS)	5.87	117	8739435	50.00	ug/L	0.00
71) 1,4-Dichlorobenzene-d4 (IS	7.63	152	4422138	50.00	ug/L	0.00

System Monitoring Compounds

29) Dibromofluoromethane (SURR	3.48	113	3455621	51.46	ug/L	0.00
Spiked Amount 50.000	Range 60 - 140		Recovery = 102.92%			
30) 1,2-Dichloroethane-d4 (SUR	3.77	65	2328881	46.76	ug/L	0.00
Spiked Amount 50.000	Range 60 - 140		Recovery = 93.52%			
39) Toluene-d8 (SURR)	4.84	98	9310017	49.29	ug/L	0.00
Spiked Amount 50.000	Range 60 - 140		Recovery = 98.58%			
58) 4-Bromofluorobenzene (SURR	6.75	95	3294291	44.08	ug/L	0.00
Spiked Amount 50.000	Range 60 - 140		Recovery = 88.16%			

Target Compounds						Qvalue
17) 1,1-Dichloroethane	~~3.24~~	~~63~~	~~1630940~~	~~10.66~~	~~ug/L #~~	~~60~~
22) cis-1,2-Dichloroethene	3.24	61	4950978	42.10	ug/L	97
25) Chloroform	3.38	83	225693	1.45	ug/L #	92
33) Trichloroethene	4.01	95	3269381	34.66	ug/L	96
43) Tetrachloroethene (PCE)	5.12	166	40892325	384.98	ug/L	95

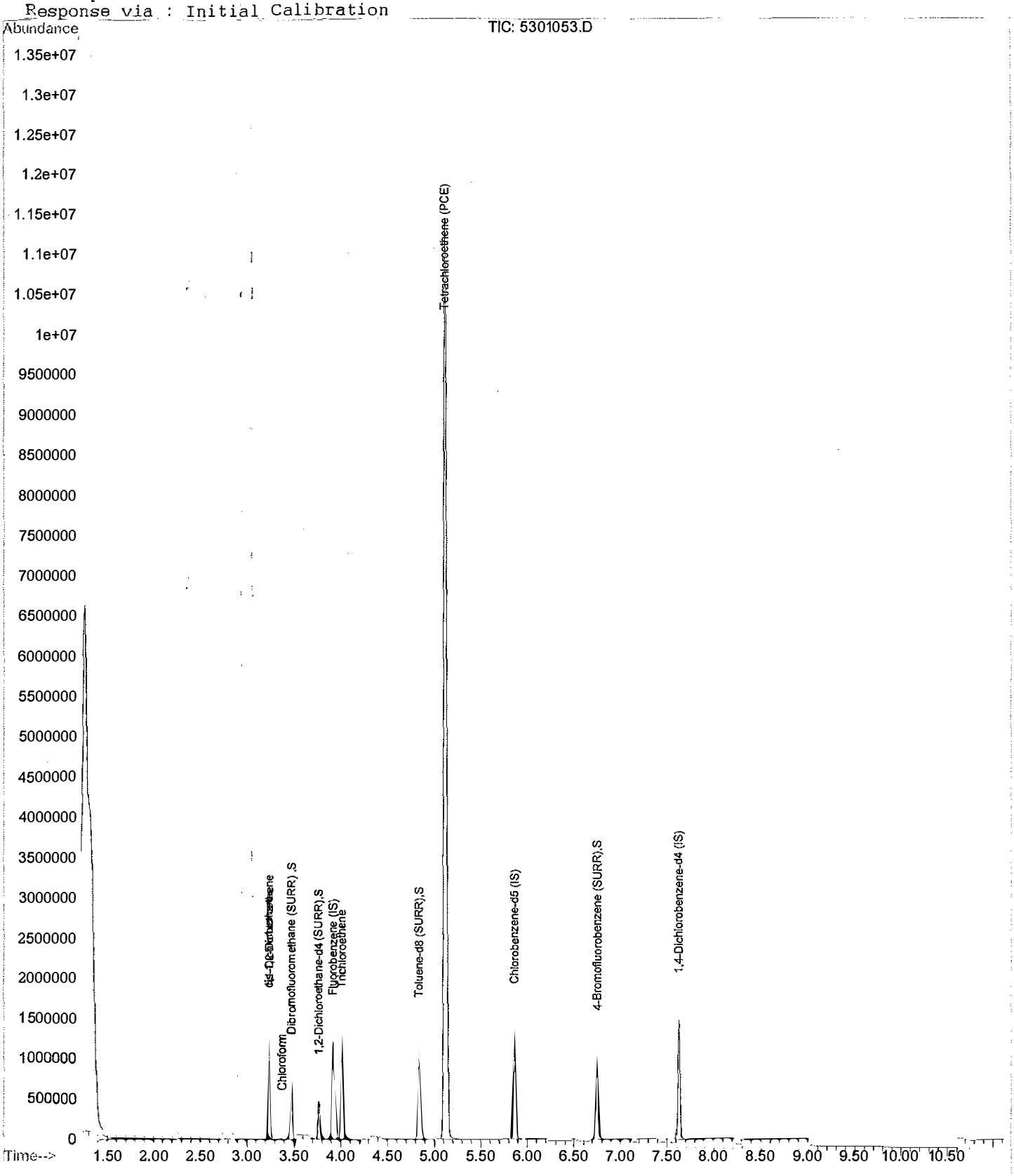
(#) = qualifier out of range (m) = manual integration
5301053.D 020515RC.M Tue Feb 10 07:40:29 2015

Quantitation Report

Data File : C:\HPCHEM\1\DATA\020915\5301053.D
Acq On : 10 Feb 2015 5:50 am
Sample : 15-1908 rr st
Misc : a
MS Integration Params: EVENTS.E
Quant Time: Feb 10 7:29 2015

Vial: 53
Operator: tjg
Inst : Volatile
Multiplr: 1.00
Quant Results File: 020515RC.RES

Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020515C\7501074.D Vial: 75
Acq On : 6 Feb 2015 10:11 am Operator: tjg
Sample : 15-1908:10 Inst : Volatile
Misc : a Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Feb 9 15:20 2015 Quant Results File: 020515RC.RES

Quant Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	3.92	96	13424966m	50.00	ug/L	0.00
50) Chlorobenzene-d5 (IS)	5.87	117	10210970	50.00	ug/L	0.00
71) 1,4-Dichlorobenzene-d4 (IS	7.63	152	5163903	50.00	ug/L	0.00
System Monitoring Compounds						
29) Dibromofluoromethane (SURR	3.48	113	4205399	51.37	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 102.74%						
30) 1,2-Dichloroethane-d4 (SUR	3.77	65	2896312	47.70	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 95.40%						
39) Toluene-d8 (SURR)	4.84	98	11919164	51.77	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 103.54%						
58) 4-Bromofluorobenzene (SURR	6.75	95	4184004	47.92	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 95.84%						
Target Compounds						Qvalue
9) Acetone	2.58	43	69793	5.13	ug/L #	48
14) Methylene Chloride	2.56	49	66704	0.62	ug/L	96
22) cis-1,2-Dichloroethene	3.24	61	271469	1.89	ug/L	93
33) Trichloroethene	4.02	95	284825	2.48	ug/L	92
43) Tetrachloroethene (PCE)	5.12	166	8967202	69.25	ug/L	98

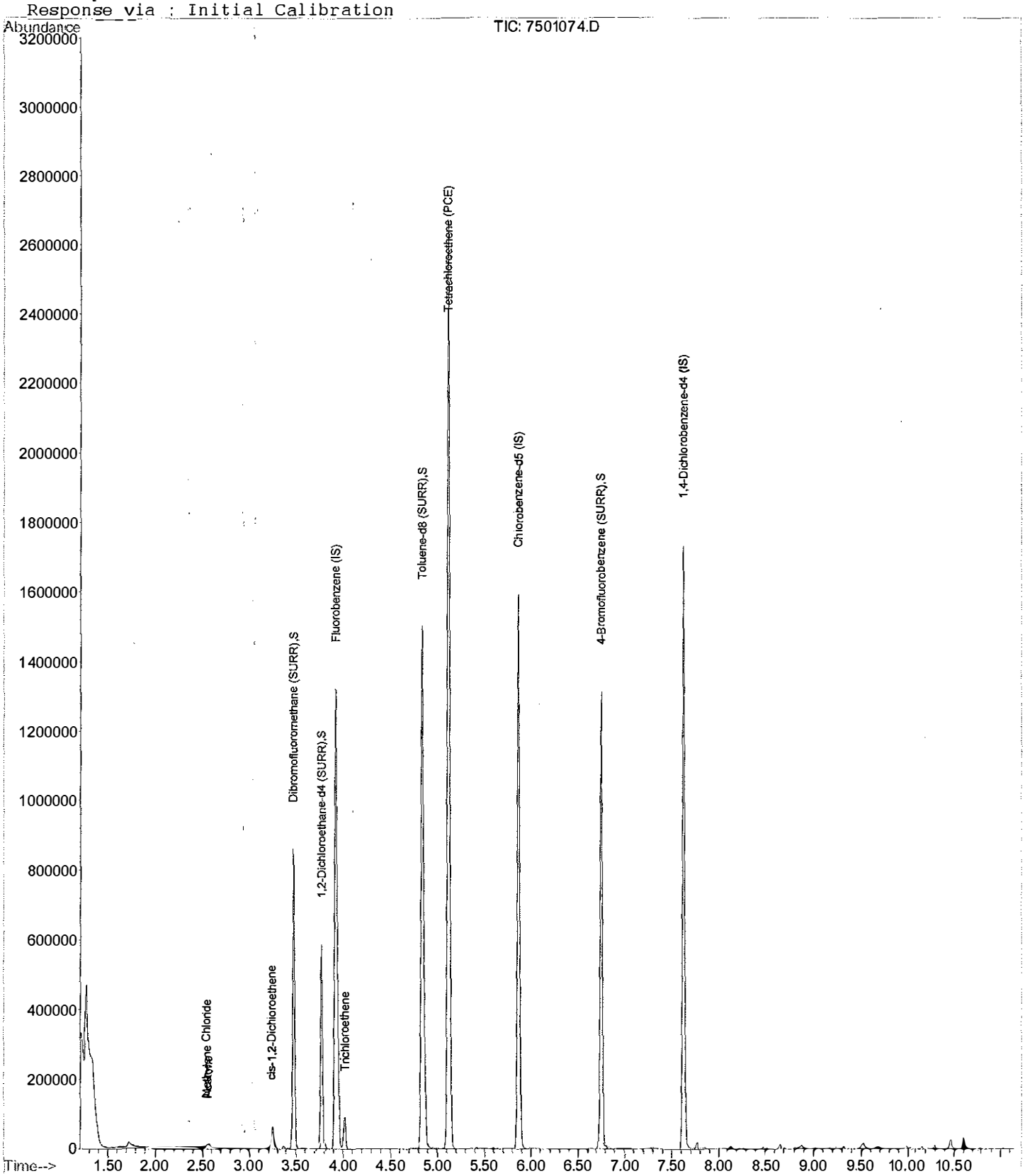
(#) = qualifier out of range (m) = manual integration
7501074.D 020515RC.M Tue Feb 10 07:40:50 2015

Quantitation Report

Data File : C:\HPCHEM\1\DATA\020515C\7501074.D
Acq On : 6 Feb 2015 10:11 am
Sample : 15-1908:10
Misc : a
MS Integration Params: EVENTS.E
Quant Time: Feb 9 15:20 2015

Vial: 75
Operator: tjg
Inst : Volatile
Multiplr: 1.00
Quant Results File: 020515RC.RES

Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020915\5401054.D Vial: 54
Acq On : 10 Feb 2015 6:09 am Operator: tjg
Sample : 15-1909 rr st Inst : Volatile
Misc : a Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Feb 10 7:30 2015 Quant Results File: 020515RC.RES

Quant Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	3.92	96	10089237m	50.00	ug/L	0.00
50) Chlorobenzene-d5 (IS)	5.87	117	7965123	50.00	ug/L	0.00
71) 1,4-Dichlorobenzene-d4 (IS	7.63	152	4011261	50.00	ug/L	0.00

System Monitoring Compounds

29) Dibromofluoromethane (SURR	3.47	113	3265965	53.09	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 106.18%						
30) 1,2-Dichloroethane-d4 (SUR	3.77	65	2156246	47.25	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 94.50%						
39) Toluene-d8 (SURR)	4.84	98	8809471	50.91	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 101.82%						
58) 4-Bromofluorobenzene (SURR	6.75	95	3062215	44.96	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 89.92%						

Target Compounds

						Qvalue
22) cis-1,2-Dichloroethene	3.24	61	216163	2.01	ug/L	96
26) 1,1,1-Trichloroethane	3.50	97	98702	0.90	ug/L	99
33) Trichloroethene	4.01	95	1728995	20.01	ug/L	91
43) Tetrachloroethene (PCE)	5.12	166	29983427	308.12	ug/L e	97

(#) = qualifier out of range (m) = manual integration

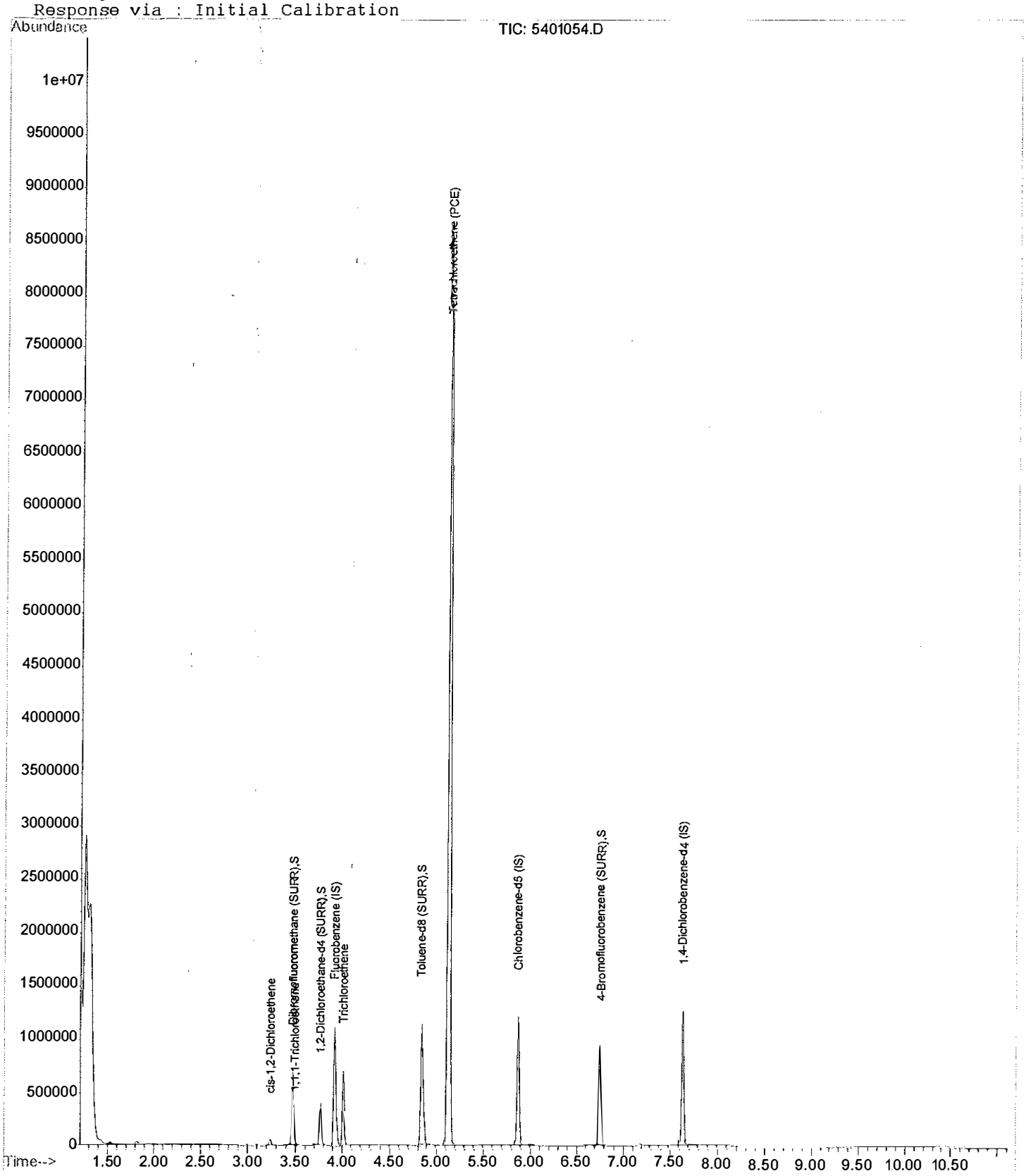
Quantitation Report

Data File : C:\HPCHEM\1\DATA\020915\5401054.D
Acq On : 10 Feb 2015 6:09 am
Sample : 15-1909 rr st
Misc : a
MS Integration Params: EVENTS.E
Quant Time: Feb 10 7:30 2015

Vial: 54
Operator: tjg
Inst : Volatile
Multiplr: 1.00

Quant Results File: 020515RC.RES

Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020515C\7601075.D Vial: 76
Acq On : 6 Feb 2015 10:30 am Operator: tjg
Sample : 15-1909:10 Inst : Volatile
Misc : a Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Feb 9 15:20 2015 Quant Results File: 020515RC.RES

Quant Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration
DataAcq Meth : VOC2

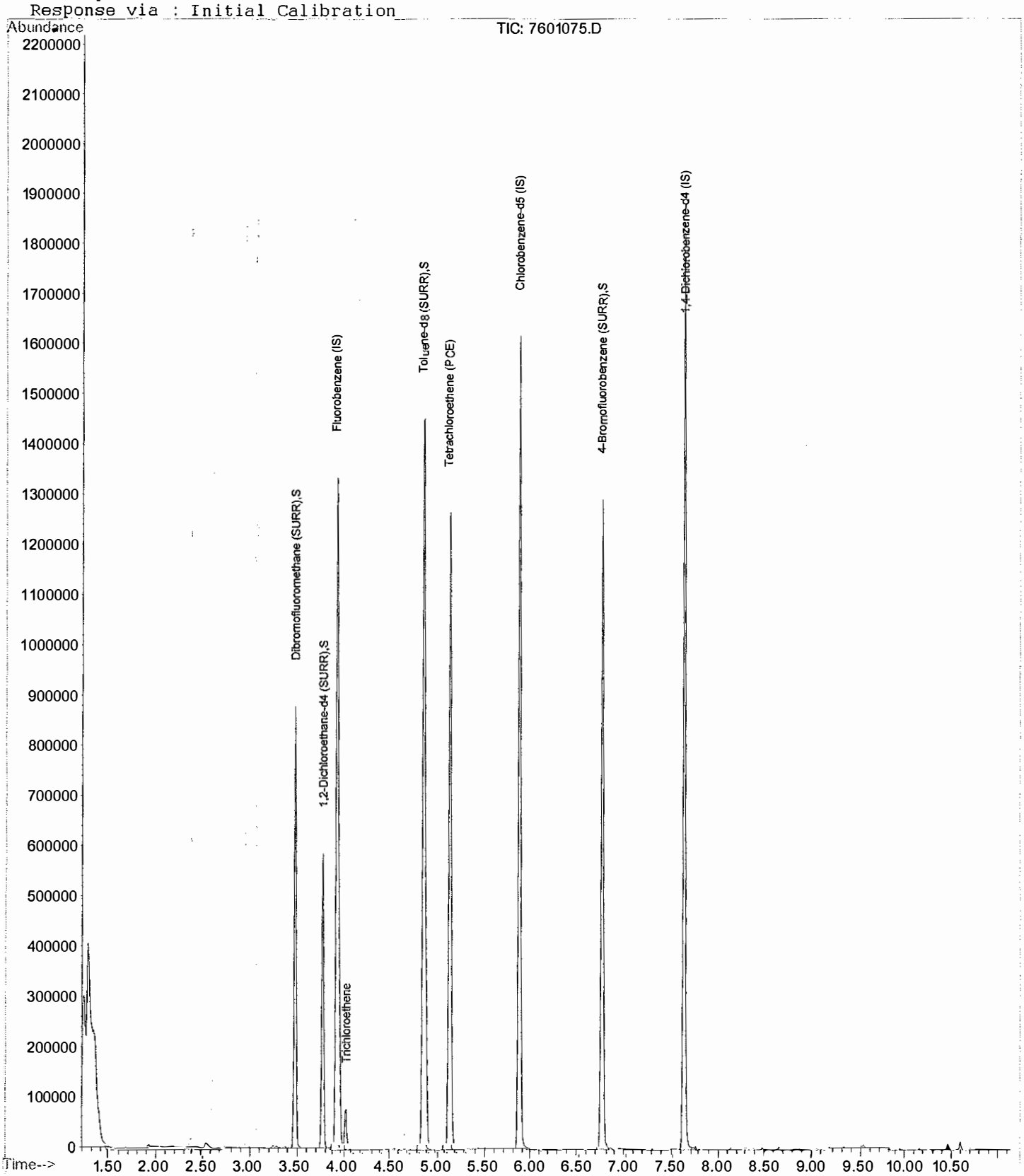
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	3.92	96	13464336m	50.00	ug/L	0.00
50) Chlorobenzene-d5 (IS)	5.87	117	10413085	50.00	ug/L	0.00
71) 1,4-Dichlorobenzene-d4 (IS	7.63	152	5324659	50.00	ug/L	0.00
System Monitoring Compounds						
29) Dibromofluoromethane (SURR	3.48	113	4187972	51.01	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 102.02%						
30) 1,2-Dichloroethane-d4 (SUR	3.77	65	2940364	48.28	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 96.56%						
39) Toluene-d8 (SURR)	4.84	98	11767222	50.96	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 101.92%						
58) 4-Bromofluorobenzene (SURR	6.75	95	4185610	47.01	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 94.02%						
Target Compounds						Qvalue
33) Trichloroethene	4.02	95	230816	2.00	ug/L	98
43) Tetrachloroethene (PCE)	5.12	166	4266503	32.85	ug/L	97

(#) = qualifier out of range (m) = manual integration
7601075.D 020515RC.M Tue Feb 10 07:40:54 2015

Quantitation Report

Data File : C:\HPCHEM\1\DATA\020515C\7601075.D Vial: 76
Acq On : 6 Feb 2015 10:30 am Operator: tjg
Sample : 15-1909:10 Inst : Volatile
Misc : a Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Feb 9 15:20 2015 Quant Results File: 020515RC.RES

Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020515C\7701076.D Vial: 77
Acq On : 6 Feb 2015 10:49 am Operator: tjg
Sample : 15-1910:10 Inst : Volatile
Misc : a Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Feb 9 15:21 2015 Quant Results File: 020515RC.RES

Quant Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration
DataAcq Meth : VOC2

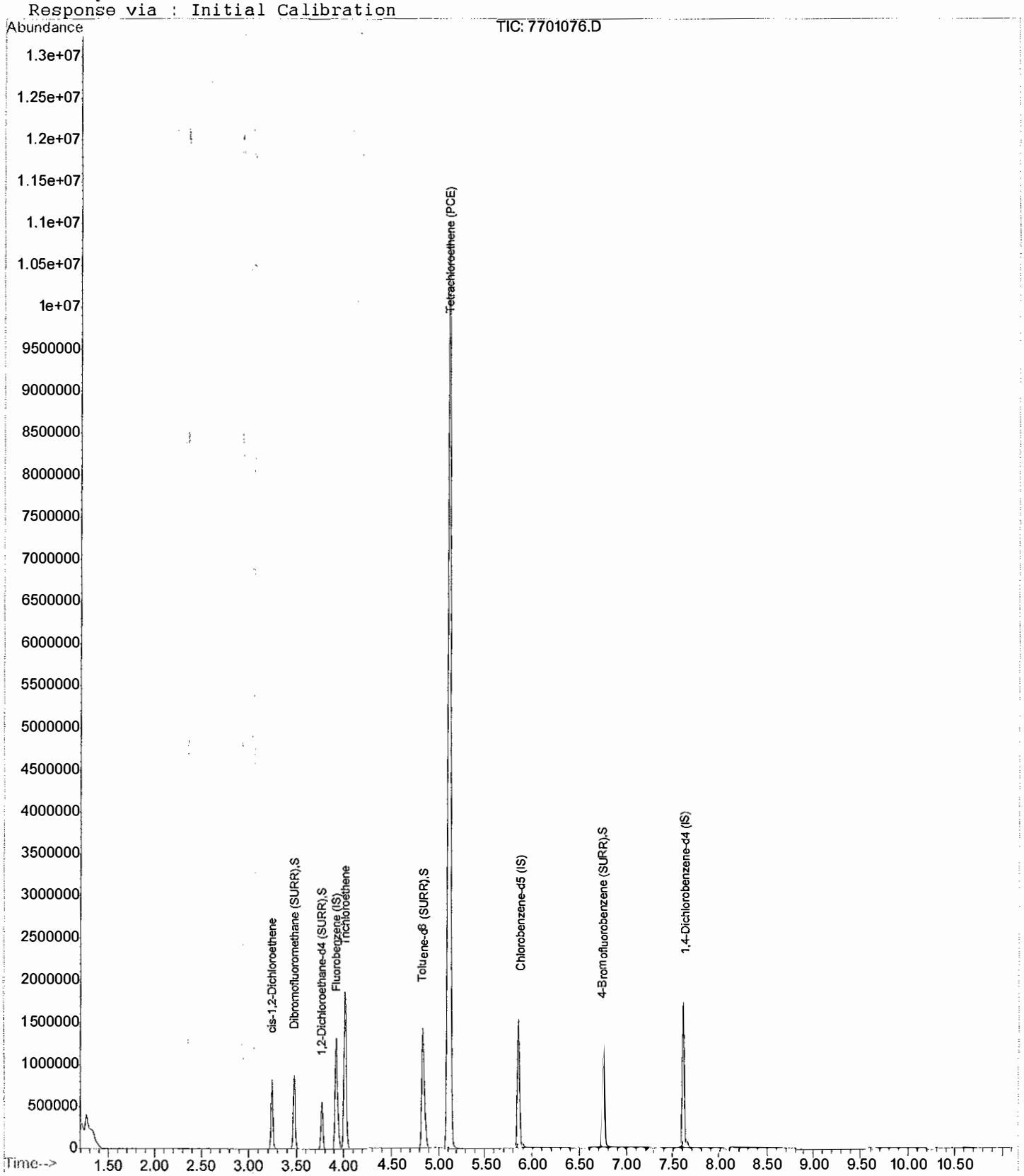
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	3.92	96	13250789m	50.00	ug/L	0.00
50) Chlorobenzene-d5 (IS)	5.87	117	10276180	50.00	ug/L	0.00
71) 1,4-Dichlorobenzene-d4 (IS	7.63	152	5146000	50.00	ug/L	0.00
System Monitoring Compounds						
29) Dibromofluoromethane (SURR	3.48	113	4233773	52.40	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 104.80%						
30) 1,2-Dichloroethane-d4 (SUR	3.77	65	2862244	47.76	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 95.52%						
39) Toluene-d8 (SURR)	4.84	98	11533340	50.75	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 101.50%						
58) 4-Bromofluorobenzene (SURR	6.75	95	4088660	46.53	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 93.06%						
Target Compounds						Qvalue
22) cis-1,2-Dichloroethene	3.24	61	3113942	22.01	ug/L	98
33) Trichloroethene	4.02	95	5139356	45.29	ug/L	97
43) Tetrachloroethene (PCE)	5.12	166	38896100	304.34	ug/L e	96

(#) = qualifier out of range (m) = manual integration
7701076.D 020515RC.M Tue Feb 10 07:42:40 2015

Quantitation Report

Data File : C:\HPCHEM\1\DATA\020515C\7701076.D Vial: 77
Acq On : 6 Feb 2015 10:49 am Operator: tjg
Sample : 15-1910:10 Inst : Volatile
Misc : a Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Feb 9 15:21 2015 Quant Results File: 020515RC.RES

Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020615\0601002.D Vial: 6
Acq On : 6 Feb 2015 4:05 pm Operator: tjg
Sample : 15-1910:50 pce rr Inst : Volatile
Misc : a Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Feb 9 15:21 2015 Quant Results File: 020515RC.RES

Quant Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration
DataAcq Meth : VOC2

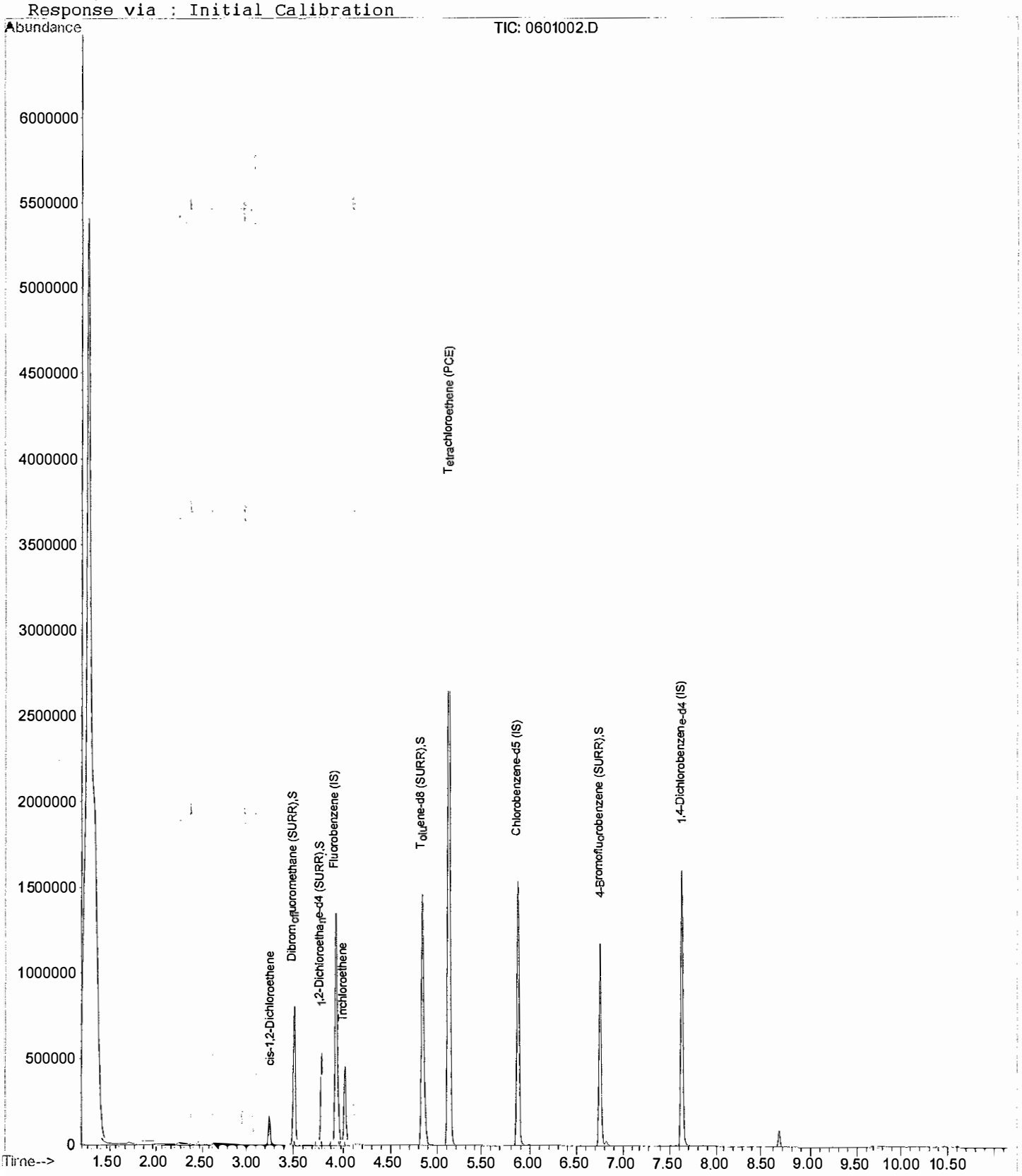
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	3.92	96	13125658m	50.00	ug/L	0.00
50) Chlorobenzene-d5 (IS)	5.87	117	10056097	50.00	ug/L	0.00
71) 1,4-Dichlorobenzene-d4 (IS	7.63	152	4978054	50.00	ug/L	0.00
System Monitoring Compounds						
29) Dibromofluoromethane (SURR	3.48	113	3985079	49.79	ug/L	0.01
Spiked Amount 50.000 Range 60 - 140 Recovery = 99.58%						
30) 1,2-Dichloroethane-d4 (SUR	3.77	65	2609123	43.95	ug/L	0.01
Spiked Amount 50.000 Range 60 - 140 Recovery = 87.90%						
39) Toluene-d8 (SURR)	4.84	98	11338738	50.37	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 100.74%						
58) 4-Bromofluorobenzene (SURR	6.75	95	3853104	44.81	ug/L	0.00
Spiked Amount 50.000 Range 60 - 140 Recovery = 89.62%						
Target Compounds						Qvalue
22) cis-1,2-Dichloroethene	3.25	61	733114	5.23	ug/L	97
33) Trichloroethene	4.02	95	1175321	10.46	ug/L	96
43) Tetrachloroethene (PCE)	5.12	166	12447557	98.32	ug/L	99

(#) = qualifier out of range (m) = manual integration
0601002.D 020515RC.M Tue Feb 10 07:42:47 2015

Quantitation Report

Data File : C:\HPCHEM\1\DATA\020615\0601002.D Vial: 6
Acq On : 6 Feb 2015 4:05 pm Operator: tjg
Sample : 15-1910:50 pce rr Inst : Volatile
Misc : a Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Feb 9 15:21 2015 Quant Results File: 020515RC.RES

Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\020615\1001006.D Vial: 10
Acq On : 6 Feb 2015 5:22 pm Operator: tjg
Sample : 15-1911 Inst : Volatile
Misc : a Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Feb 9 15:24 2015 Quant Results File: 020515RC.RES

Quant Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	3.93	96	12925923m	50.00	ug/L	0.02
50) Chlorobenzene-d5 (IS)	5.87	117	10173828	50.00	ug/L	0.00
71) 1,4-Dichlorobenzene-d4 (IS	7.63	152	5165860	50.00	ug/L	0.00

System Monitoring Compounds

29) Dibromofluoromethane (SURR	3.48	113	3916863	49.70	ug/L	0.01
Spiked Amount 50.000	Range 60 - 140		Recovery = 99.40%			
30) 1,2-Dichloroethane-d4 (SUR	3.77	65	2702398	46.23	ug/L	0.01
Spiked Amount 50.000	Range 60 - 140		Recovery = 92.46%			
39) Toluene-d8 (SURR)	4.84	98	11041414	49.81	ug/L	0.00
Spiked Amount 50.000	Range 60 - 140		Recovery = 99.62%			
58) 4-Bromofluorobenzene (SURR	6.75	95	3855115	44.31	ug/L	0.00
Spiked Amount 50.000	Range 60 - 140		Recovery = 88.62%			

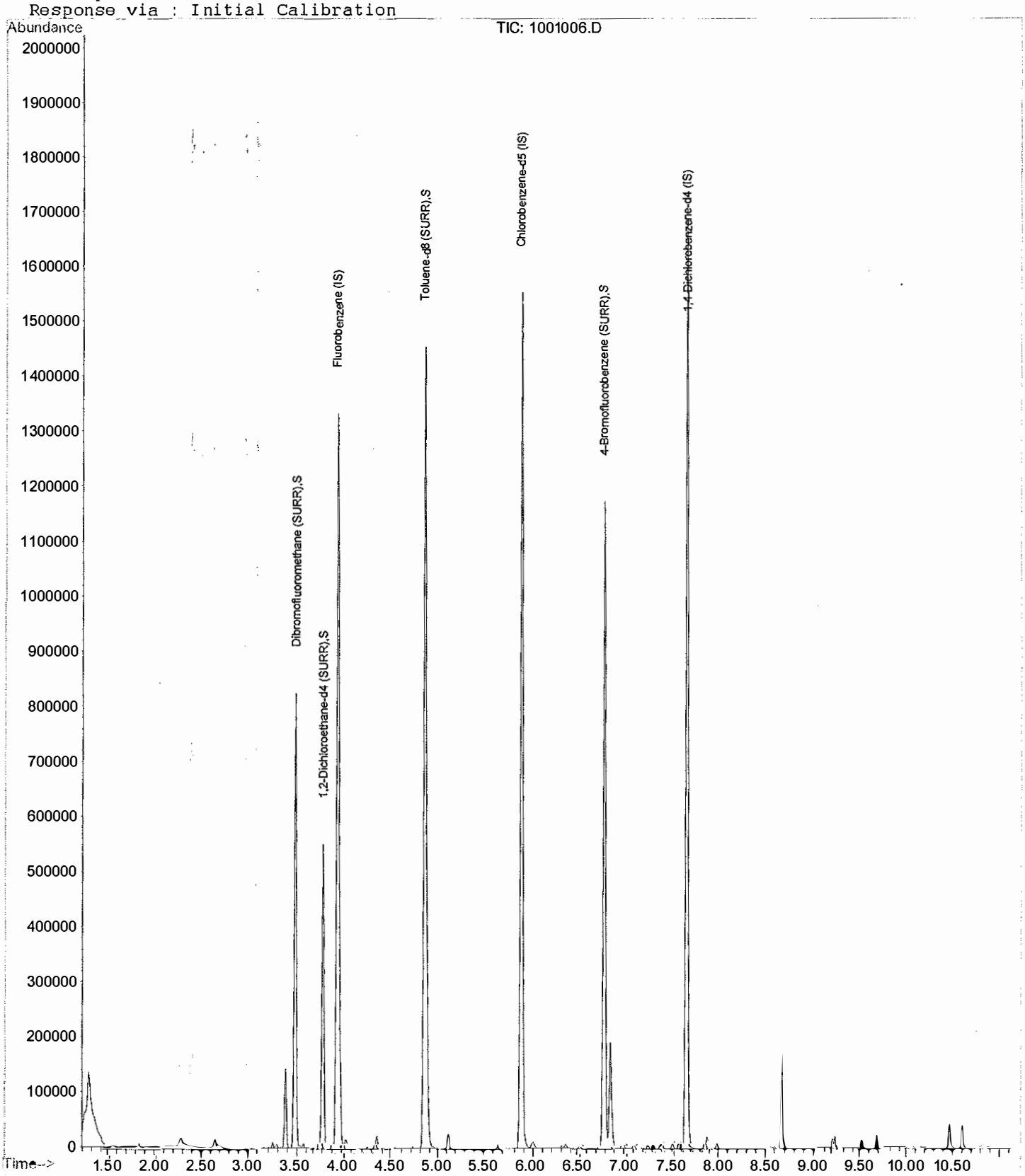
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
1001006.D 020515RC.M Tue Feb 10 07:46:16 2015

Quantitation Report

Data File : C:\HPCHEM\1\DATA\020615\1001006.D Vial: 10
Acq On : 6 Feb 2015 5:22 pm Operator: tjg
Sample : 15-1911 Inst : Volatile
Misc : a Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Feb 9 15:24 2015 Quant Results File: 020515RC.RES

Method : C:\HPCHEM\1\METHODS\020515RC.M (Chemstation Integrator)
Title :
Last Update : Thu Feb 05 13:53:17 2015
Response via : Initial Calibration



ATTACHMENT 2

Attachment 2. Groundwater Analytical Statistical Summary
Former Purtee Plating
2300 to 2306 East 44th Street, Indianapolis, IN

Well No.	cis-DCE		PCE		TCE	
	Mean	95% UCL	Mean	95% UCL	Mean	95% UCL
PMW-1	34.54	55.48	849.3	1022	45.86	49.52
PMW-2	161.2	234.5	3940	5186	363	500.4
PMW-3	21.04	27.58	1112	1337	71.41	89.3
PMW-4	17.53	30.95	1128	1389	40.17	47.95
PMW-5	20.36	124.9	678.8	1816	43.91	50.13

PMW- Purtee Monitoring Well
95% UCL - Calculated using Hall's Bootstrap Method

	A	B	C	D	E	F	G	H	I	J	K	L
1	UCL Statistics for Uncensored Full Data Sets - Purtee Monitoring Well No. 1											
2												
3	User Selected Options											
4	Date/Time of Computation			2/12/2015 12:24:25 PM								
5	From File			PMW-1.xls								
6	Full Precision			OFF								
7	Confidence Coefficient			95%								
8	Number of Bootstrap Operations			2000								
9												
10												
11	cis-DCE											
12												
13	General Statistics											
14	Total Number of Observations					10	Number of Distinct Observations					10
15							Number of Missing Observations					0
16	Minimum					6.81	Mean					34.54
17	Maximum					87.1	Median					26.15
18	SD					24.46	Std. Error of Mean					7.735
19	Coefficient of Variation					0.708	Skewness					1.196
20												
21	Normal GOF Test											
22	Shapiro Wilk Test Statistic					0.893	Shapiro Wilk GOF Test					
23	5% Shapiro Wilk Critical Value					0.842	Data appear Normal at 5% Significance Level					
24	Lilliefors Test Statistic					0.206	Lilliefors GOF Test					
25	5% Lilliefors Critical Value					0.28	Data appear Normal at 5% Significance Level					
26	Data appear Normal at 5% Significance Level											
27												
28	Assuming Normal Distribution											
29	95% Normal UCL						95% UCLs (Adjusted for Skewness)					
30	95% Student's-t UCL					48.72	95% Adjusted-CLT UCL (Chen-1995)					50.39
31							95% Modified-t UCL (Johnson-1978)					49.21
32												
33	Gamma GOF Test											
34	A-D Test Statistic					0.218	Anderson-Darling Gamma GOF Test					
35	5% A-D Critical Value					0.735	Detected data appear Gamma Distributed at 5% Significance Level					
36	K-S Test Statistic					0.172	Kolmogrov-Smirnoff Gamma GOF Test					
37	5% K-S Critical Value					0.269	Detected data appear Gamma Distributed at 5% Significance Level					
38	Detected data appear Gamma Distributed at 5% Significance Level											
39												
40	Gamma Statistics											
41	k hat (MLE)					2.314	k star (bias corrected MLE)					1.687
42	Theta hat (MLE)					14.93	Theta star (bias corrected MLE)					20.48
43	nu hat (MLE)					46.28	nu star (bias corrected)					33.73
44	MLE Mean (bias corrected)					34.54	MLE Sd (bias corrected)					26.6
45							Approximate Chi Square Value (0.05)					21.45
46	Adjusted Level of Significance					0.0267	Adjusted Chi Square Value					19.76
47												
48	Assuming Gamma Distribution											
49	95% Approximate Gamma UCL (use when n>=50))					54.32	95% Adjusted Gamma UCL (use when n<50)					58.95
50												
51	Lognormal GOF Test											
52	Shapiro Wilk Test Statistic					0.977	Shapiro Wilk Lognormal GOF Test					

Mean for cis-DCE

5% Shapiro Wilk Critical Value	0.842	Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.148	Lilliefors Lognormal GOF Test	
5% Lilliefors Critical Value	0.228	Data appear Lognormal at 5% Significance Level	
Data appear Lognormal at 5% Significance Level			

Lognormal Statistics

Minimum of Logged Data	1.918	Mean of logged Data	3.311
Maximum of Logged Data	4.467	SD of logged Data	0.744

Assuming Lognormal Distribution

95% H-UCL	69.04	90% Chebyshev (MVUE) UCL	60.49
95% Chebyshev (MVUE) UCL	72.06	97.5% Chebyshev (MVUE) UCL	88.1
99% Chebyshev (MVUE) UCL	119.6		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

95% UCL for cis-DCE

Nonparametric Distribution Free UCLs

95% CLT UCL	47.26	95% Jackknife UCL	48.72
95% Standard Bootstrap UCL	46.53	95% Bootstrap-t UCL	55.52
95% Hall's Bootstrap UCL	55.48	95% Percentile Bootstrap UCL	46.99
95% BCA Bootstrap UCL	49.8		
90% Chebyshev(Mean, Sd) UCL	57.75	95% Chebyshev(Mean, Sd) UCL	68.26
97.5% Chebyshev(Mean, Sd) UCL	82.85	99% Chebyshev(Mean, Sd) UCL	111.5

Suggested UCL to Use

95% Student's-t UCL	48.72

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). However, simulations results will not cover all Real World data sets.
For additional insight the user may want to consult a statistician.

PCE

Mean for PCE

General Statistics

Total Number of Observations	100	Number of Distinct Observations	10
		Number of Missing Observations	0
Minimum	47.3	Mean	849.3
Maximum	1420	Median	738.5
SD	292.4	Std. Error of Mean	92.97
Coefficient of Variation	0.3446	Skewness	0.802

Normal GOF Test

Shapiro Wilk Test Statistic	0.924	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.842	Data appear Normal at 5% Significance Level	
Lilliefors Test Statistic	0.217	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.228	Data appear Normal at 5% Significance Level	
Data appear Normal at 5% Significance Level			

Assuming Normal Distribution

95% Normal UCL		95% UCLs (Adjusted for Skewness)	
		95% Adjusted-CLT UCL (Chen-1995)	1027
95% Student's-t UCL	1020	95% Modified-t UCL (Johnson-1978)	1024

Gamma GOF Test		Anderson-Darling Gamma GOF Test	
A-D Test Statistic	0.326	Detected data appear Gamma Distributed at 5% Significance Level	
5% A-D Critical Value	0.725	Kolmogrov-Smirnoff Gamma GOF Test	
K-S Test Statistic	0.19	Detected data appear Gamma Distributed at 5% Significance Level	
5% K-S Critical Value	0.267	Detected data appear Gamma Distributed at 5% Significance Level	
Detected data appear Gamma Distributed at 5% Significance Level			

Gamma Statistics			
k hat (MLE)	9.848	k star (bias corrected MLE)	6.96
Theta hat (MLE)	86.24	Theta star (bias corrected MLE)	122
nu hat (MLE)	197	nu star (bias corrected)	139.2
MLE Mean (bias corrected)	849.3	MLE Sd (bias corrected)	321.9
		Approximate Chi Square Value (0.05)	112.9
Adjusted Level of Significance	0.0267	Adjusted Chi Square Value	108.8

Assuming Gamma Distribution			
95% Approximate Gamma UCL (use when n>=50)	1047	95% Adjusted Gamma UCL (use when n<50)	1086

Lognormal GOF Test		Shapiro Wilk Lognormal GOF Test	
Shapiro Wilk Test Statistic	0.962	Data appear Lognormal at 5% Significance Level	
5% Shapiro Wilk Critical Value	0.842	Lilliefors Lognormal GOF Test	
Lilliefors Test Statistic	0.167	Data appear Lognormal at 5% Significance Level	
5% Lilliefors Critical Value	0.28		
Data appear Lognormal at 5% Significance Level			

Lognormal Statistics			
Minimum of Logged Data	6.159	Mean of logged Data	6.693
Maximum of Logged Data	7.268	SD of logged Data	0.336

Assuming Lognormal Distribution			
95% H-UCL	1070	90% Chebyshev (MVUE) UCL	1122
95% Chebyshev (MVUE) UCL	1245	97.5% Chebyshev (MVUE) UCL	1417
99% Chebyshev (MVUE) UCL	1754		

Nonparametric Distribution Free UCL Statistics			
Data appear to follow a Discernible Distribution at 5% Significance Level			

95% UCLs for PTE

Nonparametric Distribution Free UCLs			
95% CLT UCL	1002	95% Jackknife UCL	1020
95% Standard Bootstrap UCL	996.5	95% Bootstrap-t UCL	1085
95% Hall's Bootstrap UCL	1022	95% Percentile Bootstrap UCL	995.9
95% BCA Bootstrap UCL	1011		
90% Chebyshev(Mean, Sd) UCL	1128	95% Chebyshev(Mean, Sd) UCL	1255
97.5% Chebyshev(Mean, Sd) UCL	1430	99% Chebyshev(Mean, Sd) UCL	1774

Suggested UCL To Use			
95% Student's-t UCL	1020		

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). However, simulations results will not cover all Real World data sets.
For additional insight the user may want to consult a statistician.

Mean for TCE

TCE

General Statistics

Total Number of Observations	10	Number of Distinct Observations	10
		Number of Missing Observations	0
Minimum	35.2	Mean	45.86
Maximum	56.6	Median	47.25
SD	6.325	Std. Error of Mean	2
Coefficient of Variation	0.138	Skewness	-0.136

Normal GOF Test

Shapiro Wilk Test Statistic	0.965	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.842	Data appear Normal at 5% Significance Level
Lilliefors Test Statistic	0.184	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.28	Data appear Normal at 5% Significance Level

Data appear Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	49.53	95% Adjusted-CLT UCL (Chen-1995)	49.06
		95% Modified-t UCL (Johnson-1978)	49.51

Gamma GOF Test

A-D Test Statistic	0.32	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.724	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.203	**Kolmogrov-Smirnoff Gamma GOF Test**
5% K-S Critical Value	0.266	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	56.81	k star (bias corrected MLE)	39.83
Theta hat (MLE)	0.807	Theta star (bias corrected MLE)	1.151
nu hat (MLE)	1136	nu star (bias corrected)	796.7
MLE Mean (bias corrected)	45.86	MLE Sd (bias corrected)	7.266
		Approximate Chi Square Value (0.05)	732.2
Adjusted Level of Significance	0.0267	Adjusted Chi Square Value	721.4

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	49.9	95% Adjusted Gamma UCL (use when n<50)	50.64

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.955	**Shapiro Wilk Lognormal GOF Test**
5% Shapiro Wilk Critical Value	0.842	Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.205	**Lilliefors Lognormal GOF Test**
5% Lilliefors Critical Value	0.28	Data appear Lognormal at 5% Significance Level

Data appear Lognormal at 5% Significance Level

Lognormal Statistics				
Minimum of Logged Data	3.561		Mean of logged Data	3.817
Maximum of Logged Data	4.036		SD of logged Data	0.141
Assuming Lognormal Distribution				
95% H-UCL	50.05		90% Chebyshev (MVUE) UCL	52.03
95% Chebyshev (MVUE) UCL	54.82		97.5% Chebyshev (MVUE) UCL	58.69
99% Chebyshev (MVUE) UCL	66.29			
Nonparametric Distribution Free UCL Statistics				
Data appear to follow a Discernible Distribution at 5% Significance Level				
Nonparametric Distribution Free UCLs				
95% CLT UCL	49.15		95% Jackknife UCL	49.53
95% Standard Bootstrap UCL	49.01		95% Bootstrap-t UCL	49.18
95% Hall's Bootstrap UCL	49.52		95% Percentile Bootstrap UCL	48.82
95% BCA Bootstrap UCL	48.93			
90% Chebyshev(Mean, Sd) UCL	51.86		95% Chebyshev(Mean, Sd) UCL	54.58
97.5% Chebyshev(Mean, Sd) UCL	58.35		99% Chebyshev(Mean, Sd) UCL	65.76
Suggested UCL to Use				
95% Student's-t UCL	49.53			

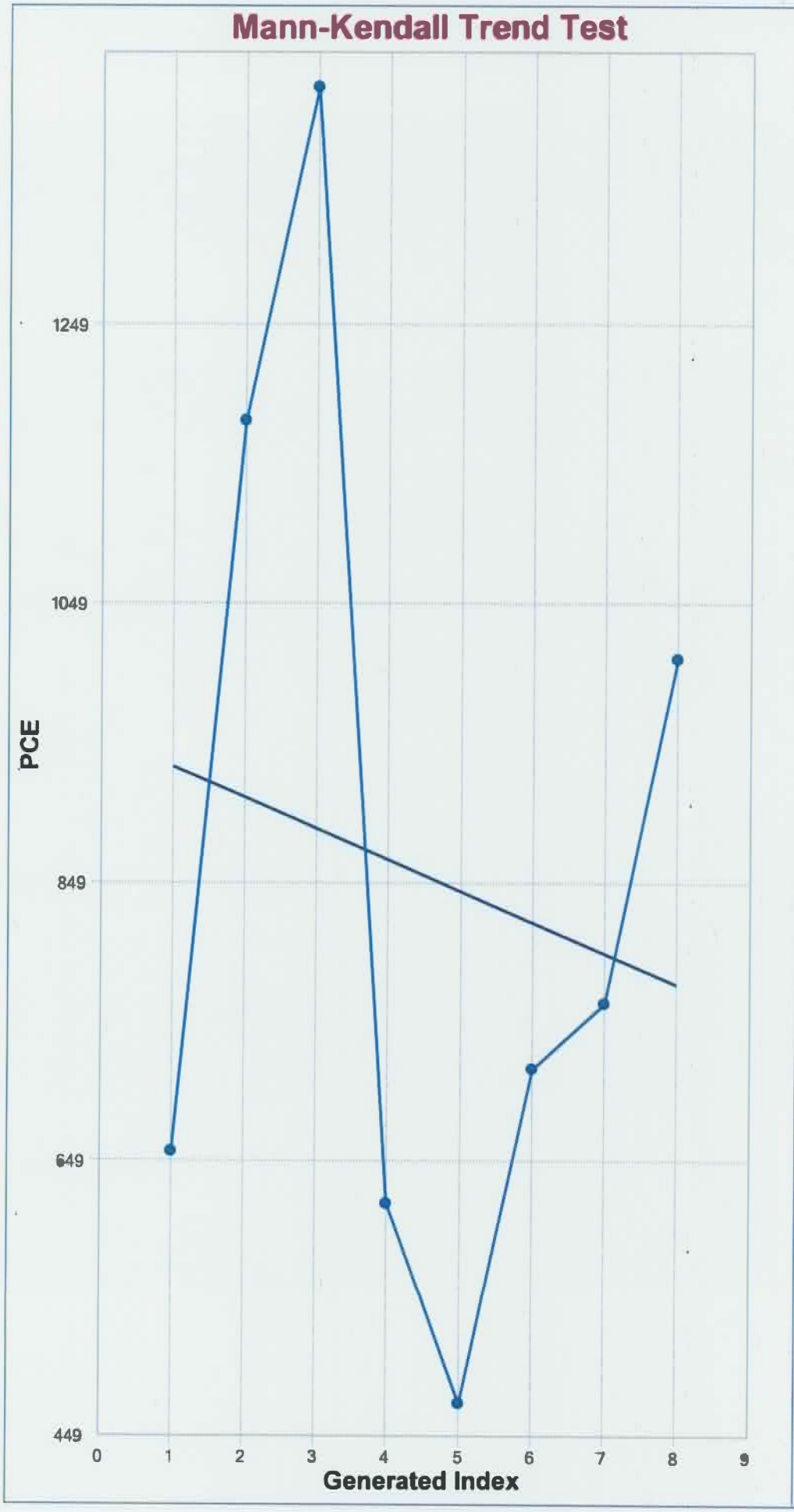
95% UCL For TCE

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iacl (2002) and Singh and Singh (2003). However, simulations results will not cover all Real World data sets. For additional insight the user may want to consult a statistician.

Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be reliable. Chen's and Johnson's methods provide adjustments for positively skewed data sets.

	A	B	C	D	E	F	G	H	I	J	K	L
1				Mann-Kendall Trend Test Analysis								
2		User Selected Options										
3		Date/Time of Computation		2/12/2015 1:51:44 PM								
4		From File		PMW-1.xls								
5		Full Precision		OFF								
6		Confidence Coefficient		0.95								
7		Level of Significance		0.05								
8												
9		PCE										
10												
11		General Statistics										
12		Number or Reported Events Not Used			0							
13		Number of Generated Events			8							
14		Number Values Reported (n)			8							
15		Minimum			473							
16		Maximum			1420							
17		Mean			854.1							
18		Geometric Mean			805.1							
19		Median			738.5							
20		Standard Deviation			320.5							
21												
22		Mann-Kendall Test										
23		Test Value (S)			2							
24		Tabulated p-value			0.452							
25		Standard Deviation of S			8.083							
26		Standardized Value of S			0.124							
27		Approximate p-value			0.451							
28												
29	Insufficient evidence to identify a significant											
30	trend at the specified level of significance.											

Mann-Kendall
PMW-1



Mann-Kendall Trend Analysis

n	8
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	8.0829
Standardized Value of S	0.1237
Test Value (S)	2
Tabulated p-value	0.4520
Approximate p-value	0.4508

OLS Regression Line (Blue)

OLS Regression Slope	-22.2024
OLS Regression Intercept	954.0357

Insufficient statistical evidence of a significant trend at the specified level of significance.

PMW-1

	0	1	2	3	4
	Date	cis-DCE	PCE	TCE	
1	11/11/2009 12:00:00 AM	43.2	1040	105	
2	8/20/2011 12:00:00 AM	16.1	1820	50.8	
3	5/22/2013 12:00:00 AM	43.1	3200	93.4	
4	9/18/2013 12:00:00 AM	206	5280	439	Purtee Monitoring Well No. 2
5	12/13/2013 12:00:00 AM	392	7650	742	
6	3/31/2014 12:00:00 AM	107	3950	332	
7	6/17/2014 12:00:00 AM	290	4270	464	
8	9/30/2014 12:00:00 AM	164	5320	695	
9	11/25/2014 12:00:00 AM	97.8	2200	197	
10	2/4/2015 12:00:00 AM	253	4670	512	

PURTEE MONITORING WELL No. 2

RAW DATA

	A	B	C	D	E	F	G	H	I	J	K	L
1	UCL Statistics for Uncensored Full Data Sets - Purtee Monitoring Well No. 2											
2												
3	User Selected Options											
4	Date/Time of Computation			2/12/2015 11:54:08 AM								
5	From File			PMW-2.xls								
6	Full Precision			OFF								
7	Confidence Coefficient			95%								
8	Number of Bootstrap Operations			2000								
9												
10												
11	cis-DCE											
12												
13	General Statistics											
14	Total Number of Observations					10	Number of Distinct Observations					10
15							Number of Missing Observations					0
16	Minimum					16.1	Mean					161.2
17	Maximum					392	Median					135.5
18	SD					123	Std. Error of Mean					38.9
19	Coefficient of Variation					0.763	Skewness					0.636
20												
21	Normal GOF Test											
22	Shapiro Wilk Test Statistic					0.938	Shapiro Wilk GOF Test					
23	5% Shapiro Wilk Critical Value					0.842	Data appear Normal at 5% Significance Level					
24	Lilliefors Test Statistic					0.17	Lilliefors GOF Test					
25	5% Lilliefors Critical Value					0.28	Data appear Normal at 5% Significance Level					
26	Data appear Normal at 5% Significance Level											
27												
28	Assuming Normal Distribution											
29	95% Normal UCL						95% UCLs (Adjusted for Skewness)					
30	95% Student's-t UCL					232.5	95% Adjusted-CLT UCL (Chen-1995)					233.6
31							95% Modified-t UCL (Johnson-1978)					233.8
32												
33	Gamma GOF Test											
34	A-D Test Statistic					0.219	Anderson-Darling Gamma GOF Test					
35	5% A-D Critical Value					0.739	Detected data appear Gamma Distributed at 5% Significance Level					
36	K-S Test Statistic					0.15	Kolmogrov-Smirnoff Gamma GOF Test					
37	5% K-S Critical Value					0.271	Detected data appear Gamma Distributed at 5% Significance Level					
38	Detected data appear Gamma Distributed at 5% Significance Level											
39												
40	Gamma Statistics											
41	k hat (MLE)					1.511	k star (bias corrected MLE)					1.124
42	Theta hat (MLE)					106.7	Theta star (bias corrected MLE)					143.4
43	nu hat (MLE)					30.21	nu star (bias corrected)					22.48
44	MLE Mean (bias corrected)					161.2	MLE Sd (bias corrected)					152.1
45							Approximate Chi Square Value (0.05)					12.7
46	Adjusted Level of Significance					0.0267	Adjusted Chi Square Value					11.44
47												
48	Assuming Gamma Distribution											
49	95% Approximate Gamma UCL (use when n>=50))					285.4	95% Adjusted Gamma UCL (use when n<50)					316.8
50												
51	Lognormal GOF Test											
52	Shapiro Wilk Test Statistic					0.938	Shapiro Wilk Lognormal GOF Test					

MEAN FOR cis-DCE

5% Shapiro Wilk Critical Value	0.8142	Data appear Lognormal at 5% Significance Level		
Lilliefors Test Statistic	0.1448	Lilliefors Lognormal GOF Test		
5% Lilliefors Critical Value	0.28	Data appear Lognormal at 5% Significance Level		
Data appear Lognormal at 5% Significance Level				

Lognormal Statistics

Minimum of Logged Data	2.7779	Mean of Logged Data	4.717
Maximum of Logged Data	5.9771	SD of Logged Data	1.014

Assuming Lognormal Distribution

95% H-UCL	539.1	90% Chebyshev (MVUE) UCL	350.6
95% Chebyshev (MVUE) UCL	430.4	97.5% Chebyshev (MVUE) UCL	541.1
99% Chebyshev (MVUE) UCL	758.6		

95% UCL FOR CIS-DCE

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	225.2	95% Jackknife UCL	232.5
95% Standard Bootstrap UCL	222.1	95% Bootstrap-t UCL	250
95% Hall's Bootstrap UCL	234.5	95% Percentile Bootstrap UCL	220.5
95% BCA Bootstrap UCL	222.3		
90% Chebyshev(Mean, Sd) UCL	277.9	95% Chebyshev(Mean, Sd) UCL	330.8
97.5% Chebyshev(Mean, Sd) UCL	404.1	99% Chebyshev(Mean, Sd) UCL	548.3

Suggested UCL to Use

95% Student's-t UCL	232.5

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). However, simulations results will not cover all Real World data sets.
For additional insight the user may want to consult a statistician.

MEAN FOR PCE

PCE

General Statistics

Total Number of Observations	10	Number of Distinct Observations	10
		Number of Missing Observations	0
Minimum	1040	Mean	3940
Maximum	7650	Median	4110
SD	1960	Std. Error of Mean	619.9
Coefficient of Variation	0.498	Skewness	0.312

Normal GOF Test

Shapiro Wilk Test Statistic	0.9772	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.8142	Data appear Normal at 5% Significance Level	
Lilliefors Test Statistic	0.1441	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.28	Data appear Normal at 5% Significance Level	
Data appear Normal at 5% Significance Level			

Assuming Normal Distribution

	A–E	F	G–K	L
105	95% Normal UCL		95% UCLs (Adjusted for Skewness)	
106	95% Student's-t UCL	5076	95% Adjusted-CLT UCL (Chen-1995)	5025
107			95% Modified-t UCL (Johnson-1978)	5087
108				
109	Gamma GOF Test			
110	A-D Test Statistic	0.26	Anderson-Darling Gamma GOF Test	
111	5% A-D Critical Value	0.73	Detected data appear Gamma Distributed at 5% Significance Level	
112	K-S Test Statistic	0.17	Kolmogrov-Smirnoff Gamma GOF Test	
113	5% K-S Critical Value	0.268	Detected data appear Gamma Distributed at 5% Significance Level	
114	Detected data appear Gamma Distributed at 5% Significance Level			
115				
116	Gamma Statistics			
117	k hat (MLE)	3.767	k star (bias corrected MLE)	2.704
118	Theta hat (MLE)	1046	Theta star (bias corrected MLE)	1457
119	nu hat (MLE)	75.34	nu star (bias corrected)	54.07
120	MLE Mean (bias corrected)	3940	MLE Sd (bias corrected)	2396
121			Approximate Chi Square Value (0.05)	38.18
122	Adjusted Level of Significance	0.0267	Adjusted Chi Square Value	35.87
123				
124	Assuming Gamma Distribution			
125	95% Approximate Gamma UCL (use when n>=50))	5580	95% Adjusted Gamma UCL (use when n<50)	5940
126				
127	Lognormal GOF Test			
128	Shapiro Wilk Test Statistic	0.937	Shapiro Wilk Lognormal GOF Test	
129	5% Shapiro Wilk Critical Value	0.842	Data appear Lognormal at 5% Significance Level	
130	Lilliefors Test Statistic	0.193	Lilliefors Lognormal GOF Test	
131	5% Lilliefors Critical Value	0.28	Data appear Lognormal at 5% Significance Level	
132	Data appear Lognormal at 5% Significance Level			
133				
134	Lognormal Statistics			
135	Minimum of Logged Data	6.947	Mean of logged Data	8.14
136	Maximum of Logged Data	8.942	SD of logged Data	0.597
137				
138	Assuming Lognormal Distribution			
139	95% H-UCL	6566	90% Chebyshev (MVUE) UCL	6352
140	95% Chebyshev (MVUE) UCL	7409	97.5% Chebyshev (MVUE) UCL	8876
141	99% Chebyshev (MVUE) UCL	11757		
142				
143	Nonparametric Distribution Free UCL Statistics			
144	Data appear to follow a Discernible Distribution at 5% Significance Level			
145				
146	Nonparametric Distribution Free UCLs			
147	95% CLT UCL	4960	95% Jackknife UCL	5076
148	95% Standard Bootstrap UCL	4913	95% Bootstrap-t UCL	5226
149	95% Hall's Bootstrap UCL	5186	95% Percentile Bootstrap UCL	4916
150	95% BCA Bootstrap UCL	4913		
151	90% Chebyshev(Mean, Sd) UCL	5800	95% Chebyshev(Mean, Sd) UCL	6642
152	97.5% Chebyshev(Mean, Sd) UCL	7811	99% Chebyshev(Mean, Sd) UCL	10108
153				
154	Suggested UCL to Use			
155	95% Student's-t UCL	5076		
156				

95% UCL for PCE

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). However, simulations results will not cover all Real World data sets.
For additional insight the user may want to consult a statistician.

MEAN FOR TCE

TCE

General Statistics

Total Number of Observations	10	Number of Distinct Observations	10
		Number of Missing Observations	0
Minimum	50.8	Mean	363
Maximum	742	Median	385.5
SD	248.8	Std. Error of Mean	78.69
Coefficient of Variation	0.685	Skewness	0.216

Normal GOF Test

Shapiro Wilk Test Statistic	0.927	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.842	Data appear Normal at 5% Significance Level
Lilliefors Test Statistic	0.15	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.28	Data appear Normal at 5% Significance Level

Data appear Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	507.3	95% Adjusted-CLT UCL (Chen-1995)	498.2
		95% Modified-t UCL (Johnson-1978)	508.2

Gamma GOF Test

A-D Test Statistic	0.383	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.737	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.195	**Kolmogrov-Smirnoff Gamma GOF Test**
5% K-S Critical Value	0.27	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	1.75	k star (bias corrected MLE)	1.292
Theta hat (MLE)	207.4	Theta star (bias corrected MLE)	281.1
nu hat (MLE)	35	nu star (bias corrected)	25.83
MLE Mean (bias corrected)	363	MLE Sd (bias corrected)	319.4
		Approximate Chi Square Value (0.05)	15.25
Adjusted Level of Significance	0.0267	Adjusted Chi Square Value	13.86

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	614.9	95% Adjusted Gamma UCL (use when n<50)	676.8

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.903	**Shapiro Wilk Lognormal GOF Test**
5% Shapiro Wilk Critical Value	0.842	Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.205	**Lilliefors Lognormal GOF Test**
5% Lilliefors Critical Value	0.28	Data appear Lognormal at 5% Significance Level

Data appear Lognormal at 5% Significance Level

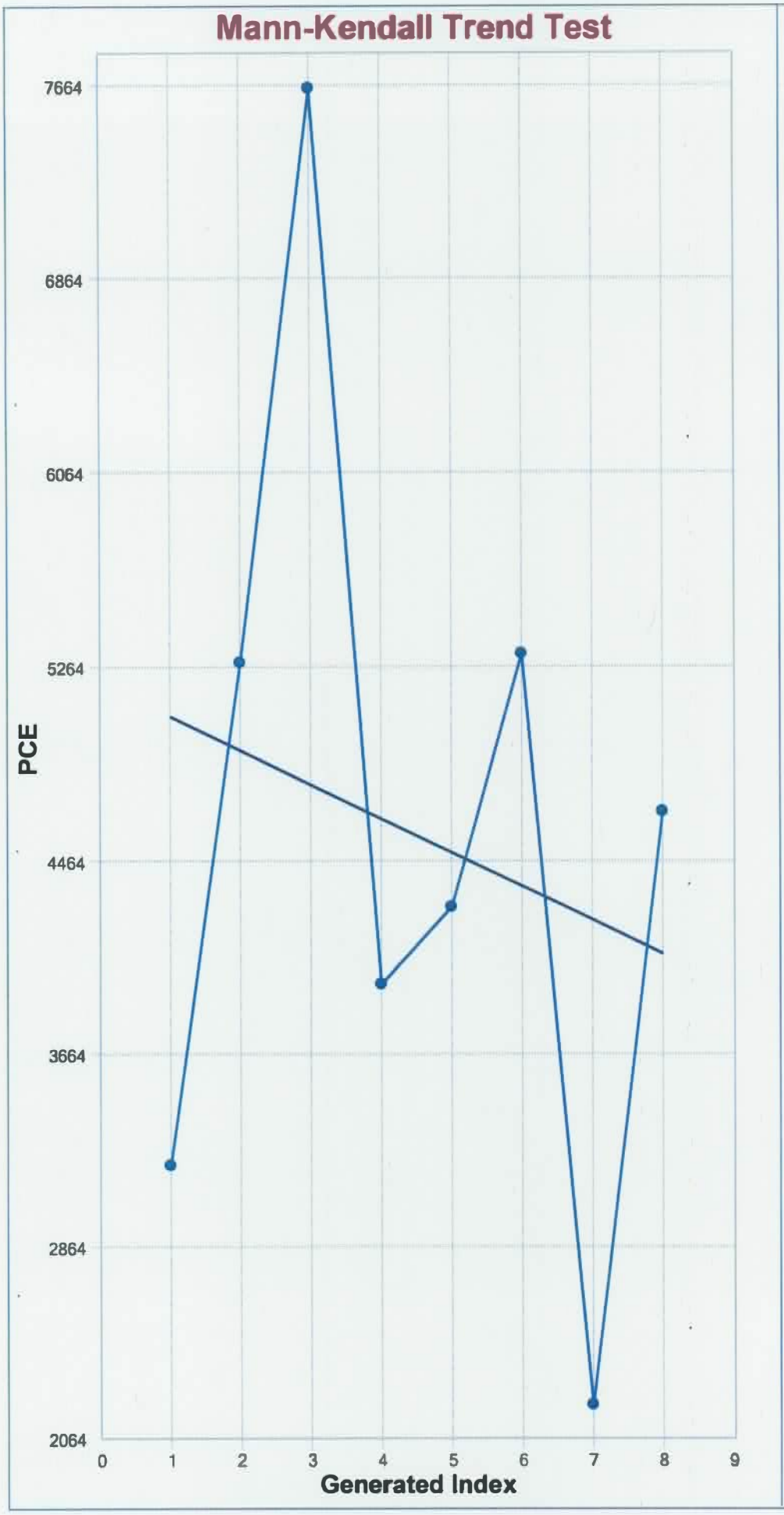
	A	B	C	D	E	F	G	H	I	J	K	L
209												
210						Lognormal Statistics						
211					Minimum of Logged Data	3.928					Mean of logged Data	5.582
212					Maximum of Logged Data	6.609					SD of logged Data	0.931
213												
214						Assuming Lognormal Distribution						
215					95% H-UCL	1028					90% Chebyshev (MVUE) UCL	745.2
216					95% Chebyshev (MVUE) UCL	907.3					97.5% Chebyshev (MVUE) UCL	1132
217					99% Chebyshev (MVUE) UCL	1574						
218												
219						Nonparametric Distribution Free UCL Statistics						
220						Data appear to follow a Discernible Distribution at 5% Significance Level						
221												
222						Nonparametric Distribution Free UCLs						
223					95% CLT UCL	492.5					95% Jackknife UCL	507.3
224					95% Standard Bootstrap UCL	486.1					95% Bootstrap-t UCL	531.3
225					95% Hall's Bootstrap UCL	500.4					95% Percentile Bootstrap UCL	483.2
226					95% BCA Bootstrap UCL	491.4						
227					90% Chebyshev(Mean, Sd) UCL	599.1					95% Chebyshev(Mean, Sd) UCL	706
228					97.5% Chebyshev(Mean, Sd) UCL	854.4					99% Chebyshev(Mean, Sd) UCL	1146
229												
230						Suggested UCL to Use						
231					95% Student's-t UCL	507.3						
232												
233						Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.						
234						These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)						
235						and Singh and Singh (2003). However, simulations results will not cover all Real World data sets.						
236						For additional insight the user may want to consult a statistician.						
237												

95% UCL
For TCE

	A	B	C	D	E	F	G	H	I	J	K	L
1				Mann-Kendall Trend Test Analysis								
2		User Selected Options										
3		Date/Time of Computation		2/12/2015 1:55:18 PM								
4		From File		PMW-2.xls								
5		Full Precision		OFF								
6		Confidence Coefficient		0.95								
7		Level of Significance		0.05								
8												
9		PCE										
10												
11		General Statistics										
12		Number or Reported Events Not Used			0							
13		Number of Generated Events			8							
14		Number Values Reported (n)			8							
15		Minimum			2200							
16		Maximum			7650							
17		Mean			4568							
18		Geometric Mean			4310							
19		Median			4470							
20		Standard Deviation			1627							
21												
22		Mann-Kendall Test										
23		Test Value (S)			0							
24		Tabulated p-value			0.548							
25		Standard Deviation of S			8.083							
26		Standardized Value of S			N/A							
27		Approximate p-value			N/A							
28												
29	Insufficient evidence to identify a significant											
30	trend at the specified level of significance.											

Mann-Kendall

PMW-2



Mann-Kendall Trend Analysis

n	8
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	8.0829
Standardized Value of S	
Test Value (S)	0
Tabulated p-value	0.5480
Approximate p-value	

OLS Regression Line (Blue)

OLS Regression Slope	-140.2381
OLS Regression Intercept	5,198.5714

Insufficient statistical evidence of a significant trend at the specified level of significance.

PMW-2

	0	1	2	3	4
	Date	cis-DCE	PCE	TCE	
1	11/11/2009 12:00:00 AM	34.9	907	63	
2	11/11/2009 12:00:00 AM	31.9	1130	61.3	
3	8/20/2011 12:00:00 AM	9.1	1510	92.4	
4	5/22/2013 12:00:00 AM	21.9	1130	72.3	Purtee Monitoing Well No. 3
5	9/18/2013 12:00:00 AM	24.7	1690	127	
6	12/13/2013 12:00:00 AM	17.4	1830	87.8	
7	3/31/2014 12:00:00 AM	43.1	935	91.3	
8	6/17/2014 12:00:00 AM	20.3	839	43.3	
9	9/30/2014 12:00:00 AM	12.4	695	59	
10	12/3/2014 12:00:00 AM	9.19	807	49.4	
11	2/4/2015 12:00:00 AM	6.53	754	38.7	

PURTEE MONITORING WELL NO. 3

RAW DATA

	A	B	C	D	E	F	G	H	I	J	K	L
1	UCL Statistics for Uncensored Full Data Sets - Purtee Monitoring Well No. 3											
2												
3	User Selected Options											
4	Date/Time of Computation			2/12/2015 12:31:41 PM								
5	From File			PMW-3.xls								
6	Full Precision			OFF								
7	Confidence Coefficient			95%								
8	Number of Bootstrap Operations			2000								
9												
10												
11	cis-DCE											
12												
13	General Statistics											
14	Total Number of Observations					11	Number of Distinct Observations					11
15							Number of Missing Observations					0
16	Minimum					6.53	Mean					21.04
17	Maximum					43.1	Median					20.3
18	SD					11.8	Std. Error of Mean					3.558
19	Coefficient of Variation					0.561	Skewness					0.567
20												
21	Normal GOF Test											
22	Shapiro Wilk Test Statistic					0.943	Shapiro Wilk GOF Test					
23	5% Shapiro Wilk Critical Value					0.85	Data appear Normal at 5% Significance Level					
24	Lilliefors Test Statistic					0.132	Lilliefors GOF Test					
25	5% Lilliefors Critical Value					0.267	Data appear Normal at 5% Significance Level					
26	Data appear Normal at 5% Significance Level											
27												
28	Assuming Normal Distribution											
29	95% Normal UCL						95% UCLs (Adjusted for Skewness)					
30	95% Student's-t UCL					27.49	95% Adjusted-CLT UCL (Chen-1995)					27.54
31							95% Modified-t UCL (Johnson-1978)					27.59
32												
33	Gamma GOF Test											
34	A-D Test Statistic					0.22	Anderson-Darling Gamma GOF Test					
35	5% A-D Critical Value					0.733	Detected data appear Gamma Distributed at 5% Significance Level					
36	K-S Test Statistic					0.143	Kolmogrov-Smirnoff Gamma GOF Test					
37	5% K-S Critical Value					0.257	Detected data appear Gamma Distributed at 5% Significance Level					
38	Detected data appear Gamma Distributed at 5% Significance Level											
39												
40	Gamma Statistics											
41	k hat (MLE)					3.3	k star (bias corrected MLE)					2.46
42	Theta hat (MLE)					6.376	Theta star (bias corrected MLE)					8.551
43	nu hat (MLE)					72.59	nu star (bias corrected)					54.13
44	MLE Mean (bias corrected)					21.04	MLE Sd (bias corrected)					13.41
45							Approximate Chi Square Value (0.05)					38.23
46	Adjusted Level of Significance					0.0278	Adjusted Chi Square Value					36.06
47												
48	Assuming Gamma Distribution											
49	95% Approximate Gamma UCL (use when n>=50))					29.79	95% Adjusted Gamma UCL (use when n<50)					31.58
50												
51	Lognormal GOF Test											
52	Shapiro Wilk Test Statistic					0.957	Shapiro Wilk Lognormal GOF Test					

MEAN FOR cis-DCE

53	5% Shapiro Wilk Critical Value	0.85	Data appear Lognormal at 5% Significance Level	
54	Lilliefors Test Statistic	0.135	Lilliefors Lognormal GOF Test	
55	5% Lilliefors Critical Value	0.267	Data appear Lognormal at 5% Significance Level	
56	Data appear Lognormal at 5% Significance Level			
57				
58	Lognormal Statistics			
59	Minimum of Logged Data	1.876	Mean of logged Data	2.887
60	Maximum of Logged Data	3.764	SD of logged Data	0.614
61				
62	Assuming Lognormal Distribution			
63	95% H-UCL	34.07	90% Chebyshev (MVUE) UCL	33.39
64	95% Chebyshev (MVUE) UCL	38.89	97.5% Chebyshev (MVUE) UCL	46.53
65	99% Chebyshev (MVUE) UCL	61.52		
66				
67	95% UCL	Nonparametric Distribution Free UCL Statistics		
68	FOR CIS-DLE	Data appear to follow a Discernible Distribution at 5% Significance Level		
69				
70	Nonparametric Distribution Free UCLs			
71	95% CLT UCL	26.89	95% Jackknife UCL	27.49
72	95% Standard Bootstrap UCL	26.54	95% Bootstrap-t UCL	28.41
73	95% Hall's Bootstrap UCL	27.58	95% Percentile Bootstrap UCL	26.92
74	95% BCA Bootstrap UCL	27.03		
75	90% Chebyshev(Mean, Sd) UCL	31.71	95% Chebyshev(Mean, Sd) UCL	36.55
76	97.5% Chebyshev(Mean, Sd) UCL	43.26	99% Chebyshev(Mean, Sd) UCL	56.44
77				
78	Suggested UCL to Use			
79	95% Student's-t UCL	27.49		
80				
81	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.			
82	These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)			
83	and Singh and Singh (2003). However, simulations results will not cover all Real World data sets.			
84	For additional insight the user may want to consult a statistician.			
85				
86				MEAN FOR PCE
87	PCE			
88				
89	General Statistics			
90	Total Number of Observations	11	Number of Distinct Observations	10
91			Number of Missing Observations	0
92	Minimum	695	Mean	1112
93	Maximum	1830	Median	935
94	SD	393.9	Std. Error of Mean	118.8
95	Coefficient of Variation	0.354	Skewness	0.894
96				
97	Normal GOF Test			
98	Shapiro Wilk Test Statistic	0.87	Shapiro Wilk GOF Test	
99	5% Shapiro Wilk Critical Value	0.85	Data appear Normal at 5% Significance Level	
100	Lilliefors Test Statistic	0.218	Lilliefors GOF Test	
101	5% Lilliefors Critical Value	0.267	Data appear Normal at 5% Significance Level	
102	Data appear Normal at 5% Significance Level			
103				
104	Assuming Normal Distribution			

	A–E	F	G–L	
105	95% Normal UCL		95% UCLs (Adjusted for Skewness)	
106	95% Student's-t UCL	1327	95% Adjusted-CLT UCL (Chen-1995)	1341
107			95% Modified-t UCL (Johnson-1978)	1332
108				
109	Gamma GOF Test			
110	A-D Test Statistic	0.509	Anderson-Darling Gamma GOF Test	
111	5% A-D Critical Value	0.73	Detected data appear Gamma Distributed at 5% Significance Level	
112	K-S Test Statistic	0.206	Kolmogrov-Smirnoff Gamma GOF Test	
113	5% K-S Critical Value	0.255	Detected data appear Gamma Distributed at 5% Significance Level	
114	Detected data appear Gamma Distributed at 5% Significance Level			
115				
116	Gamma Statistics			
117	k hat (MLE)	9.668	k star (bias corrected MLE)	7.092
118	Theta hat (MLE)	115	Theta star (bias corrected MLE)	156.7
119	nu hat (MLE)	212.7	nu star (bias corrected)	156
120	MLE Mean (bias corrected)	1112	MLE Sd (bias corrected)	417.4
121			Approximate Chi Square Value (0.05)	128.1
122	Adjusted Level of Significance	0.0278	Adjusted Chi Square Value	124
123				
124	Assuming Gamma Distribution			
125	95% Approximate Gamma UCL (use when n>=50))	1353	95% Adjusted Gamma UCL (use when n<50)	1398
126				
127	Lognormal GOF Test			
128	Shapiro Wilk Test Statistic	0.916	Shapiro Wilk Lognormal GOF Test	
129	5% Shapiro Wilk Critical Value	0.85	Data appear Lognormal at 5% Significance Level	
130	Lilliefors Test Statistic	0.186	Lilliefors Lognormal GOF Test	
131	5% Lilliefors Critical Value	0.267	Data appear Lognormal at 5% Significance Level	
132	Data appear Lognormal at 5% Significance Level			
133				
134	Lognormal Statistics			
135	Minimum of Logged Data	6.544	Mean of logged Data	6.961
136	Maximum of Logged Data	7.512	SD of logged Data	0.333
137				
138	Assuming Lognormal Distribution			
139	95% H-UCL	1374	90% Chebyshev (MVUE) UCL	1447
140	95% Chebyshev (MVUE) UCL	1600	97.5% Chebyshev (MVUE) UCL	1812
141	99% Chebyshev (MVUE) UCL	2230		
142				
143	Nonparametric Distribution Free UCL Statistics			
144	Data appear to follow a Discernible Distribution at 5% Significance Level			
145				
146	Nonparametric Distribution Free UCLs			
147	95% CLT UCL	1307	95% Jackknife UCL	1327
148	95% Standard Bootstrap UCL	1300	95% Bootstrap-t UCL	1377
149	95% Hall's Bootstrap UCL	1337	95% Percentile Bootstrap UCL	1298
150	95% BCA Bootstrap UCL	1333		
151	90% Chebyshev(Mean, Sd) UCL	1468	95% Chebyshev(Mean, Sd) UCL	1629
152	97.5% Chebyshev(Mean, Sd) UCL	1853	99% Chebyshev(Mean, Sd) UCL	2293
153				
154	Suggested UCL to Use			
155	95% Student's-t UCL	1327		
156				

95% UCL FOR PCE

	A	B	C	D	E	F	G	H	I	J	K	L
157	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
158	These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)											
159	and Singh and Singh (2003). However, simulations results will not cover all Real World data sets.											
160	For additional insight the user may want to consult a statistician.											
161												
162												MEAN FOR
163	TCE											TCE
164												
165						General Statistics						
166					Total Number of Observations	11			Number of Distinct Observations		11	
167									Number of Missing Observations		0	
168					Minimum	38.7			Mean		71.41	
169					Maximum	127			Median		63	
170					SD	26.21			Std. Error of Mean		7.901	
171					Coefficient of Variation	0.367			Skewness		0.828	
172												
173						Normal GOF Test						
174					Shapiro Wilk Test Statistic	0.934			Shapiro Wilk GOF Test			
175					5% Shapiro Wilk Critical Value	0.85			Data appear Normal at 5% Significance Level			
176					Lilliefors Test Statistic	0.171			Lilliefors GOF Test			
177					5% Lilliefors Critical Value	0.267			Data appear Normal at 5% Significance Level			
178					Data appear Normal at 5% Significance Level							
179												
180						Assuming Normal Distribution						
181					95% Normal UCL				95% UCLs (Adjusted for Skewness)			
182					95% Student's-t UCL	85.73			95% Adjusted-CLT UCL (Chen-1995)		86.51	
183									95% Modified-t UCL (Johnson-1978)		86.06	
184												
185						Gamma GOF Test						
186					A-D Test Statistic	0.226			Anderson-Darling Gamma GOF Test			
187					5% A-D Critical Value	0.73			Detected data appear Gamma Distributed at 5% Significance Level			
188					K-S Test Statistic	0.142			Kolmogrov-Smirnoff Gamma GOF Test			
189					5% K-S Critical Value	0.256			Detected data appear Gamma Distributed at 5% Significance Level			
190					Detected data appear Gamma Distributed at 5% Significance Level							
191												
192						Gamma Statistics						
193					k hat (MLE)	8.6			k star (bias corrected MLE)		6.315	
194					Theta hat (MLE)	8.304			Theta star (bias corrected MLE)		11.31	
195					nu hat (MLE)	189.2			nu star (bias corrected)		138.9	
196					MLE Mean (bias corrected)	71.41			MLE Sd (bias corrected)		28.42	
197									Approximate Chi Square Value (0.05)		112.7	
198					Adjusted Level of Significance	0.0278			Adjusted Chi Square Value		108.8	
199												
200						Assuming Gamma Distribution						
201					95% Approximate Gamma UCL (use when n>=50))	88.03			95% Adjusted Gamma UCL (use when n<50)		91.15	
202												
203						Lognormal GOF Test						
204					Shapiro Wilk Test Statistic	0.972			Shapiro Wilk Lognormal GOF Test			
205					5% Shapiro Wilk Critical Value	0.85			Data appear Lognormal at 5% Significance Level			
206					Lilliefors Test Statistic	0.133			Lilliefors Lognormal GOF Test			
207					5% Lilliefors Critical Value	0.267			Data appear Lognormal at 5% Significance Level			
208					Data appear Lognormal at 5% Significance Level							

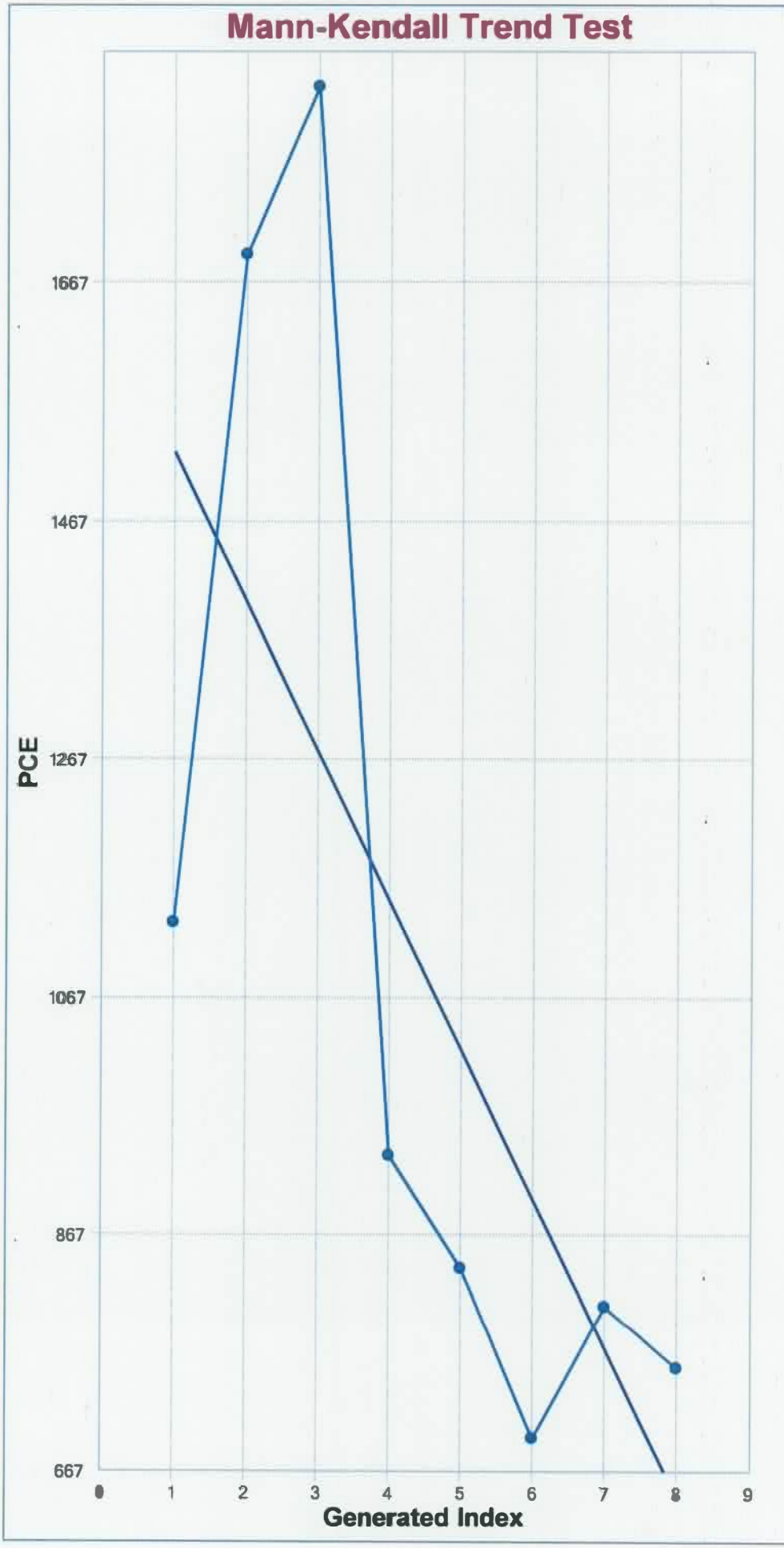
	A	B	C	D	E	F	G	H	I	J	K	L
209												
210						Lognormal Statistics						
211					Minimum of Logged Data	3.656					Mean of logged Data	4.209
212					Maximum of Logged Data	4.844					SD of logged Data	0.36
213												
214						Assuming Lognormal Distribution						
215					95% H-UCL	90.31					90% Chebyshev (MVUE) UCL	94.91
216					95% Chebyshev (MVUE) UCL	105.6					97.5% Chebyshev (MVUE) UCL	120.4
217					99% Chebyshev (MVUE) UCL	149.4						
218												
219						Nonparametric Distribution Free UCL Statistics						
220						Data appear to follow a Discernible Distribution at 5% Significance Level						
221												
222						Nonparametric Distribution Free UCLs						
223					95% CLT UCL	84.41					95% Jackknife UCL	85.73
224					95% Standard Bootstrap UCL	83.89					95% Bootstrap-t UCL	88.41
225					95% Hall's Bootstrap UCL	89.3					95% Percentile Bootstrap UCL	83.86
226					95% BCA Bootstrap UCL	85.59						
227					90% Chebyshev(Mean, Sd) UCL	95.11					95% Chebyshev(Mean, Sd) UCL	105.9
228					97.5% Chebyshev(Mean, Sd) UCL	120.8					99% Chebyshev(Mean, Sd) UCL	150
229												
230						Suggested UCL to Use						
231					95% Student's-t UCL	85.73						
232												
233						Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.						
234						These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)						
235						and Singh and Singh (2003). However, simulations results will not cover all Real World data sets.						
236						For additional insight the user may want to consult a statistician.						
237												

95% UCL FORTCE

	A	B	C	D	E	F	G	H	I	J	K	L
1				Mann-Kendall Trend Test Analysis								
2		User Selected Options										
3		Date/Time of Computation		2/12/2015 1:59:52 PM								
4		From File		PMW-3.xls								
5		Full Precision		OFF								
6		Confidence Coefficient		0.95								
7		Level of Significance		0.05								
8												
9		PCE										
10												
11		General Statistics										
12		Number or Reported Events Not Used			0							
13		Number of Generated Events			8							
14		Number Values Reported (n)			8							
15		Minimum			695							
16		Maximum			1830							
17		Mean			1085							
18		Geometric Mean			1019							
19		Median			887							
20		Standard Deviation			438.3							
21												
22		Mann-Kendall Test										
23		Test Value (S)			-18							
24		Tabulated p-value			0.016							
25		Standard Deviation of S			8.083							
26		Standardized Value of S			-2.103							
27		Approximate p-value			0.0177							
28												
29	Statistically significant evidence of a decreasing											
30	trend at the specified level of significance.											

Mann-Kendall

PMW-3



Mann-Kendall Trend Analysis

n	8
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	8.0829
Standardized Value of S	-2.1032
Test Value (S)	-18
Tabulated p-value	0.0160
Approximate p-value	0.0177

OLS Regression Line (Blue)

OLS Regression Slope	-125.5714
OLS Regression Intercept	1,650.0714

Statistically significant evidence of a decreasing trend at the specified level of significance.

PMW-3

	0	1	2	3	4
	Date	cis-DCE	PCE	TCE	
1	12/29/2009 12:00:00 AM	2.5	702	42.7	
2	8/20/2011 12:00:00 AM	2.5	1450	50.2	
3	5/22/2013 12:00:00 AM	2.5	285	8.58	
4	9/18/2013 12:00:00 AM	16.9	1260	51.1	Purtee Monitoring Well No. 4
5	12/13/2013 12:00:00 AM	58.7	1560	53.9	
6	4/21/2014 12:00:00 AM	2.5	669	21.8	
7	6/17/2014 12:00:00 AM	10.8	1960	63.4	
8	9/30/2014 12:00:00 AM	30.8	1560	48.2	
9	11/25/2014 12:00:00 AM	6	1140	27.1	
10	2/4/2015 12:00:00 AM	42.1	693	34.7	

PURTEE MONITORING WELL No. 4

RAW DATA

	A	B	C	D	E	F	G	H	I	J	K	L
1	UCL Statistics for Uncensored Full Data Sets - Purtee Monitoring Well No. 4											
2												
3	User Selected Options											
4	Date/Time of Computation			2/12/2015 12:35:45 PM								
5	From File			PMW-4.xls								
6	Full Precision			OFF								
7	Confidence Coefficient			95%								
8	Number of Bootstrap Operations			2000								
9												
10												
11	cis-DCE											
12												
13	General Statistics											
14	Total Number of Observations					10	Number of Distinct Observations					7
15							Number of Missing Observations					0
16	Minimum					2.5	Mean					17.53
17	Maximum					58.7	Median					8.4
18	SD					19.88	Std. Error of Mean					6.287
19	Coefficient of Variation					1.134	Skewness					1.264
20												
21	Normal GOF Test											
22	Shapiro Wilk Test Statistic					0.799	Shapiro Wilk GOF Test					
23	5% Shapiro Wilk Critical Value					0.842	Data Not Normal at 5% Significance Level					
24	Lilliefors Test Statistic					0.233	Lilliefors GOF Test					
25	5% Lilliefors Critical Value					0.28	Data appear Normal at 5% Significance Level					
26	Data appear Approximate Normal at 5% Significance Level											
27												
28	Assuming Normal Distribution											
29	95% Normal UCL						95% UCLs (Adjusted for Skewness)					
30	95% Student's-t UCL					29.05	95% Adjusted-CLT UCL (Chen-1995)					30.56
31							95% Modified-t UCL (Johnson-1978)					29.47
32												
33	Gamma GOF Test											
34	A-D Test Statistic					0.616	Anderson-Darling Gamma GOF Test					
35	5% A-D Critical Value					0.753	Detected data appear Gamma Distributed at 5% Significance Level					
36	K-S Test Statistic					0.239	Kolmogrov-Smirnoff Gamma GOF Test					
37	5% K-S Critical Value					0.275	Detected data appear Gamma Distributed at 5% Significance Level					
38	Detected data appear Gamma Distributed at 5% Significance Level											
39												
40	Gamma Statistics											
41	k hat (MLE)					0.871	k star (bias corrected MLE)					0.677
42	Theta hat (MLE)					20.12	Theta star (bias corrected MLE)					25.9
43	nu hat (MLE)					17.43	nu star (bias corrected)					13.53
44	MLE Mean (bias corrected)					17.53	MLE Sd (bias corrected)					21.31
45							Approximate Chi Square Value (0.05)					6.254
46	Adjusted Level of Significance					0.0267	Adjusted Chi Square Value					5.417
47												
48	Assuming Gamma Distribution											
49	95% Approximate Gamma UCL (use when n>=50))					37.94	95% Adjusted Gamma UCL (use when n<50)					43.8
50												
51	Lognormal GOF Test											
52	Shapiro Wilk Test Statistic					0.858	Shapiro Wilk Lognormal GOF Test					

MEAN FOR CIS-DCE

53	5% Shapiro Wilk Critical Value	0.842	Data appear Lognormal at 5% Significance Level	
54	Lilliefors Test Statistic	0.242	Lilliefors Lognormal GOF Test	
55	5% Lilliefors Critical Value	0.28	Data appear Lognormal at 5% Significance Level	
56	Data appear Lognormal at 5% Significance Level			
57				
58	Lognormal Statistics			
59	Minimum of Logged Data	0.916	Mean of logged Data	2.19
60	Maximum of Logged Data	4.072	SD of logged Data	1.272
61				
62	Assuming Lognormal Distribution			
63	95% H-UCL	95.95	90% Chebyshev (MVUE) UCL	40.4
64	95% Chebyshev (MVUE) UCL	50.66	97.5% Chebyshev (MVUE) UCL	64.9
65	99% Chebyshev (MVUE) UCL	92.87		
66				
67	Nonparametric Distribution Free UCL Statistics			
68	Data appear to follow a Discernible Distribution at 5% Significance Level			
69				
70	Nonparametric Distribution Free UCLs			
71	95% CLT UCL	27.87	95% Jackknife UCL	29.05
72	95% Standard Bootstrap UCL	27.26	95% Bootstrap-t UCL	36.79
73	95% Hall's Bootstrap UCL	30.95	95% Percentile Bootstrap UCL	28.24
74	95% BCA Bootstrap UCL	30.77		
75	90% Chebyshev(Mean, Sd) UCL	36.39	95% Chebyshev(Mean, Sd) UCL	44.93
76	97.5% Chebyshev(Mean, Sd) UCL	56.79	99% Chebyshev(Mean, Sd) UCL	80.08
77				
78	Suggested UCL to Use			
79	95% Student's-t UCL	29.05		
80				

95% UCL FOR CIS-DCE

81 Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
82 These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
83 and Singh and Singh (2003). However, simulations results will not cover all Real World data sets.
84 For additional insight the user may want to consult a statistician.
85
86
87 PCE

MEAN FOR PCE

88				
89	General Statistics			
90	Total Number of Observations	10	Number of Distinct Observations	9
91			Number of Missing Observations	0
92	Minimum	285	Mean	1128
93	Maximum	1960	Median	1200
94	SD	524.8	Std. Error of Mean	166
95	Coefficient of Variation	0.465	Skewness	-0.0786
96				
97	Normal GOF Test			
98	Shapiro Wilk Test Statistic	0.952	Shapiro Wilk GOF Test	
99	5% Shapiro Wilk Critical Value	0.842	Data appear Normal at 5% Significance Level	
100	Lilliefors Test Statistic	0.191	Lilliefors GOF Test	
101	5% Lilliefors Critical Value	0.28	Data appear Normal at 5% Significance Level	
102	Data appear Normal at 5% Significance Level			
103				
104	Assuming Normal Distribution			

105	95% Normal UCL		95% UCLs (Adjusted for Skewness)	
106	95% Student's-t UCL	1432	95% Adjusted-CLT UCL (Chen-1995)	1396
107			95% Modified-t UCL (Johnson-1978)	1431
108				
109	Gamma GOF Test			
110	A-D Test Statistic	0.414	Anderson-Darling Gamma GOF Test	
111	5% A-D Critical Value	0.729	Detected data appear Gamma Distributed at 5% Significance Level	
112	K-S Test Statistic	0.175	Kolmogorov-Smirnoff Gamma GOF Test	
113	5% K-S Critical Value	0.268	Detected data appear Gamma Distributed at 5% Significance Level	
114	Detected data appear Gamma Distributed at 5% Significance Level			
115				
116	Gamma Statistics			
117	k hat (MLE)	4.049	k star (bias corrected MLE)	2.901
118	Theta hat (MLE)	278.5	Theta star (bias corrected MLE)	388.8
119	nu hat (MLE)	80.98	nu star (bias corrected)	58.02
120	MLE Mean (bias corrected)	1128	MLE Sd (bias corrected)	662.2
121			Approximate Chi Square Value (0.05)	41.51
122	Adjusted Level of Significance	0.0267	Adjusted Chi Square Value	39.09
123				
124	Assuming Gamma Distribution			
125	95% Approximate Gamma UCL (use when n>=50))	1577	95% Adjusted Gamma UCL (use when n<50)	1674
126				
127	Lognormal GOF Test			
128	Shapiro Wilk Test Statistic	0.894	Shapiro Wilk Lognormal GOF Test	
129	5% Shapiro Wilk Critical Value	0.842	Data appear Lognormal at 5% Significance Level	
130	Lilliefors Test Statistic	0.194	Lilliefors Lognormal GOF Test	
131	5% Lilliefors Critical Value	0.28	Data appear Lognormal at 5% Significance Level	
132	Data appear Lognormal at 5% Significance Level			
133				
134	Lognormal Statistics			
135	Minimum of Logged Data	5.652	Mean of logged Data	6.9
136	Maximum of Logged Data	7.581	SD of logged Data	0.582
137				
138	Assuming Lognormal Distribution			
139	95% H-UCL	1851	90% Chebyshev (MVUE) UCL	1805
140	95% Chebyshev (MVUE) UCL	2100	97.5% Chebyshev (MVUE) UCL	2510
141	99% Chebyshev (MVUE) UCL	3315		
142	95% UCL FOR PCE			
143	Nonparametric Distribution Free UCL Statistics			
144	Data appear to follow a Discernible Distribution at 5% Significance Level			
145				
146	Nonparametric Distribution Free UCLs			
147	95% CLT UCL	1401	95% Jackknife UCL	1432
148	95% Standard Bootstrap UCL	1383	95% Bootstrap-t UCL	1420
149	95% Hall's Bootstrap UCL	1389	95% Percentile Bootstrap UCL	1390
150	95% BCA Bootstrap UCL	1374		
151	90% Chebyshev (Mean, Sd) UCL	1626	95% Chebyshev (Mean, Sd) UCL	1851
152	97.5% Chebyshev (Mean, Sd) UCL	2164	99% Chebyshev (Mean, Sd) UCL	2779
153				
154	Suggested UCL to Use			
155	95% Student's-t UCL	1432		
156				

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). However, simulations results will not cover all Real World data sets.
For additional insight the user may want to consult a statistician.

Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.

MEAN FOR TCE

TCE

General Statistics			
Total Number of Observations	10	Number of Distinct Observations	10
		Number of Missing Observations	0
Minimum	8.58	Mean	40.17
Maximum	63.4	Median	45.45
SD	16.85	Std. Error of Mean	5.328
Coefficient of Variation	0.419	Skewness	-0.643

Normal GOF Test		
Shapiro Wilk Test Statistic	0.95	Shapiro Wilk GOF Test
5% Shapiro Wilk Critical Value	0.842	Data appear Normal at 5% Significance Level
Lilliefors Test Statistic	0.183	Lilliefors GOF Test
5% Lilliefors Critical Value	0.28	Data appear Normal at 5% Significance Level

Data appear Normal at 5% Significance Level

Assuming Normal Distribution			
95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	49.94	95% Adjusted-CLT UCL (Chen-1995)	47.78
		95% Modified-t UCL (Johnson-1978)	49.76

Gamma GOF Test		
A-D Test Statistic	0.553	Anderson-Darling Gamma GOF Test
5% A-D Critical Value	0.729	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.214	Kolmogrov-Smirnoff Gamma GOF Test
5% K-S Critical Value	0.268	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics			
k hat (MLE)	4.201	k star (bias corrected MLE)	3.007
Theta hat (MLE)	9.561	Theta star (bias corrected MLE)	13.36
nu hat (MLE)	84.02	nu star (bias corrected)	60.15
MLE Mean (bias corrected)	40.17	MLE Sd (bias corrected)	23.16
		Approximate Chi Square Value (0.05)	43.31
Adjusted Level of Significance	0.0267	Adjusted Chi Square Value	40.84

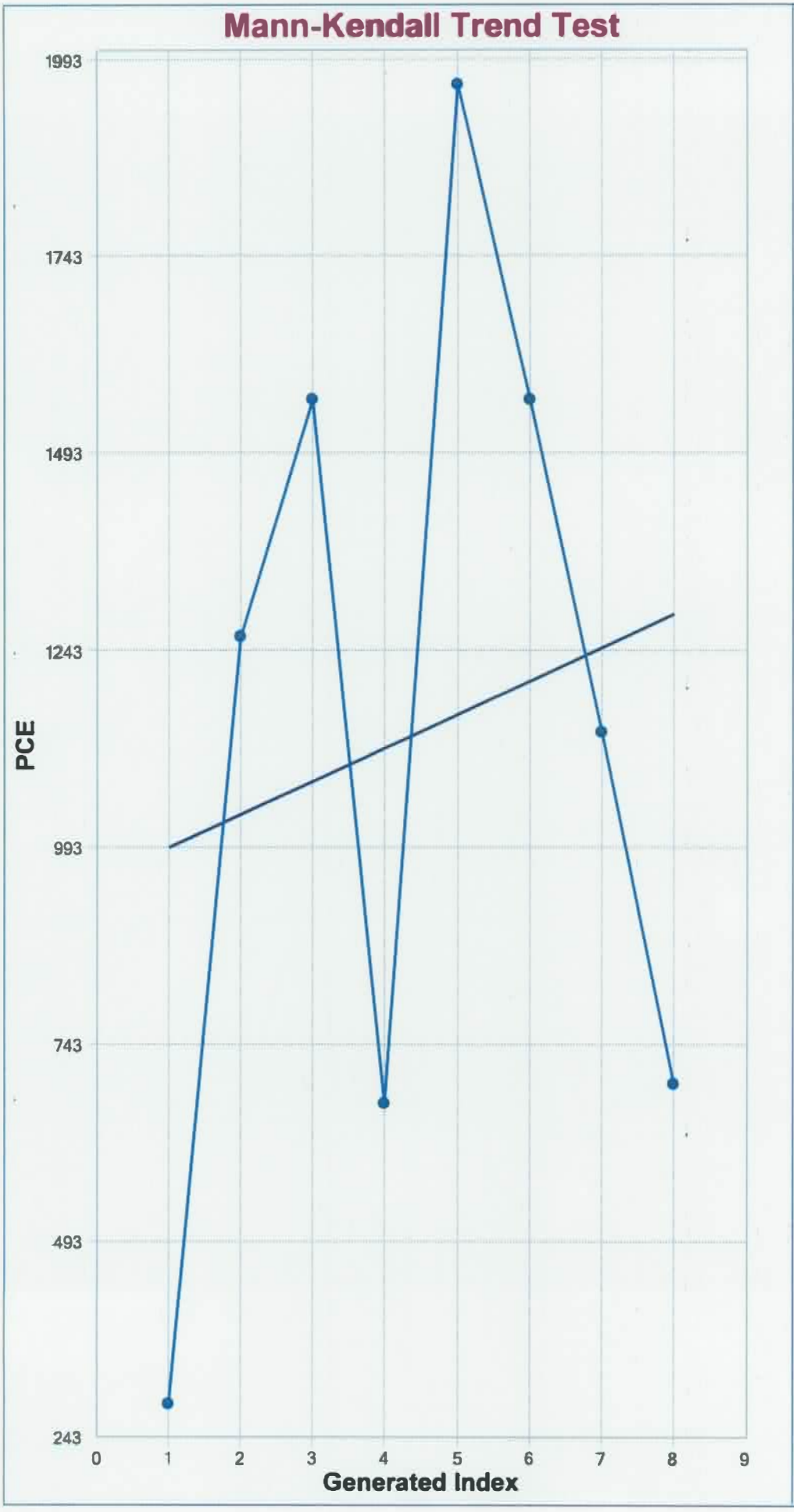
Assuming Gamma Distribution			
95% Approximate Gamma UCL (use when n>=50))	55.78	95% Adjusted Gamma UCL (use when n<50)	59.16

Lognormal GOF Test		
Shapiro Wilk Test Statistic	0.827	Shapiro Wilk Lognormal GOF Test
5% Shapiro Wilk Critical Value	0.842	Data Not Lognormal at 5% Significance Level

209				Lilliefors Test Statistic		0.221		Lilliefors Lognormal GOF Test				
210				5% Lilliefors Critical Value		0.28		Data appear Lognormal at 5% Significance Level				
211				Data appear Approximate Lognormal at 5% Significance Level								
212												
213				Lognormal Statistics								
214				Minimum of Logged Data		2.149				Mean of logged Data		3.569
215				Maximum of Logged Data		4.149				SD of logged Data		0.598
216												
217				Assuming Lognormal Distribution								
218				95% H-UCL		68.01				90% Chebyshev (MVUE) UCL		65.77
219				95% Chebyshev (MVUE) UCL		76.72				97.5% Chebyshev (MVUE) UCL		91.91
220				99% Chebyshev (MVUE) UCL		121.8						
221												
222				Nonparametric Distribution Free UCL Statistics								
223	95% UCL			Data appear to follow a Discernible Distribution at 5% Significance Level								
224	FOR TCE											
225				Nonparametric Distribution Free UCLs								
226				95% CLT UCL		48.93				95% Jackknife UCL		49.94
227				95% Standard Bootstrap UCL		48.45				95% Bootstrap-t UCL		48.76
228				95% Hall's Bootstrap UCL		47.95				95% Percentile Bootstrap UCL		48.17
229				95% BCA Bootstrap UCL		47.61						
230				90% Chebyshev(Mean, Sd) UCL		56.15				95% Chebyshev(Mean, Sd) UCL		63.39
231				97.5% Chebyshev(Mean, Sd) UCL		73.44				99% Chebyshev(Mean, Sd) UCL		93.18
232												
233				Suggested UCL to Use								
234				95% Student's-t UCL		49.94						
235												
236	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
237	These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)											
238	and Singh and Singh (2003). However, simulations results will not cover all Real World data sets.											
239	For additional insight the user may want to consult a statistician.											
240												
241	Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be											
242	reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.											
243												

	A	B	C	D	E	F	G	H	I	J	K	L
1				Mann-Kendall Trend Test Analysis								
2		User Selected Options										
3		Date/Time of Computation		2/12/2015 2:03:01 PM								
4		From File		PMW-4.xls								
5		Full Precision		OFF								
6		Confidence Coefficient		0.95								
7		Level of Significance		0.05								
8												
9		PCE										
10												
11		General Statistics										
12		Number or Reported Events Not Used			0							
13		Number of Generated Events			8							
14		Number Values Reported (n)			8							
15		Minimum			285							
16		Maximum			1960							
17		Mean			1141							
18		Geometric Mean			987.6							
19		Median			1200							
20		Standard Deviation			559.6							
21												
22		Mann-Kendall Test										
23		Test Value (S)			3							
24		Tabulated p-value			0.452							
25		Standard Deviation of S			8.021							
26		Standardized Value of S			0.249							
27		Approximate p-value			0.402							
28												
29	Insufficient evidence to identify a significant											
30	trend at the specified level of significance.											

Mann-Kendall
PMW-4



Mann-Kendall Trend Analysis

n	8
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	8.0208
Standardized Value of S	0.2494
Test Value (S)	3
Tabulated p-value	0.4520
Approximate p-value	0.4015

OLS Regression Line (Blue)

OLS Regression Slope	42.2262
OLS Regression Intercept	950.8571

Insufficient statistical evidence of a significant trend at the specified level of significance.

PMW-4

	0	1	2	3	4
	Date	cis-DCE	PCE	TCE	
1	8/20/2011 12:00:00 AM	5.5	628	62.6	
2	5/22/2013 12:00:00 AM	8.75	548	48.4	
3	9/18/2013 12:00:00 AM	13.2	749	48.1	
4	12/13/2013 12:00:00 AM	11.5	880	41.5	Purtee Monitoring Well No. 5
5	3/31/2014 12:00:00 AM	7.43	510	49.8	
6	6/17/2014 12:00:00 AM	98.8	550	52.8	
7	9/30/2014 12:00:00 AM	33.1	1540	49.4	
8	11/25/2014 12:00:00 AM	2.5	375	22.6	
9	2/4/2015 12:00:00 AM	2.5	329	20	
10					
11					
12					
13					
14					
15					
16					

PURTEE MONITORING WELL NO. 5

RAW DATA

	A	B	C	D	E	F	G	H	I	J	K	L
1	UCL Statistics for Uncensored Full Data Sets - Purtee Monitoring Well No. 5											
2												
3	User Selected Options											
4	Date/Time of Computation			2/12/2015 12:38:21 PM								
5	From File			PMW-5.xls								
6	Full Precision			OFF								
7	Confidence Coefficient			95%								
8	Number of Bootstrap Operations			2000								
9												
10												
11	cis-DCE											
12												
13	General Statistics											
14	Total Number of Observations					9	Number of Distinct Observations					8
15							Number of Missing Observations					0
16	Minimum					2.5	Mean					20.36
17	Maximum					98.8	Median					8.75
18	SD					30.83	Std. Error of Mean					10.28
19	Coefficient of Variation					1.514	Skewness					2.55
20												
21	Note: Sample size is small (e.g., <10), If data are collected using ISM approach, you should use											
22	guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.											
23	For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).											
24	Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.0											
25												
26	Normal GOF Test											
27	Shapiro Wilk Test Statistic					0.618	Shapiro Wilk GOF Test					
28	5% Shapiro Wilk Critical Value					0.829	Data Not Normal at 5% Significance Level					
29	Lilliefors Test Statistic					0.37	Lilliefors GOF Test					
30	5% Lilliefors Critical Value					0.295	Data Not Normal at 5% Significance Level					
31	Data Not Normal at 5% Significance Level											
32												
33	Assuming Normal Distribution											
34	95% Normal UCL						95% UCLs (Adjusted for Skewness)					
35	95% Student's-t UCL					39.48	95% Adjusted-CLT UCL (Chen-1995)					46.61
36							95% Modified-t UCL (Johnson-1978)					40.93
37												
38	Gamma GOF Test											
39	A-D Test Statistic					0.625	Anderson-Darling Gamma GOF Test					
40	5% A-D Critical Value					0.749	Detected data appear Gamma Distributed at 5% Significance Level					
41	K-S Test Statistic					0.275	Kolmogrov-Smirnoff Gamma GOF Test					
42	5% K-S Critical Value					0.288	Detected data appear Gamma Distributed at 5% Significance Level					
43	Detected data appear Gamma Distributed at 5% Significance Level											
44												
45	Gamma Statistics											
46	k hat (MLE)					0.843	k star (bias corrected MLE)					0.636
47	Theta hat (MLE)					24.17	Theta star (bias corrected MLE)					32.03
48	nu hat (MLE)					15.17	nu star (bias corrected)					11.44
49	MLE Mean (bias corrected)					20.36	MLE Sd (bias corrected)					25.54
50							Approximate Chi Square Value (0.05)					4.863
51	Adjusted Level of Significance					0.0231	Adjusted Chi Square Value					3.998
52												

MEAN FOR cis-DCE

	A	B	C	D	E	F	G	H	I	J	K	L
53					Assuming Gamma Distribution							
54				95% Approximate Gamma UCL (use when n>=50)		47.92			95% Adjusted Gamma UCL (use when n<50)			58.3
55												
56					Lognormal GOF Test							
57				Shapiro Wilk Test Statistic		0.934			Shapiro Wilk Lognormal GOF Test			
58				5% Shapiro Wilk Critical Value		0.829			Data appear Lognormal at 5% Significance Level			
59				Lilliefors Test Statistic		0.188			Lilliefors Lognormal GOF Test			
60				5% Lilliefors Critical Value		0.295			Data appear Lognormal at 5% Significance Level			
61					Data appear Lognormal at 5% Significance Level							
62												
63					Lognormal Statistics							
64				Minimum of Logged Data		0.916			Mean of logged Data			2.314
65				Maximum of Logged Data		4.593			SD of logged Data			1.177
66												
67					Assuming Lognormal Distribution							
68				95% H-UCL		92.15			90% Chebyshev (MVUE) UCL			40.24
69				95% Chebyshev (MVUE) UCL		50.27			97.5% Chebyshev (MVUE) UCL			64.18
70				99% Chebyshev (MVUE) UCL		91.52						
71	95% UCL FOR CIS-DLE											
72					Nonparametric Distribution Free UCL Statistics							
73					Data appear to follow a Discernible Distribution at 5% Significance Level							
74												
75					Nonparametric Distribution Free UCLs							
76				95% CLT UCL		37.27			95% Jackknife UCL			39.48
77				95% Standard Bootstrap UCL		36.21			95% Bootstrap-t UCL			122.2
78				95% Hall's Bootstrap UCL		124.9			95% Percentile Bootstrap UCL			39.1
79				95% BCA Bootstrap UCL		48.01						
80				90% Chebyshev(Mean, Sd) UCL		51.2			95% Chebyshev(Mean, Sd) UCL			65.16
81				97.5% Chebyshev(Mean, Sd) UCL		84.55			99% Chebyshev(Mean, Sd) UCL			122.6
82												
83					Suggested UCL to Use							
84				95% Adjusted Gamma UCL		58.3						
85												
86					Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.							
87					These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)							
88					and Singh and Singh (2003). However, simulations results will not cover all Real World data sets.							
89					For additional insight the user may want to consult a statistician.							
90												
91											MEAN FOR PCE	
92	PCE											
93												
94					General Statistics							
95				Total Number of Observations		9			Number of Distinct Observations			9
96									Number of Missing Observations			0
97				Minimum		329			Mean			678.8
98				Maximum		1540			Median			550
99				SD		365.1			Std. Error of Mean			121.7
100				Coefficient of Variation		0.538			Skewness			1.873
101												
102					Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use							
103					guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.							
104					For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).							

	A	B	C	D	E	F	G	H	I	J	K	L
105	Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.0											
106												
107	Normal GOF Test											
108					Shapiro Wilk Test Statistic	0.814	Shapiro Wilk GOF Test					
109					5% Shapiro Wilk Critical Value	0.829	Data Not Normal at 5% Significance Level					
110					Lilliefors Test Statistic	0.222	Lilliefors GOF Test					
111					5% Lilliefors Critical Value	0.295	Data appear Normal at 5% Significance Level					
112	Data appear Approximate Normal at 5% Significance Level											
113												
114	Assuming Normal Distribution											
115			95% Normal UCL				95% UCLs (Adjusted for Skewness)					
116				95% Student's-t UCL		905.1				95% Adjusted-CLT UCL (Chen-1995)		960.1
117										95% Modified-t UCL (Johnson-1978)		917.8
118												
119	Gamma GOF Test											
120					A-D Test Statistic	0.371	Andersom-Darling Gamma GOF Test					
121					5% A-D Critical Value	0.723	Detected data appear Gamma Distributed at 5% Significance Level					
122					K-S Test Statistic	0.175	Kolmogrov-Smirnoff Gamma GOF Test					
123					5% K-S Critical Value	0.28	Detected data appear Gamma Distributed at 5% Significance Level					
124	Detected data appear Gamma Distributed at 5% Significance Level											
125												
126	Gamma Statistics											
127					k hat (MLE)	5.008				k star (bias corrected MLE)		3.413
128					Theta hat (MLE)	135.5				Theta star (bias corrected MLE)		198.9
129					nu hat (MLE)	90.15				nu star (bias corrected)		61.43
130					MLE Mean (bias corrected)	678.8				MLE Sd (bias corrected)		367.4
131										Approximate Chi Square Value (0.05)		44.4
132					Adjusted Level of Significance	0.0231				Adjusted Chi Square Value		41.37
133												
134	Assuming Gamma Distribution											
135			95% Approximate Gamma UCL (use when n>=50))			939				95% Adjusted Gamma UCL (use when n<50)		1008
136												
137	Lognormal GOF Test											
138					Shapiro Wilk Test Statistic	0.951	Shapiro Wilk Lognormal GOF Test					
139					5% Shapiro Wilk Critical Value	0.829	Data appear Lognormal at 5% Significance Level					
140					Lilliefors Test Statistic	0.147	Lilliefors Lognormal GOF Test					
141					5% Lilliefors Critical Value	0.295	Data appear Lognormal at 5% Significance Level					
142	Data appear Lognormal at 5% Significance Level											
143												
144	Lognormal Statistics											
145					Minimum of Logged Data	5.796				Mean of logged Data		6.417
146					Maximum of Logged Data	7.34				SD of logged Data		0.462
147												
148	Assuming Lognormal Distribution											
149					95% H-UCL	974.9				90% Chebyshev (MVUE) UCL		987.1
150					95% Chebyshev (MVUE) UCL	1130				97.5% Chebyshev (MVUE) UCL		1327
151					99% Chebyshev (MVUE) UCL	1716						
152												
153	Nonparametric Distribution Free UCL Statistics											
154	Data appear to follow a Discernible Distribution at 5% Significance Level											
155												
156	Nonparametric Distribution Free UCLs											

157	95% CLT UCL	879	95% Jackknife UCL	905.1
158	95% Standard Bootstrap UCL	866.2	95% Bootstrap-t UCL	1109
159	95% Hall's Bootstrap UCL	1818	95% Percentile Bootstrap UCL	887.1
160	95% BCA Bootstrap UCL	964.7		
161	90% Chebyshev(Mean, Sd) UCL	1044	95% Chebyshev(Mean, Sd) UCL	1209
162	97.5% Chebyshev(Mean, Sd) UCL	1439	99% Chebyshev(Mean, Sd) UCL	1890
163	95% UCL For PCE			
164	Suggested UCL to Use			
165	95% Student's-t UCL	905.1		
166				

167 Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
168 These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
169 and Singh and Singh (2003). However, simulations results will not cover all Real World data sets.
170 For additional insight the user may want to consult a statistician.

171

172

173 TCE

174 MEAN FOR TCE

175	General Statistics			
176	Total Number of Observations	9	Number of Distinct Observations	9
177			Number of Missing Observations	0
178	Minimum	20	Mean	43.91
179	Maximum	62.6	Median	48.4
180	SD	13.98	Std. Error of Mean	4.658
181	Coefficient of Variation	0.318	Skewness	-0.919

43.91

182

183 Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use
184 guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.
185 For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).
186 Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.0

187

188	Normal GOF Test			
189	Shapiro Wilk Test Statistic	0.859	Shapiro Wilk GOF Test	
190	5% Shapiro Wilk Critical Value	0.829	Data appear Normal at 5% Significance Level	
191	Lilliefors Test Statistic	0.284	Lilliefors GOF Test	
192	5% Lilliefors Critical Value	0.295	Data appear Normal at 5% Significance Level	
193	Data appear Normal at 5% Significance Level			
194				
195	Assuming Normal Distribution			
196	95% Normal UCL		95% UCLs (Adjusted for Skewness)	
197	95% Student's-t UCL	52.57	95% Adjusted-CLT UCL (Chen-1995)	50.05
198			95% Modified-t UCL (Johnson-1978)	52.34
199				
200	Gamma GOF Test			
201	A-D Test Statistic	0.943	Anderson-Darling Gamma GOF Test	
202	5% A-D Critical Value	0.722	Data Not Gamma Distributed at 5% Significance Level	
203	K-S Test Statistic	0.316	Kolmogrov-Smirnoff Gamma GOF Test	
204	5% K-S Critical Value	0.279	Data Not Gamma Distributed at 5% Significance Level	
205	Data Not Gamma Distributed at 5% Significance Level			
206				
207	Gamma Statistics			
208	k hat (MLE)	8.557	k star (bias corrected MLE)	5.779

209	Theta hat (MLE)	5.132	Theta star (bias corrected MLE)	7.599
210	nu hat (MLE)	154	nu star (bias corrected)	104
211	MLE Mean (bias corrected)	43.91	MLE Sd (bias corrected)	18.27
212			Approximate Chi Square Value (0.05)	81.48
213	Adjusted Level of Significance	0.0231	Adjusted Chi Square Value	77.29
214				
215	**Assuming Gamma Distribution**			
216	95% Approximate Gamma UCL (use when n>=50))	56.05	95% Adjusted Gamma UCL (use when n<50)	59.1
217				
218	**Lognormal GOF Test**			
219	Shapiro Wilk Test Statistic	0.785	**Shapiro Wilk Lognormal GOF Test**	
220	5% Shapiro Wilk Critical Value	0.829	Data Not Lognormal at 5% Significance Level	
221	Lilliefors Test Statistic	0.316	**Lilliefors Lognormal GOF Test**	
222	5% Lilliefors Critical Value	0.295	Data Not Lognormal at 5% Significance Level	
223	Data Not Lognormal at 5% Significance Level			
224				
225	**Lognormal Statistics**			
226	Minimum of Logged Data	2.996	Mean of logged Data	3.723
227	Maximum of Logged Data	4.137	SD of logged Data	0.393
228				
229	**Assuming Lognormal Distribution**			
230	95% H-UCL	60.07	90% Chebyshev (MVUE) UCL	61.89
231	95% Chebyshev (MVUE) UCL	69.85	97.5% Chebyshev (MVUE) UCL	80.91
232	99% Chebyshev (MVUE) UCL	102.6		
233				
234	95% UCL For TCE	**Nonparametric Distribution Free UCL Statistics**		
235	Data appear to follow a Discernible Distribution at 5% Significance Level			
236				
237	**Nonparametric Distribution Free UCLs**			
238	95% CLT UCL	51.57	95% Jackknife UCL	52.57
239	95% Standard Bootstrap UCL	51.37	95% Bootstrap-t UCL	51.29
240	95% Hall's Bootstrap UCL	50.13	95% Percentile Bootstrap UCL	50.71
241	95% BCA Bootstrap UCL	49.89		
242	90% Chebyshev(Mean, Sd) UCL	57.89	95% Chebyshev(Mean, Sd) UCL	64.22
243	97.5% Chebyshev(Mean, Sd) UCL	73	99% Chebyshev(Mean, Sd) UCL	90.26
244				
245	**Suggested UCL to Use**			
246	95% Student's-t UCL	52.57		
247				
248	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.			
249	These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)			
250	and Singh and Singh (2003). However, simulations results will not cover all Real World data sets.			
251	For additional insight the user may want to consult a statistician.			
252				
253	Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be			
254	reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.			
255				

Mann-Kendall Trend Test Analysis

User Selected Options	
Date/Time of Computation	2/12/2015 2:05:29 PM
From File	PMW-5.xls
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05

PCE

General Statistics	
Number of Reported Events Not Used	0
Number of Generated Events	8
Number Values Reported (n)	8
Minimum	329
Maximum	1540
Mean	685.1
Geometric Mean	610.3
Median	549
Standard Deviation	389.8

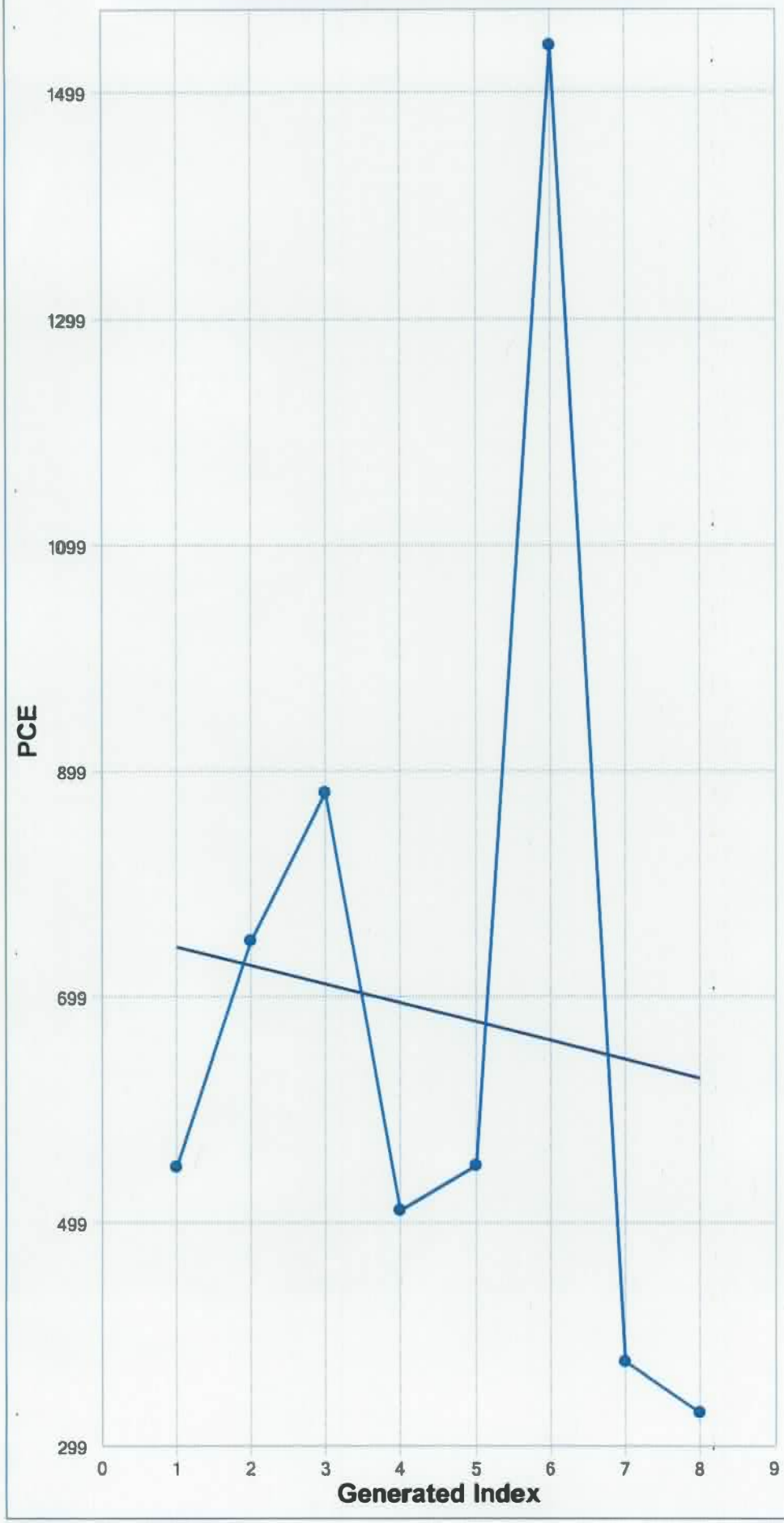
Mann-Kendall Test	
Test Value (S)	-8
Tabulated p-value	0.119
Standard Deviation of S	8.083
Standardized Value of S	-0.866
Approximate p-value	0.193

Insufficient evidence to identify a significant trend at the specified level of significance.

Mann-Kendall

PMW-5

Mann-Kendall Trend Test



Mann-Kendall Trend Analysis

n	8
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	8.0829
Standardized Value of S	-0.8660
Test Value (S)	-8
Tabulated p-value	0.1190
Approximate p-value	0.1932

OLS Regression Line (Blue)

OLS Regression Slope	-16.4643
OLS Regression Intercept	759.2143

Insufficient statistical evidence of a significant trend at the specified level of significance.

PMW-S