1435 Norjohn Court, Unit 1, Burlington, ON, Canada L7L 0E6

VOC DATA PACKAGE

Client Project Information

Project ID: Picatinny Arsenal
Project Description:
Contact: Joyce McGee

ALSE Project Information

Project ID: CBI200

Contact: Lynne Wrona
Submission ID(s): L1806455

Final Package Review by: _____

Date Reviewed: 31-Aug-16

1435 Norjohn Court, Unit 1, Burlington, ON, Canada L7L 0E6

VOC DATA PACKAGE

SECTION 1: PROJECT NARRATIVE

ALSE Project Information

Project ID: CBI200

Contact: Lynne Wrona

Submission ID(s): L1806455

Client Project Information

Project ID: Picatinny Arsenal

Project Description:

Contact: Joyce McGee

Analytical Method: VOCs via SW846 Method 5041A/8260B

ALS Sample ID	Client Sample Descriptions	Matrix	Date Sampled	Date Received	Date Analyzed
Laboratory Method Blank		VOST	n/a	n/a	03-Aug-16
Laboratory Control Sample		VOST	n/a	n/a	03-Aug-16
L1806455-11	PY-1030 QC TRIP BLANK (TENAX TUBE#1)	VOST	27-Jul-16	30-Jul-16	03-Aug-16
L1806455-9	PY-1029 QC FIELD BLANK (TENAX TUBE#1)	VOST	27-Jul-16	30-Jul-16	03-Aug-16
L1806455-7	PY-1025 SET#4 (TENAX TUBE#1)	VOST	27-Jul-16	30-Jul-16	03-Aug-16
L1806455-5	PY-1023 SET#3 (TENAX TUBE#1)	VOST	27-Jul-16	30-Jul-16	03-Aug-16
L1806455-3	PY-1021 SET#2 (TENAX TUBE#1)	VOST	27-Jul-16	30-Jul-16	03-Aug-16
Laboratory Method Blank		VOST	n/a	n/a	04-Aug-16
Laboratory Control Sample		VOST	n/a	n/a	04-Aug-16
L1806455-12	PY-1030 QC TRIP BLANK (TENAX TUBE#2 + ANASORB 747)	VOST	27-Jul-16	30-Jul-16	04-Aug-16
L1806455-10	PY-1029 QC FIELD BLANK (TENAX TUBE#2 + ANASORB 747)	VOST	27-Jul-16	30-Jul-16	04-Aug-16
L1806455-4	PY-1022 SET#2 (TENAX TUBE#2 + ANASORB 747)	VOST	27-Jul-16	30-Jul-16	04-Aug-16
L1806455-6	PY-1024 SET#3 (TENAX TUBE#2 + ANASORB 747)	VOST	27-Jul-16	30-Jul-16	04-Aug-16
L1806455-8	PY-1026 SET#4 (TENAX TUBE#2 + ANASORB 747)	VOST	27-Jul-16	30-Jul-16	04-Aug-16

Comments and Notes:
a) Sample Integrity:

The samples were received in good condition at 5.0 degrees C.

b) Instrumental Analysis:

The recoveries of selected internal standards are outside the limits of the QAPP. However, these standard recoveries are within the reference method control limits, and the native target recoveries for the laboratory control samples (LCSs) are all within limits. No bias to reported sample data is expected.

I certify that this data package is in compliance with the terms and condition of the contract , both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this data package (hardcopy and/or electronic version) has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Stephen Kennedy, Technical Supervisor

31-Aug-16
Date

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VOC DATA PACKAGE

SECTION 2: DATA SUMMARY REPORT

1435 Norjohn Court, Unit 1, Burlington ON, L7L 0E6
Phone: 905-331-3111, FAX: 905-331-4567

Certificate of Analysis

ALS Project Contact:	Lynne Wrona	**Client Name:**	Chicago Bridge & Iron Company
ALS Project ID:	CBI200	**Client Address:**	2410 Cherahala Drive
ALS WO#:	L1806455		Knoxville, TN 37932
Date of Report	16-Aug-16		United States
Date of Sample Receipt	30-Jul-16	**Client Contact:**	Joyce McGee
		Client Project ID:	Picatinny Arsenal

COMMENTS: **VOCs via SW846 Method 5041A/8260B**

Certified by: L. Wrona

Lynne Wrona
Account Manager

Results in this certificate relate only to the samples as submitted to the laboratory.
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ALS Life Sciences

Sample Analysis Summary Report

Instrument	MSD-3	Sample Matrix	VOST Tube
Column	Rxi-624Sil MS 1099869	Analysis Units	ug/sample
Acquisition Start Date	8/3/2016		

		Laboratory Method Blank	Laboratory Control Sample	PY-1030 QC TRIP BLANK (TENAX TUBE#1)	PY-1029 QC FIELD BLANK (TENAX TUBE#1)	PY-1025 SET#4 (TENAX TUBE#1)	PY-1023 SET#3 (TENAX TUBE#1)	PY-1021 SET#2 (TENAX TUBE#1)	Recovery Control Limtis
Client Sample ID									
ALS Sample ID		VOST-blank	250ng control STD	L1806455-11	L1806455-9	L1806455-7	L1806455-5	L1806455-3	
Filename		16080307.D	16080306.D	16080308.D	16080309.D	16080310.D	16080311.D	16080312.D	
		Blank	LCS	sample	sample	sample	sample	sample	
Sampling date				7/27/2016	7/27/2016	7/27/2016	7/27/2016	7/27/2016	
Acquisition Time		8/3/2016 16:14	8/3/2016 15:35	8/3/2016 16:40	8/3/2016 17:05	8/3/2016 17:31	8/3/2016 17:56	8/3/2016 18:22	
Target Analyte	**RL ug/sample**	**Conc. ug/sample**	**% Rec**	**Conc. ug/sample**	**Conc. ug/sample**	**Conc. ug/sample**	**Conc. ug/sample**	**Conc. ug/sample**	**% Rec**
Benzene	0.011	<0.011	83	0.012 J	0.012 J	0.068	0.057	0.041 J	75-125
Trichloroethene	0.0072	<0.0072	97	<0.0072	<0.0072	<0.0081 J,R	<0.0085 J,R	0.008 J	75-125
1,1-Dichloroethene	0.01	<0.01	103						75-125
Toluene	0.05	<0.05	86						75-125
Chlorobenzene	0.01	<0.01	93						75-125
Field Standard		**% Rec**	**% Rec**	**% Rec**	**% Rec**	**% Rec**	**% Rec**	**% Rec**	
d10-Ethylbenzene		116	105	113	120	85	84	93	
Surrogate Standards		**% Rec**	**% Rec**	**% Rec**	**% Rec**	**% Rec**	**% Rec**	**% Rec**	**% Rec**
d4-1,2-Dichloroethane		117	108	115	116	123	119	114	50-130
d8-Toluene		104	99	101	102	111	109	107	50-130
4-Bromofluorobenzene		92	108	92	90	86	85	84	50-130
Internal Standards		**% Rec**	**% Rec**	**% Rec**	**% Rec**	**% Rec**	**% Rec**	**% Rec**	**% Rec**
Bromochloromethane		112	113	102	107	122	121	149	65-135
1,4-Difluorobenzene		142	122	139	148	144	141	165	65-135
d5-Chlorobenzene		125	107	126	132	115	116	135	65-135

R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion

J indicates an estimated value, below than calibration range

ALS Life Sciences

Sample Analysis Summary Report

Instrument	MSD-3	Sample Matrix	VOST Tube
Column	Rxi-624Sil MS 1099869	Analysis Units	ug/sample
Acquisition Start Date	8/4/2016		

Client Sample ID		Laboratory Method Blank	Laboratory Control Sample	PY-1030 QC TRIP BLANK (TENAX TUBE#2 + ANASORB 747)	PY-1029 QC FIELD BLANK (TENAX TUBE#2 + ANASORB 747)	PY-1022 SET#2 (TENAX TUBE#2 + ANASORB 747)	PY-1024 SET#3 (TENAX TUBE#2 + ANASORB 747)	PY-1026 SET#4 (TENAX TUBE#2 + ANASORB 747)	Recovery Control Limtis
ALS Sample ID	L1806455	VOST-blank	250ng control STD	L1806455-12	L1806455-10	L1806455-4	L1806455-6	L1806455-8	
Filename		16080405.D	16080404.D	16080406.D	16080407.D	16080408.D	16080409.D	16080410.D	
		Blank	LCS	sample	sample	sample	sample	sample	
Sampling date				7/27/2016	7/27/2016	7/27/2016	7/27/2016	7/27/2016	
Acquisition Time		8/4/2016 13:40	8/4/2016 12:07	8/4/2016 14:05	8/4/2016 14:31	8/4/2016 14:57	8/4/2016 15:36	8/4/2016 16:36	
Target Analyte	**RL ug/sample**	**Conc. ug/sample**	**% Rec**	**Conc. ug/sample**	**Conc. ug/sample**	**Conc. ug/sample**	**Conc. ug/sample**	**Conc. ug/sample**	**% Rec**
Benzene	0.011	0.011	92	0.012 J	<0.011	0.016 J	0.024 J	0.020 J	75-125
Trichloroethene	0.0072	<0.0072	102	<0.0072	<0.0072	<0.0072	<0.0072	<0.0072	75-125
1,1-Dichloroethene	0.01	<0.01	119						75-125
Toluene	0.05	<0.05	118						75-125
Chlorobenzene	0.01	<0.01	122						75-125
Field Standard		**% Rec**	**% Rec**	**% Rec**	**% Rec**	**% Rec**	**% Rec**	**% Rec**	
d10-Ethylbenzene		117	127	124	122	NS	NS	NS	
Surrogate Standards		**% Rec**	**% Rec**	**% Rec**	**% Rec**	**% Rec**	**% Rec**	**% Rec**	**% Rec**
d4-1,2-Dichloroethane		114	86	121	121	122	124	121	50-130
d8-Toluene		120	117	119	118	126	129	128	50-130
4-Bromofluorobenzene		81	100	83	83	77	75	82	50-130
Internal Standards		**% Rec**	**% Rec**	**% Rec**	**% Rec**	**% Rec**	**% Rec**	**% Rec**	**% Rec**
Bromochloromethane		111	108	106	112	104	113	109	65-135
1,4-Difluorobenzene		127	95	117	124	106	110	112	65-135
d5-Chlorobenzene		124	93	118	127	98	100	104	65-135

NS indicates that compound was not spiked
J indicates an estimated value, below than calibration range

1435 Norjohn Court, Unit 1, Burlington, ON, Canada L7L 0E6

VOC DATA PACKAGE

SECTION 3: METHOD SUMMARY

Introduction:

This summary is to provide ALSE Burlington VOC method details in order to provide persons reviewing or validating this data package sufficient informatior to re-construct the sample calculation, data verification and review. It incorporates the analysis of VOCs via the following reference methods

US EPA SW846, sampling methods 0030 and 0031
US EPA SW846, analysis methods 5041A, 8260B and 8260C

Any deviations to what is listed herein would be listed in the project narrative

To avoid the confusion and conflicting nomenclature within the methods, we have defined the labeled standards in terms relating to the time of addition to the sample or extract. Therefore;

The Field or Sampling Standards are added prior to field sampling
The surrogates are added prior to sample preparation
The Injection Standards are added prior to sample preparation.

Calibration Standard Levels:

Seven levels of standard are available for calibration as listed in Table 1.

Table 1. calibration and calibration verification standards - ng per sample

Compounds	CS-1	CS-2	CS-3	CS-4 (VER)	CS-5	CS-6	CS-7 (Optional)
Native Standards							
1,1,1,2-Tetrachloroethane	50	100	150	250	375	500	2000
1,1,1-Trichloroethane	50	100	150	250	375	500	2000
1,1,2,2-Tetrachloroethane	50	100	150	250	375	500	2000
1,1,2-Trichloroethane	50	100	150	250	375	500	2000
1,1-Dichloroethane	50	100	150	250	375	500	2000
1,1-Dichloroethene	50	100	150	250	375	500	2000
1,1-Dichloropropene	50	100	150	250	375	500	2000
1,2,3-Trichloropropane	50	100	150	250	375	500	2000
1,2,4-Trichlorobenzene	50	100	150	250	375	500	2000
1,2,4-Trimethylbenzene	50	100	150	250	375	500	2000
1,2-Dibromo-3-chloropropane	50	100	150	250	375	500	2000
Ethylene Dibromide	50	100	150	250	375	500	2000
1,2-Dichlorobenzene	50	100	150	250	375	500	2000
1,2-Dichloroethane	50	100	150	250	375	500	2000
1,2-Dichloropropane	50	100	150	250	375	500	2000
1,3,5-Trimethylbenzene	50	100	150	250	375	500	2000
1,3-Dichlorobenzene	50	100	150	250	375	500	2000
1,3-Dichloropropane	50	100	150	250	375	500	2000
1,4-Dichlorobenzene	50	100	150	250	375	500	2000
Benzene	50	100	150	250	375	500	2000
Bromobenzene	50	100	150	250	375	500	2000
Bromodichloromethane	50	100	150	250	375	500	2000
Bromoform	50	100	150	250	375	500	2000
Carbon Tetrachloride	50	100	150	250	375	500	2000
Chlorobenzene	50	100	150	250	375	500	2000
Chloroform	50	100	150	250	375	500	2000
cis,1,2-Dichloroethene	50	100	150	250	375	500	2000
cis,1,3-Dichloropropene	50	100	150	250	375	500	2000
Chlorodibromomethane	50	100	150	250	375	500	2000
Dibromomethane	50	100	150	250	375	500	2000
Ethylbenzene	50	100	150	250	375	500	2000
Hexachlorobutadiene	50	100	150	250	375	500	2000
Isopropylbenzene	50	100	150	250	375	500	2000
Methylene Chloride	50	100	150	250	375	500	2000
M&P-Xylene	50	100	150	250	375	500	2000
Naphthalene	50	100	150	250	375	500	2000
n-Butylbenzene	50	100	150	250	375	500	2000
n-Propylbenzene	50	100	150	250	375	500	2000
O-Xylene	50	100	150	250	375	500	2000
p-Isopropyltoluene	50	100	150	250	375	500	2000
M&P-Xylene	50	100	150	250	375	500	2000
sec-Butylbenzene	50	100	150	250	375	500	2000
Styrene	50	100	150	250	375	500	2000
tert-Butylbenzene	50	100	150	250	375	500	2000
Tetrachloroethene	50	100	150	250	375	500	2000
Toluene	50	100	150	250	375	500	2000
trans,1,2-Dichloroethene	50	100	150	250	375	500	2000
trans,1,3-Dichloropropene	50	100	150	250	375	500	2000
Trichloroethene	50	100	150	250	375	500	2000
Bromomethane	50	100	150	250	375	500	-
Chloroethane	50	100	150	250	375	500	-
Chloromethane	50	100	150	250	375	500	-
Dichlorodifluoromethane	50	100	150	250	375	500	-
Trichlorofluoromethane	50	100	150	250	375	500	-
Vinyl Chloride	50	100	150	250	375	500	-
2-Butanone	50	100	150	250	375	-	-
2-Hexanone	50	100	150	250	375	-	-
4-Methyl-2-Pentanone	50	100	150	250	375	-	-
Acetone	50	100	150	250	375	-	-
Carbon disulfide	50	100	150	250	375	-	-
Iodomethane	50	100	150	250	375	-	-
Vinyl Acetate	50	100	150	250	375	-	-
Surrogates							
1-Bromo-4-Fluorobenzene	250	250	250	250	250	250	250
d4-1,2-Dichloroethane	250	250	250	250	250	250	250
d8-Toluene	250	250	250	250	250	250	250
Injection Standards							
Bromochloromethane	250	250	250	250	250	250	250
1,4-Difluorobenzene	250	250	250	250	250	250	250
d5-Chlorobenzene	250	250	250	250	250	250	250
Field Standards							
d10-Ethylbenzene	200	200	200	200	200	200	200

Method Control Limits for VOST

1) BFB must meet criteria
2) Accepted minimum calibration points: 5 points
3) If the %RSD for one or more analytes exceeds 15%, the initial calibration may be acceptable if the mean of the RSD values for all analytes in the calibration, excluding ketones, is less then or equal to 15%.

Table 2A. QC acceptance crtiteria for VOC

Compounds	Test conc	Initial Calibration Curve		Continuing Calibration Verific		Calibration Verification Standard
Native Standards	(ng/mL)	(IC)		(CCV)		(CVS/LCS)
1,1,1,2-Tetrachloroethane	250					50-150
1,1,1-Trichloroethane	250					50-150
1,1,2,2-Tetrachloroethane	250	RRF≥ 0.3		RRF≥ 0.3		50-150
1,1,2-Trichloroethane	250					50-150
1,1-Dichloroethane	250	RRF≥ 0.1 ; %RSD ≤ 30%		RRF≥ 0.1 ; %difference ≤ 25%		50-150
1,1-Dichloroethene	250					50-150
1,1-Dichloropropene	250					50-150
1,2,3-Trichloropropane	250					50-150
1,2,4-Trichlorobenzene	250					50-150
1,2,4-Trimethylbenzene	250					50-150
1,2-Dibromo-3-chloropropane	250					50-150
Ethylene Dibromide	250					50-150
1,2-Dichlorobenzene	250					50-150
1,2-Dichloroethane	250					50-150
1,2-Dichloropropane	250	%RSD ≤ 30%		%difference ≤ 25%		50-150
1,3,5-Trimethylbenzene	250					50-150
1,3-Dichlorobenzene	250					50-150
1,3-Dichloropropane	250					50-150
1,4-Dichlorobenzene	250					50-150
Benzene	250					50-150
Bromobenzene	250					50-150
Bromodichloromethane	250					50-150
Bromoform	250	RRF≥ 0.1		RRF≥ 0.1		50-150
Carbon Tetrachloride	250					50-150
Chlorobenzene	250	RRF≥ 0.3		RRF≥ 0.3		50-150
Chloroform	250	%RSD ≤ 30%		%difference ≤ 25%		50-150
cis,1,2-Dichloroethene	250					50-150
cis,1,3-Dichloropropene	250					50-150
Chlorodibromomethane	250					50-150
Dibromomethane	250					50-150
Ethylbenzene	250	%RSD ≤ 30%	Average RSD <15%	%difference ≤ 25%	Average %Difference <20%	50-150
Hexachlorobutadiene	250					50-150
Isopropylbenzene	250					50-150
Methylene Chloride	250					50-150
M&P-Xylene	250					50-150
Naphthalene	250					50-150
n-Butylbenzene	250					50-150
n-Propylbenzene	250					50-150
O-Xylene	250					50-150
p-Isopropyltoluene	250					50-150
M&P-Xylene	250					50-150
sec-Butylbenzene	250					50-150
Styrene	250					50-150
tert-Butylbenzene	250					50-150
Tetrachloroethene	250					50-150
Toluene	250	%RSD ≤ 30%		%difference ≤ 25%		50-150
trans,1,2-Dichloroethene	250					50-150
trans,1,3-Dichloropropene	250					50-150
Trichloroethene	250					50-150
Bromomethane	250					50-150
Chloroethane	250					50-150
Chloromethane	250	RRF≥ 0.1		RRF≥ 0.1		50-150
Dichlorodifluoromethane	250					50-150
Trichlorofluoromethane	250					50-150
Vinyl Chloride	250	%RSD ≤ 30%		%Difference ≤ 25%		50-150
2-Butanone	250					50-150
2-Hexanone	250					50-150
4-Methyl-2-Pentanone	250					50-150
Acetone	250					50-150
Carbon disulfide	250					50-150
Iodomethane	250					50-150
Vinyl Acetate	250					50-150
Surrogates						
1-Bromo-4-Fluorobenzene	5	%RSD ≤ 30%		50-150		50-150
d4-1,2-Dichloroethane	5	%RSD ≤ 30%		50-150		50-150
d8-Toluene	5	%RSD ≤ 30%		50-150		50-150
Injection Standards						
Bromochloromethane	5					
1,4-Difluorobenzene	5	50-200% from average response		50-200% from Ical CS4		50-200% from CCV
d5-Chlorobenzene	5					

Table 2B) System Performance Check Compounds (SPCC) and minimum RRF criteria

Compound	Relative Response Factors
Chloromethane	0.1
1,1-dichloroethane	0.1
Bromoform	0.1
1, 1, 2, 2-tetrachloroethane	0.3
Chlorobenzene	0.3

Table 2C) Calibration Check Compounds (CCC) and criteria

Compound	IC %RSD	CCV %Difference
1, 1-Dichloroethene	≤ 30%	≤ 25%
Chloroform	≤ 30%	≤ 25%
1, 2-Dichloropropane	≤ 30%	≤ 25%
Toluene	≤ 30%	≤ 25%
Ethylbenzene	≤ 30%	≤ 25%
Vinyl chloride	≤ 30%	≤ 25%

Limit of Reporting (LOR):

Unless indicated in the otherwise, the VOC results are reported as their LOR

Method Blank:

The Method Blank must be below the LOR. Also Acetone and DCM <100ng ; Benzene and Toluene <50ng

Method Blanks are necessary to analyze after high concentration samples as a background check on the system.

Duplicates (very rare; requires dual train sampling):

The % relative difference between duplicates should be less than or equal to 30%.

Instrument Performance Monitoring Requirements:

1) Relative Retention Time of the same compound is within +-0.06RRT units of the RT of the compound in the standard.
2) The relative intensities of the characteristic ions agree within 30% of the relative intensities of these ions in the reference spectrum.

Data Calculations:

a) Analyte Concentrations:

The relative response factor of each target relative to the standard against which it is to be calculated is determined using the area responses of both quantification ions via equation 5.1.
In cases where a native target is calculated against an exact labelled analogue, the quantification will be considered to be by isotope dilution. In other cases, the quantification will be considered to be by internal standard.

$$RRF = \frac{A_t \times C_s}{A_s \times C_t} \qquad \text{Equ. 5.1}$$

Where,
A_t = The areas of the quantification ion for the target analyte
A_s = The areas of the quantification ion for the labelled compound against which the target analyte will be calculated.
C_t = The concentration in the calibration standard of the target analyte.
C_s = The concentration in the calibration standard of the labelled compound against which the target will be calculated.

Sample concentration is calculated relative to the internal standard.

$$\text{Sample conc (ug)} = \frac{\text{Area of cmpd in sample}}{\text{Area of INT in sample}} * \frac{\text{Conc of INT}}{\text{RRFav}} * \frac{\text{DIL}}{1000} \qquad \text{Equ. 5.2}$$

b) Surrogates and Sampling Standard Recovery Calculation:

The extraction, clean-up, and sampling standard recoveries are determined by Equation 5.4 below.

% Recovery = (Amount in sample)/(Amount added to sample) X 100 Equ. 5.3

c) standard deviation (%RSD) for each compound:

$$\%RSD = \frac{RF}{RRFav} \times 100\% \qquad \text{Equ. 5.4}$$

Where RSD = Relative standard deviation
RRFav = The average RRF from the multi-point calibration
SD = Standard deviation of the multi-point RRFs for a compound

d) %diffrence calculation for CCC:

$$\%\text{Recovery in CCVS} = \frac{\text{Area of IS in the CCV}}{\text{Area of IS in the mid-point std in 5PT}} * 100\% \qquad \text{Equ. 5.5}$$

$$\%\text{Recovery in sample:} = \frac{\text{Area of IS in sample}}{\text{Area of IS in the mid-point std in 5PT (or CCV)}} * 100\%$$

Target Quantitation References

VOC compounds	Internal Standards
Dichlorodifluoromethane	Bromochloromethane
Chloromethane	Bromochloromethane
Vinyl Chloride	Bromochloromethane
Bromomethane	Bromochloromethane
Chloroethane	Bromochloromethane
Trichlorofluoromethane	Bromochloromethane
1,1-Dichloroethene	Bromochloromethane
Acetone	Bromochloromethane
Iodomethane	Bromochloromethane
Carbon disulfide	Bromochloromethane
Methylene Chloride	Bromochloromethane
trans,1,2-Dichloroethene	Bromochloromethane
1,1-Dichloroethane	Bromochloromethane
Vinyl Acetate	Bromochloromethane
cis,1,2-Dichloroethene	Bromochloromethane
2-Butanone	Bromochloromethane
Chloroform	Bromochloromethane
1,1,1-Trichloroethane	Bromochloromethane
d4-1,2-Dichloroethane(SURR)	1,4-Difluorobenzene
Carbon Tetrachloride	1,4-Difluorobenzene
Benzene	1,4-Difluorobenzene
1,2-Dichloroethane	1,4-Difluorobenzene
Trichloroethene	1,4-Difluorobenzene
1,2-Dichloropropane	1,4-Difluorobenzene
Dibromomethane	1,4-Difluorobenzene
Bromodichloromethane	1,4-Difluorobenzene
cis,1,3-Dichloropropene	1,4-Difluorobenzene
trans,1,3-Dichloropropene	1,4-Difluorobenzene
4-Methyl-2-Pentanone	1,4-Difluorobenzene
Toluene	d5-Chlorobenzene
1,1,2-Trichloroethane	d5-Chlorobenzene
Tetrachloroethene	d5-Chlorobenzene
2-Hexanone	d5-Chlorobenzene
Chlorodibromomethane	d5-Chlorobenzene
Ethylene Dibromide	d5-Chlorobenzene
Chlorobenzene	d5-Chlorobenzene

1,1,1,2-Tetrachloroethane	d5-Chlorobenzene
Ethylbenzene	d5-Chlorobenzene
M&P-Xylene	d5-Chlorobenzene
O-Xylene	d5-Chlorobenzene
Styrene	d5-Chlorobenzene
Bromoform	d5-Chlorobenzene
1,1,2,2-Tetrachloroethane	d5-Chlorobenzene
1,2,3-Trichloropropane	d5-Chlorobenzene
d10-Ethylbenzene(SPK)	d5-Chlorobenzene
d8-Toluene(SURR)	d5-Chlorobenzene
4-Bromofluorobenzene(SURR)	d5-Chlorobenzene
Isopropylbenzene	d5-Chlorobenzene
1,3,5-Trimethylbenzene	d5-Chlorobenzene
1,2,4-Trimethylbenzene	d5-Chlorobenzene
1,3-Dichlorobenzene	d5-Chlorobenzene
1,4-Dichlorobenzene	d5-Chlorobenzene
1,2-Dichlorobenzene	d5-Chlorobenzene
1,2,4-Trichlorobenzene	d5-Chlorobenzene
Hexachlorobutadiene	d5-Chlorobenzene
Naphthalene	d5-Chlorobenzene
1,1-Dichloropropene	d5-Chlorobenzene
1,3-Dichloropropane	d5-Chlorobenzene
Bromobenzene	d5-Chlorobenzene
n-Propylbenzene	d5-Chlorobenzene
tert-Butylbenzene	d5-Chlorobenzene
sec-Butylbenzene	d5-Chlorobenzene
p-Isopropyltoluene	d5-Chlorobenzene
n-Butylbenzene	d5-Chlorobenzene
1,2-Dibromo-3-chloropropane	d5-Chlorobenzene

1435 Norjohn Court, Unit 1, Burlington, ON, Canada L7L 0E6

VOC DATA PACKAGE

SECTION 4: SAMPLE DATA

Including:

- Individual Quantitation Reports

Instrument Quantitation Report

Data File Name 16080307.D
Date Acquired 8/3/2016 16:14
Sample Name VOST-blank
Misc Info Coder SG
Instrument Name MSD-3

#	Name	Ret Time	Target Response	Amount	Units	Manual Integration
1)	Bromochloromethane	6.73	80489	250.00	ng	0
2)	Dichlorodifluoromethane	0.00	0	0.00	ng	1
3)	Chloromethane	0.00	0	0.00	ng	1
4)	Vinyl Chloride	0.00	0	0.00	ng	1
5)	Bromomethane	0.00	0	0.00	ng	1
6)	Chloroethane	0.00	0	0.00	ng	1
7)	Trichlorofluoromethane	0.00	0	0.00	ng	1
8)	1,1-Dichloroethene	0.00	0	0.00	ng	1
9)	Acetone	0.00	0	0.00	ng	1
10)	Iodomethane	0.00	0	0.00	ng	1
11)	Carbon disulfide	0.00	0	0.00	ng	1
12)	Methylene Chloride	0.00	0	0.00	ng	1
13)	trans,1,2-Dichloroethene	0.00	0	0.00	ng	1
14)	1,1-Dichloroethane	0.00	0	0.00	ng	1
15)	Vinyl Acetate	0.00	0	0.00	ng	1
16)	cis,1,2-Dichloroethene	0.00	0	0.00	ng	1
17)	2-Butanone	0.00	0	0.00	ng	1
18)	Chloroform	0.00	0	0.00	ng	1
19)	1,1,1-Trichloroethane	0.00	0	0.00	ng	1
20)	1,4-Difluorobenzene	8.66	422332	250.00	ng	0
21)	d4-1,2-Dichloroethane(SURR)	7.82	167111	292.12	ng	0
22)	Carbon Tetrachloride	0.00	0	0.00	ng	1
23)	Benzene	7.83	21931	7.17	ng	0
24)	1,2-Dichloroethane	0.00	0	0.00	ng	1
25)	Trichloroethene	0.00	0	0.00	ng	1
26)	1,2-Dichloropropane	0.00	0	0.00	ng	1
27)	Dibromomethane	0.00	0	0.00	ng	1
28)	Bromodichloromethane	0.00	0	0.00	ng	1
29)	cis,1,3-Dichloropropene	0.00	0	0.00	ng	1
30)	trans,1,3-Dichloropropene	0.00	0	0.00	ng	1
31)	4-Methyl-2-Pentanone	0.00	0	0.00	ng	1
32)	d5-Chlorobenzene	12.93	296889	250.00	ng	0
33)	Toluene	11.18	7290	2.48	ng	1
34)	1,1,2-Trichloroethane	0.00	0	0.00	ng	1
35)	Tetrachloroethene	0.00	0	0.00	ng	1
36)	2-Hexanone	0.00	0	0.00	ng	1
37)	Chlorodibromomethane	0.00	0	0.00	ng	1
38)	Ethylene Dibromide	0.00	0	0.00	ng	1
39)	Chlorobenzene	0.00	0	0.00	ng	1
40)	1,1,1,2-Tetrachloroethane	0.00	0	0.00	ng	1
41)	Ethylbenzene	0.00	0	0.00	ng	1
42)	M&P-Xylene	0.00	0	0.00	ng	1
43)	O-Xylene	0.00	0	0.00	ng	1
44)	Styrene	0.00	0	0.00	ng	1
45)	Bromoform	0.00	0	0.00	ng	1
46)	1,1,2,2-Tetrachloroethane	0.00	0	0.00	ng	1
47)	1,2,3-Trichloropropane	0.00	0	0.00	ng	1
48)	d10-Ethylbenzene(SPK)	13.00	473361	231.96	ng	0
49)	d8-Toluene(SURR)	11.08	458505	260.69	ng	0
50)	4-Bromofluorobenzene(SURR)	14.22	134256	229.58	ng	0
51)	Isopropylbenzene	0.00	0	0.00	ng	1
52)	1,3,5-Trimethylbenzene	0.00	0	0.00	ng	1
53)	1,2,4-Trimethylbenzene	0.00	0	0.00	ng	1
54)	1,3-Dichlorobenzene	0.00	0	0.00	ng	1
55)	1,4-Dichlorobenzene	0.00	0	0.00	ng	1
56)	1,2-Dichlorobenzene	0.00	0	0.00	ng	1
57)	1,2,4-Trichlorobenzene	0.00	0	0.00	ng	1
58)	Hexachlorobutadiene	0.00	0	0.00	ng	1
59)	Naphthalene	0.00	0	0.00	ng	1
60)	1,1-Dichloropropene	0.00	0	0.00	ng	1
61)	1,3-Dichloropropane	0.00	0	0.00	ng	1
62)	Bromobenzene	0.00	0	0.00	ng	1
63)	n-Propylbenzene	0.00	0	0.00	ng	1
64)	tert-Butylbenzene	0.00	0	0.00	ng	1
65)	sec-Butylbenzene	0.00	0	0.00	ng	1
66)	p-Isopropyltoluene	0.00	0	0.00	ng	1
67)	n-Butylbenzene	0.00	0	0.00	ng	1
68)	1,2-Dibromo-3-chloropropane	0.00	0	0.00	ng	1

Instrument Quantitation Report

Data File Name 16080308.D
Date Acquired 8/3/2016 16:40
Sample Name L1806455-11
Misc Info Coder SG
Instrument Name MSD-3

#	Name	Ret Time	Target Response	Amount	Units	Manual Integration
1)	Bromochloromethane	6.74	72978	250.00	ng	0
2)	Dichlorodifluoromethane	0.00	0	0.00	ng	1
3)	Chloromethane	0.00	0	0.00	ng	1
4)	Vinyl Chloride	0.00	0	0.00	ng	1
5)	Bromomethane	0.00	0	0.00	ng	1
6)	Chloroethane	0.00	0	0.00	ng	1
7)	Trichlorofluoromethane	0.00	0	0.00	ng	1
8)	1,1-Dichloroethene	0.00	0	0.00	ng	1
9)	Acetone	0.00	0	0.00	ng	1
10)	Iodomethane	0.00	0	0.00	ng	1
11)	Carbon disulfide	0.00	0	0.00	ng	1
12)	Methylene Chloride	0.00	0	0.00	ng	1
13)	trans,1,2-Dichloroethene	0.00	0	0.00	ng	1
14)	1,1-Dichloroethane	0.00	0	0.00	ng	1
15)	Vinyl Acetate	0.00	0	0.00	ng	1
16)	cis,1,2-Dichloroethene	0.00	0	0.00	ng	1
17)	2-Butanone	0.00	0	0.00	ng	1
18)	Chloroform	0.00	0	0.00	ng	1
19)	1,1,1-Trichloroethane	0.00	0	0.00	ng	1
20)	1,4-Difluorobenzene	8.67	414710	250.00	ng	0
21)	d4-1,2-Dichloroethane(SURR)	7.83	161622	287.72	ng	0
22)	Carbon Tetrachloride	0.00	0	0.00	ng	1
23)	Benzene	7.84	36383	12.12	ng	0
24)	1,2-Dichloroethane	0.00	0	0.00	ng	1
25)	Trichloroethene	0.00	0	0.00	ng	1
26)	1,2-Dichloropropane	0.00	0	0.00	ng	1
27)	Dibromomethane	0.00	0	0.00	ng	1
28)	Bromodichloromethane	0.00	0	0.00	ng	1
29)	cis,1,3-Dichloropropene	0.00	0	0.00	ng	1
30)	trans,1,3-Dichloropropene	0.00	0	0.00	ng	1
31)	4-Methyl-2-Pentanone	0.00	0	0.00	ng	1
32)	d5-Chlorobenzene	12.93	300102	250.00	ng	0
33)	Toluene	0.00	0	0.00	ng	1
34)	1,1,2-Trichloroethane	0.00	0	0.00	ng	1
35)	Tetrachloroethene	0.00	0	0.00	ng	1
36)	2-Hexanone	0.00	0	0.00	ng	1
37)	Chlorodibromomethane	0.00	0	0.00	ng	1
38)	Ethylene Dibromide	0.00	0	0.00	ng	1
39)	Chlorobenzene	0.00	0	0.00	ng	1
40)	1,1,1,2-Tetrachloroethane	0.00	0	0.00	ng	1
41)	Ethylbenzene	0.00	0	0.00	ng	1
42)	M&P-Xylene	0.00	0	0.00	ng	1
43)	O-Xylene	0.00	0	0.00	ng	1
44)	Styrene	0.00	0	0.00	ng	1
45)	Bromoform	0.00	0	0.00	ng	1
46)	1,1,2,2-Tetrachloroethane	0.00	0	0.00	ng	1
47)	1,2,3-Trichloropropane	0.00	0	0.00	ng	1
48)	d10-Ethylbenzene(SPK)	13.00	464409	225.14	ng	0
49)	d8-Toluene(SURR)	11.09	448944	252.52	ng	0
50)	4-Bromofluorobenzene(SURR)	14.22	135854	229.83	ng	0
51)	Isopropylbenzene	0.00	0	0.00	ng	1
52)	1,3,5-Trimethylbenzene	0.00	0	0.00	ng	1
53)	1,2,4-Trimethylbenzene	0.00	0	0.00	ng	1
54)	1,3-Dichlorobenzene	0.00	0	0.00	ng	1
55)	1,4-Dichlorobenzene	0.00	0	0.00	ng	1
56)	1,2-Dichlorobenzene	0.00	0	0.00	ng	1
57)	1,2,4-Trichlorobenzene	0.00	0	0.00	ng	1
58)	Hexachlorobutadiene	0.00	0	0.00	ng	1
59)	Naphthalene	0.00	0	0.00	ng	1
60)	1,1-Dichloropropene	0.00	0	0.00	ng	1
61)	1,3-Dichloropropane	0.00	0	0.00	ng	1
62)	Bromobenzene	0.00	0	0.00	ng	1
63)	n-Propylbenzene	0.00	0	0.00	ng	1
64)	tert-Butylbenzene	0.00	0	0.00	ng	1
65)	sec-Butylbenzene	0.00	0	0.00	ng	1
66)	p-Isopropyltoluene	0.00	0	0.00	ng	1
67)	n-Butylbenzene	0.00	0	0.00	ng	1
68)	1,2-Dibromo-3-chloropropane	0.00	0	0.00	ng	1

Instrument Quantitation Report

Data File Name 16080309.D
Date Acquired 8/3/2016 17:05
Sample Name L1806455-9
Misc Info Coder SG
Instrument Name MSD-3

#	Name	Ret Time	Target Response	Amount	Units	Manual Integration
1)	Bromochloromethane	6.74	76730	250.00	ng	0
2)	Dichlorodifluoromethane	0.00	0	0.00	ng	1
3)	Chloromethane	0.00	0	0.00	ng	1
4)	Vinyl Chloride	0.00	0	0.00	ng	1
5)	Bromomethane	0.00	0	0.00	ng	1
6)	Chloroethane	0.00	0	0.00	ng	1
7)	Trichlorofluoromethane	0.00	0	0.00	ng	1
8)	1,1-Dichloroethene	0.00	0	0.00	ng	1
9)	Acetone	0.00	0	0.00	ng	1
10)	Iodomethane	0.00	0	0.00	ng	1
11)	Carbon disulfide	0.00	0	0.00	ng	1
12)	Methylene Chloride	0.00	0	0.00	ng	1
13)	trans,1,2-Dichloroethene	0.00	0	0.00	ng	1
14)	1,1-Dichloroethane	0.00	0	0.00	ng	1
15)	Vinyl Acetate	0.00	0	0.00	ng	1
16)	cis,1,2-Dichloroethene	0.00	0	0.00	ng	1
17)	2-Butanone	0.00	0	0.00	ng	1
18)	Chloroform	0.00	0	0.00	ng	1
19)	1,1,1-Trichloroethane	0.00	0	0.00	ng	1
20)	1,4-Difluorobenzene	8.67	440701	250.00	ng	0
21)	d4-1,2-Dichloroethane(SURR)	7.83	173688	290.96	ng	0
22)	Carbon Tetrachloride	0.00	0	0.00	ng	1
23)	Benzene	7.84	38178	11.97	ng	0
24)	1,2-Dichloroethane	0.00	0	0.00	ng	1
25)	Trichloroethene	0.00	0	0.00	ng	1
26)	1,2-Dichloropropane	0.00	0	0.00	ng	1
27)	Dibromomethane	0.00	0	0.00	ng	1
28)	Bromodichloromethane	0.00	0	0.00	ng	1
29)	cis,1,3-Dichloropropene	0.00	0	0.00	ng	1
30)	trans,1,3-Dichloropropene	0.00	0	0.00	ng	1
31)	4-Methyl-2-Pentanone	0.00	0	0.00	ng	1
32)	d5-Chlorobenzene	12.93	312404	250.00	ng	0
33)	Toluene	0.00	0	0.00	ng	1
34)	1,1,2-Trichloroethane	0.00	0	0.00	ng	1
35)	Tetrachloroethene	0.00	0	0.00	ng	1
36)	2-Hexanone	0.00	0	0.00	ng	1
37)	Chlorodibromomethane	0.00	0	0.00	ng	1
38)	Ethylene Dibromide	0.00	0	0.00	ng	1
39)	Chlorobenzene	0.00	0	0.00	ng	1
40)	1,1,1,2-Tetrachloroethane	0.00	0	0.00	ng	1
41)	Ethylbenzene	0.00	0	0.00	ng	1
42)	M&P-Xylene	0.00	0	0.00	ng	1
43)	O-Xylene	0.00	0	0.00	ng	1
44)	Styrene	0.00	0	0.00	ng	1
45)	Bromoform	0.00	0	0.00	ng	1
46)	1,1,2,2-Tetrachloroethane	0.00	0	0.00	ng	1
47)	1,2,3-Trichloropropane	0.00	0	0.00	ng	1
48)	d10-Ethylbenzene(SPK)	13.00	515971	240.28	ng	0
49)	d8-Toluene(SURR)	11.09	473313	255.74	ng	0
50)	4-Bromofluorobenzene(SURR)	14.22	138634	225.30	ng	0
51)	Isopropylbenzene	0.00	0	0.00	ng	1
52)	1,3,5-Trimethylbenzene	0.00	0	0.00	ng	1
53)	1,2,4-Trimethylbenzene	0.00	0	0.00	ng	1
54)	1,3-Dichlorobenzene	0.00	0	0.00	ng	1
55)	1,4-Dichlorobenzene	0.00	0	0.00	ng	1
56)	1,2-Dichlorobenzene	0.00	0	0.00	ng	1
57)	1,2,4-Trichlorobenzene	0.00	0	0.00	ng	1
58)	Hexachlorobutadiene	0.00	0	0.00	ng	1
59)	Naphthalene	0.00	0	0.00	ng	1
60)	1,1-Dichloropropene	0.00	0	0.00	ng	1
61)	1,3-Dichloropropane	0.00	0	0.00	ng	1
62)	Bromobenzene	0.00	0	0.00	ng	1
63)	n-Propylbenzene	0.00	0	0.00	ng	1
64)	tert-Butylbenzene	0.00	0	0.00	ng	1
65)	sec-Butylbenzene	0.00	0	0.00	ng	1
66)	p-Isopropyltoluene	0.00	0	0.00	ng	1
67)	n-Butylbenzene	0.00	0	0.00	ng	1
68)	1,2-Dibromo-3-chloropropane	0.00	0	0.00	ng	1

Instrument Quantitation Report

Data File Name 16080310.D
Date Acquired 8/3/2016 17:31
Sample Name L1806455-7
Misc Info Coder SG
Instrument Name MSD-3

#	Name	Ret Time	Target Response	Amount	Units	Manual Integration
1)	Bromochloromethane	6.74	87460	250.00	ng	0
2)	Dichlorodifluoromethane	0.00	0	0.00	ng	1
3)	Chloromethane	0.00	0	0.00	ng	1
4)	Vinyl Chloride	0.00	0	0.00	ng	1
5)	Bromomethane	0.00	0	0.00	ng	1
6)	Chloroethane	0.00	0	0.00	ng	1
7)	Trichlorofluoromethane	0.00	0	0.00	ng	1
8)	1,1-Dichloroethene	0.00	0	0.00	ng	1
9)	Acetone	0.00	0	0.00	ng	1
10)	Iodomethane	0.00	0	0.00	ng	1
11)	Carbon disulfide	0.00	0	0.00	ng	1
12)	Methylene Chloride	0.00	0	0.00	ng	1
13)	trans,1,2-Dichloroethene	0.00	0	0.00	ng	1
14)	1,1-Dichloroethane	0.00	0	0.00	ng	1
15)	Vinyl Acetate	0.00	0	0.00	ng	1
16)	cis,1,2-Dichloroethene	0.00	0	0.00	ng	1
17)	2-Butanone	0.00	0	0.00	ng	1
18)	Chloroform	0.00	0	0.00	ng	1
19)	1,1,1-Trichloroethane	0.00	0	0.00	ng	1
20)	1,4-Difluorobenzene	8.67	427015	250.00	ng	0
21)	d4-1,2-Dichloroethane(SURR)	7.83	177404	306.71	ng	0
22)	Carbon Tetrachloride	0.00	0	0.00	ng	1
23)	Benzene	7.84	210030	67.94	ng	0
24)	1,2-Dichloroethane	0.00	0	0.00	ng	1
25)	Trichloroethene	9.05	5580	8.05	ng	0
26)	1,2-Dichloropropane	0.00	0	0.00	ng	1
27)	Dibromomethane	0.00	0	0.00	ng	1
28)	Bromodichloromethane	0.00	0	0.00	ng	1
29)	cis,1,3-Dichloropropene	0.00	0	0.00	ng	1
30)	trans,1,3-Dichloropropene	0.00	0	0.00	ng	1
31)	4-Methyl-2-Pentanone	0.00	0	0.00	ng	1
32)	d5-Chlorobenzene	12.93	274103	250.00	ng	0
33)	Toluene	0.00	0	0.00	ng	1
34)	1,1,2-Trichloroethane	0.00	0	0.00	ng	1
35)	Tetrachloroethene	0.00	0	0.00	ng	1
36)	2-Hexanone	0.00	0	0.00	ng	1
37)	Chlorodibromomethane	0.00	0	0.00	ng	1
38)	Ethylene Dibromide	0.00	0	0.00	ng	1
39)	Chlorobenzene	0.00	0	0.00	ng	1
40)	1,1,1,2-Tetrachloroethane	0.00	0	0.00	ng	1
41)	Ethylbenzene	0.00	0	0.00	ng	1
42)	M&P-Xylene	0.00	0	0.00	ng	1
43)	O-Xylene	0.00	0	0.00	ng	1
44)	Styrene	0.00	0	0.00	ng	1
45)	Bromoform	0.00	0	0.00	ng	1
46)	1,1,2,2-Tetrachloroethane	0.00	0	0.00	ng	1
47)	1,2,3-Trichloropropane	0.00	0	0.00	ng	1
48)	d10-Ethylbenzene(SPK)	13.00	322030	170.92	ng	0
49)	d8-Toluene(SURR)	11.09	452149	278.45	ng	0
50)	4-Bromofluorobenzene(SURR)	14.22	115966	214.79	ng	0
51)	Isopropylbenzene	0.00	0	0.00	ng	1
52)	1,3,5-Trimethylbenzene	0.00	0	0.00	ng	1
53)	1,2,4-Trimethylbenzene	0.00	0	0.00	ng	1
54)	1,3-Dichlorobenzene	0.00	0	0.00	ng	1
55)	1,4-Dichlorobenzene	0.00	0	0.00	ng	1
56)	1,2-Dichlorobenzene	0.00	0	0.00	ng	1
57)	1,2,4-Trichlorobenzene	0.00	0	0.00	ng	1
58)	Hexachlorobutadiene	0.00	0	0.00	ng	1
59)	Naphthalene	0.00	0	0.00	ng	1
60)	1,1-Dichloropropene	0.00	0	0.00	ng	1
61)	1,3-Dichloropropane	0.00	0	0.00	ng	1
62)	Bromobenzene	0.00	0	0.00	ng	1
63)	n-Propylbenzene	0.00	0	0.00	ng	1
64)	tert-Butylbenzene	0.00	0	0.00	ng	1
65)	sec-Butylbenzene	0.00	0	0.00	ng	1
66)	p-Isopropyltoluene	0.00	0	0.00	ng	1
67)	n-Butylbenzene	0.00	0	0.00	ng	1
68)	1,2-Dibromo-3-chloropropane	0.00	0	0.00	ng	1

Instrument Quantitation Report

Data File Name 16080311.D
Date Acquired 8/3/2016 17:56
Sample Name L1806455-5
Misc Info Coder SG
Instrument Name MSD-3

#	Name	Ret Time	Target Response	Amount	Units	Manual Integration
1)	Bromochloromethane	6.74	86648	250.00	ng	0
2)	Dichlorodifluoromethane	0.00	0	0.00	ng	1
3)	Chloromethane	0.00	0	0.00	ng	1
4)	Vinyl Chloride	0.00	0	0.00	ng	1
5)	Bromomethane	0.00	0	0.00	ng	1
6)	Chloroethane	0.00	0	0.00	ng	1
7)	Trichlorofluoromethane	0.00	0	0.00	ng	1
8)	1,1-Dichloroethene	0.00	0	0.00	ng	1
9)	Acetone	0.00	0	0.00	ng	1
10)	Iodomethane	0.00	0	0.00	ng	1
11)	Carbon disulfide	0.00	0	0.00	ng	1
12)	Methylene Chloride	0.00	0	0.00	ng	1
13)	trans,1,2-Dichloroethene	0.00	0	0.00	ng	1
14)	1,1-Dichloroethane	0.00	0	0.00	ng	1
15)	Vinyl Acetate	0.00	0	0.00	ng	1
16)	cis,1,2-Dichloroethene	0.00	0	0.00	ng	1
17)	2-Butanone	0.00	0	0.00	ng	1
18)	Chloroform	0.00	0	0.00	ng	1
19)	1,1,1-Trichloroethane	0.00	0	0.00	ng	1
20)	1,4-Difluorobenzene	8.67	419022	250.00	ng	0
21)	d4-1,2-Dichloroethane(SURR)	7.83	168366	296.64	ng	0
22)	Carbon Tetrachloride	0.00	0	0.00	ng	1
23)	Benzene	7.84	172459	56.85	ng	0
24)	1,2-Dichloroethane	0.00	0	0.00	ng	1
25)	Trichloroethene	9.05	5791	8.52	ng	0
26)	1,2-Dichloropropane	0.00	0	0.00	ng	1
27)	Dibromomethane	0.00	0	0.00	ng	1
28)	Bromodichloromethane	0.00	0	0.00	ng	1
29)	cis,1,3-Dichloropropene	0.00	0	0.00	ng	1
30)	trans,1,3-Dichloropropene	0.00	0	0.00	ng	1
31)	4-Methyl-2-Pentanone	0.00	0	0.00	ng	1
32)	d5-Chlorobenzene	12.93	274415	250.00	ng	0
33)	Toluene	0.00	0	0.00	ng	1
34)	1,1,2-Trichloroethane	0.00	0	0.00	ng	1
35)	Tetrachloroethene	0.00	0	0.00	ng	1
36)	2-Hexanone	0.00	0	0.00	ng	1
37)	Chlorodibromomethane	0.00	0	0.00	ng	1
38)	Ethylene Dibromide	0.00	0	0.00	ng	1
39)	Chlorobenzene	0.00	0	0.00	ng	1
40)	1,1,1,2-Tetrachloroethane	0.00	0	0.00	ng	1
41)	Ethylbenzene	0.00	0	0.00	ng	1
42)	M&P-Xylene	0.00	0	0.00	ng	1
43)	O-Xylene	0.00	0	0.00	ng	1
44)	Styrene	0.00	0	0.00	ng	1
45)	Bromoform	0.00	0	0.00	ng	1
46)	1,1,2,2-Tetrachloroethane	0.00	0	0.00	ng	1
47)	1,2,3-Trichloropropane	0.00	0	0.00	ng	1
48)	d10-Ethylbenzene(SPK)	13.00	317775	168.47	ng	0
49)	d8-Toluene(SURR)	11.09	442757	272.35	ng	0
50)	4-Bromofluorobenzene(SURR)	14.22	115117	212.98	ng	0
51)	Isopropylbenzene	0.00	0	0.00	ng	1
52)	1,3,5-Trimethylbenzene	0.00	0	0.00	ng	1
53)	1,2,4-Trimethylbenzene	0.00	0	0.00	ng	1
54)	1,3-Dichlorobenzene	0.00	0	0.00	ng	1
55)	1,4-Dichlorobenzene	0.00	0	0.00	ng	1
56)	1,2-Dichlorobenzene	0.00	0	0.00	ng	1
57)	1,2,4-Trichlorobenzene	0.00	0	0.00	ng	1
58)	Hexachlorobutadiene	0.00	0	0.00	ng	1
59)	Naphthalene	0.00	0	0.00	ng	1
60)	1,1-Dichloropropene	0.00	0	0.00	ng	1
61)	1,3-Dichloropropane	0.00	0	0.00	ng	1
62)	Bromobenzene	0.00	0	0.00	ng	1
63)	n-Propylbenzene	0.00	0	0.00	ng	1
64)	tert-Butylbenzene	0.00	0	0.00	ng	1
65)	sec-Butylbenzene	0.00	0	0.00	ng	1
66)	p-Isopropyltoluene	0.00	0	0.00	ng	1
67)	n-Butylbenzene	0.00	0	0.00	ng	1
68)	1,2-Dibromo-3-chloropropane	0.00	0	0.00	ng	1

Instrument Quantitation Report

Data File Name 16080312.D
Date Acquired 8/3/2016 18:22
Sample Name L1806455-3
Misc Info Coder SG
Instrument Name MSD-3

#	Name	Ret Time	Target Response	Amount	Units	Manual Integration
1)	Bromochloromethane	6.74	107021	250.00	ng	0
2)	Dichlorodifluoromethane	0.00	0	0.00	ng	1
3)	Chloromethane	0.00	0	0.00	ng	1
4)	Vinyl Chloride	0.00	0	0.00	ng	1
5)	Bromomethane	0.00	0	0.00	ng	1
6)	Chloroethane	0.00	0	0.00	ng	1
7)	Trichlorofluoromethane	0.00	0	0.00	ng	1
8)	1,1-Dichloroethene	0.00	0	0.00	ng	1
9)	Acetone	0.00	0	0.00	ng	1
10)	Iodomethane	0.00	0	0.00	ng	1
11)	Carbon disulfide	0.00	0	0.00	ng	1
12)	Methylene Chloride	0.00	0	0.00	ng	1
13)	trans,1,2-Dichloroethene	0.00	0	0.00	ng	1
14)	1,1-Dichloroethane	0.00	0	0.00	ng	1
15)	Vinyl Acetate	0.00	0	0.00	ng	1
16)	cis,1,2-Dichloroethene	0.00	0	0.00	ng	1
17)	2-Butanone	0.00	0	0.00	ng	1
18)	Chloroform	0.00	0	0.00	ng	1
19)	1,1,1-Trichloroethane	0.00	0	0.00	ng	1
20)	1,4-Difluorobenzene	8.68	489707	250.00	ng	0
21)	d4-1,2-Dichloroethane(SURR)	7.83	188863	284.72	ng	0
22)	Carbon Tetrachloride	0.00	0	0.00	ng	1
23)	Benzene	7.84	145127	40.94	ng	0
24)	1,2-Dichloroethane	0.00	0	0.00	ng	1
25)	Trichloroethene	9.05	6256	7.87	ng	0
26)	1,2-Dichloropropane	0.00	0	0.00	ng	1
27)	Dibromomethane	0.00	0	0.00	ng	1
28)	Bromodichloromethane	0.00	0	0.00	ng	1
29)	cis,1,3-Dichloropropene	0.00	0	0.00	ng	1
30)	trans,1,3-Dichloropropene	0.00	0	0.00	ng	1
31)	4-Methyl-2-Pentanone	0.00	0	0.00	ng	1
32)	d5-Chlorobenzene	12.93	320720	250.00	ng	0
33)	Toluene	0.00	0	0.00	ng	1
34)	1,1,2-Trichloroethane	0.00	0	0.00	ng	1
35)	Tetrachloroethene	0.00	0	0.00	ng	1
36)	2-Hexanone	0.00	0	0.00	ng	1
37)	Chlorodibromomethane	0.00	0	0.00	ng	1
38)	Ethylene Dibromide	0.00	0	0.00	ng	1
39)	Chlorobenzene	0.00	0	0.00	ng	1
40)	1,1,1,2-Tetrachloroethane	0.00	0	0.00	ng	1
41)	Ethylbenzene	0.00	0	0.00	ng	1
42)	M&P-Xylene	0.00	0	0.00	ng	1
43)	O-Xylene	0.00	0	0.00	ng	1
44)	Styrene	0.00	0	0.00	ng	1
45)	Bromoform	0.00	0	0.00	ng	1
46)	1,1,2,2-Tetrachloroethane	0.00	0	0.00	ng	1
47)	1,2,3-Trichloropropane	0.00	0	0.00	ng	1
48)	d10-Ethylbenzene(SPK)	13.00	409372	185.70	ng	0
49)	d8-Toluene(SURR)	11.09	509402	268.11	ng	0
50)	4-Bromofluorobenzene(SURR)	14.22	132571	209.86	ng	0
51)	Isopropylbenzene	0.00	0	0.00	ng	1
52)	1,3,5-Trimethylbenzene	0.00	0	0.00	ng	1
53)	1,2,4-Trimethylbenzene	0.00	0	0.00	ng	1
54)	1,3-Dichlorobenzene	0.00	0	0.00	ng	1
55)	1,4-Dichlorobenzene	0.00	0	0.00	ng	1
56)	1,2-Dichlorobenzene	0.00	0	0.00	ng	1
57)	1,2,4-Trichlorobenzene	0.00	0	0.00	ng	1
58)	Hexachlorobutadiene	0.00	0	0.00	ng	1
59)	Naphthalene	0.00	0	0.00	ng	1
60)	1,1-Dichloropropene	0.00	0	0.00	ng	1
61)	1,3-Dichloropropane	0.00	0	0.00	ng	1
62)	Bromobenzene	0.00	0	0.00	ng	1
63)	n-Propylbenzene	0.00	0	0.00	ng	1
64)	tert-Butylbenzene	0.00	0	0.00	ng	1
65)	sec-Butylbenzene	0.00	0	0.00	ng	1
66)	p-Isopropyltoluene	0.00	0	0.00	ng	1
67)	n-Butylbenzene	0.00	0	0.00	ng	1
68)	1,2-Dibromo-3-chloropropane	0.00	0	0.00	ng	1

Instrument Quantitation Report

Data File Name 16080405.D
Date Acquired 8/4/2016 13:40
Sample Name VOST-blank
Misc Info Coder SG
Instrument Name MSD-3

#	Name	Ret Time	Target Response	Amount	Units	Manual Integration
1)	Bromochloromethane	6.74	81029	250.00	ng	0
2)	Dichlorodifluoromethane	0.00	0	0.00	ng	1
3)	Chloromethane	0.00	0	0.00	ng	1
4)	Vinyl Chloride	0.00	0	0.00	ng	1
5)	Bromomethane	0.00	0	0.00	ng	1
6)	Chloroethane	0.00	0	0.00	ng	1
7)	Trichlorofluoromethane	0.00	0	0.00	ng	1
8)	1,1-Dichloroethene	0.00	0	0.00	ng	1
9)	Acetone	0.00	0	0.00	ng	1
10)	Iodomethane	0.00	0	0.00	ng	1
11)	Carbon disulfide	0.00	0	0.00	ng	1
12)	Methylene Chloride	0.00	0	0.00	ng	1
13)	trans,1,2-Dichloroethene	0.00	0	0.00	ng	1
14)	1,1-Dichloroethane	0.00	0	0.00	ng	1
15)	Vinyl Acetate	0.00	0	0.00	ng	1
16)	cis,1,2-Dichloroethene	0.00	0	0.00	ng	1
17)	2-Butanone	0.00	0	0.00	ng	1
18)	Chloroform	0.00	0	0.00	ng	1
19)	1,1,1-Trichloroethane	0.00	0	0.00	ng	1
20)	1,4-Difluorobenzene	8.67	446098	250.00	ng	0
21)	d4-1,2-Dichloroethane(SURR)	7.82	172532	285.53	ng	0
22)	Carbon Tetrachloride	0.00	0	0.00	ng	1
23)	Benzene	7.83	35951	11.13	ng	0
24)	1,2-Dichloroethane	0.00	0	0.00	ng	1
25)	Trichloroethene	0.00	0	0.00	ng	1
26)	1,2-Dichloropropane	0.00	0	0.00	ng	1
27)	Dibromomethane	0.00	0	0.00	ng	1
28)	Bromodichloromethane	0.00	0	0.00	ng	1
29)	cis,1,3-Dichloropropene	0.00	0	0.00	ng	1
30)	trans,1,3-Dichloropropene	0.00	0	0.00	ng	1
31)	4-Methyl-2-Pentanone	0.00	0	0.00	ng	1
32)	d5-Chlorobenzene	12.93	249894	250.00	ng	0
33)	Toluene	11.18	8569	3.46	ng	1
34)	1,1,2-Trichloroethane	0.00	0	0.00	ng	1
35)	Tetrachloroethene	0.00	0	0.00	ng	1
36)	2-Hexanone	0.00	0	0.00	ng	1
37)	Chlorodibromomethane	0.00	0	0.00	ng	1
38)	Ethylene Dibromide	0.00	0	0.00	ng	1
39)	Chlorobenzene	0.00	0	0.00	ng	1
40)	1,1,1,2-Tetrachloroethane	0.00	0	0.00	ng	1
41)	Ethylbenzene	0.00	0	0.00	ng	1
42)	M&P-Xylene	0.00	0	0.00	ng	1
43)	O-Xylene	0.00	0	0.00	ng	1
44)	Styrene	0.00	0	0.00	ng	1
45)	Bromoform	0.00	0	0.00	ng	1
46)	1,1,2,2-Tetrachloroethane	0.00	0	0.00	ng	1
47)	1,2,3-Trichloropropane	0.00	0	0.00	ng	1
48)	d10-Ethylbenzene(SPK)	13.00	402277	234.20	ng	0
49)	d8-Toluene(SURR)	11.09	445395	300.86	ng	0
50)	4-Bromofluorobenzene(SURR)	14.22	99474	202.10	ng	0
51)	Isopropylbenzene	0.00	0	0.00	ng	1
52)	1,3,5-Trimethylbenzene	0.00	0	0.00	ng	1
53)	1,2,4-Trimethylbenzene	0.00	0	0.00	ng	1
54)	1,3-Dichlorobenzene	0.00	0	0.00	ng	1
55)	1,4-Dichlorobenzene	0.00	0	0.00	ng	1
56)	1,2-Dichlorobenzene	0.00	0	0.00	ng	1
57)	1,2,4-Trichlorobenzene	0.00	0	0.00	ng	1
58)	Hexachlorobutadiene	0.00	0	0.00	ng	1
59)	Naphthalene	0.00	0	0.00	ng	1
60)	1,1-Dichloropropene	0.00	0	0.00	ng	1
61)	1,3-Dichloropropane	0.00	0	0.00	ng	1
62)	Bromobenzene	0.00	0	0.00	ng	1
63)	n-Propylbenzene	0.00	0	0.00	ng	1
64)	tert-Butylbenzene	0.00	0	0.00	ng	1
65)	sec-Butylbenzene	0.00	0	0.00	ng	1
66)	p-Isopropyltoluene	0.00	0	0.00	ng	1
67)	n-Butylbenzene	0.00	0	0.00	ng	1
68)	1,2-Dibromo-3-chloropropane	0.00	0	0.00	ng	1

Instrument Quantitation Report

Data File Name 16080406.D
Date Acquired 8/4/2016 14:05
Sample Name L1806455-12
Misc Info Coder SG
Instrument Name MSD-3

#	Name	Ret Time	Target Response	Amount	Units	Manual Integration
1)	Bromochloromethane	6.74	77502	250.00	ng	0
2)	Dichlorodifluoromethane	0.00	0	0.00	ng	1
3)	Chloromethane	0.00	0	0.00	ng	1
4)	Vinyl Chloride	0.00	0	0.00	ng	1
5)	Bromomethane	0.00	0	0.00	ng	1
6)	Chloroethane	0.00	0	0.00	ng	1
7)	Trichlorofluoromethane	0.00	0	0.00	ng	1
8)	1,1-Dichloroethene	0.00	0	0.00	ng	1
9)	Acetone	0.00	0	0.00	ng	1
10)	Iodomethane	0.00	0	0.00	ng	1
11)	Carbon disulfide	0.00	0	0.00	ng	1
12)	Methylene Chloride	0.00	0	0.00	ng	1
13)	trans,1,2-Dichloroethene	0.00	0	0.00	ng	1
14)	1,1-Dichloroethane	0.00	0	0.00	ng	1
15)	Vinyl Acetate	0.00	0	0.00	ng	1
16)	cis,1,2-Dichloroethene	0.00	0	0.00	ng	1
17)	2-Butanone	0.00	0	0.00	ng	1
18)	Chloroform	0.00	0	0.00	ng	1
19)	1,1,1-Trichloroethane	0.00	0	0.00	ng	1
20)	1,4-Difluorobenzene	8.67	411495	250.00	ng	0
21)	d4-1,2-Dichloroethane(SURR)	7.84	168216	301.80	ng	0
22)	Carbon Tetrachloride	0.00	0	0.00	ng	1
23)	Benzene	7.84	37012	12.42	ng	0
24)	1,2-Dichloroethane	0.00	0	0.00	ng	1
25)	Trichloroethene	0.00	0	0.00	ng	1
26)	1,2-Dichloropropane	0.00	0	0.00	ng	1
27)	Dibromomethane	0.00	0	0.00	ng	1
28)	Bromodichloromethane	0.00	0	0.00	ng	1
29)	cis,1,3-Dichloropropene	0.00	0	0.00	ng	1
30)	trans,1,3-Dichloropropene	0.00	0	0.00	ng	1
31)	4-Methyl-2-Pentanone	0.00	0	0.00	ng	1
32)	d5-Chlorobenzene	12.93	238076	250.00	ng	0
33)	Toluene	0.00	0	0.00	ng	1
34)	1,1,2-Trichloroethane	0.00	0	0.00	ng	1
35)	Tetrachloroethene	0.00	0	0.00	ng	1
36)	2-Hexanone	0.00	0	0.00	ng	1
37)	Chlorodibromomethane	0.00	0	0.00	ng	1
38)	Ethylene Dibromide	0.00	0	0.00	ng	1
39)	Chlorobenzene	0.00	0	0.00	ng	1
40)	1,1,1,2-Tetrachloroethane	0.00	0	0.00	ng	1
41)	Ethylbenzene	0.00	0	0.00	ng	1
42)	M&P-Xylene	0.00	0	0.00	ng	1
43)	O-Xylene	0.00	0	0.00	ng	1
44)	Styrene	0.00	0	0.00	ng	1
45)	Bromoform	0.00	0	0.00	ng	1
46)	1,1,2,2-Tetrachloroethane	0.00	0	0.00	ng	1
47)	1,2,3-Trichloropropane	0.00	0	0.00	ng	1
48)	d10-Ethylbenzene(SPK)	13.00	406786	248.58	ng	0
49)	d8-Toluene(SURR)	11.09	418133	296.46	ng	0
50)	4-Bromofluorobenzene(SURR)	14.22	97882	208.73	ng	0
51)	Isopropylbenzene	0.00	0	0.00	ng	1
52)	1,3,5-Trimethylbenzene	0.00	0	0.00	ng	1
53)	1,2,4-Trimethylbenzene	0.00	0	0.00	ng	1
54)	1,3-Dichlorobenzene	0.00	0	0.00	ng	1
55)	1,4-Dichlorobenzene	0.00	0	0.00	ng	1
56)	1,2-Dichlorobenzene	0.00	0	0.00	ng	1
57)	1,2,4-Trichlorobenzene	0.00	0	0.00	ng	1
58)	Hexachlorobutadiene	0.00	0	0.00	ng	1
59)	Naphthalene	0.00	0	0.00	ng	1
60)	1,1-Dichloropropene	0.00	0	0.00	ng	1
61)	1,3-Dichloropropane	0.00	0	0.00	ng	1
62)	Bromobenzene	0.00	0	0.00	ng	1
63)	n-Propylbenzene	0.00	0	0.00	ng	1
64)	tert-Butylbenzene	0.00	0	0.00	ng	1
65)	sec-Butylbenzene	0.00	0	0.00	ng	1
66)	p-Isopropyltoluene	0.00	0	0.00	ng	1
67)	n-Butylbenzene	0.00	0	0.00	ng	1
68)	1,2-Dibromo-3-chloropropane	0.00	0	0.00	ng	1

Instrument Quantitation Report

Data File Name 16080409.D
Date Acquired 8/4/2016 15:36
Sample Name L1806455-6
Misc Info Coder SG
Instrument Name MSD-3

#	Name	Ret Time	Target Response	Amount	Units	Manual Integration
1)	Bromochloromethane	6.74	82096	250.00	ng	0
2)	Dichlorodifluoromethane	0.00	0	0.00	ng	1
3)	Chloromethane	0.00	0	0.00	ng	1
4)	Vinyl Chloride	0.00	0	0.00	ng	1
5)	Bromomethane	0.00	0	0.00	ng	1
6)	Chloroethane	0.00	0	0.00	ng	1
7)	Trichlorofluoromethane	0.00	0	0.00	ng	1
8)	1,1-Dichloroethene	0.00	0	0.00	ng	1
9)	Acetone	0.00	0	0.00	ng	1
10)	Iodomethane	0.00	0	0.00	ng	1
11)	Carbon disulfide	0.00	0	0.00	ng	1
12)	Methylene Chloride	0.00	0	0.00	ng	1
13)	trans,1,2-Dichloroethene	0.00	0	0.00	ng	1
14)	1,1-Dichloroethane	0.00	0	0.00	ng	1
15)	Vinyl Acetate	0.00	0	0.00	ng	1
16)	cis,1,2-Dichloroethene	0.00	0	0.00	ng	1
17)	2-Butanone	0.00	0	0.00	ng	1
18)	Chloroform	0.00	0	0.00	ng	1
19)	1,1,1-Trichloroethane	0.00	0	0.00	ng	1
20)	1,4-Difluorobenzene	8.67	386906	250.00	ng	0
21)	d4-1,2-Dichloroethane(SURR)	7.83	161893	308.91	ng	0
22)	Carbon Tetrachloride	0.00	0	0.00	ng	1
23)	Benzene	7.84	67225	24.00	ng	0
24)	1,2-Dichloroethane	0.00	0	0.00	ng	1
25)	Trichloroethene	0.00	0	0.00	ng	1
26)	1,2-Dichloropropane	0.00	0	0.00	ng	1
27)	Dibromomethane	0.00	0	0.00	ng	1
28)	Bromodichloromethane	0.00	0	0.00	ng	1
29)	cis,1,3-Dichloropropene	0.00	0	0.00	ng	1
30)	trans,1,3-Dichloropropene	0.00	0	0.00	ng	1
31)	4-Methyl-2-Pentanone	0.00	0	0.00	ng	1
32)	d5-Chlorobenzene	12.94	201752	250.00	ng	0
33)	Toluene	0.00	0	0.00	ng	1
34)	1,1,2-Trichloroethane	0.00	0	0.00	ng	1
35)	Tetrachloroethene	0.00	0	0.00	ng	1
36)	2-Hexanone	0.00	0	0.00	ng	1
37)	Chlorodibromomethane	0.00	0	0.00	ng	1
38)	Ethylene Dibromide	0.00	0	0.00	ng	1
39)	Chlorobenzene	0.00	0	0.00	ng	1
40)	1,1,1,2-Tetrachloroethane	0.00	0	0.00	ng	1
41)	Ethylbenzene	0.00	0	0.00	ng	1
42)	M&P-Xylene	0.00	0	0.00	ng	1
43)	O-Xylene	0.00	0	0.00	ng	1
44)	Styrene	0.00	0	0.00	ng	1
45)	Bromoform	0.00	0	0.00	ng	1
46)	1,1,2,2-Tetrachloroethane	0.00	0	0.00	ng	1
47)	1,2,3-Trichloropropane	0.00	0	0.00	ng	1
48)	d10-Ethylbenzene(SPK)	13.01	4113	2.97	ng	0
49)	d8-Toluene(SURR)	11.09	385141	322.24	ng	0
50)	4-Bromofluorobenzene(SURR)	14.22	74687	187.94	ng	0
51)	Isopropylbenzene	0.00	0	0.00	ng	1
52)	1,3,5-Trimethylbenzene	0.00	0	0.00	ng	1
53)	1,2,4-Trimethylbenzene	0.00	0	0.00	ng	1
54)	1,3-Dichlorobenzene	0.00	0	0.00	ng	1
55)	1,4-Dichlorobenzene	0.00	0	0.00	ng	1
56)	1,2-Dichlorobenzene	0.00	0	0.00	ng	1
57)	1,2,4-Trichlorobenzene	0.00	0	0.00	ng	1
58)	Hexachlorobutadiene	0.00	0	0.00	ng	1
59)	Naphthalene	0.00	0	0.00	ng	1
60)	1,1-Dichloropropene	0.00	0	0.00	ng	1
61)	1,3-Dichloropropane	0.00	0	0.00	ng	1
62)	Bromobenzene	0.00	0	0.00	ng	1
63)	n-Propylbenzene	0.00	0	0.00	ng	1
64)	tert-Butylbenzene	0.00	0	0.00	ng	1
65)	sec-Butylbenzene	0.00	0	0.00	ng	1
66)	p-Isopropyltoluene	0.00	0	0.00	ng	1
67)	n-Butylbenzene	0.00	0	0.00	ng	1
68)	1,2-Dibromo-3-chloropropane	0.00	0	0.00	ng	1

Instrument Quantitation Report

Data File Name 16080407.D
Date Acquired 8/4/2016 14:31
Sample Name L1806455-10
Misc Info Coder SG
Instrument Name MSD-3

#	Name	Ret Time	Target Response	Amount	Units	Manual Integration
1)	Bromochloromethane	6.74	81845	250.00	ng	0
2)	Dichlorodifluoromethane	0.00	0	0.00	ng	1
3)	Chloromethane	0.00	0	0.00	ng	1
4)	Vinyl Chloride	0.00	0	0.00	ng	1
5)	Bromomethane	0.00	0	0.00	ng	1
6)	Chloroethane	0.00	0	0.00	ng	1
7)	Trichlorofluoromethane	0.00	0	0.00	ng	1
8)	1,1-Dichloroethene	0.00	0	0.00	ng	1
9)	Acetone	0.00	0	0.00	ng	1
10)	Iodomethane	0.00	0	0.00	ng	1
11)	Carbon disulfide	0.00	0	0.00	ng	1
12)	Methylene Chloride	0.00	0	0.00	ng	1
13)	trans,1,2-Dichloroethene	0.00	0	0.00	ng	1
14)	1,1-Dichloroethane	0.00	0	0.00	ng	1
15)	Vinyl Acetate	0.00	0	0.00	ng	1
16)	cis,1,2-Dichloroethene	0.00	0	0.00	ng	1
17)	2-Butanone	0.00	0	0.00	ng	1
18)	Chloroform	0.00	0	0.00	ng	1
19)	1,1,1-Trichloroethane	0.00	0	0.00	ng	1
20)	1,4-Difluorobenzene	8.68	436700	250.00	ng	0
21)	d4-1,2-Dichloroethane(SURR)	7.84	178941	302.51	ng	0
22)	Carbon Tetrachloride	0.00	0	0.00	ng	1
23)	Benzene	7.84	22955	7.26	ng	0
24)	1,2-Dichloroethane	0.00	0	0.00	ng	1
25)	Trichloroethene	0.00	0	0.00	ng	1
26)	1,2-Dichloropropane	0.00	0	0.00	ng	1
27)	Dibromomethane	0.00	0	0.00	ng	1
28)	Bromodichloromethane	0.00	0	0.00	ng	1
29)	cis,1,3-Dichloropropene	0.00	0	0.00	ng	1
30)	trans,1,3-Dichloropropene	0.00	0	0.00	ng	1
31)	4-Methyl-2-Pentanone	0.00	0	0.00	ng	1
32)	d5-Chlorobenzene	12.93	255519	250.00	ng	0
33)	Toluene	0.00	0	0.00	ng	1
34)	1,1,2-Trichloroethane	0.00	0	0.00	ng	1
35)	Tetrachloroethene	0.00	0	0.00	ng	1
36)	2-Hexanone	0.00	0	0.00	ng	1
37)	Chlorodibromomethane	0.00	0	0.00	ng	1
38)	Ethylene Dibromide	0.00	0	0.00	ng	1
39)	Chlorobenzene	0.00	0	0.00	ng	1
40)	1,1,1,2-Tetrachloroethane	0.00	0	0.00	ng	1
41)	Ethylbenzene	0.00	0	0.00	ng	1
42)	M&P-Xylene	0.00	0	0.00	ng	1
43)	O-Xylene	0.00	0	0.00	ng	1
44)	Styrene	0.00	0	0.00	ng	1
45)	Bromoform	0.00	0	0.00	ng	1
46)	1,1,2,2-Tetrachloroethane	0.00	0	0.00	ng	1
47)	1,2,3-Trichloropropane	0.00	0	0.00	ng	1
48)	d10-Ethylbenzene(SPK)	13.00	427828	243.59	ng	0
49)	d8-Toluene(SURR)	11.09	448288	296.15	ng	0
50)	4-Bromofluorobenzene(SURR)	14.22	104823	208.27	ng	0
51)	Isopropylbenzene	0.00	0	0.00	ng	1
52)	1,3,5-Trimethylbenzene	0.00	0	0.00	ng	1
53)	1,2,4-Trimethylbenzene	0.00	0	0.00	ng	1
54)	1,3-Dichlorobenzene	0.00	0	0.00	ng	1
55)	1,4-Dichlorobenzene	0.00	0	0.00	ng	1
56)	1,2-Dichlorobenzene	0.00	0	0.00	ng	1
57)	1,2,4-Trichlorobenzene	0.00	0	0.00	ng	1
58)	Hexachlorobutadiene	0.00	0	0.00	ng	1
59)	Naphthalene	0.00	0	0.00	ng	1
60)	1,1-Dichloropropene	0.00	0	0.00	ng	1
61)	1,3-Dichloropropane	0.00	0	0.00	ng	1
62)	Bromobenzene	0.00	0	0.00	ng	1
63)	n-Propylbenzene	0.00	0	0.00	ng	1
64)	tert-Butylbenzene	0.00	0	0.00	ng	1
65)	sec-Butylbenzene	0.00	0	0.00	ng	1
66)	p-Isopropyltoluene	0.00	0	0.00	ng	1
67)	n-Butylbenzene	0.00	0	0.00	ng	1
68)	1,2-Dibromo-3-chloropropane	0.00	0	0.00	ng	1

Instrument Quantitation Report

Data File Name 16080408.D
Date Acquired 8/4/2016 14:57
Sample Name L1806455-4
Misc Info Coder SG
Instrument Name MSD-3

#	Name	Ret Time	Target Response	Amount	Units	Manual Integration
1)	Bromochloromethane	6.74	75572	250.00	ng	0
2)	Dichlorodifluoromethane	0.00	0	0.00	ng	1
3)	Chloromethane	0.00	0	0.00	ng	1
4)	Vinyl Chloride	0.00	0	0.00	ng	1
5)	Bromomethane	0.00	0	0.00	ng	1
6)	Chloroethane	0.00	0	0.00	ng	1
7)	Trichlorofluoromethane	0.00	0	0.00	ng	1
8)	1,1-Dichloroethene	0.00	0	0.00	ng	1
9)	Acetone	0.00	0	0.00	ng	1
10)	Iodomethane	0.00	0	0.00	ng	1
11)	Carbon disulfide	0.00	0	0.00	ng	1
12)	Methylene Chloride	0.00	0	0.00	ng	1
13)	trans,1,2-Dichloroethene	0.00	0	0.00	ng	1
14)	1,1-Dichloroethane	0.00	0	0.00	ng	1
15)	Vinyl Acetate	0.00	0	0.00	ng	1
16)	cis,1,2-Dichloroethene	0.00	0	0.00	ng	1
17)	2-Butanone	0.00	0	0.00	ng	1
18)	Chloroform	0.00	0	0.00	ng	1
19)	1,1,1-Trichloroethane	0.00	0	0.00	ng	1
20)	1,4-Difluorobenzene	8.68	371281	250.00	ng	0
21)	d4-1,2-Dichloroethane(SURR)	7.84	153698	305.62	ng	0
22)	Carbon Tetrachloride	0.00	0	0.00	ng	1
23)	Benzene	7.84	43756	16.28	ng	0
24)	1,2-Dichloroethane	0.00	0	0.00	ng	1
25)	Trichloroethene	0.00	0	0.00	ng	1
26)	1,2-Dichloropropane	0.00	0	0.00	ng	1
27)	Dibromomethane	0.00	0	0.00	ng	1
28)	Bromodichloromethane	0.00	0	0.00	ng	1
29)	cis,1,3-Dichloropropene	0.00	0	0.00	ng	1
30)	trans,1,3-Dichloropropene	0.00	0	0.00	ng	1
31)	4-Methyl-2-Pentanone	0.00	0	0.00	ng	1
32)	d5-Chlorobenzene	12.94	196691	250.00	ng	0
33)	Toluene	0.00	0	0.00	ng	1
34)	1,1,2-Trichloroethane	0.00	0	0.00	ng	1
35)	Tetrachloroethene	0.00	0	0.00	ng	1
36)	2-Hexanone	0.00	0	0.00	ng	1
37)	Chlorodibromomethane	0.00	0	0.00	ng	1
38)	Ethylene Dibromide	0.00	0	0.00	ng	1
39)	Chlorobenzene	0.00	0	0.00	ng	1
40)	1,1,1,2-Tetrachloroethane	0.00	0	0.00	ng	1
41)	Ethylbenzene	0.00	0	0.00	ng	1
42)	M&P-Xylene	0.00	0	0.00	ng	1
43)	O-Xylene	0.00	0	0.00	ng	1
44)	Styrene	0.00	0	0.00	ng	1
45)	Bromoform	0.00	0	0.00	ng	1
46)	1,1,2,2-Tetrachloroethane	0.00	0	0.00	ng	1
47)	1,2,3-Trichloropropane	0.00	0	0.00	ng	1
48)	d10-Ethylbenzene(SPK)	13.01	9891	7.32	ng	0
49)	d8-Toluene(SURR)	11.09	367847	315.69	ng	0
50)	4-Bromofluorobenzene(SURR)	14.22	74755	192.96	ng	0
51)	Isopropylbenzene	0.00	0	0.00	ng	1
52)	1,3,5-Trimethylbenzene	0.00	0	0.00	ng	1
53)	1,2,4-Trimethylbenzene	0.00	0	0.00	ng	1
54)	1,3-Dichlorobenzene	0.00	0	0.00	ng	1
55)	1,4-Dichlorobenzene	0.00	0	0.00	ng	1
56)	1,2-Dichlorobenzene	0.00	0	0.00	ng	1
57)	1,2,4-Trichlorobenzene	0.00	0	0.00	ng	1
58)	Hexachlorobutadiene	0.00	0	0.00	ng	1
59)	Naphthalene	0.00	0	0.00	ng	1
60)	1,1-Dichloropropene	0.00	0	0.00	ng	1
61)	1,3-Dichloropropane	0.00	0	0.00	ng	1
62)	Bromobenzene	0.00	0	0.00	ng	1
63)	n-Propylbenzene	0.00	0	0.00	ng	1
64)	tert-Butylbenzene	0.00	0	0.00	ng	1
65)	sec-Butylbenzene	0.00	0	0.00	ng	1
66)	p-Isopropyltoluene	0.00	0	0.00	ng	1
67)	n-Butylbenzene	0.00	0	0.00	ng	1
68)	1,2-Dibromo-3-chloropropane	0.00	0	0.00	ng	1

Instrument Quantitation Report

Data File Name 16080410.D
Date Acquired 8/4/2016 16:36
Sample Name L1806455-8
Misc Info Coder SG
Instrument Name MSD-3

#	Name	Ret Time	Target Response	Amount	Units	Manual Integration
1)	Bromochloromethane	6.74	79274	250.00	ng	0
2)	Dichlorodifluoromethane	0.00	0	0.00	ng	1
3)	Chloromethane	0.00	0	0.00	ng	1
4)	Vinyl Chloride	0.00	0	0.00	ng	1
5)	Bromomethane	0.00	0	0.00	ng	1
6)	Chloroethane	0.00	0	0.00	ng	1
7)	Trichlorofluoromethane	0.00	0	0.00	ng	1
8)	1,1-Dichloroethene	0.00	0	0.00	ng	1
9)	Acetone	0.00	0	0.00	ng	1
10)	Iodomethane	0.00	0	0.00	ng	1
11)	Carbon disulfide	0.00	0	0.00	ng	1
12)	Methylene Chloride	0.00	0	0.00	ng	1
13)	trans,1,2-Dichloroethene	0.00	0	0.00	ng	1
14)	1,1-Dichloroethane	0.00	0	0.00	ng	1
15)	Vinyl Acetate	0.00	0	0.00	ng	1
16)	cis,1,2-Dichloroethene	0.00	0	0.00	ng	1
17)	2-Butanone	0.00	0	0.00	ng	1
18)	Chloroform	0.00	0	0.00	ng	1
19)	1,1,1-Trichloroethane	0.00	0	0.00	ng	1
20)	1,4-Difluorobenzene	8.67	394396	250.00	ng	0
21)	d4-1,2-Dichloroethane(SURR)	7.83	162230	303.68	ng	0
22)	Carbon Tetrachloride	0.00	0	0.00	ng	1
23)	Benzene	7.84	56620	19.83	ng	0
24)	1,2-Dichloroethane	0.00	0	0.00	ng	1
25)	Trichloroethene	0.00	0	0.00	ng	1
26)	1,2-Dichloropropane	0.00	0	0.00	ng	1
27)	Dibromomethane	0.00	0	0.00	ng	1
28)	Bromodichloromethane	0.00	0	0.00	ng	1
29)	cis,1,3-Dichloropropene	0.00	0	0.00	ng	1
30)	trans,1,3-Dichloropropene	0.00	0	0.00	ng	1
31)	4-Methyl-2-Pentanone	0.00	0	0.00	ng	1
32)	d5-Chlorobenzene	12.94	208445	250.00	ng	0
33)	Toluene	0.00	0	0.00	ng	1
34)	1,1,2-Trichloroethane	11.82	679	1.90	ng	0
35)	Tetrachloroethene	0.00	0	0.00	ng	1
36)	2-Hexanone	0.00	0	0.00	ng	1
37)	Chlorodibromomethane	0.00	0	0.00	ng	1
38)	Ethylene Dibromide	0.00	0	0.00	ng	1
39)	Chlorobenzene	0.00	0	0.00	ng	1
40)	1,1,1,2-Tetrachloroethane	0.00	0	0.00	ng	1
41)	Ethylbenzene	0.00	0	0.00	ng	1
42)	M&P-Xylene	0.00	0	0.00	ng	1
43)	O-Xylene	0.00	0	0.00	ng	1
44)	Styrene	0.00	0	0.00	ng	1
45)	Bromoform	0.00	0	0.00	ng	1
46)	1,1,2,2-Tetrachloroethane	0.00	0	0.00	ng	1
47)	1,2,3-Trichloropropane	0.00	0	0.00	ng	1
48)	d10-Ethylbenzene(SPK)	13.01	2517	1.76	ng	0
49)	d8-Toluene(SURR)	11.09	394556	319.51	ng	0
50)	4-Bromofluorobenzene(SURR)	14.22	84175	205.02	ng	0
51)	Isopropylbenzene	0.00	0	0.00	ng	1
52)	1,3,5-Trimethylbenzene	0.00	0	0.00	ng	1
53)	1,2,4-Trimethylbenzene	0.00	0	0.00	ng	1
54)	1,3-Dichlorobenzene	0.00	0	0.00	ng	1
55)	1,4-Dichlorobenzene	0.00	0	0.00	ng	1
56)	1,2-Dichlorobenzene	0.00	0	0.00	ng	1
57)	1,2,4-Trichlorobenzene	0.00	0	0.00	ng	1
58)	Hexachlorobutadiene	0.00	0	0.00	ng	1
59)	Naphthalene	0.00	0	0.00	ng	1
60)	1,1-Dichloropropene	0.00	0	0.00	ng	1
61)	1,3-Dichloropropane	0.00	0	0.00	ng	1
62)	Bromobenzene	0.00	0	0.00	ng	1
63)	n-Propylbenzene	0.00	0	0.00	ng	1
64)	tert-Butylbenzene	0.00	0	0.00	ng	1
65)	sec-Butylbenzene	0.00	0	0.00	ng	1
66)	p-Isopropyltoluene	0.00	0	0.00	ng	1
67)	n-Butylbenzene	0.00	0	0.00	ng	1
68)	1,2-Dibromo-3-chloropropane	0.00	0	0.00	ng	1

Instrument Quantitation Report

Data File Name 16080306.D
Date Acquired 8/3/2016 15:35
Sample Name 250 ng CONTROL S
Misc Info Coder SG
Instrument Name MSD-3

#	Name	Ret Time	Target Response	Amount	Units	Manual Integration
1)	Bromochloromethane	6.73	80782	250.00	ng	0
2)	Dichlorodifluoromethane	1.72	107059	199.77	ng	0
3)	Chloromethane	1.90	186351	293.20	ng	0
4)	Vinyl Chloride	2.01	176440	230.98	ng	0
5)	Bromomethane	2.36	58773	173.12	ng	0
6)	Chloroethane	2.46	91434	229.89	ng	0
7)	Trichlorofluoromethane	2.74	270240	237.18	ng	0
8)	1,1-Dichloroethene	3.36	353541	257.44	ng	0
9)	Acetone	3.39	132281	258.81	ng	0
10)	Iodomethane	3.55	2800	5.14	ng	0
11)	Carbon disulfide	3.64	492312	229.01	ng	0
12)	Methylene Chloride	4.05	241712	254.34	ng	0
13)	trans,1,2-Dichloroethene	4.48	255566	280.36	ng	0
14)	1,1-Dichloroethane	5.25	304234	269.09	ng	0
15)	Vinyl Acetate	0.00	0	0.00	ng	1
16)	cis,1,2-Dichloroethene	6.30	260609	246.67	ng	0
17)	2-Butanone	6.30	116154	317.86	ng	0
18)	Chloroform	6.95	265413	250.24	ng	0
19)	1,1,1-Trichloroethane	7.20	121028	199.55	ng	0
20)	1,4-Difluorobenzene	8.66	362219	250.00	ng	0
21)	d4-1,2-Dichloroethane(SURR)	7.82	132357	269.77	ng	0
22)	Carbon Tetrachloride	7.47	168039	242.83	ng	0
23)	Benzene	7.84	542372	206.83	ng	0
24)	1,2-Dichloroethane	7.96	199789	266.15	ng	0
25)	Trichloroethene	9.04	142878	243.04	ng	0
26)	1,2-Dichloropropane	9.49	145028	241.28	ng	0
27)	Dibromomethane	9.63	90789	269.66	ng	0
28)	Bromodichloromethane	9.99	166874	254.97	ng	0
29)	cis,1,3-Dichloropropene	10.71	161230	240.46	ng	0
30)	trans,1,3-Dichloropropene	11.55	112230	246.10	ng	0
31)	4-Methyl-2-Pentanone	10.95	255359	288.50	ng	0
32)	d5-Chlorobenzene	12.93	253596	250.00	ng	0
33)	Toluene	11.18	540650	214.94	ng	0
34)	1,1,2-Trichloroethane	11.80	102290	235.31	ng	0
35)	Tetrachloroethene	11.87	151904	230.59	ng	0
36)	2-Hexanone	12.09	182575	282.93	ng	0
37)	Chlorodibromomethane	12.25	145499	246.77	ng	0
38)	Ethylene Dibromide	12.38	121589	225.92	ng	0
39)	Chlorobenzene	12.96	360068	232.96	ng	0
40)	1,1,1,2-Tetrachloroethane	13.08	138120	251.79	ng	0
41)	Ethylbenzene	13.09	660164	231.03	ng	0
42)	M&P-Xylene	13.24	1126820	463.70	ng	0
43)	O-Xylene	13.65	582532	231.25	ng	0
44)	Styrene	13.68	458153	213.07	ng	0
45)	Bromoform	13.86	122491	263.60	ng	0
46)	1,1,2,2-Tetrachloroethane	14.37	174075	237.04	ng	1
47)	1,2,3-Trichloropropane	14.42	157734	260.01	ng	1
48)	d10-Ethylbenzene(SPK)	13.00	367400	210.77	ng	0
49)	d8-Toluene(SURR)	11.08	371933	247.57	ng	0
50)	4-Bromofluorobenzene(SURR)	14.22	134637	269.54	ng	0
51)	Isopropylbenzene	14.04	688957	235.33	ng	0
52)	1,3,5-Trimethylbenzene	14.65	646159	226.47	ng	0
53)	1,2,4-Trimethylbenzene	15.01	647361	229.79	ng	0
54)	1,3-Dichlorobenzene	15.28	358776	244.02	ng	0
55)	1,4-Dichlorobenzene	15.38	367111	236.23	ng	0
56)	1,2-Dichlorobenzene	15.71	339415	244.08	ng	0
57)	1,2,4-Trichlorobenzene	17.17	266482	225.94	ng	0
58)	Hexachlorobutadiene	17.29	154492	249.20	ng	0
59)	Naphthalene	17.42	710415	245.40	ng	0
60)	1,1-Dichloropropene	7.50	182916	226.95	ng	0
61)	1,3-Dichloropropane	12.00	199298	221.71	ng	0
62)	Bromobenzene	14.35	238762	229.17	ng	0
63)	n-Propylbenzene	14.47	880246	237.59	ng	0
64)	tert-Butylbenzene	14.95	517562	233.36	ng	0
65)	sec-Butylbenzene	15.17	807366	236.23	ng	0
66)	p-Isopropyltoluene	15.32	705035	233.99	ng	0
67)	n-Butylbenzene	15.70	680363	233.56	ng	0
68)	1,2-Dibromo-3-chloropropane	16.44	59167	323.47	ng	0

Instrument Quantitation Report

Data File Name 16080404.D
Date Acquired 8/4/2016 12:07
Sample Name 250ng control STD
Misc Info Coder SG
Instrument Name MSD-3

#	Name	Ret Time	Target Response	Amount	Units	Manual Integration
1)	Bromochloromethane	6.73	78857	250.00	ng	0
2)	Dichlorodifluoromethane	1.72	113279	216.53	ng	0
3)	Chloromethane	1.90	198625	320.14	ng	0
4)	Vinyl Chloride	2.01	187130	250.95	ng	0
5)	Bromomethane	2.36	64391	194.29	ng	0
6)	Chloroethane	2.47	100303	258.35	ng	0
7)	Trichlorofluoromethane	2.75	284040	255.37	ng	0
8)	1,1-Dichloroethene	3.36	400098	298.46	ng	0
9)	Acetone	3.40	85447	171.26	ng	0
10)	Iodomethane	0.00	0	0.00	ng	1
11)	Carbon disulfide	3.64	552825	263.43	ng	0
12)	Methylene Chloride	4.05	237478	255.98	ng	0
13)	trans,1,2-Dichloroethene	4.49	248920	279.74	ng	0
14)	1,1-Dichloroethane	5.26	312771	283.39	ng	0
15)	Vinyl Acetate	0.00	0	0.00	ng	1
16)	cis,1,2-Dichloroethene	6.31	261520	253.58	ng	0
17)	2-Butanone	6.31	47704	133.73	ng	0
18)	Chloroform	6.95	251549	242.96	ng	0
19)	1,1,1-Trichloroethane	7.20	69726	117.77	ng	0
20)	1,4-Difluorobenzene	8.67	332408	250.00	ng	0
21)	d4-1,2-Dichloroethane(SURR)	7.82	96958	215.34	ng	0
22)	Carbon Tetrachloride	7.47	149561	235.51	ng	0
23)	Benzene	7.84	555378	230.79	ng	0
24)	1,2-Dichloroethane	7.96	152981	222.07	ng	0
25)	Trichloroethene	9.04	137417	254.71	ng	0
26)	1,2-Dichloropropane	9.50	135696	246.00	ng	0
27)	Dibromomethane	9.63	72008	233.06	ng	0
28)	Bromodichloromethane	9.99	144536	240.64	ng	0
29)	cis,1,3-Dichloropropene	10.71	134340	218.33	ng	0
30)	trans,1,3-Dichloropropene	11.55	86103	205.74	ng	0
31)	4-Methyl-2-Pentanone	10.96	155639	191.61	ng	0
32)	d5-Chlorobenzene	12.93	186323	250.00	ng	0
33)	Toluene	11.18	545986	295.43	ng	0
34)	1,1,2-Trichloroethane	11.80	92946	291.01	ng	0
35)	Tetrachloroethene	11.87	140531	290.35	ng	0
36)	2-Hexanone	12.09	112655	237.61	ng	0
37)	Chlorodibromomethane	12.26	127207	293.65	ng	0
38)	Ethylene Dibromide	12.38	116593	294.85	ng	0
39)	Chlorobenzene	12.96	346978	305.55	ng	0
40)	1,1,1,2-Tetrachloroethane	13.08	130771	324.46	ng	0
41)	Ethylbenzene	13.09	680737	324.24	ng	0
42)	M&P-Xylene	13.24	1211640	678.63	ng	0
43)	O-Xylene	13.65	626515	338.51	ng	0
44)	Styrene	13.68	490999	310.79	ng	0
45)	Bromoform	13.86	95537	279.83	ng	0
46)	1,1,2,2-Tetrachloroethane	14.37	132667	245.88	ng	1
47)	1,2,3-Trichloropropane	14.42	111423	249.99	ng	1
48)	d10-Ethylbenzene(SPK)	13.00	325927	254.49	ng	0
49)	d8-Toluene(SURR)	11.08	323022	292.64	ng	0
50)	4-Bromofluorobenzene(SURR)	14.22	92063	250.85	ng	0
51)	Isopropylbenzene	14.04	708045	329.17	ng	0
52)	1,3,5-Trimethylbenzene	14.65	712085	339.69	ng	0
53)	1,2,4-Trimethylbenzene	15.01	714604	345.24	ng	0
54)	1,3-Dichlorobenzene	15.28	366858	339.61	ng	0
55)	1,4-Dichlorobenzene	15.38	377912	330.98	ng	0
56)	1,2-Dichlorobenzene	15.71	345876	338.53	ng	0
57)	1,2,4-Trichlorobenzene	17.17	244418	282.05	ng	0
58)	Hexachlorobutadiene	17.30	137065	300.91	ng	0
59)	Naphthalene	17.41	495408	232.91	ng	0
60)	1,1-Dichloropropene	7.50	178933	302.16	ng	0
61)	1,3-Dichloropropane	12.00	184793	279.79	ng	0
62)	Bromobenzene	14.35	249883	326.44	ng	0
63)	n-Propylbenzene	14.47	955170	350.89	ng	0
64)	tert-Butylbenzene	14.95	546791	335.55	ng	0
65)	sec-Butylbenzene	15.17	874245	348.15	ng	0
66)	p-Isopropyltoluene	15.32	776568	350.79	ng	0
67)	n-Butylbenzene	15.70	760444	355.31	ng	0
68)	1,2-Dibromo-3-chloropropane	16.44	26938	200.45	ng	0

VOC DATA PACKAGE

SECTION 5: CALIBRATION DATA

Including:

for Multi-Point Calibration(s)

- Multi-Point Calibration Tables
- Individual Quantitation Reports

for Continuing Calibration(s)

- Multi-Point Calibration Tables
- Individual Quantitation Reports

Response Factor Report ONLINE

Method Path : C:\msdchem\1\methods\QUANT\
Method File : VOST160513Q7PTrev.M
Title : Volatiles VOST
Last Update : Fri Aug 12 15:28:02 2016
Response Via : Initial Calibration

Calibration Files
50 =16051304.D 100 =16051306.D 150 =16051307.D 250 =16051308.D 375 =16051309.D 500 =160513

		Compound	50	100	150	250	375	500	1000	Avg	%RSD
1)	I	Bromochloromethane	----------ISTD----------								
2)	T	Dichlorodifluo...	1.867	1.968	1.706	1.477	1.836	1.666	1.088	1.659	17.95
3)	T	Chloromethane	2.343	2.225	1.933	1.977	1.957	1.832	1.501	1.967	13.83
4)	T	Vinyl Chloride	1.798	2.517	2.704	2.297	2.665	2.549	2.018	2.364	14.53
5)	T	Bromomethane	0.892	1.051	1.211	0.953	1.334	1.098	0.817	1.051	17.28
6)	T	Chloroethane	0.817	1.319	1.354	1.226	1.403	1.385	1.113	1.231	16.98
7)	T	Trichlorofluor...	3.545	3.765	3.678	3.575	3.620	3.561	2.939	3.526	7.66
8)		1,1-Dichloroet...	4.050	4.312	4.576	4.350	4.379	4.209	3.873	4.250	5.43
9)	T	Acetone	1.820	1.444	1.444	1.450	1.772	1.560		1.582	10.90
10)	T	Iodomethane	0.504	1.771	1.102	2.229	2.131	2.377		1.686	43.73
11)		Carbon disulfide	7.060	6.866	6.598	6.513	6.403	6.479		6.653	3.84
12)	T	Methylene Chlo...	3.131	3.022	3.080	2.807	3.025	3.020	2.501	2.941	7.43
13)	T	trans,1,2-Dich...	2.521	2.171	2.657	2.741	3.266	3.473	2.918	2.821	15.71
14)		1,1-Dichloroet...	3.231	2.548	3.056	3.717	4.098	4.297	3.545	3.499	17.37
15)	T	Vinyl Acetate	1.904	1.519	2.004	1.520	1.763	1.987		1.783	12.41
16)		cis,1,2-Dichlo...	2.946	2.520	3.242	3.347	3.742	3.852	3.239	3.270	13.88
17)	T	2-Butanone	1.255	0.796	1.387	0.833	1.496	1.019		1.131	25.85
18)	T	Chloroform	3.002	2.410	3.069	3.058	3.809	4.103	3.526	3.282	17.34
19)	T	1,1,1-Trichlor...	2.506	1.700	1.815	1.555	1.998	2.098	1.466	1.877	19.05
20)	I	1,4-Difluorobenzene	----------ISTD----------								
21)	S	d4-1,2-Dichlor...	0.319	0.269	0.298	0.287	0.349	0.432	0.415	0.339	18.78
22)	T	Carbon Tetrach...	0.462	0.450	0.437	0.457	0.497	0.549	0.491	0.478	7.98
23)	T	Benzene	2.747	1.906	1.748	1.619	1.613	1.610	1.428	1.810	24.21
24)	T	1,2-Dichloroet...	0.493	0.402	0.453	0.430	0.543	0.682	0.624	0.518	20.09
25)	T	Trichloroethene	0.454	0.401	0.402	0.382	0.409	0.409	0.382	0.406	5.97
26)	T	1,2-Dichloropr...	0.473	0.396	0.409	0.388	0.425	0.426	0.387	0.415	7.27
27)	T	Dibromomethane	0.213	0.164	0.191	0.200	0.257	0.321	0.281	0.232	23.95
28)	T	Bromodichlorom...	0.472	0.403	0.442	0.416	0.477	0.490	0.463	0.452	7.25
29)	T	cis,1,3-Dichlo...	0.525	0.411	0.430	0.442	0.507	0.505	0.419	0.463	10.39
30)	T	trans,1,3-Dich...	0.318	0.260	0.295	0.291	0.362	0.360	0.318	0.315	11.78
31)	T	4-Methyl-2-Pen...	0.776	0.500	0.597	0.491	0.699	0.602		0.611	18.23
32)	I	d5-Chlorobenzene	----------ISTD----------								
33)		Toluene	2.949	2.462	2.436	2.328	2.412	2.387	2.383	2.480	8.52
34)	T	1,1,2-Trichlor...	0.463	0.397	0.466	0.380	0.452	0.395	0.447	0.429	8.50
35)		Tetrachloroethene	0.645	0.617	0.678	0.622	0.672	0.643	0.668	0.649	3.77
36)		2-Hexanone	0.774	0.513	0.580	0.551	0.735	0.663		0.636	16.49
37)		Chlorodibromom...	0.578	0.526	0.624	0.524	0.625	0.559	0.632	0.581	8.09
38)	T	Ethylene Dibro...	0.563	0.496	0.542	0.498	0.542	0.506	0.567	0.531	5.72
39)	T	Chlorobenzene	1.575	1.493	1.490	1.488	1.532	1.544	1.545	1.524	2.24
40)	T	1,1,1,2-Tetrac...	0.525	0.501	0.572	0.515	0.582	0.538	0.552	0.541	5.49
41)	T	Ethylbenzene	3.012	2.833	2.751	2.786	2.794	2.838	2.706	2.817	3.45
42)	T	M&P-Xylene	2.452	2.449	2.388	2.395	2.408	2.405	2.273	2.396	2.50
43)	T	O-Xylene	2.508	2.529	2.432	2.475	2.489	2.520	2.429	2.483	1.62
44)	T	Styrene	2.673	2.139	2.048	2.004	2.025	2.027	1.922	2.120	11.89
45)	T	Bromoform	0.397	0.395	0.484	0.422	0.521	0.462	0.525	0.458	12.02
46)	T	1,1,2,2-Tetrac...	0.784	0.661	0.761	0.615	0.792	0.665	0.790	0.724	10.28
47)	T	1,2,3-Trichlor...	0.653	0.513	0.621	0.509	0.658	0.568	0.664	0.598	11.33
48)	S	d10-Ethylbenze...	1.791	1.819	1.636	1.830	1.758	1.880	1.314	1.718	11.30
49)	S	d8-Toluene(SURR)	1.434	1.481	1.505	1.461	1.485	1.455	1.545	1.481	2.47
50)	S	4-Bromofluorob...	0.488	0.479	0.468	0.501	0.471	0.482	0.557	0.492	6.21
51)		Isopropylbenzene	2.904	2.891	2.820	2.860	2.883	2.981	2.864	2.886	1.73
52)		1,3,5-Trimethy...	2.971	2.813	2.801	2.809	2.828	2.819	2.649	2.813	3.31
53)		1,2,4-Trimethy...	2.935	2.731	2.717	2.744	2.795	2.827	2.691	2.777	3.01
54)		1,3-Dichlorobe...	1.433	1.388	1.409	1.456	1.480	1.508	1.468	1.449	2.90

55)	1,4-Dichlorobe...	1.535	1.522	1.500	1.534	1.556	1.567	1.512	1.532	1.54
56)	1,2-Dichlorobe...	1.372	1.396	1.377	1.386	1.384	1.395	1.287	1.371	2.78
57)	1,2,4-Trichlor...	1.107	1.059	1.135	1.169	1.213	1.248	1.209	1.163	5.74
58)	Hexachlorobuta...	0.584	0.590	0.594	0.605	0.623	0.639	0.644	0.611	3.97
59)	Naphthalene	2.657	2.492	2.818	2.788	3.106	3.142	2.975	2.854	8.30
60)	1,1-Dichloropr...	0.791	0.768	0.840	0.740	0.833	0.779	0.811	0.795	4.53
61)	1,3-Dichloropr...	0.947	0.824	0.952	0.794	0.928	0.827	0.931	0.886	7.66
62)	Bromobenzene	1.050	0.990	0.981	1.006	1.038	1.068	1.057	1.027	3.37
63)	n-Propylbenzene	3.678	3.645	3.613	3.640	3.669	3.736	3.587	3.652	1.32
64)	tert-Butylbenzene	2.207	2.198	2.166	2.174	2.202	2.222	2.137	2.186	1.34
65)	sec-Butylbenzene	3.404	3.405	3.324	3.374	3.389	3.430	3.259	3.369	1.75
66)	p-Isopropyltol...	3.085	2.987	2.900	2.970	2.988	3.049	2.814	2.970	3.05
67)	n-Butylbenzene	3.120	2.909	2.863	2.851	2.858	2.854	2.646	2.872	4.82
68)	1,2-Dibromo-3-...	0.196	0.153	0.148	0.167	0.184	0.218	0.196	0.180	14.14

(#) = Out of Range

VOST160513Q7PTrev.M Wed Aug 17 15:09:12 2016

Calibration Standard Quantitation Report

Data File Name 16051304.D
Date Acquired 5/13/2016 12:16
Sample Name 50NG-VOSTSTD
Misc Info Coder SG
Instrument Name MSD-3

#	Name	Ret Time	Target Response	Amount	Units	Manual Integration
1)	Bromochloromethane	6.75	62989	250.00	ng	0
2)	Dichlorodifluoromethane	1.72	23526	56.44	ng	0
3)	Chloromethane	1.90	29518	60.07	ng	1
4)	Vinyl Chloride	2.01	22655	38.20	ng	1
5)	Bromomethane	2.36	11235	42.57	ng	1
6)	Chloroethane	2.46	10287	33.22	ng	1
7)	Trichlorofluoromethane	2.74	44665	50.44	ng	0
8)	1,1-Dichloroethene	3.36	51026	47.77	ng	0
9)	Acetone	3.42	22926	58.07	ng	0
10)	Iodomethane	3.55	6344	14.96	ng	0
11)	Carbon disulfide	3.64	88941	53.20	ng	0
12)	Methylene Chloride	4.06	39445	53.50	ng	0
13)	trans,1,2-Dichloroethene	4.49	31756	44.79	ng	0
14)	1,1-Dichloroethane	5.28	40707	46.38	ng	0
15)	Vinyl Acetate	5.33	23989	53.87	ng	0
16)	cis,1,2-Dichloroethene	6.32	37107	45.11	ng	0
17)	2-Butanone	6.33	15814	55.67	ng	0
18)	Chloroform	6.98	37813	45.88	ng	0
19)	1,1,1-Trichloroethane	7.22	31574	67.20	ng	0
20)	1,4-Difluorobenzene	8.69	298878	250.00	ng	0
21)	d4-1,2-Dichloroethane(SURR)	7.84	95209	235.41	ng	0
22)	Carbon Tetrachloride	7.48	27611	48.43	ng	0
23)	Benzene	7.85	164177	75.93	ng	0
24)	1,2-Dichloroethane	7.98	29489	47.71	ng	0
25)	Trichloroethene	9.05	27153	56.06	ng	0
26)	1,2-Dichloropropane	9.51	28263	57.15	ng	0
27)	Dibromomethane	9.66	12722	45.84	ng	0
28)	Bromodichloromethane	10.01	28203	52.16	ng	0
29)	cis,1,3-Dichloropropene	10.73	31409	56.72	ng	0
30)	trans,1,3-Dichloropropene	11.57	18984	50.51	ng	0
31)	4-Methyl-2-Pentanone	10.98	46387	63.62	ng	0
32)	d5-Chlorobenzene	12.95	229250	250.00	ng	0
33)	Toluene	11.20	135218	59.31	ng	0
34)	1,1,2-Trichloroethane	11.82	21220	53.98	ng	0
35)	Tetrachloroethene	11.88	29564	49.45	ng	0
36)	2-Hexanone	12.12	35488	61.01	ng	0
37)	Chlorodibromomethane	12.28	26498	49.53	ng	0
38)	Ethylene Dibromide	12.40	25805	53.04	ng	0
39)	Chlorobenzene	12.98	72230	51.75	ng	0
40)	1,1,1,2-Tetrachloroethane	13.10	24056	48.49	ng	0
41)	Ethylbenzene	13.10	138082	53.44	ng	0
42)	M&P-Xylene	13.25	224893	102.49	ng	0
43)	O-Xylene	13.67	114995	50.58	ng	0
44)	Styrene	13.69	122543	63.05	ng	0
45)	Bromoform	13.88	18193	43.31	ng	0
46)	1,1,2,2-Tetrachloroethane	14.39	35935	52.84	ng	1
47)	1,2,3-Trichloropropane	14.44	29943	52.66	ng	1
48)	d10-Ethylbenzene(SPK)	13.02	328525	207.77	ng	0
49)	d8-Toluene(SURR)	11.10	328778	241.79	ng	0
50)	4-Bromofluorobenzene(SURR)	14.24	111869	248.11	ng	0
51)	Isopropylbenzene	14.06	133145	50.31	ng	0
52)	1,3,5-Trimethylbenzene	14.67	136200	52.80	ng	0
53)	1,2,4-Trimethylbenzene	15.03	134558	52.83	ng	0
54)	1,3-Dichlorobenzene	15.30	65711	49.44	ng	0
55)	1,4-Dichlorobenzene	15.40	70391	50.28	ng	0
56)	1,2-Dichlorobenzene	15.73	62886	50.01	ng	0
57)	1,2,4-Trichlorobenzene	17.20	50753	47.63	ng	0
58)	Hexachlorobutadiene	17.32	26787	47.82	ng	0
59)	Naphthalene	17.45	121808	46.06	ng	0
60)	1,1-Dichloropropene	7.51	36245	49.74	ng	0
61)	1,3-Dichloropropane	12.01	43419	53.43	ng	0
62)	Bromobenzene	14.37	48139	51.14	ng	0
63)	n-Propylbenzene	14.48	168616	50.34	ng	0
64)	tert-Butylbenzene	14.97	101196	50.47	ng	0
65)	sec-Butylbenzene	15.19	156093	50.45	ng	0
66)	p-Isopropyltoluene	15.34	141427	51.86	ng	0
67)	n-Butylbenzene	15.71	143069	54.33	ng	0
68)	1,2-Dibromo-3-chloropropane	16.46	8973	54.30	ng	1

Calibration Standard Quantitation Report

Data File Name 16051306.D
Date Acquired 5/13/2016 13:51
Sample Name 100NG-VOSTSTD
Misc Info Coder SG
Instrument Name MSD-3

#	Name	Ret Time	Target Response	Amount	Units	Manual Integration
1)	Bromochloromethane	6.76	94395	250.00	ng	0
2)	Dichlorodifluoromethane	1.72	74319	118.68	ng	0
3)	Chloromethane	1.90	83996	113.10	ng	0
4)	Vinyl Chloride	2.02	95038	106.47	ng	0
5)	Bromomethane	2.37	39678	100.02	ng	0
6)	Chloroethane	2.48	49819	107.10	ng	1
7)	Trichlorofluoromethane	2.76	142143	106.76	ng	0
8)	1,1-Dichloroethene	3.37	162829	101.47	ng	0
9)	Acetone	3.42	54516	91.28	ng	0
10)	Iodomethane	3.56	66857	105.04	ng	0
11)	Carbon disulfide	3.65	259249	103.20	ng	0
12)	Methylene Chloride	4.06	114117	102.76	ng	0
13)	trans,1,2-Dichloroethene	4.51	81982	76.97	ng	0
14)	1,1-Dichloroethane	5.28	96221	72.83	ng	0
15)	Vinyl Acetate	5.34	57342	85.19	ng	0
16)	cis,1,2-Dichloroethene	6.33	95169	77.09	ng	0
17)	2-Butanone	6.33	30038	70.35	ng	0
18)	Chloroform	6.98	91005	73.43	ng	0
19)	1,1,1-Trichloroethane	7.23	64201	90.59	ng	0
20)	1,4-Difluorobenzene	8.69	448504	250.00	ng	0
21)	d4-1,2-Dichloroethane(SURR)	7.84	120787	198.82	ng	0
22)	Carbon Tetrachloride	7.50	80805	94.31	ng	0
23)	Benzene	7.86	341907	105.30	ng	0
24)	1,2-Dichloroethane	7.99	72048	77.51	ng	0
25)	Trichloroethene	9.06	71999	98.91	ng	0
26)	1,2-Dichloropropane	9.52	70987	95.38	ng	0
27)	Dibromomethane	9.66	29449	70.64	ng	0
28)	Bromodichloromethane	10.02	72244	89.15	ng	0
29)	cis,1,3-Dichloropropene	10.73	73680	88.75	ng	0
30)	trans,1,3-Dichloropropene	11.57	46616	82.55	ng	0
31)	4-Methyl-2-Pentanone	10.98	89761	81.90	ng	0
32)	d5-Chlorobenzene	12.95	316694	250.00	ng	0
33)	Toluene	11.20	311817	99.27	ng	0
34)	1,1,2-Trichloroethane	11.82	50262	92.59	ng	0
35)	Tetrachloroethene	11.88	78116	94.65	ng	1
36)	2-Hexanone	12.11	65024	80.26	ng	1
37)	Chlorodibromomethane	12.28	66656	90.53	ng	0
38)	Ethylene Dibromide	12.40	62775	93.40	ng	0
39)	Chlorobenzene	12.98	189104	97.97	ng	0
40)	1,1,1,2-Tetrachloroethane	13.10	63506	92.70	ng	0
41)	Ethylbenzene	13.11	358874	100.57	ng	0
42)	M&P-Xylene	13.25	620547	204.50	ng	0
43)	O-Xylene	13.67	320417	101.86	ng	0
44)	Styrene	13.69	271000	100.92	ng	0
45)	Bromoform	13.88	50056	86.26	ng	0
46)	1,1,2,2-Tetrachloroethane	14.39	83732	89.09	ng	0
47)	1,2,3-Trichloropropane	14.44	64965	82.93	ng	1
48)	d10-Ethylbenzene(SPK)	13.02	460750	211.66	ng	0
49)	d8-Toluene(SURR)	11.10	469049	250.01	ng	0
50)	4-Bromofluorobenzene(SURR)	14.24	151759	243.29	ng	0
51)	Isopropylbenzene	14.06	366165	100.15	ng	0
52)	1,3,5-Trimethylbenzene	14.67	356396	100.03	ng	0
53)	1,2,4-Trimethylbenzene	15.03	345983	98.34	ng	0
54)	1,3-Dichlorobenzene	15.30	175886	95.79	ng	0
55)	1,4-Dichlorobenzene	15.40	192775	99.33	ng	0
56)	1,2-Dichlorobenzene	15.74	176864	101.84	ng	0
57)	1,2,4-Trichlorobenzene	17.20	134091	91.04	ng	0
58)	Hexachlorobutadiene	17.32	74698	96.48	ng	0
59)	Naphthalene	17.44	315713	87.33	ng	0
60)	1,1-Dichloropropene	7.53	97323	96.69	ng	0
61)	1,3-Dichloropropane	12.02	104409	93.01	ng	0
62)	Bromobenzene	14.37	125421	96.40	ng	0
63)	n-Propylbenzene	14.48	461715	99.79	ng	0
64)	tert-Butylbenzene	14.97	278375	100.51	ng	0
65)	sec-Butylbenzene	15.19	431349	101.06	ng	0
66)	p-Isopropyltoluene	15.34	378421	100.57	ng	0
67)	n-Butylbenzene	15.72	368507	101.30	ng	0
68)	1,2-Dibromo-3-chloropropane	16.47	19430	84.92	ng	0

Calibration Standard Quantitation Report

Data File Name 16051307.D
Date Acquired 5/13/2016 14:29
Sample Name 150NG-VOSTSTD
Misc Info Coder SG
Instrument Name MSD-3

#	Name	Ret Time	Target Response	Amount	Units	Manual Integration
1)	Bromochloromethane	6.76	95017	250.00	ng	0
2)	Dichlorodifluoromethane	1.72	97272	154.31	ng	0
3)	Chloromethane	1.90	110209	147.42	ng	0
4)	Vinyl Chloride	2.02	154156	171.57	ng	0
5)	Bromomethane	2.37	69034	172.88	ng	0
6)	Chloroethane	2.48	77191	165.00	ng	0
7)	Trichlorofluoromethane	2.76	209702	156.47	ng	0
8)	1,1-Dichloroethene	3.37	260869	161.50	ng	0
9)	Acetone	3.42	82347	136.98	ng	0
10)	Iodomethane	3.56	62839	98.08	ng	0
11)	Carbon disulfide	3.65	376128	148.75	ng	0
12)	Methylene Chloride	4.07	175596	157.09	ng	0
13)	trans,1,2-Dichloroethene	4.51	151469	141.27	ng	0
14)	1,1-Dichloroethane	5.28	174237	131.02	ng	0
15)	Vinyl Acetate	5.33	114230	168.59	ng	0
16)	cis,1,2-Dichloroethene	6.33	184834	148.74	ng	0
17)	2-Butanone	6.33	79047	183.91	ng	0
18)	Chloroform	6.98	174989	140.27	ng	0
19)	1,1,1-Trichloroethane	7.23	103498	145.08	ng	0
20)	1,4-Difluorobenzene	8.69	513355	250.00	ng	0
21)	d4-1,2-Dichloroethane(SURR)	7.84	153130	220.22	ng	0
22)	Carbon Tetrachloride	7.50	134685	137.33	ng	0
23)	Benzene	7.86	538255	144.83	ng	0
24)	1,2-Dichloroethane	7.99	139424	131.05	ng	0
25)	Trichloroethene	9.06	123916	148.72	ng	0
26)	1,2-Dichloropropane	9.52	126079	148.00	ng	0
27)	Dibromomethane	9.66	58713	123.05	ng	0
28)	Bromodichloromethane	10.01	136001	146.62	ng	0
29)	cis,1,3-Dichloropropene	10.73	132539	139.48	ng	0
30)	trans,1,3-Dichloropropene	11.57	90868	140.59	ng	0
31)	4-Methyl-2-Pentanone	10.97	184009	146.69	ng	0
32)	d5-Chlorobenzene	12.95	325235	250.00	ng	0
33)	Toluene	11.20	475435	147.38	ng	0
34)	1,1,2-Trichloroethane	11.82	90950	163.14	ng	0
35)	Tetrachloroethene	11.88	132395	156.71	ng	0
36)	2-Hexanone	12.11	113133	136.70	ng	0
37)	Chlorodibromomethane	12.28	121809	161.09	ng	0
38)	Ethylene Dibromide	12.40	105782	153.26	ng	0
39)	Chlorobenzene	12.98	290708	146.66	ng	0
40)	1,1,1,2-Tetrachloroethane	13.10	111624	158.67	ng	0
41)	Ethylbenzene	13.11	536782	146.47	ng	0
42)	M&P-Xylene	13.26	931856	299.03	ng	0
43)	O-Xylene	13.67	474591	146.90	ng	0
44)	Styrene	13.70	399706	144.94	ng	0
45)	Bromoform	13.88	94490	158.55	ng	0
46)	1,1,2,2-Tetrachloroethane	14.39	148473	153.83	ng	1
47)	1,2,3-Trichloropropane	14.44	121144	151.93	ng	1
48)	d10-Ethylbenzene(SPK)	13.02	425785	190.46	ng	0
49)	d8-Toluene(SURR)	11.10	489623	254.12	ng	0
50)	4-Bromofluorobenzene(SURR)	14.24	152341	237.81	ng	0
51)	Isopropylbenzene	14.06	550224	146.55	ng	0
52)	1,3,5-Trimethylbenzene	14.67	546538	149.36	ng	0
53)	1,2,4-Trimethylbenzene	15.03	530206	146.75	ng	0
54)	1,3-Dichlorobenzene	15.30	274957	145.82	ng	0
55)	1,4-Dichlorobenzene	15.40	292670	146.84	ng	0
56)	1,2-Dichlorobenzene	15.73	268805	150.72	ng	0
57)	1,2,4-Trichlorobenzene	17.20	221446	146.40	ng	0
58)	Hexachlorobutadiene	17.32	115820	145.67	ng	0
59)	Naphthalene	17.44	549907	148.11	ng	0
60)	1,1-Dichloropropene	7.53	164016	158.67	ng	0
61)	1,3-Dichloropropane	12.02	185790	161.15	ng	0
62)	Bromobenzene	14.37	191344	143.20	ng	0
63)	n-Propylbenzene	14.48	704980	148.37	ng	0
64)	tert-Butylbenzene	14.97	422625	148.58	ng	0
65)	sec-Butylbenzene	15.19	648681	147.99	ng	0
66)	p-Isopropyltoluene	15.34	565884	146.44	ng	0
67)	n-Butylbenzene	15.71	558724	149.56	ng	0
68)	1,2-Dibromo-3-chloropropane	16.46	28823	122.67	ng	1

Calibration Standard Quantitation Report

Data File Name 16051308.D
Date Acquired 5/13/2016 15:08
Sample Name 250NG-VOSTSTD
Misc Info Coder SG
Instrument Name MSD-3

#	Name	Ret Time	Target Response	Amount	Units	Manual Integration
1)	Bromochloromethane	6.75	96026	250.00	ng	0
2)	Dichlorodifluoromethane	1.72	141834	223.22	ng	0
3)	Chloromethane	1.90	189854	253.45	ng	0
4)	Vinyl Chloride	2.02	220555	243.92	ng	0
5)	Bromomethane	2.37	91523	227.50	ng	0
6)	Chloroethane	2.48	117684	249.28	ng	0
7)	Trichlorofluoromethane	2.76	343270	254.28	ng	0
8)	1,1-Dichloroethene	3.37	417695	256.53	ng	0
9)	Acetone	3.42	139243	231.36	ng	0
10)	Iodomethane	3.56	214082	331.08	ng	0
11)	Carbon disulfide	3.65	625399	245.36	ng	0
12)	Methylene Chloride	4.07	269588	239.84	ng	0
13)	trans,1,2-Dichloroethene	4.51	263184	243.49	ng	0
14)	1,1-Dichloroethane	5.28	356930	266.78	ng	0
15)	Vinyl Acetate	5.33	145935	214.96	ng	0
16)	cis,1,2-Dichloroethene	6.33	321362	256.28	ng	0
17)	2-Butanone	6.33	80037	184.82	ng	0
18)	Chloroform	6.98	293674	233.75	ng	0
19)	1,1,1-Trichloroethane	7.23	149324	208.47	ng	0
20)	1,4-Difluorobenzene	8.69	450853	250.00	ng	0
21)	d4-1,2-Dichloroethane(SURR)	7.84	129570	212.38	ng	0
22)	Carbon Tetrachloride	7.49	205944	239.48	ng	0
23)	Benzene	7.86	729923	223.80	ng	0
24)	1,2-Dichloroethane	7.99	193918	208.00	ng	0
25)	Trichloroethene	9.06	172206	235.70	ng	0
26)	1,2-Dichloropropane	9.52	174919	234.49	ng	0
27)	Dibromomethane	9.66	90324	215.75	ng	0
28)	Bromodichloromethane	10.01	187556	229.96	ng	0
29)	cis,1,3-Dichloropropene	10.73	199114	238.39	ng	0
30)	trans,1,3-Dichloropropene	11.57	131241	231.47	ng	0
31)	4-Methyl-2-Pentanone	10.97	221162	201.07	ng	0
32)	d5-Chlorobenzene	12.95	317433	250.00	ng	0
33)	Toluene	11.20	739128	234.15	ng	0
34)	1,1,2-Trichloroethane	11.82	120538	221.47	ng	0
35)	Tetrachloroethene	11.88	197569	238.66	ng	0
36)	2-Hexanone	12.11	175023	217.31	ng	0
37)	Chlorodibromomethane	12.28	166191	224.35	ng	0
38)	Ethylene Dibromide	12.40	158122	234.72	ng	0
39)	Chlorobenzene	12.98	472182	244.30	ng	0
40)	1,1,1,2-Tetrachloroethane	13.10	163531	238.06	ng	0
41)	Ethylbenzene	13.11	884304	247.18	ng	0
42)	M&P-Xylene	13.26	1520390	500.39	ng	0
43)	O-Xylene	13.67	785622	249.56	ng	0
44)	Styrene	13.70	636165	236.38	ng	0
45)	Bromoform	13.88	133984	230.35	ng	0
46)	1,1,2,2-Tetrachloroethane	14.39	195211	205.96	ng	1
47)	1,2,3-Trichloropropane	14.44	162189	204.73	ng	1
48)	d10-Ethylbenzene(SPK)	13.02	464818	212.30	ng	0
49)	d8-Toluene(SURR)	11.10	463837	246.36	ng	0
50)	4-Bromofluorobenzene(SURR)	14.24	158876	254.48	ng	0
51)	Isopropylbenzene	14.06	907900	247.76	ng	0
52)	1,3,5-Trimethylbenzene	14.67	891620	249.64	ng	0
53)	1,2,4-Trimethylbenzene	15.03	870962	246.98	ng	0
54)	1,3-Dichlorobenzene	15.30	462162	251.13	ng	0
55)	1,4-Dichlorobenzene	15.40	486804	251.10	ng	0
56)	1,2-Dichlorobenzene	15.73	440051	252.76	ng	0
57)	1,2,4-Trichlorobenzene	17.20	370959	251.44	ng	0
58)	Hexachlorobutadiene	17.32	192028	247.59	ng	0
59)	Naphthalene	17.44	885021	241.71	ng	0
60)	1,1-Dichloropropene	7.52	234864	232.76	ng	0
61)	1,3-Dichloropropane	12.01	252001	223.96	ng	0
62)	Bromobenzene	14.37	319277	244.97	ng	0
63)	n-Propylbenzene	14.48	1155460	249.12	ng	0
64)	tert-Butylbenzene	14.97	689974	248.50	ng	0
65)	sec-Butylbenzene	15.19	1071020	250.00	ng	0
66)	p-Isopropyltoluene	15.34	942778	249.69	ng	0
67)	n-Butylbenzene	15.71	905024	248.18	ng	0
68)	1,2-Dibromo-3-chloropropane	16.46	53057	231.89	ng	0

Calibration Standard Quantitation Report

Data File Name 16051309.D
Date Acquired 5/13/2016 15:56
Sample Name 375NG-VOSTSTD
Misc Info Coder SG
Instrument Name MSD-3

#	Name	Ret Time	Target Response	Amount	Units	Manual Integration
1)	Bromochloromethane	6.76	95970	250.00	ng	0
2)	Dichlorodifluoromethane	1.72	264326	415.16	ng	0
3)	Chloromethane	1.90	281779	373.18	ng	0
4)	Vinyl Chloride	2.02	383570	422.67	ng	0
5)	Bromomethane	2.37	192035	476.12	ng	0
6)	Chloroethane	2.48	201989	427.48	ng	0
7)	Trichlorofluoromethane	2.76	521183	385.03	ng	0
8)	1,1-Dichloroethene	3.37	630392	386.40	ng	0
9)	Acetone	3.42	255141	420.19	ng	0
10)	Iodomethane	3.56	306800	474.12	ng	0
11)	Carbon disulfide	3.65	921717	360.90	ng	0
12)	Methylene Chloride	4.06	435498	385.72	ng	0
13)	trans,1,2-Dichloroethene	4.50	470184	434.17	ng	0
14)	1,1-Dichloroethane	5.28	589864	439.16	ng	0
15)	Vinyl Acetate	5.33	253812	370.87	ng	0
16)	cis,1,2-Dichloroethene	6.33	538609	429.13	ng	0
17)	2-Butanone	6.33	215305	495.94	ng	0
18)	Chloroform	6.98	548264	435.11	ng	0
19)	1,1,1-Trichloroethane	7.23	287558	399.10	ng	0
20)	1,4-Difluorobenzene	8.69	472924	250.00	ng	0
21)	d4-1,2-Dichloroethane(SURR)	7.84	165055	257.66	ng	0
22)	Carbon Tetrachloride	7.49	352434	390.08	ng	0
23)	Benzene	7.86	1144080	334.16	ng	0
24)	1,2-Dichloroethane	7.99	384880	392.70	ng	0
25)	Trichloroethene	9.06	290472	378.43	ng	0
26)	1,2-Dichloropropane	9.52	301276	383.90	ng	0
27)	Dibromomethane	9.66	182348	414.83	ng	0
28)	Bromodichloromethane	10.01	338502	396.13	ng	0
29)	cis,1,3-Dichloropropene	10.73	359815	411.02	ng	0
30)	trans,1,3-Dichloropropene	11.57	256574	430.91	ng	0
31)	4-Methyl-2-Pentanone	10.97	496008	429.20	ng	0
32)	d5-Chlorobenzene	12.94	313688	250.00	ng	0
33)	Toluene	11.20	1135040	364.80	ng	0
34)	1,1,2-Trichloroethane	11.82	212481	395.16	ng	0
35)	Tetrachloroethene	11.88	316430	388.32	ng	0
36)	2-Hexanone	12.11	346006	433.48	ng	0
37)	Chlorodibromomethane	12.28	294266	403.48	ng	0
38)	Ethylene Dibromide	12.40	255117	383.21	ng	0
39)	Chlorobenzene	12.98	720710	376.97	ng	0
40)	1,1,1,2-Tetrachloroethane	13.10	273890	403.65	ng	0
41)	Ethylbenzene	13.11	1314550	371.90	ng	0
42)	M&P-Xylene	13.26	2265780	753.85	ng	0
43)	O-Xylene	13.67	1171330	375.92	ng	0
44)	Styrene	13.70	953014	358.31	ng	0
45)	Bromoform	13.88	245168	426.53	ng	0
46)	1,1,2,2-Tetrachloroethane	14.39	372688	403.98	ng	1
47)	1,2,3-Trichloropropane	14.44	309770	407.15	ng	1
48)	d10-Ethylbenzene(SPK)	13.01	441270	204.65	ng	0
49)	d8-Toluene(SURR)	11.10	465923	250.72	ng	0
50)	4-Bromofluorobenzene(SURR)	14.24	147765	239.15	ng	0
51)	Isopropylbenzene	14.06	1356510	374.59	ng	0
52)	1,3,5-Trimethylbenzene	14.67	1330440	376.97	ng	0
53)	1,2,4-Trimethylbenzene	15.03	1315330	377.45	ng	0
54)	1,3-Dichlorobenzene	15.30	697860	383.73	ng	0
55)	1,4-Dichlorobenzene	15.40	732033	380.81	ng	0
56)	1,2-Dichlorobenzene	15.73	651027	378.48	ng	0
57)	1,2,4-Trichlorobenzene	17.20	570982	391.37	ng	0
58)	Hexachlorobutadiene	17.32	292993	382.07	ng	0
59)	Naphthalene	17.44	1461350	408.09	ng	0
60)	1,1-Dichloropropene	7.52	391756	392.95	ng	0
61)	1,3-Dichloropropane	12.02	436776	392.80	ng	0
62)	Bromobenzene	14.37	488632	379.15	ng	0
63)	n-Propylbenzene	14.48	1726410	376.71	ng	0
64)	tert-Butylbenzene	14.97	1036050	377.65	ng	0
65)	sec-Butylbenzene	15.19	1594530	377.17	ng	0
66)	p-Isopropyltoluene	15.34	1405820	377.19	ng	0
67)	n-Butylbenzene	15.71	1344570	373.16	ng	0
68)	1,2-Dibromo-3-chloropropane	16.46	86624	382.86	ng	0

Calibration Standard Quantitation Report

Data File Name 16051310.D
Date Acquired 5/13/2016 16:35
Sample Name 500NG-VOSTSTD
Misc Info Coder SG
Instrument Name MSD-3

#	Name	Ret Time	Target Response	Amount	Units	Manual Integration
1)	Bromochloromethane	6.75	97348	250.00	ng	0
2)	Dichlorodifluoromethane	1.72	324450	502.39	ng	0
3)	Chloromethane	1.90	356672	465.68	ng	0
4)	Vinyl Chloride	2.02	496291	539.14	ng	0
5)	Bromomethane	2.37	213686	522.30	ng	0
6)	Chloroethane	2.48	269575	562.45	ng	0
7)	Trichlorofluoromethane	2.76	693224	504.87	ng	0
8)	1,1-Dichloroethene	3.37	819410	495.14	ng	0
9)	Acetone	3.42	303718	493.11	ng	0
10)	Iodomethane	3.56	462784	705.04	ng	0
11)	Carbon disulfide	3.65	1261430	486.92	ng	0
12)	Methylene Chloride	4.06	588065	513.48	ng	0
13)	trans,1,2-Dichloroethene	4.51	676258	615.62	ng	0
14)	1,1-Dichloroethane	5.28	836700	614.11	ng	0
15)	Vinyl Acetate	5.33	386907	557.34	ng	0
16)	cis,1,2-Dichloroethene	6.33	749890	589.01	ng	0
17)	2-Butanone	6.33	198387	450.50	ng	0
18)	Chloroform	6.98	798794	624.96	ng	0
19)	1,1,1-Trichloroethane	7.23	408433	558.84	ng	0
20)	1,4-Difluorobenzene	8.69	435817	250.00	ng	0
21)	d4-1,2-Dichloroethane(SURR)	7.84	188478	319.28	ng	0
22)	Carbon Tetrachloride	7.50	478693	574.93	ng	0
23)	Benzene	7.86	1402940	444.66	ng	0
24)	1,2-Dichloroethane	7.99	594793	658.54	ng	0
25)	Trichloroethene	9.06	356253	503.65	ng	0
26)	1,2-Dichloropropane	9.52	371332	513.46	ng	0
27)	Dibromomethane	9.66	279680	690.43	ng	0
28)	Bromodichloromethane	10.02	427358	542.70	ng	0
29)	cis,1,3-Dichloropropene	10.73	440476	546.00	ng	0
30)	trans,1,3-Dichloropropene	11.57	313906	572.09	ng	0
31)	4-Methyl-2-Pentanone	10.97	524675	492.66	ng	0
32)	d5-Chlorobenzene	12.95	312262	250.00	ng	0
33)	Toluene	11.20	1490640	481.28	ng	0
34)	1,1,2-Trichloroethane	11.82	246925	461.31	ng	0
35)	Tetrachloroethene	11.88	401626	495.12	ng	0
36)	2-Hexanone	12.11	414140	521.20	ng	0
37)	Chlorodibromomethane	12.28	349145	480.91	ng	0
38)	Ethylene Dibromide	12.40	316021	476.87	ng	0
39)	Chlorobenzene	12.98	964308	506.68	ng	0
40)	1,1,1,2-Tetrachloroethane	13.10	336159	497.68	ng	0
41)	Ethylbenzene	13.11	1772310	503.70	ng	0
42)	M&P-Xylene	13.26	3003410	1003.83	ng	0
43)	O-Xylene	13.67	1573700	507.36	ng	0
44)	Styrene	13.70	1265620	478.01	ng	0
45)	Bromoform	13.88	288551	504.30	ng	0
46)	1,1,2,2-Tetrachloroethane	14.39	415384	456.52	ng	1
47)	1,2,3-Trichloropropane	14.44	354758	471.63	ng	1
48)	d10-Ethylbenzene(SPK)	13.02	469690	218.83	ng	0
49)	d8-Toluene(SURR)	11.10	454257	245.56	ng	0
50)	4-Bromofluorobenzene(SURR)	14.24	150647	244.93	ng	0
51)	Isopropylbenzene	14.06	1861750	516.46	ng	0
52)	1,3,5-Trimethylbenzene	14.67	1760340	501.06	ng	0
53)	1,2,4-Trimethylbenzene	15.03	1765570	508.97	ng	0
54)	1,3-Dichlorobenzene	15.30	941721	520.18	ng	0
55)	1,4-Dichlorobenzene	15.40	978341	511.26	ng	0
56)	1,2-Dichlorobenzene	15.73	870903	508.61	ng	0
57)	1,2,4-Trichlorobenzene	17.20	779260	536.57	ng	0
58)	Hexachlorobutadiene	17.32	399154	522.88	ng	0
59)	Naphthalene	17.44	1962310	550.48	ng	0
60)	1,1-Dichloropropene	7.52	486444	490.15	ng	0
61)	1,3-Dichloropropane	12.02	516643	466.75	ng	0
62)	Bromobenzene	14.37	667003	519.92	ng	0
63)	n-Propylbenzene	14.49	2333080	511.41	ng	0
64)	tert-Butylbenzene	14.97	1387880	508.20	ng	0
65)	sec-Butylbenzene	15.19	2141960	508.97	ng	0
66)	p-Isopropyltoluene	15.34	1904120	513.22	ng	0
67)	n-Butylbenzene	15.71	1782320	496.91	ng	0
68)	1,2-Dibromo-3-chloropropane	16.46	136359	605.43	ng	0

Calibration Standard Quantitation Report

Data File Name 16051311.D
Date Acquired 5/13/2016 17:20
Sample Name 1000NG-VOSTSTD
Misc Info Coder SG
Instrument Name MSD-3

#	Name	Ret Time	Target Response	Amount	Units	Manual Integration
1)	Bromochloromethane	6.76	100087	250.00	ng	0
2)	Dichlorodifluoromethane	1.72	435619	656.06	ng	0
3)	Chloromethane	1.90	601093	763.32	ng	0
4)	Vinyl Chloride	2.02	808050	853.79	ng	0
5)	Bromomethane	2.37	326891	777.14	ng	0
6)	Chloroethane	2.48	445483	904.04	ng	0
7)	Trichlorofluoromethane	2.76	1176670	833.51	ng	0
8)	1,1-Dichloroethene	3.37	1550700	911.40	ng	0
9)	Acetone	0.00	0	0.00	ng	1
10)	Iodomethane	0.00	0	0.00	ng	1
11)	Carbon disulfide	0.00	0	0.00	ng	1
12)	Methylene Chloride	4.06	1001380	850.45	ng	0
13)	trans,1,2-Dichloroethene	4.50	1168290	1034.43	ng	0
14)	1,1-Dichloroethane	5.28	1419130	1013.08	ng	0
15)	Vinyl Acetate	0.00	0	0.00	ng	1
16)	cis,1,2-Dichloroethene	6.33	1296790	990.70	ng	0
17)	2-Butanone	0.00	0	0.00	ng	1
18)	Chloroform	6.98	1411670	1074.24	ng	0
19)	1,1,1-Trichloroethane	7.23	586951	781.11	ng	0
20)	1,4-Difluorobenzene	8.69	440680	250.00	ng	0
21)	d4-1,2-Dichloroethane(SURR)	7.84	183061	306.68	ng	0
22)	Carbon Tetrachloride	7.49	865321	1027.82	ng	0
23)	Benzene	7.86	2516940	788.94	ng	0
24)	1,2-Dichloroethane	7.99	1100090	1204.56	ng	0
25)	Trichloroethene	9.06	673798	942.07	ng	0
26)	1,2-Dichloropropane	9.52	682950	933.92	ng	0
27)	Dibromomethane	9.66	494841	1208.10	ng	0
28)	Bromodichloromethane	10.01	815292	1023.91	ng	0
29)	cis,1,3-Dichloropropene	10.73	738135	904.87	ng	0
30)	trans,1,3-Dichloropropene	11.57	560398	1010.05	ng	0
31)	4-Methyl-2-Pentanone	0.00	0	0.00	ng	1
32)	d5-Chlorobenzene	12.95	273888	250.00	ng	0
33)	Toluene	11.20	2610910	961.09	ng	0
34)	1,1,2-Trichloroethane	11.82	490220	1044.15	ng	0
35)	Tetrachloroethene	11.88	731947	1028.76	ng	0
36)	2-Hexanone	0.00	0	0.00	ng	1
37)	Chlorodibromomethane	12.28	692848	1088.04	ng	0
38)	Ethylene Dibromide	12.40	621385	1069.02	ng	0
39)	Chlorobenzene	12.98	1692370	1013.82	ng	0
40)	1,1,1,2-Tetrachloroethane	13.10	604663	1020.61	ng	0
41)	Ethylbenzene	13.11	2965020	960.74	ng	0
42)	M&P-Xylene	13.26	4979930	1897.64	ng	0
43)	O-Xylene	13.67	2661630	978.33	ng	0
44)	Styrene	13.70	2105720	906.73	ng	0
45)	Bromoform	13.88	575542	1146.80	ng	0
46)	1,1,2,2-Tetrachloroethane	14.39	865484	1091.22	ng	0
47)	1,2,3-Trichloropropane	14.44	727363	1110.17	ng	0
48)	d10-Ethylbenzene(SPK)	13.02	287816	152.88	ng	0
49)	d8-Toluene(SURR)	11.10	423267	260.86	ng	0
50)	4-Bromofluorobenzene(SURR)	14.24	152660	282.98	ng	0
51)	Isopropylbenzene	14.06	3138080	992.48	ng	0
52)	1,3,5-Trimethylbenzene	14.67	2902370	941.88	ng	0
53)	1,2,4-Trimethylbenzene	15.03	2948650	969.12	ng	0
54)	1,3-Dichlorobenzene	15.30	1608510	1012.98	ng	0
55)	1,4-Dichlorobenzene	15.40	1656010	986.65	ng	0
56)	1,2-Dichlorobenzene	15.74	1409590	938.55	ng	0
57)	1,2,4-Trichlorobenzene	17.20	1324500	1039.78	ng	0
58)	Hexachlorobutadiene	17.32	705554	1053.74	ng	0
59)	Naphthalene	17.44	3259030	1042.34	ng	0
60)	1,1-Dichloropropene	7.52	888759	1021.00	ng	0
61)	1,3-Dichloropropane	12.02	1019560	1050.16	ng	0
62)	Bromobenzene	14.37	1157840	1028.97	ng	0
63)	n-Propylbenzene	14.49	3930000	982.15	ng	0
64)	tert-Butylbenzene	14.97	2341050	977.33	ng	0
65)	sec-Butylbenzene	15.19	3570290	967.23	ng	0
66)	p-Isopropyltoluene	15.34	3083080	947.42	ng	0
67)	n-Butylbenzene	15.71	2899370	921.59	ng	0
68)	1,2-Dibromo-3-chloropropane	16.46	214586	1086.24	ng	0

Continuing Calibration Quantitation Report

Data File Name 16080305.D
Date Acquired 8/3/2016 13:07
Sample Name 250 ng VOST STD
Misc Info Coder SG
Instrument Name MSD-3

#	Name	Ret Time	Target Response	Amount	Units	Manual Integration
1)	Bromochloromethane	6.72	71780	250.00	ng	0
2)	Dichlorodifluoromethane	1.72	95021	199.54	ng	0
3)	Chloromethane	1.90	191071	338.33	ng	0
4)	Vinyl Chloride	2.01	153786	226.57	ng	0
5)	Bromomethane	2.36	62174	206.10	ng	0
6)	Chloroethane	2.46	86601	245.05	ng	0
7)	Trichlorofluoromethane	2.74	257215	254.06	ng	0
8)	1,1-Dichloroethene	3.36	336003	275.36	ng	0
9)	Acetone	3.39	94619	208.34	ng	0
10)	Iodomethane	3.54	127497	263.43	ng	0
11)	Carbon disulfide	3.63	455975	238.70	ng	0
12)	Methylene Chloride	4.04	227725	269.67	ng	0
13)	trans,1,2-Dichloroethene	4.48	191515	236.44	ng	0
14)	1,1-Dichloroethane	5.25	252567	251.41	ng	0
15)	Vinyl Acetate	5.30	110407	215.69	ng	0
16)	cis,1,2-Dichloroethene	6.30	201493	214.64	ng	0
17)	2-Butanone	6.30	54235	167.03	ng	0
18)	Chloroform	6.95	187866	199.34	ng	0
19)	1,1,1-Trichloroethane	7.20	70872	131.51	ng	0
20)	1,4-Difluorobenzene	8.66	297412	250.00	ng	0
21)	d4-1,2-Dichloroethane(SURR)	7.81	89574	222.35	ng	0
22)	Carbon Tetrachloride	7.46	127400	224.22	ng	0
23)	Benzene	7.83	464818	215.88	ng	0
24)	1,2-Dichloroethane	7.95	130169	211.19	ng	0
25)	Trichloroethene	9.04	115158	238.57	ng	0
26)	1,2-Dichloropropane	9.49	114671	232.35	ng	0
27)	Dibromomethane	9.63	55560	200.99	ng	0
28)	Bromodichloromethane	9.99	123116	229.10	ng	0
29)	cis,1,3-Dichloropropene	10.71	123785	224.85	ng	0
30)	trans,1,3-Dichloropropene	11.55	81590	217.90	ng	0
31)	4-Methyl-2-Pentanone	10.95	165994	228.40	ng	0
32)	d5-Chlorobenzene	12.93	237486	250.00	ng	0
33)	Toluene	11.18	465196	197.49	ng	0
34)	1,1,2-Trichloroethane	11.80	81854	201.07	ng	0
35)	Tetrachloroethene	11.86	124412	201.67	ng	0
36)	2-Hexanone	12.09	132575	219.38	ng	0
37)	Chlorodibromomethane	12.25	113013	204.68	ng	0
38)	Ethylene Dibromide	12.37	106429	211.17	ng	0
39)	Chlorobenzene	12.96	303915	209.97	ng	0
40)	1,1,1,2-Tetrachloroethane	13.08	110194	214.51	ng	0
41)	Ethylbenzene	13.09	578846	216.31	ng	0
42)	M&P-Xylene	13.24	1038610	456.39	ng	0
43)	O-Xylene	13.65	536909	227.60	ng	0
44)	Styrene	13.68	418896	208.03	ng	0
45)	Bromoform	13.86	92060	211.55	ng	0
46)	1,1,2,2-Tetrachloroethane	14.37	129071	187.68	ng	1
47)	1,2,3-Trichloropropane	14.42	111928	197.02	ng	1
48)	d10-Ethylbenzene(SPK)	13.00	376809	230.83	ng	0
49)	d8-Toluene(SURR)	11.08	332082	236.04	ng	0
50)	4-Bromofluorobenzene(SURR)	14.22	145835	311.76	ng	0
51)	Isopropylbenzene	14.04	623243	227.33	ng	0
52)	1,3,5-Trimethylbenzene	14.65	611108	228.72	ng	0
53)	1,2,4-Trimethylbenzene	15.01	609610	231.07	ng	0
54)	1,3-Dichlorobenzene	15.28	333047	241.89	ng	0
55)	1,4-Dichlorobenzene	15.38	340316	233.84	ng	0
56)	1,2-Dichlorobenzene	15.71	310041	238.08	ng	0
57)	1,2,4-Trichlorobenzene	17.17	185368	167.83	ng	0
58)	Hexachlorobutadiene	17.29	131128	225.86	ng	0
59)	Naphthalene	17.41	388847	143.43	ng	0
60)	1,1-Dichloropropene	7.49	149029	197.45	ng	0
61)	1,3-Dichloropropane	12.00	160846	191.07	ng	0
62)	Bromobenzene	14.34	220885	226.39	ng	0
63)	n-Propylbenzene	14.47	827921	238.62	ng	0
64)	tert-Butylbenzene	14.95	477496	229.90	ng	0
65)	sec-Butylbenzene	15.17	749717	234.24	ng	0
66)	p-Isopropyltoluene	15.32	668218	236.82	ng	0
67)	n-Butylbenzene	15.70	642332	235.47	ng	0
68)	1,2-Dibromo-3-chloropropane	16.44	32586	190.23	ng	0

Continuing Calibration Quantitation Report

Data File Name 16080403.D
Date Acquired 8/4/2016 10:46
Sample Name 250ng VOST STD
Misc Info Coder SG
Instrument Name MSD-3

#	Name	Ret Time	Target Response	Amount	Units	Manual Integration
1)	Bromochloromethane	6.73	72965	250.00	ng	0
2)	Dichlorodifluoromethane	1.72	109094	225.37	ng	0
3)	Chloromethane	1.90	203965	355.29	ng	0
4)	Vinyl Chloride	2.01	184487	267.39	ng	0
5)	Bromomethane	2.36	85444	278.64	ng	0
6)	Chloroethane	2.46	101016	281.20	ng	0
7)	Trichlorofluoromethane	2.74	275163	267.37	ng	0
8)	1,1-Dichloroethene	3.36	379206	305.72	ng	0
9)	Acetone	3.39	102370	221.75	ng	0
10)	Iodomethane	3.54	118809	241.49	ng	0
11)	Carbon disulfide	3.64	482563	248.52	ng	0
12)	Methylene Chloride	4.05	249090	290.18	ng	0
13)	trans,1,2-Dichloroethene	4.48	283898	344.81	ng	0
14)	1,1-Dichloroethane	5.26	344884	337.72	ng	0
15)	Vinyl Acetate	5.31	133791	257.13	ng	0
16)	cis,1,2-Dichloroethene	6.31	289247	303.11	ng	0
17)	2-Butanone	6.31	84995	257.51	ng	0
18)	Chloroform	6.95	293217	306.07	ng	0
19)	1,1,1-Trichloroethane	7.20	150643	275.00	ng	0
20)	1,4-Difluorobenzene	8.66	351249	250.00	ng	0
21)	d4-1,2-Dichloroethane(SURR)	7.82	125505	263.79	ng	0
22)	Carbon Tetrachloride	7.47	189636	282.60	ng	0
23)	Benzene	7.84	622170	244.67	ng	0
24)	1,2-Dichloroethane	7.96	212968	292.57	ng	0
25)	Trichloroethene	9.04	158836	278.62	ng	0
26)	1,2-Dichloropropane	9.49	162306	278.46	ng	0
27)	Dibromomethane	9.63	93161	285.35	ng	0
28)	Bromodichloromethane	9.99	188876	297.60	ng	0
29)	cis,1,3-Dichloropropene	10.71	196370	302.02	ng	0
30)	trans,1,3-Dichloropropene	11.55	147107	332.65	ng	0
31)	4-Methyl-2-Pentanone	10.96	203786	237.42	ng	0
32)	d5-Chlorobenzene	12.93	201062	250.00	ng	0
33)	Toluene	11.18	611205	306.48	ng	0
34)	1,1,2-Trichloroethane	11.80	112981	327.81	ng	0
35)	Tetrachloroethene	11.87	153662	294.20	ng	0
36)	2-Hexanone	12.09	145585	284.56	ng	0
37)	Chlorodibromomethane	12.26	156884	335.60	ng	0
38)	Ethylene Dibromide	12.38	126823	297.21	ng	0
39)	Chlorobenzene	12.96	388866	317.33	ng	0
40)	1,1,1,2-Tetrachloroethane	13.08	148333	341.06	ng	0
41)	Ethylbenzene	13.09	734403	324.16	ng	0
42)	M&P-Xylene	13.24	1235310	641.17	ng	0
43)	O-Xylene	13.65	633712	317.30	ng	0
44)	Styrene	13.68	512457	300.59	ng	0
45)	Bromoform	13.86	119681	324.85	ng	0
46)	1,1,2,2-Tetrachloroethane	14.37	181274	311.34	ng	1
47)	1,2,3-Trichloropropane	14.42	153141	318.40	ng	1
48)	d10-Ethylbenzene(SPK)	13.00	343834	248.79	ng	0
49)	d8-Toluene(SURR)	11.08	345291	289.89	ng	0
50)	4-Bromofluorobenzene(SURR)	14.22	93953	237.24	ng	0
51)	Isopropylbenzene	14.04	744189	320.62	ng	0
52)	1,3,5-Trimethylbenzene	14.65	704190	311.30	ng	0
53)	1,2,4-Trimethylbenzene	15.01	700287	313.53	ng	0
54)	1,3-Dichlorobenzene	15.28	372550	319.60	ng	0
55)	1,4-Dichlorobenzene	15.38	375280	304.58	ng	0
56)	1,2-Dichlorobenzene	15.71	349651	317.13	ng	0
57)	1,2,4-Trichlorobenzene	17.17	258451	276.38	ng	0
58)	Hexachlorobutadiene	17.29	139894	284.61	ng	0
59)	Naphthalene	17.41	673038	293.23	ng	0
60)	1,1-Dichloropropene	7.50	206985	323.91	ng	0
61)	1,3-Dichloropropane	12.00	215476	302.33	ng	0
62)	Bromobenzene	14.34	277595	336.05	ng	0
63)	n-Propylbenzene	14.47	965208	328.59	ng	0
64)	tert-Butylbenzene	14.95	557126	316.83	ng	0
65)	sec-Butylbenzene	15.17	875659	323.15	ng	0
66)	p-Isopropyltoluene	15.32	756485	316.67	ng	0
67)	n-Butylbenzene	15.70	755305	327.04	ng	0
68)	1,2-Dibromo-3-chloropropane	16.44	45176	311.51	ng	0

1435 Norjohn Court, Unit 1, Burlington, ON, Canada L7L 0E6

VOC DATA PACKAGE

SECTION 6: INTERNAL RECORDS

Including:

- Prep Logs
- Run Logs
- Independent calculation checks
- Others as listed below:

```
   Sequence Name: C:\msdchem\1\sequence\3-160804-VOST.s
         Comment:
        Operator: SG          Instrument MSD-3
       Data Path: C:\MSDCHEM\1\DATA\2016\1608\160804\
Instrument Control  Pre-Seq Cmd:
Data Analysis       Pre-Seq Cmd:

Instrument Control Post-Seq Cmd:
Data Analysis      Post-Seq Cmd:

    Method Sections To Run      Sequence Barcode Options
    (X) Full Method             (X) On Mismatch, Inject Anyway
    ( ) Reprocessing Only       ( ) On Mismatch, Don't Inject
                                ( ) Barcode Disabled
   ----------------------------------------------------------------------
   Line                   Sample Name/Misc Info
 1) Sample         1  50ng-BFB
     Datafile         16080401
     Method           BFBRX140N
 2)  Sample        2  16080402 VOSTRXN  blank
 3)  Sample        4  16080403 VOSTRXN  250ng VOST STD
 4)  Sample        5  16080404 VOSTRXN  250ng control STD
 5)  Sample        6  16080405 VOSTRXN  VOST-blank
 6)  Sample        7  16080406 VOSTRXN  L1806455-12
 7)  Sample        8  16080407 VOSTRXN  L1806455-10
 8)  Sample        9  16080408 VOSTRXN  L1806455-4
 9)  Sample       10  16080409 VOSTRXN  L1806455-6
10)  Sample       11  16080410 VOSTRXN  L1806455-8
11)  Sample       12  16080411 VOSTRXN  blank
```

```
   Sequence Name: C:\MSDCHEM\1\SEQUENCE\3-160803-VOST.S
         Comment:
        Operator: SG          Instrument MSD-3
       Data Path: C:\MSDCHEM\1\DATA\2016\1608\160803\
Instrument Control  Pre-Seq Cmd:
Data Analysis       Pre-Seq Cmd:

Instrument Control Post-Seq Cmd:
Data Analysis      Post-Seq Cmd:

    Method Sections To Run      Sequence Barcode Options
    (X) Full Method             (X) On Mismatch, Inject Anyway
    ( ) Reprocessing Only       ( ) On Mismatch, Don't Inject
                                ( ) Barcode Disabled
   ----------------------------------------------------------------------
   Line                   Sample Name/Misc Info
 1) Sample         1  50ng-BFB
     Datafile         16080301
     Method           BFBRX140N
 2) Sample         1  50ng-BFB
     Datafile         16080302
     Method           BFBRX140N
 3) Sample         2  50ng-BFB
     Datafile         16080303
     Method           BFBRX140N
 4)  Sample        3  16080304 VOSTRXN  blank
 5)  Sample        3  16080305 VOSTRXN  250 ng VOST STD
 6)  Sample        4  16080306 VOSTRXN  250 ng CONTROL STD
 7)  Sample        5  16080307 VOSTRXN  VOST-blank
 8)  Sample        6  16080308 VOSTRXN  L1806455-11
 9)  Sample        7  16080309 VOSTRXN  L1806455-9
10)  Sample        8  16080310 VOSTRXN  L1806455-7
11)  Sample        9  16080311 VOSTRXN  L1806455-5
12)  Sample       10  16080312 VOSTRXN  L1806455-3
13)  Sample       11  16080313 VOSTRXN  blank
```

```
   Sequence Name: C:\MSDCHEM\1\SEQUENCE\3-160513-VOST.S
         Comment:
        Operator:
       Data Path: C:\MSDCHEM\1\DATA\2016\1605\160513\
Instrument Control  Pre-Seq Cmd:
Data Analysis       Pre-Seq Cmd:

Instrument Control Post-Seq Cmd:
Data Analysis      Post-Seq Cmd:

    Method Sections To Run      Sequence Barcode Options
    (X) Full Method             (X) On Mismatch, Inject Anyway
    ( ) Reprocessing Only       ( ) On Mismatch, Don't Inject
                                ( ) Barcode Disabled
   ----------------------------------------------------------------------
   Line                   Sample Name/Misc Info
 1) Sample         1  Blank
     Datafile         16051301
     Method           BFBRX140N
 2) Sample         2  50NGBFB
     Datafile         16051302
     Method           BFBRX140N
 3)  Sample        3  16051303 VOSTRXN  blank
 4)  Sample        2  16051304 VOSTRXN  50NG-VOSTSTD
 5)  Sample        2  16051305 VOSTRXN  blank
 6)  Sample        3  16051306 VOSTRXN  100NG-VOSTSTD
 7)  Sample        4  16051307 VOSTRXN  150NG-VOSTSTD
 8)  Sample        3  16051308 VOSTRXN  250NG-VOSTSTD
 9)  Sample        4  16051309 VOSTRXN  375NG-VOSTSTD
10)  Sample        3  16051310 VOSTRXN  500NG-VOSTSTD
11)  Sample        4  16051311 VOSTRXN  1000NG-VOSTSTD
12)  Sample        3  16051312 VOSTRXN  2000NG-VOSTSTD
```

ALS Laboratory Group

Sample Calculation Report

Approved: *Setu Gupta*
--e-signature--
16-Aug-2016

Calculation of RRF for Benzene in 7PT CAL CS 250NG STD

$$\text{RRF} = \frac{\text{Response of Benzene}}{\text{Response of 1,4-Difluororbenzene}} \times \frac{\text{Concentration of 1,4-Difluorobenzene}}{\text{Concentration of Benzene}}$$

$$\textbf{RRF} = \frac{7.30E+05}{4.51E+05} \times \frac{250}{250} = 1.62$$

value from report: 1.62

Calculation of Benzene amount in UG VOST-blank

$$\text{ng Benzene} = \frac{\text{Response of Benzene}}{\text{Response of 1,4-Difluorobenzene}} \times \frac{\text{ng of 1,4-Difluorobenzene}}{\text{Mean RRF Benzene} * 1000.00} * \text{dil factor}$$

$$= \frac{21931}{422332} \times \frac{250}{1.81 * 1000.00} * 1.00 = 0.007$$

value from report: <

Calculation of d4-1,2-Dichloroethane recovery in VOST-blank

$$\text{\% Recovery} = \frac{\text{Response of d4-1,2-Dichloroethane}}{\text{Response of 1,4-Difluorobenzene}} \times \frac{\text{ng of 1,4-Difluorobenzene} * 100\%}{\text{Mean RRF d4-1,2-Dichloroethane} * \text{ng of d4-1,2-Dichloroethane spiked}}$$

$$\textbf{\% Recovery} = \frac{167111}{422332} \times \frac{250 * 100}{0.34 * 250} = 117\%$$

value from report: 117

1435 Norjohn Court, Unit 1, Burlington, ON, Canada L7L 0E6

SVOC DATA PACKAGE

SECTION 7: SHIPPING/RECEIVING DOCUMENTS

Including:

- Airbills
- Chain-of-Custody Records
- Sample Log-in Sheet(s) - where applicable
- Others as listed below:

L1806455

ANALYSIS REQUEST AND CHAIN-OF-CUSTODY RECORD

REFERENCE COC NO.: T1-001A-CAN

Bill To: CBI Federal Services
Accounts Payable

Project Name: Picatinny Arsenal
Sample Team Member: J.McGee, G. Britt, D. Jarvis
Project Manager: Berani Halley
Purchase Order No.:
Required Report Date: **Normal**

Sample Shipment Date: **7/28/2016**
Laboratory Destination: ALS-Canada
Laboratory Contact: Ancy Sebastian
Project Contact/Phone: Joyce McGee 865-850-7306
Carrier Waybill No.: **Lab Courier**

Report To: CBI Federal Services
Joyce McGee
2410 Cherahala Drive
Knoxville, TN 37932

	Sample Number	Analytical QC	Sample Type/ Description	Date/Time Collected	Container Type	Sample Volume	Pre-servative	Requested Testing Program	Sample Notes / Expectations	Disposal Record
1	PY-1019		Set #1 Tenax Tube #1 - VOST - **ARCHIVE**	7/27/2016 1510	Tenax	NA	Cool, 4C	Volatile POHC (TCE)		
2	PY-1020		Set #1 Tenax Tube #2 - VOST - **ARCHIVE** Set #1 Anasorb 747 Tube - VOST - **ARCHIVE**	7/27/2016 1510	Tenax/ Anasorb	NA	Cool, 4C	Volatile POHC (TCE)		
3	PY-1021		Set #2 Tenax Tube #1 - VOST	7/27/2016 1717	Tenax	NA	Cool, 4C	Volatile POHC (TCE)		
4	PY-1022		Set #2 Tenax Tube #2 - VOST Set #2 Anasorb 747 Tube - VOST	7/27/2016 1717	Tenax/ Anasorb	NA	Cool, 4C	Volatile POHC (TCE)		
5	PY-1023		Set #3 Tenax Tube #1 - VOST	7/27/2016 1833	Tenax	NA	Cool, 4C	Volatile POHC (TCE)		
6	PY-1024		Set #3 Tenax Tube #2 - VOST Set #3 Anasorb 747 Tube - VOST	7/27/2016 1833	Tenax/ Anasorb	NA	Cool, 4C	Volatile POHC (TCE)		
7	PY-1025		Set #4 Tenax Tube #1 - VOST	7/27/2016 1927	Tenax	NA	Cool, 4C	Volatile POHC (TCE)		
8	PY-1026		Set #4 Tenax Tube #2 - VOST Set #4 Anasorb 747 Tube - VOST	7/27/2016 1927	Tenax/ Anasorb	NA	Cool, 4C	Volatile POHC (TCE)		

Special Instructions: *Follow method and work plan guidance as instructed. Contact lab Project Manager with any questions.*

Possible Hazard Identification:
Non-haz: ___ Flammable: ___ Poison B: ___ Unknown: X

Sample Disposal:
Return to Client: ___ Disposal by Lab: X Archive: ___

Turnaround Time:
Normal: X Rush: ___

Level of QC Required:
I. ___ II. ___ III. ___

5.0°C

Project Specific: X (talk to A. Sebastian)

1. Relinquished by: J. McGee, CB&I Federal Servcies — Date: 7/28/16 — Time: 1500
2. Relinquished by: — Date: — Time:

1. Received by: AARON BURTON — Date: 30-July-2016 — Time: 14:30
2. Received by: — Date: — Time:

Comments: **If samples not received in good condition contact Joyce McGee (865)-850-7306 immediately.**

Reference COC Number: T1-001A-CAN

ANALYSIS REQUEST AND CHAIN-OF-CUSTODY RECORD (Cont.)

Project Name/No.: Picatinny Arsenal

Laboratory Destination: ALS-Canada

	Sample Number	Analy QC	Sample Type/ Description	Date/Time Collected	Container Type	Sample Volume	Pre-servative	Requested Testing Program	Sample Notes / Expectations	Disposal Record
9,10	PY-1029		**QC Field Blank -** Tenax/Tenax/Anasorb 747 Tube Set -VOST	7/27/2016 1945	Tenax/ Anasorb	NA	Cool 4 deg C	Volatile POHC (TCE)		
11,12	PY-1030		**QC Trip Blank - Tenax/Tenax/Anasorb 747 Tube Set -VOST**	7/27/2016 1620	Tenax/ Anasorb	NA	Cool 4 deg C	Volatile POHC (TCE)		

ORIGIN ID:ARXA (973) 724-3095
CRAIG ZINCAVAGE
COMMANDER
2ND LINE US ARMY ARDEC
BUILDING 1463
PICATINNY ARSENAL, NJ 07806 US
SIGN: CRAIG ZINCAVAGE

SHIP DATE: 27JUL16
ACTWGT: 18.00 LB
CAD: 8904531/INET3790
DIMS: 20x12x12 IN

BILL SENDER
NO EEI 30.36

TO AARON BURTON
ALS ENVIRONMENTAL
1435 NORJOHN COURT
UNIT 1
BURLINGTON ON L7L0E6 (CA)
(905) 331-3111

FedEx Express

AM

TRK# 0430 7768 5396 1820

INTL PRIORITY

NW YHMA

L7L 0E6
ON-CA YYZ

Sample Receiving Log

Date/Time Received	Contract Number	Number/Description of Containers	Temp. on Receipt*	Condition of Samples	Receiver's Initials	Date/Time Login Completed	Submission ID	Sample ID Range
30-July-2016 14:30	CB&I	18 x VOST tubes	5.0°C	Good FedEx 7768 5396 1820	NB	30-July-2016 15:20	L1806455	-1-12
30-July-2016 17:30	CB&I	18 x XAD traps 35 x bottles of stack 30 x VOST tubes	6.2°C	Good ALS Driver	NB	2-Aug-2016 16:30	L1806542 L1806554 L1806829 L1806857	-1-10 -1-10 -1-14 -1-15

*Temperatures were recorded using: ☑ Oakton infraPro' dedicated I.R. gun (serial # 2472100201-0040)

☐ Other (specify): _____