September 14, 2017

Dawn Denham
Weston Solutions, Inc.
5599 San Felipe, Suite 700
Houston, Texas 77056
TEL: (713) 985-6610
FAX (713) 985-6703

Order No.: 1709065

RE: Camtraco Site-Harvey Sampling

Dear Dawn Denham:

DHL Analytical, Inc. received 3 sample(s) on 9/12/2017 for the analyses presented in the following report.

There were no problems with the analyses and all data met requirements of NELAC except where noted in the Case Narrative. All non-NELAC methods will be identified accordingly in the case narrative and all estimated uncertainties of test results are within method or EPA specifications.

If you have any questions regarding these tests results, please feel free to call. Thank you for using DHL Analytical.

Sincerely,

John DuPont
General Manager

This report was performed under the accreditation of the State of Texas Laboratory Certification Number: T104704211-17-19

Table of Contents

DHL ANALYTICAL
2300 Double Creek Dr. ■ Round Rock, TX 78664
Phone (512) 388-8222 ■ FAX (512) 388-8229
Web: www.dhlanalytical.com
E-Mail: login@dhlanalytical.com

№ 77939 CHAIN-OF-CUSTODY

CLIENT: Weston Solutions
ADDRESS: 5599 San Felipe, Suite 700
PHONE: (713) 985-6610 FAX/E-MAIL:
DATA REPORTED TO: Dawn Denham
ADDITIONAL REPORT COPIES TO:

DATE: 9/11/17 PAGE 1 OF 1
PO #: DHL WORK ORDER #: 1709065
PROJECT LOCATION OR NAME: Harvey Superfund
CLENT PROJECT #: 0244.034.001.0001 COLLECTOR: Michael Kanarek

Authorize 5% surcharge for TRRP Report? ☒ Yes ☐ No

S=SOIL W=WATER A=AIR L=LIQUID SE=SEDIMENT P=PAINT SL=SLUDGE O=OTHER SO=SOLID

PRESERVATION: HCl | HNO_3 | H_2SO_4 ☐ NaOH ☐ | ICE | UNPRESERVED

ANALYSES: BTEX ☐ MTBE ☐ [METHOD 8021] | TPH 1005 ☐ TPH 1006 ☐ HOLD 1006 ☐ | GRO [METHOD 8015] ☐ DRO [METHOD 8105] ☐ | VOC 8260 ☒ VOC 624 ☐ VOC 8260/5035 ☐ | SVOC 8270 ☐ PAH 8270 ☐ HOLD PAH ☐ SVOC 625 ☐ | 8270 PEST ☐ 625 PEST/PCB ☐ 608 PCB ☐ | 8270 O-P PEST ☐ 8082 PCB ☐ 8270 PCB ☐ | 8321 HERB ☐ T PHOS, AMMONIA ☐ | METALS 6020 ☒ METALS 200.8 ☐ DISS. METALS ☐ | RCRA ☐ TX11 ☐ ☐ | PH ☐ HEX CHROM ☐ ALKALINITY ☐ COD ☐ | CHLORIDE ☐ ANIONS ☐ | TCLP-SVOC ☐ VOC ☐ PEST ☐ HERB ☐ | TCLP-METALS ☐ RCRA 8 ☐ TX-11 ☐ PB ☐ | RCI ☐ FLASHPOINT ☐ DGAS ☐ | TDS ☐ TSS ☐ % MOISTURE ☐ CYANIDE ☐

Field Sample I.D.	DHL Lab #	Date	Time	Matrix	Container Type	# of Containers	HCl	HNO_3	H_2SO_4 NaOH	ICE	UNPRESERVED	ANALYSES	FIELD NOTES
Camtraco W-1	01	9/11/17	0920	W	G/P	4	X	X				BTEX, VOC 8260, METALS 6020, 8270 PAH	
Camtraco-FB	02	9/11/17	1030	W	G	3	X			X	X	BTEX, VOC 8260	
~~Trip Blank~~												BTEX, VOC 8260	(12)
Camtraco TB	03	9/11/17	0800	W	VOAs	3	X			X	X	BTEX, VOC 8260	Hold

RELINQUISHED BY: (Signature) DATE/TIME 17:30 9/11/17 RECEIVED BY: (Signature) FedEx
RELINQUISHED BY: (Signature) Fed Ex DATE/TIME 9/12/17 9:23 RECEIVED BY: (Signature)
RELINQUISHED BY: (Signature) DATE/TIME RECEIVED BY: (Signature)

☐ DHL DISPOSAL @ $5.00 each ☐ Return

TURN AROUND TIME
RUSH ☐ CALL FIRST
1 DAY ☐ CALL FIRST
2 DAY ☐
NORMAL ☐
OTHER ☒ 3 day

LABORATORY USE ONLY:
RECEIVING TEMP: 0.7 THERM #: 70
CUSTODY SEALS: ☐ BROKEN ☒ INTACT ☐ NOT USED
CARRIER: ☐ LONE STAR ☒ FEDEX ☐ UPS ☐ OTHER
☐ COURIER DELIVERY
☐ HAND DELIVERED

Table 1: State Superfund Sites Potentially Impacted by Hurricane Harvey

State Superfund Site	Soil COCs	Soil Analytical Methods	Water COCs	Water Analytical Methods
Baldwin Waste Oil	none	N/A	Benzene	SW8260C
Ballard Pits	TPH	TCEQ 1005	Arsenic	SW6020A
			Benzene	SW8260C
Camtraco Enterprises Inc.	none	N/A	Arsenic	SW6020A
			1,1-Dichloroethene	SW8260C
			cis-1,2-Dichloroethene	
			Toluene	
			Trichloroethene	
			Vinyl chloride	
Federated Metals	None	N/A	Arsenic	SW6020A
			Lead	
			benzene	SW8260C
			tetrachloroethene	
			trichloroethene	
			cis-1,2-dichloroethene	
			trans-1,2-dichloroethene	
			1,1-dichloroethene	
			vinyl chloride	

ORIGIN ID:EIXA (727) 560-0426
MICHAEL KANAREK

5599 SAN FELIPE ST STE 700

HOUSTON, TX 77056
UNITED STATES US

SHIP DATE: 11SEP17
ACTWGT: 24.30 LB
CAD: 006994251/SSFE1802
DIMS: 23x13x13 IN

BILL THIRD PARTY

TO **JENNIFER BARKER**
DHL ANALYTICAL
2300 DOUBLE CREEK DR

ROUND ROCK TX 78664
(512) 388-8222 REF:
INV:
PO: DEPT:

FedEx Express

J1720170829015

3 of 3

MPS# 0263 **7876 9163 7348**

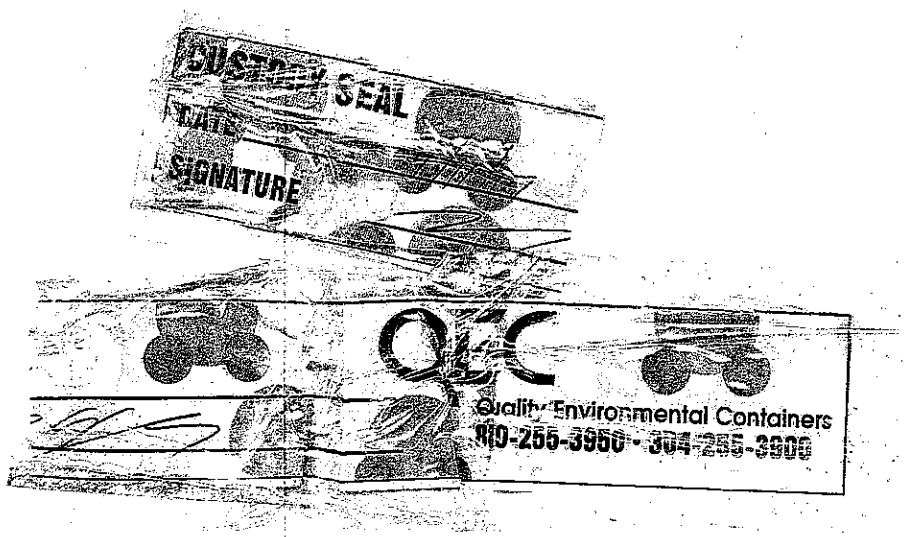
Mstr# 7876 9163 7326 0201

TUE - 12 SEP 10:30A
PRIORITY OVERNIGHT

A8 BSMA

78664
TX-US AUS

Part # 158267-49461-4



DHL Analytical, Inc.

Sample Receipt Checklist

Client Name **Weston Solutions, Inc.** Date Received: **9/12/2017**

Work Order Number **1709065** Received by **EL**

Checklist completed by: _____ 9/12/2017 Reviewed by (DL) 9/12/2017
Signature | Date | Initials | Date

Carrier name FedEx 1day

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shippping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	**0.7** °C
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH<2 acceptable upon receipt?	Yes ☑	No ☐	NA ☐ LOT # 8086
	Adjusted? no		Checked by EL
Water - ph>9 (S) or ph>12 (CN) acceptable upon receipt?	Yes ☐	No ☐	NA ☑ LOT #
	Adjusted? _____		Checked by _____

Any No response must be detailed in the comments section below.

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

Laboratory Name: DHL Analytical, Inc.

Laboratory Review Checklist: Reportable Data

Project Name: Camtraco Site-Harvey Sampling	**LRC Date:** 9/14/2017
Reviewer Name: Angie O'Donnell	**Laboratory Work Order:** 1709065
Prep Batch Number(s): See Prep Dates Report	**Run Batch:** See Analytical Dates Report

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
		Chain-of-Custody (C-O-C)					
R1	OI	**1)** Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	**X**				**R1-01**
		2) Were all departures from standard conditions described in an exception report?			**X**		
R2	OI	**Sample and Quality Control (QC) Identification**					
		1) Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	**X**				
		2) Are all laboratory ID numbers cross-referenced to the corresponding QC data?	**X**				
R3	OI	**Test Reports**					
		1) Were all samples prepared and analyzed within holding times?	**X**				
		2) Other than those results < MQL, were all other raw values bracketed by calibration standards?	**X**				
		3) Were calculations checked by a peer or supervisor?	**X**				
		4) Were all analyte identifications checked by a peer or supervisor?	**X**				
		5) Were sample detection limits reported for all analytes not detected?	**X**				
		6) Were all results for soil and sediment samples reported on a dry weight basis?			**X**		
		7) Were % moisture (or solids) reported for all soil and sediment samples?			**X**		
		8) Were bulk soils/solids samples for volatile analysis extracted with methanol per EPA Method 5035?			**X**		
		9) If required for the project, TICs reported?			**X**		
R4	O	**Surrogate Recovery Data**					
		1) Were surrogates added prior to extraction?	**X**				
		2) Were surrogate percent recoveries in all samples within the laboratory QC limits?	**X**				
R5	OI	**Test Reports/Summary Forms for Blank Samples**					
		1) Were appropriate type(s) of blanks analyzed?	**X**				
		2) Were blanks analyzed at the appropriate frequency?	**X**				
		3) Where method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	**X**				
		4) Were blank concentrations < MDL?	**X**				
		5) For analyte(s) detected in a blank sample, was the concentration, unadjusted for sample specific factors, in all associated field samples, **greater** than 10 times the concentration in the blank sample?			**X**		
R6	OI	**Laboratory Control Samples (LCS):**					
		1) Were all COCs included in the LCS?	**X**				
		2) Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	**X**				
		3) Were LCSs analyzed at the required frequency?	**X**				
		4) Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	**X**				
		5) Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	**X**				
		6) Was the LCSD RPD within QC limits (if applicable)?	**X**				
R7	OI	**Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Data**					
		1) Were the project/method specified analytes included in the MS and MSD?	**X**				
		2) Were MS/MSD analyzed at the appropriate frequency?	**X**				
		3) Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	**X**				
		4) Were MS/MSD RPDs within laboratory QC limits?	**X**				
R8	OI	**Analytical Duplicate Data**					
		1) Were appropriate analytical duplicates analyzed for each matrix?			**X**		
		2) Were analytical duplicates analyzed at the appropriate frequency?			**X**		
		3) Were RPDs or relative standard deviations within the laboratory QC limits?			**X**		
R9	OI	**Method Quantitation Limits (MQLs):**					
		1) Are the MQLs for each method analyte included in the laboratory data package?	**X**				
		2) Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	**X**				
		3) Are unadjusted MQLs and DCSs included in the laboratory data package?	**X**				
R10	OI	**Other Problems/Anomalies**					
		1) Are all known problems/anomalies/special conditions noted in this LRC and ER?	**X**				**R10-01**
		2) Was applicable and available technology used to lower the SDL to minimize the matrix interference affects on the sample results?	**X**				
		3) Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	**X**				

Laboratory Name: DHL Analytical, Inc.

Laboratory Review Checklist (continued): Supporting Data

Project Name: Camtraco Site-Harvey Sampling	**LRC Date:** 9/14/2017
Reviewer Name: Angie O'Donnell	**Laboratory Work Order:** 1709065
Prep Batch Number(s): See Prep Dates Report	**Run Batch:** See Analytical Dates Report

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	**Initial Calibration (ICAL)**					
		1) Were response factors and/or relative response factors for each analyte within QC limits?	X				
		2) Were percent RSDs or correlation coefficient criteria met?	X				
		3) Was the number of standards recommended in the method used for all analytes?	X				
		4) Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		5) Are ICAL data available for all instruments used?	X				
		6) Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	**Initial and Continuing calibration Verification (ICCV and CCV) and Continuing Calibration blank (CCB):**					
		1) Was the CCV analyzed at the method-required frequency?	X				
		2) Were percent differences for each analyte within the method-required QC limits?	X				
		3) Was the ICAL curve verified for each analyte?	X				
		4) Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
S3	O	**Mass Spectral Tuning:**					
		1) Was the appropriate compound for the method used for tuning?	X				
		2) Were ion abundance data within the method-required QC limits?	X				
S4	O	**Internal Standards (IS):**					
		1) Were IS area counts and retention times within the method-required QC limits?	X				
S5	OI	**Raw Data (NELAC Section 5.5.10)**					
		1) Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		2) Were data associated with manual integrations flagged on the raw data?	X				
S6	O	**Dual Column Confirmation**					
		1) Did dual column confirmation results meet the method-required QC?			X		
S7	O	**Tentatively Identified Compounds (TICs):**					
		1) If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	**Interference Check Sample (ICS) Results:**					
		1) Were percent recoveries within method QC limits?	X				
S9	I	**Serial Dilutions, Post Digestion Spikes, and Method of Standard Additions**					
		1) Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
S10	OI	**Method Detection Limit (MDL) Studies**					
		1) Was a MDL study performed for each reported analyte?	X				
		2) Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	**Proficiency Test Reports:**					
		1) Was the lab's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	**Standards Documentation**					
		1) Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	**Compound/Analyte Identification Procedures**					
		1) Are the procedures for compound/analyte identification documented?	X				
S14	OI	**Demonstration of Analyst Competency (DOC)**					
		1) Was DOC conducted consistent with NELAC Chapter 5 – Appendix C?	X				
		2) Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/Validation Documentation for Methods** (NELAC Chapter 5)					
		1) Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	**Laboratory Standard Operating Procedures (SOPs):**					
		1) Are laboratory SOPs current and on file for each method performed?	X				

1 Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2 O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).
3 NA = Not applicable.
4 NR = Not Reviewed.
5 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Data Package Signature Page – RG-366/TRRP-13

This data package consists of:

This signature page, the laboratory review checklist, and the following reportable data:

R1 Field chain-of-custody documentation;
R2 Sample identification cross-reference;
R3 Test reports (analytical data sheets) for each environmental sample that includes:
  a) Items consistent with NELAC Chapter 5,
  b) dilution factors,
  c) preparation methods,
  d) cleanup methods, and
  e) if required for the project, tentatively identified compounds (TICs).
R4 Surrogate recovery data including:
  a) Calculated recovery (%R), and
  b) The laboratory's surrogate QC limits.
R5 Test reports/summary forms for blank samples;
R6 Test reports/summary forms for laboratory control samples (LCSs) including:
  a) LCS spiking amounts,
  b) Calculated %R for each analyte, and
  c) The laboratory's LCS QC limits.
R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
  a) Samples associated with the MS/MSD clearly identified,
  b) MS/MSD spiking amounts,
  c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
  d) Calculated %Rs and relative percent differences (RPDs), and
  e) The laboratory's MS/MSD QC limits
R8 Laboratory analytical duplicate (if applicable) recovery and precision:
  a) The amount of analyte measured in the duplicate,
  b) The calculated RPD, and
  c) The laboratory's QC limits for analytical duplicates.
R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix;
R10 Other problems or anomalies.

The Exception Report for each "No" or "Not Reviewed (NR)" item in the Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory is not accredited under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge that all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information or data affecting the quality of the data has been knowingly withheld.

This laboratory was last inspected by TCEQ on March 27, 2017. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Name: John DuPont
Official Title: General Manager

Signature

09/14/17

Date

Name: Scott Schroeder
Official Title: Technical Director

DHL Analytical, Inc. **Date:** *14-Sep-17*

CLIENT: Weston Solutions, Inc.
Project: Camtraco Site-Harvey Sampling
Lab Order: 1709065

CASE NARRATIVE

The samples were analyzed using the methods outlined in the following references:

Method SW8260C - Volatile Organics Analysis
Method SW6020A - Metals Analysis

Exception Report R1-01

The samples were received and log in performed on 9/12/2017. A total of 3 samples were received and 2 were analyzed. The samples arrived in good condition and were properly packaged. One sample placed on 'Hold', per the client's request.

Exception Report R10-01

Per project specification, MS/MSDs are from workorder or project samples only.

DHL Analytical, Inc.

Date: *14-Sep-17*

CLIENT: Weston Solutions, Inc.
Project: Camtraco Site-Harvey Sampling
Lab Order: 1709065

Work Order Sample Summary

Lab Smp ID	Client Sample ID	Tag Number	Date Collected	Date Recved
1709065-01	Camtraco W-1		09/11/17 09:20 AM	9/12/2017
1709065-02	Camtraco-FB		09/11/17 10:30 AM	9/12/2017
1709065-03	Camtraco TB		09/11/17 08:00 AM	9/12/2017

Lab Order: 1709065
Client: Weston Solutions, Inc.
Project: Camtraco Site-Harvey Sampling

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1709065-01A	Camtraco W-1	09/11/17 09:20 AM	Aqueous	SW5030C	Purge and Trap Water GC/MS	09/12/17 10:35 AM	82328
1709065-01B	Camtraco W-1	09/11/17 09:20 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	09/13/17 07:59 AM	82335
1709065-02A	Camtraco-FB	09/11/17 10:30 AM	Field Blank	SW5030C	Purge and Trap Water GC/MS	09/12/17 10:35 AM	82328

Lab Order: 1709065
Client: Weston Solutions, Inc.
Project: Camtraco Site-Harvey Sampling

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1709065-01A	Camtraco W-1	Aqueous	SW8260C	8260 Water Volatiles by GC/MS	82328	1	09/12/17 02:06 PM	GCMS5_170912A
1709065-01B	Camtraco W-1	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	82335	1	09/13/17 02:00 PM	ICP-MS4_170913A
1709065-02A	Camtraco-FB	Field Blank	SW8260C	8260 Water Volatiles by GC/MS	82328	1	09/12/17 12:55 PM	GCMS5_170912A

DHL Analytical, Inc.

Date: *14-Sep-17*

CLIENT:	Weston Solutions, Inc.	**Client Sample ID:**	Camtraco W-1
Project:	Camtraco Site-Harvey Sampling	**Lab ID:**	1709065-01
Project No:	02444.034.001.0001	**Collection Date:**	09/11/17 09:20 AM
Lab Order:	1709065	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		**SW6020A**					Analyst: **RO**
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	09/13/17 02:00 PM
IS: Germanium	96.4	0	70-200		%REC	1	09/13/17 02:00 PM
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **DEW**
1,1-Dichloroethene	<0.000300	0.000300	0.00100		mg/L	1	09/12/17 02:06 PM
cis-1,2-Dichloroethene	<0.000300	0.000300	0.00100		mg/L	1	09/12/17 02:06 PM
Toluene	<0.000600	0.000600	0.00200		mg/L	1	09/12/17 02:06 PM
Trichloroethene	<0.000600	0.000600	0.00100		mg/L	1	09/12/17 02:06 PM
Vinyl chloride	<0.000300	0.000300	0.00100		mg/L	1	09/12/17 02:06 PM
IS: 1,4-Dichlorobenzene-d4	82.9	0	50-200		%REC	1	09/12/17 02:06 PM
IS: Chlorobenzene-d5	87.1	0	50-200		%REC	1	09/12/17 02:06 PM
IS: Fluorobenzene	84.9	0	50-200		%REC	1	09/12/17 02:06 PM
Surr: 1,2-Dichloroethane-d4	107	0	72-119		%REC	1	09/12/17 02:06 PM
Surr: 4-Bromofluorobenzene	98.8	0	76-119		%REC	1	09/12/17 02:06 PM
Surr: Dibromofluoromethane	98.9	0	85-115		%REC	1	09/12/17 02:06 PM
Surr: Toluene-d8	96.9	0	81-120		%REC	1	09/12/17 02:06 PM

Qualifiers:

ND - Not Detected at the SDL
J - Analyte detected between SDL and RL
B - Analyte detected in the associated Method Blank
DF- Dilution Factor
N - Parameter not NELAC certified
See Final Page of Report for MQLs and MDLs
S - Spike Recovery outside control limits
C - Sample Result or QC discussed in Case Narrative
RL - Reporting Limit (MQL adjusted for moisture and sample size)
SDL - Sample Detection Limit
E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical, Inc.

Date: *14-Sep-17*

CLIENT:	Weston Solutions, Inc.	**Client Sample ID:**	Camtraco-FB
Project:	Camtraco Site-Harvey Sampling	**Lab ID:**	1709065-02
Project No:	02444.034.001.0001	**Collection Date:**	09/11/17 10:30 AM
Lab Order:	1709065	**Matrix:**	FIELD BLANK

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **DEW**
1,1-Dichloroethene	<0.000300	0.000300	0.00100		mg/L	1	09/12/17 12:55 PM
cis-1,2-Dichloroethene	<0.000300	0.000300	0.00100		mg/L	1	09/12/17 12:55 PM
Toluene	<0.000600	0.000600	0.00200		mg/L	1	09/12/17 12:55 PM
Trichloroethene	<0.000600	0.000600	0.00100		mg/L	1	09/12/17 12:55 PM
Vinyl chloride	<0.000300	0.000300	0.00100		mg/L	1	09/12/17 12:55 PM
IS: 1,4-Dichlorobenzene-d4	83.0	0	50-200		%REC	1	09/12/17 12:55 PM
IS: Chlorobenzene-d5	87.3	0	50-200		%REC	1	09/12/17 12:55 PM
IS: Fluorobenzene	86.3	0	50-200		%REC	1	09/12/17 12:55 PM
Surr: 1,2-Dichloroethane-d4	104	0	72-119		%REC	1	09/12/17 12:55 PM
Surr: 4-Bromofluorobenzene	99.2	0	76-119		%REC	1	09/12/17 12:55 PM
Surr: Dibromofluoromethane	98.7	0	85-115		%REC	1	09/12/17 12:55 PM
Surr: Toluene-d8	97.7	0	81-120		%REC	1	09/12/17 12:55 PM

Qualifiers:

ND - Not Detected at the SDL
J - Analyte detected between SDL and RL
B - Analyte detected in the associated Method Blank
DF- Dilution Factor
N - Parameter not NELAC certified
See Final Page of Report for MQLs and MDLs
S - Spike Recovery outside control limits
C - Sample Result or QC discussed in Case Narrative
RL - Reporting Limit (MQL adjusted for moisture and sample size)
SDL - Sample Detection Limit
E - TPH pattern not Gas or Diesel Range Pattern

CLIENT: Weston Solutions, Inc.
Work Order: 1709065
Project: Camtraco Site-Harvey Sampling

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_170807E

Sample ID **DCS2-81788**	Batch ID: **81788**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **DCS2**	Run ID: **ICP-MS4_170807E**	Analysis Date: **8/7/2017 11:02:00 AM**	Prep Date: **8/4/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00209	0.00500	0.00200	0	104	80	120	0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Weston Solutions, Inc.
Work Order: 1709065
Project: Camtraco Site-Harvey Sampling

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_170913A

The QC data in batch 82335 applies to the following samples: 1709065-01B

Sample ID **MB-82335**	Batch ID: **82335**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **MBLK**	Run ID: **ICP-MS4_170913A**	Analysis Date: **9/13/2017 1:48:00 PM**	Prep Date: **9/13/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	<0.00200	0.00500								
IS: Germanium	0.200		0.200		97.6	70	200			

Sample ID **LCS-82335**	Batch ID: **82335**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **LCS**	Run ID: **ICP-MS4_170913A**	Analysis Date: **9/13/2017 1:50:00 PM**	Prep Date: **9/13/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.199	0.00500	0.200	0	99.3	80	120			
IS: Germanium	0.200		0.200		96.8	70	200			

Sample ID **LCSD-82335**	Batch ID: **82335**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **LCSD**	Run ID: **ICP-MS4_170913A**	Analysis Date: **9/13/2017 1:52:00 PM**	Prep Date: **9/13/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.202	0.00500	0.200	0	101	80	120	1.72	15	
IS: Germanium	0.200		0.200		96.6	70	200	0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Weston Solutions, Inc.
Work Order: 1709065
Project: Camtraco Site-Harvey Sampling

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_170913A

Sample ID **ICV-170913**	Batch ID: **R94136**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **ICV**	Run ID: **ICP-MS4_170913A**	Analysis Date: **9/13/2017 1:03:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.102	0.00500	0.100	0	102	90	110			
IS: Germanium	0.200		0.200		98.3	70	200			

Sample ID **LCVL-170913**	Batch ID: **R94136**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **LCVL**	Run ID: **ICP-MS4_170913A**	Analysis Date: **9/13/2017 1:31:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00478	0.00500	0.00500	0	95.5	70	130			
IS: Germanium	0.200		0.200		97.7	70	200			

Sample ID **CCV1-170913**	Batch ID: **R94136**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **CCV**	Run ID: **ICP-MS4_170913A**	Analysis Date: **9/13/2017 2:09:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.197	0.00500	0.200	0	98.4	90	110			
IS: Germanium	0.200		0.200		97.2	70	200			

Sample ID **LCVL1-170913**	Batch ID: **R94136**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **LCVL**	Run ID: **ICP-MS4_170913A**	Analysis Date: **9/13/2017 2:15:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00492	0.00500	0.00500	0	98.3	70	130			
IS: Germanium	0.200		0.200		99.8	70	200			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Weston Solutions, Inc.
Work Order: 1709065
Project: Camtraco Site-Harvey Sampling

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS5_170706A

Sample ID **DCS-81295**	Batch ID: **81295**	TestNo: **SW8260C**	Units: **mg/L**
SampType: **DCS**	Run ID: **GCMS5_170706A**	Analysis Date: **7/6/2017 12:55:00 PM**	Prep Date: **7/6/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	0.000475	0.00100	0.000464	0	102	10	400	0	0	
cis-1,2-Dichloroethene	0.000466	0.00100	0.000464	0	100	10	400	0	0	
Toluene	0.000464	0.00200	0.000464	0	100	10	400	0	0	
Trichloroethene	0.000493	0.00100	0.000464	0	106	10	400	0	0	
Vinyl chloride	0.000516	0.00100	0.000464	0	111	10	400	0	0	

Sample ID **DCS2/LQV1-81295**	Batch ID: **81295**	TestNo: **SW8260C**	Units: **mg/L**
SampType: **DCS2**	Run ID: **GCMS5_170706A**	Analysis Date: **7/6/2017 1:19:00 PM**	Prep Date: **7/6/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	0.00233	0.00100	0.00186	0	125	10	400	0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Weston Solutions, Inc.
Work Order: 1709065
Project: Camtraco Site-Harvey Sampling

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS5_170912A

The QC data in batch 82328 applies to the following samples: 1709065-01A, 1709065-02A

Sample ID **LCS-82328** Batch ID: **82328** TestNo: **SW8260C** Units: **mg/L**
SampType: **LCS** Run ID: **GCMS5_170912A** Analysis Date: **9/12/2017 11:45:00 AM** Prep Date: **9/12/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	0.0228	0.00100	0.0232	0	98.2	68	130			
cis-1,2-Dichloroethene	0.0227	0.00100	0.0232	0	97.9	72	126			
Toluene	0.0231	0.00200	0.0232	0	99.6	80	120			
Trichloroethene	0.0236	0.00100	0.0232	0	102	70	127			
Vinyl chloride	0.0216	0.00100	0.0232	0	93.1	50	134			
IS: 1,4-Dichlorobenzene-d4	0.200		0.200		83.1	50	200			
IS: Chlorobenzene-d5	0.200		0.200		86.0	50	200			
IS: Fluorobenzene	0.200		0.200		83.6	50	200			
Surr: 1,2-Dichloroethane-d4	222		200.0		111	72	119			
Surr: 4-Bromofluorobenzene	200		200.0		99.8	76	119			
Surr: Dibromofluoromethane	203		200.0		101	85	115			
Surr: Toluene-d8	196		200.0		97.8	81	120			

Sample ID **LCSD-82328** Batch ID: **82328** TestNo: **SW8260C** Units: **mg/L**
SampType: **LCSD** Run ID: **GCMS5_170912A** Analysis Date: **9/12/2017 12:08:00 PM** Prep Date: **9/12/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	0.0229	0.00100	0.0232	0	98.8	68	130	0.573	20	
cis-1,2-Dichloroethene	0.0233	0.00100	0.0232	0	100	72	126	2.54	20	
Toluene	0.0232	0.00200	0.0232	0	100	80	120	0.475	20	
Trichloroethene	0.0239	0.00100	0.0232	0	103	70	127	1.41	20	
Vinyl chloride	0.0215	0.00100	0.0232	0	92.7	50	134	0.450	20	
IS: 1,4-Dichlorobenzene-d4	0.200		0.200		85.7	50	200	0	0	
IS: Chlorobenzene-d5	0.200		0.200		88.0	50	200	0	0	
IS: Fluorobenzene	0.200		0.200		85.6	50	200	0	0	
Surr: 1,2-Dichloroethane-d4	218		200.0		109	72	119	0	0	
Surr: 4-Bromofluorobenzene	199		200.0		99.7	76	119	0	0	
Surr: Dibromofluoromethane	202		200.0		101	85	115	0	0	
Surr: Toluene-d8	198		200.0		98.8	81	120	0	0	

Sample ID **MB-82328** Batch ID: **82328** TestNo: **SW8260C** Units: **mg/L**
SampType: **MBLK** Run ID: **GCMS5_170912A** Analysis Date: **9/12/2017 12:32:00 PM** Prep Date: **9/12/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	<0.000300	0.00100								
cis-1,2-Dichloroethene	<0.000300	0.00100								
Toluene	<0.000600	0.00200								
Trichloroethene	<0.000600	0.00100								
Vinyl chloride	<0.000300	0.00100								
IS: 1,4-Dichlorobenzene-d4	0.200		0.200		82.8	50	200			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Weston Solutions, Inc.
Work Order: 1709065
Project: Camtraco Site-Harvey Sampling

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS5_170912A

Sample ID **MB-82328**	Batch ID: **82328**	TestNo: **SW8260C**		Units:	**mg/L**
SampType: **MBLK**	Run ID: **GCMS5_170912A**	Analysis Date: **9/12/2017 12:32:00 PM**		Prep Date:	**9/12/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
IS: Chlorobenzene-d5	0.200		0.200		87.1	50	200			
IS: Fluorobenzene	0.200		0.200		85.9	50	200			
Surr: 1,2-Dichloroethane-d4	212		200.0		106	72	119			
Surr: 4-Bromofluorobenzene	197		200.0		98.5	76	119			
Surr: Dibromofluoromethane	198		200.0		99.1	85	115			
Surr: Toluene-d8	197		200.0		98.4	81	120			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Weston Solutions, Inc.
Work Order: 1709065
Project: Camtraco Site-Harvey Sampling

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS5_170912A

Sample ID **ICV-170912** Batch ID: **R94113** TestNo: **SW8260C** Units: **mg/L**
SampType: **ICV** Run ID: **GCMS5_170912A** Analysis Date: **9/12/2017 11:17:00 AM** Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	0.0432	0.00100	0.0464	0	93.1	80	120			
cis-1,2-Dichloroethene	0.0447	0.00100	0.0464	0	96.3	80	120			
Toluene	0.0438	0.00200	0.0464	0	94.4	80	120			
Trichloroethene	0.0452	0.00100	0.0464	0	97.5	80	120			
Vinyl chloride	0.0375	0.00100	0.0464	0	80.9	80	120			
IS: 1,4-Dichlorobenzene-d4	0.200		0.200		85.3	50	200			
IS: Chlorobenzene-d5	0.200		0.200		86.0	50	200			
IS: Fluorobenzene	0.200		0.200		84.4	50	200			
Surr: 1,2-Dichloroethane-d4	209		200.0		104	72	119			
Surr: 4-Bromofluorobenzene	197		200.0		98.7	76	119			
Surr: Dibromofluoromethane	204		200.0		102	85	115			
Surr: Toluene-d8	198		200.0		99.2	81	120			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

DHL Analytical, Inc.

Date: *14-Sep-17*

CLIENT: Weston Solutions, Inc.
Work Order: 1709065
Project: Camtraco Site-Harvey Sampling

MQL SUMMARY REPORT

TestNo: SW6020A	MDL	MQL
Analyte	**mg/L**	**mg/L**
Arsenic	0.00200	0.00500

TestNo: SW8260C	MDL	MQL
Analyte	**mg/L**	**mg/L**
1,1-Dichloroethene	0.000300	0.00100
cis-1,2-Dichloroethene	0.000300	0.00100
Toluene	0.000600	0.00200
Trichloroethene	0.000600	0.00100
Vinyl chloride	0.000300	0.00100

Qualifiers: MQL -Method Quantitation Limit as defined by TRRP
MDL -Method Detection Limit as defined by TRRP

GCMS5
For

DHL Work Order
1709065

GCMS5_170912A
For

DHL Work Order
1709065

Lab Data Review Check List
EPA Method 8260 / 624 - Volatile Organic Compounds by GC/MS

Project Number(s): SEE RUN LOG	**Run ID: GCMS5_170912A**
Batch Number(s): SEE RUN LOG	**SOP:** ORGANICS-Volatiles-01
Matrix:	

Review Item	Yes	No	N/A	2nd Level Review
Data Folder Contents 1. Is the Prep Batch Report included? Check and record the following: ***Prep Start/End Dates, Sample Amounts, Bottle #s, pH (H_2O samples)***	X			x
2. Are the reagents and spikes listed on the Prep Batch Report current with a valid expiration date? ***All standard/QC sample preparations shall be documented in LIMS***	X			
3. Is the Run Log and instrument sequence included? ***Check the Test Code, Sample Type, Batch ID, and Analysis Date/Time***	X			
4. Is the System Verification - Tune Report included? ***Date/Tme of Tune starts 12-hour analysis window***	X			
5. Is the Evaluate Continuing Calibration Report included?	X			

Daily Demonstration of Performance

QC items that do not meet method/SOP/project requirements will be described on the run log. All variances that impact data quality will be described in the Variance/Comment Section on page 2.

Review Item	Frequency	Limits	Pass	Fail (List Batch/Sample) **See Run Log**	2nd Level Review
BFB Tune	Before ICAL Every 12 hours	See Tune Eval Report	X		x
Initial Calibration Curve (ICAL) (minimum: 5 Standards)	Prior to samples and when ICV fails	Avg. RF - %RSD ≤ 15% Curve (COD) - R^2 ≥ 0.990	X		
SSCV - (Second Source)	After calibration (ICAL)	70-130% non-DoD 80-120% DoD	X		
ICV - (Daily Initial Cal Verification)	Every 12 hours	ISTDs Area% (50-200) Surrogates %R (See LIMS) 8260 %R (80-120) for >80% analytes reported Analytes %R (70-130) TCEQ Analytes %R (80-120) DoD	X		

Review Item	Frequency	Limits	Pass	Fail	N/A	Review
Method Blank (MB) System Blank (SYS Blank)	Every Batch (MB) Daily (SYS BL)	< MDL / <½ RL (DoD) or <1/10 the sample/reg limit	X			x
Lab Control Sample (LCS)	Every Batch/20 samples	See LIMS	X			
Lab Control Sample Dup (LCSD)	Insufficient sample Sample Matrix	See LIMS	X			
LCSD - RPD	Every LCS/LCSD	≤ 20 (Aq) / ≤ 30 (Soil&DoD)	X			
Field Samples	Up to 20 per prep batch	ISTDs Area% (50-200%) Surrogates %R (See LIMS) RRT ± 0.06 RRT Standard Q value > 70 - check for #	X			
Matrix Spike (MS)	Every Batch/20 samples	See LIMS			X	
Matrix Spike Duplicate (MSD) (MSD is N/A for Method 624)	Every Prep Batch except Method 624	See LIMS			X	
MSD - RPD (MSD is N/A for Method 624)	Every MS/MSD except Method 624	≤ 20 (Aq) / ≤ 30 (Soil&DoD)			X	

Lab Data Review Check List
EPA Method 8260 / 624 - Volatile Organic Compounds by GC/MS

Review Item	Criteria	Yes	No	N/A	2nd Level Review
Sample Analysis 1. Are all sample hold times met? ***14 days for <2 (Aq) except for Vinyl Chloride, Styrene, 2-CEVE.** ****No BTEX**	3 days (Aq)-Acrolein			X	x
	7 days (Aq)-pH>2-Full+BTEX	X			
	14 days (Soil)			X	
	14 days (Aq)-pH≤2*			X	
	14 days (Aq)-pH>2**			X	
2. Are all manual integrations signed (Before & After)?	Sign(Before & After)/LIMS Comment/MI Form(DoD)			X	
3. Are all samples with concentrations > the highest ICAL STD diluted and reanalyzed?				X	
Review Item #3 is N/A ONLY if all sample results are within Calibration range or NO if dilution is in different folder					
4. Is mass spectra reviewed/verified if Q value is <70 and/or # flag for results >MDL (<92 for Acetone)?	Q value <70 - All hits Q value <92 - Acetone			X	x
5. Are ALL reported analytes > MDL (+ J flags) highlighted by the analyst?		X	**Return to analyst if NO**		

VARIANCE REPORT

QC items that do not meet method/SOP/project requirements will be described on the run log. All variances that impact data quality will be described in this section.

NON-CONFORMANCES / VARIANCE 1. Are all non-conformances included and noted?	All deviations from the method and SOP that affect data quality			X	x
2. Are all corrective actions included?				X	
3. Does the variance require approval by the Technical Director/General Manager/QA Manager?				X	

Approved by: Date:

Description and Corrective Actions of QC items that do not meet method/SOP/project requirements:

****INCLUDE VARIANCE ITEM / REASON / CORRECTIVE ACTION / IMPACT ON DATA****

VARIANCE ITEM	REASON	CORRECTIVE ACTION
___ Hold Time exceeded (7D/14D/Meth 5035 ASAP)	___ Sample Received out of HT	___ Reanalyze QC to confirm
___ ICV out of control (± 20% DoD/30%)	___ Carryover from previous run	___ Recalibrate
___ LCS ___ LCSD out of control (See LIMS)	___ Cross contamination	___ Reprep/Reanalyze sample
___ MB/SYS BL out of control (> MDL / >½ RL)	___ Lab Artifact	___ Reprep/Reanalyze Batch
___ Internal Standard(s) out of control limits	___ Prep Spike error (describe)	___ Reanalyze Batch/Sample/QC
___ 2 or more Surrogates out of control limits	___ High Levels of target analytes	___ Verify H2O/reagents are clean
___ RPD out of control for LCS/LCSD (>20/30%)	___ High Levels of non-targets	___ Reanalyze sample to confirm
___ MS ___ MSD out of control (See LIMS)	___ Insufficient sample for QC	___ Sample results ND w/ dilution
___ RPD out of control for MS/MSD (>20/30%)	___ Prep Error	___ Client notified and approved
___ No MS/MSD prepared - LCS/LCSD used instead	___ Analytical Error	___ Flag data / Case narrative
___ Missing QC (other than MS/MSD)	___ Client Request	___ Instrument Maintenance
___ QC sample(s) was mis-spiked	___ Matrix Effect	___ Accept data
___ Headspace Present	___ Other (describe below)	___ Confirmed by reanalysis
___ Other (describe below)	___ Cannot reanalyze (HT out/Lack of Sample)	

General Comments and Impact on Data:

Analyst: Don Winston Date of Completion: 09/12/17

Second-Level Review: Janice Whitt Date: 9/13/2017

REVIEWED BY
By Janice Whitt at 9:24:06 AM, 9/13/2017

DHL Analytical, Inc.

Run ID: GCMS5_170912A **Run No.:** 94113

Analytical Run Date: 9/12/2017 **InstrumentID:** GCMS5

Analyst: Don Winston **Column:** Rtx-VMS (30m x 0.25mm ID x 1.4µm df)

Calibration ID: 793 **Column ID:** 0.25mm

Column Length: 30m

Cal Comments: 170817X.M
SSCV out: Acetone low (73.82%) for DoD. IPA and TBA high in SSCV. All other compounds within 20%. No MI

SampID	DF	TestCode	SampType	Batch ID	Analysis Date/Time	Q	Comments
ICV-170912	1	8260_W_AF2	ICV	R94113	9/12/2017 11:17:00 AM		
LCS-82328	1	8260_W_AF2	LCS	82328	9/12/2017 11:45:00 AM		
LCSD-82328	1	8260_W_AF2	LCSD	82328	9/12/2017 12:08:00 PM		Insufficient sample from client for MS/MSD. LCS/LCSD analyzed.
MB-82328	1	8260_W_AF2	MBLK	82328	9/12/2017 12:32:00 PM		
1709065-02A	1	8260_W_AF2	SAMP	82328	9/12/2017 12:55:00 PM		
1709066-02A	1	8260_W_AF2	SAMP	82328	9/12/2017 1:19:00 PM		
1709067-02A	1	8260_W_AF2	SAMP	82328	9/12/2017 1:42:00 PM		
1709065-01A	1	8260_W_AF2	SAMP	82328	9/12/2017 2:06:00 PM		
1709066-01A	1	8260_W_AF2	SAMP	82328	9/12/2017 2:29:00 PM		
1709067-01A	1	8260_W_AF2	SAMP	82328	9/12/2017 2:53:00 PM		

Std ID	Std Name	Type	Exp. Date
VAVP170816	5000 ppm ACROLEIN AND VINYL A	ICV	09/16/2017
VCDP170816	200 PPM CARBON DISULFIDE STA	ICV	09/16/2017
VCEP170816	200 PPM 2-CHLOROETHYLVINYLE	ICV	09/16/2017
VGP170911	200 PPM GAS STANDARD	ICV	10/11/2017
VIMP170816	200 PPM IODOMETHANE STANDA	ICV	09/16/2017
VKP170515B	2000 PPM KETONE STANDARD	ICV	02/16/2018
VLP170816	8260 Liquid Std. + Adds (200, 400,	ICV	09/16/2017
VMTP170816	200 PPM MIXED STANDARD	ICV	09/16/2017
VPNP170816	5000 PPM ISOPROPYL ALCOHOL	ICV	09/16/2017
VSI170815-1	25 PPM ISTD/SURROGATE 8260	ICV	11/13/2017

Sequence Name: C:\msdchem\1\sequence\170912.s
Comment:
Operator:
Data Path: c:\msdchem\1\DATA\170912\
Instrument Control Pre-Seq Cmd:
Data Analysis Pre-Seq Cmd:

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

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

Sequence Barcode Options
(X) On Mismatch, Inject Anyway
( ) On Mismatch, Don't Inject
( ) Barcode Disabled

Line			Sample Name/Misc Info		
1)	Sample	1	17091201	170817X	ICV-170912
2)	Sample	2	17091202	170817X	LCS-82328
3)	Sample	3	17091203	170817X	LCSD-82328
4)	Sample	4	17091204	170817X	MB-82328
5)	Sample	5	17091205	170817X	1709065-02A
6)	Sample	6	17091206	170817X	1709066-02A
7)	Sample	7	17091207	170817X	1709067-02A
8)	Sample	8	17091208	170817X	1709065-01A
9)	Sample	9	17091209	170817X	1709066-01A
10)	Sample	10	17091210	170817X	1709067-01A

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **9/12/2017 10:35:53 AM**
Digestion:
Prep End Date: **9/12/2017 2:53:00 PM**

Prep Batch **82328** Prep Code: **5030_W_MS** Technician: **Don Winston**

Prep Factor Units: **mL/mL**

Equipment List

Pipette # 27

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Vessel	Cleanup
1709065-01A	Aqueous	>3	5	5	1.000	1 of 3		
1709065-02A	Field Blank	>3	5	5	1.000	1 of 3		
1709066-01A	Aqueous	>3	5	5	1.000	1 of 3		
1709066-02A	Field Blank	>3	5	5	1.000	1 of 3		
1709067-01A	Aqueous	>3	5	5	1.000	1 of 3		
1709067-02A	Field Blank	>3	5	5	1.000	1 of 3		
LCS-82328	Aqueous		5	5	1.000	of		
LCSD-82328	Aqueous		5	5	1.000	of		
MB-82328	Aqueous		5	5	1.000	of		

Number	Reagent Name	Amt	Units	Exp. Da
8086	pH paper 0-3	1	paper	12/15/2025
11586	VOA Vials	1	vial	07/17/2027

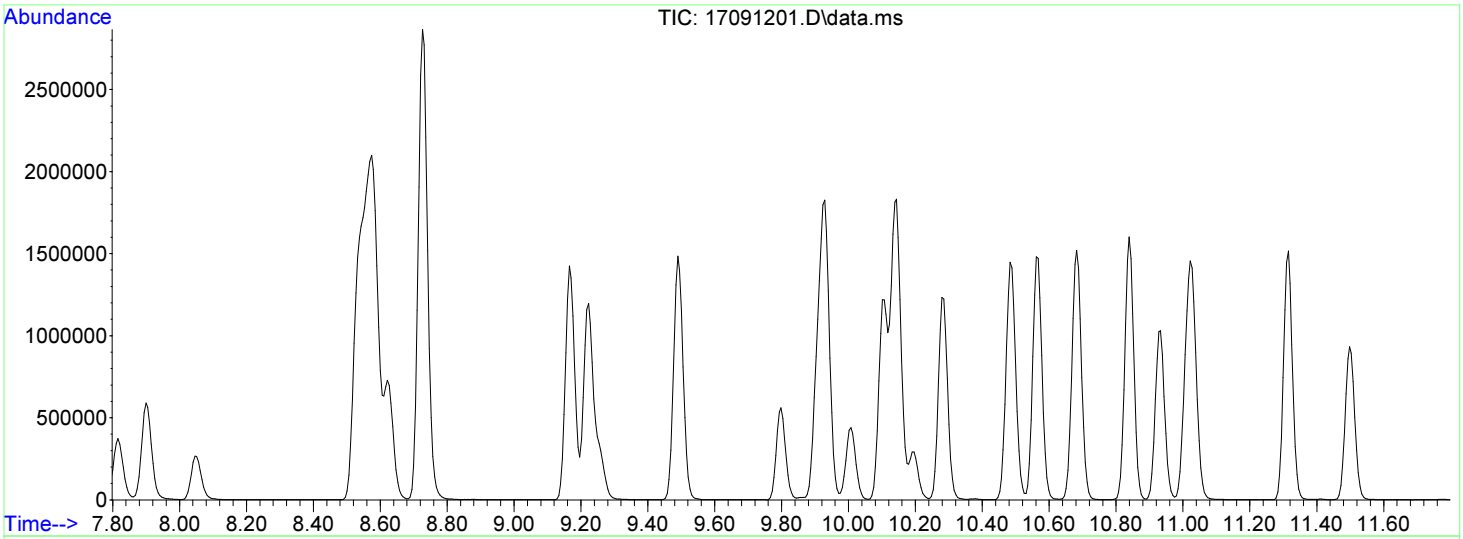
REVIEWED BY
By Janice Whitt at 9:13:09 AM, 9/13/2017

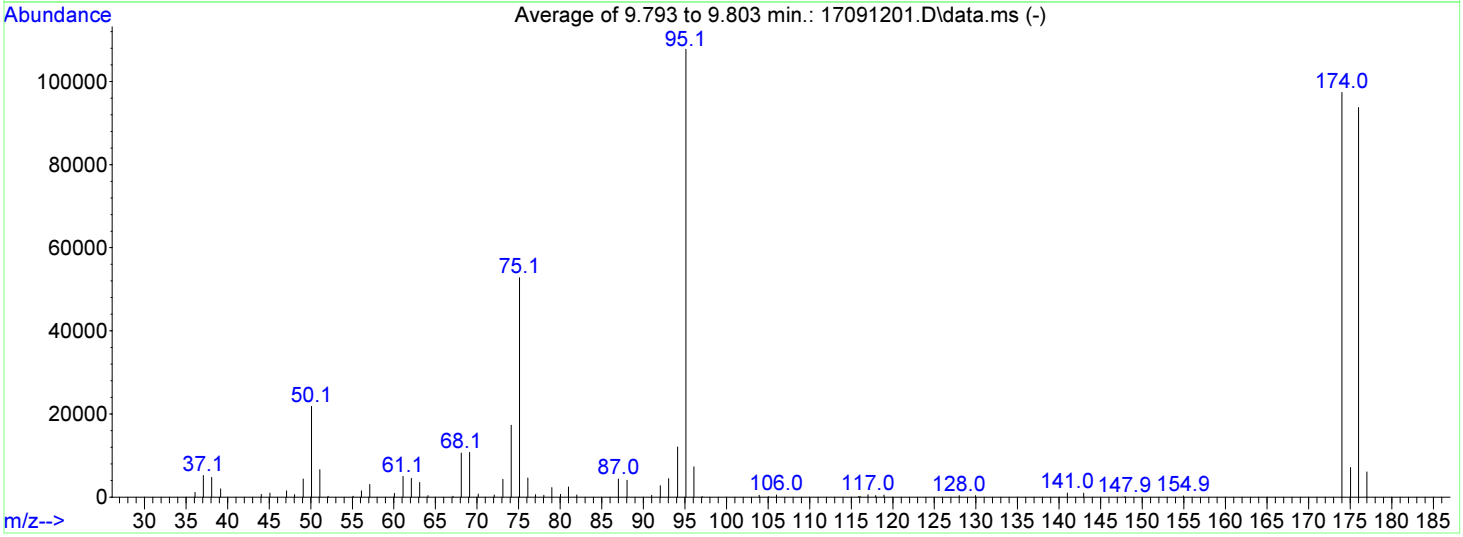
Spk ID	Spike Name	SampType	Amt (mL or g)	Exp. Date
VAVP170816	5000 ppm ACROLEIN AND VINYL ACET		0.0005	09/16/2017
VCDP170816	200 PPM CARBON DISULFIDE STANDA		0.005	09/16/2017
VCEP170816	200 PPM 2-CHLOROETHYLVINYLETHE		0.005	09/16/2017
VGP170911	200 PPM GAS STANDARD		0.005	10/11/2017
VIMP170816	200 PPM IODOMETHANE STANDARD		0.005	09/16/2017
VKP170515B	2000 PPM KETONE STANDARD		0.0025	02/16/2018
VLP170816	8260 Liquid Std. + Adds (200, 400, 1000,		0.005	09/16/2017
VMTP170816	200 PPM MIXED STANDARD		0.005	09/16/2017

Data Path : C:\msdchem\1\data\170912\
Data File : 17091201.D
Acq On : 12 Sep 2017 11:17 am
Operator :
Sample : ICV-170912
Misc : ICV
ALS Vial : 1 Sample Multiplier: 1

Integration File: Rteint.p

Method : C:\msdchem\1\methods\170817X.M
Title : M-8260S
Last Update : Thu Aug 17 14:33:11 2017





AutoFind: Scans 1589, 1590, 1591; Background Corrected with Scan 1580

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	20.3	21835	PASS
75	95	30	60	49.0	52827	PASS
95	95	100	100	100.0	107827	PASS
96	95	5	9	6.7	7253	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	200	90.3	97368	PASS
175	174	5	9	7.3	7103	PASS
176	174	95	101	96.3	93752	PASS
177	176	5	9	6.4	6041	PASS

REVIEWED BY
By Janice Whitt at 9:13:11 AM, 9/13/2017

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\170912\
Data File : 17091201.D
Acq On : 12 Sep 2017 11:17 am
Operator :
Sample : ICV-170912
Misc : ICV
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 14:07:20 2017
Quant Method : C:\msdchem\1\methods\170817X.M
Quant Title : M-8260S
QLast Update : Thu Aug 17 14:33:11 2017
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 20% Max. R.T. Dev 0.50min
Max. RRF Dev : 50% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	i	Fluorobenzene	1.000	1.000	0.0	85	0.00
2	CP	Dichlorodifluoromethane	2.541	2.077	18.3	73	0.00
3	CP	Chloromethane	2.660	1.945	26.9#	63	0.00
4	CP	Vinyl chloride	2.332	1.886	19.1	71	0.00
5	CP	Bromomethane	0.787	0.287	63.5#	36	0.00
6	CP	Chloroethane	0.998	0.800	19.8	75	0.00
7	CP	Trichlorofluoromethane	3.125	2.933	6.1	82	0.00
8	CP	Trichlorotrifluoroethane	2.026	0.000#	100.0#	0#	-2.95#
9		Acrolein	0.321	0.000	100.0#	0#	-3.20#
10		Isopropyl Alcohol	0.025	0.000	100.0#	0#	-3.37#
11	CP	Acetone	0.499	0.011#	97.8#	2#	0.04
12		Iodomethane	1.266	0.140	88.9#	8#	0.00
13	CP	1,1-Dichloroethene	1.710	1.591	7.0	80	0.00
14	CP	Carbon disulfide	5.777	0.033#	99.4#	1#	0.00
15	CP	Methylene chloride	1.866	1.713	8.2	82	0.00
16	CP	Methyl Acetate	1.496	1.132	24.3#	62	0.08
17	CP	trans-1,2-Dichloroethene	1.848	1.740	5.8	81	0.00
18		Acrylonitrile	0.655	0.657	-0.3	76	0.00
19	CP	MTBE	5.000	4.908	1.8	83	0.00
20		Tert-Butanol	0.098	0.112	-14.3	87	0.00
21		Isopropyl Ether	6.674	6.343	5.0	81	0.00
22	CP	1,1-Dichloroethane	3.376	3.243	3.9	83	0.00
23		Vinyl acetate	4.006	0.235	94.1#	5#	0.00
24		Ethyl-Tert-butyl Ether	5.602	5.565	0.7	85	0.00
25	CP	cis-1,2-Dichloroethene	2.025	1.949	3.8	84	0.00
26		2,2-Dichloropropane	2.484	2.662	-7.2	94	0.00
27		Bromochloromethane	0.860	0.848	1.4	87	0.00
28	CP	Cyclohexane	3.262	0.121	96.3#	3#	0.04
29	CP	Chloroform	3.383	3.166	6.4	81	0.00
30	s	Dibromofluoromethane	0.247	0.252	-2.0	87	0.00
31		1,1-Dichloropropene	2.724	2.638	3.2	83	0.00
32	s	1,2-Dichloroethane-d4	0.311	0.325	-4.5	90	0.00
33	CP	1,1,1-Trichloroethane	2.865	2.930	-2.3	86	0.00
34	CP	1,2-Dichloroethane	2.422	2.416	0.2	88	0.00
35	CP	Benzene	7.687	7.283	5.3	82	0.00
36	CP	2-Butanone	0.906	0.000#	100.0#	0#	-5.04#
37	CP	Carbon tetrachloride	2.406	2.296	4.6	82	0.00
38		Tert-amyl Methyl Ether	4.654	4.601	1.1	84	0.00
39	CP	Trichloroethene	2.047	1.995	2.5	84	0.00
40	CP	Methyl Cyclohexane	3.350	0.000#	100.0#	0#	-5.81#
41	T	Dibromomethane	1.084	1.036	4.4	84	0.00
42	CP	Bromodichloromethane	2.219	2.259	-1.8	85	0.00
43	CP	1,2-Dichloropropane	1.922	1.838	4.4	81	0.00
44	T	2-Chloroethylvinylether	1.365	0.000	100.0#	0#	-6.81#
45	CP	cis-1,3-Dichloropropene	2.746	2.676	2.5	81	0.00
46	CP	trans-1,3-Dichloropropene	2.184	2.229	-2.1	84	0.00
47	CP	1,1,2-Trichloroethane	1.498	1.456	2.8	83	0.00
48	CP	Toluene	4.803	4.534	5.6	81	0.00
49	i	Chlorobenzene-d5	1.000	1.000	0.0	85	0.00
50	CP	4-Methyl-2-pentanone	2.955	0.000#	100.0#	0#	-7.43#
51	s	Toluene-d8	1.330	1.319	0.8	85	0.00
52	CP	2-Hexanone	2.080	0.000#	100.0#	0#	-8.24#
53	CP	Dibromochloromethane	2.230	2.231	-0.0	84	0.00

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\170912\
Data File : 17091201.D
Acq On : 12 Sep 2017 11:17 am
Operator :
Sample : ICV-170912
Misc : ICV
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 14:07:20 2017
Quant Method : C:\msdchem\1\methods\170817X.M
Quant Title : M-8260S
QLast Update : Thu Aug 17 14:33:11 2017
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 20% Max. R.T. Dev 0.50min
Max. RRF Dev : 50% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
54		1,3-Dichloropropane	3.826	3.641	4.8	82	0.00
55	CP	Tetrachloroethene	2.463	2.379	3.4	84	0.00
56	CP	1,2-Dibromoethane	2.243	2.141	4.5	81	0.00
57	CP	Chlorobenzene	7.003	6.652	5.0	83	0.00
58		1,1,1,2-Tetrachloroethane	2.196	2.219	-1.0	86	0.00
59	CP	Ethylbenzene	3.936	3.739	5.0	82	0.00
60	CP	Bromoform	1.435	1.416	1.3	81	0.00
61	CP	Styrene	6.836	6.522	4.6	79	0.00
62		1-Chlorohexane	3.173	2.909	8.3	82	0.00
63	CP	m,p-Xylene	4.747	4.521	4.8	82	0.00
64	CP	o-Xylene	4.522	4.366	3.4	82	0.00
65	CP	Isopropylbenzene	11.539	11.272	2.3	83	0.00
66	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	87	0.00
67		Bromobenzene	5.948	5.556	6.6	83	0.00
68	CP	1,1,2,2-Tetrachloroethane	5.712	4.962	13.1	77	0.00
69	T	1,2,3-Trichloropropane	1.744	1.596	8.5	80	0.00
70	s	4-Bromofluorobenzene	0.991	0.978	1.3	86	0.00
71		1,4-Dichloro-2-butene	1.739	1.502	13.6	74	0.00
72	T	n-Propylbenzene	29.539	27.791	5.9	82	0.00
73		2-Chlorotoluene	18.515	17.571	5.1	84	0.00
74		1,3,5-Trimethylbenzene	19.670	19.003	3.4	84	0.00
75		4-Chlorotoluene	17.148	16.408	4.3	85	0.00
76		tert-Butylbenzene	17.567	16.875	3.9	85	0.00
77		1,2,4-Trimethylbenzene	19.762	19.153	3.1	84	0.00
78		sec-Butylbenzene	26.231	24.964	4.8	84	0.00
79	CP	1,3-Dichlorobenzene	10.885	10.172	6.6	83	0.00
80		p-Isopropyltoluene	21.507	21.175	1.5	85	0.00
81	CP	1,4-Dichlorobenzene	11.205	10.421	7.0	85	0.00
82	CP	1,2-Dichlorobenzene	9.827	9.243	5.9	84	0.00
83	CP	1,2-Dibromo-3-chloropr...	0.901	0.886	1.7	79	0.00
84		n-Butylbenzene	19.489	19.151	1.7	85	0.00
85	CP	1,2,4-Trichlorobenzene	6.542	6.416	1.9	85	0.00
86		Hexachlorobutadiene	3.506	3.448	1.7	89	0.00
87		Naphthalene	15.754	14.331	9.0	77	0.00
88		1,2,3-Trichlorobenzene	5.769	5.547	3.8	83	0.00

(#) = Out of Range SPCC's out = 7 CCC's out = 11

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\170912\
Data File : 17091201.D
Acq On : 12 Sep 2017 11:17 am
Operator :
Sample : ICV-170912
Misc : ICV
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 14:07:20 2017
Quant Method : C:\msdchem\1\methods\170817X.M
Quant Title : M-8260S
QLast Update : Thu Aug 17 14:33:11 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		%Rec
Internal Standards							
1) Fluorobenzene	5.656	96	641559	200.00	ug/L		84
49) Chlorobenzene-d5	8.548	117	457997	200.00	ug/L		86
66) 1,4-Dichlorobenzene-d4	11.012	152	226396	200.00	ug/L		85
System Monitoring Compounds							Dev(Min)
30) Dibromofluoromethane	4.955	113	161872	204.00	ug/L		0.00
Spiked Amount 200.000			Recovery = 102.00%				
32) 1,2-Dichloroethane-d4	5.410	65	208241	208.71	ug/L		0.00
Spiked Amount 200.000			Recovery = 104.36%				
51) Toluene-d8	7.052	98	604267	198.34	ug/L		0.00
Spiked Amount 200.000			Recovery = 99.17%				
70) 4-Bromofluorobenzene	9.798	95	221413	197.43	ug/L		0.00
Spiked Amount 200.000			Recovery = 98.72%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.581	85	309164	37.935	ug/L		100
3) Chloromethane	1.770	50	289426	33.920	ug/L		99
4) Vinyl chloride	1.848	62	280778	37.536	ug/L		100
5) Bromomethane	2.162	94	42673	16.898	ug/L		98
6) Chloroethane	2.288	64	119147	37.221	ug/L		96
7) Trichlorofluoromethane	2.424	101	436500	43.543	ug/L		99
12) Iodomethane	3.046	142	20836	8.439	ug/L		99
13) 1,1-Dichloroethene	2.905	96	236861	43.183	ug/L		94
15) Methylene chloride	3.428	84	254894	44.554	ug/L		99
16) Methyl Acetate	3.658	43	168523	35.107	ug/L		87
17) trans-1,2-Dichloroethene	3.574	96	258913	43.680	ug/L		96
18) Acrylonitrile	4.139	53	195705	81.864	ug/L		99
19) MTBE	3.658	73	730466	45.546	ug/L		99
20) Tert-Butanol	3.736	59	83202	271.670	ug/L	#	100
21) Isopropyl Ether	3.987	45	944044	44.093	ug/L		100
22) 1,1-Dichloroethane	4.108	63	482679	44.566	ug/L		100
23) Vinyl acetate	4.296	43	87394	8.622	ug/L	#	78
24) Ethyl-Tert-butyl Ether	4.301	59	828252	46.093	ug/L		99
25) cis-1,2-Dichloroethene	4.568	96	290072	44.662	ug/L		98
26) 2,2-Dichloropropane	4.657	77	396238	49.735	ug/L		99
27) Bromochloromethane	4.741	128	126155	45.740	ug/L		96
29) Chloroform	4.798	83	471187	43.414	ug/L		98
31) 1,1-Dichloropropene	5.091	75	392672	44.941	ug/L		99
33) 1,1,1-Trichloroethane	4.981	97	436133	47.452	ug/L		99
34) 1,2-Dichloroethane	5.468	62	359659	46.301	ug/L		99
35) Benzene	5.300	78	1083987	43.962	ug/L		99
37) Carbon tetrachloride	4.929	117	341738	42.786	ug/L		98
38) Tert-amyl Methyl Ether	5.384	73	684871	45.870	ug/L		99
39) Trichloroethene	5.808	130	296959	45.231	ug/L		96
41) Dibromomethane	6.174	93	154209	44.357	ug/L		96
42) Bromodichloromethane	6.315	83	336278	47.249	ug/L		98
43) 1,2-Dichloropropane	6.257	63	273497	44.368	ug/L		98
45) cis-1,3-Dichloropropene	6.880	75	398291	45.209	ug/L		99
46) trans-1,3-Dichloropropene	7.486	75	331789	47.363	ug/L		99
47) 1,1,2-Trichloroethane	7.638	97	216682	45.079	ug/L		99
48) Toluene	7.105	92	674917	43.809	ug/L		99
53) Dibromochloromethane	7.816	129	237017	45.361	ug/L		99
54) 1,3-Dichloropropane	7.900	76	386883	44.152	ug/L		100
55) Tetrachloroethene	7.476	164	252738	44.810	ug/L		98
56) 1,2-Dibromoethane	8.046	107	227467	44.292	ug/L		100
57) Chlorobenzene	8.564	112	706773	44.073	ug/L		99
58) 1,1,1,2-Tetrachloroethane	8.627	131	235757	46.243	ug/L		98

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\170912\
Data File : 17091201.D
Acq On : 12 Sep 2017 11:17 am
Operator :
Sample : ICV-170912
Misc : ICV
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 14:07:20 2017
Quant Method : C:\msdchem\1\methods\170817X.M
Quant Title : M-8260S
QLast Update : Thu Aug 17 14:33:11 2017
Response via : Initial Calibration

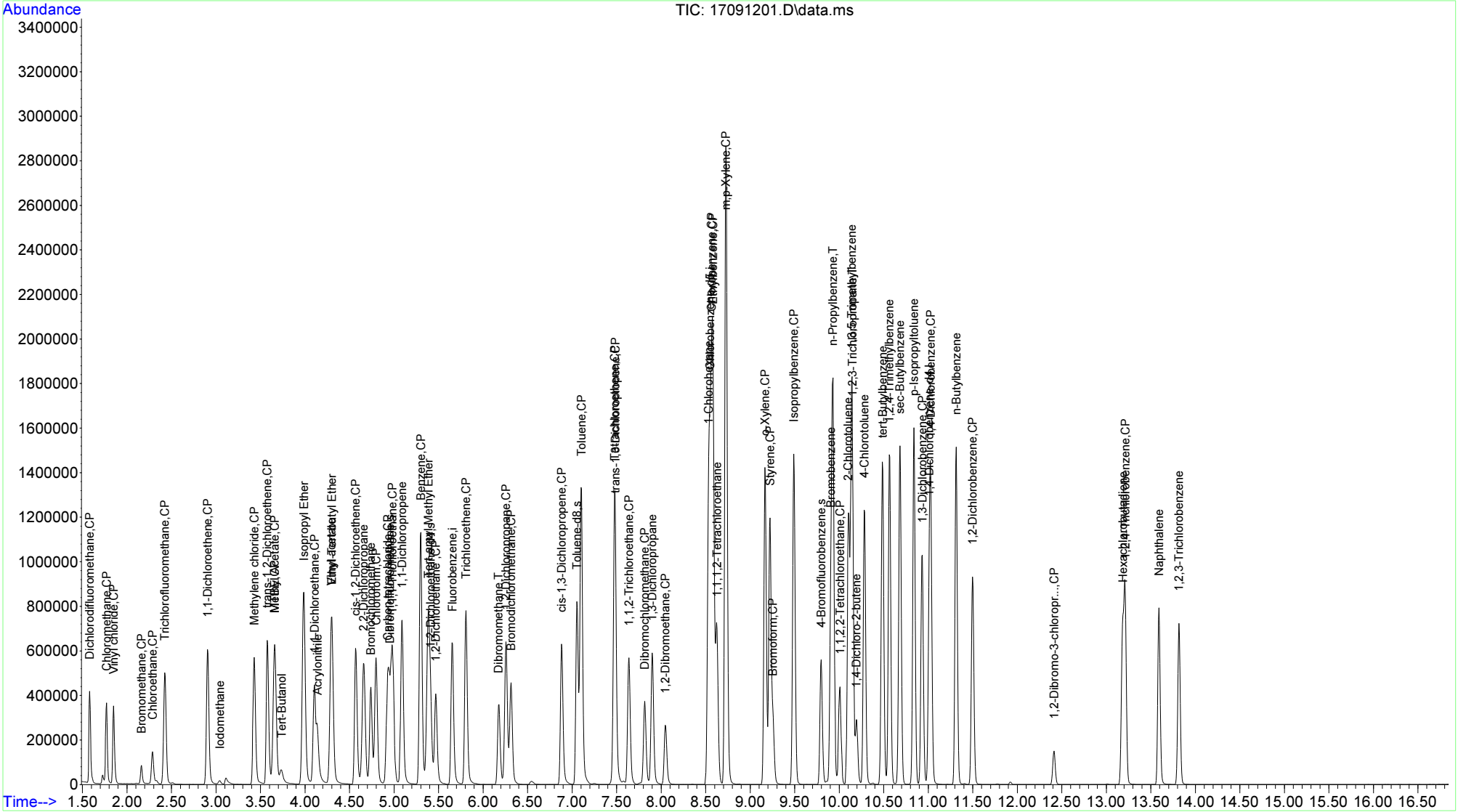
Compound	R.T.	QIon	Response	Conc Units	%Rec
59) Ethylbenzene	8.580	106	397283	44.074 ug/L	98
60) Bromoform	9.254	173	150470	44.081 ug/L	98
61) Styrene	9.223	104	693047	44.271 ug/L	99
62) 1-Chlorohexane	8.533	55	309141	42.541 ug/L	99
63) m,p-Xylene	8.726	106	960848	88.394 ug/L	98
64) o-Xylene	9.165	106	463951	44.799 ug/L	96
65) Isopropylbenzene	9.490	105	1197735	45.328 ug/L	99
67) Bromobenzene	9.908	156	291820	43.343 ug/L	98
68) 1,1,2,2-Tetrachloroethane	10.007	83	260615	40.305 ug/L	99
69) 1,2,3-Trichloropropane	10.149	110	83854	42.484 ug/L	95
71) 1,4-Dichloro-2-butene	10.190	53	78891	40.088 ug/L	92
72) n-Propylbenzene	9.929	91	1459679	43.654 ug/L	99
73) 2-Chlorotoluene	10.102	91	922895	44.035 ug/L	97
74) 1,3,5-Trimethylbenzene	10.138	105	998116	44.826 ug/L	98
75) 4-Chlorotoluene	10.279	91	861799	44.397 ug/L	99
76) tert-Butylbenzene	10.489	119	886322	44.572 ug/L	99
77) 1,2,4-Trimethylbenzene	10.562	105	1005983	44.969 ug/L	97
78) sec-Butylbenzene	10.682	105	1311223	44.159 ug/L	99
79) 1,3-Dichlorobenzene	10.933	146	534295	43.363 ug/L	99
80) p-Isopropyltoluene	10.839	119	1112174	45.683 ug/L	100
81) 1,4-Dichlorobenzene	11.027	146	547332	43.150 ug/L	99
82) 1,2-Dichlorobenzene	11.498	146	485480	43.643 ug/L	100
83) 1,2-Dibromo-3-chloropr...	12.413	75	46523	43.685 ug/L	95
84) n-Butylbenzene	11.315	91	1005894	45.595 ug/L	99
85) 1,2,4-Trichlorobenzene	13.214	180	336978	45.506 ug/L	99
86) Hexachlorobutadiene	13.187	225	181111	45.637 ug/L	99
87) Naphthalene	13.590	128	752724	42.209 ug/L	100
88) 1,2,3-Trichlorobenzene	13.815	180	291368	44.621 ug/L	99

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\170912\
Data File : 17091201.D
Acq On : 12 Sep 2017 11:17 am
Operator :
Sample : ICV-170912
Misc : ICV
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 12 14:07:20 2017
Quant Method : C:\msdchem\1\methods\170817X.M
Quant Title : M-8260S
QLast Update : Thu Aug 17 14:33:11 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\170912\
Data File : 17091202.D
Acq On : 12 Sep 2017 11:45 am
Operator :
Sample : LCS-82328
Misc : LCS
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 14:07:24 2017
Quant Method : C:\msdchem\1\methods\170817X.M
Quant Title : M-8260S
QLast Update : Thu Aug 17 14:33:11 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		%Rec
Internal Standards							
1) Fluorobenzene	5.656	96	634859	200.00	ug/L		84
49) Chlorobenzene-d5	8.548	117	458203	200.00	ug/L		86
66) 1,4-Dichlorobenzene-d4	11.012	152	220543	200.00	ug/L		83
System Monitoring Compounds							Dev(Min)
30) Dibromofluoromethane	4.955	113	159092	202.61	ug/L		0.00
Spiked Amount 200.000			Recovery = 101.31%				
32) 1,2-Dichloroethane-d4	5.410	65	218749	221.55	ug/L		0.00
Spiked Amount 200.000			Recovery = 110.78%				
51) Toluene-d8	7.052	98	596472	195.70	ug/L		0.00
Spiked Amount 200.000			Recovery = 97.85%				
70) 4-Bromofluorobenzene	9.798	95	218051	199.59	ug/L		0.00
Spiked Amount 200.000			Recovery = 99.80%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.581	85	172049	21.334	ug/L		100
3) Chloromethane	1.770	50	160874	19.053	ug/L		100
4) Vinyl chloride	1.848	62	159942	21.607	ug/L		99
5) Bromomethane	2.162	94	28383	11.358	ug/L		97
6) Chloroethane	2.288	64	67630	21.350	ug/L		98
7) Trichlorofluoromethane	2.429	101	241911	24.387	ug/L		99
12) Iodomethane	3.041	142	12649	6.900	ug/L		95
13) 1,1-Dichloroethene	2.910	96	123671	22.785	ug/L		97
15) Methylene chloride	3.428	84	135674	23.747	ug/L		97
16) Methyl Acetate	3.658	43	88789	18.692	ug/L		85
17) trans-1,2-Dichloroethene	3.579	96	133575	22.773	ug/L		100
18) Acrylonitrile	4.144	53	101200	43.557	ug/L		99
19) MTBE	3.663	73	392603	24.738	ug/L		98
20) Tert-Butanol	3.736	59	54526	185.711	ug/L	#	100
21) Isopropyl Ether	3.987	45	497424	23.478	ug/L		100
22) 1,1-Dichloroethane	4.108	63	249642	23.293	ug/L		100
23) Vinyl acetate	4.301	43	46221	5.734	ug/L	#	78
24) Ethyl-Tert-butyl Ether	4.301	59	437490	24.604	ug/L		99
25) cis-1,2-Dichloroethene	4.573	96	146013	22.719	ug/L		99
26) 2,2-Dichloropropane	4.662	77	197547	25.057	ug/L		99
27) Bromochloromethane	4.741	128	67160	24.607	ug/L		99
29) Chloroform	4.798	83	243893	22.709	ug/L		99
31) 1,1-Dichloropropene	5.091	75	203311	23.514	ug/L		98
33) 1,1,1-Trichloroethane	4.981	97	224632	24.698	ug/L		98
34) 1,2-Dichloroethane	5.468	62	193206	25.135	ug/L		99
35) Benzene	5.300	78	560453	22.969	ug/L		100
37) Carbon tetrachloride	4.929	117	199621	25.464	ug/L		99
38) Tert-amyl Methyl Ether	5.384	73	356247	24.112	ug/L		98
39) Trichloroethene	5.808	130	153201	23.581	ug/L		98
41) Dibromomethane	6.179	93	82430	23.960	ug/L		99
42) Bromodichloromethane	6.315	83	173309	24.608	ug/L		99
43) 1,2-Dichloropropane	6.257	63	144535	23.694	ug/L		99
45) cis-1,3-Dichloropropene	6.885	75	206101	23.641	ug/L		99
46) trans-1,3-Dichloropropene	7.486	75	171578	24.751	ug/L		99
47) 1,1,2-Trichloroethane	7.638	97	115371	24.255	ug/L		98
48) Toluene	7.105	92	352297	23.109	ug/L		98
53) Dibromochloromethane	7.816	129	121762	23.785	ug/L		100
54) 1,3-Dichloropropane	7.905	76	206136	23.514	ug/L		99
55) Tetrachloroethene	7.476	164	130497	23.127	ug/L		98
56) 1,2-Dibromoethane	8.051	107	121052	23.561	ug/L		98
57) Chlorobenzene	8.564	112	371753	23.171	ug/L		99
58) 1,1,1,2-Tetrachloroethane	8.627	131	119807	23.887	ug/L		98

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\170912\
Data File : 17091202.D
Acq On : 12 Sep 2017 11:45 am
Operator :
Sample : LCS-82328
Misc : LCS
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 14:07:24 2017
Quant Method : C:\msdchem\1\methods\170817X.M
Quant Title : M-8260S
QLast Update : Thu Aug 17 14:33:11 2017
Response via : Initial Calibration

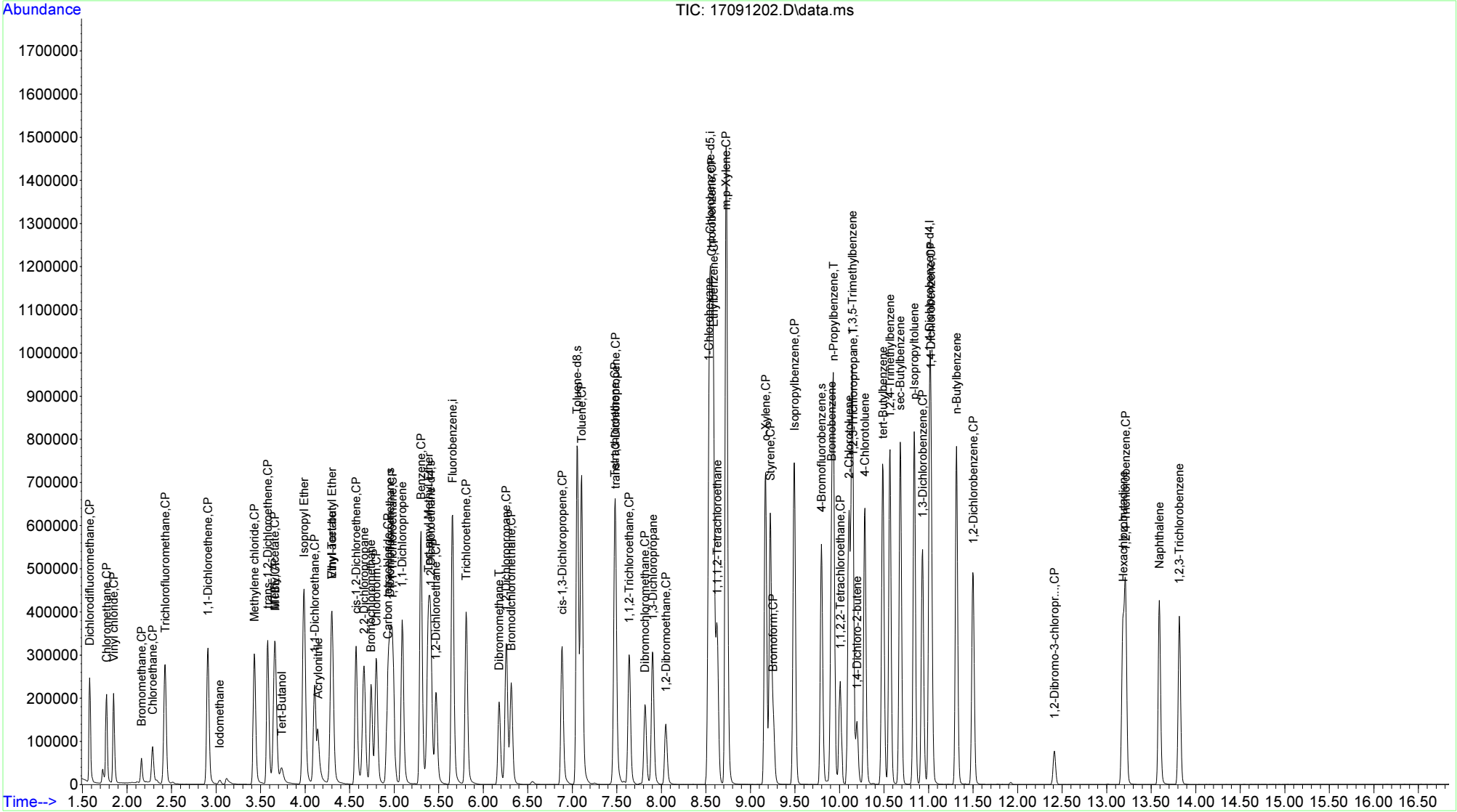
Compound	R.T.	QIon	Response	Conc	Units	%Rec
59) Ethylbenzene	8.585	106	204644	22.693	ug/L	98
60) Bromoform	9.254	173	76637	23.125	ug/L	98
61) Styrene	9.223	104	362754	23.162	ug/L	99
62) 1-Chlorohexane	8.532	55	161737	22.247	ug/L	95
63) m,p-Xylene	8.726	106	503651	46.313	ug/L	98
64) o-Xylene	9.171	106	240098	23.173	ug/L	98
65) Isopropylbenzene	9.495	105	620780	23.483	ug/L	99
67) Bromobenzene	9.913	156	155384	23.691	ug/L	100
68) 1,1,2,2-Tetrachloroethane	10.007	83	140149	22.250	ug/L	100
69) 1,2,3-Trichloropropane	10.154	110	45301	23.561	ug/L	95
71) 1,4-Dichloro-2-butene	10.196	53	39061	20.375	ug/L	95
72) n-Propylbenzene	9.934	91	761364	23.374	ug/L	98
73) 2-Chlorotoluene	10.107	91	477475	23.387	ug/L	98
74) 1,3,5-Trimethylbenzene	10.143	105	517318	23.850	ug/L	99
75) 4-Chlorotoluene	10.285	91	445243	23.546	ug/L	98
76) tert-Butylbenzene	10.489	119	456559	23.569	ug/L	99
77) 1,2,4-Trimethylbenzene	10.567	105	523820	24.037	ug/L	98
78) sec-Butylbenzene	10.682	105	677650	23.428	ug/L	99
79) 1,3-Dichlorobenzene	10.933	146	279969	23.325	ug/L	99
80) p-Isopropyltoluene	10.839	119	571986	24.118	ug/L	99
81) 1,4-Dichlorobenzene	11.027	146	286560	23.191	ug/L	100
82) 1,2-Dichlorobenzene	11.503	146	257332	23.747	ug/L	99
83) 1,2-Dibromo-3-chloropr...	12.413	75	24135	23.917	ug/L	98
84) n-Butylbenzene	11.315	91	517552	24.082	ug/L	100
85) 1,2,4-Trichlorobenzene	13.214	180	181736	25.193	ug/L	99
86) Hexachlorobutadiene	13.187	225	95924	24.813	ug/L	99
87) Naphthalene	13.590	128	411633	23.695	ug/L	100
88) 1,2,3-Trichlorobenzene	13.815	180	157229	24.718	ug/L	99

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\170912\
Data File : 17091202.D
Acq On : 12 Sep 2017 11:45 am
Operator :
Sample : LCS-82328
Misc : LCS
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 12 14:07:24 2017
Quant Method : C:\msdchem\1\methods\170817X.M
Quant Title : M-8260S
QLast Update : Thu Aug 17 14:33:11 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\170912\
Data File : 17091203.D
Acq On : 12 Sep 2017 12:08 pm
Operator :
Sample : LCSD-82328
Misc : LCSD
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 14:07:27 2017
Quant Method : C:\msdchem\1\methods\170817X.M
Quant Title : M-8260S
QLast Update : Thu Aug 17 14:33:11 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		%Rec
Internal Standards							
1) Fluorobenzene	5.656	96	650268	200.00	ug/L		86
49) Chlorobenzene-d5	8.548	117	468602	200.00	ug/L		88
66) 1,4-Dichlorobenzene-d4	11.012	152	227405	200.00	ug/L		86
System Monitoring Compounds							Dev(Min)
30) Dibromofluoromethane	4.955	113	162829	202.46	ug/L		0.00
Spiked Amount 200.000			Recovery = 101.23%				
32) 1,2-Dichloroethane-d4	5.410	65	220566	218.10	ug/L		0.00
Spiked Amount 200.000			Recovery = 109.05%				
51) Toluene-d8	7.058	98	615641	197.50	ug/L		0.00
Spiked Amount 200.000			Recovery = 98.75%				
70) 4-Bromofluorobenzene	9.798	95	224622	199.40	ug/L		0.00
Spiked Amount 200.000			Recovery = 99.70%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.582	85	176481	21.365	ug/L		99
3) Chloromethane	1.770	50	165247	19.107	ug/L		99
4) Vinyl chloride	1.848	62	163082	21.510	ug/L		99
5) Bromomethane	2.162	94	31848	12.442	ug/L		98
6) Chloroethane	2.288	64	68225	21.028	ug/L		99
7) Trichlorofluoromethane	2.429	101	246594	24.270	ug/L		99
12) Iodomethane	3.041	142	11221	6.572	ug/L		98
13) 1,1-Dichloroethene	2.910	96	127404	22.916	ug/L		96
15) Methylene chloride	3.433	84	138221	23.618	ug/L		100
16) Methyl Acetate	3.663	43	90997	18.703	ug/L		86
17) trans-1,2-Dichloroethene	3.580	96	139646	23.243	ug/L		100
18) Acrylonitrile	4.144	53	102600	43.129	ug/L		98
19) MTBE	3.663	73	396190	24.373	ug/L		99
20) Tert-Butanol	3.736	59	54603	181.776	ug/L	#	100
21) Isopropyl Ether	3.987	45	506567	23.343	ug/L		99
22) 1,1-Dichloroethane	4.108	63	261874	23.855	ug/L		99
23) Vinyl acetate	4.301	43	47608	5.753	ug/L	#	78
24) Ethyl-Tert-butyl Ether	4.301	59	448025	24.599	ug/L		99
25) cis-1,2-Dichloroethene	4.573	96	153411	23.304	ug/L		98
26) 2,2-Dichloropropane	4.662	77	203629	25.217	ug/L		98
27) Bromochloromethane	4.746	128	68189	24.392	ug/L		95
29) Chloroform	4.803	83	251286	22.843	ug/L		96
31) 1,1-Dichloropropene	5.091	75	209819	23.692	ug/L		99
33) 1,1,1-Trichloroethane	4.986	97	230735	24.768	ug/L		99
34) 1,2-Dichloroethane	5.473	62	193808	24.616	ug/L		99
35) Benzene	5.300	78	581484	23.266	ug/L		99
37) Carbon tetrachloride	4.934	117	205955	25.647	ug/L		99
38) Tert-amyl Methyl Ether	5.389	73	369051	24.387	ug/L		99
39) Trichloroethene	5.813	130	159141	23.915	ug/L		96
41) Dibromomethane	6.179	93	83548	23.710	ug/L		96
42) Bromodichloromethane	6.320	83	175675	24.353	ug/L		97
43) 1,2-Dichloropropane	6.257	63	146606	23.464	ug/L		98
45) cis-1,3-Dichloropropene	6.885	75	210010	23.518	ug/L		99
46) trans-1,3-Dichloropropene	7.487	75	172599	24.309	ug/L		99
47) 1,1,2-Trichloroethane	7.638	97	117946	24.209	ug/L		99
48) Toluene	7.105	92	362572	23.219	ug/L		97
53) Dibromochloromethane	7.821	129	122796	23.463	ug/L		100
54) 1,3-Dichloropropane	7.905	76	208804	23.290	ug/L		99
55) Tetrachloroethene	7.476	164	134585	23.322	ug/L		97
56) 1,2-Dibromoethane	8.051	107	123015	23.411	ug/L		100
57) Chlorobenzene	8.564	112	379807	23.148	ug/L		97
58) 1,1,1,2-Tetrachloroethane	8.627	131	121653	23.720	ug/L		99

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\170912\
Data File : 17091203.D
Acq On : 12 Sep 2017 12:08 pm
Operator :
Sample : LCSD-82328
Misc : LCSD
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 14:07:27 2017
Quant Method : C:\msdchem\1\methods\170817X.M
Quant Title : M-8260S
QLast Update : Thu Aug 17 14:33:11 2017
Response via : Initial Calibration

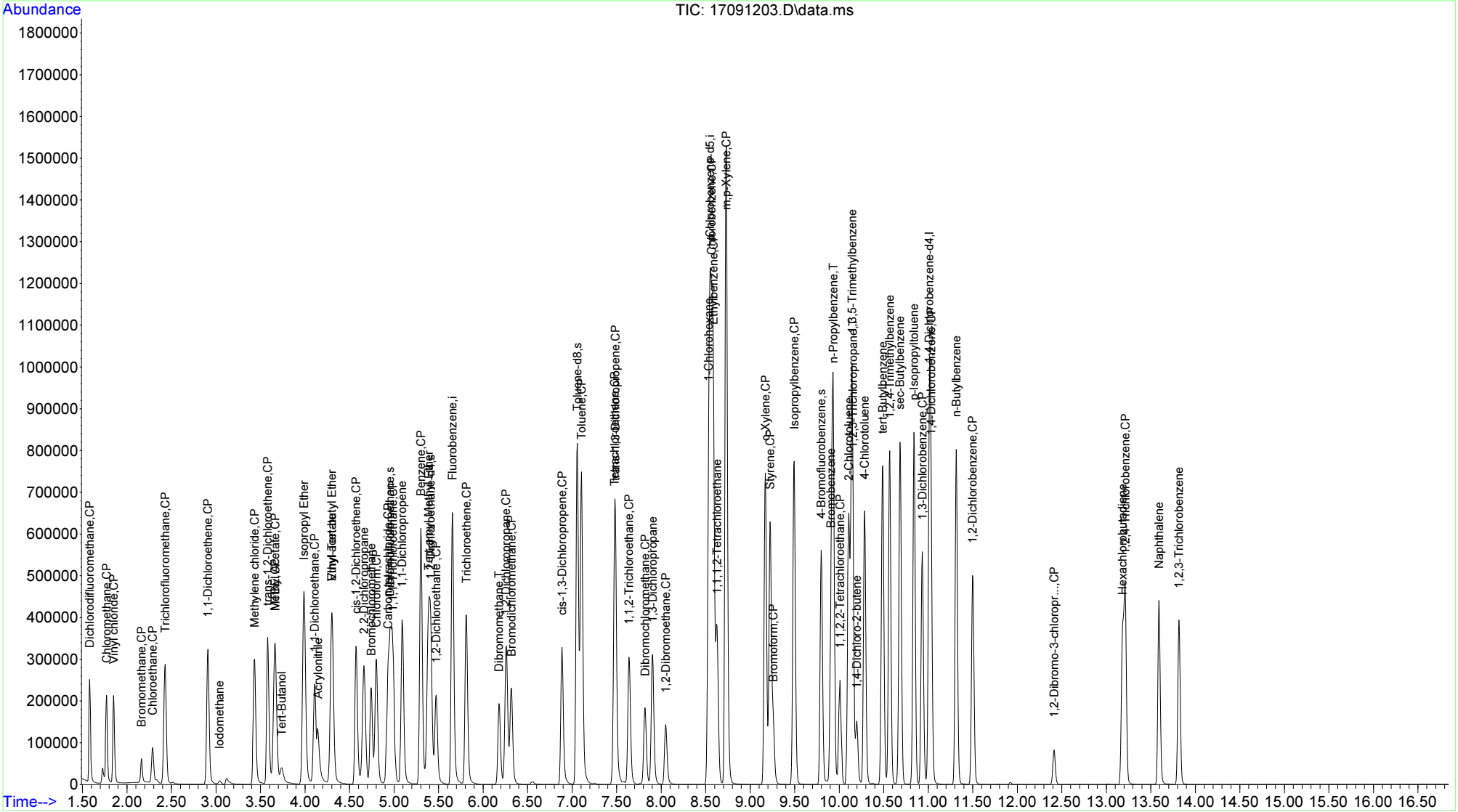
Compound	R.T.	QIon	Response	Conc	Units	%Rec
59) Ethylbenzene	8.585	106	212533	23.045	ug/L	95
60) Bromoform	9.260	173	77818	22.966	ug/L	99
61) Styrene	9.223	104	371306	23.182	ug/L	99
62) 1-Chlorohexane	8.533	55	164637	22.143	ug/L	96
63) m,p-Xylene	8.731	106	520427	46.794	ug/L	99
64) o-Xylene	9.171	106	248674	23.468	ug/L	99
65) Isopropylbenzene	9.495	105	640767	23.701	ug/L	98
67) Bromobenzene	9.908	156	157101	23.230	ug/L	99
68) 1,1,2,2-Tetrachloroethane	10.008	83	144124	22.191	ug/L	99
69) 1,2,3-Trichloropropane	10.154	110	47054	23.734	ug/L	98
71) 1,4-Dichloro-2-butene	10.196	53	41609	21.050	ug/L	92
72) n-Propylbenzene	9.934	91	782004	23.283	ug/L	99
73) 2-Chlorotoluene	10.107	91	490214	23.286	ug/L	98
74) 1,3,5-Trimethylbenzene	10.143	105	531311	23.756	ug/L	99
75) 4-Chlorotoluene	10.285	91	454454	23.308	ug/L	100
76) tert-Butylbenzene	10.489	119	471512	23.607	ug/L	100
77) 1,2,4-Trimethylbenzene	10.567	105	536571	23.879	ug/L	98
78) sec-Butylbenzene	10.682	105	704361	23.616	ug/L	100
79) 1,3-Dichlorobenzene	10.933	146	285285	23.051	ug/L	99
80) p-Isopropyltoluene	10.839	119	589014	24.086	ug/L	100
81) 1,4-Dichlorobenzene	11.033	146	294861	23.143	ug/L	99
82) 1,2-Dichlorobenzene	11.498	146	257736	23.067	ug/L	100
83) 1,2-Dibromo-3-chloropr...	12.413	75	25171	24.181	ug/L	87
84) n-Butylbenzene	11.315	91	530305	23.931	ug/L	100
85) 1,2,4-Trichlorobenzene	13.214	180	181380	24.385	ug/L	97
86) Hexachlorobutadiene	13.182	225	96008	24.085	ug/L	99
87) Naphthalene	13.590	128	419795	23.436	ug/L	100
88) 1,2,3-Trichlorobenzene	13.815	180	159240	24.278	ug/L	98

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\170912\
Data File : 17091203.D
Acq On : 12 Sep 2017 12:08 pm
Operator :
Sample : LCSD-82328
Misc : LCSD
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 12 14:07:27 2017
Quant Method : C:\msdchem\1\methods\170817X.M
Quant Title : M-8260S
QLast Update : Thu Aug 17 14:33:11 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\170912\
Data File : 17091204.D
Acq On : 12 Sep 2017 12:32 pm
Operator :
Sample : MB-82328
Misc : MBLK
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 12 14:07:30 2017
Quant Method : C:\msdchem\1\methods\170817X.M
Quant Title : M-8260S
QLast Update : Thu Aug 17 14:33:11 2017
Response via : Initial Calibration

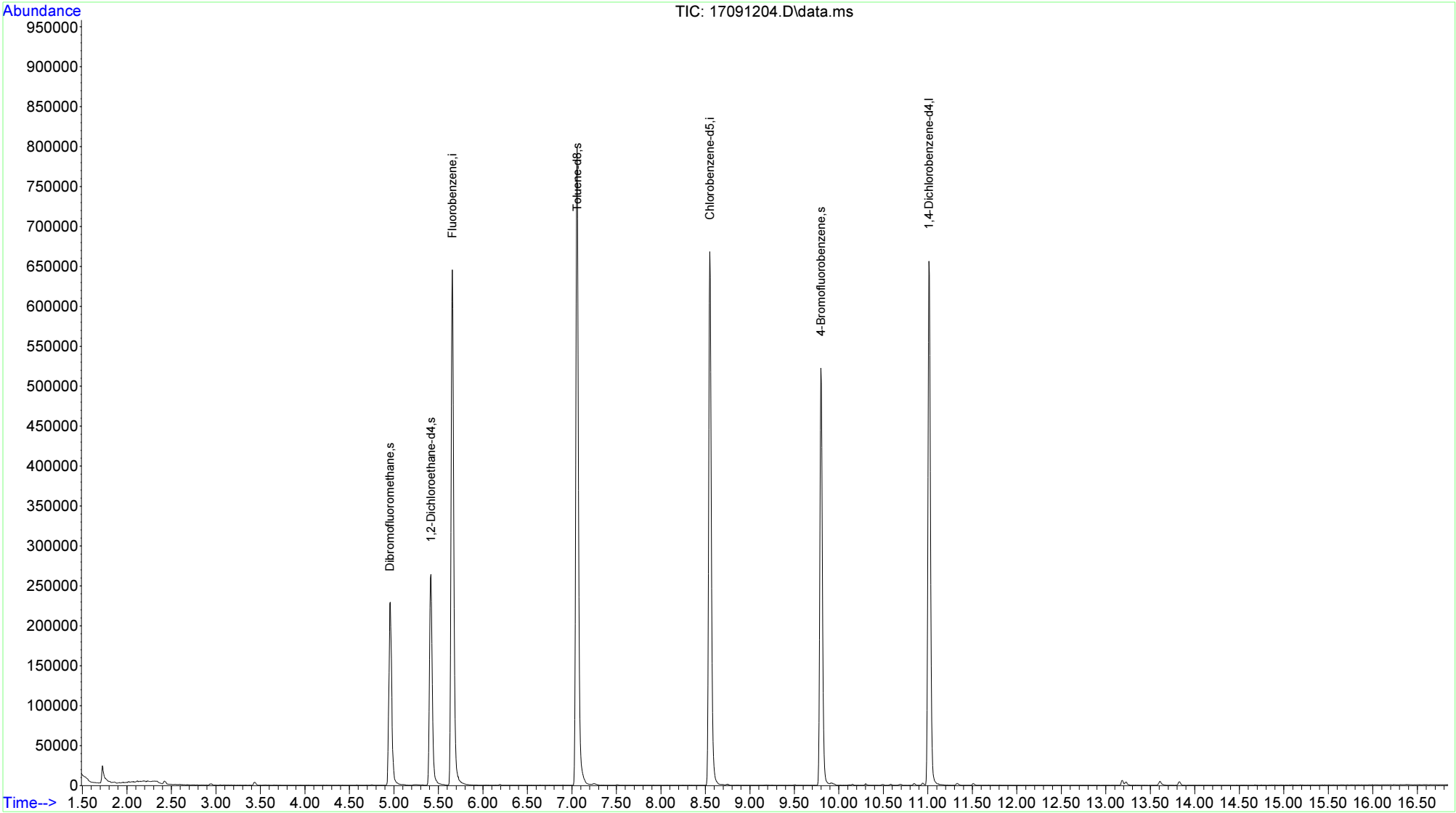
Compound	R.T.	QIon	Response	Conc	Units	%Rec
Internal Standards						
1) Fluorobenzene	5.656	96	652321	200.00	ug/L	86
49) Chlorobenzene-d5	8.548	117	463894	200.00	ug/L	87
66) 1,4-Dichlorobenzene-d4	11.012	152	219827	200.00	ug/L	83
System Monitoring Compounds						Dev(Min)
30) Dibromofluoromethane	4.955	113	159981	198.29	ug/L	0.00
Spiked Amount 200.000			Recovery =	99.14%		
32) 1,2-Dichloroethane-d4	5.415	65	214868	211.80	ug/L	0.00
Spiked Amount 200.000			Recovery =	105.90%		
51) Toluene-d8	7.058	98	607542	196.88	ug/L	0.00
Spiked Amount 200.000			Recovery =	98.44%		
70) 4-Bromofluorobenzene	9.798	95	214599	197.07	ug/L	0.00
Spiked Amount 200.000			Recovery =	98.53%		
Target Compounds						Qvalue
11) Acetone	3.527	43	104	Below Cal	#	44

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\170912\
Data File : 17091204.D
Acq On : 12 Sep 2017 12:32 pm
Operator :
Sample : MB-82328
Misc : MBLK
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 12 14:07:30 2017
Quant Method : C:\msdchem\1\methods\170817X.M
Quant Title : M-8260S
QLast Update : Thu Aug 17 14:33:11 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\170912\
Data File : 17091205.D
Acq On : 12 Sep 2017 12:55 pm
Operator :
Sample : 1709065-02A
Misc : SAMP
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 12 14:07:55 2017
Quant Method : C:\msdchem\1\methods\170817X.M
Quant Title : M-8260S
QLast Update : Thu Aug 17 14:33:11 2017
Response via : Initial Calibration

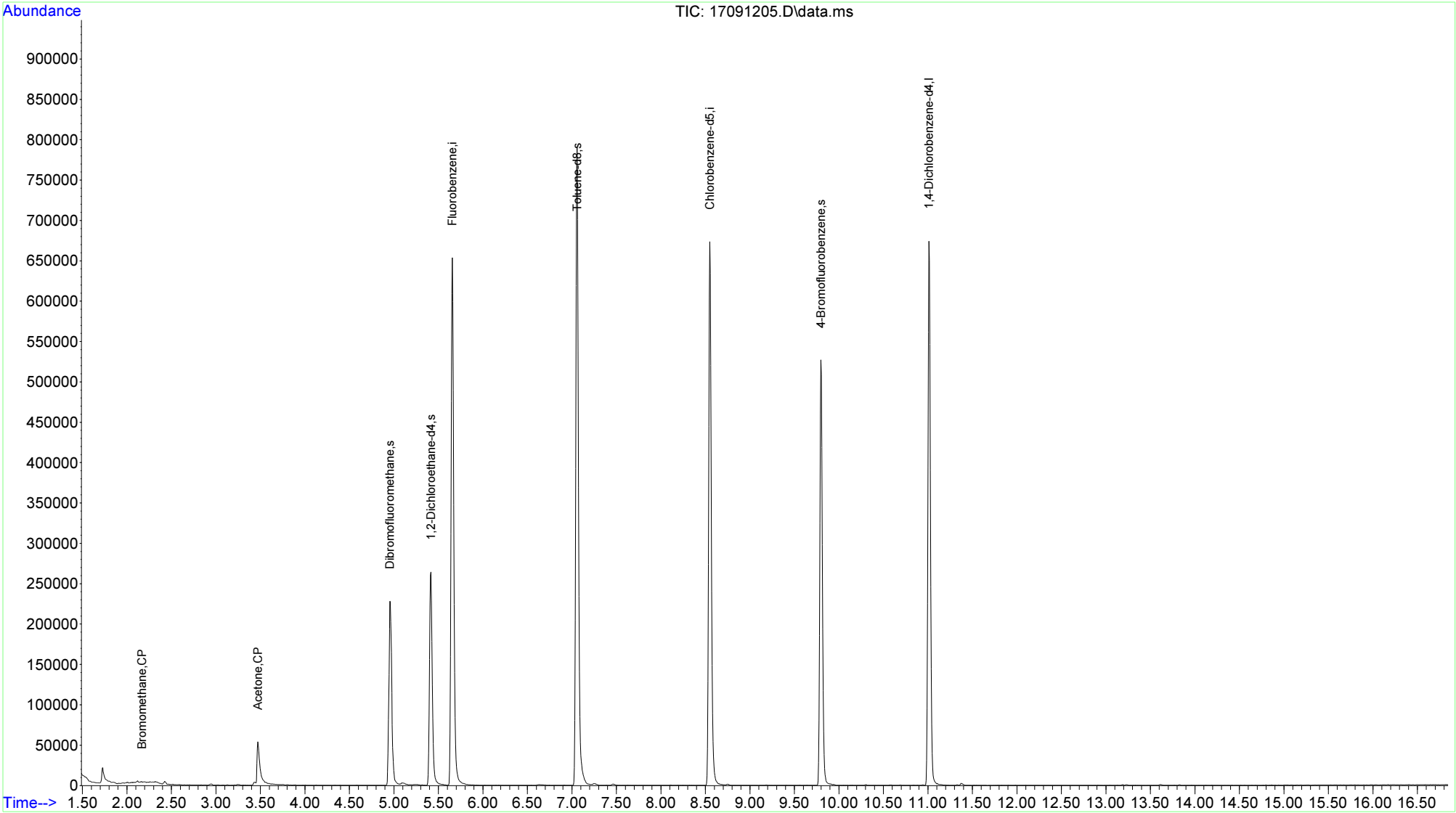
Compound	R.T.	QIon	Response	Conc Units	%Rec
Internal Standards					
1) Fluorobenzene	5.656	96	655396	200.00 ug/L	86
49) Chlorobenzene-d5	8.548	117	464949	200.00 ug/L	87
66) 1,4-Dichlorobenzene-d4	11.012	152	220150	200.00 ug/L	83
System Monitoring Compounds					Dev(Min)
30) Dibromofluoromethane	4.955	113	159985	197.37 ug/L	0.00
Spiked Amount 200.000			Recovery =	98.69%	
32) 1,2-Dichloroethane-d4	5.415	65	211716	207.71 ug/L	0.00
Spiked Amount 200.000			Recovery =	103.86%	
51) Toluene-d8	7.058	98	604531	195.46 ug/L	0.00
Spiked Amount 200.000			Recovery =	97.73%	
70) 4-Bromofluorobenzene	9.798	95	216258	198.30 ug/L	0.00
Spiked Amount 200.000			Recovery =	99.15%	
Target Compounds					Qvalue
5) Bromomethane	2.167	94	1183	0.459 ug/L #	11
10) Isopropyl Alcohol	3.433	45	524	Below Cal #	100
11) Acetone	3.470	43	87217	53.413 ug/L	97
20) Tert-Butanol	3.757	59	335	Below Cal #	100

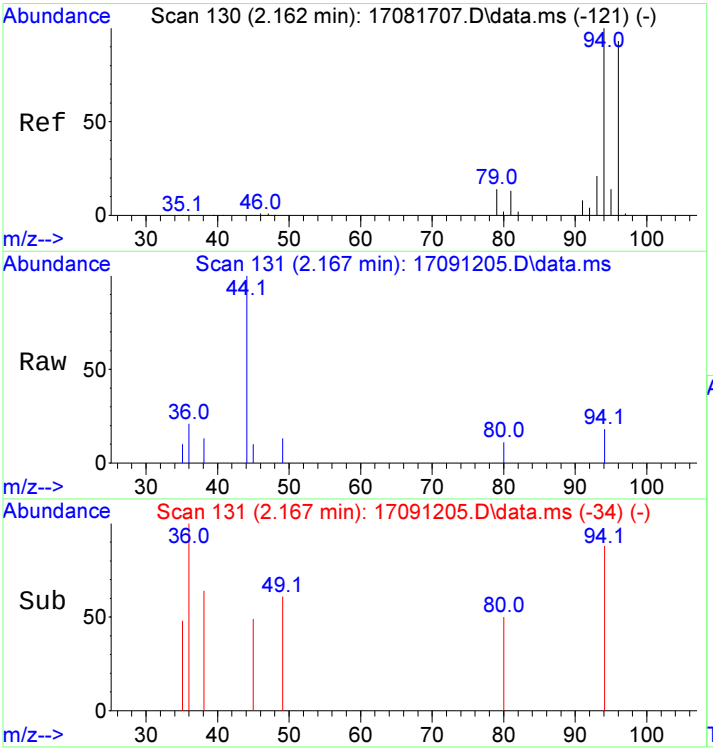
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\170912\
Data File : 17091205.D
Acq On : 12 Sep 2017 12:55 pm
Operator :
Sample : 1709065-02A
Misc : SAMP
ALS Vial : 5 Sample Multiplier: 1

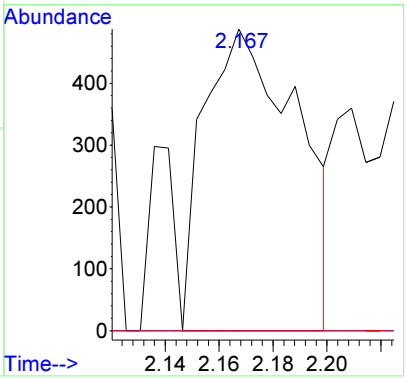
Quant Time: Sep 12 14:07:55 2017
Quant Method : C:\msdchem\1\methods\170817X.M
Quant Title : M-8260S
QLast Update : Thu Aug 17 14:33:11 2017
Response via : Initial Calibration

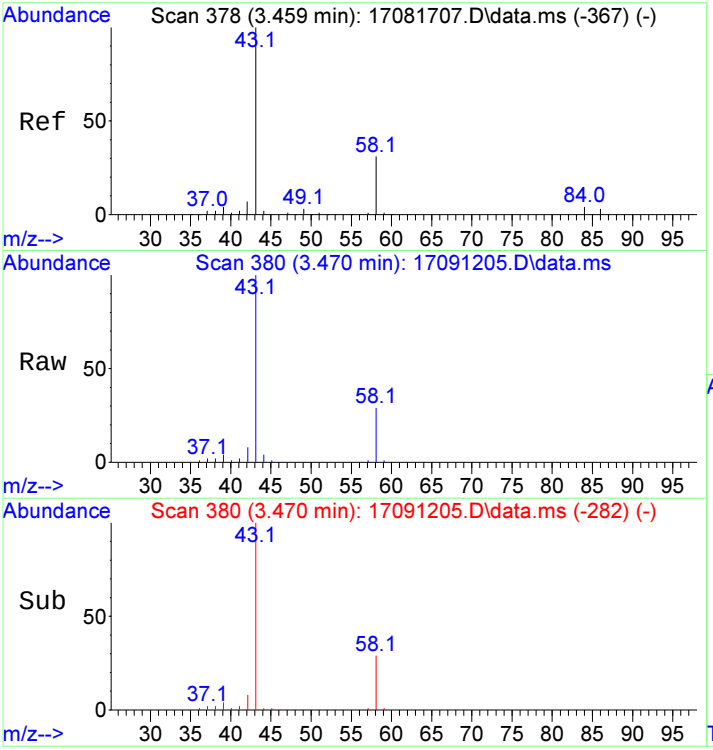




#5
Bromomethane
Concen: 0.459 ug/L
RT: 2.167 min Scan# 131
Delta R.T. 0.005 min
Lab File: 17091205.D
Acq: 12 Sep 2017 12:55 pm
QValue: 11
Tgt Ion: 94 Resp: 1183

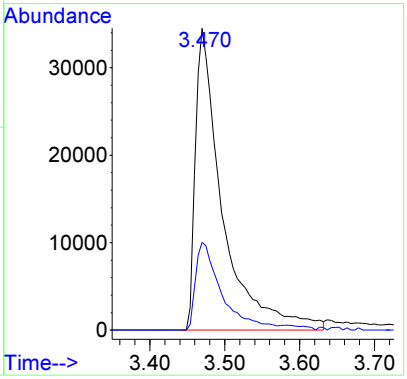
Ion	Ratio	Lower	Upper
94	100		
96	0.0	73.0	113.0#
79	0.0	0.0	34.1





#11
Acetone
Concen: 53.413 ug/L
RT: 3.470 min Scan# 380
Delta R.T. 0.011 min
Lab File: 17091205.D
Acq: 12 Sep 2017 12:55 pm
QValue: 97
Tgt Ion: 43 Resp: 87217

Ion	Ratio	Lower	Upper
43	100		
58	29.0	10.5	50.5



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\170912\
Data File : 17091208.D
Acq On : 12 Sep 2017 2:06 pm
Operator :
Sample : 1709065-01A
Misc : SAMP
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 12 15:00:37 2017
Quant Method : C:\msdchem\1\methods\170817X.M
Quant Title : M-8260S
QLast Update : Thu Aug 17 14:33:11 2017
Response via : Initial Calibration

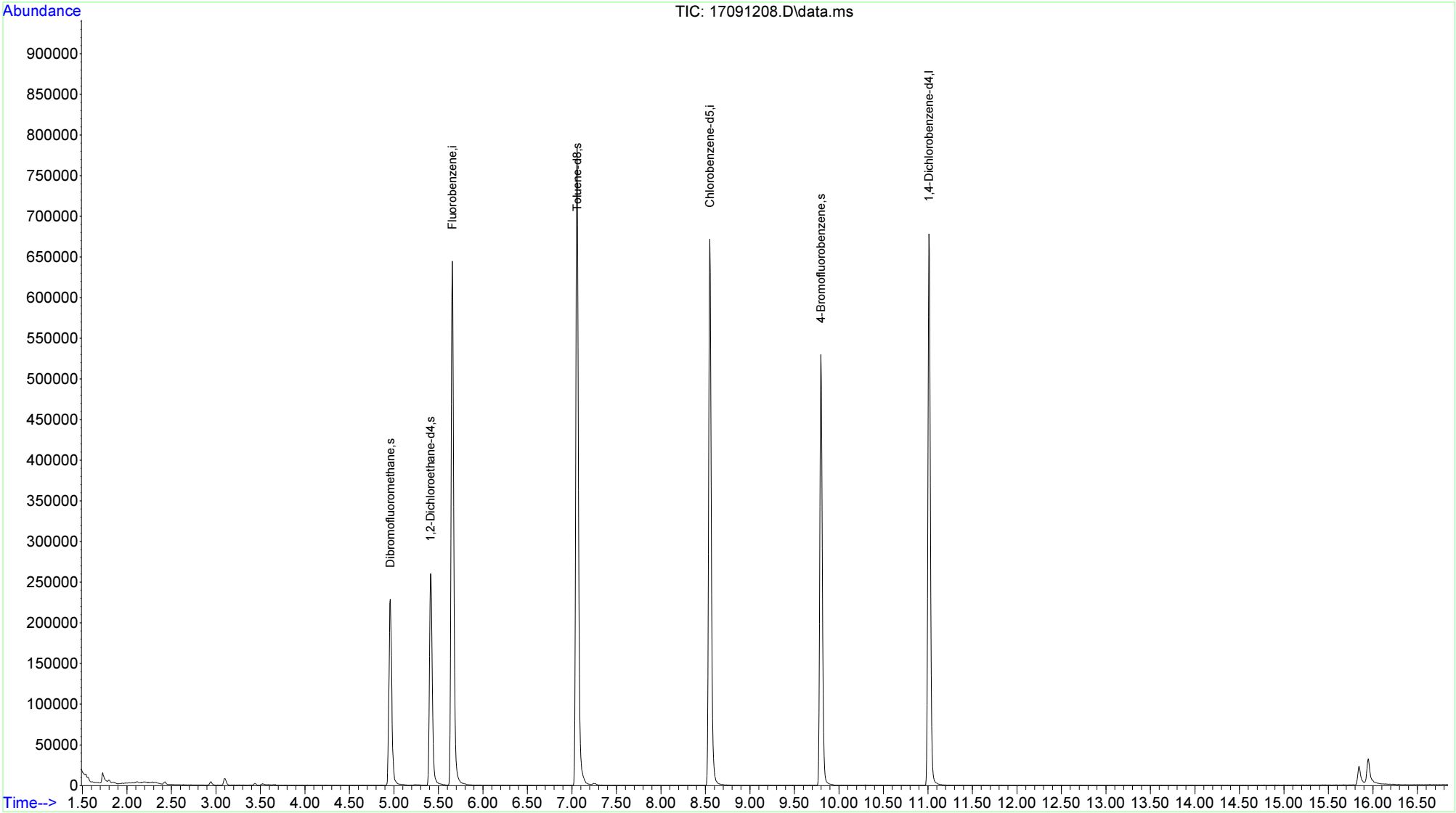
Compound	R.T.	QIon	Response	Conc	Units	%Rec
Internal Standards						
1) Fluorobenzene	5.656	96	644866	200.00	ug/L	85
49) Chlorobenzene-d5	8.548	117	463961	200.00	ug/L	87
66) 1,4-Dichlorobenzene-d4	11.012	152	220087	200.00	ug/L	83
System Monitoring Compounds						Dev(Min)
30) Dibromofluoromethane	4.960	113	157733	197.77	ug/L	0.00
Spiked Amount 200.000			Recovery =	98.89%		
32) 1,2-Dichloroethane-d4	5.410	65	213687	213.07	ug/L	0.00
Spiked Amount 200.000			Recovery =	106.54%		
51) Toluene-d8	7.058	98	598260	193.85	ug/L	0.00
Spiked Amount 200.000			Recovery =	96.92%		
70) 4-Bromofluorobenzene	9.798	95	215408	197.58	ug/L	0.00
Spiked Amount 200.000			Recovery =	98.79%		
Target Compounds						Qvalue
15) Methylene chloride	3.433	84	1051	Below Cal	#	78

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\170912\
Data File : 17091208.D
Acq On : 12 Sep 2017 2:06 pm
Operator :
Sample : 1709065-01A
Misc : SAMP
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 12 15:00:37 2017
Quant Method : C:\msdchem\1\methods\170817X.M
Quant Title : M-8260S
QLast Update : Thu Aug 17 14:33:11 2017
Response via : Initial Calibration



GCMS5
Calibration Curve
For

DHL Work Order
1709065

CAL ID: 793

Method 8260C Calibration Curve Sheet

Instrument ID: GCMS #5 **Calibration File Name: GCMS5_170817X.CAL**

Review Item	Acceptance Criteria	Yes	No	N/A	2nd Level Review
1. Are all standards within expiration dates?	Primary Stocks = 1 year Intermediate Standards = 6 months	X			X
2. Are all manual integrations listed on MI tracking form? **(DoD Projects only)**	Manual Integration Tracking Form			X	X
3. Has the BFB tune been performed prior to ICAL?	BFB Tune Eval Report MUST PASS – No Variance allowed	X			X
4. Does the ICAL curve meet criteria? Use average RF only if %RSD < 15%	Response Factor Report Minimum RFs - Table 4 %RSD ≤ 15% COD R^2 ≥ 0.990	X			X
5. Does the low calibration point have all analytes printed out? Cross-check RF report - some analytes have elevated MDLS (ketones, Iodomethane, alcohols, late eluters)	All analytes that are used in the low point must be printed out	X			X
6. Has the low point been reprocessed under the new ICAL curve and meets criteria?	70-130% recovery 0.928 ppb (0.6496-1.2064) 4.64 ppb (3.248-6.032)	X			X
7. Has the SSCV been analyzed and meets criteria?	80-120% recovery - DOD 46.4 ppb (37.12-55.68) 116 ppb (92.8-139.2) 70-130% - TCEQ QAPP 46.4 ppb (32.48-60.32) 116 ppb (81.2-150.8)		X		X

Second-Level Review: Date: **08/23/2017**

Table 4 - Minimum RF for ICAL and ICV

Volatile Compounds	Min RF	Volatile Compounds	Min RF
Dichlorodifluoromethane	0.100	1,2-Dichloropropane	0.100
Chloromethane	0.100	Bromodichloromethane	0.200
Vinyl chloride	0.100	cis-1,3-Dichloropropene	0.200
Bromomethane	0.100	Trans-1,3-Dichloropropene	0.100
Chloroethane	0.100	4-Methyl-2-pentanone	0.100
Trichlorofluoromethane	0.100	Toluene	0.400
1,1-Dichloroethene	0.100	1,1,2-Trichloroethane	0.100
1,1,2-Trichloro-1,2,2-trifluoroethane	0.100	Tetrachloroethene	0.200
Acetone	0.100	2-Hexanone	0.100
Carbon disulfide	0.100	Dibromochloromethane	0.100
Methyl Acetate	0.100	1,2-Dibromoethane	0.100
Methylene chloride	0.100	Chlorobenzene	0.500
trans-1,2-Dichloroethene	0.100	Ethylbenzene	0.100
cis-1,2-Dichloroethene	0.100	meta-/para-Xylene	0.100
Methyl tert-Butyl Ether	0.100	ortho-Xylene	0.300
1,1-Dichloroethane	0.200	Styrene	0.300
2-Butanone	0.100	Bromoform	0.100
Chloroform	0.200	Isopropylbenzene	0.100
1,1,1-Trichloroethane	0.100	1,1,2,2-Tetrachloroethane	0.300
Cyclohexane	0.100	1,3-Dichlorobenzene	0.600
Carbon tetrachloride	0.100	1,4-Dichlorobenzene	0.500
Benzene	0.500	1,2-Dichlorobenzene	0.400
1,2-Dichloroethane	0.100	1,2-Dibromo-3-chloropropane	0.050
Trichloroethene	0.200	1,2,4-Trichlorobenzene	0.200
Methylcyclohexane	0.100		

ICAL Comments: **SSCV out: Acetone low for DOD in SSCV (73.82%). IPA and TBA high in SSCV. All other compounds within 20%. No Manual Integrations.**

GCMS5_170817X
CALIBRATION CURVE

Standards	Conc.	Standard DHL ID	Level 1 0.928 ppb	Spike 4.64 ppb	Level 2 4.64 ppb	Level 3 9.28 ppb	Level 4 18.6 ppb	Level 5 27.8 ppb	Level 6 46.4 ppb
Liquids + Added Stds	200 ppm*	VLP170816	5x of 4.64 ppb	1 µL	1 µL	2 µL	4 µL	6 µL	10 µL
Gas	200 ppm	VGP170816	5x of 4.64 ppb	1 µL	1 µL	2 µL	4 µL	6 µL	10 µL
Carbon Disulfide	200 ppm	VCDP170816	5x of 4.64 ppb	1 µL	1 µL	2 µL	4 µL	6 µL	10 µL
Ketone	200 ppm	VKP170816-1	5x of 23.2 ppb*	5 µL*	5 µL**	10 µL**	***2 µl*	***3 µl*	***5 µL*
2-CEVE	200 ppm	VCEP170816	5x of 4.64 ppb	1 µL	1 µL	2 µL	4 µL	6 µL	10 µL
Iodomethane	200 ppm	VIMP170816	5x of 4.64 ppb	1 µL	1 µL	2 µL	4 µL	6 µL	10 µL
IPA	500 ppm	VPNP170816-1	5x of 46.4 ppb**	4 µL**	2 µL**	4 µL**	6 µL**	8 µL**	10 µL**
Acrolein/ Vinyl Acetate	500 ppm	VAVP170816-1	5x of 46.4 ppb**	4 µL**	2 µL**	4 µL**	6 µL**	8 µL**	10 µL**
MCyclo/Acet/Freon/Cyhex	200 ppm	VMTP170816	5x of 4.64 ppb	1 µL	1 µL	2 µL	4 µL	6 µL	10 µL
*In liquid std: Acrylonitrile = 400 ppm & Tert-Butanol = 1000 pp			**9.28 ppb *4.64 ppb	**46.4ppb *23.2 ppb	**23.2ppb	**46.4ppb	**69.6ppb *92.8 ppb	** 92.8ppb *139 ppb ***2000 ppb ketones VKP170515B	**116ppb *232 ppb

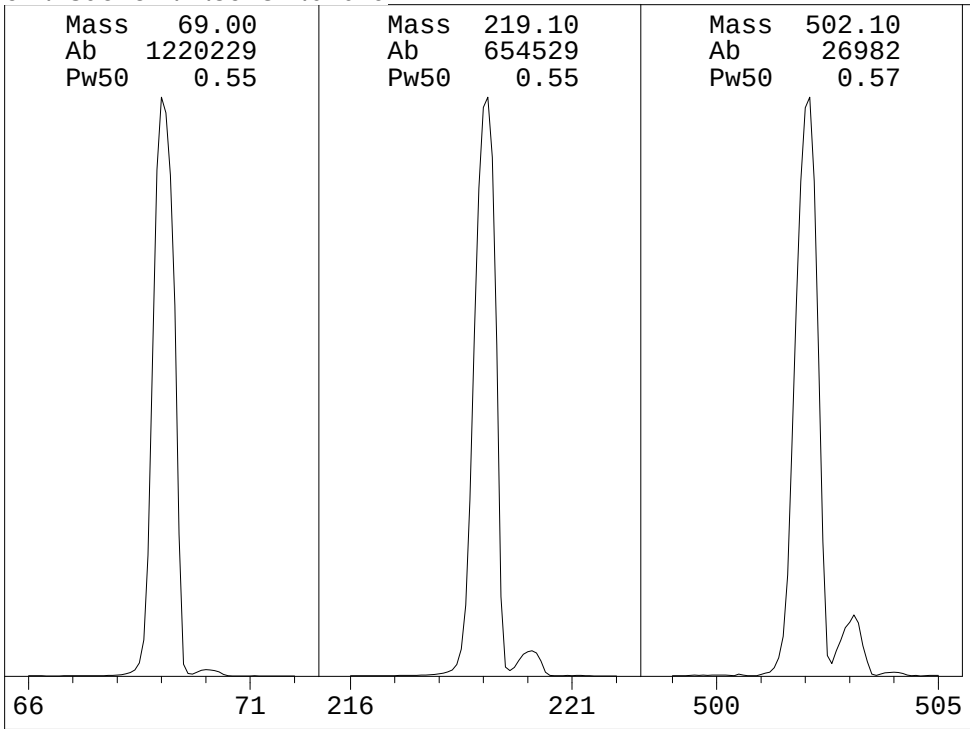
Standards	Conc.	Standard DHL ID	Level 7 92.8 ppb	Level 8 186 ppb
Liquids	2,000ppm	VLP170815A	2 µL	4 µL
Gas	2,000ppm	VGP170515C	2 µL	4 µL
Carbon Disulfide	2,000ppm	VCDP160823-01B	2 µL	4 µL
Ketone	2,000ppm	VKP170515B	10 µL***	20 µL***
2-CEVE	2,000ppm	VCEP170202A	2 µL	4 µL
Iodomethane	2,000ppm	VIMP170515A	2 µL	4 µL
IPA	5,000ppm	VPNP170816	2 µL**	4 µL**
Acrolein/ Vinyl Acetate	5,000ppm	VAVP170816	2 µL**	4 µL**
Acrylonitrile	4,000ppm	VANP170815	2 µL	4 µL
Oxygenated Gasoline	2,000ppm	VOGAP160823-01B	2 µL	4 µL
1,4-dichloro-2-butene	2,000ppm	VDBP160823-01B	2 µL	4 µL
1-Chlorohexane	2,000ppm	VCHP160823-01B	2 µL	4 µL
Methyl Acetate	2,000ppm	VMAP170815	2 µL	4 µL
Methyl Cyclohexane	1,000ppm	VMCP170515A	4 µL	8 µL
Cyclohexane	2,000ppm	VCP160823-01A	2 µL	4 µL
Freon 113	2,000ppm	VTTP160823-01B	2 µL	4 µL
			**232 ppb ***464 ppb	**464 ppb ***928 ppb

SSCV			Amount
Standards	Conc.	DHL ID#	46.4 ppb
Liquids	2000ppm	VLS170515A	1 µL
Gas	200ppm	VGS151013-01N	1 µL
Carbon Disulfide	5,000ppm	VCDS160114-01A	1 µL **
Ketone	5,000ppm	VKS160114-01A	1 µL **
2-CEVE	2,000ppm	VCES140730-01D	1 µL
Iodomethane	5,000ppm	VIMS160114-01A	1 µL
IPA	2,000ppm	VPNS170816	1 µL **
Acrolein/ Vinyl Acetate	5,000ppm	VAVS170816	1 µL**
Acrylonitrile	4,000ppm	VANS170815	1 µL*
Oxygenated Gasoline	2,000ppm	VOGAS160114-01A	1 µL
1,4-dichloro-2-butene	2,000ppm	VDBS160823-01A	1 µL
1-Chlorohexane	1,000ppm	VCHS160114-01A	2 µL
Methyl Acetate	1,000ppm	VMAS160824-01A	2 µL
Methyl Cyclohexane	1,000ppm	VMCS160824-01B	2 µL
Cyclohexane	1,000ppm	VCS150508-01B	2 µL
Freon 113	1,000ppm	VTTS160824-01B	2 µL
		*92.8 ppb	**116 ppb

Don Winston — 8-21-2017 — 08/23/2017

Analyst — Date — 2nd Level Review

Thu Aug 17 11:04:40 2017 Instrument: GCMS #5
C:\msdchem\1\5973N\bfb.u US90440011

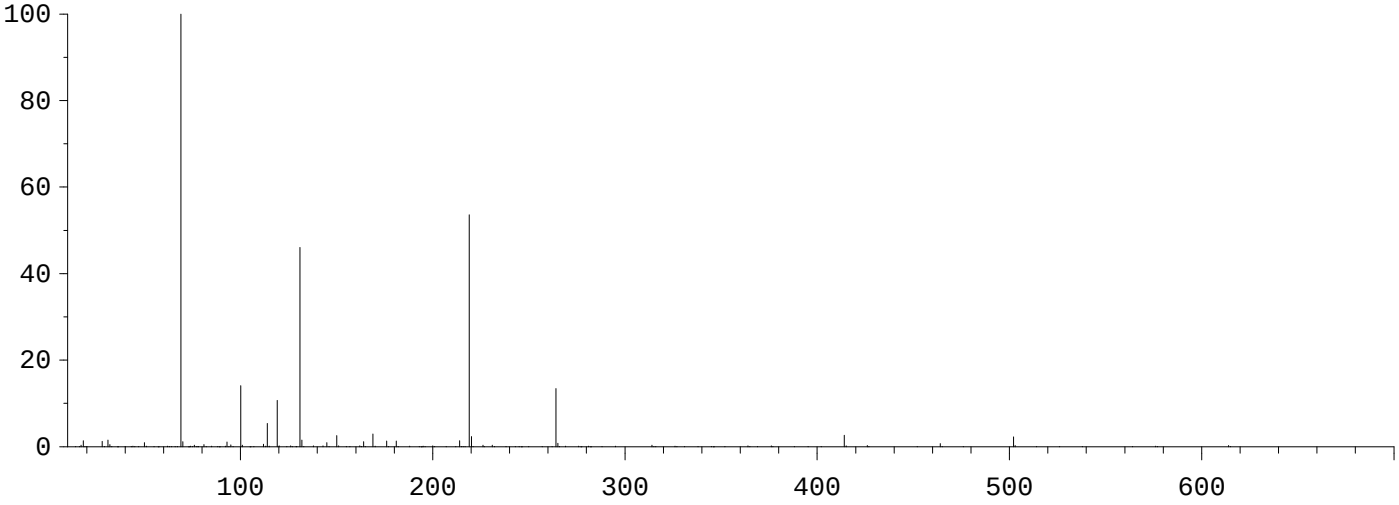


Ion Pol	Pos	MassGain	126
		MassOffs	-10
Emission	34.6	AmuGain	2220
EIEnrgy	69.9	AmuOffs	130
Filament	2	Wid219	-0.035
		DC Pol	Pos
Repeller	31.63		
IonFcus	97.7	HEDEnab	On
EntLens	0.0	EMVolts	1541
EntOffs	Var		
		Samples	8
PFTBA	Open	Averages	3
		Stepsize	0.10

Temperatures and Pressures:

MS Source	230	Foreline	50
MS Quad	150		

Scan: 10.00 - 700.00 Samples: 8 Thresh: 100 Step: 0.10
154 peaks Base: 69.10 Abundance: 1073152



Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
69.10	1073152	100.00	70.10	12385	1.15
219.10	575360	53.61	220.10	25416	4.42
502.10	24200	2.26	503.10	2604	10.76

Air/Water Check: H20~1.41% N2~1.24% O2~0.49% CO2~0.15% N2/H2O~87.64%

Column(1) Flow: 0.8 Column(2): 0 ml/min. Interface Temp: 230

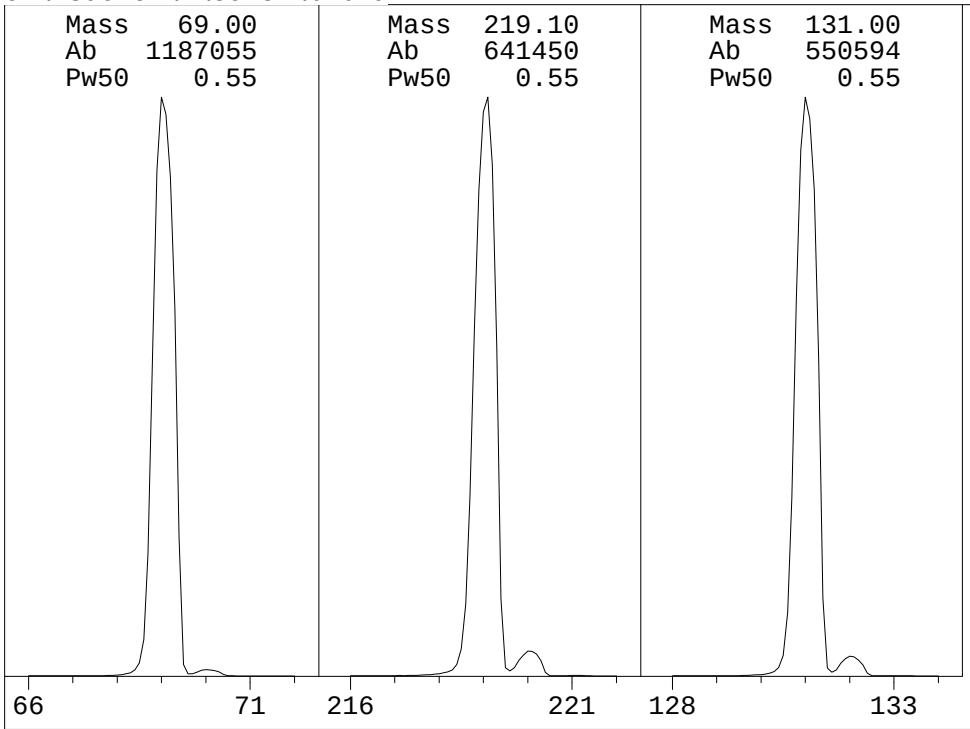
Ramp Criteria:

Ion Focus Maximum	128	volts using ion	69;	EM Gain	93572
Repeller Maximum	40	volts using ion	69;	Gain Factor	0.94

MassGain Values(Samples): 130(3) 124(2) 128(1) 127(0) 126(FS)

TARGET MASS:	50	69	131	219	414	502	800
Amu Offset:	130.0	130.0	130.0	130.0	130.0	130.0	130.0
Entrance Lens Offset:	17.8	16.6	16.3	17.1	16.8	17.3	17.3
Target Abund(%):	1.0	100.0	45.0	55.0	2.4	2.0	
Actual Tune Abund(%):	1.0	100.0	46.1	53.6	2.6	2.3	

Thu Aug 17 11:06:11 2017 Instrument: GCMS #5
C:\msdchem\1\5973N\bfb.u US90440011

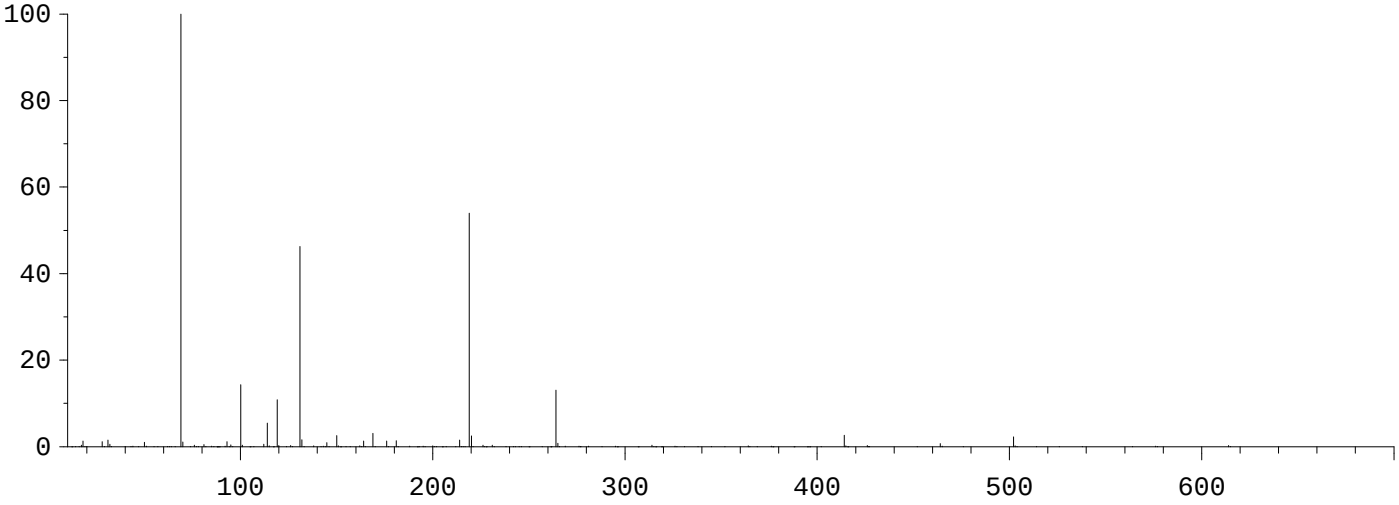


Ion Pol	Pos	MassGain	126
		MassOffs	-10
Emission	34.6	AmuGain	2220
EIEnrgy	69.9	AmuOffs	130
Filament	2	Wid219	-0.035
		DC Pol	Pos
Repeller	31.63		
IonFcus	97.7	HEDEnab	On
EntLens	0.0	EMVolts	1541
EntOffs	Var		
		Samples	8
PFTBA	Open	Averages	3
		Stepsize	0.10

Temperatures and Pressures:

MS Source	230	Foreline	50
MS Quad	150		

Scan: 10.00 - 700.00 Samples: 8 Thresh: 100 Step: 0.10
163 peaks Base: 69.10 Abundance: 1050624



Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
69.10	1050624	100.00	70.10	11057	1.05
219.10	567360	54.00	220.10	26064	4.59
131.00	486080	46.27	132.00	16576	3.41

Air/Water Check: H20~1.34% N2~1.14% O2~0.55% CO2~0.15% N2/H2O~85.33%

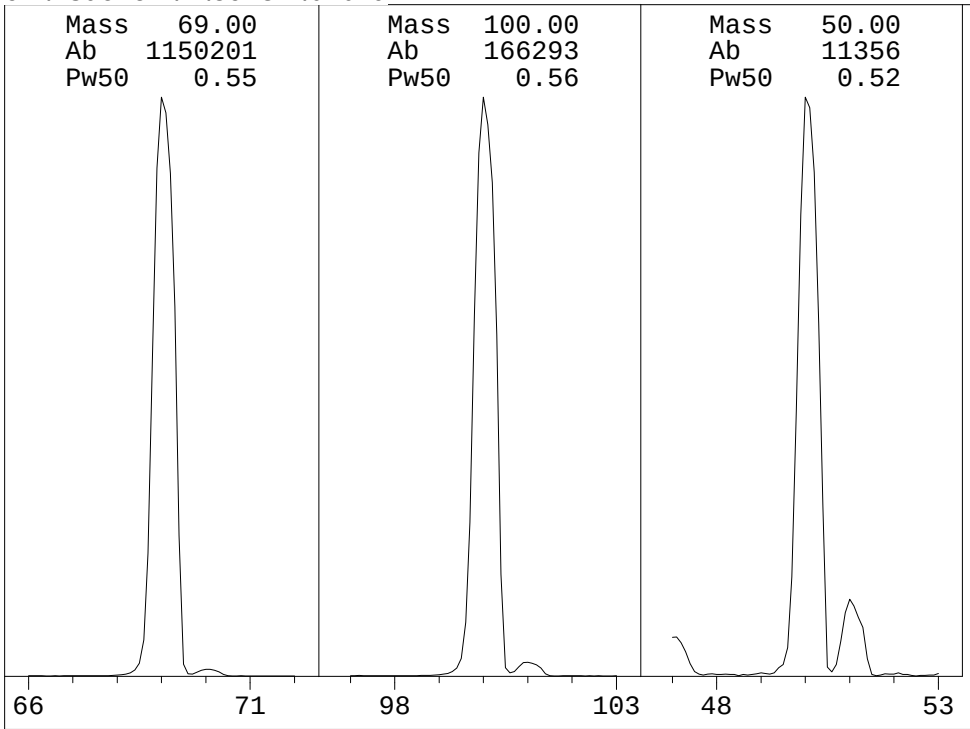
Column(1) Flow: 0.8 Column(2): 0 ml/min. Interface Temp: 230

Ramp Criteria:
Ion Focus Maximum 128 volts using ion 69; EM Gain 99771
Repeller Maximum 40 volts using ion 69; Gain Factor 1.00

MassGain Values(Samples): 130(3) 124(2) 128(1) 127(0) 126(FS)

TARGET MASS:	50	69	131	219	414	502	800
Amu Offset:	130.0	130.0	130.0	130.0	130.0	130.0	130.0
Entrance Lens Offset:	17.8	16.6	16.3	17.1	16.8	17.3	17.3
Target Abund(%):	1.0	100.0	45.0	55.0	2.4	2.0	
Actual Tune Abund(%):	1.0	100.0	46.3	54.0	2.6	2.3	

Thu Aug 17 11:07:34 2017 Instrument: GCMS #5
C:\msdchem\1\5973N\bfb.u US90440011

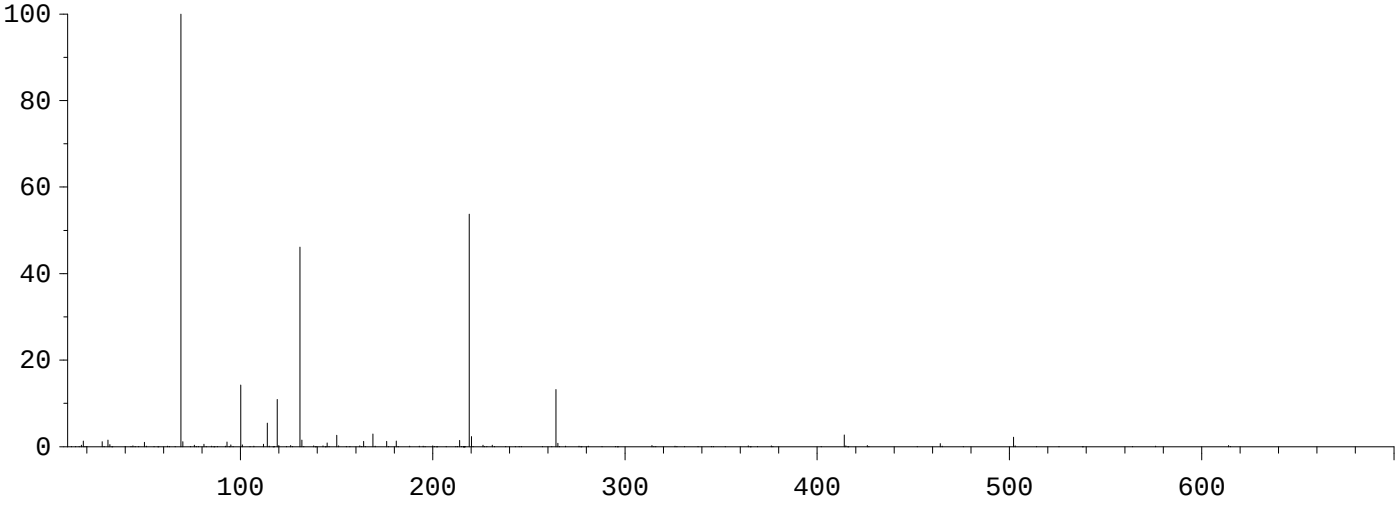


Ion Pol	Pos	MassGain	126
		MassOffs	-10
Emission	34.6	AmuGain	2220
EIEnrgy	69.9	AmuOffs	130
Filament	2	Wid219	-0.035
		DC Pol	Pos
Repeller	31.63		
IonFcus	97.7	HEDEnab	On
EntLens	0.0	EMVolts	1541
EntOffs	Var		
		Samples	8
PFTBA	Open	Averages	3
		Stepsize	0.10

Temperatures and Pressures:

MS Source	230	Foreline	50
MS Quad	150		

Scan: 10.00 - 700.00 Samples: 8 Thresh: 100 Step: 0.10
152 peaks Base: 69.10 Abundance: 1018048



Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
69.10	1018048	100.00	70.10	11762	1.16
100.10	145088	14.25	101.10	3864	2.66
50.10	10281	1.01	51.10	1266	12.31

Air/Water Check: H20~1.27% N2~1.16% O2~0.49% CO2~0.16% N2/H2O~91.10%

Column(1) Flow: 0.8 Column(2): 0 ml/min. Interface Temp: 230

Ramp Criteria:
Ion Focus Maximum 128 volts using ion 69; EM Gain 89069
Repeller Maximum 40 volts using ion 69; Gain Factor 0.89

MassGain Values(Samples): 130(3) 124(2) 128(1) 127(0) 126(FS)

TARGET MASS:	50	69	131	219	414	502	800
Amu Offset:	130.0	130.0	130.0	130.0	130.0	130.0	130.0
Entrance Lens Offset:	17.8	16.6	16.3	17.1	16.8	17.3	17.3
Target Abund(%):	1.0	100.0	45.0	55.0	2.4	2.0	
Actual Tune Abund(%):	1.0	100.0	46.1	55.8	2.7	2.2	

Response Factor Report GCMS #5

Method Path : C:\msdchem\1\methods\
Method File : 170817X.M
Title : M-8260S
Last Update : Thu Aug 17 14:33:11 2017
Response Via : Initial Calibration

Calibration Files
.928=17081701.D 4.64=17081702.D 9.28=17081703.D 18.6=17081704.D 27.8=17081705.D 46.4=17081706.D 92.8=17081707.D
186 =17081708.D

		Compound	.928	4.64	9.28	18.6	27.8	46.4	92.8	186	Avg	%RSD	Fit	RSD/CF	Constant	Linear	Quad
1)	i	Fluorobenzene	----------ISTD----------														
2)	CP	Dichlorodifluo...	2.580	2.585	2.515	2.503	2.502	2.424	2.700	2.517	2.541	3.22	A	0.032	0.0000	2.5406	0.0000
3)	CP	Chloromethane	3.057	2.579	2.725	2.585	2.641	2.609	2.685	2.398	2.660	7.05	A	0.070	0.0000	2.6599	0.0000
4)	CP	Vinyl chloride	2.445	2.373	2.287	2.330	2.352	2.248	2.398	2.222	2.332	3.26	A	0.033	0.0000	2.3319	0.0000
5)	CP	Bromomethane	0.968	0.753	0.697	0.731	0.771	0.687	0.837	0.854	0.787	11.97	A	0.120	0.0000	0.7873	0.0000
6)	CP	Chloroethane	1.146	0.989	1.052	0.977	1.004	0.912	0.997	0.908	0.998	7.65	A	0.076	0.0000	0.9979	0.0000
7)	CP	Trichlorofluor...	3.158	3.215	3.134	3.135	3.164	3.053	3.194	2.948	3.125	2.77	A	0.028	0.0000	3.1251	0.0000
8)	CP	Trichlorotrifl...	1.936	2.105	2.066	2.160	2.071	2.009	1.988	1.871	2.026	4.64	A	0.046	0.0000	2.0257	0.0000
9)		Acrolein	0.204	0.307	0.348	0.318	0.329	0.346	0.357	0.360	0.321	15.85	*Q	0.999	-0.0064	0.3520	0.0049
10)		Isopropyl Alcohol		0.011	0.017	0.025	0.024	0.031	0.025	0.046	0.025	44.07	*Q	0.993	0.0027	0.0078	0.0159
11)	CP	Acetone		0.498	0.522	0.486	0.491	0.505	0.483	0.508	0.499	2.70	*Q	1.000	0.0045	0.4802	0.0053
12)		Iodomethane		0.467	0.673	1.035	1.343	1.488	1.890	1.966	1.266	45.36	*Q	0.996	-0.0357	1.5952	0.4730
13)	CP	1,1-Dichloroet...	1.718	1.739	1.725	1.688	1.725	1.687	1.708	1.690	1.710	1.16	A	0.012	0.0000	1.7099	0.0000
14)	CP	Carbon disulfide		5.834	5.902	5.784	5.838	5.611	5.861	5.608	5.777	2.07	A	0.021	0.0000	5.7768	0.0000
15)	CP	Methylene chlo...	2.341	1.875	1.859	1.775	1.798	1.775	1.776	1.727	1.866	10.63	*Q	1.000	0.0025	1.7867	-0.0643
16)	CP	Methyl Acetate		1.165	1.419	1.539	1.499	1.544	1.652	1.656	1.496	11.25	A	0.113	0.0000	1.4964	0.0000
17)	CP	trans-1,2-Dich...	1.899	1.928	1.850	1.811	1.838	1.821	1.834	1.802	1.848	2.38	A	0.024	0.0000	1.8479	0.0000
18)		Acrylonitrile	0.137	0.666	0.740	0.704	0.717	0.736	0.775	0.764	0.655	32.37	*Q	1.000	-0.0055	0.7553	0.0081
19)	CP	MTBE		4.741	4.961	4.973	4.943	4.966	5.014	5.344	5.055	5.000	3.34	A	0.033	0.0000	4.9997	0.0000
20)		Tert-Butanol		0.080	0.093	0.096	0.091	0.091	0.109	0.099	0.127	0.098	14.23	*Q	0.998	0.0038	0.0791	0.0100
21)		Isopropyl Ether		6.317	6.759	6.722	6.679	6.770	6.699	7.001	6.448	6.674	3.13	A	0.031	0.0000	6.6744	0.0000
22)	CP	1,1-Dichloroet...		3.376	3.470	3.432	3.338	3.377	3.326	3.367	3.325	3.376	1.53	A	0.015	0.0000	3.3763	0.0000
23)		Vinyl acetate		3.271	4.067	4.136	4.051	4.147	4.124	4.303	3.952	4.006	7.83	*Q	0.999	-0.0533	4.4039	-0.1736
24)		Ethyl-Tert-but...		5.501	5.698	5.596	5.542	5.636	5.592	5.864	5.384	5.602	2.53	A	0.025	0.0000	5.6017	0.0000
25)	CP	cis-1,2-Dichlo...		2.103	2.112	2.035	2.021	2.015	1.980	1.975	1.955	2.025	2.85	A	0.028	0.0000	2.0247	0.0000
26)		2,2-Dichloropr...		2.412	2.478	2.410	2.349	2.410	2.418	2.661	2.730	2.484	5.50	A	0.055	0.0000	2.4836	0.0000
27)		Bromochloromet...		0.945	0.885	0.886	0.880	0.872	0.827	0.817	0.767	0.860	6.34	A	0.063	0.0000	0.8598	0.0000
28)	CP	Cyclohexane				3.243	3.402	3.259	3.150	3.352	3.167	3.262	3.06	A	0.031	0.0000	3.2623	0.0000
29)	CP	Chloroform		3.439	3.489	3.450	3.334	3.370	3.337	3.368	3.280	3.383	2.07	A	0.021	0.0000	3.3834	0.0000
30)	s	Dibromofluorom...		0.246	0.247	0.250	0.249	0.247	0.247	0.248	0.245	0.247	0.62	A	0.006	0.0000	0.2474	0.0000
31)		1,1-Dichloropr...		2.665	2.776	2.771	2.680	2.747	2.709	2.740	2.702	2.724	1.51	A	0.015	0.0000	2.7238	0.0000
32)	s	1,2-Dichloroet...		0.309	0.314	0.318	0.321	0.307	0.306	0.306	0.307	0.311	1.93	A	0.019	0.0000	0.3110	0.0000
33)	CP	1,1,1-Trichlor...		2.662	2.906	2.865	2.795	2.899	2.903	2.943	2.949	2.865	3.32	A	0.033	0.0000	2.8652	0.0000
34)	CP	1,2-Dichloroet...		2.626	2.518	2.416	2.370	2.388	2.346	2.379	2.330	2.422	4.15	A	0.042	0.0000	2.4216	0.0000
35)	CP	Benzene		7.882	7.954	7.891	7.634	7.674	7.585	7.538	7.335	7.687	2.74	A	0.027	0.0000	7.6868	0.0000
36)	CP	2-Butanone		0.643	0.880	0.976	0.932	0.935	0.975	0.933	0.971	0.906	12.23	A	0.122	0.0000	0.9056	0.0000
37)	CP	Carbon tetrach...		2.378	2.326	2.234	2.280	2.310	2.372	2.798	2.545	2.406	7.63	*Q	0.996	-0.0026	2.4728	0.1375
38)		Tert-amyl Meth...		4.296	4.653	4.607	4.503	4.662	4.678	5.062	4.776	4.654	4.70	A	0.047	0.0000	4.6545	0.0000
39)	CP	Trichloroethene		2.054	2.112	2.114	2.021	2.086	2.025	2.018	1.944	2.047	2.79	A	0.028	0.0000	2.0467	0.0000
40)	CP	Methyl Cyclohe...				3.357	3.436	3.367	3.266	3.538	3.133	3.350	4.16	A	0.042	0.0000	3.3496	0.0000
41)	T	Dibromomethane		1.142	1.096	1.086	1.065	1.078	1.056	1.077	1.070	1.084	2.46	A	0.025	0.0000	1.0838	0.0000
42)	CP	Bromodichlorom...		2.011	2.188	2.190	2.196	2.249	2.251	2.340	2.325	2.219	4.62	A	0.046	0.0000	2.2187	0.0000
43)	CP	1,2-Dichloropr...		1.866	1.950	1.929	1.916	1.949	1.924	1.940	1.900	1.922	1.47	A	0.015	0.0000	1.9217	0.0000

Method Path : C:\msdchem\1\methods\
Method File : 170817X.M
Title : M-8260S

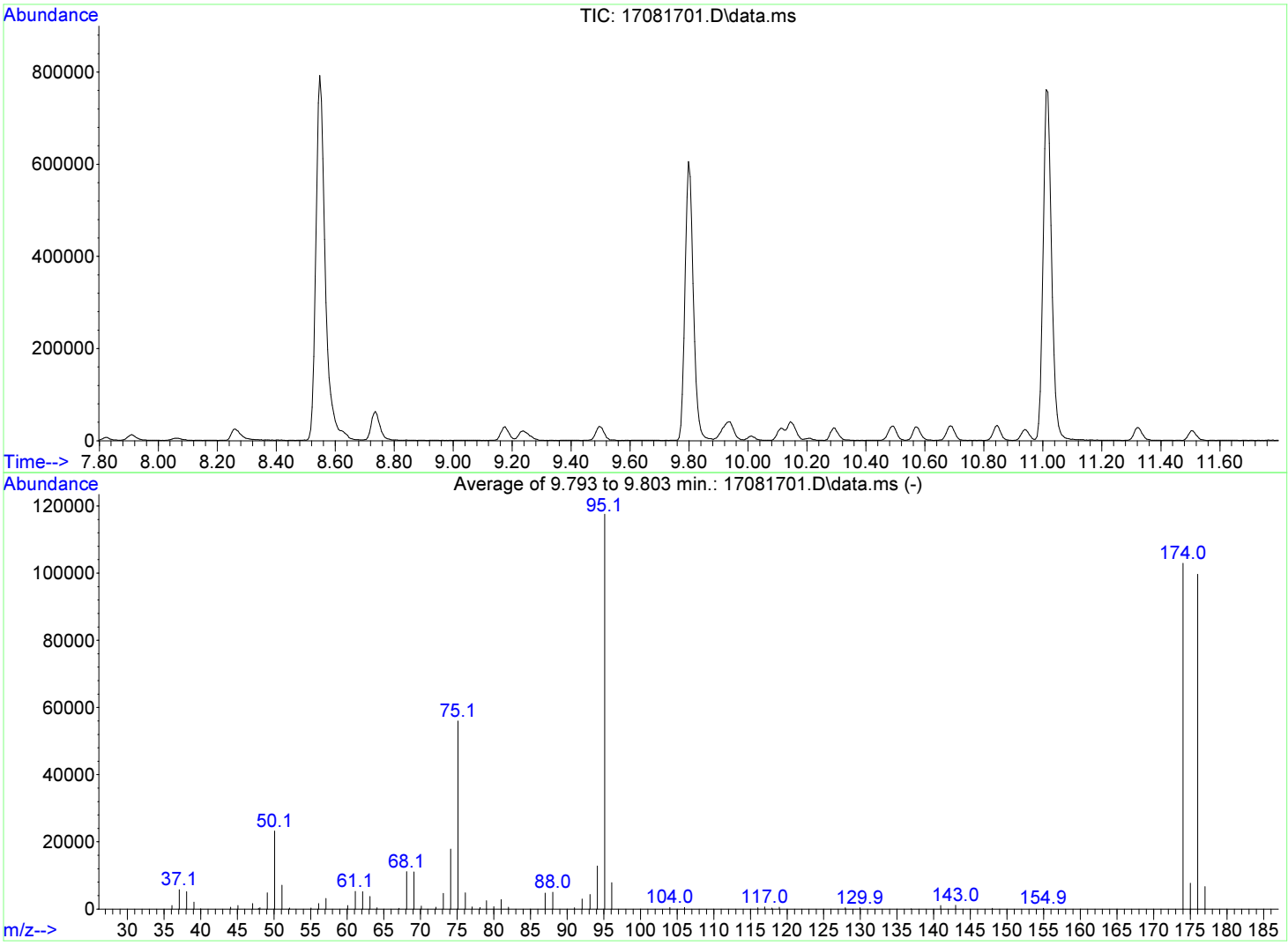
44)	T	2-Chloroethylv...		1.308	1.370	1.362	1.379	1.412	1.361	1.365	2.46	A	0.025	0.0000	1.3654	0.0000
45)	CP	cis-1,3-Dichlo...	2.621	2.631	2.638	2.704	2.781	2.797	2.909	2.889	2.746	4.20	A	0.042	0.0000	2.7464	0.0000
46)	CP	trans-1,3-Dich...	2.074	2.057	2.092	2.105	2.189	2.254	2.355	2.343	2.184	5.54	A	0.055	0.0000	2.1838	0.0000
47)	CP	1,1,2-Trichlor...	1.396	1.540	1.540	1.499	1.510	1.494	1.519	1.490	1.498	3.06	A	0.031	0.0000	1.4985	0.0000
48)	CP	Toluene	4.891	5.028	4.883	4.751	4.816	4.746	4.732	4.574	4.803	2.82	A	0.028	0.0000	4.8027	0.0000
49)	i	Chlorobenzene-d5	----------ISTD----------														
50)	CP	4-Methyl-2-pen...	2.450	3.062	3.105	3.104	3.062	3.026	2.942	2.886	2.955	7.37	A	0.074	0.0000	2.9547	0.0000
51)	s	Toluene-d8	1.301	1.318	1.306	1.321	1.335	1.313	1.347	1.402	1.330	2.46	A	0.025	0.0000	1.3304	0.0000
52)	CP	2-Hexanone	1.635	2.036	2.184	2.186	2.150	2.175	2.117	2.158	2.080	8.96	A	0.090	0.0000	2.0800	0.0000
53)	CP	Dibromochlorom...	2.032	2.091	2.074	2.162	2.251	2.260	2.432	2.539	2.230	8.05	*Q	1.000	-0.0017	2.2041	0.3752
54)		1,3-Dichloropr...	3.830	3.834	3.770	3.775	3.821	3.758	3.878	3.946	3.826	1.64	A	0.016	0.0000	3.8264	0.0000
55)	CP	Tetrachloroethene	2.551	2.572	2.496	2.387	2.470	2.404	2.428	2.395	2.463	2.91	A	0.029	0.0000	2.4630	0.0000
56)	CP	1,2-Dibromoethane	2.091	2.196	2.209	2.224	2.255	2.241	2.325	2.399	2.243	4.06	A	0.041	0.0000	2.2426	0.0000
57)	CP	Chlorobenzene	7.368	7.237	7.012	6.875	6.972	6.830	6.929	6.799	7.003	2.87	A	0.029	0.0000	7.0029	0.0000
58)		1,1,1,2-Tetrac...	2.120	2.103	2.039	2.116	2.207	2.202	2.354	2.424	2.196	6.02	*Q	1.000	-0.0010	2.1623	0.2954
59)	CP	Ethylbenzene	4.025	4.029	3.927	3.845	3.959	3.857	3.962	3.886	3.936	1.79	A	0.018	0.0000	3.9362	0.0000
60)	CP	Bromoform	1.239	1.254	1.311	1.368	1.448	1.493	1.631	1.732	1.435	12.39	*Q	0.999	-0.0019	1.4227	0.3468
61)	CP	Styrene	6.001	6.760	6.828	6.776	7.000	6.970	7.180	7.174	6.836	5.49	A	0.055	0.0000	6.8361	0.0000
62)		1-Chlorohexane		3.479	3.204	3.015	3.061	3.007	3.203	3.243	3.173	5.23	A	0.052	0.0000	3.1734	0.0000
63)	CP	m,p-Xylene	4.748	4.987	4.796	4.701	4.778	4.704	4.718	4.542	4.747	2.61	A	0.026	0.0000	4.7468	0.0000
64)	CP	o-Xylene	4.371	4.579	4.485	4.411	4.582	4.512	4.623	4.617	4.522	2.09	A	0.021	0.0000	4.5225	0.0000
65)	CP	Isopropylbenzene	1.113	1.170	1.155	1.133	1.164	1.152	1.174	1.170	1.154	E1 1.85	A	0.019	0.0000	11.5387	0.0000
66)	I	1,4-Dichlorobenzen...	----------ISTD----------														
67)		Bromobenzene	6.633	6.073	5.844	5.856	5.908	5.772	5.794	5.702	5.948	5.01	A	0.050	0.0000	5.9477	0.0000
68)	CP	1,1,2,2-Tetrac...	6.006	5.854	5.762	5.592	5.561	5.555	5.586	5.780	5.712	2.90	A	0.029	0.0000	5.7121	0.0000
69)	T	1,2,3-Trichlor...	1.675	1.864	1.826	1.734	1.738	1.727	1.690	1.695	1.744	3.86	A	0.039	0.0000	1.7436	0.0000
70)	s	4-Bromofluorob...	0.999	0.989	0.973	0.992	0.995	0.984	0.981	1.014	0.991	1.26	A	0.013	0.0000	0.9907	0.0000
71)		1,4-Dichloro-2...	1.580	1.575	1.689	1.671	1.733	1.759	1.870	2.031	1.739	8.75	A	0.087	0.0000	1.7385	0.0000
72)	T	n-Propylbenzene	3.050	3.072	3.010	2.926	2.981	2.918	2.874	2.801	2.954	E1 3.11	A	0.031	0.0000	29.5391	0.0000
73)		2-Chlorotoluene	1.948	1.910	1.847	1.814	1.844	1.817	1.824	1.808	1.851	E1 2.75	A	0.028	0.0000	18.5146	0.0000
74)		1,3,5-Trimethy...		2.046	1.999	1.953	1.993	1.964	1.934	1.881	1.967	E1 2.68	A	0.027	0.0000	19.6704	0.0000
75)		4-Chlorotoluene	1.804	1.739	1.729	1.676	1.711	1.679	1.701	1.680	1.715	E1 2.50	A	0.025	0.0000	17.1479	0.0000
76)		tert-Butylbenzene	1.793	1.841	1.777	1.727	1.762	1.714	1.732	1.708	1.757	E1 2.60	A	0.026	0.0000	17.5665	0.0000
77)		1,2,4-Trimethy...		2.031	1.986	1.974	1.999	1.967	1.958	1.919	1.976	E1 1.76	A	0.018	0.0000	19.7624	0.0000
78)		sec-Butylbenzene	2.679	2.728	2.686	2.598	2.636	2.585	2.568	2.504	2.623	E1 2.78	A	0.028	0.0000	26.2310	0.0000
79)	CP	1,3-Dichlorobe...	1.232	1.114	1.072	1.049	1.068	1.055	1.064	1.053	1.088	E1 5.66	A	0.057	0.0000	10.8848	0.0000
80)		p-Isopropyltol...	2.109	2.225	2.175	2.141	2.174	2.152	2.142	2.089	2.151	E1 1.95	A	0.020	0.0000	21.5071	0.0000
81)	CP	1,4-Dichlorobe...	1.331	1.153	1.110	1.083	1.082	1.067	1.080	1.058	1.121	E1 8.04	A	0.080	0.0000	11.2054	0.0000
82)	CP	1,2-Dichlorobe...	1.067	1.013	0.965	0.962	0.973	0.958	0.964	0.960	0.983	E1 3.90	A	0.039	0.0000	9.8270	0.0000
83)	CP	1,2-Dibromo-3-...	0.604	0.845	0.928	0.852	0.930	0.974	0.979	1.097	0.901	15.97	*Q	1.000	-0.0013	0.9011	0.2094
84)		n-Butylbenzene	1.920	1.986	1.966	1.930	1.963	1.942	1.966	1.919	1.949	E1 1.27	A	0.013	0.0000	19.4894	0.0000
85)	CP	1,2,4-Trichlor...		6.384	6.468	6.473	6.553	6.534	6.621	6.759	6.542	1.86	A	0.019	0.0000	6.5417	0.0000
86)		Hexachlorobuta...	4.458	3.404	3.316	3.286	3.345	3.358	3.396	3.483	3.506	11.11	A	0.111	0.0000	3.5058	0.0000
87)		Naphthalene		1.463	1.583	1.538	1.616	1.606	1.577	1.645	1.575	E1 3.80	A	0.038	0.0000	15.7539	0.0000
88)		1,2,3-Trichlor...		5.725	5.785	5.702	5.755	5.759	5.741	5.913	5.769	1.20	A	0.012	0.0000	5.7685	0.0000

(#) = Out of Range

Data Path : C:\msdchem\1\data\170817\
Data File : 17081701.D
Acq On : 17 Aug 2017 11:13 am
Operator :
Sample : CAL1 0.928 ppb
Misc : CAL1
ALS Vial : 1 Sample Multiplier: 1

Integration File: Rteint.p

Method : C:\msdchem\1\methods\170817X.M
Title : M-8260S
Last Update : Thu Aug 17 14:33:11 2017



AutoFind: Scans 1589, 1590, 1591; Background Corrected with Scan 1581

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.7	23211	PASS
75	95	30	60	47.6	55981	PASS
95	95	100	100	100.0	117605	PASS
96	95	5	9	6.7	7826	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	200	87.5	102936	PASS
175	174	5	9	7.4	7660	PASS
176	174	95	101	96.8	99661	PASS
177	176	5	9	6.7	6640	PASS

REVIEWED/APPROVED
By Sherri Herschmann at 9:35:05 AM, 8/23/2017

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\170817\
Data File : 17081701.D
Acq On : 17 Aug 2017 11:13 am
Operator :
Sample : CAL1 0.928 ppb
Misc : CAL1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Aug 18 13:40:02 2017
Quant Method : C:\msdchem\1\methods\170817X.M
Quant Title : M-8260S
QLast Update : Thu Aug 17 14:33:11 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	%Rec
Internal Standards						
1) Fluorobenzene	5.656	96	745921	200.00	ug/L	98
49) Chlorobenzene-d5	8.548	117	532981	200.00	ug/L	100
66) 1,4-Dichlorobenzene-d4	11.017	152	247595	200.00	ug/L	93
System Monitoring Compounds						Dev(Min)
30) Dibromofluoromethane	4.955	113	183615	199.03	ug/L	0.00
Spiked Amount 200.000			Recovery = 99.52%			
32) 1,2-Dichloroethane-d4	5.410	65	230121	198.37	ug/L	0.00
Spiked Amount 200.000			Recovery = 99.19%			
51) Toluene-d8	7.058	98	693214	195.53	ug/L	0.00
Spiked Amount 200.000			Recovery = 97.77%			
70) 4-Bromofluorobenzene	9.798	95	247286	201.62	ug/L	0.00
Spiked Amount 200.000			Recovery = 100.81%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.581	85	8928	0.942	ug/L	97
3) Chloromethane	1.770	50	10580	1.066	ug/L	95
4) Vinyl chloride	1.848	62	8464	0.973	ug/L	98
5) Bromomethane	2.162	94	3349	1.141	ug/L	95
6) Chloroethane	2.288	64	3965	1.065	ug/L	89
7) Trichlorofluoromethane	2.424	101	10929	0.938	ug/L	90
8) Trichlorotrifluoroethane	2.947	101	6700	0.887	ug/L #	94
9) Acrolein	3.234	56	7061	9.021	ug/L	94
10) Isopropyl Alcohol	0.000		0	N.D.		
11) Acetone	3.501	43	8634	2.965	ug/L	95
12) Iodomethane	3.041	142	745	4.567	ug/L #	44
13) 1,1-Dichloroethene	2.910	96	5947	0.933	ug/L	98
14) Carbon disulfide	2.941	76	21496	0.998	ug/L	98
15) Methylene chloride	3.433	84	8104	0.940	ug/L	97
16) Methyl Acetate	3.663	43	6496	1.164	ug/L	81
17) trans-1,2-Dichloroethene	3.590	96	6571	0.953	ug/L	86
18) Acrylonitrile	4.202	53	949	1.785	ug/L	91
19) MTBE	3.663	73	16409	0.880	ug/L	96
20) Tert-Butanol	3.757	59	1386	Below Cal	#	100
21) Isopropyl Ether	3.993	45	21865	0.878	ug/L	99
22) 1,1-Dichloroethane	4.113	63	11684	0.928	ug/L	98
23) Vinyl acetate	4.322	43	113200	9.331	ug/L	99
24) Ethyl-Tert-butyl Ether	4.312	59	19039	0.911	ug/L	100
25) cis-1,2-Dichloroethene	4.578	96	7277	0.964	ug/L	96
26) 2,2-Dichloropropane	4.667	77	8349	0.901	ug/L	99
27) Bromochloromethane	4.746	128	3272	1.020	ug/L	98
28) Cyclohexane	4.751	84	10107	0.831	ug/L	98
29) Chloroform	4.803	83	11904	0.943	ug/L	97
31) 1,1-Dichloropropene	5.091	75	9224	0.908	ug/L	93
33) 1,1,1-Trichloroethane	4.981	97	9215	0.862	ug/L	98
34) 1,2-Dichloroethane	5.478	62	9088	1.006	ug/L	98
35) Benzene	5.305	78	27279	0.952	ug/L	99
36) 2-Butanone	5.086	43	11130	3.295	ug/L	88
37) Carbon tetrachloride	4.934	117	8231	1.105	ug/L	87
38) Tert-amyl Methyl Ether	5.389	73	14869	0.857	ug/L #	88
39) Trichloroethene	5.813	130	7110	0.931	ug/L	97
40) Methyl Cyclohexane	5.802	55	10434	0.835	ug/L	93
41) Dibromomethane	6.184	93	3954	0.978	ug/L	96
42) Bromodichloromethane	6.320	83	6959	0.841	ug/L	99
43) 1,2-Dichloropropane	6.263	63	6458	0.901	ug/L	95
44) 2-Chloroethylvinylether	6.838	63	3100	0.609	ug/L	93
45) cis-1,3-Dichloropropene	6.890	75	9071	0.886	ug/L	92

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\170817\
Data File : 17081701.D
Acq On : 17 Aug 2017 11:13 am
Operator :
Sample : CAL1 0.928 ppb
Misc : CAL1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Aug 18 13:40:02 2017
Quant Method : C:\msdchem\1\methods\170817X.M
Quant Title : M-8260S
QLast Update : Thu Aug 17 14:33:11 2017
Response via : Initial Calibration

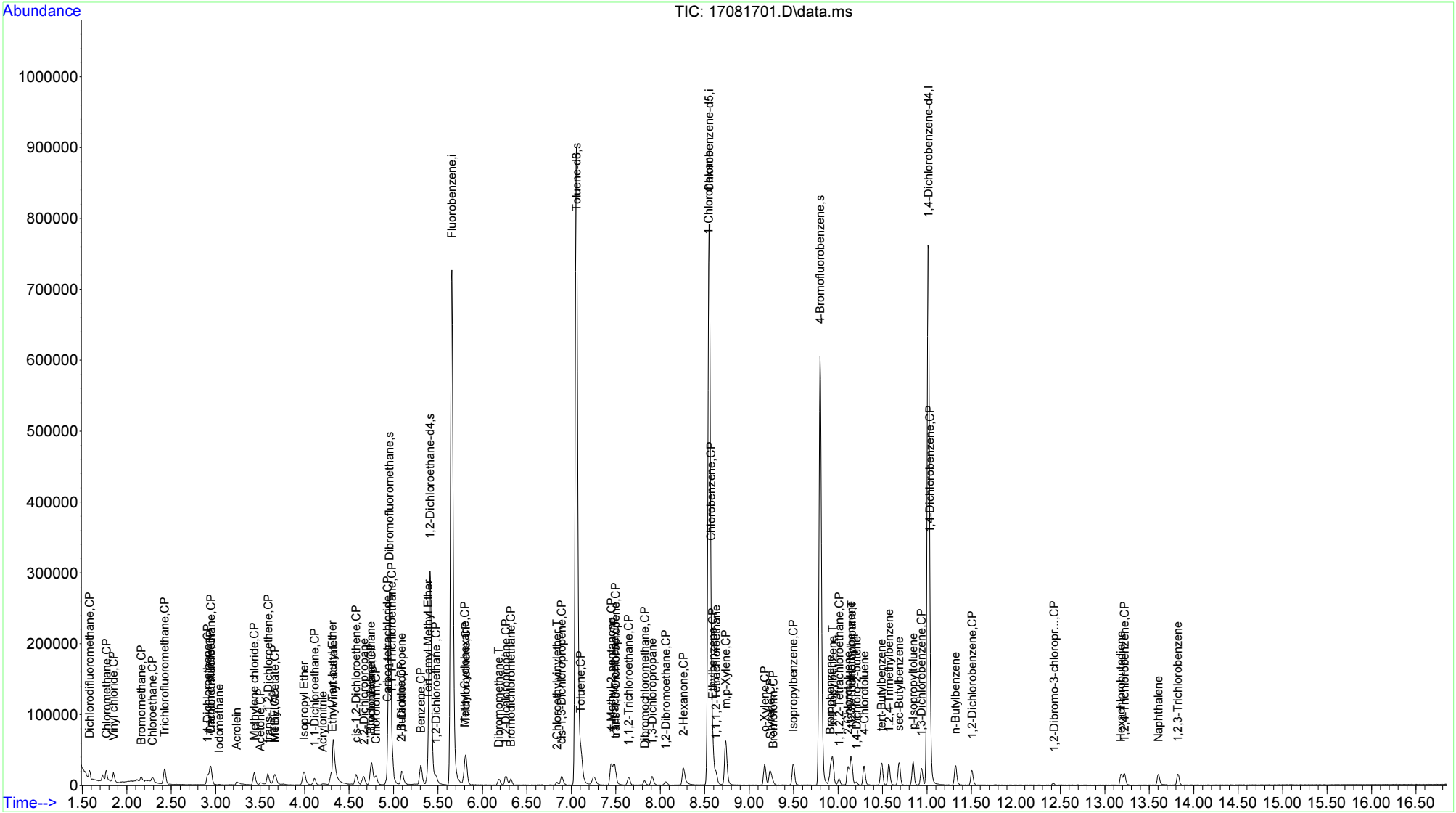
Compound	R.T.	QIon	Response	Conc Units	%Rec
46) trans-1,3-Dichloropropene	7.497	75	7179	0.881 ug/L	96
47) 1,1,2-Trichloroethane	7.643	97	4830	0.864 ug/L	91
48) Toluene	7.105	92	16928	0.945 ug/L	100
50) 4-Methyl-2-pentanone	7.450	43	30298	3.848 ug/L	93
52) 2-Hexanone	8.260	43	20223	3.648 ug/L	90
53) Dibromochloromethane	7.826	129	5024	1.008 ug/L	83
54) 1,3-Dichloropropane	7.910	76	9471	0.929 ug/L	96
55) Tetrachloroethene	7.486	164	6308	0.961 ug/L	95
56) 1,2-Dibromoethane	8.062	107	5172	0.865 ug/L	98
57) Chlorobenzene	8.569	112	18221	0.976 ug/L	93
58) 1,1,1,2-Tetrachloroethane	8.627	131	5243	1.001 ug/L	82
59) Ethylbenzene	8.590	106	9954	0.949 ug/L	86
60) Bromoform	9.270	173	3063	1.071 ug/L	88
61) Styrene	9.239	104	14840	0.815 ug/L	98
62) 1-Chlorohexane	8.543	55	12721	1.504 ug/L #	62
63) m,p-Xylene	8.736	106	23535	1.861 ug/L	98
64) o-Xylene	9.176	106	10810	0.897 ug/L	88
65) Isopropylbenzene	9.495	105	27515	0.895 ug/L	99
67) Bromobenzene	9.913	156	7620	1.035 ug/L	93
68) 1,1,2,2-Tetrachloroethane	10.013	83	6900	0.976 ug/L	94
69) 1,2,3-Trichloropropane	10.154	110	1924	0.891 ug/L	99
71) 1,4-Dichloro-2-butene	10.206	53	1815	0.843 ug/L #	46
72) n-Propylbenzene	9.939	91	35035	0.958 ug/L	97
73) 2-Chlorotoluene	10.112	91	22382	0.977 ug/L	97
74) 1,3,5-Trimethylbenzene	10.143	105	22066	0.906 ug/L	99
75) 4-Chlorotoluene	10.295	91	20723	0.976 ug/L	97
76) tert-Butylbenzene	10.489	119	20594	0.947 ug/L	96
77) 1,2,4-Trimethylbenzene	10.572	105	22386	0.915 ug/L	96
78) sec-Butylbenzene	10.687	105	30778	0.948 ug/L	99
79) 1,3-Dichlorobenzene	10.938	146	14158	1.051 ug/L	99
80) p-Isopropyltoluene	10.844	119	24230	0.910 ug/L	93
81) 1,4-Dichlorobenzene	11.032	146	15293	1.102 ug/L	89
82) 1,2-Dichlorobenzene	11.508	146	12255	1.007 ug/L	96
83) 1,2-Dibromo-3-chloropr...	12.429	75	694	0.914 ug/L #	82
84) n-Butylbenzene	11.320	91	22054	0.914 ug/L	97
85) 1,2,4-Trichlorobenzene	13.224	180	9099	1.124 ug/L	90
86) Hexachlorobutadiene	13.182	225	5122	1.180 ug/L	98
87) Naphthalene	13.601	128	20042	1.028 ug/L	96
88) 1,2,3-Trichlorobenzene	13.820	180	8184	1.146 ug/L	91

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\170817\
Data File : 17081701.D
Acq On : 17 Aug 2017 11:13 am
Operator :
Sample : CAL1 0.928 ppb
Misc : CAL1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Aug 18 13:40:02 2017
Quant Method : C:\msdchem\1\methods\170817X.M
Quant Title : M-8260S
QLast Update : Thu Aug 17 14:33:11 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\170817\
Data File : 17081702.D
Acq On : 17 Aug 2017 11:37 am
Operator :
Sample : CAL2 4.64 ppb
Misc : CAL2
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 18 13:40:06 2017
Quant Method : C:\msdchem\1\methods\170817X.M
Quant Title : M-8260S
QLast Update : Thu Aug 17 14:33:11 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	%Rec
Internal Standards						
1) Fluorobenzene	5.656	96	741400	200.00	ug/L	98
49) Chlorobenzene-d5	8.548	117	527040	200.00	ug/L	99
66) 1,4-Dichlorobenzene-d4	11.017	152	247565	200.00	ug/L	93
System Monitoring Compounds						Dev(Min)
30) Dibromofluoromethane	4.955	113	183273	199.87	ug/L	0.00
Spiked Amount 200.000			Recovery = 99.94%			
32) 1,2-Dichloroethane-d4	5.415	65	232674	201.79	ug/L	0.00
Spiked Amount 200.000			Recovery = 100.90%			
51) Toluene-d8	7.058	98	694616	198.13	ug/L	0.00
Spiked Amount 200.000			Recovery = 99.06%			
70) 4-Bromofluorobenzene	9.798	95	244814	199.63	ug/L	0.00
Spiked Amount 200.000			Recovery = 99.81%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.582	85	44457	4.720	ug/L	98
3) Chloromethane	1.770	50	44368	4.500	ug/L	99
4) Vinyl chloride	1.848	62	40809	4.721	ug/L	99
5) Bromomethane	2.162	94	12947	4.436	ug/L	92
6) Chloroethane	2.288	64	17005	4.597	ug/L	92
7) Trichlorofluoromethane	2.429	101	55298	4.773	ug/L	98
8) Trichlorotrifluoroethane	2.947	101	36208	4.822	ug/L #	97
9) Acrolein	3.224	56	26397	23.838	ug/L	96
10) Isopropyl Alcohol	3.423	45	938	Below Cal	#	100
11) Acetone	3.480	43	42866	22.198	ug/L	97
12) Iodomethane	3.041	142	8033	5.781	ug/L	93
13) 1,1-Dichloroethene	2.910	96	29906	4.718	ug/L	96
14) Carbon disulfide	2.941	76	100356	4.686	ug/L	99
15) Methylene chloride	3.433	84	32251	4.596	ug/L	98
16) Methyl Acetate	3.600	43	20032	3.611	ug/L	91
17) trans-1,2-Dichloroethene	3.585	96	33163	4.841	ug/L	96
18) Acrylonitrile	4.170	53	22921	9.630	ug/L	97
19) MTBE	3.663	73	85334	4.604	ug/L	94
20) Tert-Butanol	3.752	59	8038	17.566	ug/L #	100
21) Isopropyl Ether	3.993	45	116265	4.699	ug/L	99
22) 1,1-Dichloroethane	4.113	63	59688	4.769	ug/L	99
23) Vinyl acetate	4.317	43	349729	23.957	ug/L	99
24) Ethyl-Tert-butyl Ether	4.306	59	98003	4.719	ug/L	99
25) cis-1,2-Dichloroethene	4.578	96	36336	4.841	ug/L	98
26) 2,2-Dichloropropane	4.667	77	42624	4.630	ug/L	100
27) Bromochloromethane	4.746	128	15220	4.775	ug/L	99
28) Cyclohexane	4.761	84	56096	4.639	ug/L	96
29) Chloroform	4.803	83	60008	4.784	ug/L	98
31) 1,1-Dichloropropene	5.091	75	47756	4.730	ug/L	98
33) 1,1,1-Trichloroethane	4.986	97	49984	4.706	ug/L	98
34) 1,2-Dichloroethane	5.473	62	43314	4.825	ug/L	96
35) Benzene	5.305	78	136818	4.801	ug/L	100
36) 2-Butanone	5.065	43	75682	22.543	ug/L	99
37) Carbon tetrachloride	4.934	117	40009	4.572	ug/L	99
38) Tert-amyl Methyl Ether	5.389	73	80026	4.638	ug/L	94
39) Trichloroethene	5.813	130	36332	4.789	ug/L	97
40) Methyl Cyclohexane	5.808	55	58813	4.737	ug/L	97
41) Dibromomethane	6.184	93	18844	4.690	ug/L	99
42) Bromodichloromethane	6.320	83	37643	4.577	ug/L	99
43) 1,2-Dichloropropane	6.263	63	33547	4.709	ug/L	97
44) 2-Chloroethylvinylether	6.827	63	21088	4.166	ug/L	97
45) cis-1,3-Dichloropropene	6.890	75	45263	4.446	ug/L	97

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\170817\
Data File : 17081702.D
Acq On : 17 Aug 2017 11:37 am
Operator :
Sample : CAL2 4.64 ppb
Misc : CAL2
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 18 13:40:06 2017
Quant Method : C:\msdchem\1\methods\170817X.M
Quant Title : M-8260S
QLast Update : Thu Aug 17 14:33:11 2017
Response via : Initial Calibration

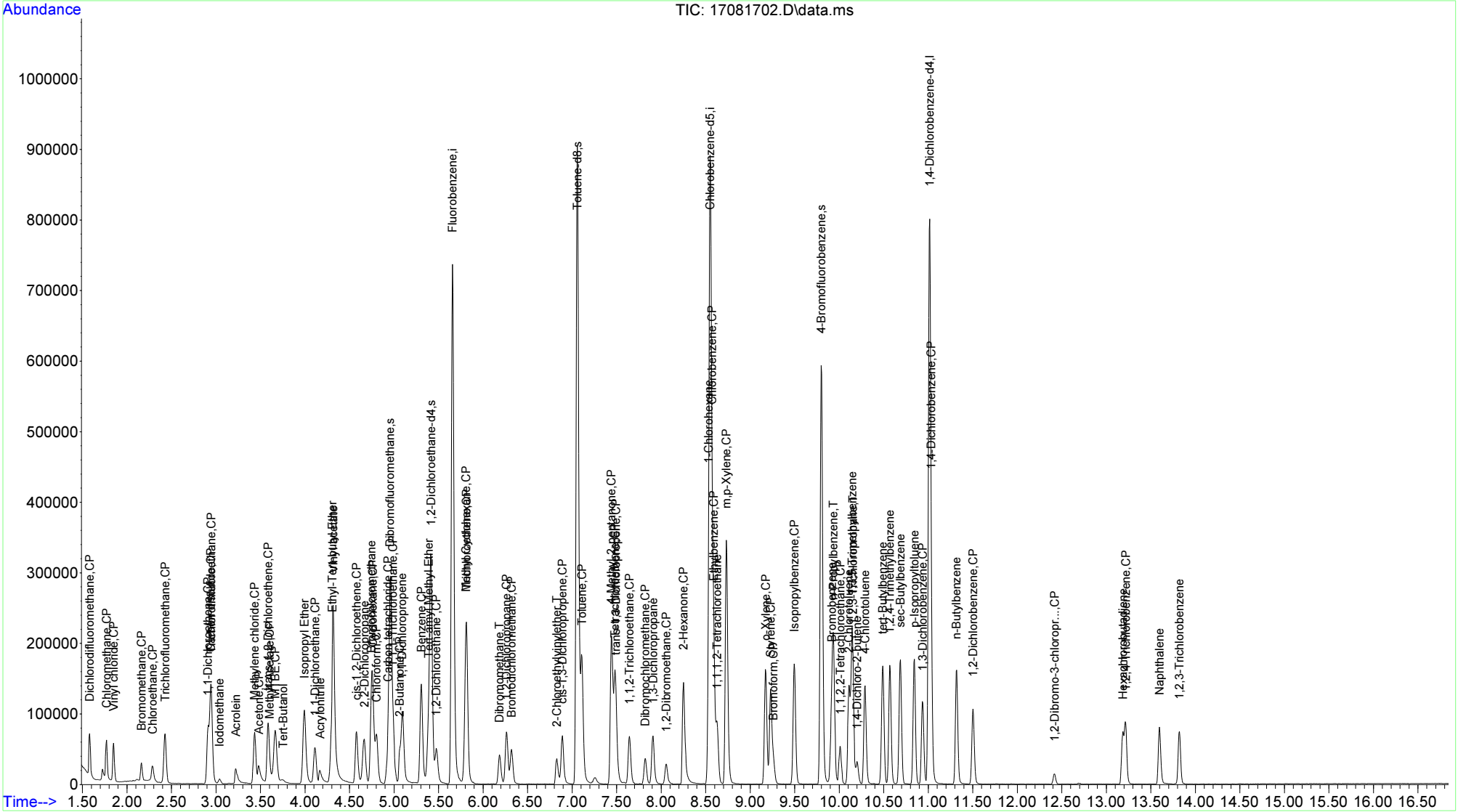
Compound	R.T.	QIon	Response	Conc	Units	%Rec
46) trans-1,3-Dichloropropene	7.492	75	35384	4.371	ug/L	94
47) 1,1,2-Trichloroethane	7.643	97	26489	4.769	ug/L	98
48) Toluene	7.110	92	86485	4.858	ug/L	98
50) 4-Methyl-2-pentanone	7.439	43	187213	24.044	ug/L	97
52) 2-Hexanone	8.250	43	124444	22.703	ug/L	99
53) Dibromochloromethane	7.821	129	25568	4.538	ug/L	100
54) 1,3-Dichloropropane	7.910	76	46875	4.649	ug/L	95
55) Tetrachloroethene	7.481	164	31453	4.846	ug/L	98
56) 1,2-Dibromoethane	8.057	107	26852	4.544	ug/L	99
57) Chlorobenzene	8.569	112	88495	4.795	ug/L	97
58) 1,1,1,2-Tetrachloroethane	8.627	131	25713	4.590	ug/L	97
59) Ethylbenzene	8.590	106	49261	4.749	ug/L	99
60) Bromoform	9.260	173	15339	4.333	ug/L	95
61) Styrene	9.228	104	82653	4.588	ug/L	96
62) 1-Chlorohexane	8.533	55	42538	5.087	ug/L	85
63) m,p-Xylene	8.731	106	121950	9.749	ug/L	99
64) o-Xylene	9.176	106	55984	4.698	ug/L	98
65) Isopropylbenzene	9.495	105	143053	4.705	ug/L	97
67) Bromobenzene	9.919	156	34879	4.738	ug/L	97
68) 1,1,2,2-Tetrachloroethane	10.013	83	33623	4.755	ug/L	97
69) 1,2,3-Trichloropropane	10.154	110	10707	4.961	ug/L	90
71) 1,4-Dichloro-2-butene	10.201	53	9047	4.204	ug/L	87
72) n-Propylbenzene	9.934	91	176442	4.826	ug/L	100
73) 2-Chlorotoluene	10.107	91	109713	4.787	ug/L	97
74) 1,3,5-Trimethylbenzene	10.143	105	117497	4.826	ug/L	99
75) 4-Chlorotoluene	10.290	91	99880	4.706	ug/L	100
76) tert-Butylbenzene	10.489	119	105745	4.863	ug/L	99
77) 1,2,4-Trimethylbenzene	10.567	105	116636	4.768	ug/L	96
78) sec-Butylbenzene	10.687	105	156658	4.825	ug/L	100
79) 1,3-Dichlorobenzene	10.938	146	63974	4.748	ug/L	99
80) p-Isopropyltoluene	10.844	119	127769	4.799	ug/L	98
81) 1,4-Dichlorobenzene	11.033	146	66222	4.774	ug/L	98
82) 1,2-Dichlorobenzene	11.503	146	58172	4.782	ug/L	96
83) 1,2-Dibromo-3-chloropr...	12.419	75	4855	4.621	ug/L	93
84) n-Butylbenzene	11.315	91	114089	4.729	ug/L	98
85) 1,2,4-Trichlorobenzene	13.219	180	36669	4.528	ug/L	98
86) Hexachlorobutadiene	13.187	225	19552	4.505	ug/L	97
87) Naphthalene	13.595	128	84030	4.309	ug/L	95
88) 1,2,3-Trichlorobenzene	13.820	180	32881	4.605	ug/L	99

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\170817\
Data File : 17081702.D
Acq On : 17 Aug 2017 11:37 am
Operator :
Sample : CAL2 4.64 ppb
Misc : CAL2
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 18 13:40:06 2017
Quant Method : C:\msdchem\1\methods\170817X.M
Quant Title : M-8260S
QLast Update : Thu Aug 17 14:33:11 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\170817\
Data File : 17081703.D
Acq On : 17 Aug 2017 12:00 pm
Operator :
Sample : CAL3 9.28 ppb
Misc : CAL3
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Aug 18 13:40:10 2017
Quant Method : C:\msdchem\1\methods\170817X.M
Quant Title : M-8260S
QLast Update : Thu Aug 17 14:33:11 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		%Rec
Internal Standards							
1) Fluorobenzene	5.656	96	735801	200.00	ug/L		97
49) Chlorobenzene-d5	8.548	117	532403	200.00	ug/L		100
66) 1,4-Dichlorobenzene-d4	11.012	152	253155	200.00	ug/L		95
System Monitoring Compounds							Dev(Min)
30) Dibromofluoromethane	4.960	113	183885	202.06	ug/L		0.00
Spiked Amount 200.000			Recovery = 101.03%				
32) 1,2-Dichloroethane-d4	5.415	65	234261	204.71	ug/L		0.00
Spiked Amount 200.000			Recovery = 102.35%				
51) Toluene-d8	7.058	98	695300	196.33	ug/L		0.00
Spiked Amount 200.000			Recovery = 98.17%				
70) 4-Bromofluorobenzene	9.798	95	246288	196.40	ug/L		0.00
Spiked Amount 200.000			Recovery = 98.20%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.582	85	85864	9.186	ug/L		100
3) Chloromethane	1.770	50	93025	9.506	ug/L		99
4) Vinyl chloride	1.848	62	78097	9.103	ug/L		99
5) Bromomethane	2.162	94	23812	8.221	ug/L		95
6) Chloroethane	2.288	64	35913	9.782	ug/L		95
7) Trichlorofluoromethane	2.429	101	106997	9.306	ug/L		99
8) Trichlorotrifluoroethane	2.947	101	70534	9.464	ug/L		99
9) Acrolein	3.213	56	59338	49.299	ug/L		99
10) Isopropyl Alcohol	3.407	45	2837	23.109	ug/L	#	100
11) Acetone	3.470	43	89041	48.417	ug/L		99
12) Iodomethane	3.041	142	22982	8.287	ug/L		98
13) 1,1-Dichloroethene	2.910	96	58883	9.360	ug/L		98
14) Carbon disulfide	2.941	76	201492	9.481	ug/L		100
15) Methylene chloride	3.433	84	63453	9.392	ug/L		98
16) Methyl Acetate	3.590	43	48452	8.801	ug/L		99
17) trans-1,2-Dichloroethene	3.580	96	63171	9.292	ug/L		98
18) Acrylonitrile	4.155	53	50604	19.639	ug/L		99
19) MTBE	3.663	73	169801	9.231	ug/L		98
20) Tert-Butanol	3.742	59	16358	45.255	ug/L	#	100
21) Isopropyl Ether	3.993	45	229484	9.346	ug/L		99
22) 1,1-Dichloroethane	4.108	63	117177	9.433	ug/L		99
23) Vinyl acetate	4.312	43	705955	46.418	ug/L		100
24) Ethyl-Tert-butyl Ether	4.301	59	191064	9.271	ug/L		99
25) cis-1,2-Dichloroethene	4.579	96	69490	9.329	ug/L		98
26) 2,2-Dichloropropane	4.667	77	82282	9.005	ug/L		99
27) Bromochloromethane	4.751	128	30260	9.566	ug/L		93
28) Cyclohexane	4.762	84	110709	9.224	ug/L		97
29) Chloroform	4.803	83	117778	9.462	ug/L		98
31) 1,1-Dichloropropene	5.091	75	94608	9.441	ug/L		98
33) 1,1,1-Trichloroethane	4.986	97	97802	9.278	ug/L		99
34) 1,2-Dichloroethane	5.473	62	82482	9.258	ug/L		98
35) Benzene	5.306	78	269423	9.527	ug/L		97
36) 2-Butanone	5.054	43	166574	49.994	ug/L		99
37) Carbon tetrachloride	4.934	117	76281	8.577	ug/L		100
38) Tert-amyl Methyl Ether	5.389	73	157283	9.185	ug/L		98
39) Trichloroethene	5.813	130	72173	9.585	ug/L		95
40) Methyl Cyclohexane	5.808	55	114621	9.301	ug/L		99
41) Dibromomethane	6.184	93	37091	9.302	ug/L		97
42) Bromodichloromethane	6.320	83	74753	9.158	ug/L		98
43) 1,2-Dichloropropane	6.263	63	65866	9.316	ug/L		96
44) 2-Chloroethylvinylether	6.822	63	44663	8.891	ug/L		98
45) cis-1,3-Dichloropropene	6.885	75	90074	8.915	ug/L		100

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\170817\
Data File : 17081703.D
Acq On : 17 Aug 2017 12:00 pm
Operator :
Sample : CAL3 9.28 ppb
Misc : CAL3
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Aug 18 13:40:10 2017
Quant Method : C:\msdchem\1\methods\170817X.M
Quant Title : M-8260S
QLast Update : Thu Aug 17 14:33:11 2017
Response via : Initial Calibration

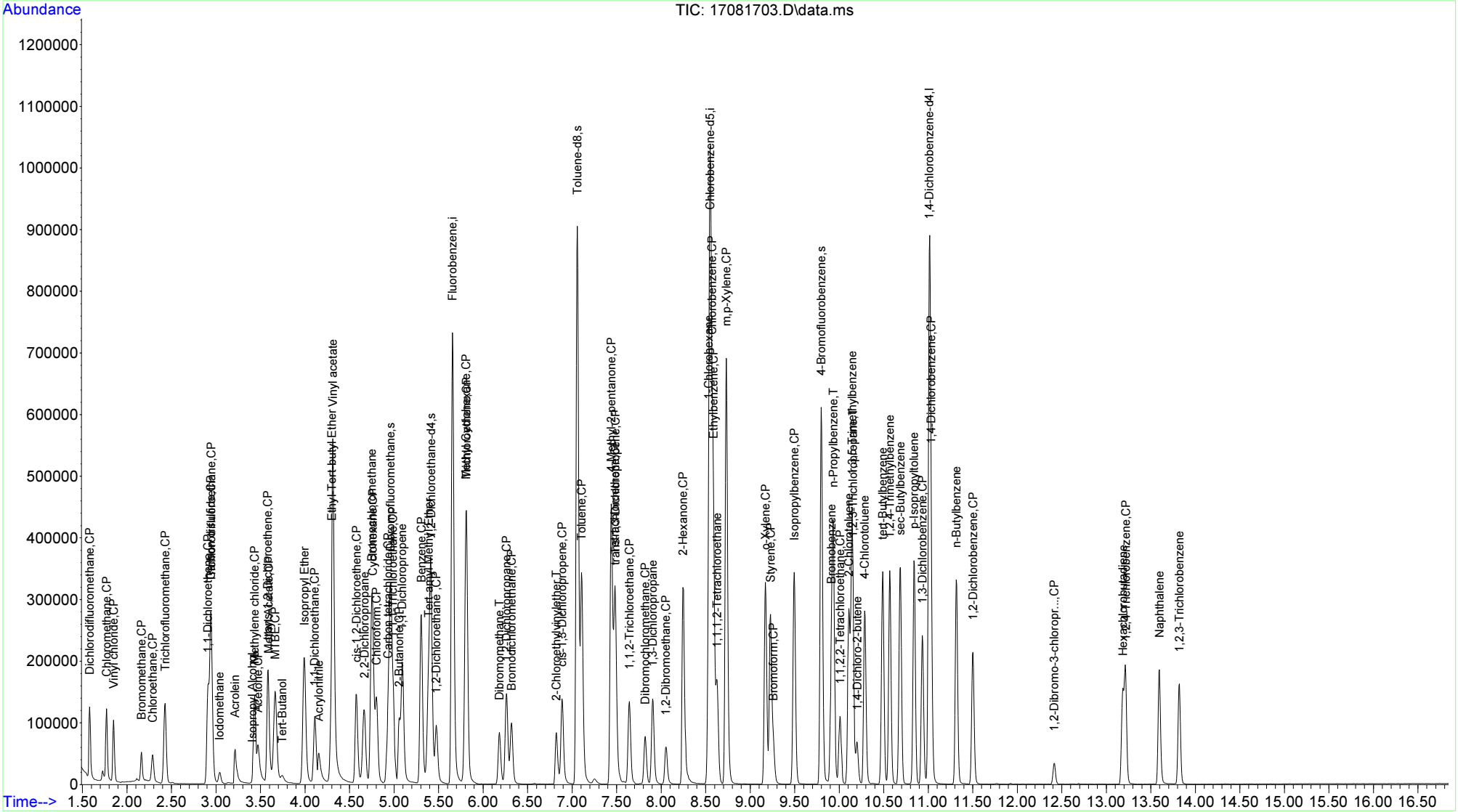
Compound	R.T.	QIon	Response	Conc	Units	%Rec
46) trans-1,3-Dichloropropene	7.487	75	71418	8.889	ug/L	97
47) 1,1,2-Trichloroethane	7.643	97	52594	9.540	ug/L	99
48) Toluene	7.105	92	166726	9.436	ug/L	98
50) 4-Methyl-2-pentanone	7.439	43	383494	48.757	ug/L	98
52) 2-Hexanone	8.245	43	269758	48.718	ug/L	99
53) Dibromochloromethane	7.821	129	51233	8.819	ug/L	99
54) 1,3-Dichloropropane	7.905	76	93124	9.142	ug/L	99
55) Tetrachloroethene	7.481	164	61665	9.405	ug/L	94
56) 1,2-Dibromoethane	8.051	107	54574	9.141	ug/L	96
57) Chlorobenzene	8.569	112	173213	9.292	ug/L	98
58) 1,1,1,2-Tetrachloroethane	8.627	131	50381	8.792	ug/L	96
59) Ethylbenzene	8.585	106	97011	9.258	ug/L	99
60) Bromoform	9.260	173	32389	8.724	ug/L	95
61) Styrene	9.228	104	168677	9.269	ug/L	99
62) 1-Chlorohexane	8.533	55	79162	9.371	ug/L	90
63) m,p-Xylene	8.731	106	237466	18.793	ug/L	98
64) o-Xylene	9.171	106	110788	9.203	ug/L	99
65) Isopropylbenzene	9.495	105	285437	9.293	ug/L	100
67) Bromobenzene	9.913	156	68647	9.118	ug/L	97
68) 1,1,2,2-Tetrachloroethane	10.008	83	67686	9.361	ug/L	98
69) 1,2,3-Trichloropropane	10.154	110	21448	9.718	ug/L	98
71) 1,4-Dichloro-2-butene	10.201	53	19840	9.016	ug/L	82
72) n-Propylbenzene	9.934	91	353614	9.457	ug/L	98
73) 2-Chlorotoluene	10.107	91	216913	9.256	ug/L	98
74) 1,3,5-Trimethylbenzene	10.144	105	234791	9.430	ug/L	99
75) 4-Chlorotoluene	10.285	91	203038	9.354	ug/L	98
76) tert-Butylbenzene	10.489	119	208689	9.385	ug/L	100
77) 1,2,4-Trimethylbenzene	10.567	105	233271	9.325	ug/L	100
78) sec-Butylbenzene	10.687	105	315493	9.502	ug/L	100
79) 1,3-Dichlorobenzene	10.933	146	125961	9.142	ug/L	100
80) p-Isopropyltoluene	10.839	119	255430	9.383	ug/L	99
81) 1,4-Dichlorobenzene	11.033	146	130439	9.196	ug/L	99
82) 1,2-Dichlorobenzene	11.503	146	113338	9.112	ug/L	99
83) 1,2-Dibromo-3-chloropr...	12.413	75	10904	9.742	ug/L	93
84) n-Butylbenzene	11.315	91	230965	9.362	ug/L	100
85) 1,2,4-Trichlorobenzene	13.219	180	75979	9.176	ug/L	96
86) Hexachlorobutadiene	13.188	225	38946	8.776	ug/L	98
87) Naphthalene	13.595	128	185891	9.322	ug/L	100
88) 1,2,3-Trichlorobenzene	13.820	180	67955	9.307	ug/L	98

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\170817\
Data File : 17081703.D
Acq On : 17 Aug 2017 12:00 pm
Operator :
Sample : CAL3 9.28 ppb
Misc : CAL3
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Aug 18 13:40:10 2017
Quant Method : C:\msdchem\1\methods\170817X.M
Quant Title : M-8260S
QLast Update : Thu Aug 17 14:33:11 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\170817\
Data File : 17081704.D
Acq On : 17 Aug 2017 12:24 pm
Operator :
Sample : CAL4 18.6 ppb
Misc : CAL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 18 13:40:14 2017
Quant Method : C:\msdchem\1\methods\170817X.M
Quant Title : M-8260S
QLast Update : Thu Aug 17 14:33:11 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	%Rec
Internal Standards						
1) Fluorobenzene	5.656	96	740562	200.00	ug/L	97
49) Chlorobenzene-d5	8.548	117	527258	200.00	ug/L	99
66) 1,4-Dichlorobenzene-d4	11.017	152	250995	200.00	ug/L	95
System Monitoring Compounds						Dev(Min)
30) Dibromofluoromethane	4.955	113	184350	201.27	ug/L	0.00
Spiked Amount 200.000			Recovery = 100.64%			
32) 1,2-Dichloroethane-d4	5.415	65	237888	206.55	ug/L	0.00
Spiked Amount 200.000			Recovery = 103.28%			
51) Toluene-d8	7.058	98	696628	198.62	ug/L	0.00
Spiked Amount 200.000			Recovery = 99.31%			
70) 4-Bromofluorobenzene	9.798	95	248997	200.26	ug/L	0.00
Spiked Amount 200.000			Recovery = 100.13%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.582	85	172385	18.324	ug/L	99
3) Chloromethane	1.770	50	178051	18.078	ug/L	100
4) Vinyl chloride	1.848	62	160497	18.588	ug/L	100
5) Bromomethane	2.162	94	50380	17.283	ug/L	99
6) Chloroethane	2.288	64	67268	18.205	ug/L	98
7) Trichlorofluoromethane	2.429	101	215923	18.660	ug/L	100
8) Trichlorotrifluoroethane	2.947	101	148754	19.832	ug/L #	99
9) Acrolein	3.208	56	81841	66.134	ug/L	97
10) Isopropyl Alcohol	3.396	45	6324	81.345	ug/L #	100
11) Acetone	3.464	43	166937	91.569	ug/L	100
12) Iodomethane	3.041	142	71274	16.152	ug/L	100
13) 1,1-Dichloroethene	2.910	96	116231	18.357	ug/L	99
14) Carbon disulfide	2.941	76	398344	18.622	ug/L	99
15) Methylene chloride	3.433	84	122230	18.259	ug/L	98
16) Methyl Acetate	3.585	43	105980	19.127	ug/L	99
17) trans-1,2-Dichloroethene	3.580	96	124722	18.228	ug/L	99
18) Acrylonitrile	4.150	53	96940	36.041	ug/L	99
19) MTBE	3.663	73	340433	18.389	ug/L	98
20) Tert-Butanol	3.742	59	31420	92.228	ug/L #	100
21) Isopropyl Ether	3.987	45	459965	18.611	ug/L	99
22) 1,1-Dichloroethane	4.108	63	229865	18.386	ug/L	98
23) Vinyl acetate	4.312	43	1043902	67.331	ug/L	100
24) Ethyl-Tert-butyl Ether	4.301	59	381707	18.403	ug/L	100
25) cis-1,2-Dichloroethene	4.573	96	139218	18.570	ug/L	98
26) 2,2-Dichloropropane	4.662	77	161791	17.593	ug/L	98
27) Bromochloromethane	4.746	128	60610	19.037	ug/L	94
28) Cyclohexane	4.762	84	234329	19.399	ug/L	98
29) Chloroform	4.803	83	229642	18.330	ug/L	99
31) 1,1-Dichloropropene	5.091	75	184608	18.304	ug/L	99
33) 1,1,1-Trichloroethane	4.986	97	192466	18.141	ug/L	99
34) 1,2-Dichloroethane	5.473	62	163213	18.202	ug/L	99
35) Benzene	5.300	78	525797	18.473	ug/L	99
36) 2-Butanone	5.054	43	320327	95.522	ug/L	98
37) Carbon tetrachloride	4.934	117	157059	17.283	ug/L	97
38) Tert-amyl Methyl Ether	5.389	73	310136	17.995	ug/L	98
39) Trichloroethene	5.813	130	139196	18.367	ug/L	97
40) Methyl Cyclohexane	5.808	55	236648	19.080	ug/L	99
41) Dibromomethane	6.179	93	73320	18.270	ug/L	96
42) Bromodichloromethane	6.320	83	151233	18.408	ug/L	100
43) 1,2-Dichloropropane	6.263	63	131925	18.540	ug/L	99
44) 2-Chloroethylvinylether	6.817	63	94389	18.669	ug/L	98
45) cis-1,3-Dichloropropene	6.885	75	186229	18.312	ug/L	99

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\170817\
Data File : 17081704.D
Acq On : 17 Aug 2017 12:24 pm
Operator :
Sample : CAL4 18.6 ppb
Misc : CAL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 18 13:40:14 2017
Quant Method : C:\msdchem\1\methods\170817X.M
Quant Title : M-8260S
QLast Update : Thu Aug 17 14:33:11 2017
Response via : Initial Calibration

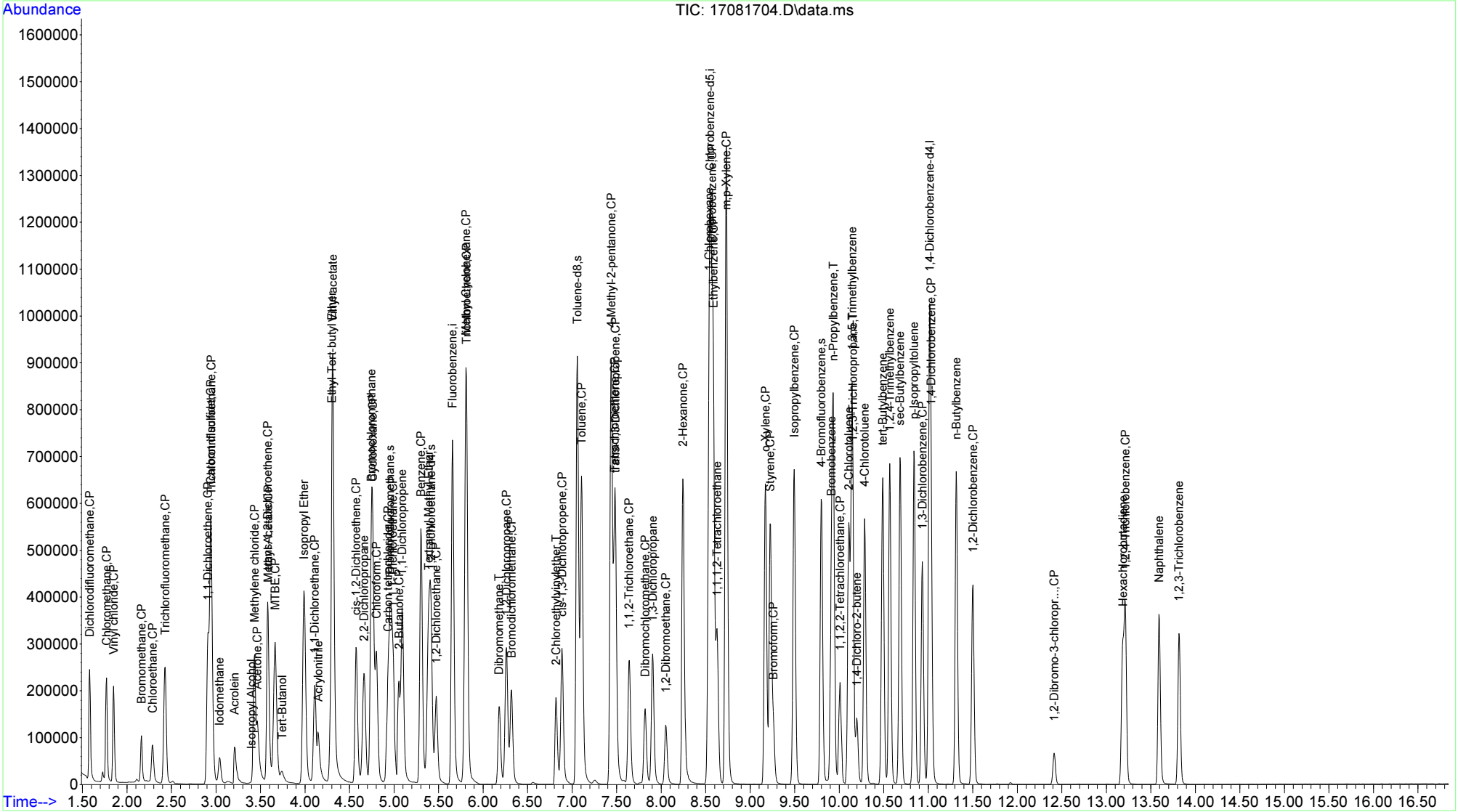
Compound	R.T.	QIon	Response	Conc Units	%Rec
46) trans-1,3-Dichloropropene	7.487	75	144997	17.931 ug/L	98
47) 1,1,2-Trichloroethane	7.638	97	103221	18.603 ug/L	99
48) Toluene	7.105	92	327222	18.400 ug/L	98
50) 4-Methyl-2-pentanone	7.439	43	759364	97.487 ug/L	98
52) 2-Hexanone	8.245	43	534740	97.517 ug/L	99
53) Dibromochloromethane	7.821	129	105996	18.116 ug/L	99
54) 1,3-Dichloropropane	7.905	76	185108	18.350 ug/L	100
55) Tetrachloroethene	7.476	164	117044	18.026 ug/L	99
56) 1,2-Dibromoethane	8.051	107	109040	18.443 ug/L	100
57) Chlorobenzene	8.569	112	337129	18.261 ug/L	98
58) 1,1,1,2-Tetrachloroethane	8.627	131	103745	18.068 ug/L	97
59) Ethylbenzene	8.585	106	188552	18.170 ug/L	96
60) Bromoform	9.260	173	67080	17.765 ug/L	98
61) Styrene	9.223	104	332252	18.436 ug/L	99
62) 1-Chlorohexane	8.538	55	147832	17.671 ug/L	93
63) m,p-Xylene	8.731	106	461042	36.843 ug/L	99
64) o-Xylene	9.171	106	216284	18.141 ug/L	100
65) Isopropylbenzene	9.495	105	555327	18.256 ug/L	100
67) Bromobenzene	9.913	156	136703	18.314 ug/L	99
68) 1,1,2,2-Tetrachloroethane	10.008	83	130529	18.209 ug/L	100
69) 1,2,3-Trichloropropane	10.154	110	40479	18.499 ug/L	99
71) 1,4-Dichloro-2-butene	10.196	53	39015	17.882 ug/L	89
72) n-Propylbenzene	9.934	91	682897	18.421 ug/L	98
73) 2-Chlorotoluene	10.107	91	423493	18.226 ug/L	98
74) 1,3,5-Trimethylbenzene	10.143	105	455770	18.463 ug/L	98
75) 4-Chlorotoluene	10.285	91	391123	18.175 ug/L	100
76) tert-Butylbenzene	10.489	119	403136	18.286 ug/L	98
77) 1,2,4-Trimethylbenzene	10.567	105	460723	18.577 ug/L	98
78) sec-Butylbenzene	10.682	105	606433	18.422 ug/L	100
79) 1,3-Dichlorobenzene	10.933	146	244975	17.934 ug/L	99
80) p-Isopropyltoluene	10.839	119	499863	18.520 ug/L	100
81) 1,4-Dichlorobenzene	11.033	146	252815	17.978 ug/L	98
82) 1,2-Dichlorobenzene	11.503	146	224472	18.202 ug/L	99
83) 1,2-Dibromo-3-chloropr...	12.413	75	19889	17.524 ug/L	100
84) n-Butylbenzene	11.315	91	450487	18.418 ug/L	100
85) 1,2,4-Trichlorobenzene	13.214	180	151087	18.404 ug/L	100
86) Hexachlorobutadiene	13.187	225	76709	17.435 ug/L	99
87) Naphthalene	13.590	128	359081	18.162 ug/L	100
88) 1,2,3-Trichlorobenzene	13.815	180	133091	18.384 ug/L	98

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\170817\
Data File : 17081704.D
Acq On : 17 Aug 2017 12:24 pm
Operator :
Sample : CAL4 18.6 ppb
Misc : CAL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 18 13:40:14 2017
Quant Method : C:\msdchem\1\methods\170817X.M
Quant Title : M-8260S
QLast Update : Thu Aug 17 14:33:11 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\170817\
Data File : 17081705.D
Acq On : 17 Aug 2017 12:47 pm
Operator :
Sample : CAL5 27.8 ppb
Misc : CAL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 18 13:40:18 2017
Quant Method : C:\msdchem\1\methods\170817X.M
Quant Title : M-8260S
QLast Update : Thu Aug 17 14:33:11 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	%Rec
Internal Standards						
1) Fluorobenzene	5.656	96	744812	200.00	ug/L	98
49) Chlorobenzene-d5	8.548	117	528835	200.00	ug/L	99
66) 1,4-Dichlorobenzene-d4	11.012	152	252728	200.00	ug/L	95
System Monitoring Compounds						Dev(Min)
30) Dibromofluoromethane	4.960	113	183890	199.62	ug/L	0.00
Spiked Amount 200.000			Recovery = 99.81%			
32) 1,2-Dichloroethane-d4	5.415	65	228402	197.18	ug/L	0.00
Spiked Amount 200.000			Recovery = 98.59%			
51) Toluene-d8	7.058	98	705968	200.69	ug/L	0.00
Spiked Amount 200.000			Recovery = 100.35%			
70) 4-Bromofluorobenzene	9.798	95	251523	200.91	ug/L	0.00
Spiked Amount 200.000			Recovery = 100.46%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.581	85	259028	27.377	ug/L	99
3) Chloromethane	1.770	50	273465	27.607	ug/L	100
4) Vinyl chloride	1.848	62	243485	28.038	ug/L	99
5) Bromomethane	2.162	94	79838	27.232	ug/L	95
6) Chloroethane	2.288	64	103899	27.958	ug/L	99
7) Trichlorofluoromethane	2.429	101	327514	28.142	ug/L	99
8) Trichlorotrifluoroethane	2.947	101	214408	28.422	ug/L #	97
9) Acrolein	3.208	56	113804	89.902	ug/L	99
10) Isopropyl Alcohol	3.396	45	8269	104.098	ug/L #	100
11) Acetone	3.464	43	254264	139.260	ug/L	99
12) Iodomethane	3.041	142	139014	26.807	ug/L	100
13) 1,1-Dichloroethene	2.910	96	178558	28.040	ug/L	99
14) Carbon disulfide	2.941	76	604446	28.096	ug/L	99
15) Methylene chloride	3.433	84	186106	27.833	ug/L	99
16) Methyl Acetate	3.579	43	155215	27.852	ug/L	99
17) trans-1,2-Dichloroethene	3.579	96	190271	27.650	ug/L	99
18) Acrylonitrile	4.144	53	148384	54.046	ug/L	99
19) MTBE	3.663	73	514124	27.613	ug/L	99
20) Tert-Butanol	3.736	59	47325	138.810	ug/L #	100
21) Isopropyl Ether	3.987	45	700874	28.197	ug/L	99
22) 1,1-Dichloroethane	4.108	63	349617	27.806	ug/L	99
23) Vinyl acetate	4.312	43	1433196	91.458	ug/L	100
24) Ethyl-Tert-butyl Ether	4.301	59	583494	27.970	ug/L	100
25) cis-1,2-Dichloroethene	4.573	96	208633	27.670	ug/L	99
26) 2,2-Dichloropropane	4.667	77	249487	26.974	ug/L	100
27) Bromochloromethane	4.746	128	90231	28.180	ug/L	96
28) Cyclohexane	4.756	84	337408	27.773	ug/L	99
29) Chloroform	4.803	83	348902	27.691	ug/L	96
31) 1,1-Dichloropropene	5.091	75	284405	28.037	ug/L	99
33) 1,1,1-Trichloroethane	4.986	97	300138	28.128	ug/L	99
34) 1,2-Dichloroethane	5.473	62	247263	27.419	ug/L	99
35) Benzene	5.300	78	794474	27.754	ug/L	100
36) 2-Butanone	5.049	43	484243	143.579	ug/L	100
37) Carbon tetrachloride	4.934	117	239202	26.000	ug/L	99
38) Tert-amyl Methyl Ether	5.389	73	482616	27.843	ug/L	99
39) Trichloroethene	5.813	130	215917	28.328	ug/L	97
40) Methyl Cyclohexane	5.808	55	348609	27.947	ug/L	100
41) Dibromomethane	6.179	93	111602	27.651	ug/L	98
42) Bromodichloromethane	6.320	83	232839	28.180	ug/L	99
43) 1,2-Dichloropropane	6.263	63	201792	28.197	ug/L	100
44) 2-Chloroethylvinylether	6.817	63	140999	27.729	ug/L	98
45) cis-1,3-Dichloropropene	6.885	75	287955	28.154	ug/L	99

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\170817\
Data File : 17081705.D
Acq On : 17 Aug 2017 12:47 pm
Operator :
Sample : CAL5 27.8 ppb
Misc : CAL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 18 13:40:18 2017
Quant Method : C:\msdchem\1\methods\170817X.M
Quant Title : M-8260S
QLast Update : Thu Aug 17 14:33:11 2017
Response via : Initial Calibration

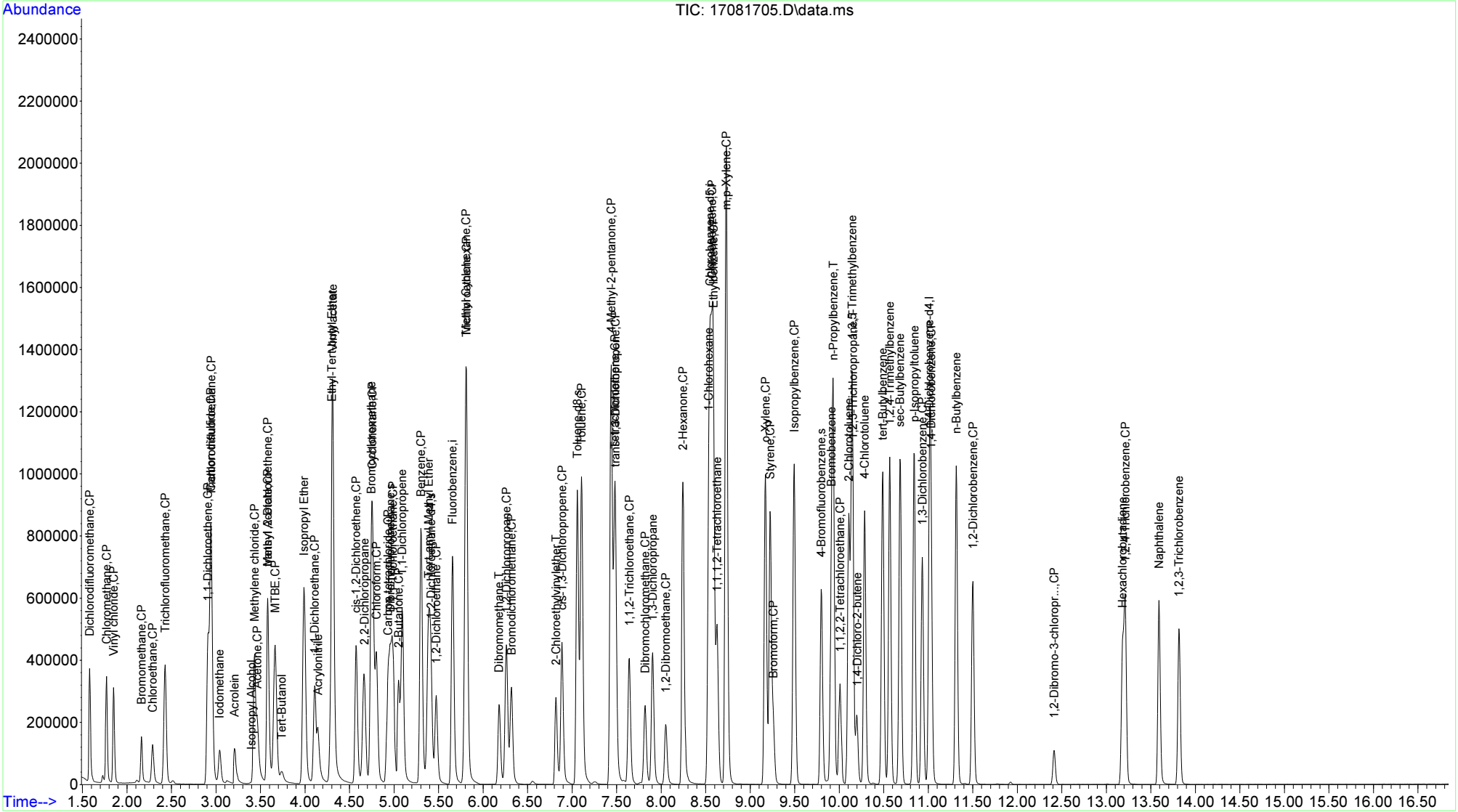
Compound	R.T.	QIon	Response	Conc	Units	%Rec
46) trans-1,3-Dichloropropene	7.486	75	226671	27.872	ug/L	99
47) 1,1,2-Trichloroethane	7.643	97	156371	28.022	ug/L	99
48) Toluene	7.105	92	498547	27.874	ug/L	99
50) 4-Methyl-2-pentanone	7.439	43	1125406	144.049	ug/L	99
52) 2-Hexanone	8.245	43	790095	143.654	ug/L	99
53) Dibromochloromethane	7.821	129	165460	27.882	ug/L	100
54) 1,3-Dichloropropane	7.905	76	280869	27.760	ug/L	99
55) Tetrachloroethene	7.481	164	181577	27.881	ug/L	99
56) 1,2-Dibromoethane	8.051	107	165778	27.956	ug/L	99
57) Chlorobenzene	8.569	112	512515	27.678	ug/L	98
58) 1,1,1,2-Tetrachloroethane	8.627	131	162247	27.936	ug/L	98
59) Ethylbenzene	8.585	106	291020	27.961	ug/L	98
60) Bromoform	9.259	173	106466	27.635	ug/L	96
61) Styrene	9.223	104	514581	28.468	ug/L	99
62) 1-Chlorohexane	8.532	55	225039	26.819	ug/L	96
63) m,p-Xylene	8.731	106	702477	55.969	ug/L	98
64) o-Xylene	9.171	106	336804	28.165	ug/L	97
65) Isopropylbenzene	9.495	105	855636	28.044	ug/L	100
67) Bromobenzene	9.913	156	207542	27.614	ug/L	98
68) 1,1,2,2-Tetrachloroethane	10.007	83	195357	27.065	ug/L	98
69) 1,2,3-Trichloropropane	10.154	110	61050	27.708	ug/L	97
71) 1,4-Dichloro-2-butene	10.201	53	60874	27.710	ug/L	89
72) n-Propylbenzene	9.934	91	1047065	28.051	ug/L	97
73) 2-Chlorotoluene	10.107	91	647721	27.685	ug/L	100
74) 1,3,5-Trimethylbenzene	10.143	105	700262	28.172	ug/L	100
75) 4-Chlorotoluene	10.285	91	601002	27.736	ug/L	99
76) tert-Butylbenzene	10.489	119	619024	27.887	ug/L	99
77) 1,2,4-Trimethylbenzene	10.567	105	702303	28.123	ug/L	98
78) sec-Butylbenzene	10.682	105	926138	27.941	ug/L	100
79) 1,3-Dichlorobenzene	10.933	146	375104	27.271	ug/L	99
80) p-Isopropyltoluene	10.844	119	763682	28.100	ug/L	99
81) 1,4-Dichlorobenzene	11.033	146	380156	26.848	ug/L	98
82) 1,2-Dichlorobenzene	11.503	146	341919	27.535	ug/L	98
83) 1,2-Dibromo-3-chloropr...	12.413	75	32680	28.077	ug/L	99
84) n-Butylbenzene	11.315	91	689411	27.993	ug/L	99
85) 1,2,4-Trichlorobenzene	13.214	180	230200	27.848	ug/L	99
86) Hexachlorobutadiene	13.182	225	117516	26.527	ug/L	98
87) Naphthalene	13.590	128	567547	28.510	ug/L	100
88) 1,2,3-Trichlorobenzene	13.815	180	202168	27.735	ug/L	98

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\170817\
Data File : 17081705.D
Acq On : 17 Aug 2017 12:47 pm
Operator :
Sample : CAL5 27.8 ppb
Misc : CAL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 18 13:40:18 2017
Quant Method : C:\msdchem\1\methods\170817X.M
Quant Title : M-8260S
QLast Update : Thu Aug 17 14:33:11 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\170817\
Data File : 17081706.D
Acq On : 17 Aug 2017 1:11 pm
Operator :
Sample : CAL6 46.4 ppb
Misc : CAL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 18 13:40:22 2017
Quant Method : C:\msdchem\1\methods\170817X.M
Quant Title : M-8260S
QLast Update : Thu Aug 17 14:33:11 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		%Rec
Internal Standards							
1) Fluorobenzene	5.656	96	753410	200.00	ug/L		99
49) Chlorobenzene-d5	8.548	117	539247	200.00	ug/L		101
66) 1,4-Dichlorobenzene-d4	11.012	152	261527	200.00	ug/L		99
System Monitoring Compounds							Dev(Min)
30) Dibromofluoromethane	4.960	113	186259	199.89	ug/L		0.00
Spiked Amount 200.000			Recovery = 99.94%				
32) 1,2-Dichloroethane-d4	5.410	65	230573	196.78	ug/L		0.00
Spiked Amount 200.000			Recovery = 98.39%				
51) Toluene-d8	7.057	98	707889	197.35	ug/L		0.00
Spiked Amount 200.000			Recovery = 98.67%				
70) 4-Bromofluorobenzene	9.798	95	257228	198.55	ug/L		0.00
Spiked Amount 200.000			Recovery = 99.28%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.581	85	423648	44.265	ug/L		99
3) Chloromethane	1.770	50	456110	45.520	ug/L		98
4) Vinyl chloride	1.848	62	392969	44.735	ug/L		100
5) Bromomethane	2.162	94	120036	40.476	ug/L		100
6) Chloroethane	2.288	64	159356	42.391	ug/L		99
7) Trichlorofluoromethane	2.429	101	533667	45.333	ug/L		99
8) Trichlorotrifluoroethane	2.946	101	351217	46.026	ug/L		99
9) Acrolein	3.208	56	151250	116.766	ug/L		98
10) Isopropyl Alcohol	3.381	45	13533	152.745	ug/L	#	100
11) Acetone	3.459	43	440971	238.781	ug/L		99
12) Iodomethane	3.041	142	260110	44.784	ug/L		99
13) 1,1-Dichloroethene	2.910	96	294952	45.790	ug/L		99
14) Carbon disulfide	2.941	76	980697	45.065	ug/L		99
15) Methylene chloride	3.433	84	310228	46.200	ug/L		98
16) Methyl Acetate	3.579	43	269960	47.890	ug/L		98
17) trans-1,2-Dichloroethene	3.579	96	318298	45.726	ug/L		99
18) Acrylonitrile	4.144	53	257276	91.424	ug/L		98
19) MTBE	3.663	73	876482	46.537	ug/L		99
20) Tert-Butanol	3.736	59	95198	265.378	ug/L	#	100
21) Isopropyl Ether	3.987	45	1170912	46.570	ug/L		99
22) 1,1-Dichloroethane	4.108	63	581396	45.712	ug/L		100
23) Vinyl acetate	4.312	43	1801988	113.584	ug/L		100
24) Ethyl-Tert-butyl Ether	4.301	59	977463	46.321	ug/L		100
25) cis-1,2-Dichloroethene	4.573	96	346137	45.382	ug/L		99
26) 2,2-Dichloropropane	4.662	77	422681	45.177	ug/L		100
27) Bromochloromethane	4.746	128	144558	44.631	ug/L		96
28) Cyclohexane	4.761	84	550660	44.809	ug/L		98
29) Chloroform	4.803	83	583199	45.757	ug/L		99
31) 1,1-Dichloropropene	5.091	75	473433	46.140	ug/L		99
33) 1,1,1-Trichloroethane	4.986	97	507500	47.019	ug/L		100
34) 1,2-Dichloroethane	5.473	62	409976	44.943	ug/L		99
35) Benzene	5.300	78	1325829	45.787	ug/L		100
36) 2-Butanone	5.049	43	851836	249.688	ug/L		99
37) Carbon tetrachloride	4.934	117	414572	44.176	ug/L		99
38) Tert-amyl Methyl Ether	5.389	73	817717	46.637	ug/L		99
39) Trichloroethene	5.813	130	353900	45.901	ug/L		99
40) Methyl Cyclohexane	5.807	55	570874	45.242	ug/L		99
41) Dibromomethane	6.179	93	184614	45.219	ug/L		99
42) Bromodichloromethane	6.320	83	393490	47.079	ug/L		100
43) 1,2-Dichloropropane	6.262	63	336311	46.458	ug/L		100
44) 2-Chloroethylvinylether	6.817	63	241109	46.876	ug/L		100
45) cis-1,3-Dichloropropene	6.885	75	488887	47.254	ug/L		99

Data Path : C:\msdchem\1\data\170817\
Data File : 17081706.D
Acq On : 17 Aug 2017 1:11 pm
Operator :
Sample : CAL6 46.4 ppb
Misc : CAL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 18 13:40:22 2017
Quant Method : C:\msdchem\1\methods\170817X.M
Quant Title : M-8260S
QLast Update : Thu Aug 17 14:33:11 2017
Response via : Initial Calibration

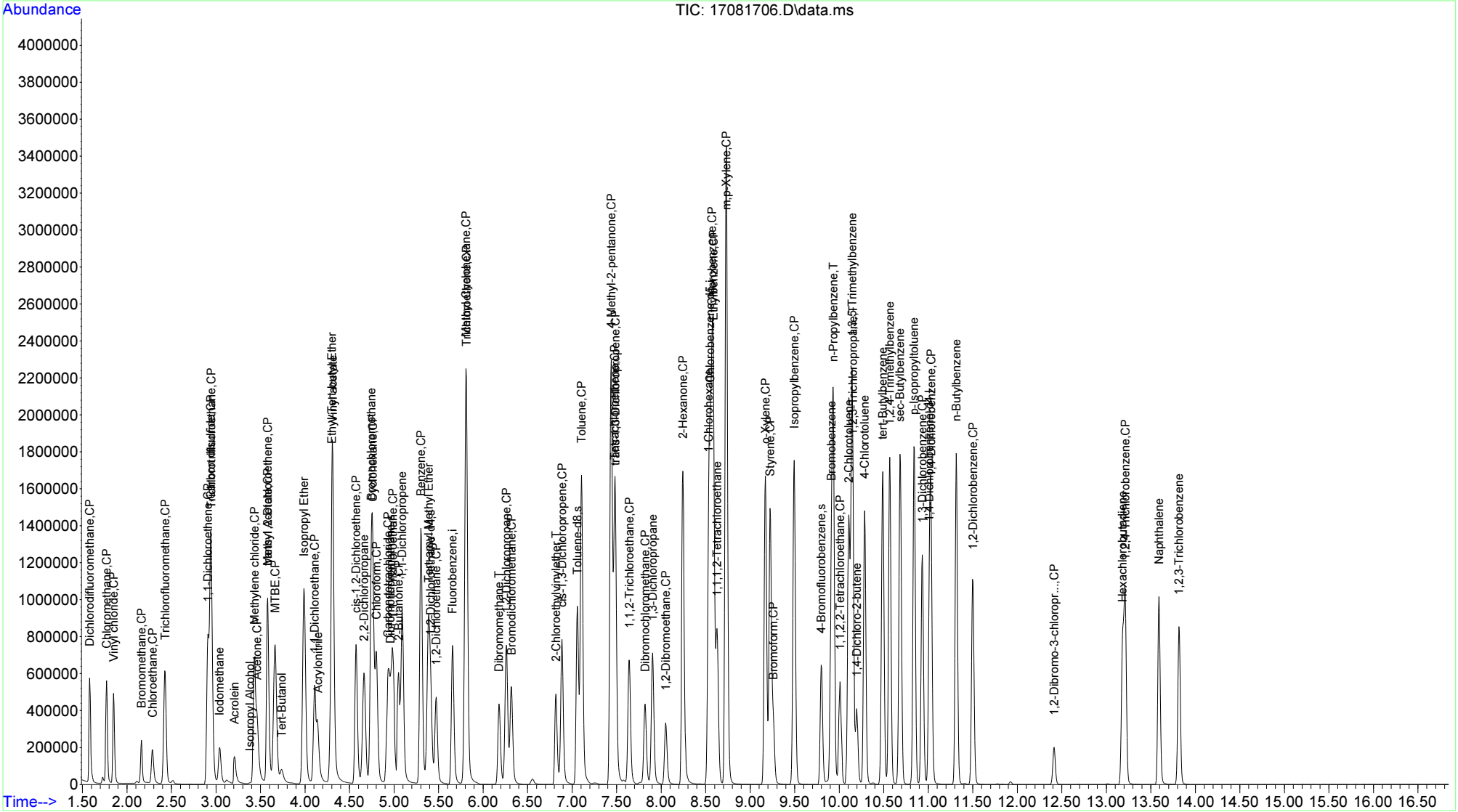
Compound	R.T.	QIon	Response	Conc	Units	%Rec
46) trans-1,3-Dichloropropene	7.486	75	394061	47.901	ug/L	98
47) 1,1,2-Trichloroethane	7.643	97	261108	46.257	ug/L	99
48) Toluene	7.105	92	829517	45.850	ug/L	99
50) 4-Methyl-2-pentanone	7.439	43	1892629	237.574	ug/L	99
52) 2-Hexanone	8.245	43	1360423	242.575	ug/L	98
53) Dibromochloromethane	7.821	129	282780	45.941	ug/L	100
54) 1,3-Dichloropropane	7.905	76	470198	45.575	ug/L	100
55) Tetrachloroethene	7.476	164	300806	45.297	ug/L	99
56) 1,2-Dibromoethane	8.051	107	280384	46.370	ug/L	98
57) Chlorobenzene	8.569	112	854520	45.257	ug/L	98
58) 1,1,1,2-Tetrachloroethane	8.627	131	275465	45.902	ug/L	99
59) Ethylbenzene	8.585	106	482533	45.466	ug/L	98
60) Bromoform	9.259	173	186787	46.341	ug/L	98
61) Styrene	9.223	104	872020	47.311	ug/L	100
62) 1-Chlorohexane	8.532	55	376210	43.970	ug/L	97
63) m,p-Xylene	8.731	106	1176970	91.962	ug/L	100
64) o-Xylene	9.171	106	564496	46.294	ug/L	99
65) Isopropylbenzene	9.495	105	1441759	46.342	ug/L	99
67) Bromobenzene	9.913	156	350182	45.025	ug/L	99
68) 1,1,2,2-Tetrachloroethane	10.007	83	337075	45.128	ug/L	98
69) 1,2,3-Trichloropropane	10.154	110	104797	45.963	ug/L	99
71) 1,4-Dichloro-2-butene	10.196	53	106740	46.953	ug/L	91
72) n-Propylbenzene	9.934	91	1770745	45.843	ug/L	99
73) 2-Chlorotoluene	10.107	91	1102158	45.524	ug/L	99
74) 1,3,5-Trimethylbenzene	10.143	105	1191749	46.333	ug/L	99
75) 4-Chlorotoluene	10.285	91	1018981	45.443	ug/L	100
76) tert-Butylbenzene	10.489	119	1040153	45.282	ug/L	99
77) 1,2,4-Trimethylbenzene	10.567	105	1193311	46.177	ug/L	98
78) sec-Butylbenzene	10.682	105	1568699	45.734	ug/L	100
79) 1,3-Dichlorobenzene	10.933	146	640284	44.985	ug/L	100
80) p-Isopropyltoluene	10.839	119	1305609	46.424	ug/L	100
81) 1,4-Dichlorobenzene	11.032	146	647255	44.173	ug/L	99
82) 1,2-Dichlorobenzene	11.503	146	580997	45.213	ug/L	99
83) 1,2-Dibromo-3-chloropr...	12.413	75	59112	47.805	ug/L	97
84) n-Butylbenzene	11.315	91	1178055	46.225	ug/L	99
85) 1,2,4-Trichlorobenzene	13.213	180	396454	46.346	ug/L	99
86) Hexachlorobutadiene	13.182	225	203759	44.447	ug/L	99
87) Naphthalene	13.590	128	974540	47.307	ug/L	100
88) 1,2,3-Trichlorobenzene	13.815	180	349418	46.323	ug/L	99

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\170817\
Data File : 17081706.D
Acq On : 17 Aug 2017 1:11 pm
Operator :
Sample : CAL6 46.4 ppb
Misc : CAL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 18 13:40:22 2017
Quant Method : C:\msdchem\1\methods\170817X.M
Quant Title : M-8260S
QLast Update : Thu Aug 17 14:33:11 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\170817\
Data File : 17081707.D
Acq On : 17 Aug 2017 1:37 pm
Operator :
Sample : CAL7 92.8 ppb
Misc : CAL
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 18 13:40:26 2017
Quant Method : C:\msdchem\1\methods\170817X.M
Quant Title : M-8260S
QLast Update : Thu Aug 17 14:33:11 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		%Rec
Internal Standards							
1) Fluorobenzene	5.656	96	759768	200.00	ug/L		100
49) Chlorobenzene-d5	8.548	117	532717	200.00	ug/L		100
66) 1,4-Dichlorobenzene-d4	11.012	152	265339	200.00	ug/L		100
System Monitoring Compounds							Dev(Min)
30) Dibromofluoromethane	4.955	113	188148	200.22	ug/L		0.00
Spiked Amount 200.000			Recovery =	100.11%			
32) 1,2-Dichloroethane-d4	5.415	65	232738	196.97	ug/L		0.00
Spiked Amount 200.000			Recovery =	98.48%			
51) Toluene-d8	7.058	98	717692	202.53	ug/L		0.00
Spiked Amount 200.000			Recovery =	101.27%			
70) 4-Bromofluorobenzene	9.798	95	260207	197.97	ug/L		0.00
Spiked Amount 200.000			Recovery =	98.98%			
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.582	85	951918	98.630	ug/L		100
3) Chloromethane	1.770	50	946446	93.664	ug/L		100
4) Vinyl chloride	1.848	62	845274	95.419	ug/L		100
5) Bromomethane	2.162	94	294949	98.623	ug/L		100
6) Chloroethane	2.288	64	351446	92.708	ug/L		100
7) Trichlorofluoromethane	2.429	101	1126162	94.862	ug/L		100
8) Trichlorotrifluoroethane	2.947	101	700811	91.071	ug/L		100
9) Acrolein	3.203	56	315041	235.406	ug/L		100
10) Isopropyl Alcohol	3.370	45	21854	211.533	ug/L	#	100
11) Acetone	3.459	43	852203	453.967	ug/L		100
12) Iodomethane	3.041	142	666397	99.702	ug/L		100
13) 1,1-Dichloroethene	2.910	96	602081	92.689	ug/L		100
14) Carbon disulfide	2.941	76	2066266	94.155	ug/L		100
15) Methylene chloride	3.428	84	625951	93.521	ug/L		100
16) Methyl Acetate	3.574	43	582476	102.464	ug/L		100
17) trans-1,2-Dichloroethene	3.574	96	646683	92.124	ug/L		100
18) Acrylonitrile	4.139	53	547259	190.236	ug/L		100
19) MTBE	3.658	73	1883836	99.186	ug/L		100
20) Tert-Butanol	3.731	59	173628	443.926	ug/L	#	100
21) Isopropyl Ether	3.987	45	2468227	97.346	ug/L		100
22) 1,1-Dichloroethane	4.108	63	1186878	92.536	ug/L		100
23) Vinyl acetate	4.306	43	3792617	240.520	ug/L		100
24) Ethyl-Tert-butyl Ether	4.296	59	2067272	97.146	ug/L		100
25) cis-1,2-Dichloroethene	4.573	96	696386	90.539	ug/L		100
26) 2,2-Dichloropropane	4.662	77	938226	99.441	ug/L		100
27) Bromochloromethane	4.741	128	287888	88.139	ug/L		100
28) Cyclohexane	4.756	84	1181717	95.355	ug/L		100
29) Chloroform	4.798	83	1187391	92.382	ug/L		100
31) 1,1-Dichloropropene	5.091	75	965926	93.349	ug/L		100
33) 1,1,1-Trichloroethane	4.986	97	1037422	95.311	ug/L		100
34) 1,2-Dichloroethane	5.468	62	838695	91.171	ug/L		100
35) Benzene	5.300	78	2657373	91.003	ug/L		100
36) 2-Butanone	5.044	43	1645024	478.150	ug/L		100
37) Carbon tetrachloride	4.934	117	986412	102.311	ug/L		100
38) Tert-amyl Methyl Ether	5.384	73	1784485	100.923	ug/L		100
39) Trichloroethene	5.808	130	711332	91.488	ug/L		100
40) Methyl Cyclohexane	5.808	55	1247172	98.013	ug/L		100
41) Dibromomethane	6.179	93	379784	92.245	ug/L		100
42) Bromodichloromethane	6.315	83	824959	97.877	ug/L		100
43) 1,2-Dichloropropane	6.257	63	683770	93.665	ug/L		100
44) 2-Chloroethylvinylether	6.812	63	497602	95.933	ug/L		100
45) cis-1,3-Dichloropropene	6.880	75	1025671	98.307	ug/L		100

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\170817\
Data File : 17081707.D
Acq On : 17 Aug 2017 1:37 pm
Operator :
Sample : CAL7 92.8 ppb
Misc : CAL
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 18 13:40:26 2017
Quant Method : C:\msdchem\1\methods\170817X.M
Quant Title : M-8260S
QLast Update : Thu Aug 17 14:33:11 2017
Response via : Initial Calibration

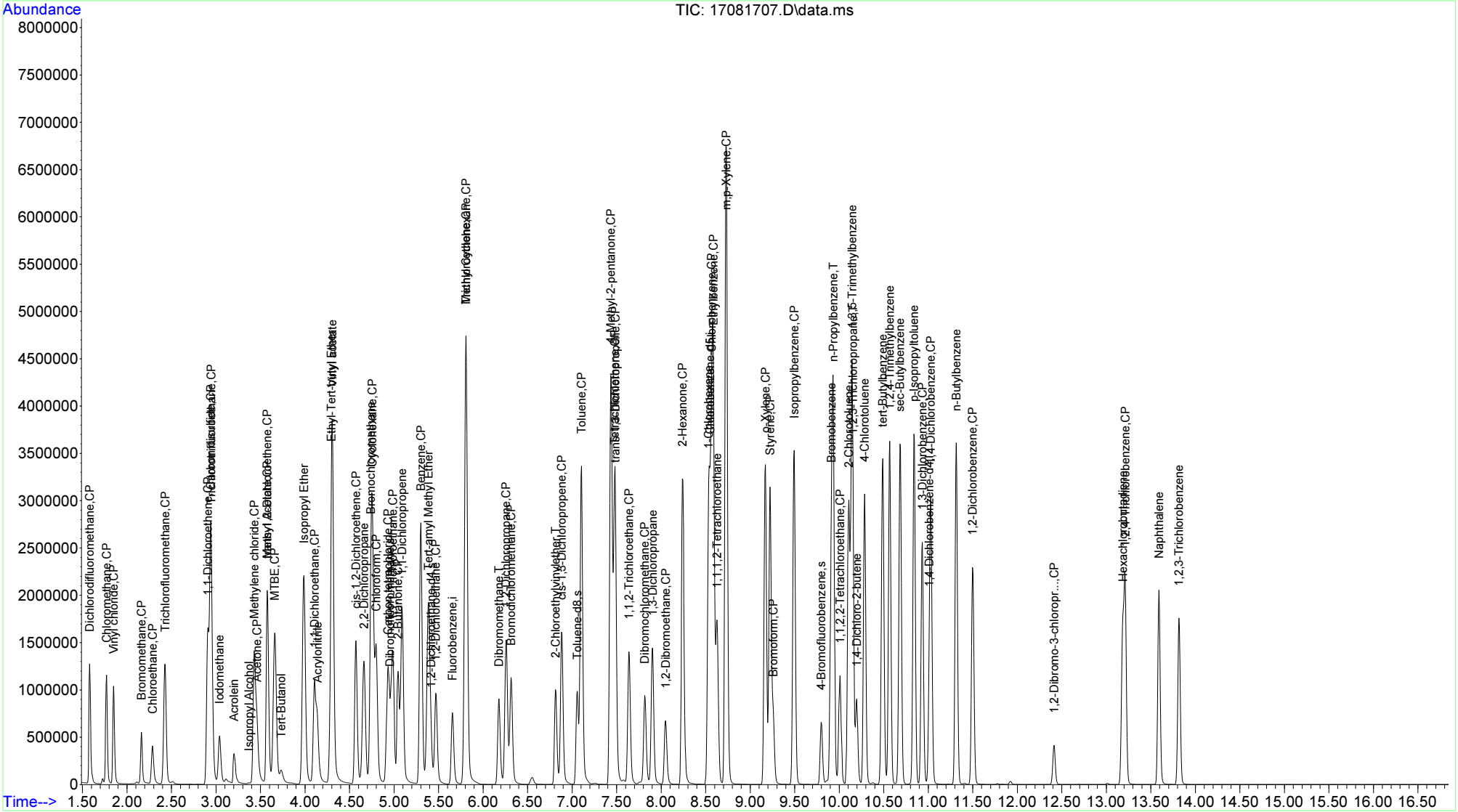
Compound	R.T.	QIon	Response	Conc Units	%Rec
46) trans-1,3-Dichloropropene	7.486	75	830235	100.077 ug/L	100
47) 1,1,2-Trichloroethane	7.638	97	535444	94.063 ug/L	100
48) Toluene	7.105	92	1668270	91.439 ug/L	100
50) 4-Methyl-2-pentanone	7.434	43	3636281	462.043 ug/L	100
52) 2-Hexanone	8.240	43	2616395	472.244 ug/L	100
53) Dibromochloromethane	7.816	129	601141	94.886 ug/L	100
54) 1,3-Dichloropropane	7.905	76	958666	94.060 ug/L	100
55) Tetrachloroethene	7.476	164	600083	91.471 ug/L	100
56) 1,2-Dibromoethane	8.051	107	574809	96.227 ug/L	100
57) Chlorobenzene	8.564	112	1712704	91.820 ug/L	100
58) 1,1,1,2-Tetrachloroethane	8.627	131	581777	94.946 ug/L	100
59) Ethylbenzene	8.585	106	979372	93.412 ug/L	100
60) Bromoform	9.260	173	403180	95.534 ug/L	100
61) Styrene	9.223	104	1774751	97.468 ug/L	100
62) 1-Chlorohexane	8.533	55	791834	93.680 ug/L	100
63) m,p-Xylene	8.731	106	2337475	184.877 ug/L	100
64) o-Xylene	9.171	106	1142720	94.863 ug/L	100
65) Isopropylbenzene	9.495	105	2902224	94.429 ug/L	100
67) Bromobenzene	9.913	156	713364	90.404 ug/L	100
68) 1,1,2,2-Tetrachloroethane	10.007	83	687718	90.749 ug/L	100
69) 1,2,3-Trichloropropane	10.154	110	208028	89.928 ug/L	100
71) 1,4-Dichloro-2-butene	10.196	53	230180	99.798 ug/L	100
72) n-Propylbenzene	9.934	91	3538123	90.283 ug/L	100
73) 2-Chlorotoluene	10.107	91	2246132	91.443 ug/L	100
74) 1,3,5-Trimethylbenzene	10.143	105	2380538	91.220 ug/L	100
75) 4-Chlorotoluene	10.285	91	2093978	92.043 ug/L	100
76) tert-Butylbenzene	10.489	119	2132133	91.487 ug/L	100
77) 1,2,4-Trimethylbenzene	10.567	105	2411073	91.960 ug/L	100
78) sec-Butylbenzene	10.682	105	3161843	90.856 ug/L	100
79) 1,3-Dichlorobenzene	10.933	146	1310068	90.720 ug/L	100
80) p-Isopropyltoluene	10.839	119	2636800	92.411 ug/L	100
81) 1,4-Dichlorobenzene	11.027	146	1329243	89.414 ug/L	100
82) 1,2-Dichlorobenzene	11.498	146	1187307	91.069 ug/L	100
83) 1,2-Dibromo-3-chloropr...	12.413	75	120578	91.440 ug/L	100
84) n-Butylbenzene	11.315	91	2420223	93.602 ug/L	100
85) 1,2,4-Trichlorobenzene	13.214	180	815116	93.920 ug/L	100
86) Hexachlorobutadiene	13.187	225	418098	89.891 ug/L	100
87) Naphthalene	13.590	128	1941076	92.872 ug/L	100
88) 1,2,3-Trichlorobenzene	13.815	180	706812	92.357 ug/L	100

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\170817\
Data File : 17081707.D
Acq On : 17 Aug 2017 1:37 pm
Operator :
Sample : CAL7 92.8 ppb
Misc : CAL
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 18 13:40:26 2017
Quant Method : C:\msdchem\1\methods\170817X.M
Quant Title : M-8260S
QLast Update : Thu Aug 17 14:33:11 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\170817\
Data File : 17081708.D
Acq On : 17 Aug 2017 2:00 pm
Operator :
Sample : CAL8 186 ppb
Misc : CAL
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Aug 18 13:40:30 2017
Quant Method : C:\msdchem\1\methods\170817X.M
Quant Title : M-8260S
QLast Update : Thu Aug 17 14:33:11 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	%Rec
Internal Standards						
1) Fluorobenzene	5.656	96	773632	200.00	ug/L	102
49) Chlorobenzene-d5	8.548	117	520945	200.00	ug/L	98
66) 1,4-Dichlorobenzene-d4	11.012	152	261033	200.00	ug/L	98
System Monitoring Compounds						Dev(Min)
30) Dibromofluoromethane	4.955	113	189494	198.04	ug/L	0.00
Spiked Amount 200.000			Recovery = 99.02%			
32) 1,2-Dichloroethane-d4	5.415	65	237799	197.64	ug/L	0.00
Spiked Amount 200.000			Recovery = 98.82%			
51) Toluene-d8	7.058	98	730575	210.83	ug/L	0.00
Spiked Amount 200.000			Recovery = 105.42%			
70) 4-Bromofluorobenzene	9.798	95	264644	204.66	ug/L	0.00
Spiked Amount 200.000			Recovery = 102.33%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.582	85	1810824	184.261	ug/L	99
3) Chloromethane	1.770	50	1725015	167.655	ug/L	100
4) Vinyl chloride	1.848	62	1598392	177.202	ug/L	100
5) Bromomethane	2.162	94	614576	201.816	ug/L	99
6) Chloroethane	2.282	64	653447	169.284	ug/L	99
7) Trichlorofluoromethane	2.429	101	2120718	175.437	ug/L	100
8) Trichlorotrifluoroethane	2.942	101	1345802	171.753	ug/L #	99
9) Acrolein	3.203	56	645524	462.910	ug/L	99
10) Isopropyl Alcohol	3.360	45	82861	465.737	ug/L #	100
11) Acetone	3.459	43	1821815	931.211	ug/L	99
12) Iodomethane	3.041	142	1414830	183.721	ug/L	98
13) 1,1-Dichloroethene	2.905	96	1215997	183.845	ug/L	98
14) Carbon disulfide	2.942	76	4034542	180.551	ug/L	99
15) Methylene chloride	3.428	84	1242480	185.706	ug/L	99
16) Methyl Acetate	3.569	43	1191754	205.886	ug/L	99
17) trans-1,2-Dichloroethene	3.574	96	1296330	181.361	ug/L	99
18) Acrylonitrile	4.139	53	1099911	370.534	ug/L	100
19) MTBE	3.658	73	3636613	188.041	ug/L	99
20) Tert-Butanol	3.731	59	454427	930.381	ug/L #	100
21) Isopropyl Ether	3.988	45	4639481	179.701	ug/L	100
22) 1,1-Dichloroethane	4.108	63	2392287	183.174	ug/L	100
23) Vinyl acetate	4.307	43	7093682	460.653	ug/L	99
24) Ethyl-Tert-butyl Ether	4.296	59	3873901	178.782	ug/L	99
25) cis-1,2-Dichloroethene	4.573	96	1406603	179.599	ug/L	99
26) 2,2-Dichloropropane	4.662	77	1964336	204.466	ug/L	100
27) Bromochloromethane	4.741	128	551616	165.855	ug/L	96
28) Cyclohexane	4.756	84	2278558	180.566	ug/L	99
29) Chloroform	4.803	83	2360072	180.329	ug/L	99
31) 1,1-Dichloropropene	5.091	75	1944126	184.517	ug/L	100
33) 1,1,1-Trichloroethane	4.987	97	2121793	191.442	ug/L	99
34) 1,2-Dichloroethane	5.473	62	1676279	178.956	ug/L	99
35) Benzene	5.300	78	5277655	177.497	ug/L	99
36) 2-Butanone	5.044	43	3483980	994.521	ug/L	98
37) Carbon tetrachloride	4.934	117	1830892	182.379	ug/L	100
38) Tert-amyl Methyl Ether	5.384	73	3435989	190.842	ug/L	99
39) Trichloroethene	5.808	130	1398701	176.671	ug/L	100
40) Methyl Cyclohexane	5.808	55	2254298	173.986	ug/L	99
41) Dibromomethane	6.179	93	769728	183.607	ug/L	98
42) Bromodichloromethane	6.315	83	1672726	194.903	ug/L	99
43) 1,2-Dichloropropane	6.263	63	1366733	183.865	ug/L	99
44) 2-Chloroethylvinylether	6.812	63	979184	185.394	ug/L	99
45) cis-1,3-Dichloropropene	6.885	75	2078657	195.663	ug/L	99

Data Path : C:\msdchem\1\data\170817\
Data File : 17081708.D
Acq On : 17 Aug 2017 2:00 pm
Operator :
Sample : CAL8 186 ppb
Misc : CAL
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Aug 18 13:40:30 2017
Quant Method : C:\msdchem\1\methods\170817X.M
Quant Title : M-8260S
QLast Update : Thu Aug 17 14:33:11 2017
Response via : Initial Calibration

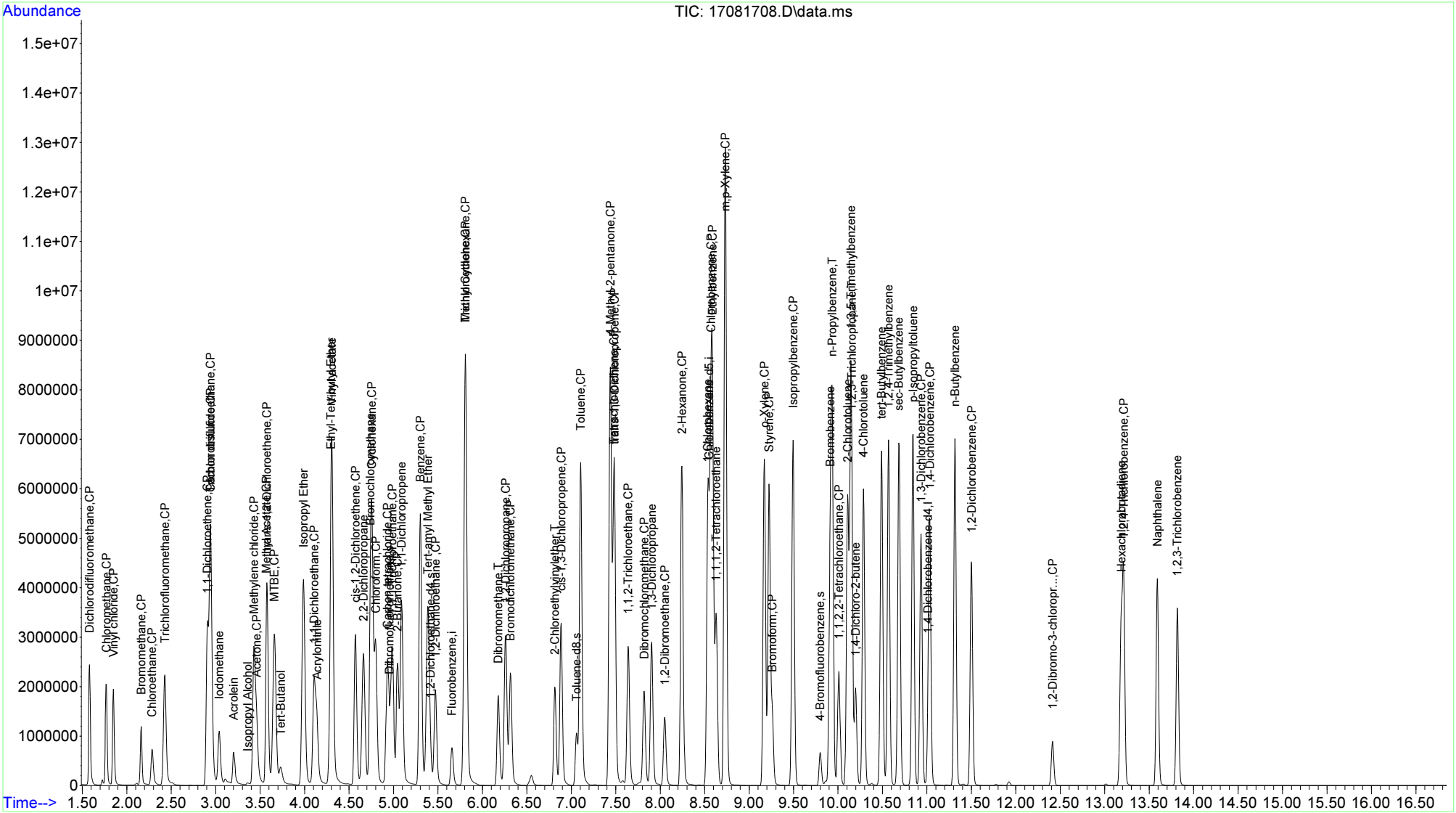
Compound	R.T.	QIon	Response	Conc Units	%Rec
46) trans-1,3-Dichloropropene	7.487	75	1685751	199.560 ug/L	100
47) 1,1,2-Trichloroethane	7.638	97	1071889	184.927 ug/L	100
48) Toluene	7.105	92	3291153	177.157 ug/L	100
50) 4-Methyl-2-pentanone	7.440	43	6976778	906.535 ug/L	98
52) 2-Hexanone	8.245	43	5216415	962.808 ug/L	98
53) Dibromochloromethane	7.821	129	1230157	185.224 ug/L	99
54) 1,3-Dichloropropane	7.905	76	1911657	191.802 ug/L	100
55) Tetrachloroethene	7.476	164	1160493	180.892 ug/L	96
56) 1,2-Dibromoethane	8.051	107	1162216	198.960 ug/L	100
57) Chlorobenzene	8.569	112	3294026	180.588 ug/L	98
58) 1,1,1,2-Tetrachloroethane	8.627	131	1174451	185.189 ug/L	98
59) Ethylbenzene	8.585	106	1882481	183.607 ug/L	100
60) Bromoform	9.260	173	838949	184.959 ug/L	99
61) Styrene	9.223	104	3475504	195.186 ug/L	99
62) 1-Chlorohexane	8.533	55	1571269	190.095 ug/L	95
63) m,p-Xylene	8.731	106	4400849	355.940 ug/L	99
64) o-Xylene	9.171	106	2237034	189.905 ug/L	98
65) Isopropylbenzene	9.495	105	5667995	188.586 ug/L	99
67) Bromobenzene	9.913	156	1384298	178.325 ug/L	99
68) 1,1,2,2-Tetrachloroethane	10.008	83	1403190	188.215 ug/L	99
69) 1,2,3-Trichloropropane	10.154	110	411579	180.855 ug/L	99
71) 1,4-Dichloro-2-butene	10.196	53	493010	217.278 ug/L	98
72) n-Propylbenzene	9.934	91	6799457	176.364 ug/L	100
73) 2-Chlorotoluene	10.107	91	4388213	181.597 ug/L	99
74) 1,3,5-Trimethylbenzene	10.144	105	4566396	177.867 ug/L	99
75) 4-Chlorotoluene	10.285	91	4079134	182.260 ug/L	99
76) tert-Butylbenzene	10.489	119	4145373	180.806 ug/L	98
77) 1,2,4-Trimethylbenzene	10.567	105	4658517	180.610 ug/L	100
78) sec-Butylbenzene	10.682	105	6079645	177.581 ug/L	99
79) 1,3-Dichlorobenzene	10.933	146	2555454	179.880 ug/L	99
80) p-Isopropyltoluene	10.844	119	5070304	180.629 ug/L	98
81) 1,4-Dichlorobenzene	11.033	146	2568578	175.630 ug/L	100
82) 1,2-Dichlorobenzene	11.503	146	2331100	181.751 ug/L	99
83) 1,2-Dibromo-3-chloropr...	12.413	75	266241	186.335 ug/L	99
84) n-Butylbenzene	11.315	91	4659494	183.179 ug/L	98
85) 1,2,4-Trichlorobenzene	13.214	180	1640805	192.176 ug/L	100
86) Hexachlorobutadiene	13.188	225	845463	184.774 ug/L	99
87) Naphthalene	13.590	128	3994475	194.270 ug/L	99
88) 1,2,3-Trichlorobenzene	13.815	180	1435454	190.660 ug/L	99

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\170817\
Data File : 17081708.D
Acq On : 17 Aug 2017 2:00 pm
Operator :
Sample : CAL8 186 ppb
Misc : CAL
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Aug 18 13:40:30 2017
Quant Method : C:\msdchem\1\methods\170817X.M
Quant Title : M-8260S
QLast Update : Thu Aug 17 14:33:11 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\170817\
Data File : 17081710.D
Acq On : 17 Aug 2017 3:43 pm
Operator :
Sample : SSCV 46.4 ppb
Misc : ICV
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 18 13:26:10 2017
Quant Method : C:\msdchem\1\methods\170817X.M
Quant Title : M-8260S
QLast Update : Thu Aug 17 14:33:11 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		%Rec
Internal Standards							
1) Fluorobenzene	5.656	96	770028	200.00	ug/L		101
49) Chlorobenzene-d5	8.548	117	541896	200.00	ug/L		102
66) 1,4-Dichlorobenzene-d4	11.012	152	266556	200.00	ug/L		100
System Monitoring Compounds							Dev(Min)
30) Dibromofluoromethane	4.955	113	188767	198.21	ug/L		0.00
Spiked Amount 200.000			Recovery =	99.11%			
32) 1,2-Dichloroethane-d4	5.415	65	234628	195.92	ug/L		0.00
Spiked Amount 200.000			Recovery =	97.96%			
51) Toluene-d8	7.057	98	729146	202.28	ug/L		0.00
Spiked Amount 200.000			Recovery =	101.14%			
70) 4-Bromofluorobenzene	9.798	95	263423	199.50	ug/L		0.00
Spiked Amount 200.000			Recovery =	99.75%			
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.581	85	473529	48.410	ug/L		100
3) Chloromethane	1.770	50	477113	46.588	ug/L		99
4) Vinyl chloride	1.848	62	423351	47.153	ug/L		99
5) Bromomethane	2.162	94	144183	47.569	ug/L		99
6) Chloroethane	2.287	64	160350	41.735	ug/L		99
7) Trichlorofluoromethane	2.429	101	573627	47.676	ug/L		99
8) Trichlorotrifluoroethane	2.946	101	337643	43.292	ug/L	#	99
9) Acrolein	3.208	56	163810	123.460	ug/L		99
10) Isopropyl Alcohol	3.381	45	20544	201.267	ug/L	#	100
11) Acetone	3.464	43	162503	85.636	ug/L		98
12) Iodomethane	3.041	142	333586	54.399	ug/L		99
13) 1,1-Dichloroethene	2.910	96	347275	52.750	ug/L		99
14) Carbon disulfide	2.941	76	2792802	125.566	ug/L		100
15) Methylene chloride	3.433	84	328252	47.854	ug/L		97
16) Methyl Acetate	3.574	43	308159	53.486	ug/L		100
17) trans-1,2-Dichloroethene	3.579	96	348764	49.022	ug/L		98
18) Acrylonitrile	4.139	53	265460	92.278	ug/L		99
19) MTBE	3.658	73	1001431	52.024	ug/L		99
20) Tert-Butanol	3.736	59	116575	311.793	ug/L	#	100
21) Isopropyl Ether	3.987	45	1344043	52.302	ug/L		100
22) 1,1-Dichloroethane	4.108	63	657052	50.545	ug/L		99
23) Vinyl acetate	4.306	43	1998050	123.255	ug/L		100
24) Ethyl-Tert-butyl Ether	4.301	59	1140078	52.861	ug/L		100
25) cis-1,2-Dichloroethene	4.573	96	361772	46.408	ug/L		99
26) 2,2-Dichloropropane	4.662	77	496190	51.890	ug/L		98
27) Bromochloromethane	4.740	128	154820	46.768	ug/L		98
28) Cyclohexane	4.756	84	650820	51.816	ug/L		99
29) Chloroform	4.803	83	618744	47.499	ug/L		99
31) 1,1-Dichloropropene	5.091	75	503988	48.057	ug/L		99
33) 1,1,1-Trichloroethane	4.986	97	537427	48.717	ug/L		99
34) 1,2-Dichloroethane	5.467	62	430384	46.162	ug/L		99
35) Benzene	5.300	78	1410696	47.666	ug/L		99
36) 2-Butanone	5.049	43	372860	106.933	ug/L		98
37) Carbon tetrachloride	4.934	117	508402	52.837	ug/L		100
38) Tert-amyl Methyl Ether	5.389	73	972854	54.287	ug/L		100
39) Trichloroethene	5.807	130	380953	48.344	ug/L		97
40) Methyl Cyclohexane	5.807	55	485669	37.659	ug/L		98
41) Dibromomethane	6.179	93	198486	47.568	ug/L		98
42) Bromodichloromethane	6.315	83	421055	49.290	ug/L		100
43) 1,2-Dichloropropane	6.257	63	360327	48.701	ug/L		100
44) 2-Chloroethylvinylether	6.817	63	254150	48.345	ug/L		99
45) cis-1,3-Dichloropropene	6.885	75	503620	47.627	ug/L		99

73.82%

Data Path : C:\msdchem\1\data\170817\
Data File : 17081710.D
Acq On : 17 Aug 2017 3:43 pm
Operator :
Sample : SSCV 46.4 ppb
Misc : ICV
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 18 13:26:10 2017
Quant Method : C:\msdchem\1\methods\170817X.M
Quant Title : M-8260S
QLast Update : Thu Aug 17 14:33:11 2017
Response via : Initial Calibration

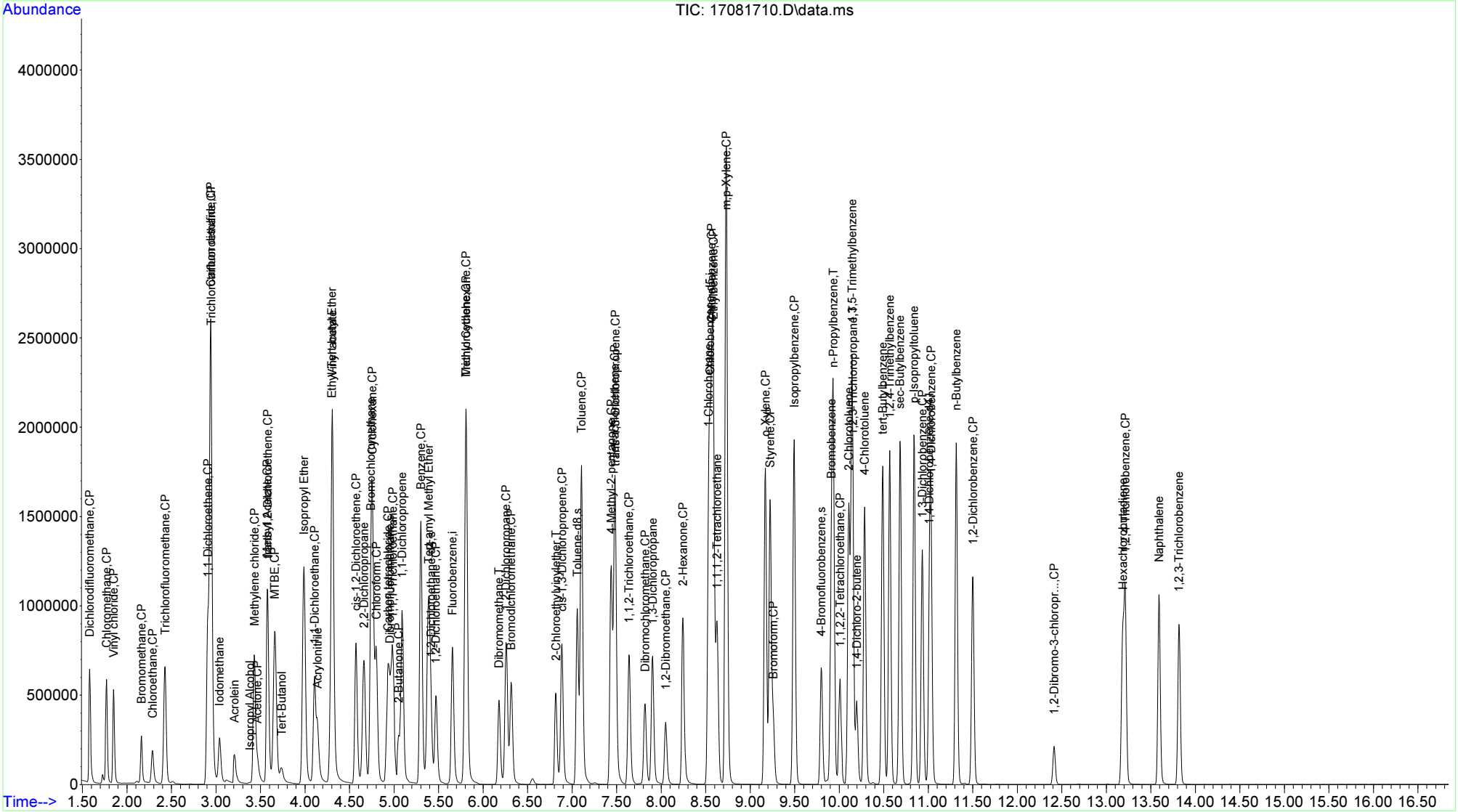
Compound	R.T.	QIon	Response	Conc	Units	%Rec
46) trans-1,3-Dichloropropene	7.486	75	431671	51.341	ug/L	99
47) 1,1,2-Trichloroethane	7.638	97	280433	48.608	ug/L	100
48) Toluene	7.105	92	886165	47.924	ug/L	99
50) 4-Methyl-2-pentanone	7.439	43	1024479	127.970	ug/L	100
52) 2-Hexanone	8.245	43	755885	134.122	ug/L	98
53) Dibromochloromethane	7.821	129	296480	47.850	ug/L	99
54) 1,3-Dichloropropane	7.905	76	474975	45.813	ug/L	100
55) Tetrachloroethene	7.476	164	320415	48.014	ug/L	100
56) 1,2-Dibromoethane	8.051	107	294649	48.491	ug/L	99
57) Chlorobenzene	8.564	112	900595	47.464	ug/L	100
58) 1,1,1,2-Tetrachloroethane	8.627	131	301814	49.906	ug/L	99
59) Ethylbenzene	8.585	106	515006	48.289	ug/L	98
60) Bromoform	9.259	173	197297	48.571	ug/L	98
61) Styrene	9.223	104	929755	50.197	ug/L	99
62) 1-Chlorohexane	8.532	55	416929	48.491	ug/L	99
63) m,p-Xylene	8.731	106	1235934	96.097	ug/L	99
64) o-Xylene	9.170	106	594340	48.504	ug/L	99
65) Isopropylbenzene	9.495	105	1579317	50.516	ug/L	100
67) Bromobenzene	9.913	156	368009	46.425	ug/L	99
68) 1,1,2,2-Tetrachloroethane	10.007	83	357933	47.016	ug/L	98
69) 1,2,3-Trichloropropane	10.154	110	108959	46.886	ug/L	99
71) 1,4-Dichloro-2-butene	10.196	53	121106	52.268	ug/L	95
72) n-Propylbenzene	9.934	91	1834746	46.604	ug/L	99
73) 2-Chlorotoluene	10.107	91	1173638	47.562	ug/L	99
74) 1,3,5-Trimethylbenzene	10.143	105	1265059	48.255	ug/L	99
75) 4-Chlorotoluene	10.285	91	1076361	47.097	ug/L	100
76) tert-Butylbenzene	10.489	119	1089991	46.556	ug/L	99
77) 1,2,4-Trimethylbenzene	10.567	105	1232011	46.775	ug/L	100
78) sec-Butylbenzene	10.682	105	1674266	47.891	ug/L	99
79) 1,3-Dichlorobenzene	10.933	146	672800	46.377	ug/L	99
80) p-Isopropyltoluene	10.839	119	1394034	48.633	ug/L	100
81) 1,4-Dichlorobenzene	11.032	146	682033	45.669	ug/L	99
82) 1,2-Dichlorobenzene	11.503	146	609665	46.549	ug/L	99
83) 1,2-Dibromo-3-chloropr...	12.413	75	61845	49.000	ug/L	98
84) n-Butylbenzene	11.315	91	1258186	48.438	ug/L	99
85) 1,2,4-Trichlorobenzene	13.213	180	417881	47.929	ug/L	99
86) Hexachlorobutadiene	13.187	225	218022	46.661	ug/L	99
87) Naphthalene	13.590	128	1018454	48.506	ug/L	100
88) 1,2,3-Trichlorobenzene	13.815	180	365558	47.548	ug/L	99

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\170817\
Data File : 17081710.D
Acq On : 17 Aug 2017 3:43 pm
Operator :
Sample : SSCV 46.4 ppb
Misc : ICV
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 18 13:26:10 2017
Quant Method : C:\msdchem\1\methods\170817X.M
Quant Title : M-8260S
QLast Update : Thu Aug 17 14:33:11 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\170817\
Data File : 17081710.D
Acq On : 17 Aug 2017 3:43 pm
Operator :
Sample : SSCV 46.4 ppb
Misc : ICV
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 18 13:40:34 2017
Quant Method : C:\msdchem\1\methods\170817X.M
Quant Title : M-8260S
QLast Update : Thu Aug 17 14:33:11 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		%Rec
Internal Standards							
1) Fluorobenzene	5.656	96	770028	200.00	ug/L		101
49) Chlorobenzene-d5	8.548	117	541896	200.00	ug/L		102
66) 1,4-Dichlorobenzene-d4	11.012	152	266556	200.00	ug/L		100
System Monitoring Compounds							Dev(Min)
30) Dibromofluoromethane	4.955	113	188767	198.21	ug/L		0.00
Spiked Amount 200.000			Recovery = 99.11%				
32) 1,2-Dichloroethane-d4	5.415	65	234628	195.92	ug/L		0.00
Spiked Amount 200.000			Recovery = 97.96%				
51) Toluene-d8	7.057	98	729146	202.28	ug/L		0.00
Spiked Amount 200.000			Recovery = 101.14%				
70) 4-Bromofluorobenzene	9.798	95	263423	199.50	ug/L		0.00
Spiked Amount 200.000			Recovery = 99.75%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.581	85	473529	48.410	ug/L		100
3) Chloromethane	1.770	50	477113	46.588	ug/L		99
4) Vinyl chloride	1.848	62	423351	47.153	ug/L		99
5) Bromomethane	2.162	94	144183	47.569	ug/L		99
6) Chloroethane	2.287	64	160350	41.735	ug/L		99
7) Trichlorofluoromethane	2.429	101	573627	47.676	ug/L		99
8) Trichlorotrifluoroethane	2.946	101	337643	43.292	ug/L	#	99
9) Acrolein	3.208	56	163810	123.460	ug/L		99
10) Isopropyl Alcohol	3.381	45	20544	201.267	ug/L	#	100
11) Acetone	3.464	43	162503	85.636	ug/L		98
12) Iodomethane	3.041	142	333586	54.399	ug/L		99
13) 1,1-Dichloroethene	2.910	96	347275	52.750	ug/L		99
14) Carbon disulfide	2.941	76	2792802	125.566	ug/L		100
15) Methylene chloride	3.433	84	328252	47.854	ug/L		97
16) Methyl Acetate	3.574	43	308159	53.486	ug/L		100
17) trans-1,2-Dichloroethene	3.579	96	348764	49.022	ug/L		98
18) Acrylonitrile	4.139	53	265460	92.278	ug/L		99
19) MTBE	3.658	73	1001431	52.024	ug/L		99
20) Tert-Butanol	3.736	59	116575	311.793	ug/L	#	100
21) Isopropyl Ether	3.987	45	1344043	52.302	ug/L		100
22) 1,1-Dichloroethane	4.108	63	657052	50.545	ug/L		99
23) Vinyl acetate	4.306	43	1998050	123.255	ug/L		100
24) Ethyl-Tert-butyl Ether	4.301	59	1140078	52.861	ug/L		100
25) cis-1,2-Dichloroethene	4.573	96	361772	46.408	ug/L		99
26) 2,2-Dichloropropane	4.662	77	496190	51.890	ug/L		98
27) Bromochloromethane	4.740	128	154820	46.768	ug/L		98
28) Cyclohexane	4.756	84	650820	51.816	ug/L		99
29) Chloroform	4.803	83	618744	47.499	ug/L		99
31) 1,1-Dichloropropene	5.091	75	503988	48.057	ug/L		99
33) 1,1,1-Trichloroethane	4.986	97	537427	48.717	ug/L		99
34) 1,2-Dichloroethane	5.467	62	430384	46.162	ug/L		99
35) Benzene	5.300	78	1410696	47.666	ug/L		99
36) 2-Butanone	5.049	43	372860	106.933	ug/L		98
37) Carbon tetrachloride	4.934	117	508402	52.837	ug/L		100
38) Tert-amyl Methyl Ether	5.389	73	972854	54.287	ug/L		100
39) Trichloroethene	5.807	130	380953	48.344	ug/L		97
40) Methyl Cyclohexane	5.807	55	485669	37.659	ug/L		98
41) Dibromomethane	6.179	93	198486	47.568	ug/L		98
42) Bromodichloromethane	6.315	83	421055	49.290	ug/L		100
43) 1,2-Dichloropropane	6.257	63	360327	48.701	ug/L		100
44) 2-Chloroethylvinylether	6.817	63	254150	48.345	ug/L		99
45) cis-1,3-Dichloropropene	6.885	75	503620	47.627	ug/L		99

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\170817\
Data File : 17081710.D
Acq On : 17 Aug 2017 3:43 pm
Operator :
Sample : SSCV 46.4 ppb
Misc : ICV
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 18 13:40:34 2017
Quant Method : C:\msdchem\1\methods\170817X.M
Quant Title : M-8260S
QLast Update : Thu Aug 17 14:33:11 2017
Response via : Initial Calibration

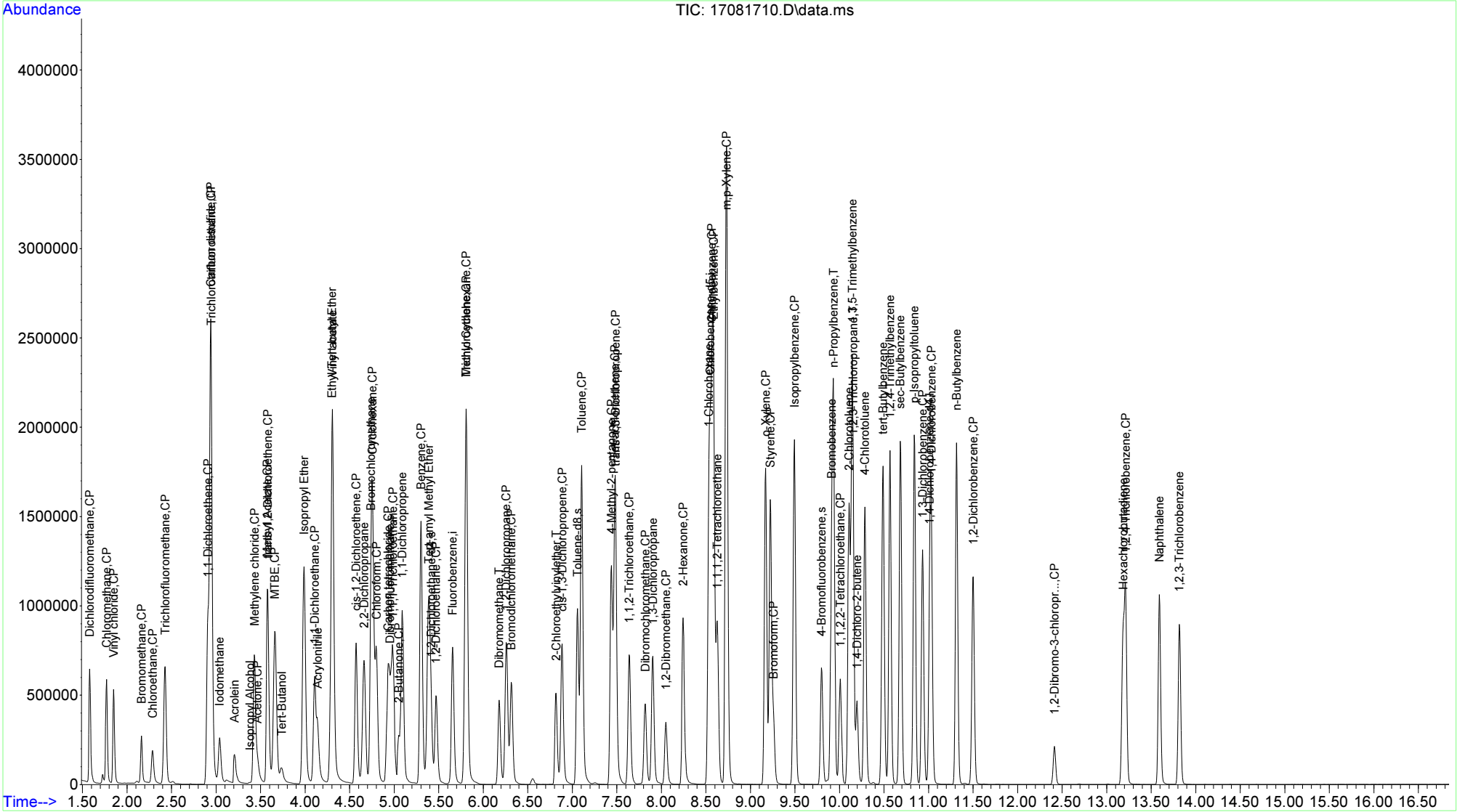
Compound	R.T.	QIon	Response	Conc	Units	%Rec
46) trans-1,3-Dichloropropene	7.486	75	431671	51.341	ug/L	99
47) 1,1,2-Trichloroethane	7.638	97	280433	48.608	ug/L	100
48) Toluene	7.105	92	886165	47.924	ug/L	99
50) 4-Methyl-2-pentanone	7.439	43	1024479	127.970	ug/L	100
52) 2-Hexanone	8.245	43	755885	134.122	ug/L	98
53) Dibromochloromethane	7.821	129	296480	47.850	ug/L	99
54) 1,3-Dichloropropane	7.905	76	474975	45.813	ug/L	100
55) Tetrachloroethene	7.476	164	320415	48.014	ug/L	100
56) 1,2-Dibromoethane	8.051	107	294649	48.491	ug/L	99
57) Chlorobenzene	8.564	112	900595	47.464	ug/L	100
58) 1,1,1,2-Tetrachloroethane	8.627	131	301814	49.906	ug/L	99
59) Ethylbenzene	8.585	106	515006	48.289	ug/L	98
60) Bromoform	9.259	173	197297	48.571	ug/L	98
61) Styrene	9.223	104	929755	50.197	ug/L	99
62) 1-Chlorohexane	8.532	55	416929	48.491	ug/L	99
63) m,p-Xylene	8.731	106	1235934	96.097	ug/L	99
64) o-Xylene	9.170	106	594340	48.504	ug/L	99
65) Isopropylbenzene	9.495	105	1579317	50.516	ug/L	100
67) Bromobenzene	9.913	156	368009	46.425	ug/L	99
68) 1,1,2,2-Tetrachloroethane	10.007	83	357933	47.016	ug/L	98
69) 1,2,3-Trichloropropane	10.154	110	108959	46.886	ug/L	99
71) 1,4-Dichloro-2-butene	10.196	53	121106	52.268	ug/L	95
72) n-Propylbenzene	9.934	91	1834746	46.604	ug/L	99
73) 2-Chlorotoluene	10.107	91	1173638	47.562	ug/L	99
74) 1,3,5-Trimethylbenzene	10.143	105	1265059	48.255	ug/L	99
75) 4-Chlorotoluene	10.285	91	1076361	47.097	ug/L	100
76) tert-Butylbenzene	10.489	119	1089991	46.556	ug/L	99
77) 1,2,4-Trimethylbenzene	10.567	105	1232011	46.775	ug/L	100
78) sec-Butylbenzene	10.682	105	1674266	47.891	ug/L	99
79) 1,3-Dichlorobenzene	10.933	146	672800	46.377	ug/L	99
80) p-Isopropyltoluene	10.839	119	1394034	48.633	ug/L	100
81) 1,4-Dichlorobenzene	11.032	146	682033	45.669	ug/L	99
82) 1,2-Dichlorobenzene	11.503	146	609665	46.549	ug/L	99
83) 1,2-Dibromo-3-chloropr...	12.413	75	61845	49.000	ug/L	98
84) n-Butylbenzene	11.315	91	1258186	48.438	ug/L	99
85) 1,2,4-Trichlorobenzene	13.213	180	417881	47.929	ug/L	99
86) Hexachlorobutadiene	13.187	225	218022	46.661	ug/L	99
87) Naphthalene	13.590	128	1018454	48.506	ug/L	100
88) 1,2,3-Trichlorobenzene	13.815	180	365558	47.548	ug/L	99

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\170817\
Data File : 17081710.D
Acq On : 17 Aug 2017 3:43 pm
Operator :
Sample : SSCV 46.4 ppb
Misc : ICV
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 18 13:40:34 2017
Quant Method : C:\msdchem\1\methods\170817X.M
Quant Title : M-8260S
QLast Update : Thu Aug 17 14:33:11 2017
Response via : Initial Calibration



ICP-MS4
For

DHL Work Order
1709065

ICP-MS4_170913A
For

DHL Work Order
1709065

Lab Data Review Check List
EPA Method 6020A / 200.8 - Trace Metals by ICP-MS

PROJECT AND BATCH NUMBERS ARE LISTED ON THE RUN LOG	Run ID: ICP-MS4_170913A SOP: MET-ICP-MS-02			
Review Item	**Yes**	**No**	**N/A**	**2nd Level Review**
Data Folder Contents 1. Is the Prep Batch Report included? ***Check the Prep Start/End Dates, Sample Amounts, Bottle #s***	X			x
2. Are the reagents and spikes listed on the Prep Batch Report current with a valid expiration date? ***All standard/QC sample preparations shall be documented in LIMS***	X			
3. Is the Run Log and instrument sequence included? ***Check the Test Code, Sample Type, Batch ID, and Analysis Date/Time***	X			

Daily Demonstration of Performance

QC items that do not meet method/SOP/project requirements will be described on the run log. All variances that impact data quality will be described in the Variance/Comment Section on page 2.

Review Item	Frequency	Limits	Pass	Fail (List Batch/Sample) **See Run Log**	2nd Level Review
Tune	Before ICAL	RSD ≤ 5% / Peak Width@10% <0.9amu	X		x
Initial Calibration Curve (ICAL) (Blank + Multi-Level CAL STDS)	Prior to samples and when ICV fails	R^2 ≥ 0.99 (DoD) R ≥ 0.998 (6020A)	X		

Note: LCVLs and ICSA/ICSAB are N/A for Method 200.8 or project-specific exceptions.

Review Item	Frequency	Limits	Pass	Fail	N/A	Review
P/A Factor - Performed at least Monthly or After maintenance	After Instrument Maintenance or monthly	Increasing trend	X			x
ICSA (N/A for Method 200.8+U)	After calibration & every 12 hours	< RL (except Mn & Zn)	X			
ICSAB (N/A for Method 200.8+U)	After calibration & every 12 hours	80-120% (correct for ICSA result)	X			
ICV (Second Source Verification)	After ICAL	90-110%	X			
ICB	After calibration	< MDL	X			
CCV	Every 10 samples	90-110%	X			
CCB	Every 10 samples	< MDL (ALL + DoD)	X			
Internal Standards	Every sample and QC sample	> 70% (6020A) 60-125% (200.8) 30-120% (DoD)	X			
LCVL (6020A test code)	After ICAL, every 10 samples and end of run	70-130%	X			
LCVL (DoD)	DAILY	80-120%			X	
LCVL (All metals test codes except 200.8/6020A)	After ICAL and end of run	70-130%			X	
Method Blank (MB)	Every Batch	< MDL / <½ RL (DoD) or <1/10 the sample/reg limit	X			
Filter/TCLP/SPLP Blank	Filter-Dissolved only TCLP / SPLP	< MDL / <½ RL (DoD) or <1/10 the sample/reg limit			X	
Lab Control Sample (LCS)	Every Batch	80-120%	X			
Lab Control Sample Dup (LCSD)	Every Batch	80-120%	X			
LCSD - RPD	Every LCS/LCSD	15 (H2O) / 20 (Soil)	X			
Matrix Spike/ Matrix Spike Duplicate (MS/MSD)	Every Batch	70-130 / 80-120 (6020A)	X			
MSD - RPD	Every MS/MSD	15 (H2O) / 20 (Soil)	X			
Dilution Test (SD) - RPD	Every Batch	10	X			
Post Digestion Spike (PDS)	Every Batch	75-125 / 80-120 (6020A)	X			

Lab Data Review Check List
EPA Method 6020 / 6020A / 200.8 - Trace Metals by ICP-MS

Review Item	Criteria	Yes	No	N/A	2nd Level Review
Sample Analysis 1. Are all sample hold times met?	6 months	X			x
2. Are all samples with concentrations > the highest standard used for calibration diluted and reanalyzed?	All results > high point of ICAL must be diluted	X			
3. Are ALL reported analytes and reported results > MDL highlighted by the analyst?		X	**Confirm with analyst if LIMS result does not match Labcore**		

VARIANCE REPORT

QC items that do not meet method/SOP/project requirements will be described on the run log. All variances that impact data quality will be described in this section.

NON-CONFORMANCES / VARIANCE	Criteria	Yes	No	N/A	2nd Level
1. Are all non-conformances and corrective actions included and noted?	All deviations from the method and SOP that affect data quality			X	x
2. Does the variance require approval by the Technical Director/General Manager/QA Manager?				X	

TECHNICAL DIRECTOR / QA MANAGER APPROVAL
SIGNATURE AND DATE STAMP:

Description and Corrective Actions of QC items that do not meet method/SOP/project requirements:

****INCLUDE VARIANCE ITEM / REASON / CORRECTIVE ACTION / IMPACT ON DATA****

VARIANCE ITEM	REASON	CORRECTIVE ACTION
__ CCV out of control (± 10%)	__ Carryover from previous run	__ Reanalyze QC to confirm
__ CCB out of control (> MDL / >½ RL)	__ Cross contamination	__ Recalibrate
__ MB out of control (> RL / >½ RL)	__ Lab Artifact	__ Reprep/Reanalyze sample
__ LCS __ LCSD out of control (± 20%)	__ Prep Spike error (describe)	__ Reprep/Reanalyze Batch
__ MS __ MSD out of control (± 20%)	__ Matrix Effect	__ Reanalyze Batch/Sample/QC
__ RPD out of control for LCS/LCSD/MS/MSD (15/25)	__ High Levels of Target Metals	__ Verify reagents are clean
__ Post Digestion Spike out of control (See Method)	__ Insufficient sample for QC	__ Reanalyze sample to confirm
__ Serial Dilution out of control (see Method)	__ Digestion/Prep Error	__ Sample results ND w/ dilution
__ Internal Standard(s) out of control (see Method)	__ Analytical Error	__ Client notified and approved
__ No MS/MSD prepared - LCS/LCSD used instead	__ Client Request	__ Flag data / Case narrative
__ Missing QC (other than MS/MSD)		__ Accept data
__ QC sample(s) was mis-spiked		__ Cal Std high and sample ND
__ ICSA/ICSAB missing or out of control (± 20%)		
__ LCVL out of control (± 30%)	__ Other (describe below)	__ Other (describe below)
__ Sample(s) analyzed outside of HT		
__ Other (describe below)		

General Comments and Impact on Data:

Analyst: _____ Date of Completion: 09/13/2017

Second-Level Review: Janice Whitt Date Stamp: 9/13/2017

REVIEWED BY
By Janice Whitt at 4:39:42 PM, 9/13/2017

Method 200.8/6020A Calibration Curve – ICP-MS

CAL LEVEL	RUN LOG ID		LIMS CAL STD ID	Prep Date	
MET CAL 1	BLANK STD 1		---	09/13/2017	
MET CAL 2	L2-	170913	MET-L2CAL- 170802	09/13/2017	CAL2 - CAL6
MET CAL 3	L-	170913	MET-LCAL- 170802	09/13/2017	MADE FRESH DAILY
MET CAL 4	10X-	170913	MET-LCAL10X- 170802	09/13/2017	
MET CAL 5	5X-	170913	MET-LCAL5X- 170802	09/13/2017	
MET CAL 6	2X-	170913	MET-MCAL- 170802	09/13/2017	
MET CAL 7	H-	170913	**MET-HCAL-170802**	08/02/2017	
MET CAL 8	H2-	170913	**MET-H2CAL-170802**	08/02/2017	

Metal	MET CAL 2	MET CAL 3	MET CAL 4	MET CAL 5	MET CAL 6	MET CAL 7	MET CAL 8
	MET-L2CAL (10X OF LCAL)	MET-LCAL (50X OF HCAL)	MET-LCAL10X (10X OF HCAL)	MET-LCAL5X (5X OF HCAL)	MET-MCAL (2X OF HCAL)	MET-HCAL (SEE BELOW)	MET-H2CAL (SEE BELOW)
Aluminum	20	200	1000	2000	5000	10,000	---
Antimony	1	10	50	100	250	500	---
Arsenic	1	10	50	100	250	500	2000
Barium	1	10	50	100	250	500	2000
Beryllium	1	10	50	100	250	500	2000
Boron	1	10	50	100	250	500	2000
Cadmium	1	10	50	100	250	500	2000
Calcium	20	200	1000	2000	5000	10,000	2000
Chromium	1	10	50	100	250	500	2000
Cobalt	1	10	50	100	250	500	2000
Copper	1	10	50	100	250	500	2000
Iron	20	200	1000	2000	5000	10,000	---
Lead	1	10	50	100	250	500	2000
Lithium	1	10	50	100	250	500	2000
Magnesium	20	200	1000	2000	5000	10,000	2000
Manganese	1	10	50	100	250	500	2000
Molybdenum	1	10	50	100	250	500	2000
Nickel	1	10	50	100	250	500	2000
Potassium	20	200	1000	2000	5000	10,000	25,000
Selenium	1	10	50	100	250	500	2000
Silver	1	10	50	100	250	500	---
Sodium	20	200	1000	2000	5000	10,000	25,000
Strontium	1	10	50	100	250	500	2000
Thallium	1	10	50	100	250	500	2000
Tin	1	10	50	100	250	500	2000
Titanium	1	10	50	100	250	500	2000
Uranium	1	10	50	100	250	500	2000
Vanadium	1	10	50	100	250	500	2000
Zinc	1	10	50	100	250	500	2000

MET CAL 7: MET-HCAL-170802

STOCK	Amount Used	Final Volume (mL)	Final Conc (µg/L)
AL PRIMARY STD 1000 PPM	500 µL	50	10,000
FE PRIMARY STD 1000 PPM	500 µL	50	10,000
2500 PPM NATURALS SPIKE	200 µL	50	10,000
50 PPM CUSTOM+Sr,Sn,Ti,	500 µL	50	2000
Sb + Ag 50 PPM	500 µL	50	2000

MET CAL 8: MET-H2CAL-170802

STOCK	Amount Used	Final Volume (mL)	Final Conc (µg/L)
1000 PPM STRONTIUM STD	100 µL	50	2000
1000 PPM TIN STD	100 µL	50	2000
1000 PPM TITANIUM STD	100 µL	50	2000
1000 PPM URANIUM STD	100 µL	50	2000
1000 PPM BORON STD	100 µL	50	2000
1000 PPM LITHIUM STD	100 µL	50	2000
1000 PPM MOLYBDENUM	100 µL	50	2000
500 PPM CUSTOM MIX STD	200 µL	50	2000
2500 PPM NATURALS SPIKE	500 µL	50	25,000

Analyst/Date: 09/13/2017

Second-Level Review/Date: REVIEWED BY By Janice Whitt at 4:25:05 PM, 9/13/2017

DHL Analytical, Inc.

Run ID: ICP-MS4_170913A **Run No.:** 94136

Analytical Run Date: 9/13/2017 **InstrumentID:** ICP-MS4

Analyst: Ryan Oliver

SampID	DF	TestCode	SampType	Batch ID	Analysis Date/Time	Q	Comments
BLANK STD 1	1	6020A_W	CAL	R94136	9/13/2017 12:36:00 PM		
L2-170913	1	6020A_W	CAL	R94136	9/13/2017 12:38:00 PM		
L-170913	1	6020A_W	CAL	R94136	9/13/2017 12:40:00 PM		
10X-170913	1	6020A_W	CAL	R94136	9/13/2017 12:42:00 PM		
5X-170913	1	6020A_W	CAL	R94136	9/13/2017 12:44:00 PM		
2X-170913	1	6020A_W	CAL	R94136	9/13/2017 12:45:00 PM		
H-170913	1	6020A_W	CAL	R94136	9/13/2017 12:47:00 PM		
H2-170913	1	6020A_W	CAL	R94136	9/13/2017 12:49:00 PM		
ICSA-170913	1	6020A_W	ICSA	R94136	9/13/2017 12:55:00 PM		
ICSAB-170913	1	6020A_W	ICSB	R94136	9/13/2017 12:57:00 PM		
ICV-170913	1	6020A_W	ICV	R94136	9/13/2017 1:03:00 PM		
LCVL-170913	1	6020A_W	LCVL	R94136	9/13/2017 1:31:00 PM		
ICB-170913	1	6020A_W	ICB	R94136	9/13/2017 1:35:00 PM		
1709055-01A	10	6020A_W	SAMP	82311	9/13/2017 1:37:00 PM		DNR; QC ref only
1709055-01A SD	50	6020A_W	SD	82311	9/13/2017 1:39:00 PM		
1709053-01B	50	6020A_W	SAMP	82311	9/13/2017 1:41:00 PM		
1709055-01A PDS	10	6020A_W	PDS	82311	9/13/2017 1:43:00 PM		
MB-82335	1	6020A_W	MBLK	82335	9/13/2017 1:48:00 PM		
LCS-82335	1	6020A_W	LCS	82335	9/13/2017 1:50:00 PM		
LCSD-82335	1	6020A_W	LCSD	82335	9/13/2017 1:52:00 PM		
1709066-01B	1	6020A_W	SAMP	82335	9/13/2017 1:56:00 PM		
1709066-01B SD	5	6020A_W	SD	82335	9/13/2017 1:58:00 PM		
1709065-01B	1	6020A_W	SAMP	82335	9/13/2017 2:00:00 PM		
1709067-01B	1	6020A_W	SAMP	82335	9/13/2017 2:02:00 PM		
1709066-01B PDS	1	6020A_W	PDS	82335	9/13/2017 2:04:00 PM		
1709066-01B MS	1	6020A_W	MS	82335	9/13/2017 2:05:00 PM		
1709066-01B MSD	1	6020A_W	MSD	82335	9/13/2017 2:07:00 PM		
CCV1-170913	1	6020A_W	CCV	R94136	9/13/2017 2:09:00 PM		
LCVL1-170913	1	6020A_W	LCVL	R94136	9/13/2017 2:15:00 PM		
CCB1-170913	1	6020A_W	CCB	R94136	9/13/2017 2:18:00 PM		

Std ID	Std Name	Type	Exp. Date
MET-CCV-170802	ICPMS CCV 200/5000 PPB	CCV	02/03/2018
MET-H2CAL-170802	ICPMS High Cal2 2000ppb std 8	CAL	02/03/2018
MET-HCAL-170802	ICPMS High Cal 500ppb/10ppm std	CAL	02/03/2018
MET-ICV-170802	ICPMS ICV 100 ppb	ICV	02/03/2018
MET-IS-170530	INTERNAL STANDARD 1 PPM	CAL	11/28/2017
MET-L2CAL-170802	ICPMS Low Cal2 1/20ppb std 2	CAL	02/03/2018
MET-LCAL-170802	ICPMS Low Cal 10/200ppb std 3	CAL	02/03/2018
MET-LCAL10X-1708	ICPMS Low Cal 50/1000ppb std 4	CAL	02/03/2018
MET-LCAL5X-17080	ICPMS Low Cal 100/2000ppb std 5	CAL	02/03/2018
MET-MCAL-170802	ICPMS Mid Cal 250/5000ppb std 6	CAL	02/03/2018
MET-PA-170417	ICPMS PA FACTOR SOLUTION	CAL	10/17/2017
MET-PDS-170814-1	10 PPM Ag+Sb PDS	CAL	02/14/2018
MET-PDS-170814-2	10 PPM CUSTOM PDS SOLUTION	PDS	02/14/2018
MET-PDS-170814-3	250 PPM Naturals+Al+Fe PDS	PDS	02/14/2018
MET-TUNECHK-170	100ppb TUNE CHECK SOLUTION	TUNE	09/18/2017

Sample List

Batch Folder C:\Agilent\ICPMH\1\DATA\170913.b

Acquisition Order

#	Sequence Flow
1	Calibration Standards
2	Unknown Samples
3	Blank Samples

Calibration Standards:

#	Skip	Sample Type	Sample Name	Comment	Vial#	Level	Total Dil.
1		CCB		CAL 6020A_W	1101		
2		CCB		CAL 6020A_W	1101		
3		CCB		CAL 6020A_W	1102		
4		CCB		CAL 6020A_W	1102		
5		CCB		CAL 6020A_W	1102		
6		CCB		CAL 6020A_W	1103		
7		CCB		CAL 6020A_W	1103		
8		CCB		CAL 6020A_W	1103		
9		CalBlk	BLANK STD 1	CAL 6020A_W	2101	1	
10		CalStd	L2-170913	CAL 6020A_W	2102	2	
11		CalStd	L-170913	CAL 6020A_W	2103	3	
12		CalStd	10X-170913	CAL 6020A_W	2104	4	
13		CalStd	5X-170913	CAL 6020A_W	2105	5	
14		CalStd	2X-170913	CAL 6020A_W	2106	6	
15		CalStd	H-170913	CAL 6020A_W	2107	7	
16		CalStd	H2-170913	CAL 6020A_W	2108	8	
17		ICB	BLANK	CCB 6020A_W	1101		
18		ICB	BLANK	CCB 6020A_W	1102		
19		ICSA	ICSA-170913	ICSA6020A_W	2109		
20		ICSB	ICSAB-170913	ICSB6020A_W	2110		
21		ICB	BLANK	CCB 6020A_W	1101		
22		ICB	BLANK	CCB 6020A_W	1102		
23		ICV	ICV-170913	ICV 6020A_W	2111		
24		ICB	ICB-170913	ICB 6020A_W	1101		
25		LLICV	LCVL-170913	LCVL6020A_W	2112		
26		LLICV	LCVL-170913	LCVL6020A_W	2512		
27		ICB	ICB-170913	ICB 6020A_W	1102		
28		ICB	ICB-170913	ICB 6020A_W	1103		
29		AllRef	1709055-01A	SAMP6020A_W	2201		10
30		SD	1709055-01A SD	SD 6020A_W	2202		50
31		SAMP_W	17090053-01B	SAMP6020A_W	2203		50
32		PDS	1709055-01A PDS	PDS 6020A_W	2204		10
33		CCB	RINSE	CCB 6020A_W	1102		
34		CCB	RINSE	CCB 6020A_W	1103		
35		PB_W	MB-82335	MBLK6020A_W	2301		1
36		LCS_W	LCS-82335	LCS 6020A_W	2302		1
37		LCS_W	LCSD-82335	LCSD6020A_W	2303		1
38		CCB	RINSE	CCB 6020A_W	1101		
39		AllRef	1709066-01B	SAMP6020A_W	2304		1
40		SD	1709066-01B SD	SD 6020A_W	2305		5
41		SAMP_W	1709065-01B	SAMP6020A_W	2306		1
42		SAMP_W	1709067-01B	SAMP6020A_W	2307		1
43		PDS	1709066-01B PDS	PDS 6020A_W	2308		1
44		MS_W	1709066-01B MS	MS 6020A_W	2309		1
45		MS_W	1709066-01B MSD	MSD 6020A_W	2310		1
46		CCV	CCV1-170913	CCV 6020A_W	1207		
47		CCB	CCB1-170913	CCB 6020A_W	1102		
48		LLCCV	LCVL1-170913	LCVL6020A_W	2112		

Sample List

49	CCB	CCB1-170913	CCB 6020A_W	1103	
50	PB_W	MB-82334	MBLK200.8	3101	1
51	LCS_200	LCS-82334	LCS 200.8	3102	1
52	LCS_200	LCSD-82334	LCSD200.8	3103	1
53	CCB	RINSE	CCB 6020A_W	1101	
54	AllRef	1709078-02A	SAMP200.8	3104	1
55	SD	1709078-02A SD	SD 200.8	3105	5
56	SAMP_W	1709078-01A	SAMP200.8	3106	1
57	SAMP_W	1709071-01A	SAMP200.8	3107	1
58	PDS	1709078-02A PDS	PDS 200.8	3108	1
59	MS_W	1709078-02A MS	MS 200.8	3109	1
60	MS_W	1709078-02A MSD	MSD 200.8	3110	1
61	CCV	CCV2-170913	CCV 6020A_W	1207	
62	CCB	CCB2-170913	CCB 6020A_W	1102	
63	LLCCV	LCVL2-170913	LCVL6020A_W	2112	
64	CCB	CCB2-170913	CCB 6020A_W	1103	
65	CCB	CCB2-170913	CCB 6020A_W	1103	
66	CCB	HNO3	CCB 6020A_W	1106	
67	CCB	HCL	CCB 6020A_W	1107	
68	CCB	CCB2-170913	CCB 6020A_W	1103	
69	CCB	CCB2-170913	CCB 6020A_W	1103	
70	CCB	CCB2-170913	CCB 6020A_W	1103	

Unknown Samples:

#	Skip	Sample Type	Sample Name	Comment	Vial#	Level	Total Dil.

Blank Samples:

#	Skip	Sample Type	Sample Name	Comment	Vial#	Level	Total Dil.

Periodic Block

#	Block Name	Period	Unit	Reset By

Sublist

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **9/13/2017 7:59:11 AM**
Digestion:
Prep End Date:

Prep Batch **82335** Prep Code: **3005A** Technician: **Sydney Powers**

Prep Factor Units: **mL/mL**

Equipment List

- Hot Block #3
- Thermometer #60
- Pipette #P-40-Spikes
- Pipette #P-41 Samples

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Vessel	Cleanup
1709065-01B	Aqueous		50	50	1.000	1 of 1		
1709066-01B MS/MSD	Aqueous		50	50	1.000	1 of 1		
1709067-01B	Aqueous		50	50	1.000	1 of 1		
LCS-82335	Aqueous		50	50	1.000	of		
LCSD-82335	Aqueous		50	50	1.000	of		
MB-82335	Aqueous		50	50	1.000	of		

Number	Reagent Name	Amt	Units	Exp. Da
11489	Nitric Acid (Trace Metal Grade)	1	ml	06/14/2027
11490	Hydrochloric Acid (trace metal grade)	1	ml	12/15/2019
11594	Digestion Vessels	1	ml	01/10/2018

Spk ID	Spike Name	SampType	Amt (mL or g)	Exp. Date
MET-161107-1	AL PRIMARY STD 1000 PPM	LCS/MS/MSD	0.25	04/27/2018
MET-161107-4	FE PRIMARY STD 1000 PPM	LCS/MS/MSD	0.25	04/27/2018
MET-SPIKE-170803-3	2500 PPM Naturals Spike	LCS/MS/MSD	0.1	02/04/2018
MET-SPIKE-170815-1	Sb+Ag 50 PPM	LCS/MS/MSD	0.2	02/16/2018
MET-SPIKE-170815-2	50 PPM Custom+Sr,Sn,Ti,U,B,Li,Mo	LCS/MS/MSD	0.2	02/16/2018

8:20 - 13:00

REVIEWED BY
By Janice Whitt at 4:25:50 PM, 9/13/2017

9/13/17

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **9/13/2017 7:59:11 AM**
Digestion: **Start: 9/13/2017 8:20:00 AM / Stop: 9/13/2017 1:00:00 PM**
Prep End Date: **9/13/2017 1:19:27 PM**

Prep Batch **82335** Prep Code: **3005A** Technician: **Sydney Powers**

Prep Factor Units: **mL/mL**

Equipment List

Hot Block #3
Thermometer #60
Pipette #P-40-Spikes
Pipette #P-41 Samples

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Vessel	Cleanup
1709065-01B	Aqueous		50	50	1.000	1 of 1		
1709066-01B	Aqueous		50	50	1.000	1 of 1		
1709066-01B MS	Aqueous		50	50	1.000	of		
1709066-01B MSD	Aqueous		50	50	1.000	of		
1709066-01B PDS	Aqueous		50	50	1.000	of		
1709066-01B SD	Aqueous		50	50	1.000	of		
1709067-01B	Aqueous		50	50	1.000	1 of 1		
LCS-82335	Aqueous		50	50	1.000	of		
LCSD-82335	Aqueous		50	50	1.000	of		
MB-82335	Aqueous		50	50	1.000	of		

Number	Reagent Name	Amt	Units	Exp. Da
11489	Nitric Acid (Trace Metal Grade)	1	ml	06/14/2027
11490	Hydrochloric Acid (trace metal grade)	1	ml	12/15/2019
11594	Digestion Vessels	1	ml	01/10/2018

Spk ID	Spike Name	SampType	Amt (mL or g)	Exp. Date
MET-161107-1	AL PRIMARY STD 1000 PPM	LCS/MS/MSD	0.25	04/27/2018
MET-161107-4	FE PRIMARY STD 1000 PPM	LCS/MS/MSD	0.25	04/27/2018
MET-SPIKE-170803-3	2500 PPM Naturals Spike	LCS/MS/MSD	0.1	02/04/2018
MET-SPIKE-170815-1	Sb+Ag 50 PPM	LCS/MS/MSD	0.2	02/16/2018
MET-SPIKE-170815-2	50 PPM Custom+Sr,Sn,Ti,U,B,Li,Mo	LCS/MS/MSD	0.2	02/16/2018

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By Janice Whitt at 4:25:52 PM, 9/13/2017

Calibration Summary Report

Date Acquired 9/13/2017 12:36
Data Batch 170913.b

Level	Calibration File Name
1	009CALB.d
2	010CALS.d
3	011CALS.d
4	012CALS.d
5	013CALS.d
6	014CALS.d
7	015CALS.d
8	016CALS.d

Calibration Table

Ele	Corr Coef	Curve Equation
As	1.0000	y = 0.0010 * x + 8.7201E-005
Be	1.0000	y = 5.3796E-005 * x + 4.7153E-006
B	1.0000	y = 2.6935E-005 * x + 1.3185E-004
Na	1.0000	y = 8.7429E-004 * x + 0.0103
Mg	1.0000	y = 4.5684E-004 * x + 4.9642E-004
Al	1.0000	y = 1.7207E-004 * x + 9.9813E-004
K	1.0000	y = 3.8855E-004 * x + 0.0217
Ca	1.0000	y = 2.3928E-005 * x + 2.0497E-004
Ti	1.0000	y = 1.5290E-004 * x + 3.5027E-006
V	1.0000	y = 0.0052 * x + 0.0017
Cr	1.0000	y = 0.0063 * x + 2.9224E-004
Mn	1.0000	y = 0.0037 * x + 1.0741E-004
Fe	1.0000	y = 0.0050 * x + 0.0030
Co	1.0000	y = 0.0151 * x + 1.9917E-004
Ni	1.0000	y = 0.0040 * x + 1.8317E-004
Cu	1.0000	y = 0.0107 * x + 5.9524E-004
Zn	1.0000	y = 0.0016 * x + 3.4435E-004
Se	1.0000	y = 8.0729E-005 * x + 2.6755E-005
Sr	1.0000	y = 6.6191E-004 * x + 3.5174E-005
Mo	1.0000	y = 6.2680E-004 * x + 8.2382E-006
Ag	1.0000	y = 0.0019 * x + 7.4948E-006
Cd	1.0000	y = 2.8342E-004 * x + 8.5862E-007
Sn	1.0000	y = 6.0890E-004 * x + 4.9076E-005
Sb	1.0000	y = 7.5415E-004 * x + 2.0170E-005
Tl	1.0000	y = 0.0018 * x + 1.8892E-005
Ba	1.0000	y = 2.7504E-004 * x + 7.7507E-006
Pb	1.0000	y = 0.0024 * x + 9.5426E-005

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By Janice Whitt at 4:25:55 PM, 9/13/2017

Calibration Summary Report

Level 7 Cal

Ele	Conc	Calc	%Rec
As	500	505.14	101
Be	500	499.90	100
B	500	496.88	99
Na	10000	10095.96	101
Mg	10000	10078.27	101
Al	10000	10000.77	100
K	10000	9815.30	98
Ca	10000	9989.11	100
Ti	500	494.21	99
V	500	490.05	98
Cr	500	498.63	100
Mn	500	493.51	99
Fe	10000	9999.71	100
Co	500	511.55	102
Ni	500	512.85	103
Cu	500	510.91	102
Zn	500	513.49	103
Se	500	505.53	101
Sr	500	485.32	97
Mo	500	487.91	98
Ag	500	499.61	100
Cd	500	503.94	101
Sn	500	489.53	98
Sb	500	501.66	100
Tl	500	498.50	100
Ba	500	501.26	100
Pb	500	500.26	100

Level 8 Cal

Ele	Conc	Calc	%Rec
As	2000	1998.75	100
Be	2000	2000.17	100
B	2000	2000.08	100
Na	25000	24954.84	100
Mg	25000	24952.18	100
K	25000	25084.39	100
~~Ca~~	~~25000~~		~~#DIV/0!~~
Ti	2000	2002.03	100
V	2000	2003.05	100
Cr	2000	2000.25	100
Mn	2000	2001.89	100
Co	2000	1996.85	100
Ni	2000	1995.79	100
Cu	2000	1996.19	100
Zn	2000	1995.57	100
Se	2000	1998.20	100
Sr	2000	2005.33	100
Mo	2000	2004.51	100
Cd	2000	1998.98	100
Sn	2000	2003.87	100
Tl	2000	2000.80	100
Ba	2000	2000.02	100
Pb	2000	2000.57	100

Use Level 7 Cal

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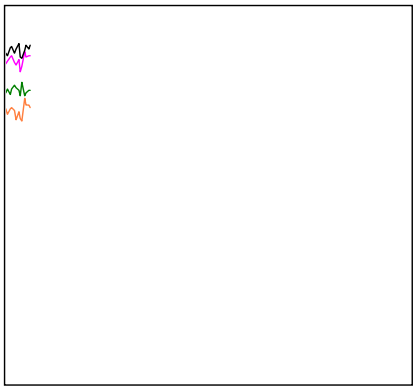
Current Signal

[Helium]



Mass	Range	Count	Avg. Count	RSD [%]
63	500	174	190.7	4.61
59	20000	15583	15539.2	1.35
89	20000	14636	14475.6	2.29
140	50000	43387	42865.4	1.71
205	50000	44893	44174.4	1.47
156/140	1	0.369 %	0.409 %	10.72
51	200	106	79.3	14.55
56	5000	2822	2809.8	2.49
75	20	1	2.0	97.89
78	20	2	2.9	86.62
Integration Time [sec]		0.10		

Plasma Parameters

RF Power	1550	W	Nebulizer Pump	0.10	rps
RF Matching	1.90	V	S/C Temp	2	℃
Smpl Depth	8.0	mm	Gas Switch	Dilution Gas	
Carrier Gas	0.70	L/min	Makeup/Dilution Gas	0.40	L/min
Option Gas	0.0	%			

Lenses Parameters

Extract 1	0.0	V	Cell Entrance	-40	V
Extract 2	-170.0	V	Cell Exit	-58	V
Omega Bias	-75	V	Deflect	0.4	V
Omega Lens	8.4	V	Plate Bias	-60	V

Cell Parameters

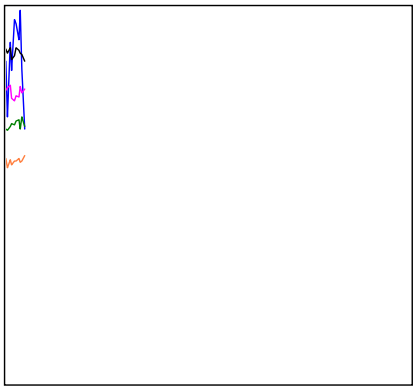
Use Gas	Yes		OctP RF	200	V
He Flow	5.0	mL/min	Energy Discrimination	3.0	V
OctP Bias	-19.0	V			

Meters

IF/BK Press	2.16E+2	Pa	Carrier Gas(BP)	3.04E+2	kPa	Forward Power	1551	W
Analyzer Press	1.58E-4	Pa	Reflected Power	5	W			

Current Signal

[No Gas]



Mass	Range	Count	Avg. Count	RSD [%]
63	200	135	172.5	12.30
59	20000	13663	13728.3	1.70
89	20000	12052	11796.0	1.45
140	50000	39051	38611.6	1.86
205	50000	42770	43796.2	1.39
156/140	1	0.417 %	0.387 %	9.02
51	100	59	53.1	11.73
56	5000	2341	2285.0	2.67
75	20	1	2.1	72.57
78	20	6	1.8	116.53
Integration Time [sec]		0.10		

Plasma Parameters

RF Power	1550	W	Nebulizer Pump	0.10	rps
RF Matching	1.90	V	S/C Temp	2	℃
Smpl Depth	8.0	mm	Gas Switch	Dilution Gas	
Carrier Gas	0.70	L/min	Makeup/Dilution Gas	0.40	L/min
Option Gas	0.0	%			

Lenses Parameters

Extract 1	0.0	V	Cell Entrance	-40	V
Extract 2	-170.0	V	Cell Exit	-58	V
Omega Bias	-75	V	Deflect	1.4	V
Omega Lens	8.4	V	Plate Bias	-60	V

Cell Parameters

Use Gas	Yes		OctP RF	200	V
He Flow	5.0	mL/min	Energy Discrimination	3.0	V
OctP Bias	-19.0	V			

Meters

IF/BK Press	2.16E+2	Pa	Carrier Gas(BP)	3.03E+2	kPa	Forward Power	1552	W
Analyzer Press	1.58E-4	Pa	Reflected Power	5	W			

US EPA Tune Check Sample Report

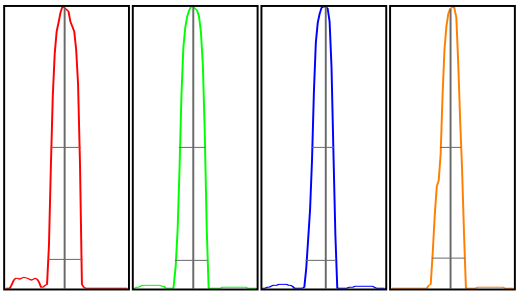
Batch Folder C:\Agilent\ICPMH\1\DATA\DHL Li+U TEMPLATE.b
Report Comment
Instrument Name ICPMS4 JP12361998

[No Gas]

Mass	Count (Mean)	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
7	372	1.18	5.00	
59	70061	0.82	5.00	
115	67585	0.69	5.00	
205	208299	2.93	5.00	

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
7	367	370	379	372	370
59	71039	69614	69752	70092	69810
115	68365	67550	67227	67553	67230
205	218203	210058	205384	204789	203061

Integration Time [sec] = 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	Width-X% (Flag)
7	576	7.00	6.9 - 7.1		0.807	0.850	
59	121152	59.00	58.9 - 59.1		0.768	0.850	
115	136435	115.05	114.9 - 115.1		0.709	0.850	
205	411773	205.00	204.9 - 205.1		0.780	0.850	

X% = 10 **Int Time [sec] =** 0.1 **Acq Time [sec] =** 135.05 **Y Axis =** Linear

Tune Parameters

Plasma Paramters

ParameterName	Value	Unit	ParameterName	Value	Unit
RF Power	1550	W	Nebulizer Pump	0.10	rps
RF Matching	1.90	V	S/C Temp	2	℃
Smpl Depth	8.0	mm	Gas Switch	Dilution Gas	
Carrier Gas	0.70	L/min	Makeup/Dilution Gas	0.40	L/min
Option Gas	0.0	%			

Lenses Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit
Extract 1	0.0	V	Cell Entrance	-40	V
Extract 2	-170.0	V	Cell Exit	-58	V
Omega Bias	-75	V	Deflect	1.4	V
Omega Lens	8.4	V	Plate Bias	-60	V

Cell Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit
Use Gas	Yes		OctP RF	200	V
He Flow	5.0	mL/min	Energy Discrimination	3.0	V
OctP Bias	-19.0	V			

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By Janice Whitt at 4:26:31 PM, 9/13/2017

P/A Factor Tuning Report

Current Sample

Sample Name: BLANK STD 1
Data File: 009CALB.d
Acquired: 9/13/2017 12:36:17 PM

Detector Parameters and P/A Factors

Discriminator: 4.5 mV
AnalogHV: 1750 V
PulseHV: 1583 V

Acquired: 9/13/2017 12:09:43 PM

Mass[u]	Element	P/A Factor
9	Be	0.111011
23	Na	0.120368
24	Mg	0.124352
27	Al	0.126962
39	K	0.127342
45	Sc	0.128942
47	Ti	0.129342
51	V	0.130233
52	Cr	0.133684
55	Mn	0.133927
56	Fe	0.124635
59	Co	0.136905
60	Ni	0.137357
63	Cu	0.140256
66	Zn	0.139212
72	Ge	0.138933
75	As	0.139009
88	Sr	0.139534
95	Mo	0.139004
111	Cd	0.143173
115	In	0.143202
118	Sn	0.143742
121	Sb	0.143375
137	Ba	0.142884
205	Tl	0.147864
206	[Pb]	0.148867
207	[Pb]	0.149612
208	Pb	0.147956
209	Bi	0.149464
238	U	0.148598
7	Li	Signal too low
11	B	Signal too low
44	Ca	Signal too low
78	Se	Signal too low
107	Ag	Signal too low

Created: 9/13/2017 3:02:07 PM

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By Janice Whitt at 4:26:35 PM, 9/13/2017

Calibration Blank Report

Date Acquired	9/13/2017 12:36	Sample Name	BLANK STD 1
Data Batch	170913.b	Comment	CAL 6020A_W
Data File Name	009CALB.d	Dilution	1

Mass	Name	IS	CPS	%RSD
9	Be	45	6	44.10
11	B	45	168	25.16
23	Na	45	13090	0.81
24	Mg	45	632	4.73
27	Al	45	1271	5.87
39	K	45	27668	0.43
44	Ca	45	261	13.25
47	Ti	45	4	114.60
51	V	45	2173	3.43
52	Cr	45	372	5.25
55	Mn	45	137	22.35
56	Fe	45	3793	2.33
59	Co	72	180	7.41
60	Ni	72	166	21.72
63	Cu	72	538	1.56
66	Zn	72	311	7.13
75	As	72	79	9.67
78	Se	72	24	22.32
88	Sr	115	318	10.77
95	Mo	115	74	12.93
107	Ag	115	68	23.24
111	Cd	115	8	89.21
118	Sn	115	443	1.30
121	Sb	115	182	5.59
137	Ba	115	70	33.33
205	Tl	209	461	7.38
208	Pb	209	2329	6.34

QC ISTD Table

Mass	Name	CPS	%RSD
45	Sc	1273504	0.57
72	Ge	903560	0.59
115	In	9034804	0.78
209	Bi	24406682	0.20

Calibration Standard Report

Date Acquired	9/13/2017 12:38	Sample Name	L2-170913
Data Batch	170913.b	Comment	CAL 6020A_W
Data File Name	010CALS.d	Dilution	1

Mass	Name	IS	CPS	%RSD
9	Be	45	64	7.82
11	B	45	201	7.65
23	Na	45	35460	0.52
24	Mg	45	12210	0.55
27	Al	45	5528	2.39
39	K	45	37355	1.31
44	Ca	45	893	7.76
47	Ti	45	177	18.00
51	V	45	8366	3.03
52	Cr	45	8069	0.50
55	Mn	45	4557	1.65
56	Fe	45	150087	12.36
59	Co	72	12959	0.94
60	Ni	72	3636	6.26
63	Cu	72	10039	0.31
66	Zn	72	1860	3.49
75	As	72	952	3.62
78	Se	72	96	7.07
88	Sr	115	5730	0.24
95	Mo	115	5360	1.11
107	Ag	115	17241	2.23
111	Cd	115	2410	4.80
118	Sn	115	5663	2.03
121	Sb	115	6749	3.80
137	Ba	115	2504	2.88
205	Tl	209	40429	0.61
208	Pb	209	56489	1.24

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	Flag
45	Sc	1284258	0.55	1273504	100.84	70	120	
72	Ge	892323	0.36	903560	98.76	70	120	
115	In	8998332	0.32	9034804	99.60	70	120	
209	Bi	24512212	0.08	24406682	100.43	70	120	

Calibration Standard Report

Date Acquired	9/13/2017 12:40	Sample Name	L-170913
Data Batch	170913.b	Comment	CAL 6020A_W
Data File Name	011CALS.d	Dilution	1

Mass	Name	IS	CPS	%RSD
9	Be	45	631	1.92
11	B	45	521	10.20
23	Na	45	230699	1.30
24	Mg	45	113549	0.13
27	Al	45	42965	1.16
39	K	45	122025	1.31
44	Ca	45	6137	2.09
47	Ti	45	1797	2.45
51	V	45	63628	0.32
52	Cr	45	77110	0.69
55	Mn	45	44231	2.20
56	Fe	45	1344783	0.09
59	Co	72	129644	0.82
60	Ni	72	35320	0.94
63	Cu	72	94515	0.46
66	Zn	72	14247	2.14
75	As	72	8678	1.32
78	Se	72	734	3.42
88	Sr	115	55513	1.00
95	Mo	115	51462	1.34
107	Ag	115	170039	1.22
111	Cd	115	24308	0.77
118	Sn	115	50806	1.10
121	Sb	115	64421	1.52
137	Ba	115	23593	0.35
205	Tl	209	401445	0.21
208	Pb	209	541733	0.38

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	Flag
45	Sc	1280804	0.61	1273504	100.57	70	120	
72	Ge	887520	0.49	903560	98.22	70	120	
115	In	9085343	0.53	9034804	100.56	70	120	
209	Bi	24714795	0.44	24406682	101.26	70	120	

Calibration Standard Report

Date Acquired	9/13/2017 12:42	Sample Name	10X-170913
Data Batch	170913.b	Comment	CAL 6020A_W
Data File Name	012CALS.d	Dilution	1

Mass	Name	IS	CPS	%RSD
9	Be	45	3356	2.99
11	B	45	1806	3.35
23	Na	45	1133848	0.27
24	Mg	45	589799	1.20
27	Al	45	217976	1.20
39	K	45	514491	1.15
44	Ca	45	30687	3.14
47	Ti	45	9365	1.76
51	V	45	322345	0.96
52	Cr	45	402270	0.86
55	Mn	45	230872	0.36
56	Fe	45	6460873	0.45
59	Co	72	671679	0.42
60	Ni	72	184334	0.95
63	Cu	72	491339	0.44
66	Zn	72	73183	0.49
75	As	72	45296	0.24
78	Se	72	3587	1.63
88	Sr	115	284545	1.55
95	Mo	115	267132	0.65
107	Ag	115	880258	0.30
111	Cd	115	127958	0.63
118	Sn	115	266055	1.04
121	Sb	115	338566	0.90
137	Ba	115	121977	0.98
205	Tl	209	2108617	0.04
208	Pb	209	2832169	0.62

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	Flag
45	Sc	1265441	0.34	1273504	99.37	70	120	
72	Ge	880429	0.26	903560	97.44	70	120	
115	In	9008343	1.57	9034804	99.71	70	120	
209	Bi	24235596	0.38	24406682	99.30	70	120	

Calibration Standard Report

Date Acquired	9/13/2017 12:44	Sample Name	5X-170913
Data Batch	170913.b	Comment	CAL 6020A_W
Data File Name	013CALS.d	Dilution	1

Mass	Name	IS	CPS	%RSD
9	Be	45	6703	1.58
11	B	45	3684	1.13
23	Na	45	2235969	0.40
24	Mg	45	1167038	0.24
27	Al	45	432836	0.70
39	K	45	992831	0.24
44	Ca	45	60805	0.92
47	Ti	45	19050	1.83
51	V	45	642245	0.39
52	Cr	45	799460	0.74
55	Mn	45	458299	0.30
56	Fe	45	12816825	1.57
59	Co	72	1334709	0.35
60	Ni	72	362352	0.39
63	Cu	72	968796	0.79
66	Zn	72	144399	0.89
75	As	72	89830	0.36
78	Se	72	7085	1.39
88	Sr	115	566352	0.67
95	Mo	115	534270	0.32
107	Ag	115	1745722	0.34
111	Cd	115	253721	0.44
118	Sn	115	530337	0.62
121	Sb	115	666109	0.38
137	Ba	115	243914	0.46
205	Tl	209	4204740	1.10
208	Pb	209	5645390	0.56

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	Flag
45	Sc	1252126	0.65	1273504	98.32	70	120	
72	Ge	871521	0.16	903560	96.45	70	120	
115	In	8966886	0.71	9034804	99.25	70	120	
209	Bi	24109040	1.06	24406682	98.78	70	120	

Calibration Standard Report

Date Acquired	9/13/2017 12:45	Sample Name	2X-170913
Data Batch	170913.b	Comment	CAL 6020A_W
Data File Name	014CALS.d	Dilution	1

Mass	Name	IS	CPS	%RSD
9	Be	45	16704	0.59
11	B	45	8691	3.67
23	Na	45	5476198	1.57
24	Mg	45	2880528	1.32
27	Al	45	1072100	0.38
39	K	45	2424552	0.19
44	Ca	45	149592	0.94
47	Ti	45	46820	0.83
51	V	45	1596879	0.73
52	Cr	45	1972850	0.24
55	Mn	45	1128042	0.63
56	Fe	45	31243467	0.81
59	Co	72	3270249	0.40
60	Ni	72	887496	0.65
63	Cu	72	2370206	0.46
66	Zn	72	356054	0.65
75	As	72	222302	0.83
78	Se	72	17621	0.63
88	Sr	115	1391564	0.10
95	Mo	115	1326549	0.42
107	Ag	115	4280296	0.57
111	Cd	115	624009	0.86
118	Sn	115	1293350	0.29
121	Sb	115	1640485	0.51
137	Ba	115	599742	0.34
205	Tl	209	10576640	0.67
208	Pb	209	13898505	1.00

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	Flag
45	Sc	1245073	0.37	1273504	97.77	70	120	
72	Ge	861040	0.41	903560	95.29	70	120	
115	In	8793311	0.34	9034804	97.33	70	120	
209	Bi	23769449	0.68	24406682	97.39	70	120	

Calibration Standard Report

Date Acquired	9/13/2017 12:47	Sample Name	H-170913
Data Batch	170913.b	Comment	CAL 6020A_W
Data File Name	015CALS.d	Dilution	1

Mass	Name	IS	CPS	%RSD
9	Be	45	33318	1.15
11	B	45	16742	0.45
23	Na	45	10946762	0.58
24	Mg	45	5703963	0.67
27	Al	45	2132840	0.50
39	K	45	4751157	0.72
44	Ca	45	296336	0.45
47	Ti	45	93611	0.59
51	V	45	3157312	0.37
52	Cr	45	3908777	0.39
55	Mn	45	2234466	0.57
56	Fe	45	62359304	0.69
59	Co	72	6531016	0.09
60	Ni	72	1743673	0.17
63	Cu	72	4629277	0.40
66	Zn	72	697971	0.34
75	As	72	441008	0.29
78	Se	72	34520	0.70
88	Sr	115	2770929	0.29
95	Mo	115	2637690	0.07
107	Ag	115	8368896	0.30
111	Cd	115	1231844	0.39
118	Sn	115	2571269	0.53
121	Sb	115	3263221	0.57
137	Ba	115	1189143	0.52
205	Tl	209	20822626	0.60
208	Pb	209	27711391	0.81

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	Flag
45	Sc	1238746	0.54	1273504	97.27	70	120	
72	Ge	845314	0.58	903560	93.55	70	120	
115	In	8625128	0.85	9034804	95.47	70	120	
209	Bi	23283613	0.44	24406682	95.40	70	120	

Calibration Standard Report

Date Acquired	9/13/2017 12:49	Sample Name	H2-170913
Data Batch	170913.b	Comment	CAL 6020A_W
Data File Name	016CALS.d	Dilution	1

Mass	Name	IS	CPS	%RSD
9	Be	45	130656	0.90
11	B	45	65572	1.11
23	Na	45	26504838	0.77
24	Mg	45	13842019	0.72
27	Al	45	5466	9.74
39	K	45	11860845	0.65
44	Ca	45	768477	1.15
47	Ti	45	371696	1.10
51	V	45	12643451	0.30
52	Cr	45	15368743	0.14
55	Mn	45	8884031	0.78
56	Fe	45	106410	21.58
59	Co	72	25259826	0.23
60	Ni	72	6722838	0.54
63	Cu	72	17920094	0.64
66	Zn	72	2686745	0.22
75	As	72	1728726	0.27
78	Se	72	135128	0.21
88	Sr	115	11231394	0.59
95	Mo	115	10631124	0.43
107	Ag	115	9101	21.58
111	Cd	115	4794008	0.25
118	Sn	115	10324711	0.45
121	Sb	115	6455	11.45
137	Ba	115	4654649	0.80
205	Tl	209	81510348	0.13
208	Pb	209	108075091	0.20

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	Flag
45	Sc	1214246	0.44	1273504	95.35	70	120	
72	Ge	837543	0.48	903560	92.69	70	120	
115	In	8461768	0.65	9034804	93.66	70	120	
209	Bi	22709245	0.55	24406682	93.05	70	120	

Interference Check Solution A (ICS-A) Report

Date Acquired	9/13/2017 12:55	Sample Name	ICSA-170913
Data Batch	170913.b	Comment	ICSA6020A_W
Data File Name	019ICSA.d	Dilution	1

Mass	Name	Conc	CPS	%RSD	MDL S	MDL Aq	QC Flag
9	Be	0.127	14	21.4	1.2	0.8	
11	B	7.845	417	17.0	30	30	
51	V	0.072	2526	6.0	10	10	
52	Cr	1.159	9257	2.6	8	5	
55	Mn	0.761	3508	2.6	8	10	
59	Co	1.314	16260	0.6	8	10	
60	Ni	0.645	2254	3.1	8	10	
63	Cu	2.176	19405	0.8	8	10	
66	Zn	3.218	4476	0.7	10	5	
75	As	0.410	414	9.4	4	5	
78	Se	0.382	47	12.6	2	5	
88	Sr	1.292	7186	0.9	10	10	
107	Ag	0.221	3528	5.9	0.8	2	
111	Cd	0.736	1690	5.2	1.2	1	
118	Sn	0.489	2798	6.3	10	10	
121	Sb	0.058	514	16.2	4	2.5	
137	Ba	1.056	2407	1.4	8	10	
205	Tl	0.289	11066	5.3	4	1.5	
208	Pb	0.523	27596	2.9	1.2	1	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1214050	0.27	1273504	95.33	70	120	
72	Ge	811351	0.64	903560	89.79	70	120	
115	In	8071466	0.40	9034804	89.34	70	120	
209	Bi	20583126	0.83	24406682	84.33	70	120	

Interference Check Solution AB (ICS-AB) Report

Date Acquired	9/13/2017 12:57	Sample Name	ICSAB-170913
Data Batch	170913.b	Comment	ICSB6020A_W
Data File Name	020ICSB.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
51	V	45	39.614	251171	0.25	40	99.0	80	120	
52	Cr	45	20.937	160634	0.54	20	104.7	80	120	
55	Mn	45	19.985	88500	0.63	20	99.9	80	120	
59	Co	72	40.341	498573	0.35	40	100.9	80	120	
60	Ni	72	38.620	127207	1.23	40	96.5	80	120	
63	Cu	72	21.730	191009	0.48	20	108.6	80	120	
66	Zn	72	21.761	28895	0.68	20	108.8	80	120	
75	As	72	20.859	17692	0.84	20	104.3	80	120	
78	Se	72	20.908	1403	0.84	20	104.5	80	120	
107	Ag	115	19.425	306368	0.10	20	97.1	80	120	
111	Cd	115	10.398	23935	0.64	10	104.0	80	120	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1209848	0.25	1273504	95.00	70	120	
72	Ge	818033	0.25	903560	90.53	70	120	
115	In	8119440	0.34	9034804	89.87	70	120	
209	Bi	20667235	0.72	24406682	84.68	70	120	

Initial Calibration Verification (ICV) Report

Date Acquired	9/13/2017 13:03	Sample Name	ICV-170913
Data Batch	170913.b	Comment	ICV 6020A_W
Data File Name	023_ICV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
9	Be	45	99.591	6883	1.78	100	99.6	90	110	
11	B	45	103.707	3755	4.77	100	103.7	90	110	
23	Na	45	2630.975	2965744	0.70	2500	105.2	90	110	
24	Mg	45	2599.770	1525120	0.57	2500	104.0	90	110	
27	Al	45	2436.434	539392	0.18	2500	97.5	90	110	
39	K	45	2544.511	1296911	0.45	2500	101.8	90	110	
44	Ca	45	2477.010	76338	0.97	2500	99.1	90	110	
47	Ti	45	100.550	19739	0.30	100	100.6	90	110	
51	V	45	101.116	676788	0.20	100	101.1	90	110	
52	Cr	45	104.895	852347	0.66	100	104.9	90	110	
55	Mn	45	100.202	470210	0.27	100	100.2	90	110	
56	Fe	45	2479.232	16023329	0.32	2500	99.2	90	110	
59	Co	72	103.746	1392133	0.58	100	103.7	90	110	
60	Ni	72	104.630	373980	0.56	100	104.6	90	110	
63	Cu	72	104.859	998902	0.30	100	104.9	90	110	
66	Zn	72	104.464	149467	0.45	100	104.5	90	110	
75	As	72	102.150	93783	0.08	100	102.2	90	110	
78	Se	72	100.155	7207	1.32	100	100.2	90	110	
88	Sr	115	97.731	596320	1.34	100	97.7	90	110	
95	Mo	115	96.112	555125	0.26	100	96.1	90	110	
107	Ag	115	104.041	1861807	0.50	100	104.0	90	110	
111	Cd	115	101.811	265871	0.48	100	101.8	90	110	
118	Sn	115	99.579	559106	0.37	100	99.6	90	110	
121	Sb	115	102.678	713629	0.49	100	102.7	90	110	
137	Ba	115	100.359	254385	1.07	100	100.4	90	110	
205	Tl	209	97.519	4282488	0.30	100	97.5	90	110	
208	Pb	209	99.091	5772031	0.16	100	99.1	90	110	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1283586	0.53	1273504	100.79	70	120	
72	Ge	888338	0.41	903560	98.32	70	120	
115	In	9213787	0.53	9034804	101.98	70	120	
209	Bi	24477537	0.84	24406682	100.29	70	120	

Low Level Calibration Verification (LLCV) Report

Date Acquired	9/13/2017 13:31	Sample Name	LCVL-170913
Data Batch	170913.b	Comment	LCVL6020A_W
Data File Name	026LICV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
9	Be	45	0.960	72	6.88	1	96.0	70	130	
11	B	45	21.128	891	7.69	20	105.6	70	130	
23	Na	45	93.580	117103	1.67	100	93.6	70	130	
24	Mg	45	92.526	54377	0.57	100	92.5	70	130	
27	Al	45	91.858	21367	2.60	100	91.9	70	130	
39	K	45	89.919	72049	0.18	100	89.9	70	130	
44	Ca	45	87.998	2938	4.38	100	88.0	70	130	
47	Ti	45	4.988	974	7.59	5	99.8	70	130	
51	V	45	0.938	8369	2.87	1	93.8	70	130	
52	Cr	45	4.885	39670	1.73	5	97.7	70	130	
55	Mn	45	4.681	21890	2.71	5	93.6	70	130	
56	Fe	45	104.070	669926	0.28	100	104.1	70	130	
59	Co	72	4.891	65407	1.18	5	97.8	70	130	
60	Ni	72	4.977	17835	1.11	5	99.5	70	130	
63	Cu	72	5.127	49050	0.92	5	102.5	70	130	
66	Zn	72	5.109	7555	3.87	5	102.2	70	130	
75	As	72	4.775	4431	0.52	5	95.5	70	130	
78	Se	72	4.522	346	13.82	5	90.4	70	130	
88	Sr	115	4.607	27749	1.01	5	92.1	70	130	
95	Mo	115	4.566	25820	0.42	5	91.3	70	130	
107	Ag	115	1.955	34215	0.39	2	97.7	70	130	
111	Cd	115	0.925	2367	4.03	1	92.5	70	130	
118	Sn	115	4.757	26497	0.54	5	95.1	70	130	
121	Sb	115	1.860	12802	1.28	2	93.0	70	130	
137	Ba	115	4.690	11672	2.76	5	93.8	70	130	
205	Tl	209	0.944	41714	2.14	1	94.4	70	130	
208	Pb	209	0.891	53965	0.25	1	89.1	70	130	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1271535	0.57	1273504	99.85	70	120	
72	Ge	883033	0.49	903560	97.73	70	120	
115	In	8995207	0.09	9034804	99.56	70	120	
209	Bi	24366695	1.37	24406682	99.84	70	120	

Initial Calibration Blank (ICB) Report

Date Acquired	9/13/2017 13:35	Sample Name	ICB-170913
Data Batch	170913.b	Comment	ICB 6020A_W
Data File Name	028_ICB.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	MDL S	MDL Aq	QC Flag
9	Be	45	-0.009	5	28.6	0.4	0.3	
11	B	45	0.803	194	4.9	10	10	
23	Na	45	1.223	14377	1.6	50	100	
24	Mg	45	-0.530	322	15.8	50	100	
27	Al	45	-0.725	1107	3.2	50	10	
39	K	45	0.188	27620	0.7	50	100	
44	Ca	45	-0.115	256	22.2	50	100	
47	Ti	45	-0.011	2	86.6	4	3	
51	V	45	-0.045	1866	2.8	4	3	
52	Cr	45	-0.001	359	5.9	2	2	
55	Mn	45	-0.010	88	28.5	2	3	
56	Fe	45	0.075	4251	2.5	50	50	
59	Co	72	-0.008	73	18.2	2	3	
60	Ni	72	-0.021	87	21.4	2	3	
63	Cu	72	-0.001	514	19.7	2	2	
66	Zn	72	-0.029	262	16.6	4	2	
75	As	72	0.000	77	4.8	2	2	
78	Se	72	0.004	24	33.5	1	2	
88	Sr	115	0.013	387	2.3	4	3	
95	Mo	115	0.030	241	6.4	2	2	
107	Ag	115	0.001	91	22.1	0.4	1	
111	Cd	115	-0.001	4	114.6	0.4	0.3	
118	Sn	115	0.009	486	17.8	4	3	
121	Sb	115	-0.009	118	4.3	2	0.8	
137	Ba	115	-0.003	61	25.8	2	3	
205	Tl	209	0.020	1332	2.4	2	0.5	
208	Pb	209	-0.024	948	10.5	0.4	0.3	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1267041	0.17	1273504	99.49	70	120	
72	Ge	880780	0.19	903560	97.48	70	120	
115	In	8900054	0.57	9034804	98.51	70	120	
209	Bi	24210097	0.95	24406682	99.19	70	120	

Dilution Sample (Dil) Report

Date Acquired	9/13/2017 13:39	Sample Name	1709055-01A SD
Data Batch	170913.b	Comment	SD 6020A_W
Data File Name	030_SD.d	Dilution	50

Mass	Name	IS	Conc	CPS	%RSD	Ref Value	%Rec	Low	High	Flag
9	Be	45	-0.078	1	86.60	-0.1	728.1	110	90	
11	B	45	4.846	328	12.63	15.2	159.0	110	90	
23	Na	45	596.374	664166	0.21	3006.5	99.2	110	90	Good
24	Mg	45	407.590	233220	0.62	2062.7	98.8	110	90	Good
27	Al	45	-0.135	1218	7.80	1.4	-48.0	110	90	
39	K	45	30.198	41796	0.66	141.6	106.6	110	90	Good
44	Ca	45	1529.475	45972	1.16	7686.9	99.5	110	90	Good
47	Ti	45	0.047	13	25.01	0.0	#####	110	90	
51	V	45	0.017	2242	7.37	0.2	52.5	110	90	
52	Cr	45	0.001	376	19.49	0.0	56.9	110	90	
55	Mn	45	0.099	584	1.44	0.4	126.1	110	90	
56	Fe	45	0.505	6898	3.20	2.1	117.7	110	90	
59	Co	72	-0.002	142	17.59	0.0	1792.1	110	90	
60	Ni	72	0.021	233	16.84	0.1	178.4	110	90	
63	Cu	72	0.039	892	7.66	0.1	170.7	110	90	
66	Zn	72	0.316	749	4.04	0.4	433.4	110	90	
75	As	72	-0.003	74	13.13	0.0	-35.4	110	90	
78	Se	72	0.004	24	22.62	0.0	-55.3	110	90	
88	Sr	115	17.912	106180	0.29	91.5	97.9	110	90	Good
95	Mo	115	0.054	378	5.88	0.2	139.2	110	90	
107	Ag	115	0.003	119	9.84	0.0	757.9	110	90	
111	Cd	115	0.001	10	88.20	0.0	8703.5	110	90	
118	Sn	115	0.008	484	9.34	0.0	203.7	110	90	
121	Sb	115	-0.005	146	19.07	0.0	-707.6	110	90	
137	Ba	115	0.978	2470	5.94	4.7	104.2	110	90	Good
205	Tl	209	0.014	1062	6.91	0.0	447.0	110	90	
208	Pb	209	-0.019	1222	8.87	0.0	638.6	110	90	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1249185	0.27	1273504	98.09	70	120	
72	Ge	878905	0.73	903560	97.27	70	120	
115	In	8929090	0.25	9034804	98.83	70	120	
209	Bi	24202085	0.40	24406682	99.16	70	120	

Post Digestion Spike Sample (PDS) Report

Date Acquired	9/13/2017 13:43	Sample Name	1709055-01A PDS
Data Batch	170913.b	Comment	PDS 6020A_W
Data File Name	032_PDS.d	Dilution	10

Mass	Name	IS	Conc	CPS	%RSD	Ref Conc	Spk Amt	%Rec	Low	High	Flag
9	Be	45	204.945	13614	0.19	-0.1	200	102.5	75	125	
11	B	45	221.081	7513	1.34	15.2	200	102.9	75	125	
23	Na	45	8254.318	8920271	0.32	3006.5	5000	105.0	75	125	
24	Mg	45	7019.106	3958560	0.64	2062.7	5000	99.1	75	125	
27	Al	45	4888.525	1039463	0.52	1.4	5000	97.7	75	125	
39	K	45	5101.945	2473696	0.26	141.6	5000	99.2	75	125	
44	Ca	45	12943.934	382548	0.73	7686.9	5000	105.1	75	125	
47	Ti	45	203.335	38378	1.13	0.0	200	101.7	75	125	
51	V	45	204.175	1311975	0.37	0.2	200	102.0	75	125	
52	Cr	45	210.344	1643178	0.75	0.0	200	105.2	75	125	
55	Mn	45	200.989	906812	1.03	0.4	200	100.3	75	125	
56	Fe	45	5033.544	31279530	0.69	2.1	5000	100.6	75	125	
59	Co	72	206.576	2677212	1.00	0.0	200	103.3	75	125	
60	Ni	72	208.657	720154	0.27	0.1	200	104.3	75	125	
63	Cu	72	207.661	1910157	0.56	0.1	200	103.8	75	125	
66	Zn	72	207.149	285977	0.90	0.4	200	103.4	75	125	
75	As	72	203.916	180746	0.70	0.0	200	101.9	75	125	
78	Se	72	200.801	13932	1.06	0.0	200	100.4	75	125	
88	Sr	115	294.084	1688687	0.73	91.5	200	101.3	75	125	
95	Mo	115	197.596	1074316	0.35	0.2	200	98.7	75	125	
107	Ag	115	210.706	3549475	0.21	0.0	200	105.4	75	125	
111	Cd	115	206.982	508836	0.28	0.0	200	103.5	75	125	
118	Sn	115	205.337	1084879	0.46	0.0	200	102.7	75	125	
121	Sb	115	195.777	1280799	0.86	0.0	200	97.9	75	125	
137	Ba	115	206.962	493795	0.51	4.7	200	101.1	75	125	
205	Tl	209	201.124	8450877	1.07	0.0	200	100.6	75	125	
208	Pb	209	199.997	11145243	0.52	0.0	200	100.0	75	125	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1234356	0.66	1273504	96.93	70	120	
72	Ge	858045	1.30	903560	94.96	70	120	
115	In	8673624	0.25	9034804	96.00	70	120	
209	Bi	23421836	0.57	24406682	95.96	70	120	

Method Blank Report

Date Acquired	9/13/17 1:48 PM	Sample Name	MB-82335
Data Batch	170913.b	Comment	MBLK6020A_W
Data File Name	035_LRB.d	Dilution	1

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
9	Be	45	-0.034	4	31.49		
11	B	45	121.864	4314	4.20		Fail
23	Na	45	43.458	60987	0.38		
24	Mg	45	28.865	17287	1.72		
27	Al	45	561.128	123243	0.90		Fail
39	K	45	18.306	36433	0.20		
44	Ca	45	1136.072	34602	0.08		Fail
47	Ti	45	1.007	199	10.78		
51	V	45	0.129	3004	7.27		
52	Cr	45	0.345	3129	6.15		
55	Mn	45	0.355	1776	1.13		
56	Fe	45	15.727	103784	0.51		
59	Co	72	0.009	297	8.10		
60	Ni	72	0.049	337	23.83		
63	Cu	72	0.203	2442	1.52		
66	Zn	72	3.172	4800	1.40		J
75	As	72	0.163	225	15.62		
78	Se	72	0.045	27	15.23		
88	Sr	115	8.634	52162	0.28		J
95	Mo	115	0.062	428	13.73		
107	Ag	115	0.007	198	12.76		
111	Cd	115	0.004	19	56.72		
118	Sn	115	0.013	519	4.51		
121	Sb	115	0.357	2622	1.84		
137	Ba	115	1.128	2885	3.56		
205	Tl	209	0.029	1735	6.29		
208	Pb	209	0.233	16090	1.19		

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1263374	0.37	1273504	99.20	70	120	
72	Ge	881910	0.43	903560	97.60	70	120	
115	In	9072103	1.08	9034804	100.41	70	120	
209	Bi	24726105	0.62	24406682	101.31	70	120	

Laboratory Control Sample (LCS) Report

Date Acquired	9/13/2017 13:50	Sample Name	LCS-82335
Data Batch	170913.b	Comment	LCS 6020A_W
Data File Name	036_LFB.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
9	Be	45	188.542	12860	0.24	200	94.3	80	120	
11	B	45	311.356	10795	0.41	200	155.7	80	120	
23	Na	45	4842.755	5378602	0.89	5000	96.9	80	120	
24	Mg	45	4829.548	2796608	0.42	5000	96.6	80	120	
27	Al	45	5411.085	1181156	0.37	5000	108.2	80	120	
39	K	45	4722.100	2352676	0.32	5000	94.4	80	120	
44	Ca	45	5849.020	177620	1.02	5000	117.0	80	120	
47	Ti	45	197.831	38339	1.89	200	98.9	80	120	
51	V	45	193.599	1277360	0.92	200	96.8	80	120	
52	Cr	45	197.725	1585884	0.51	200	98.9	80	120	
55	Mn	45	194.238	899781	0.33	200	97.1	80	120	
56	Fe	45	4965.194	31678528	0.91	5000	99.3	80	120	
59	Co	72	198.473	2621347	0.92	200	99.2	80	120	
60	Ni	72	202.108	710915	0.27	200	101.1	80	120	
63	Cu	72	203.033	1903308	0.12	200	101.5	80	120	
66	Zn	72	202.765	285278	0.59	200	101.4	80	120	
75	As	72	198.549	179351	0.37	200	99.3	80	120	
78	Se	72	195.861	13848	1.88	200	97.9	80	120	
88	Sr	115	200.581	1184969	0.42	200	100.3	80	120	
95	Mo	115	189.793	1061574	0.47	200	94.9	80	120	
107	Ag	115	203.607	3528641	0.41	200	101.8	80	120	
111	Cd	115	197.664	499922	0.58	200	98.8	80	120	
118	Sn	115	193.719	1052964	0.37	200	96.9	80	120	
121	Sb	115	200.687	1350696	0.30	200	100.3	80	120	
137	Ba	115	196.450	482203	0.11	200	98.2	80	120	
205	Tl	209	196.807	8471618	0.60	200	98.4	80	120	
208	Pb	209	193.372	11039431	0.34	200	96.7	80	120	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1267259	0.43	1273504	99.51	70	120	
72	Ge	874406	0.54	903560	96.77	70	120	
115	In	8923719	1.02	9034804	98.77	70	120	
209	Bi	23993873	0.43	24406682	98.31	70	120	

Laboratory Control Sample (LCS) Report

Date Acquired	9/13/2017 13:52	Sample Name	LCSD-82335
Data Batch	170913.b	Comment	LCSD6020A_W
Data File Name	037_LFB.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
9	Be	45	192.765	13178	1.79	200	96.4	80	120	
11	B	45	253.769	8850	1.98	200	126.9	80	120	Fail
23	Na	45	4902.488	5457299	0.63	5000	98.0	80	120	
24	Mg	45	4921.270	2856310	0.80	5000	98.4	80	120	
27	Al	45	5190.722	1135678	0.34	5000	103.8	80	120	
39	K	45	4790.152	2391631	0.43	5000	95.8	80	120	
44	Ca	45	5290.073	161039	1.37	5000	105.8	80	120	
47	Ti	45	198.526	38561	2.00	200	99.3	80	120	
51	V	45	196.430	1299018	1.42	200	98.2	80	120	
52	Cr	45	200.618	1612757	0.63	200	100.3	80	120	
55	Mn	45	196.354	911620	1.10	200	98.2	80	120	
56	Fe	45	5042.891	32247808	0.95	5000	100.9	80	120	
59	Co	72	202.200	2666197	0.31	200	101.1	80	120	
60	Ni	72	206.061	723644	0.63	200	103.0	80	120	
63	Cu	72	206.692	1934490	0.08	200	103.3	80	120	
66	Zn	72	206.528	290118	0.70	200	103.3	80	120	
75	As	72	201.997	182177	0.70	200	101.0	80	120	
78	Se	72	200.438	14148	1.37	200	100.2	80	120	
88	Sr	115	195.873	1174591	0.44	200	97.9	80	120	
95	Mo	115	189.691	1076963	0.29	200	94.8	80	120	
107	Ag	115	202.198	3556824	0.51	200	101.1	80	120	
111	Cd	115	198.295	509043	0.93	200	99.1	80	120	
118	Sn	115	193.113	1065465	0.41	200	96.6	80	120	
121	Sb	115	199.001	1359489	0.58	200	99.5	80	120	
137	Ba	115	194.967	485758	0.38	200	97.5	80	120	
205	Tl	209	198.308	8582847	0.23	200	99.2	80	120	
208	Pb	209	196.367	11271282	0.71	200	98.2	80	120	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1270191	0.79	1273504	99.74	70	120	
72	Ge	873073	1.21	903560	96.63	70	120	
115	In	9057396	0.51	9034804	100.25	70	120	
209	Bi	24124952	0.63	24406682	98.85	70	120	

Dilution Sample (Dil) Report

Date Acquired	9/13/2017 13:58	Sample Name	1709066-01B SD
Data Batch	170913.b	Comment	SD 6020A_W
Data File Name	040_SD.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Ref Value	%Rec	Low	High	Flag
9	Be	45	-0.014	5	20.00	-0.1	111.1	110	90	
11	B	45	41.671	1581	8.25	176.5	118.0	110	90	
23	Na	45	26318.165	29020363	1.19	128043.5	102.8	110	90	Good
24	Mg	45	3399.069	1958219	0.98	16404.0	103.6	110	90	Good
27	Al	45	18.340	5238	5.53	89.5	102.4	110	90	Good
39	K	45	7665.839	3782386	0.71	38308.5	100.1	110	90	Good
44	Ca	45	2391.450	72396	0.57	11768.7	101.6	110	90	Good
47	Ti	45	0.427	87	13.33	2.1	101.1	110	90	Good
51	V	45	1.315	10773	4.72	6.3	104.7	110	90	Good
52	Cr	45	0.229	2194	2.30	1.3	90.0	110	90	
55	Mn	45	1.265	5963	1.71	6.1	103.0	110	90	Good
56	Fe	45	46.915	301492	1.15	224.0	104.7	110	90	Good
59	Co	72	0.067	1067	4.37	0.3	103.9	110	90	Good
60	Ni	72	0.076	430	11.93	0.4	106.4	110	90	Good
63	Cu	72	0.217	2568	4.74	0.9	122.2	110	90	
66	Zn	72	1.366	2234	3.52	5.4	127.0	110	90	
75	As	72	1.032	1014	4.89	5.3	98.0	110	90	Good
78	Se	72	-0.004	23	23.26	0.3	-7.6	110	90	
88	Sr	115	44.129	264494	0.46	225.5	97.8	110	90	Good
95	Mo	115	0.590	3420	7.42	2.7	108.2	110	90	Good
107	Ag	115	0.014	309	11.94	0.0	240.3	110	90	
111	Cd	115	0.007	24	28.38	0.0	117.7	110	90	
118	Sn	115	0.056	750	4.62	0.2	149.3	110	90	
121	Sb	115	0.468	3374	4.85	2.1	109.0	110	90	Good
137	Ba	115	17.807	44366	0.68	90.3	98.6	110	90	Good
205	Tl	209	0.049	2576	2.98	0.1	255.8	110	90	
208	Pb	209	0.400	25083	0.69	2.0	100.7	110	90	Good

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1260693	0.55	1273504	98.99	70	120	
72	Ge	879002	0.58	903560	97.28	70	120	
115	In	9044526	0.41	9034804	100.11	70	120	
209	Bi	23937286	0.06	24406682	98.08	70	120	

Sample Report

Date Acquired	9/13/17 2:00 PM	Sample Name	1709065-01B
Data Batch	170913.b	Comment	SAMP6020A_W
Data File Name	041_WS.d	Dilution	1

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
9	Be	45	-0.014	5	20.00	2000	
11	B	45	78.488	2832	2.89	2000	>RL
23	Na	45	11747.496	12965613	0.26	25000	>RL
24	Mg	45	4927.363	2839432	0.12	25000	>RL
27	Al	45	70.861	16635	1.09	10000	>RL
39	K	45	1382.634	704903	0.39	25000	>RL
44	Ca	45	36034.258	1087631	0.25	10000	OUTCAL
47	Ti	45	1.907	372	16.03	2000	
51	V	45	1.519	12111	4.97	2000	
52	Cr	45	0.470	4122	3.84	2000	
55	Mn	45	79.807	367984	0.87	2000	>RL
56	Fe	45	97.739	624258	0.23	10000	J
59	Co	72	0.457	6190	1.96	2000	
60	Ni	72	2.714	9671	2.41	2000	
63	Cu	72	1.489	14421	1.23	2000	
66	Zn	72	38.984	54892	0.74	2000	>RL
75	As	72	1.638	1550	1.27	2000	
78	Se	72	0.328	46	6.79	2000	
88	Sr	115	232.518	1385687	0.34	2000	>RL
95	Mo	115	2.071	11761	2.88	2000	J
107	Ag	115	0.010	250	12.86	500	
111	Cd	115	0.063	168	8.03	2000	
118	Sn	115	0.062	782	7.34	2000	
121	Sb	115	0.407	2944	5.86	500	
137	Ba	115	36.412	90218	0.17	2000	>RL
205	Tl	209	0.037	2068	2.04	2000	
208	Pb	209	0.262	17370	1.23	2000	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1261128	0.25	1273504	99.03	70	120	
72	Ge	871280	0.68	903560	96.43	70	120	
115	In	9001954	0.76	9034804	99.64	70	120	
209	Bi	24137068	0.44	24406682	98.90	70	120	

Post Digestion Spike Sample (PDS) Report

Date Acquired	9/13/2017 14:04	Sample Name	1709066-01B PDS
Data Batch	170913.b	Comment	PDS 6020A_W
Data File Name	043_PDS.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Ref Conc	Spk Amt	%Rec	Low	High	Flag
9	Be	45	187.107	12503	0.72	-0.1	200	93.6	75	125	
11	B	45	359.421	12183	1.18	176.5	200	91.4	75	125	
23	Na	45	########	137781488	0.48	128043.5	5000	-22.5	75	125	Fail
24	Mg	45	20167.585	11439846	0.90	16404.0	5000	75.3	75	125	
27	Al	45	4715.642	1008667	0.68	89.5	5000	92.5	75	125	
39	K	45	40609.021	19617851	0.86	38308.5	5000	46.0	75	125	Fail
44	Ca	45	15836.556	470727	0.12	11768.7	5000	81.4	75	125	
47	Ti	45	198.815	37751	2.91	2.1	200	98.4	75	125	
51	V	45	203.702	1316643	0.76	6.3	200	98.7	75	125	
52	Cr	45	201.091	1580174	0.16	1.3	200	99.9	75	125	
55	Mn	45	196.706	892754	0.55	6.1	200	95.3	75	125	
56	Fe	45	4975.216	31099198	0.90	224.0	5000	95.0	75	125	
59	Co	72	200.491	2530685	0.49	0.3	200	100.1	75	125	
60	Ni	72	199.648	671152	0.14	0.4	200	99.6	75	125	
63	Cu	72	199.511	1787456	0.10	0.9	200	99.3	75	125	
66	Zn	72	201.623	271112	0.24	5.4	200	98.1	75	125	
75	As	72	203.188	175415	0.50	5.3	200	99.0	75	125	
78	Se	72	189.428	12801	0.38	0.3	200	94.6	75	125	
88	Sr	115	404.177	2288430	0.15	225.5	200	89.3	75	125	
95	Mo	115	193.734	1038688	0.33	2.7	200	95.5	75	125	
107	Ag	115	194.395	3229154	0.34	0.0	200	97.2	75	125	
111	Cd	115	194.400	471239	0.55	0.0	200	97.2	75	125	
118	Sn	115	197.739	1030251	0.72	0.2	200	98.8	75	125	
121	Sb	115	202.073	1303585	0.56	2.1	200	100.0	75	125	
137	Ba	115	278.850	656040	0.21	90.3	200	94.3	75	125	
205	Tl	209	195.446	7812596	0.42	0.1	200	97.7	75	125	
208	Pb	209	196.276	10405513	0.16	2.0	200	97.1	75	125	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1241589	0.58	1273504	97.49	70	120	
72	Ge	835678	0.58	903560	92.49	70	120	
115	In	8553404	0.93	9034804	94.67	70	120	
209	Bi	22281330	0.51	24406682	91.29	70	120	

Matrix Spike Sample (MS) Report

Date Acquired	9/13/2017 14:05	Sample Name	1709066-01B MS
Data Batch	170913.b	Comment	MS 6020A_W
Data File Name	044_MSW.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Ref Conc	Spk Amt	%Rec	Low	High	Flag
9	Be	45	192.773	12961	1.23	-0.1	200	96.4	80	120	
11	B	45	407.893	13888	3.31	176.5	200	115.7	80	120	
23	Na	45	########	145452434	0.28	128043.5	5000	102.5	80	120	
24	Mg	45	21287.012	12148760	0.94	16404.0	5000	97.7	80	120	
27	Al	45	5091.329	1095576	0.37	89.5	5000	100.0	80	120	
39	K	45	42703.318	20753885	1.01	38308.5	5000	87.9	80	120	
44	Ca	45	16705.828	499592	0.23	11768.7	5000	98.7	80	120	
47	Ti	45	200.653	38331	1.81	2.1	200	99.3	80	120	
51	V	45	203.931	1326217	0.86	6.3	200	98.8	80	120	
52	Cr	45	197.698	1563035	0.45	1.3	200	98.2	80	120	
55	Mn	45	197.451	901593	0.97	6.1	200	95.7	80	120	
56	Fe	45	5172.739	32531611	0.32	224.0	5000	99.0	80	120	
59	Co	72	202.129	2560601	0.50	0.3	200	100.9	80	120	
60	Ni	72	202.891	684537	0.27	0.4	200	101.3	80	120	
63	Cu	72	203.712	1831701	0.67	0.9	200	101.4	80	120	
66	Zn	72	203.630	274796	1.21	5.4	200	99.1	80	120	
75	As	72	207.983	180203	0.21	5.3	200	101.4	80	120	
78	Se	72	195.600	13266	1.03	0.3	200	97.7	80	120	
88	Sr	115	422.357	2388667	0.46	225.5	200	98.4	80	120	
95	Mo	115	199.565	1068724	0.49	2.7	200	98.4	80	120	
107	Ag	115	198.668	3296378	0.20	0.0	200	99.3	80	120	
111	Cd	115	197.689	478686	0.41	0.0	200	98.8	80	120	
118	Sn	115	198.731	1034203	0.54	0.2	200	99.3	80	120	
121	Sb	115	207.021	1333986	0.25	2.1	200	102.4	80	120	
137	Ba	115	288.816	678712	0.52	90.3	200	99.2	80	120	
205	Tl	209	201.469	8037619	0.27	0.1	200	100.7	80	120	
208	Pb	209	199.986	10581467	0.45	2.0	200	99.0	80	120	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1249187	0.51	1273504	98.09	70	120	
72	Ge	838705	0.24	903560	92.82	70	120	
115	In	8543277	0.35	9034804	94.56	70	120	
209	Bi	22238095	0.76	24406682	91.11	70	120	

Matrix Spike Sample (MS) Report

Date Acquired	9/13/2017 14:07	Sample Name	1709066-01B MSD
Data Batch	170913.b	Comment	MSD 6020A_W
Data File Name	045_MSW.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Ref Conc	Spk Amt	%Rec	Low	High	Flag
9	Be	45	192.643	12953	1.27	-0.1	200	96.4	80	120	
11	B	45	386.037	13155	1.06	176.5	200	104.8	80	120	
23	Na	45	########	146580625	0.20	128043.5	5000	122.9	80	120	Fail
24	Mg	45	21268.932	12139152	0.36	16404.0	5000	97.3	80	120	
27	Al	45	4953.321	1066017	0.91	89.5	5000	97.3	80	120	
39	K	45	43200.425	20997091	0.46	38308.5	5000	97.8	80	120	
44	Ca	45	16559.170	495260	0.39	11768.7	5000	95.8	80	120	
47	Ti	45	201.534	38503	1.69	2.1	200	99.7	80	120	
51	V	45	203.994	1326744	0.61	6.3	200	98.9	80	120	
52	Cr	45	197.603	1562418	0.25	1.3	200	98.2	80	120	
55	Mn	45	197.736	902971	0.63	6.1	200	95.8	80	120	
56	Fe	45	5168.735	32510322	0.70	224.0	5000	98.9	80	120	
59	Co	72	203.131	2580724	0.21	0.3	200	101.4	80	120	
60	Ni	72	202.936	686669	0.50	0.4	200	101.3	80	120	
63	Cu	72	203.497	1835068	0.39	0.9	200	101.3	80	120	
66	Zn	72	205.334	277909	0.86	5.4	200	100.0	80	120	
75	As	72	208.800	181434	0.31	5.3	200	101.8	80	120	
78	Se	72	196.766	13384	0.56	0.3	200	98.2	80	120	
88	Sr	115	426.663	2405033	0.49	225.5	200	100.6	80	120	
95	Mo	115	201.503	1075504	0.54	2.7	200	99.4	80	120	
107	Ag	115	199.421	3297923	0.11	0.0	200	99.7	80	120	
111	Cd	115	197.798	477366	0.47	0.0	200	98.9	80	120	
118	Sn	115	201.286	1044033	0.67	0.2	200	100.5	80	120	
121	Sb	115	207.647	1333604	0.47	2.1	200	102.8	80	120	
137	Ba	115	292.603	685325	0.30	90.3	200	101.1	80	120	
205	Tl	209	201.023	7988674	1.20	0.1	200	100.5	80	120	
208	Pb	209	200.567	10570880	0.37	2.0	200	99.3	80	120	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1249302	0.47	1273504	98.10	70	120	
72	Ge	841158	0.89	903560	93.09	70	120	
115	In	8515199	0.74	9034804	94.25	70	120	
209	Bi	22151307	0.55	24406682	90.76	70	120	

Continuing Calibration Verification (CCV) Report

Date Acquired	9/13/2017 14:09	Sample Name	CCV1-170913
Data Batch	170913.b	Comment	CCV 6020A_W
Data File Name	046_CCV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
9	Be	45	189.445	12985	0.38	200	94.7	90	110	
11	B	45	201.647	7085	3.02	200	100.8	90	110	
23	Na	45	4897.070	5465544	1.78	5000	97.9	90	110	
24	Mg	45	4758.500	2769029	0.15	5000	95.2	90	110	
27	Al	45	4870.864	1068599	0.46	5000	97.4	90	110	
39	K	45	4708.000	2357272	0.60	5000	94.2	90	110	
44	Ca	45	4626.983	141253	1.30	5000	92.5	90	110	
47	Ti	45	198.679	38691	1.52	200	99.3	90	110	
51	V	45	193.776	1284793	0.63	200	96.9	90	110	
52	Cr	45	197.010	1587929	0.69	200	98.5	90	110	
55	Mn	45	191.733	892545	0.16	200	95.9	90	110	
56	Fe	45	5010.017	32121932	0.28	5000	100.2	90	110	
59	Co	72	198.450	2632829	0.57	200	99.2	90	110	
60	Ni	72	204.069	721074	0.10	200	102.0	90	110	
63	Cu	72	204.167	1922640	0.03	200	102.1	90	110	
66	Zn	72	200.006	282689	0.91	200	100.0	90	110	
75	As	72	196.869	178646	0.06	200	98.4	90	110	
78	Se	72	193.976	13777	1.91	200	97.0	90	110	
88	Sr	115	190.510	1139147	0.26	200	95.3	90	110	
95	Mo	115	189.022	1070006	0.88	200	94.5	90	110	
107	Ag	115	202.621	3553901	0.27	200	101.3	90	110	
111	Cd	115	195.672	500859	0.28	200	97.8	90	110	
118	Sn	115	191.304	1052390	0.98	200	95.7	90	110	
121	Sb	115	196.280	1336993	0.31	200	98.1	90	110	
137	Ba	115	192.440	478085	0.42	200	96.2	90	110	
205	Tl	209	193.753	8436028	1.38	200	96.9	90	110	
208	Pb	209	193.391	11167624	0.22	200	96.7	90	110	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1273489	0.10	1273504	100.00	70	120	
72	Ge	878398	0.72	903560	97.22	70	120	
115	In	9032028	1.24	9034804	99.97	70	120	
209	Bi	24272005	1.32	24406682	99.45	70	120	

Low Level Calibration Verification (LLCV) Report

Date Acquired	9/13/2017 14:15	Sample Name	LCVL1-170913
Data Batch	170913.b	Comment	LCVL6020A_W
Data File Name	048LCCV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
9	Be	45	0.860	65	11.89	1	86.0	70	130	
11	B	45	21.800	922	2.06	20	109.0	70	130	
23	Na	45	106.374	132471	0.90	100	106.4	70	130	
24	Mg	45	94.373	55938	0.09	100	94.4	70	130	
27	Al	45	127.928	29514	1.77	100	127.9	70	130	
39	K	45	90.727	73088	1.22	100	90.7	70	130	
44	Ca	45	88.022	2964	5.15	100	88.0	70	130	
47	Ti	45	4.809	948	7.58	5	96.2	70	130	
51	V	45	0.995	8819	2.77	1	99.5	70	130	
52	Cr	45	4.907	40203	0.24	5	98.1	70	130	
55	Mn	45	4.783	22560	1.90	5	95.7	70	130	
56	Fe	45	104.407	678006	1.08	100	104.4	70	130	
59	Co	72	4.802	65591	0.59	5	96.0	70	130	
60	Ni	72	4.998	18297	2.26	5	100.0	70	130	
63	Cu	72	5.080	49645	1.84	5	101.6	70	130	
66	Zn	72	4.886	7394	0.33	5	97.7	70	130	
75	As	72	4.917	4659	1.65	5	98.3	70	130	
78	Se	72	4.816	375	4.41	5	96.3	70	130	
88	Sr	115	4.623	28394	0.35	5	92.5	70	130	
95	Mo	115	4.583	26426	2.30	5	91.7	70	130	
107	Ag	115	1.965	35068	1.08	2	98.2	70	130	
111	Cd	115	0.957	2497	3.50	1	95.7	70	130	
118	Sn	115	4.776	27128	1.04	5	95.5	70	130	
121	Sb	115	1.934	13567	2.95	2	96.7	70	130	
137	Ba	115	4.661	11831	1.36	5	93.2	70	130	
205	Tl	209	0.970	43695	0.77	1	97.0	70	130	
208	Pb	209	0.922	56863	0.08	1	92.2	70	130	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1282723	0.68	1273504	100.72	70	120	
72	Ge	901971	0.23	903560	99.82	70	120	
115	In	9174027	0.82	9034804	101.54	70	120	
209	Bi	24834190	0.92	24406682	101.75	70	120	

Continuing Calibration Blank (CCB) Report

Date Acquired	9/13/2017 14:18	Sample Name	CCB1-170913
Data Batch	170913.b	Comment	CCB 6020A_W
Data File Name	049_CCB.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	MDL S	MDL Aq	QC Flag
9	Be	45	-0.021	5	24.7	0.4	0.3	
11	B	45	5.093	348	12.2	10	10	
23	Na	45	9.443	23965	1.9	50	100	
24	Mg	45	0.096	699	14.1	50	100	
27	Al	45	-0.318	1220	4.8	50	10	
39	K	45	-0.622	27781	0.9	50	100	
44	Ca	45	0.171	270	24.5	50	100	
47	Ti	45	-0.001	4	114.6	4	3	
51	V	45	0.009	2268	2.3	4	3	
52	Cr	45	0.017	514	2.0	2	2	
55	Mn	45	0.015	209	1.8	2	3	
56	Fe	45	0.357	6175	6.7	50	50	
59	Co	72	0.007	278	11.7	2	3	
60	Ni	72	-0.014	114	31.1	2	3	
63	Cu	72	0.014	668	6.0	2	2	
66	Zn	72	0.006	318	13.9	4	2	
75	As	72	0.018	95	9.9	2	2	
78	Se	72	0.030	26	20.6	1	2	
88	Sr	115	0.021	458	15.0	4	3	
95	Mo	115	0.059	420	19.1	2	2	
107	Ag	115	0.013	301	9.4	0.4	1	
111	Cd	115	0.005	22	22.9	0.4	0.3	
118	Sn	115	0.030	627	3.0	4	3	
121	Sb	115	0.039	461	5.9	2	0.8	
137	Ba	115	0.013	106	32.4	2	3	
205	Tl	209	0.042	2316	7.5	2	0.5	
208	Pb	209	-0.010	1738	5.4	0.4	0.3	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1293141	0.65	1273504	101.54	70	120	
72	Ge	895885	0.12	903560	99.15	70	120	
115	In	9292068	1.06	9034804	102.85	70	120	
209	Bi	24651632	0.94	24406682	101.00	70	120	