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.: 1709066

RE: Hall Street-Harvey Sampling

Dear Dawn Denham:

DHL Analytical, Inc. received 4 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

№ 77940

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 #: 1709066
PROJECT LOCATION OR NAME: Hovey Superfund
CLENT PROJECT #: 02444-034.001.000/COLLECTOR: Michael Kanacki

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

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

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 ☐ 8082 PCB ☐ 8270 PCB ☐ | 8270 O-P PEST ☐ 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
Hall W-1	01	9/11/17	1140	W	VOA, poly, glass	6	X	X		X	X	VOC 8260 ☒ X, SVOC 8270 ☒ X, 8270 PEST X	
Hall FB	02		1200	W	VOAs	3	X			X	X	VOC 8260 ☒ X	
Hall SO-1	03		1215	S	4oz. glass	1				X	X	8270 PEST X	
Hall TB	04		0900	W	VOAs	3	X			X	X	VOC 8260 ☒ X	Hold

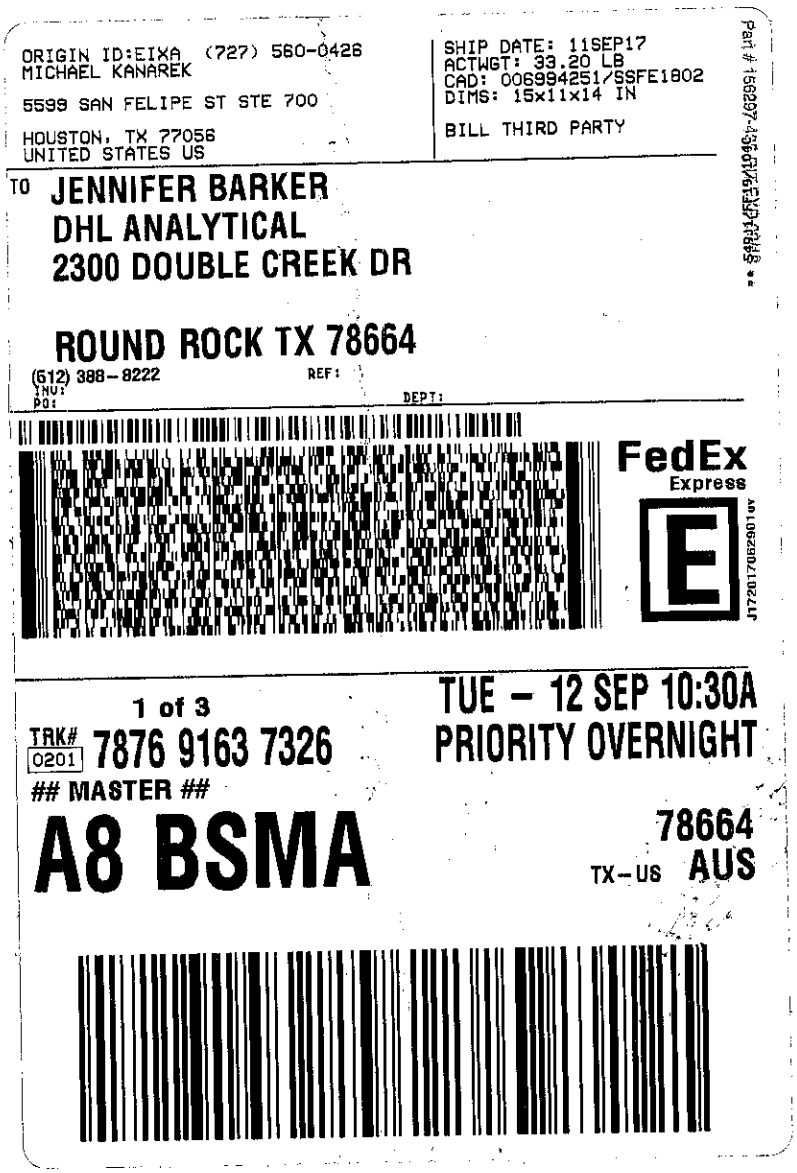
RELINQUISHED BY: (Signature) DATE/TIME 9/11/17 17:30 RECEIVED BY: (Signature) FedEx
RELINQUISHED BY: (Signature) FedEx DATE/TIME 9/12/17 9:23 RECEIVED BY: (Signature)
RELINQUISHED BY: (Signature) DATE/TIME RECEIVED BY: (Signature)

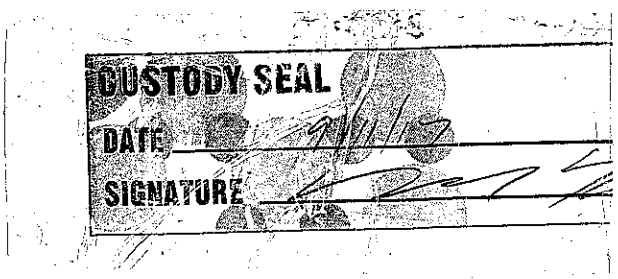
☐ DHL DISPOSAL @ $5.00 each ☐ Return

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

LABORATORY USE ONLY:
RECEIVING TEMP: 0.8 THERM #: 78
CUSTODY SEALS: ☐ BROKEN ☒ INTACT ☐ NOT USED
CARRIER: ☐ LONE STAR ☒ FEDEX ☐ UPS ☐ OTHER
☐ COURIER DELIVERY
☐ HAND DELIVERED

State Superfund Site	Soil COCs	Soil Analytical Methods	Water COCs	Water Analytical Methods
Hall Street	Arsenic	SW6020A	1,2-Dichlorobenzene	SW8260C
	Barium		1,4-Dichlorobenzene	
	Cadmium		bis(2-chloroethyl)ether	
	Lead		Benzene	
	Selenium		Chlorobenzene	
	Dioxin/Furans	SW8280B	Arsenic	SW6020A
			Lead	
~~Houston Scrap~~	Antimony	SW6020A	Arsenic	SW6020A
	Arsenic		Cadmium	
	Beryllium		Lead	
	Lead		Beryllium	
			Mercury	SW7470A
~~Hu-Mar Chemicals~~	p-chloroaniline	SW8270D	arsenic	SW6020A
	S-Ethyl dipropylthiocarbamate (EPTC)	8270D	vanadium	
			1,2-dichlorobenzene	SW8260C
			1,4-dichlorobenzene	
			benzene	
			p-chloroaniline	SW8270D
			S-Ethyl dipropylthiocarbamate	


ORIGIN ID:EIXA (727) 560-0426
MICHAEL KANAREK
5599 SAN FELIPE ST STE 700
HOUSTON, TX 77056
UNITED STATES US
SHIP DATE: 11SEP17
ACTWGT: 33.20 LB
CAD: 006994251/SSFE1802
DIMS: 15x11x14 IN
BILL THIRD PARTY
TO JENNIFER BARKER
DHL ANALYTICAL
2300 DOUBLE CREEK DR
ROUND ROCK TX 78664
(612) 388-8222
REF:
INV:
PO:
DEPT:
FedEx
Express
1 of 3
TRK# 0201 7876 9163 7326
MASTER
A8 BSMA
TUE - 12 SEP 10:30A
PRIORITY OVERNIGHT
78664
TX-US AUS


CUSTODY SEAL
DATE 9/11/17
SIGNATURE


QEC
Quality Environmental Containers
800-255-3950 • 304-255-3900

DHL Analytical, Inc.

Sample Receipt Checklist

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

Work Order Number **1709066** Received by **EL**

Checklist completed by: _____ 9/12/2017 Reviewed by EL 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 ☐	**0.8** °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: Hall Street-Harvey Sampling	**LRC Date:** 9/14/2017
Reviewer Name: Angie O'Donnell	**Laboratory Work Order:** 1709066
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: Hall Street-Harvey Sampling	**LRC Date:** 9/14/2017
Reviewer Name: Angie O'Donnell	**Laboratory Work Order:** 1709066
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: Hall Street-Harvey Sampling
Lab Order: 1709066

CASE NARRATIVE

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

Method SW8270D - Semivolatile Organics Analysis
Method SW8260C - Volatile Organics Analysis
Method SW6020A - Metals Analysis
Method D2216 - Percent Moisture Analysis

Exception Report R1-01

The samples were received and log in performed on 9/12/2017. A total of 4 samples were received and 3 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: Hall Street-Harvey Sampling
Lab Order: 1709066

Work Order Sample Summary

Lab Smp ID	Client Sample ID	Tag Number	Date Collected	Date Recved
1709066-01	Hall W-1		09/11/17 11:40 AM	9/12/2017
1709066-02	Hall FB		09/11/17 12:00 PM	9/12/2017
1709066-03	Hall SO-1		09/11/17 12:15 PM	9/12/2017
1709066-04	Hall TB		09/11/17 08:00 AM	9/12/2017

Lab Order: 1709066
Client: Weston Solutions, Inc.
Project: Hall Street-Harvey Sampling

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1709066-01A	Hall W-1	09/11/17 11:40 AM	Aqueous	SW5030C	Purge and Trap Water GC/MS	09/12/17 10:35 AM	82328
1709066-01B	Hall W-1	09/11/17 11:40 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	09/13/17 07:59 AM	82335
1709066-01C	Hall W-1	09/11/17 11:40 AM	Aqueous	SW3510C	Aq Prep Sep Funnel: BNA	09/13/17 09:00 AM	82338
1709066-02A	Hall FB	09/11/17 12:00 PM	Field Blank	SW5030C	Purge and Trap Water GC/MS	09/12/17 10:35 AM	82328
1709066-03A	Hall SO-1	09/11/17 12:15 PM	Soil	D2216	Moisture Preparation	09/12/17 12:11 PM	82331
	Hall SO-1	09/11/17 12:15 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	09/13/17 08:00 AM	82336

Lab Order: 1709066
Client: Weston Solutions, Inc.
Project: Hall Street-Harvey Sampling

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1709066-01A	Hall W-1	Aqueous	SW8260C	8260 Water Volatiles by GC/MS	82328	1	09/12/17 02:29 PM	GCMS5_170912A
1709066-01B	Hall W-1	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	82335	1	09/13/17 01:56 PM	ICP-MS4_170913A
1709066-01C	Hall W-1	Aqueous	SW8270D	Semivolatiles by GC/MS - Water	82338	1	09/13/17 02:53 PM	GCMS9_170913A
1709066-02A	Hall FB	Field Blank	SW8260C	8260 Water Volatiles by GC/MS	82328	1	09/12/17 01:19 PM	GCMS5_170912A
1709066-03A	Hall SO-1	Soil	D2216	Percent Moisture	82331	1	09/13/17 01:00 PM	PMOIST_170912A
	Hall SO-1	Soil	SW6020A	Trace Metals: ICP-MS - Solid	82336	5	09/14/17 11:00 AM	ICP-MS4_170914A

DHL Analytical, Inc.

Date: *14-Sep-17*

CLIENT:	Weston Solutions, Inc.	**Client Sample ID:**	Hall W-1
Project:	Hall Street-Harvey Sampling	**Lab ID:**	1709066-01
Project No:	02444.034.001.0001	**Collection Date:**	09/11/17 11:40 AM
Lab Order:	1709066	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		**SW6020A**					Analyst: **RO**
Arsenic	0.00527	0.00200	0.00500		mg/L	1	09/13/17 01:56 PM
Lead	0.00199	0.000300	0.00100		mg/L	1	09/13/17 01:56 PM
IS: Bismuth	92.7	0	70-200		%REC	1	09/13/17 01:56 PM
IS: Germanium	92.7	0	70-200		%REC	1	09/13/17 01:56 PM
SEMIVOLATILES BY GC/MS - WATER		**SW8270D**					Analyst: **LG**
Bis(2-chloroethyl)ether	<0.000191	0.000191	0.000765		mg/L	1	09/13/17 02:53 PM
IS: 1,4-Dichlorobenzene-d4	127	0	50-200		%REC	1	09/13/17 02:53 PM
IS: Acenaphthene-d10	114	0	50-200		%REC	1	09/13/17 02:53 PM
IS: Chrysene-d12	99.5	0	50-200		%REC	1	09/13/17 02:53 PM
IS: Naphthalene-d8	129	0	50-200		%REC	1	09/13/17 02:53 PM
IS: Perylene-d12	104	0	50-200		%REC	1	09/13/17 02:53 PM
IS: Phenanthrene-d10	88.9	0	50-200		%REC	1	09/13/17 02:53 PM
Surr: 2-Fluorobiphenyl	68.0	0	48-120		%REC	1	09/13/17 02:53 PM
Surr: 4-Terphenyl-d14	65.3	0	51-135		%REC	1	09/13/17 02:53 PM
Surr: Nitrobenzene-d5	61.8	0	41-120		%REC	1	09/13/17 02:53 PM
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **DEW**
1,2-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/12/17 02:29 PM
1,4-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/12/17 02:29 PM
Benzene	<0.000300	0.000300	0.00100		mg/L	1	09/12/17 02:29 PM
Chlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/12/17 02:29 PM
IS: 1,4-Dichlorobenzene-d4	80.4	0	50-200		%REC	1	09/12/17 02:29 PM
IS: Chlorobenzene-d5	84.7	0	50-200		%REC	1	09/12/17 02:29 PM
IS: Fluorobenzene	83.6	0	50-200		%REC	1	09/12/17 02:29 PM
Surr: 1,2-Dichloroethane-d4	105	0	72-119		%REC	1	09/12/17 02:29 PM
Surr: 4-Bromofluorobenzene	98.4	0	76-119		%REC	1	09/12/17 02:29 PM
Surr: Dibromofluoromethane	98.7	0	85-115		%REC	1	09/12/17 02:29 PM
Surr: Toluene-d8	97.6	0	81-120		%REC	1	09/12/17 02:29 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:**	Hall FB
Project:	Hall Street-Harvey Sampling	**Lab ID:**	1709066-02
Project No:	02444.034.001.0001	**Collection Date:**	09/11/17 12:00 PM
Lab Order:	1709066	**Matrix:**	FIELD BLANK

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **DEW**
1,2-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/12/17 01:19 PM
1,4-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/12/17 01:19 PM
Benzene	<0.000300	0.000300	0.00100		mg/L	1	09/12/17 01:19 PM
Chlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/12/17 01:19 PM
IS: 1,4-Dichlorobenzene-d4	82.4	0	50-200		%REC	1	09/12/17 01:19 PM
IS: Chlorobenzene-d5	86.0	0	50-200		%REC	1	09/12/17 01:19 PM
IS: Fluorobenzene	84.5	0	50-200		%REC	1	09/12/17 01:19 PM
Surr: 1,2-Dichloroethane-d4	106	0	72-119		%REC	1	09/12/17 01:19 PM
Surr: 4-Bromofluorobenzene	98.1	0	76-119		%REC	1	09/12/17 01:19 PM
Surr: Dibromofluoromethane	99.2	0	85-115		%REC	1	09/12/17 01:19 PM
Surr: Toluene-d8	97.4	0	81-120		%REC	1	09/12/17 01:19 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:**	Hall SO-1
Project:	Hall Street-Harvey Sampling	**Lab ID:**	1709066-03
Project No:	02444.034.001.0001	**Collection Date:**	09/11/17 12:15 PM
Lab Order:	1709066	**Matrix:**	SOIL

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - SOLID		**SW6020A**					Analyst: **RO**
Arsenic	3.35	0.525	1.05		mg/Kg-dry	5	09/14/17 11:00 AM
Barium	86.6	0.525	2.10		mg/Kg-dry	5	09/14/17 11:00 AM
Cadmium	0.312	0.105	0.315	J	mg/Kg-dry	5	09/14/17 11:00 AM
Lead	42.7	0.105	0.315		mg/Kg-dry	5	09/14/17 11:00 AM
Selenium	1.30	0.158	0.525		mg/Kg-dry	5	09/14/17 11:00 AM
IS: Bismuth	90.2	0	70-200		%REC	5	09/14/17 11:00 AM
IS: Germanium	96.2	0	70-200		%REC	5	09/14/17 11:00 AM
IS: Indium	97.2	0	70-200		%REC	5	09/14/17 11:00 AM
PERCENT MOISTURE		**D2216**					Analyst: **BTJ**
Percent Moisture	10.2	0	0		WT%	1	09/13/17 01:00 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: 1709066
Project: Hall Street-Harvey Sampling

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_170807E

Sample ID **DCS1-81788**	Batch ID: **81788**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **DCS**	Run ID: **ICP-MS4_170807E**	Analysis Date: **8/7/2017 11:00:00 AM**	Prep Date: **8/4/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.000511	0.00100	0.000500	0	102	80	120	0	0	
Lead	0.000499	0.00100	0.000500	0	99.8	80	120	0	0	

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	
Barium	0.00194	0.0100	0.00200	0	97.2	80	120	0	0	

Sample ID **DCS3-81788**	Batch ID: **81788**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **DCS3**	Run ID: **ICP-MS4_170807E**	Analysis Date: **8/7/2017 11:04:00 AM**	Prep Date: **8/4/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.00512	0.00500	0.00500	0	102	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: 1709066
Project: Hall Street-Harvey Sampling

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_170913A

The QC data in batch 82335 applies to the following samples: 1709066-01B

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								
Lead	<0.000300	0.00100								
IS: Bismuth	0.200		0.200		101	70	200			
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			
Lead	0.193	0.00100	0.200	0	96.7	80	120			
IS: Bismuth	0.200		0.200		98.3	70	200			
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	
Lead	0.196	0.00100	0.200	0	98.2	80	120	1.54	15	
IS: Bismuth	0.200		0.200		98.8	70	200	0	0	
IS: Germanium	0.200		0.200		96.6	70	200	0	0	

Sample ID **1709066-01B SD**	Batch ID: **82335**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **SD**	Run ID: **ICP-MS4_170913A**	Analysis Date: **9/13/2017 1:58:00 PM**	Prep Date: **9/13/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	<0.0100	0.0250	0	0.00527				0	10	
Lead	0.00200	0.00500	0	0.00199				0.552	10	
IS: Bismuth	1.00		0.200		98.1	70	200	0	0	
IS: Germanium	1.00		0.200		97.3	70	200	0	0	

Sample ID **1709066-01B PDS**	Batch ID: **82335**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **PDS**	Run ID: **ICP-MS4_170913A**	Analysis Date: **9/13/2017 2:04:00 PM**	Prep Date: **9/13/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.203	0.00500	0.200	0.00527	99.0	80	120			
Lead	0.196	0.00100	0.200	0.00199	97.1	80	120			
IS: Bismuth	0.200		0.200		91.3	70	200			
IS: Germanium	0.200		0.200		92.5	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: 1709066
Project: Hall Street-Harvey Sampling

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_170913A

Sample ID **1709066-01B MS**	Batch ID: **82335**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **MS**	Run ID: **ICP-MS4_170913A**	Analysis Date: **9/13/2017 2:05:00 PM**	Prep Date: **9/13/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.208	0.00500	0.200	0.00527	101	80	120			
Lead	0.200	0.00100	0.200	0.00199	99.0	80	120			
IS: Bismuth	0.200		0.200		91.1	70	200			
IS: Germanium	0.200		0.200		92.8	70	200			

Sample ID **1709066-01B MSD**	Batch ID: **82335**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **MSD**	Run ID: **ICP-MS4_170913A**	Analysis Date: **9/13/2017 2:07:00 PM**	Prep Date: **9/13/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.209	0.00500	0.200	0.00527	102	80	120	0.392	15	
Lead	0.201	0.00100	0.200	0.00199	99.3	80	120	0.290	15	
IS: Bismuth	0.200		0.200		90.8	70	200	0	0	
IS: Germanium	0.200		0.200		93.1	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: 1709066
Project: Hall Street-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			
Lead	0.0991	0.00100	0.100	0	99.1	90	110			
IS: Bismuth	0.200		0.200		100	70	200			
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			
Lead	0.000891	0.00100	0.00100	0	89.1	70	130			
IS: Bismuth	0.200		0.200		99.8	70	200			
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			
Lead	0.193	0.00100	0.200	0	96.7	90	110			
IS: Bismuth	0.200		0.200		99.4	70	200			
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			
Lead	0.000922	0.00100	0.00100	0	92.2	70	130			
IS: Bismuth	0.200		0.200		102	70	200			
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: 1709066
Project: Hall Street-Harvey Sampling

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_170914A

The QC data in batch 82336 applies to the following samples: 1709066-03A

Sample ID **MB-82336** Batch ID: **82336** TestNo: **SW6020A** Units: **mg/Kg**
SampType: **MBLK** Run ID: **ICP-MS4_170914A** Analysis Date: **9/14/2017 10:41:00 AM** Prep Date: **9/13/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	<0.500	1.00								
Barium	<0.500	2.00								
Cadmium	<0.100	0.300								
Lead	<0.100	0.300								
Selenium	<0.150	0.500								
IS: Bismuth	50.0		200.0		104	70	200			

Sample ID **LCS-82336** Batch ID: **82336** TestNo: **SW6020A** Units: **mg/Kg**
SampType: **LCS** Run ID: **ICP-MS4_170914A** Analysis Date: **9/14/2017 10:50:00 AM** Prep Date: **9/13/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	50.2	1.00	50.00	0	100	80	120			
Barium	50.2	2.00	50.00	0	100	80	120			
Cadmium	50.7	0.300	50.00	0	101	80	120			
Lead	50.0	0.300	50.00	0	100	80	120			
Selenium	49.0	0.500	50.00	0	98.0	80	120			
IS: Bismuth	50.0		200.0		101	70	200			

Sample ID **LCSD-82336** Batch ID: **82336** TestNo: **SW6020A** Units: **mg/Kg**
SampType: **LCSD** Run ID: **ICP-MS4_170914A** Analysis Date: **9/14/2017 10:52:00 AM** Prep Date: **9/13/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	49.8	1.00	50.00	0	99.6	80	120	0.828	25	
Barium	50.6	2.00	50.00	0	101	80	120	0.885	25	
Cadmium	50.8	0.300	50.00	0	102	80	120	0.178	25	
Lead	50.5	0.300	50.00	0	101	80	120	0.828	25	
Selenium	49.3	0.500	50.00	0	98.7	80	120	0.712	25	
IS: Bismuth	50.0		200.0		100	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: 1709066
Project: Hall Street-Harvey Sampling

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_170914A

Sample ID **ICV-170914**	Batch ID: **R94153**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **ICV**	Run ID: **ICP-MS4_170914A**	Analysis Date: **9/14/2017 10:30:00 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.0991	0.00500	0.100	0	99.1	90	110			
Barium	0.0997	0.0100	0.100	0	99.7	90	110			
Cadmium	0.101	0.00100	0.100	0	101	90	110			
Lead	0.0985	0.00100	0.100	0	98.5	90	110			
Selenium	0.100	0.00500	0.100	0	100	90	110			
IS: Bismuth	0.200		0.200		102	70	200			

Sample ID **LCVL-170914**	Batch ID: **R94153**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **LCVL**	Run ID: **ICP-MS4_170914A**	Analysis Date: **9/14/2017 10:35:00 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00469	0.00500	0.00500	0	93.7	70	130			
Barium	0.00464	0.0100	0.00500	0	92.8	70	130			
Cadmium	0.000910	0.00100	0.00100	0	91.0	70	130			
Lead	0.000932	0.00100	0.00100	0	93.2	70	130			
Selenium	0.00454	0.00500	0.00500	0	90.8	70	130			
IS: Bismuth	0.200		0.200		102	70	200			

Sample ID **CCV1-170914**	Batch ID: **R94153**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **CCV**	Run ID: **ICP-MS4_170914A**	Analysis Date: **9/14/2017 11:30:00 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.197	0.00500	0.200	0	98.5	90	110			
Barium	0.192	0.0100	0.200	0	95.9	90	110			
Cadmium	0.192	0.00100	0.200	0	96.1	90	110			
Lead	0.190	0.00100	0.200	0	95.2	90	110			
Selenium	0.199	0.00500	0.200	0	99.4	90	110			
IS: Bismuth	0.200		0.200		102	70	200			

Sample ID **LCVL1-170914**	Batch ID: **R94153**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **LCVL**	Run ID: **ICP-MS4_170914A**	Analysis Date: **9/14/2017 11:40:00 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00471	0.00500	0.00500	0	94.2	70	130			
Barium	0.00458	0.0100	0.00500	0	91.7	70	130			
Cadmium	0.000977	0.00100	0.00100	0	97.7	70	130			
Lead	0.000890	0.00100	0.00100	0	89.0	70	130			
Selenium	0.00448	0.00500	0.00500	0	89.6	70	130			
IS: Bismuth	0.200		0.200		103	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: 1709066
Project: Hall Street-Harvey Sampling

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS9_170822B

Sample ID **DCS1-82088**	Batch ID: **82088**	TestNo: **SW8270D**	Units: **mg/L**
SampType: **DCS**	Run ID: **GCMS9_170822B**	Analysis Date: **8/22/2017 5:56:00 PM**	Prep Date: **8/22/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Bis(2-chloroethyl)ether	0.000780	0.000800	0.000600	0	130	10	400	0	0	
IS: 1,4-Dichlorobenzene-d4	0.0800		0.0800		88.5	50	200	0	0	
IS: Acenaphthene-d10	0.0800		0.0800		71.9	50	200	0	0	
IS: Chrysene-d12	0.0800		0.0800		86.4	50	200	0	0	
IS: Naphthalene-d8	0.0800		0.0800		76.8	50	200	0	0	
IS: Perylene-d12	0.0800		0.0800		86.8	50	200	0	0	
IS: Phenanthrene-d10	0.0800		0.0800		73.7	50	200	0	0	
Surr: 2-Fluorobiphenyl	62.8		80.00		78.5	48	120	0	0	
Surr: 4-Terphenyl-d14	48.6		80.00		60.8	51	135	0	0	
Surr: Nitrobenzene-d5	56.2		80.00		70.2	41	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: 1709066
Project: Hall Street-Harvey Sampling

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS9_170913A

The QC data in batch 82338 applies to the following samples: 1709066-01C

Sample ID **LCS-82338** Batch ID: **82338** TestNo: **SW8270D** Units: **mg/L**
SampType: **LCS** Run ID: **GCMS9_170913A** Analysis Date: **9/13/2017 12:52:00 PM** Prep Date: **9/13/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Bis(2-chloroethyl)ether	0.0268	0.000800	0.0400	0	67.1	37	120			
IS: 1,4-Dichlorobenzene-d4	0.0800		0.0800		127	50	200			
IS: Acenaphthene-d10	0.0800		0.0800		97.4	50	200			
IS: Chrysene-d12	0.0800		0.0800		70.7	50	200			
IS: Naphthalene-d8	0.0800		0.0800		119	50	200			
IS: Perylene-d12	0.0800		0.0800		72.0	50	200			
IS: Phenanthrene-d10	0.0800		0.0800		73.9	50	200			
Surr: 2-Fluorobiphenyl	53.2		80.00		66.5	48	120			
Surr: 4-Terphenyl-d14	51.6		80.00		64.5	51	135			
Surr: Nitrobenzene-d5	52.0		80.00		65.0	41	120			

Sample ID **MB-82338** Batch ID: **82338** TestNo: **SW8270D** Units: **mg/L**
SampType: **MBLK** Run ID: **GCMS9_170913A** Analysis Date: **9/13/2017 2:29:00 PM** Prep Date: **9/13/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Bis(2-chloroethyl)ether	<0.000200	0.000800								
IS: 1,4-Dichlorobenzene-d4	0.0800		0.0800		107	50	200			
IS: Acenaphthene-d10	0.0800		0.0800		103	50	200			
IS: Chrysene-d12	0.0800		0.0800		81.3	50	200			
IS: Naphthalene-d8	0.0800		0.0800		116	50	200			
IS: Perylene-d12	0.0800		0.0800		85.0	50	200			
IS: Phenanthrene-d10	0.0800		0.0800		77.5	50	200			
Surr: 2-Fluorobiphenyl	55.6		80.00		69.5	48	120			
Surr: 4-Terphenyl-d14	55.0		80.00		68.8	51	135			
Surr: Nitrobenzene-d5	51.6		80.00		64.5	41	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: 1709066
Project: Hall Street-Harvey Sampling

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS9_170913A

Sample ID **ICV-170913** Batch ID: **R94129** TestNo: **SW8270D** Units: **mg/L**
SampType: **ICV** Run ID: **GCMS9_170913A** Analysis Date: **9/13/2017 12:25:00 PM** Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Bis(2-chloroethyl)ether	2.58	0.000800	2.50	0	103	80	120			
IS: 1,4-Dichlorobenzene-d4	4.00		4.00		112	50	200			
IS: Acenaphthene-d10	4.00		4.00		84.3	50	200			
IS: Chrysene-d12	4.00		4.00		93.3	50	200			
IS: Naphthalene-d8	4.00		4.00		103	50	200			
IS: Perylene-d12	4.00		4.00		92.5	50	200			
IS: Phenanthrene-d10	4.00		4.00		88.6	50	200			
Surr: 2-Fluorobiphenyl	2510		2500		100	80	120			
Surr: 4-Terphenyl-d14	2320		2500		92.8	80	120			
Surr: Nitrobenzene-d5	2490		2500		99.6	80	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: 1709066
Project: Hall Street-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
1,2-Dichlorobenzene	0.000566	0.00100	0.000464	0	122	10	400	0	0	
1,4-Dichlorobenzene	0.000643	0.00100	0.000464	0	139	10	400	0	0	
Benzene	0.000479	0.00100	0.000464	0	103	10	400	0	0	
Chlorobenzene	0.000529	0.00100	0.000464	0	114	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: 1709066
Project: Hall Street-Harvey Sampling

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS5_170912A

The QC data in batch 82328 applies to the following samples: 1709066-01A, 1709066-02A

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
1,2-Dichlorobenzene	0.0237	0.00100	0.0232	0	102	75	122			
1,4-Dichlorobenzene	0.0232	0.00100	0.0232	0	100	74	123			
Benzene	0.0230	0.00100	0.0232	0	99.0	81	122			
Chlorobenzene	0.0232	0.00100	0.0232	0	99.9	81	122			
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
1,2-Dichlorobenzene	0.0231	0.00100	0.0232	0	99.4	75	125	2.91	20	
1,4-Dichlorobenzene	0.0231	0.00100	0.0232	0	99.8	74	123	0.207	20	
Benzene	0.0233	0.00100	0.0232	0	100	81	120	1.28	20	
Chlorobenzene	0.0231	0.00100	0.0232	0	99.8	81	122	0.099	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
1,2-Dichlorobenzene	<0.000300	0.00100								
1,4-Dichlorobenzene	<0.000300	0.00100								
Benzene	<0.000300	0.00100								
Chlorobenzene	<0.000300	0.00100								
IS: 1,4-Dichlorobenzene-d4	0.200		0.200		82.8	50	200			
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			

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: 1709066
Project: Hall Street-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
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: 1709066
Project: Hall Street-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
1,2-Dichlorobenzene	0.0436	0.00100	0.0464	0	94.1	80	120			
1,4-Dichlorobenzene	0.0432	0.00100	0.0464	0	93.0	80	120			
Benzene	0.0440	0.00100	0.0464	0	94.7	80	120			
Chlorobenzene	0.0441	0.00100	0.0464	0	95.0	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

CLIENT: Weston Solutions, Inc.
Work Order: 1709066
Project: Hall Street-Harvey Sampling

ANALYTICAL QC SUMMARY REPORT

RunID: PMOIST_170912A

The QC data in batch 82331 applies to the following samples: 1709066-03A

Sample ID **1709056-05A-DUP** Batch ID: **82331** TestNo: **D2216** Units: **WT%**
SampType: **DUP** Run ID: **PMOIST_170912A** Analysis Date: **9/13/2017 1:00:00 PM** Prep Date: **9/12/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Percent Moisture	4.33	0	0	4.156				3.99	30	

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: 1709066
Project: Hall Street-Harvey Sampling

MQL SUMMARY REPORT

TestNo: SW6020A	MDL	MQL
Analyte	**mg/Kg**	**mg/Kg**
Arsenic	0.500	1.00
Barium	0.500	2.00
Cadmium	0.100	0.300
Lead	0.100	0.300
Selenium	0.150	0.500

TestNo: SW6020A	MDL	MQL
Analyte	**mg/L**	**mg/L**
Arsenic	0.00200	0.00500
Lead	0.000300	0.00100

TestNo: SW8260C	MDL	MQL
Analyte	**mg/L**	**mg/L**
1,2-Dichlorobenzene	0.000300	0.00100
1,4-Dichlorobenzene	0.000300	0.00100
Benzene	0.000300	0.00100
Chlorobenzene	0.000300	0.00100

TestNo: SW8270D	MDL	MQL
Analyte	**mg/L**	**mg/L**
Bis(2-chloroethyl)ether	0.000200	0.000800

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

GCMS5
For

DHL Work Order
1709066

GCMS5_170912A
For

DHL Work Order
1709066

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

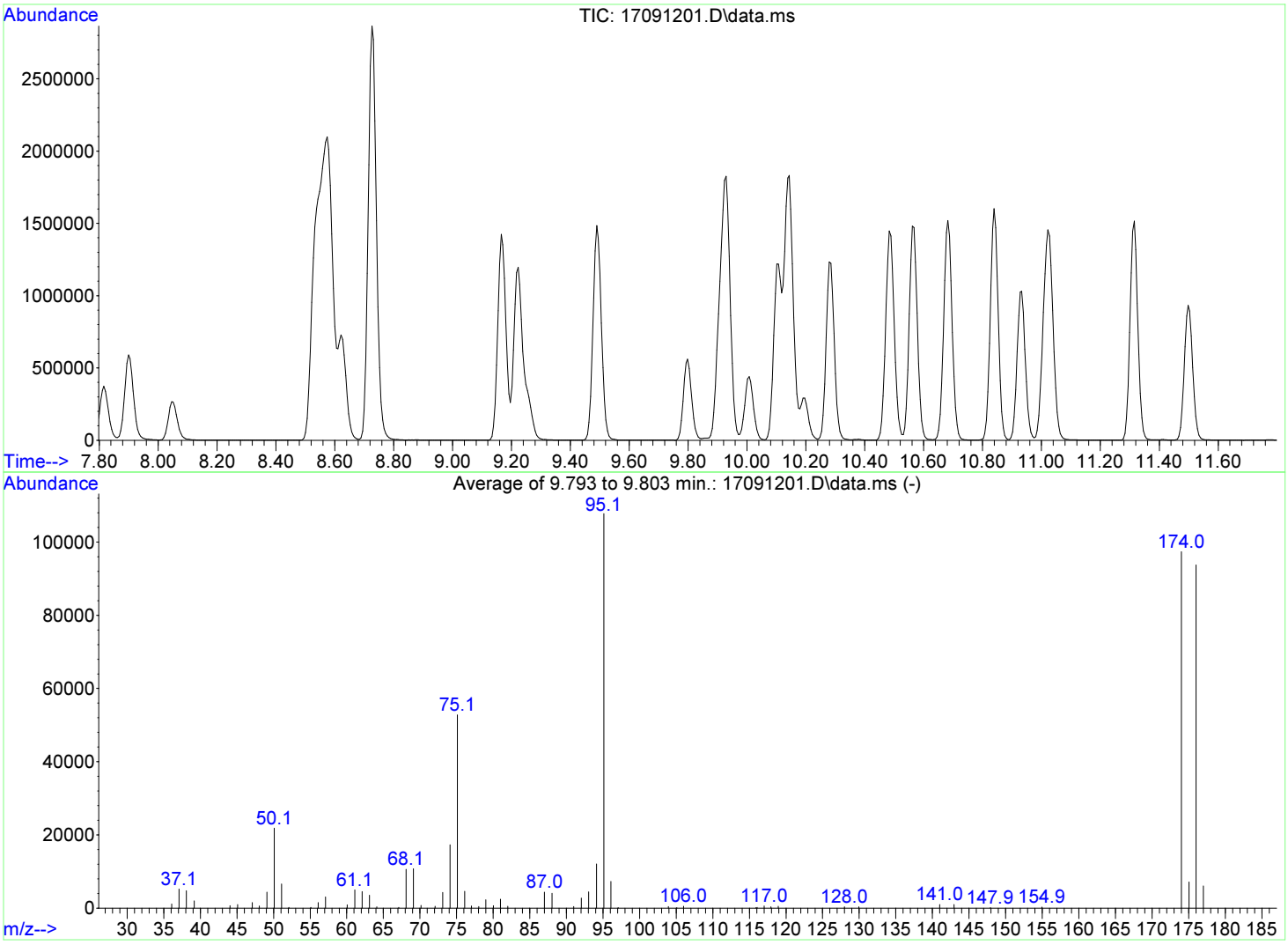
REVIEWED BY
By Janice Whitt at 9:13:09 AM, 9/13/2017

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

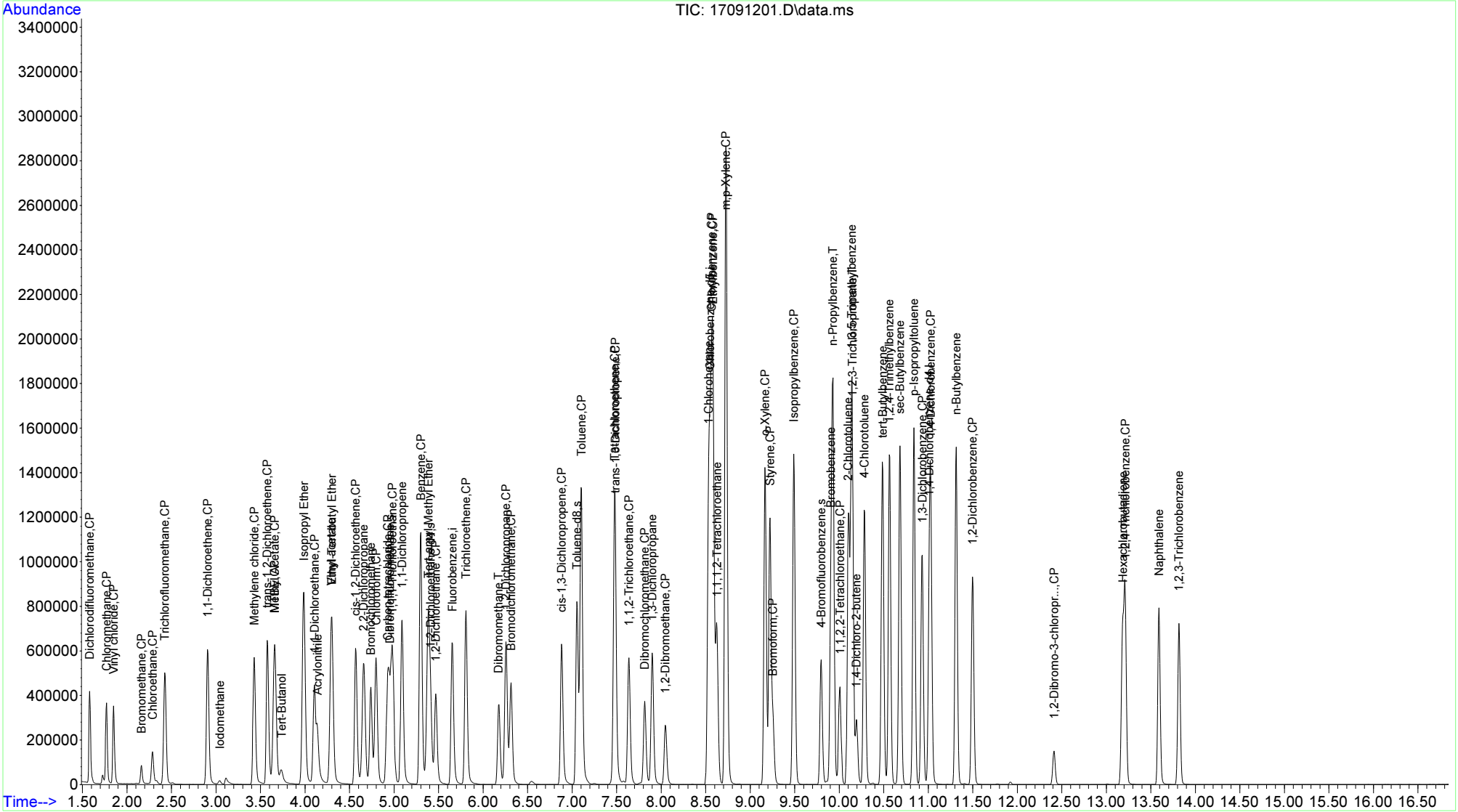
Compound	R.T.	QIon	Response	Conc Units	%Rec
59) Ethylbenzene	8.580	106	397283	44.074 ug/L	98
60) Bromoform	9.254	173	150470	44.081 ug/L	98
61) Styrene	9.223	104	693047	44.271 ug/L	99
62) 1-Chlorohexane	8.533	55	309141	42.541 ug/L	99
63) m,p-Xylene	8.726	106	960848	88.394 ug/L	98
64) o-Xylene	9.165	106	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

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

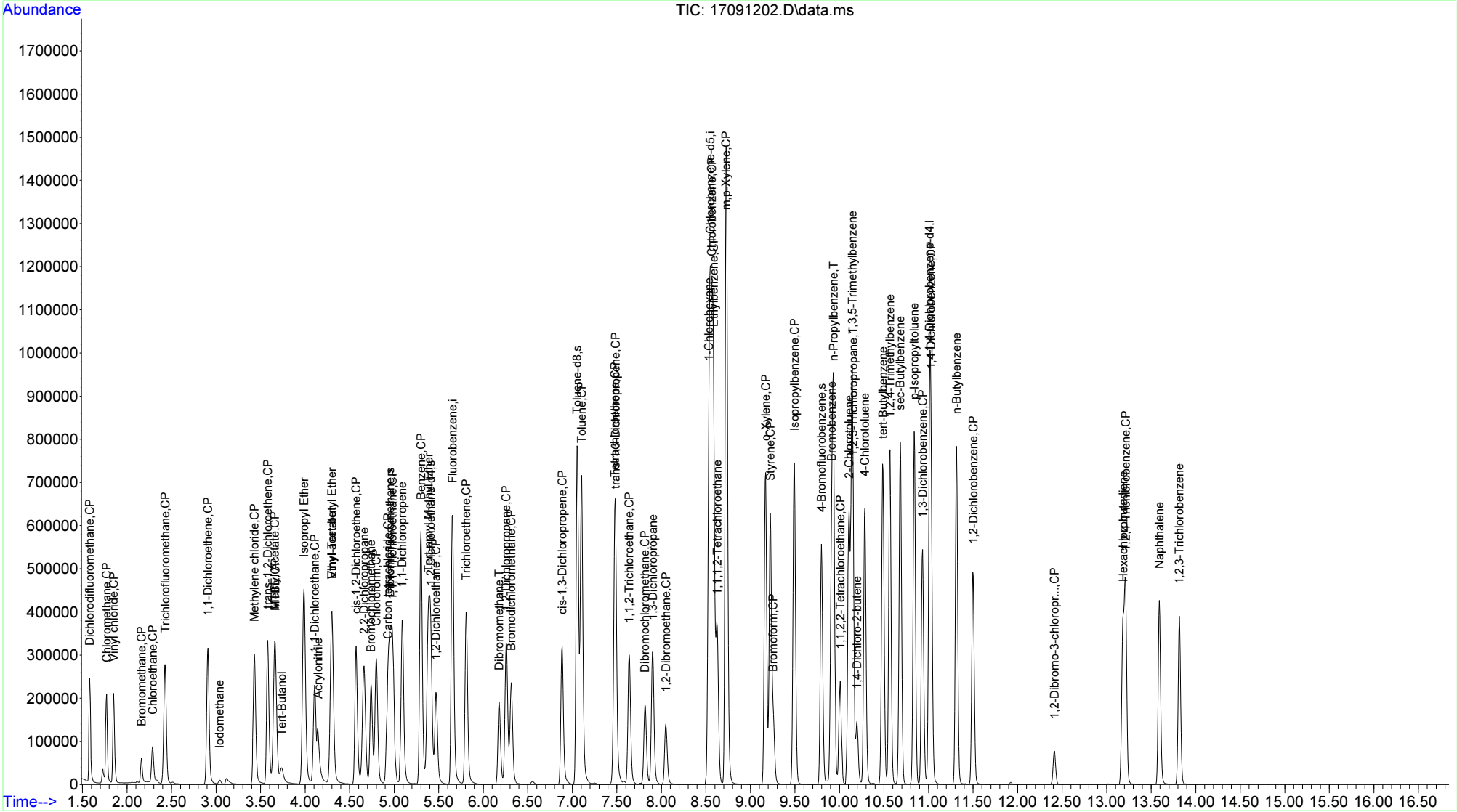
Compound	R.T.	QIon	Response	Conc	Units	%Rec
59) Ethylbenzene	8.585	106	204644	22.693	ug/L	98
60) Bromoform	9.254	173	76637	23.125	ug/L	98
61) Styrene	9.223	104	362754	23.162	ug/L	99
62) 1-Chlorohexane	8.532	55	161737	22.247	ug/L	95
63) m,p-Xylene	8.726	106	503651	46.313	ug/L	98
64) o-Xylene	9.171	106	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

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

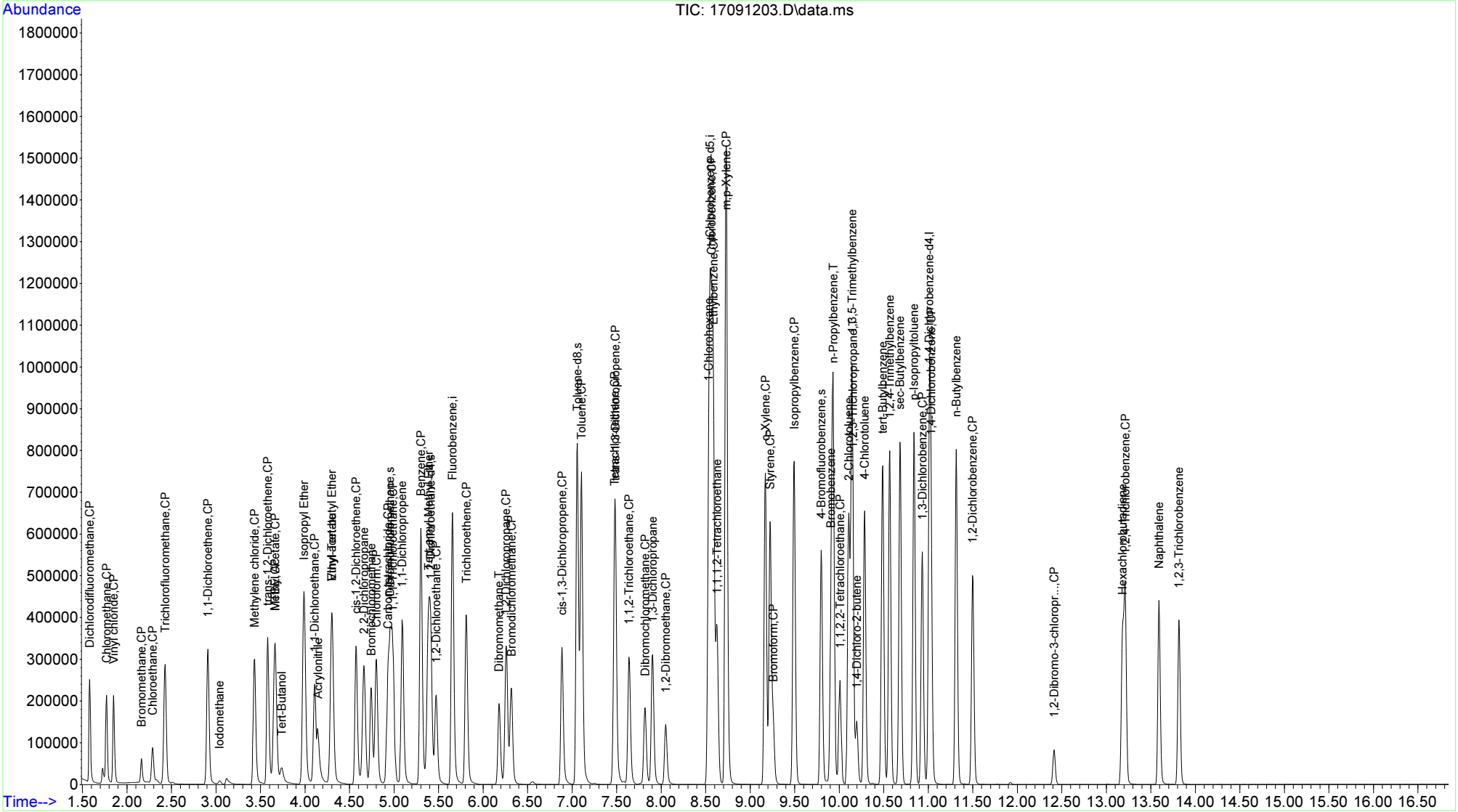
Compound	R.T.	QIon	Response	Conc	Units	%Rec
59) Ethylbenzene	8.585	106	212533	23.045	ug/L	95
60) Bromoform	9.260	173	77818	22.966	ug/L	99
61) Styrene	9.223	104	371306	23.182	ug/L	99
62) 1-Chlorohexane	8.533	55	164637	22.143	ug/L	96
63) m,p-Xylene	8.731	106	520427	46.794	ug/L	99
64) o-Xylene	9.171	106	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

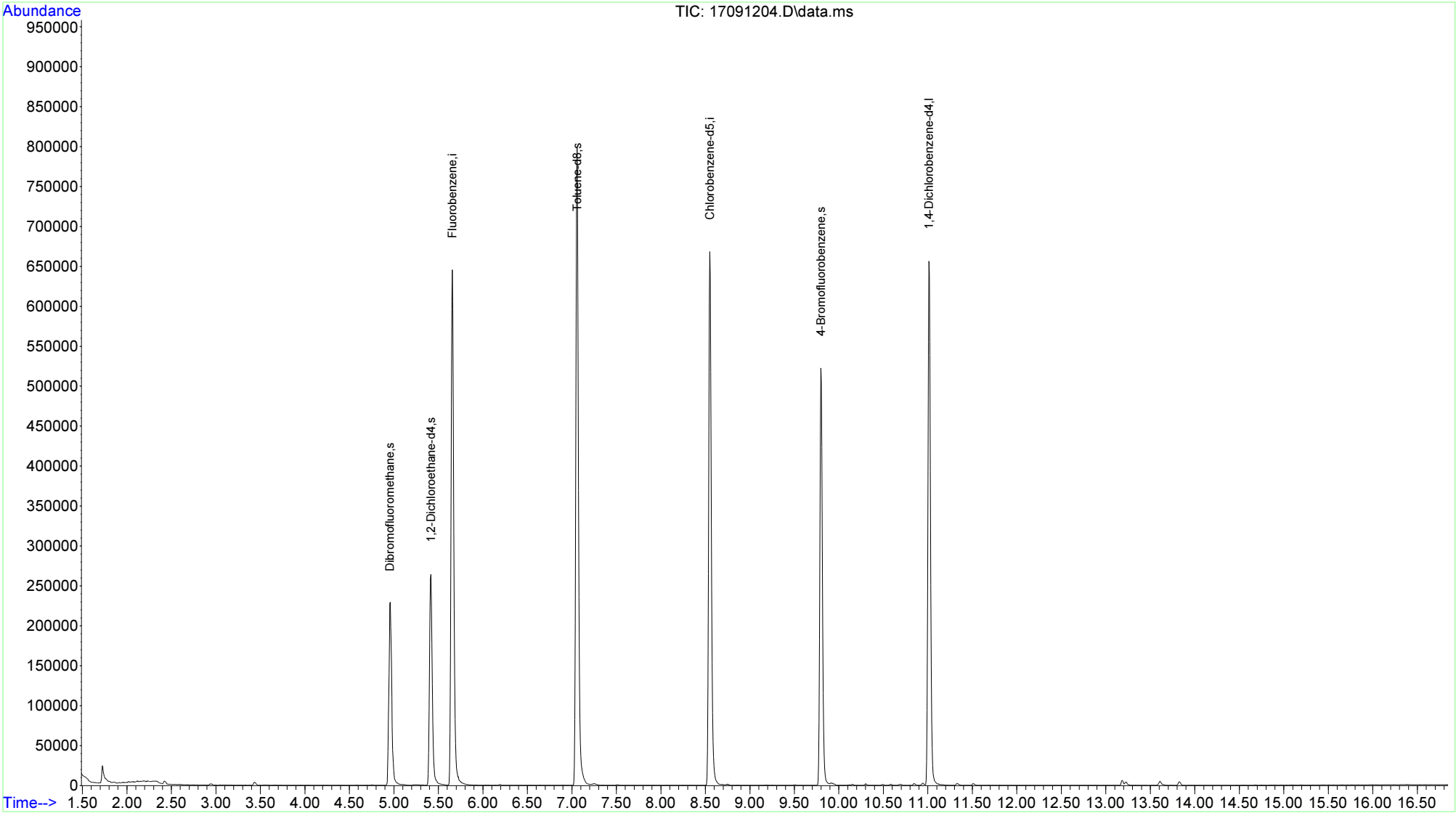
Compound	R.T.	QIon	Response	Conc	Units	%Rec
Internal Standards						
1) Fluorobenzene	5.656	96	652321	200.00	ug/L	86
49) Chlorobenzene-d5	8.548	117	463894	200.00	ug/L	87
66) 1,4-Dichlorobenzene-d4	11.012	152	219827	200.00	ug/L	83
System Monitoring Compounds						Dev(Min)
30) Dibromofluoromethane	4.955	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 : 17091206.D
Acq On : 12 Sep 2017 1:19 pm
Operator :
Sample : 1709066-02A
Misc : SAMP
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 12 14:07:59 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

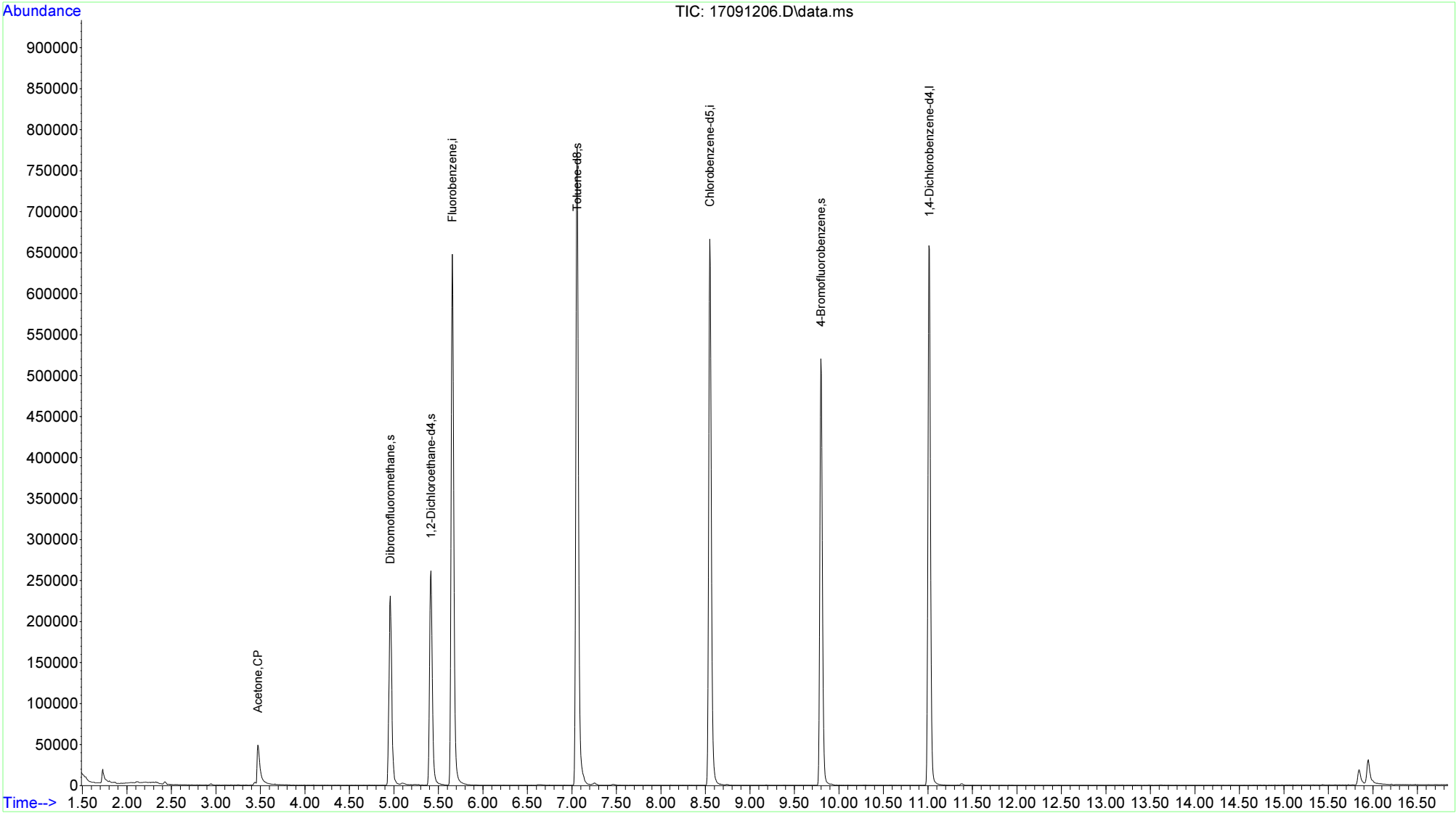
Compound	R.T.	QIon	Response	Conc	Units	%Rec
Internal Standards						
1) Fluorobenzene	5.656	96	642244	200.00	ug/L	85
49) Chlorobenzene-d5	8.548	117	458353	200.00	ug/L	86
66) 1,4-Dichlorobenzene-d4	11.017	152	218662	200.00	ug/L	82
System Monitoring Compounds						Dev(Min)
30) Dibromofluoromethane	4.960	113	157668	198.49	ug/L	0.00
Spiked Amount 200.000			Recovery =	99.25%		
32) 1,2-Dichloroethane-d4	5.415	65	211639	211.89	ug/L	0.00
Spiked Amount 200.000			Recovery =	105.94%		
51) Toluene-d8	7.057	98	593994	194.82	ug/L	0.00
Spiked Amount 200.000			Recovery =	97.41%		
70) 4-Bromofluorobenzene	9.798	95	212560	196.24	ug/L	0.00
Spiked Amount 200.000			Recovery =	98.12%		
Target Compounds						Qvalue
10) Isopropyl Alcohol	3.417	45	85	Below Cal	#	100
11) Acetone	3.470	43	84064	52.508	ug/L	94
15) Methylene chloride	3.438	84	1442	Below Cal		90

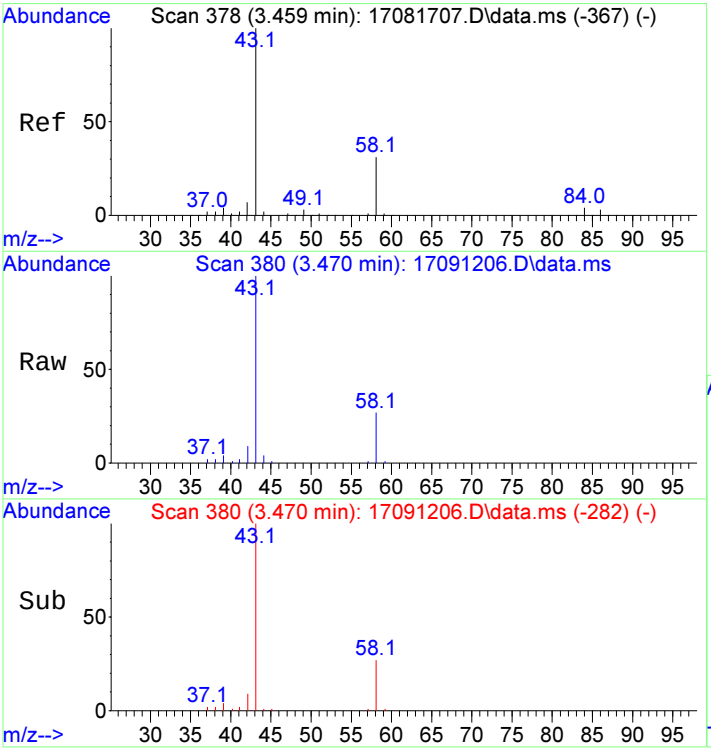
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\170912\
Data File : 17091206.D
Acq On : 12 Sep 2017 1:19 pm
Operator :
Sample : 1709066-02A
Misc : SAMP
ALS Vial : 6 Sample Multiplier: 1

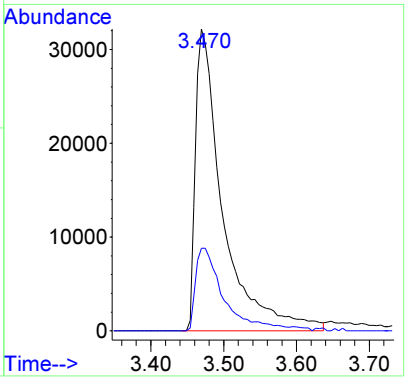
Quant Time: Sep 12 14:07:59 2017
Quant Method : C:\msdchem\1\methods\170817X.M
Quant Title : M-8260S
QLast Update : Thu Aug 17 14:33:11 2017
Response via : Initial Calibration





#11
Acetone
Concen: 52.508 ug/L
RT: 3.470 min Scan# 380
Delta R.T. 0.011 min
Lab File: 17091206.D
Acq: 12 Sep 2017 1:19 pm
QValue: 94
Tgt Ion: 43 Resp: 84064

Ion	Ratio	Lower	Upper
43	100		
58	27.3	10.5	50.5



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\170912\
Data File : 17091209.D
Acq On : 12 Sep 2017 2:29 pm
Operator :
Sample : 1709066-01A
Misc : SAMP
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 12 15:00:41 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

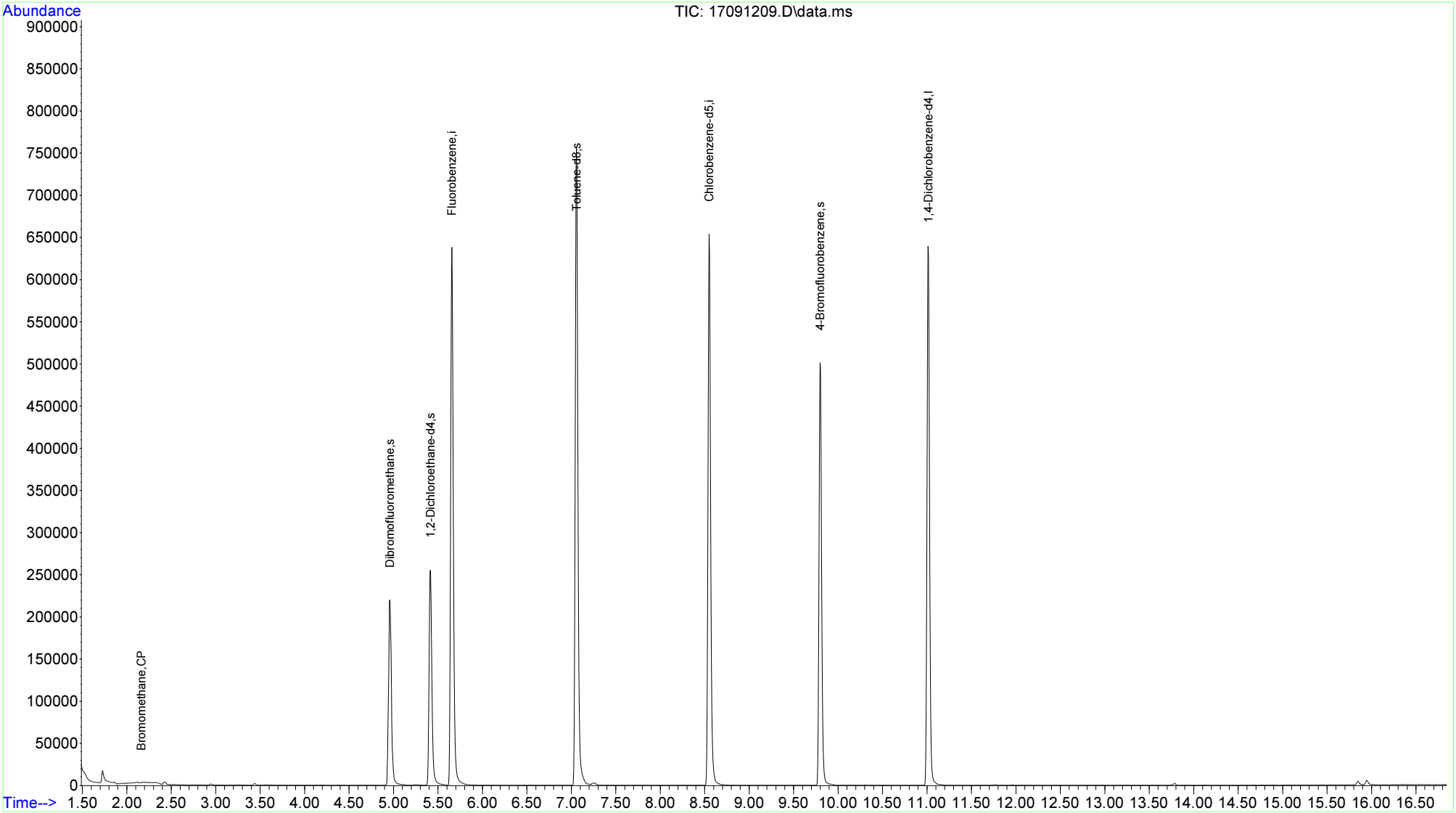
Compound	R.T.	QIon	Response	Conc	Units	%Rec
Internal Standards						
1) Fluorobenzene	5.656	96	634865	200.00	ug/L	84
49) Chlorobenzene-d5	8.548	117	451198	200.00	ug/L	85
66) 1,4-Dichlorobenzene-d4	11.017	152	213293	200.00	ug/L	80
System Monitoring Compounds						Dev(Min)
30) Dibromofluoromethane	4.960	113	155007	197.41	ug/L	0.00
Spiked Amount 200.000			Recovery =	98.70%		
32) 1,2-Dichloroethane-d4	5.415	65	208196	210.86	ug/L	0.00
Spiked Amount 200.000			Recovery =	105.43%		
51) Toluene-d8	7.057	98	585902	195.21	ug/L	0.00
Spiked Amount 200.000			Recovery =	97.61%		
70) 4-Bromofluorobenzene	9.798	95	208018	196.88	ug/L	0.00
Spiked Amount 200.000			Recovery =	98.44%		
Target Compounds						Qvalue
5) Bromomethane	2.162	94	820	0.328	ug/L #	11
11) Acetone	3.543	43	408	Below Cal	#	44
15) Methylene chloride	3.428	84	1007	Below Cal	#	69

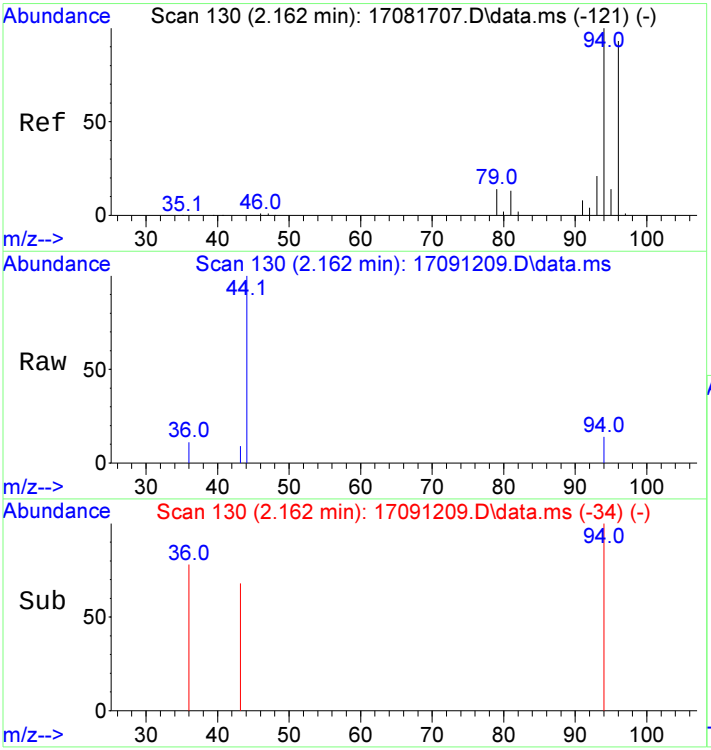
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\170912\
Data File : 17091209.D
Acq On : 12 Sep 2017 2:29 pm
Operator :
Sample : 1709066-01A
Misc : SAMP
ALS Vial : 9 Sample Multiplier: 1

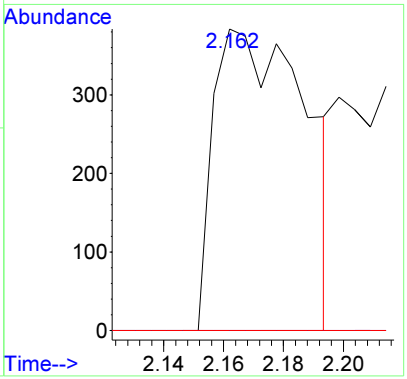
Quant Time: Sep 12 15:00:41 2017
Quant Method : C:\msdchem\1\methods\170817X.M
Quant Title : M-8260S
QLast Update : Thu Aug 17 14:33:11 2017
Response via : Initial Calibration





#5
Bromomethane
Concen: 0.328 ug/L
RT: 2.162 min Scan# 130
Delta R.T. -0.000 min
Lab File: 17091209.D
Acq: 12 Sep 2017 2:29 pm
QValue: 11
Tgt Ion: 94 Resp: 820

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



GCMS5
Calibration Curve
For

DHL Work Order
1709066

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

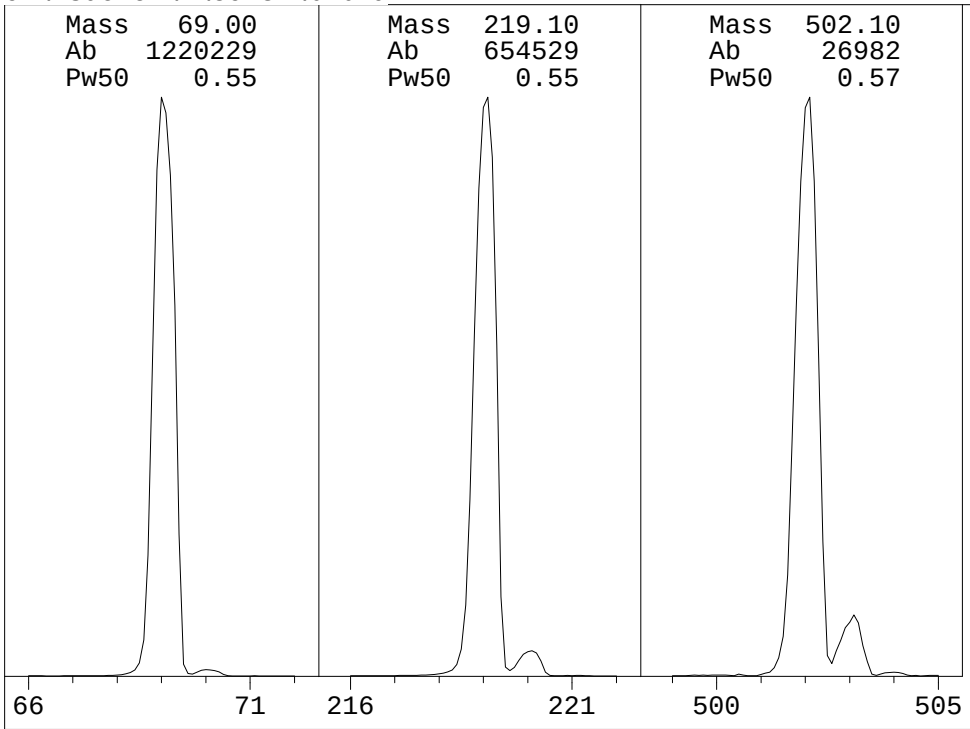
Standards	Conc.	Standard DHL ID	Level 7 92.8 ppb	Level 8 186 ppb
Liquids	2,000ppm	VLP170815A	2 µL	4 µL
Gas	2,000ppm	VGP170515C	2 µL	4 µL
Carbon Disulfide	2,000ppm	VCDP160823-01B	2 µL	4 µL
Ketone	2,000ppm	VKP170515B	10 µL***	20 µL***
2-CEVE	2,000ppm	VCEP170202A	2 µL	4 µL
Iodomethane	2,000ppm	VIMP170515A	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

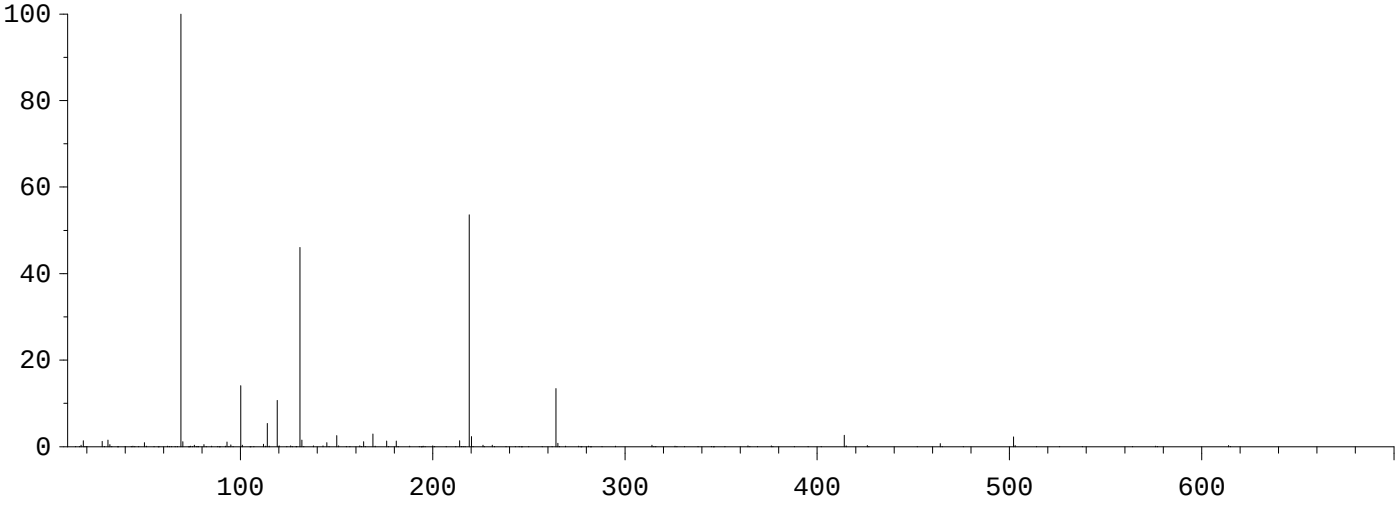


Ion Pol	Pos	MassGain	126
		MassOffs	-10
Emission	34.6	AmuGain	2220
EIEnrgy	69.9	AmuOffs	130
Filament	2	Wid219	-0.035
		DC Pol	Pos
Repeller	31.63		
IonFcus	97.7	HEDEnab	On
EntLens	0.0	EMVolts	1541
EntOffs	Var		
		Samples	8
PFTBA	Open	Averages	3
		Stepsize	0.10

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%

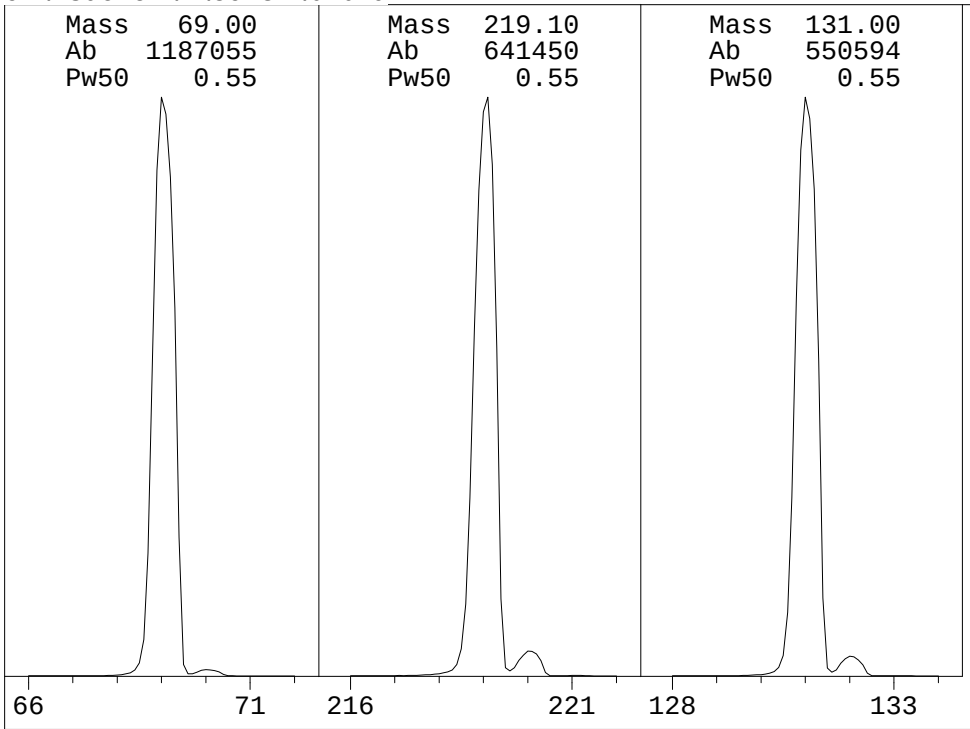
Column(1) Flow: 0.8 Column(2): 0 ml/min. Interface Temp: 230

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	52.6	2.6	2.3	

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

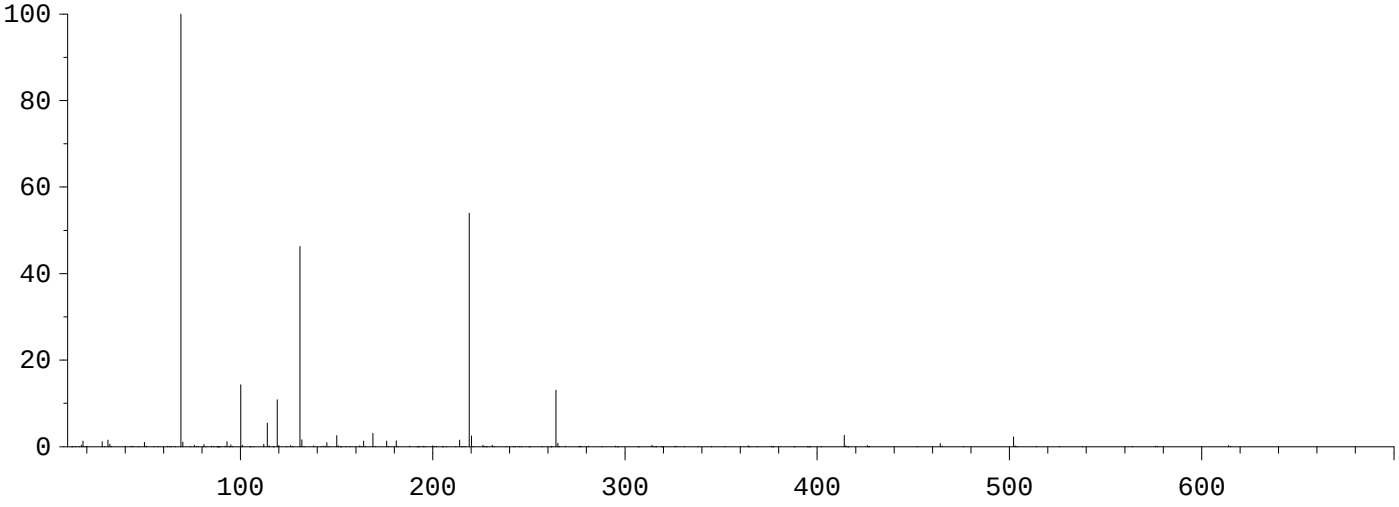


Ion Pol	Pos	MassGain	126
		MassOffs	-10
Emission	34.6	AmuGain	2220
EIEnrgy	69.9	AmuOffs	130
Filament	2	Wid219	-0.035
		DC Pol	Pos
Repeller	31.63		
IonFcus	97.7	HEDEnab	On
EntLens	0.0	EMVolts	1541
EntOffs	Var		
		Samples	8
PFTBA	Open	Averages	3
		Stepsize	0.10

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%

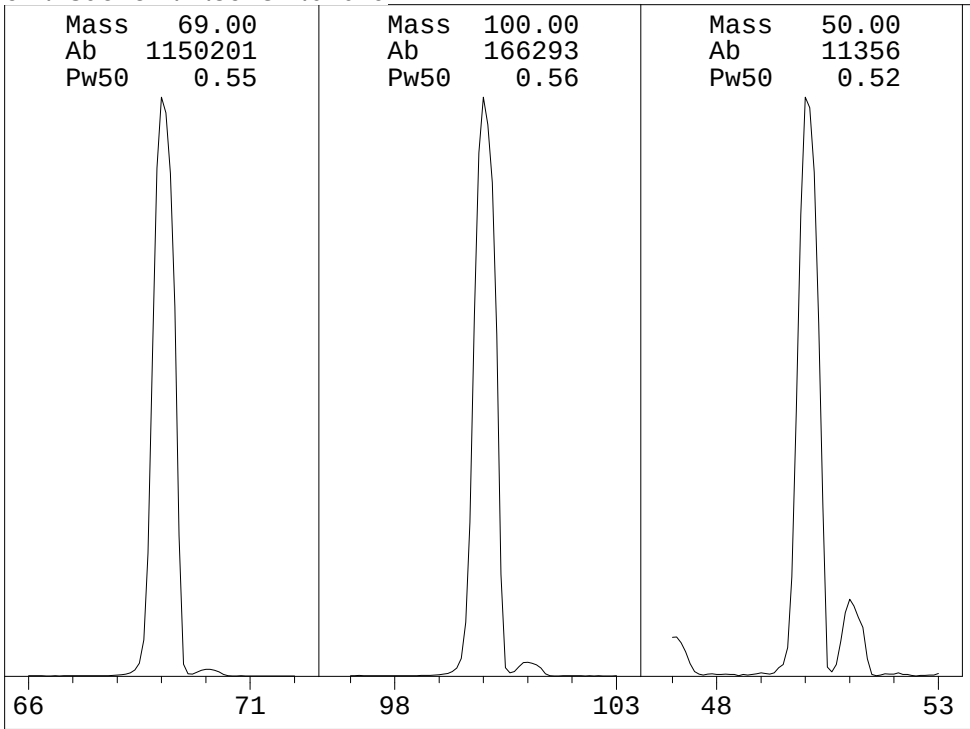
Column(1) Flow: 0.8 Column(2): 0 ml/min. Interface Temp: 230

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

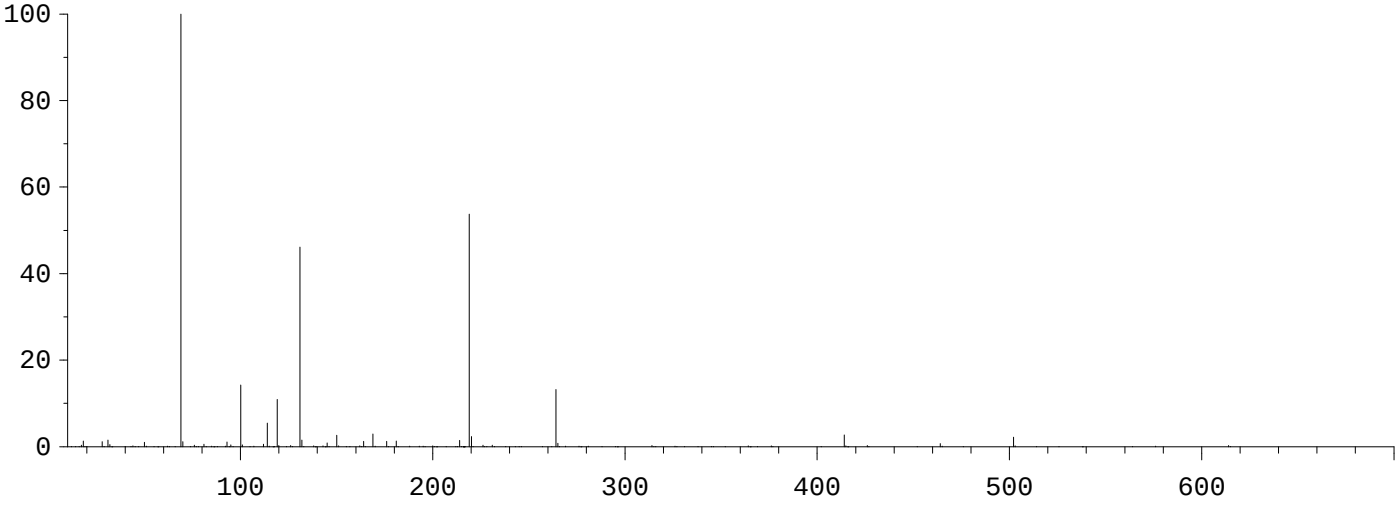


Ion Pol	Pos	MassGain	126
		MassOffs	-10
Emission	34.6	AmuGain	2220
EIEnrgy	69.9	AmuOffs	130
Filament	2	Wid219	-0.035
		DC Pol	Pos
Repeller	31.63		
IonFcus	97.7	HEDEnab	On
EntLens	0.0	EMVolts	1541
EntOffs	Var		
		Samples	8
PFTBA	Open	Averages	3
		Stepsize	0.10

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

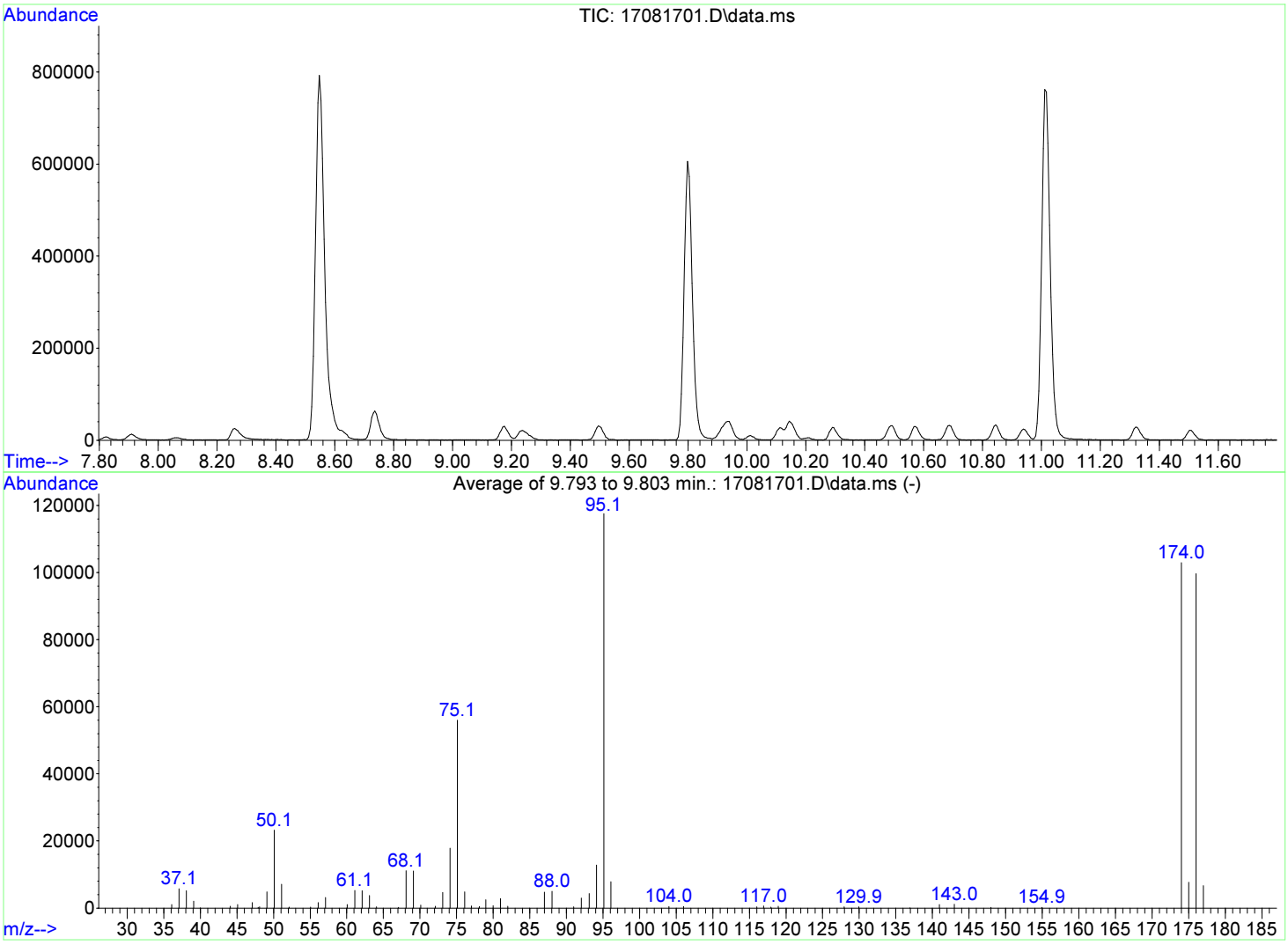
44)	T	2-Chloroethylv...		1.308	1.370	1.362	1.379	1.412	1.361	1.365	2.46	A	0.025	0.0000	1.3654	0.0000
45)	CP	cis-1,3-Dichlo...	2.621	2.631	2.638	2.704	2.781	2.797	2.909	2.889	2.746	4.20	A	0.042	0.0000	2.7464	0.0000
46)	CP	trans-1,3-Dich...	2.074	2.057	2.092	2.105	2.189	2.254	2.355	2.343	2.184	5.54	A	0.055	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

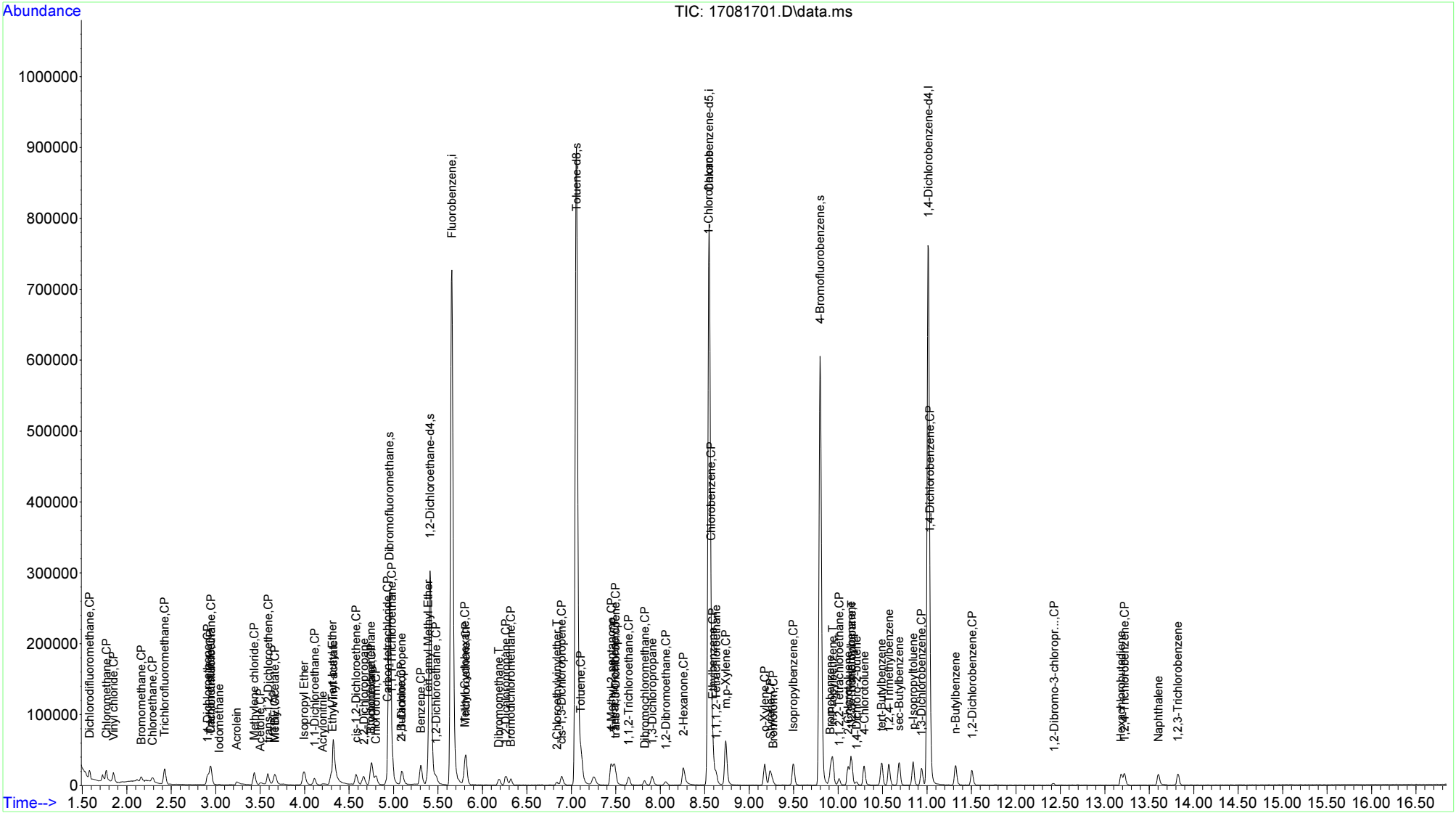
Compound	R.T.	QIon	Response	Conc Units	%Rec
46) trans-1,3-Dichloropropene	7.497	75	7179	0.881 ug/L	96
47) 1,1,2-Trichloroethane	7.643	97	4830	0.864 ug/L	91
48) Toluene	7.105	92	16928	0.945 ug/L	100
50) 4-Methyl-2-pentanone	7.450	43	30298	3.848 ug/L	93
52) 2-Hexanone	8.260	43	20223	3.648 ug/L	90
53) Dibromochloromethane	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

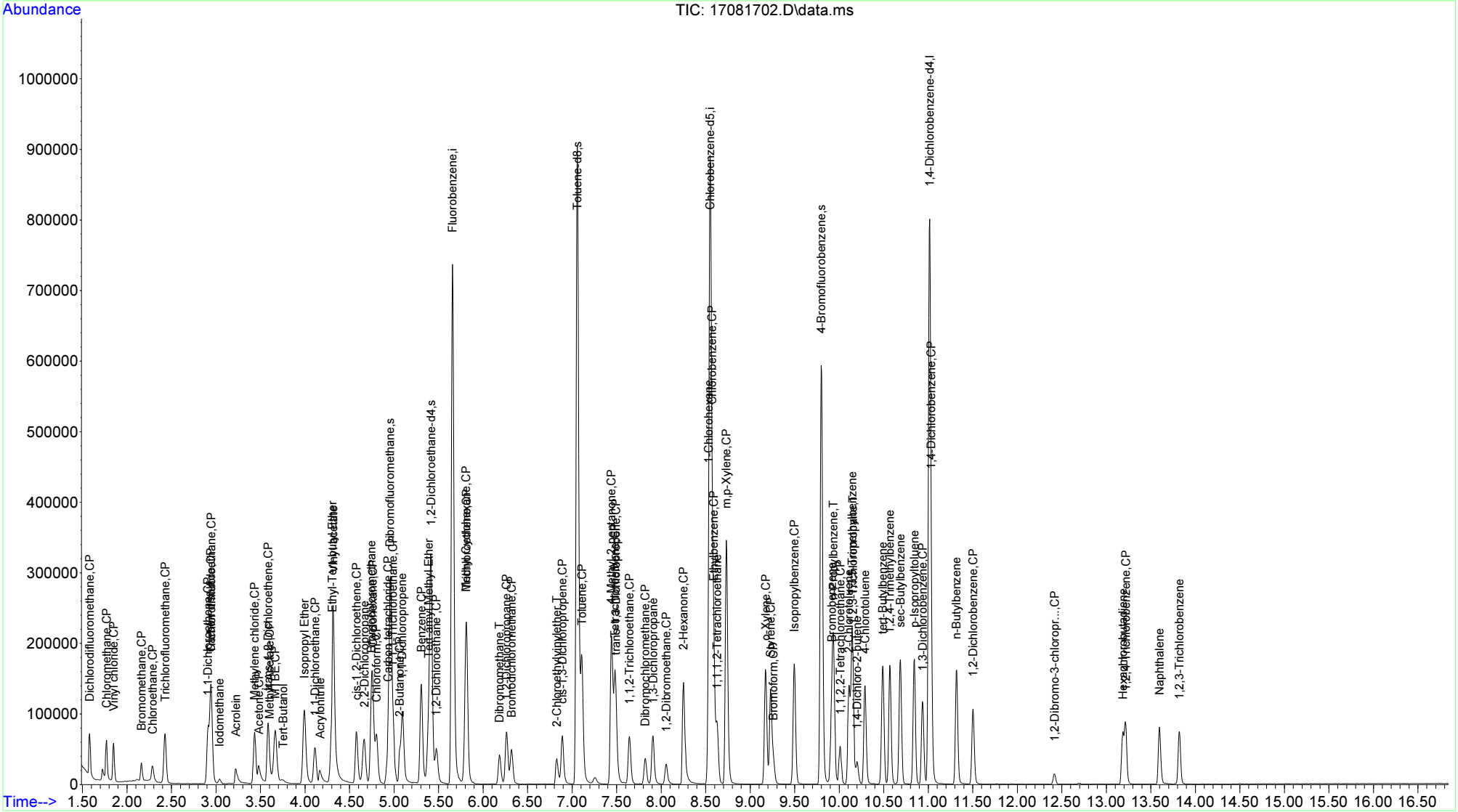
Compound	R.T.	QIon	Response	Conc	Units	%Rec
46) trans-1,3-Dichloropropene	7.492	75	35384	4.371	ug/L	94
47) 1,1,2-Trichloroethane	7.643	97	26489	4.769	ug/L	98
48) Toluene	7.110	92	86485	4.858	ug/L	98
50) 4-Methyl-2-pentanone	7.439	43	187213	24.044	ug/L	97
52) 2-Hexanone	8.250	43	124444	22.703	ug/L	99
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

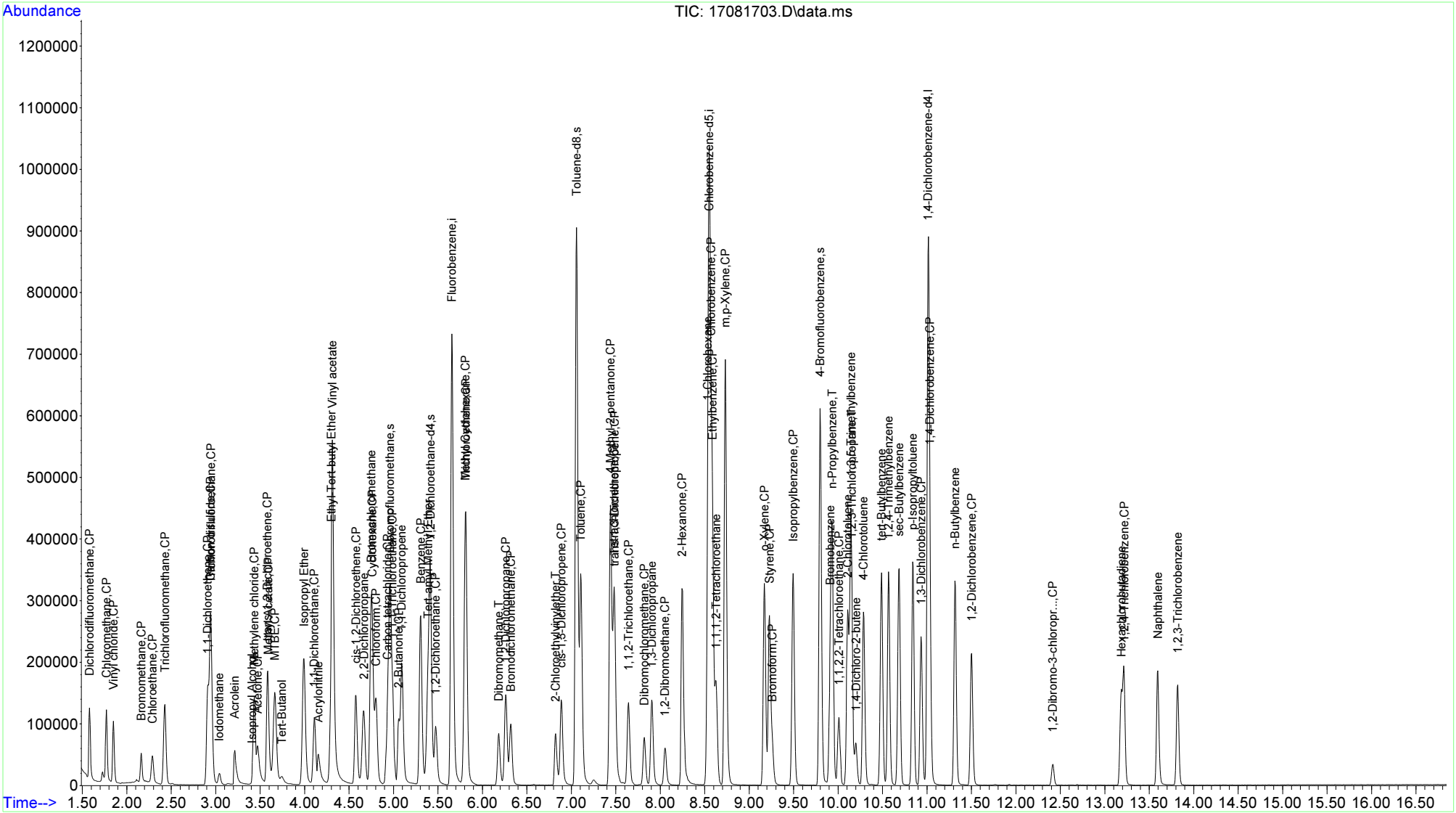
Compound	R.T.	QIon	Response	Conc	Units	%Rec
46) trans-1,3-Dichloropropene	7.487	75	71418	8.889	ug/L	97
47) 1,1,2-Trichloroethane	7.643	97	52594	9.540	ug/L	99
48) Toluene	7.105	92	166726	9.436	ug/L	98
50) 4-Methyl-2-pentanone	7.439	43	383494	48.757	ug/L	98
52) 2-Hexanone	8.245	43	269758	48.718	ug/L	99
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

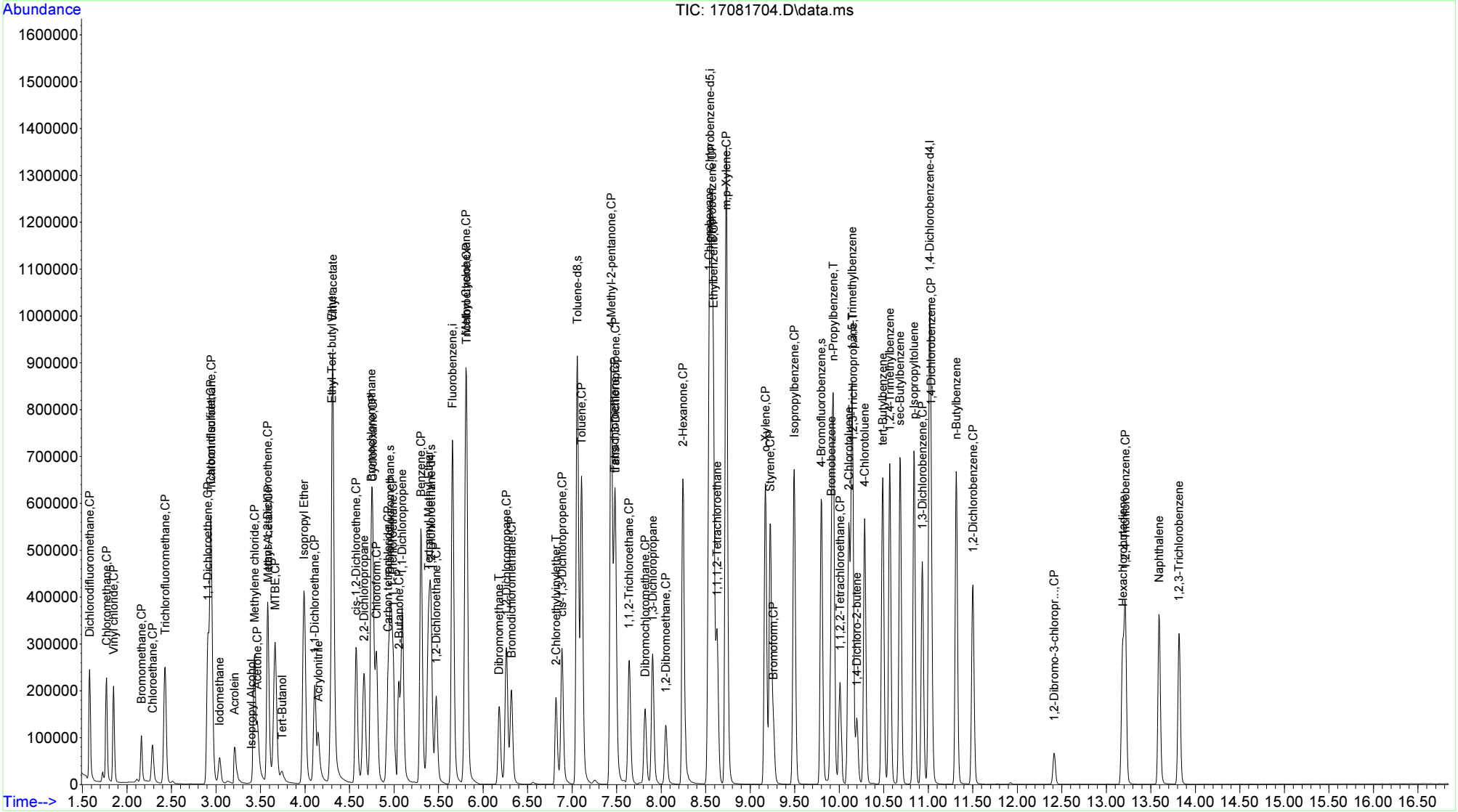
Compound	R.T.	QIon	Response	Conc Units	%Rec
46) trans-1,3-Dichloropropene	7.487	75	144997	17.931 ug/L	98
47) 1,1,2-Trichloroethane	7.638	97	103221	18.603 ug/L	99
48) Toluene	7.105	92	327222	18.400 ug/L	98
50) 4-Methyl-2-pentanone	7.439	43	759364	97.487 ug/L	98
52) 2-Hexanone	8.245	43	534740	97.517 ug/L	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

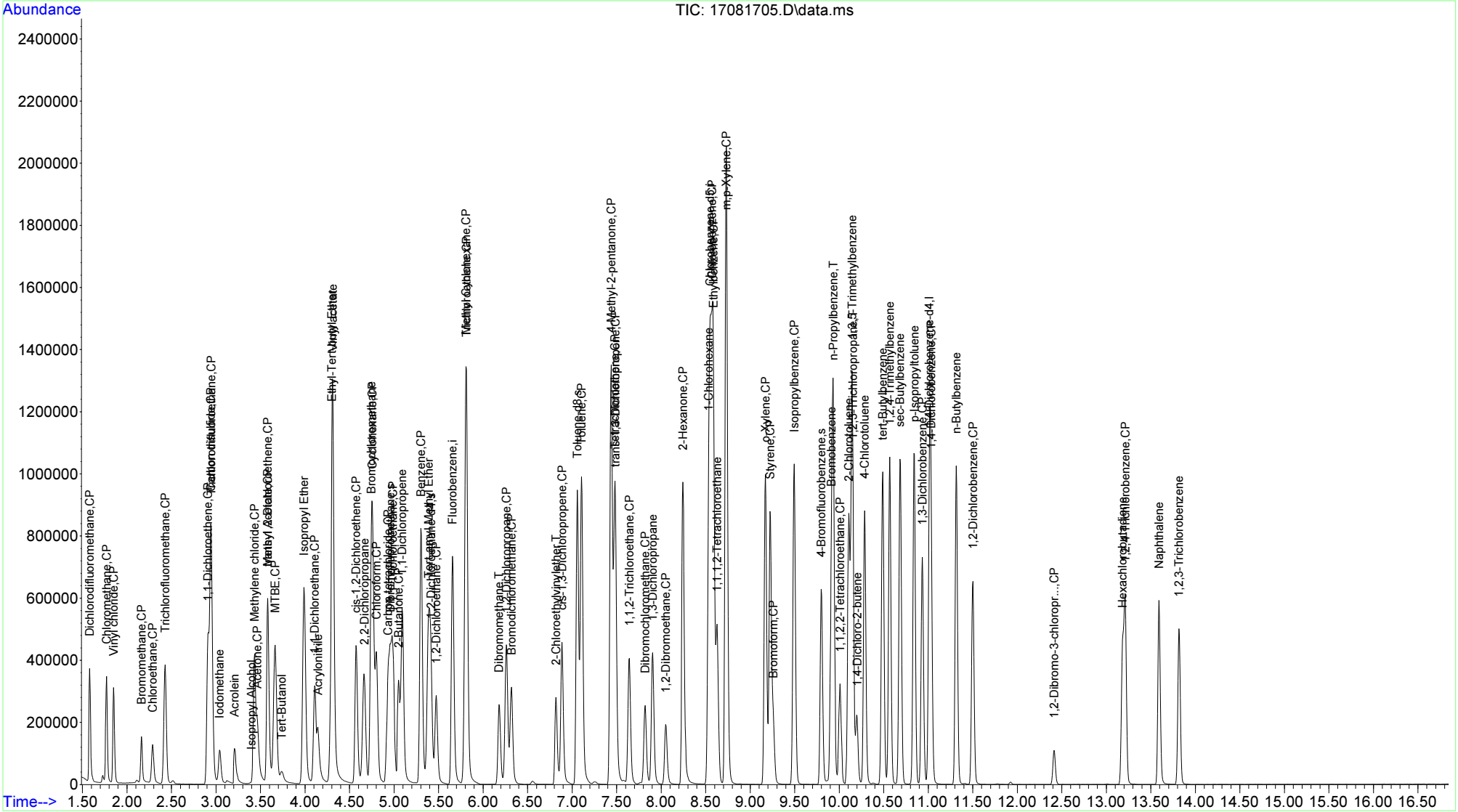
Compound	R.T.	QIon	Response	Conc	Units	%Rec
46) trans-1,3-Dichloropropene	7.486	75	226671	27.872	ug/L	99
47) 1,1,2-Trichloroethane	7.643	97	156371	28.022	ug/L	99
48) Toluene	7.105	92	498547	27.874	ug/L	99
50) 4-Methyl-2-pentanone	7.439	43	1125406	144.049	ug/L	99
52) 2-Hexanone	8.245	43	790095	143.654	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

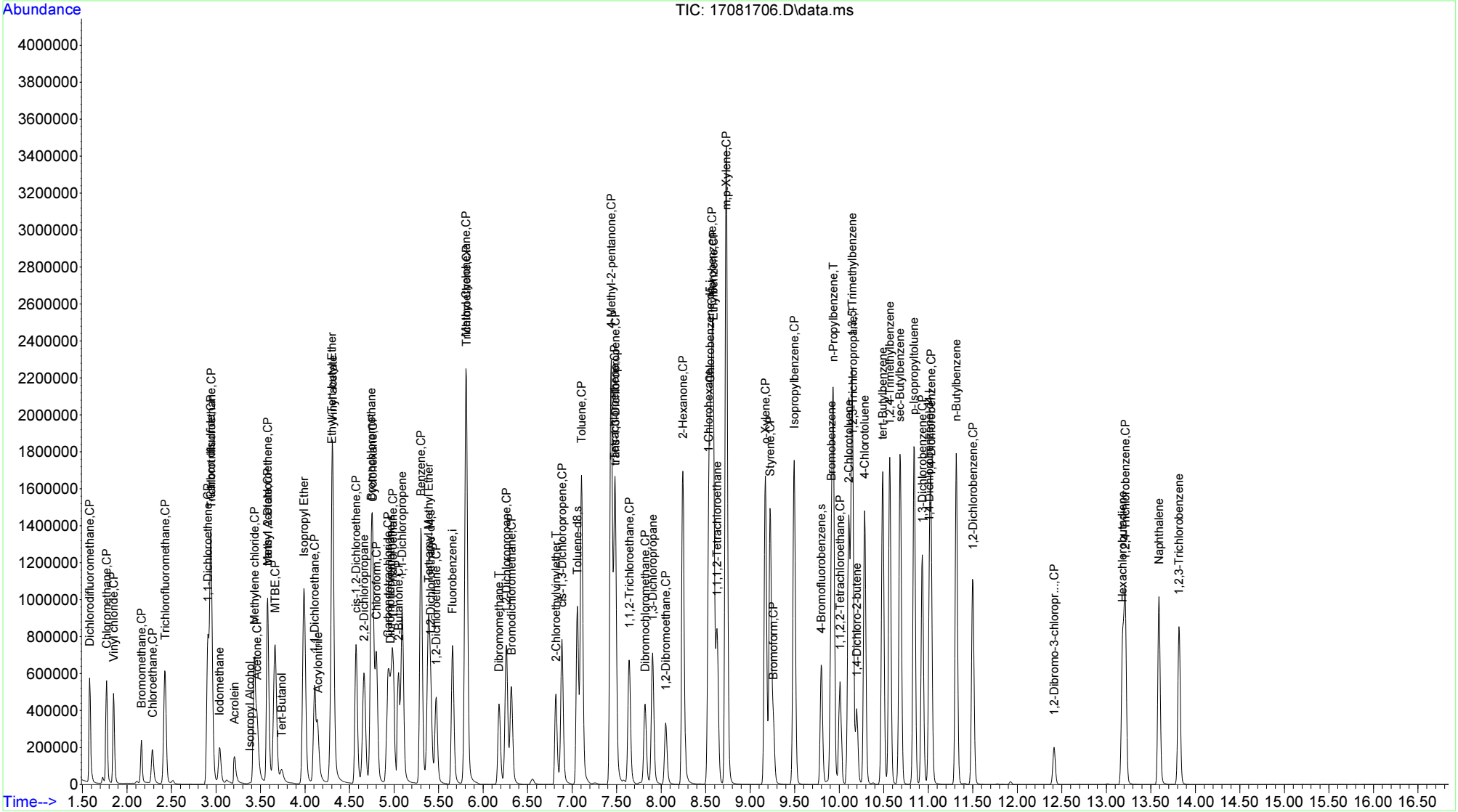
Compound	R.T.	QIon	Response	Conc Units	%Rec
46) trans-1,3-Dichloropropene	7.486	75	394061	47.901 ug/L	98
47) 1,1,2-Trichloroethane	7.643	97	261108	46.257 ug/L	99
48) Toluene	7.105	92	829517	45.850 ug/L	99
50) 4-Methyl-2-pentanone	7.439	43	1892629	237.574 ug/L	99
52) 2-Hexanone	8.245	43	1360423	242.575 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

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

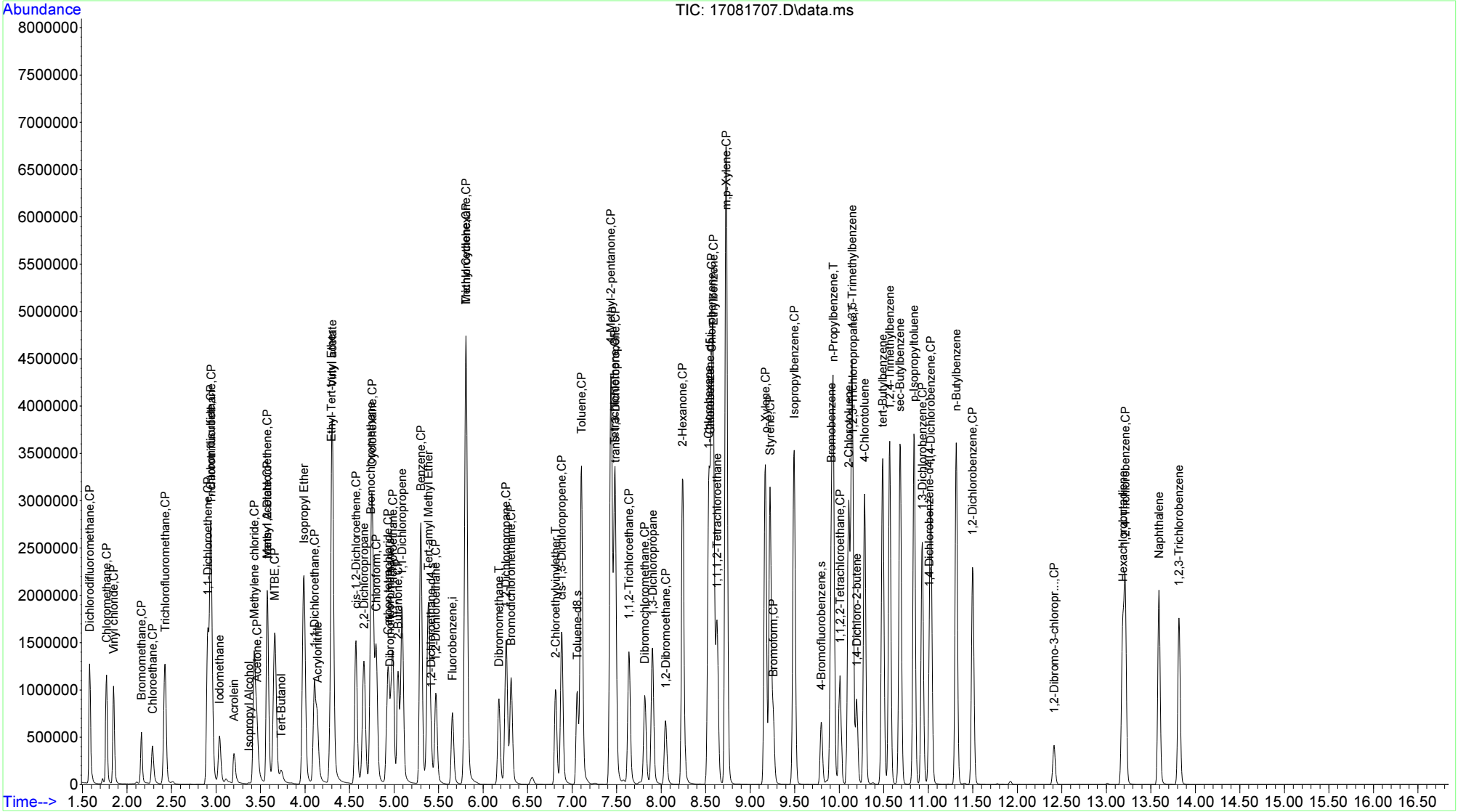
Compound	R.T.	QIon	Response	Conc Units	%Rec
46) trans-1,3-Dichloropropene	7.486	75	830235	100.077 ug/L	100
47) 1,1,2-Trichloroethane	7.638	97	535444	94.063 ug/L	100
48) Toluene	7.105	92	1668270	91.439 ug/L	100
50) 4-Methyl-2-pentanone	7.434	43	3636281	462.043 ug/L	100
52) 2-Hexanone	8.240	43	2616395	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

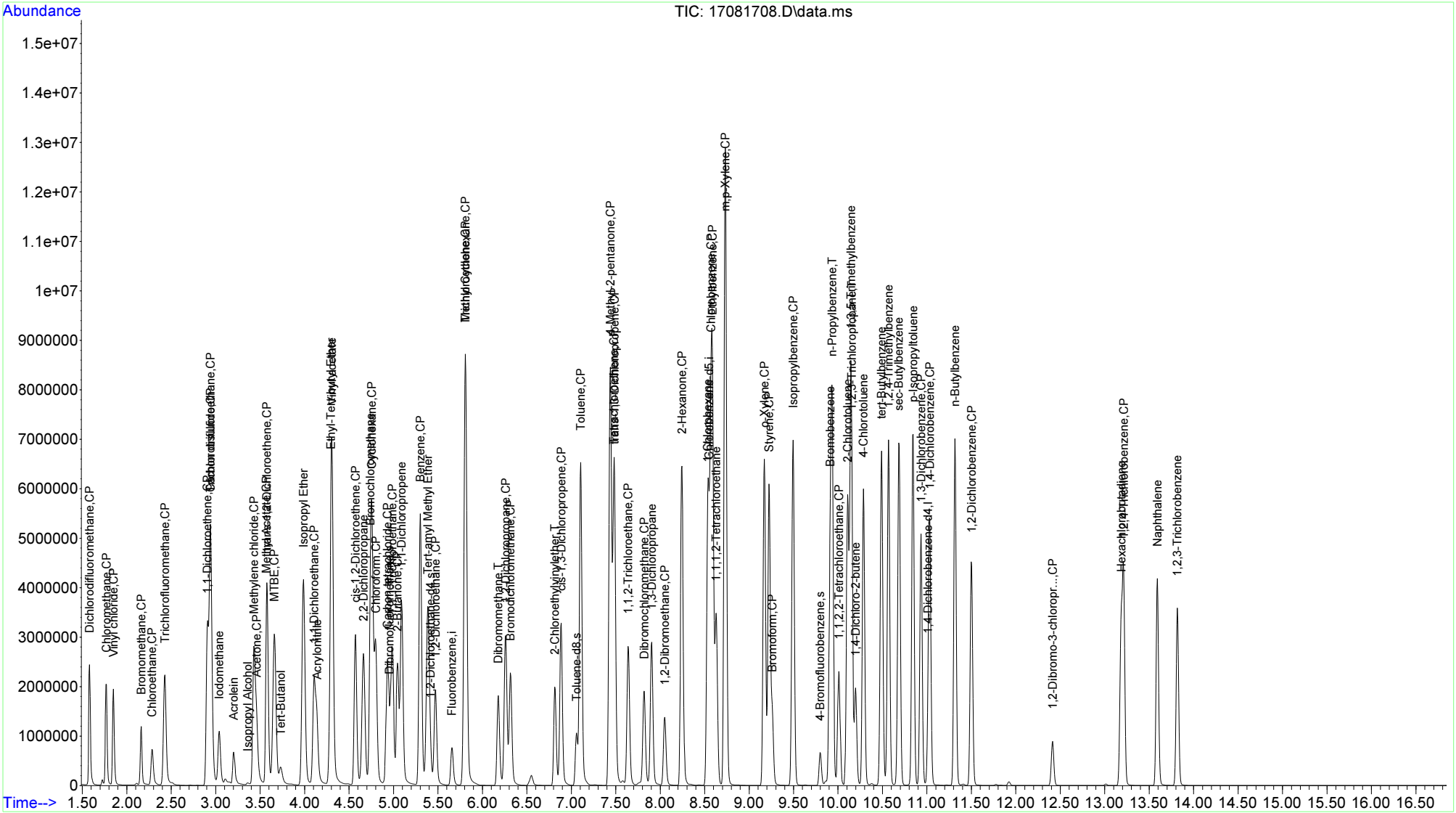
Compound	R.T.	QIon	Response	Conc Units	%Rec
46) trans-1,3-Dichloropropene	7.487	75	1685751	199.560 ug/L	100
47) 1,1,2-Trichloroethane	7.638	97	1071889	184.927 ug/L	100
48) Toluene	7.105	92	3291153	177.157 ug/L	100
50) 4-Methyl-2-pentanone	7.440	43	6976778	906.535 ug/L	98
52) 2-Hexanone	8.245	43	5216415	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%

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

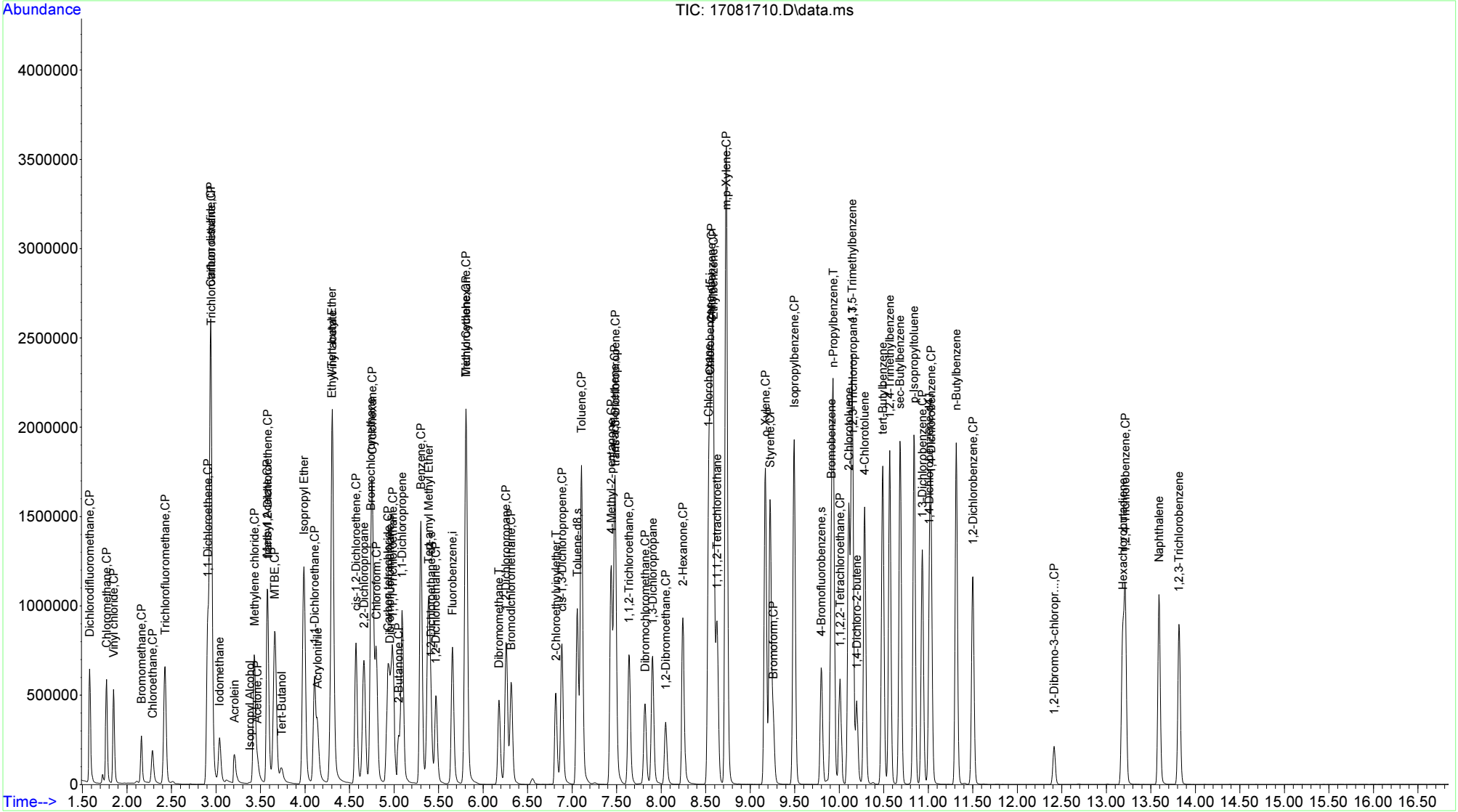
Compound	R.T.	QIon	Response	Conc	Units	%Rec
46) trans-1,3-Dichloropropene	7.486	75	431671	51.341	ug/L	99
47) 1,1,2-Trichloroethane	7.638	97	280433	48.608	ug/L	100
48) Toluene	7.105	92	886165	47.924	ug/L	99
50) 4-Methyl-2-pentanone	7.439	43	1024479	127.970	ug/L	100
52) 2-Hexanone	8.245	43	755885	134.122	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

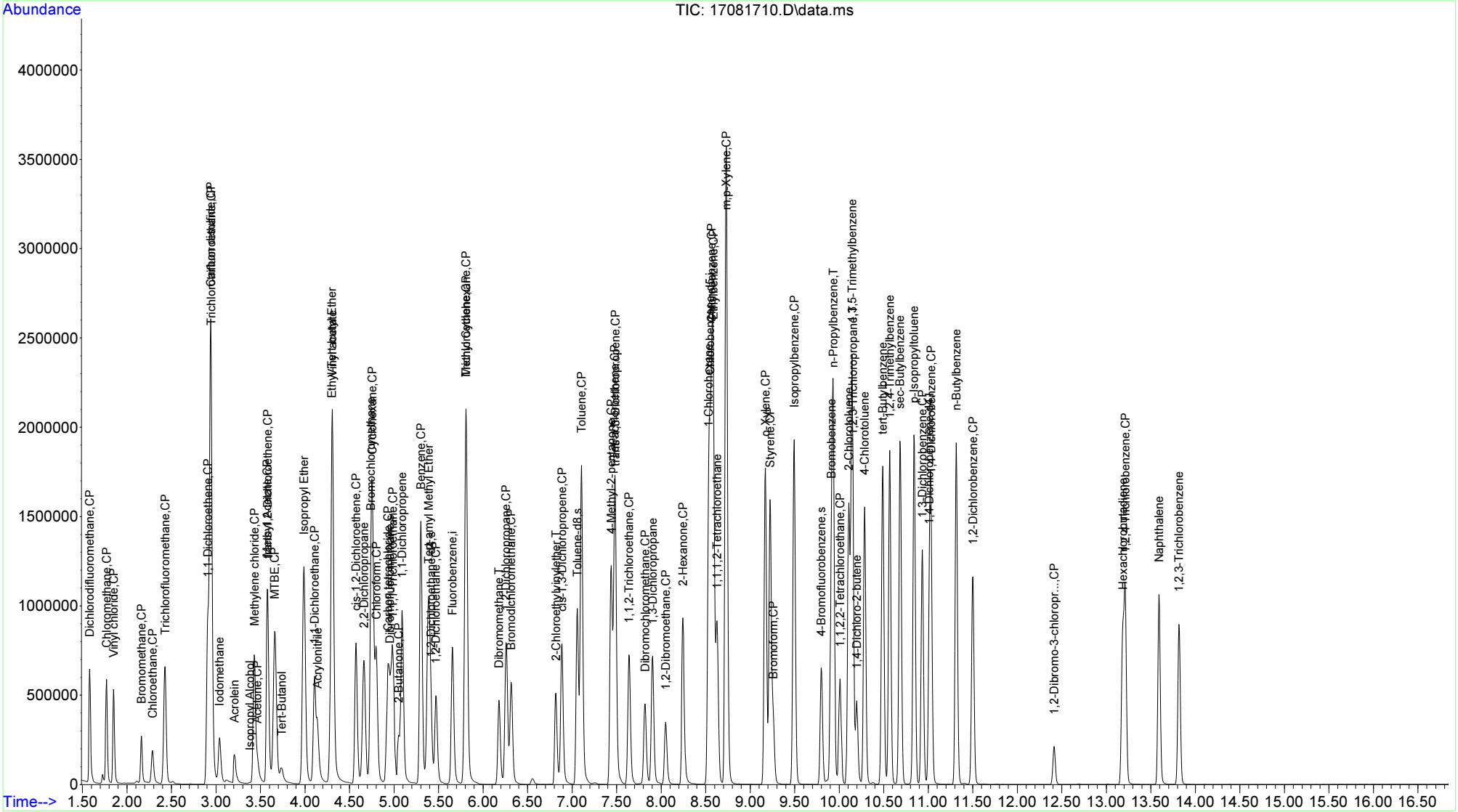
Compound	R.T.	QIon	Response	Conc	Units	%Rec
46) trans-1,3-Dichloropropene	7.486	75	431671	51.341	ug/L	99
47) 1,1,2-Trichloroethane	7.638	97	280433	48.608	ug/L	100
48) Toluene	7.105	92	886165	47.924	ug/L	99
50) 4-Methyl-2-pentanone	7.439	43	1024479	127.970	ug/L	100
52) 2-Hexanone	8.245	43	755885	134.122	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



GCMS9
For

DHL Work Order
1709066

GCMS9_170913A
For

DHL Work Order
1709066

Lab Data Review Check List
EPA Method 8270 / 625 - Semi-Volatile Organic Compounds

PROJECT AND BATCH NUMBERS ARE LISTED ON THE RUN LOG	Run ID:	GCMS9_170913A		
	SOP:	ORGANICS-SemiVol-01		

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***	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
DFTPP Tune	Before ICAL Every 12 hours	See Tune Eval Report	Yes		x
Breakdown Check/Tailing Factor	Prior to samples Every 12 hours	≤ 20% for DDT / Benzidine and PCP tailing factor < 2	Yes		
Initial Calibration Curve (ICAL) (minimum: 5 Standards)	Prior to samples and when ICV fails	Avg. RF - %RSD ≤15%(DoD), ≤20%(SF) Curve (COD) - $R^2 \geq 0.990$	Yes		
SSCV - (Second Source)	After calibration (ICAL)	70-130% (8270D/SF-QAPP) 80-120% (DoD)	Yes		

Review Item	Frequency	Limits	Pass	Fail	N/A	Review
ICV - (Daily Initial Cal Verification) 8270D - Corrective action required if >20% of target analytes have >20% drift	Every 12 hours	ISTDs Area% (50-200%) Surrogates %R (See LIMS) %R (80-120%) 8270D %R (80-120%) DoD %R (70-130%) SF-QAPP	X			x
Method Blank (MB) System Blank (SYS Blank)	Every Batch (MB) Daily (SYS BL)	< MQL (SF) / <½ RL (DoD) or <1/10 the sample/reg limit	X			
Lab Control Sample (LCS)	Every Batch	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 625)	Every Prep Batch except Method 625				X	
MSD - RPD (MSD is N/A for Method 625)	Every MS/MSD except Method 625	≤ 20 (Aq) / ≤ 30 (Soil&DoD)			X	

Lab Data Review Check List
EPA Method 8270 / 625 - Semi-Volatile Organic Compounds

Review Item	Criteria	Yes	No	N/A	2nd Level Review
Sample Analysis 1. Are all sample hold times met?	7 days (Aq) - extraction	X			x
	14 days (Soil) - extraction			X	
	40 days analysis	X			
2. Are all manual integrations signed (Before & After) and printouts included ? Put in LIMS Comment Section ***Include MI form for DoD work***	Before & After - signed Comment Section in LIMS MI Form - DoD only			X	
3. Are all samples with concentrations > the highest standard used for calibration 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?	Q value <70 - All hits	X			x
5. Are ALL reported analytes > MDL (+ J flags) 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 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	

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

___ Hold Time exceeded (7D/14D-Ext/40D-Analysis)
___ ICV out of control (± 20%-DoD / 30%-SF-QAPP)
___ MB/SYS BL out of control (> MDL / >½ RL)
___ LCS ___ LCSD out of control (See LIMS)
___ RPD out of control for LCS/LCSD (>20/30)
___ MS ___ MSD out of control (See LIMS)
___ RPD out of control for MS/MSD (>20/30)
___ Internal Standard(s) out of control
___ Multiple Surrogates out of control
___ No MS/MSD prepared - LCS/LCSD used instead
___ Missing QC (other than MS/MSD)
___ QC sample(s) was mis-spiked
___ Other (describe below)

REASON

___ Sample Received out of HT
___ Carryover from previous run
___ Cross contamination
___ Lab Artifact
___ Prep Spike error (describe)
___ High Levels of target analytes
___ High Levels of non-targets
___ Insufficient sample for QC
___ Prep Error
___ Analytical Error
___ Client Request
___ Other (describe below)

CORRECTIVE ACTION

___ Reanalyze QC to confirm
___ Recalibrate
___ Reprep/Reanalyze sample
___ Reprep/Reanalyze Batch
___ Reanalyze Batch/Sample/QC
___ Verify H2O/reagents are clean
___ Reanalyze sample to confirm
___ Sample results ND w/ dilution
___ Client notified and approved
___ Flag data / Case narrative
___ Instrument Maintenance
___ Accept data

___ Cannot reanalyze (HT out/Lack of Sample)

General Comments and Impact on Data:

Analyst: Lauren Garcia Date of Completion: 9/14/2017

Second-Level Review: Janice Whitt Date Stamp: 9/14/2017

REVIEWED BY
By Janice Whitt at 9:36:11 AM, 9/14/2017

8270-BNA-RVU-R5

DHL Analytical, Inc.

Run ID: GCMS9_170913A **Run No.:** 94129

Analytical Run Date: 9/13/2017 **InstrumentID:** GCMS9

Analyst: Lauren Garcia **Column:** ZB-SV (30m x 0.25mm ID x 0.25µm df)

Calibration ID: 778 **Column ID:** 0.25mm

Column Length: 30m

Cal Comments: SV170606.M, No MI.

SampID	DF	TestCode	SampType	Batch ID	Analysis Date/Time	Q	Comments
DFTPP-170913	1	8270_W_LL	TUNE	R94129	9/13/2017 12:01:00 PM		
ICV-170913	1	8270_W_LL	ICV	R94129	9/13/2017 12:25:00 PM		LCSD
LCS-82338	1	8270_W_LL	LCS	82338	9/13/2017 12:52:00 PM		No MS/MSD required as per project specs.
MB-82338	1	8270_W_LL	MBLK	82338	9/13/2017 2:29:00 PM		
1709066-01C	1	8270_W_LL	SAMP	82338	9/13/2017 2:53:00 PM		

Std ID	Std Name	Type	Exp. Date
DFTPP170524	2.5 PPM 525 TUNE STD.	TUNE	05/24/2018
SVICV170803	2.5 PPM ICV Standard	ICV	10/31/2017
SVIS170104-4	4000 PPM INTERNAL STANDARD	ALL	11/27/2017

Sequence Name: C:\msdchem\1\sequence\170913.s
Comment:
Operator:
Data Path: C:\MSDCHEM\1\DATA\170913\
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
( ) On Mismatch, Inject Anyway
( ) On Mismatch, Don't Inject
(X) Barcode Disabled

Line		Sample Name/Misc Info
1) Sample	2	DFTPP-170913
Datafile		17091304
Method		DFTPPLVIBF
2) Sample	3	17091305 SV170606 ICV-170913
3) Sample	4	17091306 SV170606 LCS-82338/LCS-82349
4) Sample	5	17091307 SV170606 1709073-01BMS
5) Sample	6	17091308 SV170606 1709073-01BMSD
6) Sample	7	17091309 SV170606 SB-170913
7) Sample	8	17091310 SV170606 MB-82338/MB-82349
8) Sample	9	17091311 SV170606 1709066-01C
9) Sample	10	17091312 SV170606 1709072-01B
10) Sample	11	17091313 SV170606 1709073-01B
11) Sample	12	17091314 SV170606 1709074-01B
12) Sample	13	17091315 SV170606 1709075-01B
13) Sample	14	17091316 SV170606 1709075-02B
14) Sample	15	17091317 SV170606 1709084-01B
15) Sample	16	17091318 SV170606 ICV-170913-NP
16) Sample	17	17091319 SV170606 ~~LCS-82349-NP~~ LCS-NP-82349
17) Sample	18	17091320 SV170606 1709081-01B
18) Sample	19	17091321 SV170606 1709090-02A
19) Sample	20	17091322 SV170606 1709091-01B

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **9/13/2017 9:00:00 AM**
Digestion:
Prep End Date: **9/13/2017 12:03:00 PM**

Prep Batch **82338** Prep Code: **3510_B** Technician: **Alice Dacic**

Prep Factor Units: **mL/mL**

Equipment List

Balance # 25
Turbo-Vap # 1,3
Balance #29

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Vessel	Cleanup
1709066-01C	Aqueous	6, <2, >11	522.8	10	0.019	1 of 2		
1709072-01B	Leachate	4, <2, >11	54.4	10	0.184	1 of 1		
tclp extraction was done 9/9/2017.								
1709073-01B	Leachate	5, <2, >11	55.6	10	0.180	1 of 1		
emulsions								
tclp extraction was done 9/9/2017.								
1709073-01BMS	Leachate	5, <2, >11	51.8	10	0.193	1 of		
emulsions								
1709073-01BMSD	Leachate	5, <2, >11	51.3	10	0.195	1 of		
emulsions								
1709074-01B	Leachate	7, <2, >11	52.3	10	0.191	1 of 1		
emulsions								
tclp extraction was done 9/9/2017.								
1709075-01B	Leachate	5, <2, >11	57.1	10	0.175	1 of 1		
tclp extraction was done 9/9/2017.								
1709075-02B	Leachate	5, <2, >11	58.3	10	0.172	1 of 1		
tclp extraction was done 9/9/2017.								
1709084-01B	Aqueous	6, <2, >11	492.5	10	0.020	1 of 2		
emulsions								
LCS-82338	Aqueous	6, <2, >11	500	10	0.020	of		
MB-82338	Aqueous	6, <2, >11	500	10	0.020	of		

Do not use this page, see below. jw 9/14/2017

Number	Reagent Name	Amt	Units	Exp. Da
7180	pH paper 11-13	1	paper	05/14/2023
8086	pH paper 0-3	1	paper	12/15/2025
11181	Sulfuric Acid (Certified ACS PLUS)	2	ml	02/27/2027
11404	Purified Sodium Sulfate	20	g	05/18/2027
11448	Methylene Chloride	140	ml	06/01/2027
11557	Whatman 41 Filter	1	filter	07/06/2027
11644	pH paper 0-14	1	paper	10/30/2019
11689	5M Sodium Hydroxide Solution	20	ml	02/17/2018

Spk ID	Spike Name	SampType	Amt (mL or g)	Exp. Date
SVPREP170828	40 PPM Surrogate Standard	ALL	1	11/26/2017
SVPREP170831-1	20 PPM Spike #1 Base/Neutrals	LCS/LCSD	1	11/29/2017
SVPREP170831-2	20 PPM Spike #2 Benzidines	LCS/LCSD	1	11/29/2017
SVPREP170831-3	20 PPM Spike #3 Amines	LCS/LCSD	1	11/29/2017
SVPREP170831-4	20 PPM Spike #4 Acids	LCS/LCSD	1	11/29/2017
SVPREP170831-5	20 PPM Spike #5	LCS/LCSD	1	11/29/2017

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **9/13/2017 9:00:00 AM**
Digestion:
Prep End Date: 9/13/17 ~~12:05 PM~~ 4:15 PM

Prep Batch **82338** Prep Code: **3510_B** Technician: **Alice Dacic**

Prep Factor Units: **mL/mL**

Equipment List
Balance # 25
Turbo-Vap # 1,3
Balance #29

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Vessel	Cleanup
1709066-01C	Aqueous	6, <2, >11	500	10	0.020	1 of 2	800.3 - 277.5 = 522.8	
1709072-01B	Leachate	4,	500	10	0.020	1 of 1	54.4	
0.986	tclp extraction was done 9/9/2017.							
1709073-01B	Leachate	5,	500	10	0.020	1 of 1	55.6	emulsions
0.778	tclp extraction was done 9/9/2017.							
1709073-01BMS	Leachate	5,	500	10	0.020	1 of 1	51.8	
0.778								
1709073-01BMSD	Leachate	5,	500	10	0.020	1 of 1	51.3	
0.778								
1709074-01B	Leachate	7,	500	10	0.020	1 of 1	52.3	emulsions
0.820	tclp extraction was done 9/9/2017.							
1709075-01B	Leachate	5,	500	10	0.020	1 of 1	57.1	
	tclp extraction was done 9/9/2017.							
1709075-02B	Leachate	5,	500	10	0.020	1 of 1	58.3	
	tclp extraction was done 9/9/2017.							
LCS-82338	Aqueous	6,	500	10	0.020	of		
MB-82338	Aqueous	6,	500	10	0.020	of		

1709084-01B 6, <2, >11 added @ 10:45 AM 1 of 2 767.1 - 274.6 = 492.5 emulsions

AD 9/13/17 ~~1709072-01B 4,~~ 5, <2, >11 added @ 2:10 PM ~~1 of 1~~ ~~52~~ 1 of 2 AD 9/13/17 517.5 emulsions after base add'n

1709091-01B 5, <2, >11

Number	Reagent Name	Amt	Units	Exp. D
7180	pH paper 11-13	1	paper	05/14/2023
8086	pH paper 0-3	1	paper	12/15/2025
11181	Sulfuric Acid (Certified ACS PLUS)	2	ml	02/27/2027
11404	Purified Sodium Sulfate	20	g	05/18/2027
11448	Methylene Chloride	140	ml	06/01/2027
11557	Whatman 41 Filter	1	filter	07/06/2027
11644	pH paper 0-14	1	paper	10/30/2019
11689	5M Sodium Hydroxide Solution	20	ml	02/17/2018

Spk ID	Spike Name	SampType	Amt (mL or g)	Exp. Date
SVPREP170828	40 PPM Surrogate Standard	ALL	1	11/26/2017
SVPREP170831-1	20 PPM Spike #1 Base/Neutrals	~~LCS/LCSD~~	LCS/MS/MSD	11/29/2017
SVPREP170831-2	20 PPM Spike #2 Benzidines	~~LCS/LCSD~~	1	11/29/2017
SVPREP170831-3	20 PPM Spike #3 Amines AD 9/13/17	~~LCS/LCSD~~	1	11/29/2017
SVPREP170831-4	20 PPM Spike #4 Acids	~~LCS/LCSD~~	1	11/29/2017
SVPREP170831-5	20 PPM Spike #5	~~LCS/LCSD~~	1	11/29/2017

REVIEWED BY
By Janice Whitt at 9:29:56 AM, 9/14/2017

MP 9/13/17 AD 9/13/17 9/13/17

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **9/13/2017 9:00:00 AM**
Digestion:
Prep End Date: **9/13/2017 4:15:00 PM**

Prep Batch **82338** Prep Code: **3510_B** Technician: **Alice Dacic**

Prep Factor Units: **mL/mL**

Equipment List

Balance # 25
Turbo-Vap # 1,3
Balance #29

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Vessel	Cleanup
1709066-01C	Aqueous	6, <2, >11	522.8	10	0.019	1 of 2		
1709072-01B	Leachate	4, <2, >11	54.4	10	0.184	1 of 1		
tclp extraction was done 9/9/2017.								
1709073-01B	Leachate	5, <2, >11	55.6	10	0.180	1 of 1		
emulsions								
tclp extraction was done 9/9/2017.								
1709073-01BMS	Leachate	5, <2, >11	51.8	10	0.193	1 of		
emulsions								
1709073-01BMSD	Leachate	5, <2, >11	51.3	10	0.195	1 of		
emulsions								
1709074-01B	Leachate	7, <2, >11	52.3	10	0.191	1 of 1		
emulsions								
tclp extraction was done 9/9/2017.								
1709075-01B	Leachate	5, <2, >11	57.1	10	0.175	1 of 1		
tclp extraction was done 9/9/2017.								
1709075-02B	Leachate	5, <2, >11	58.3	10	0.172	1 of 1		
tclp extraction was done 9/9/2017.								
1709084-01B	Aqueous	6, <2, >11	492.5	10	0.020	1 of 2		
emulsions								
1709091-01B	Aqueous	5, <2, >11	517.5	10	0.019	1 of 2		
emulsions after base addition								
LCS-82338	Aqueous	6, <2, >11	500	10	0.020	of		
MB-82338	Aqueous	6, <2, >11	500	10	0.020	of		

Number	Reagent Name	Amt	Units	Exp. Da
7180	pH paper 11-13	1	paper	05/14/2023
8086	pH paper 0-3	1	paper	12/15/2025
11181	Sulfuric Acid (Certified ACS PLUS)	2	ml	02/27/2027
11404	Purified Sodium Sulfate	20	g	05/18/2027
11448	Methylene Chloride	140	ml	06/01/2027
11557	Whatman 41 Filter	1	filter	07/06/2027
11644	pH paper 0-14	1	paper	10/30/2019
11689	5M Sodium Hydroxide Solution	20	ml	02/17/2018

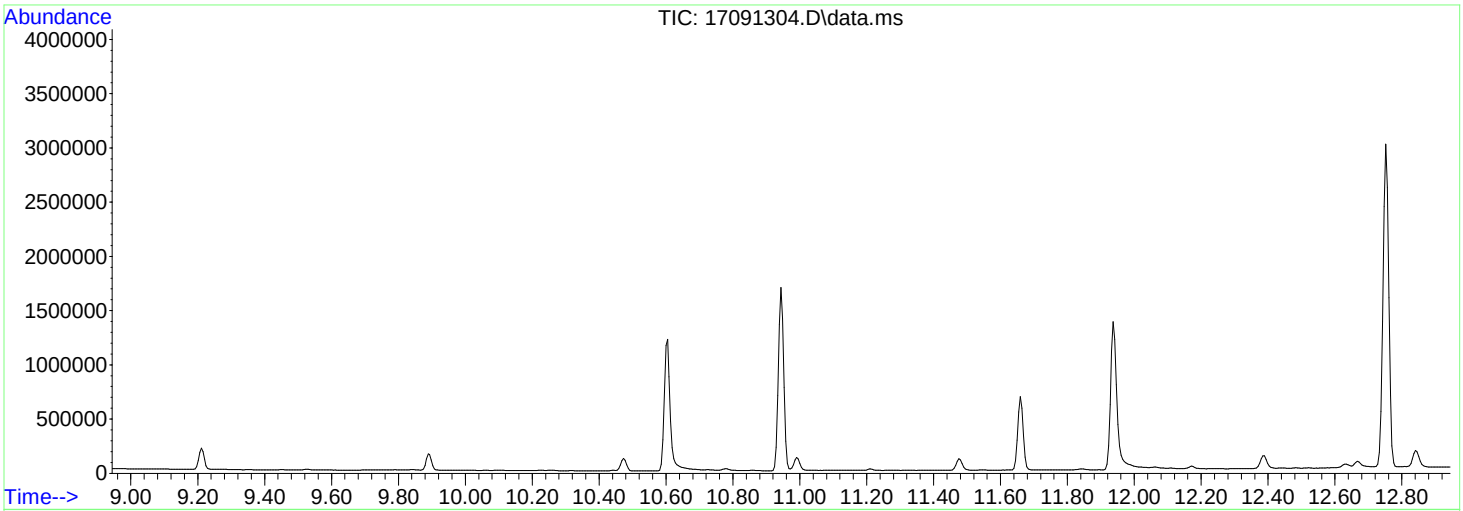
Spk ID	Spike Name	SampType	Amt (mL or g)	Exp. Date
SVPREP170828	40 PPM Surrogate Standard	ALL	1	11/26/2017
SVPREP170831-1	20 PPM Spike #1 Base/Neutrals	LCS/MS/MSD	1	11/29/2017
SVPREP170831-2	20 PPM Spike #2 Benzidines	LCS/MS/MSD	1	11/29/2017
SVPREP170831-3	20 PPM Spike #3 Amines	LCS/MS/MSD	1	11/29/2017
SVPREP170831-4	20 PPM Spike #4 Acids	LCS/MS/MSD	1	11/29/2017
SVPREP170831-5	20 PPM Spike #5	LCS/MS/MSD	1	11/29/2017

REVIEWED BY
By Janice W[illegible] 8:30:03 AM, 9/14/2017

Data Path : C:\msdchem\1\DATA\170913\
Data File : 17091304.D
Acq On : 13 Sep 2017 12:01 pm
Operator :
Sample : DFTPP-170913
Misc : TUNE
ALS Vial : 2 Sample Multiplier: 1

Integration File: TIC2.P

Method : C:\msdchem\1\METHODS\DFTPPLVIBF.M
Title :
Last Update : Thu Oct 20 15:23:02 2016



AutoFind: Scans 1348, 1349, 1350; Background Corrected with Scan 1341

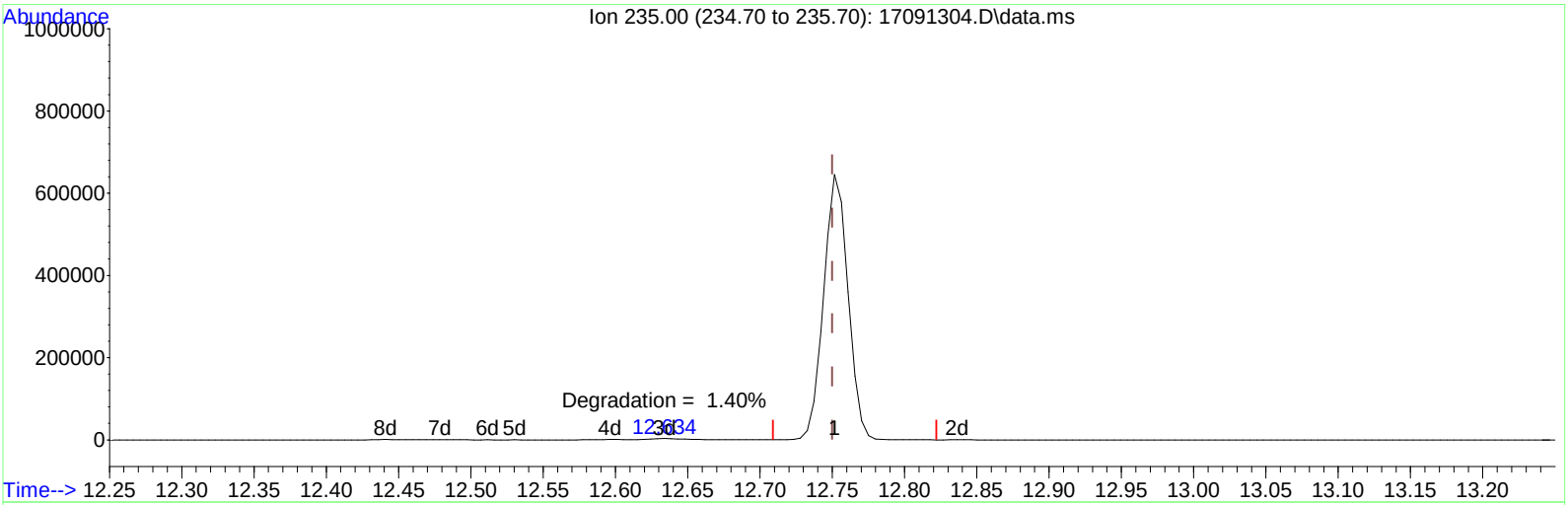
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	26.7	40311	PASS
68	69	0.00	2	1.5	707	PASS
70	69	0.00	2	0.8	366	PASS
127	198	10	80	44.3	67032	PASS
197	198	0.00	2	0.4	539	PASS
198	198	100	100	100.0	151189	PASS
199	198	5	9	7.0	10541	PASS
275	198	10	60	31.9	48179	PASS
365	198	1	200	4.7	7179	PASS
441	442	0.01	24	15.9	44875	PASS
442	198	50	400	186.9	282603	PASS
443	442	15	24	19.2	54123	PASS

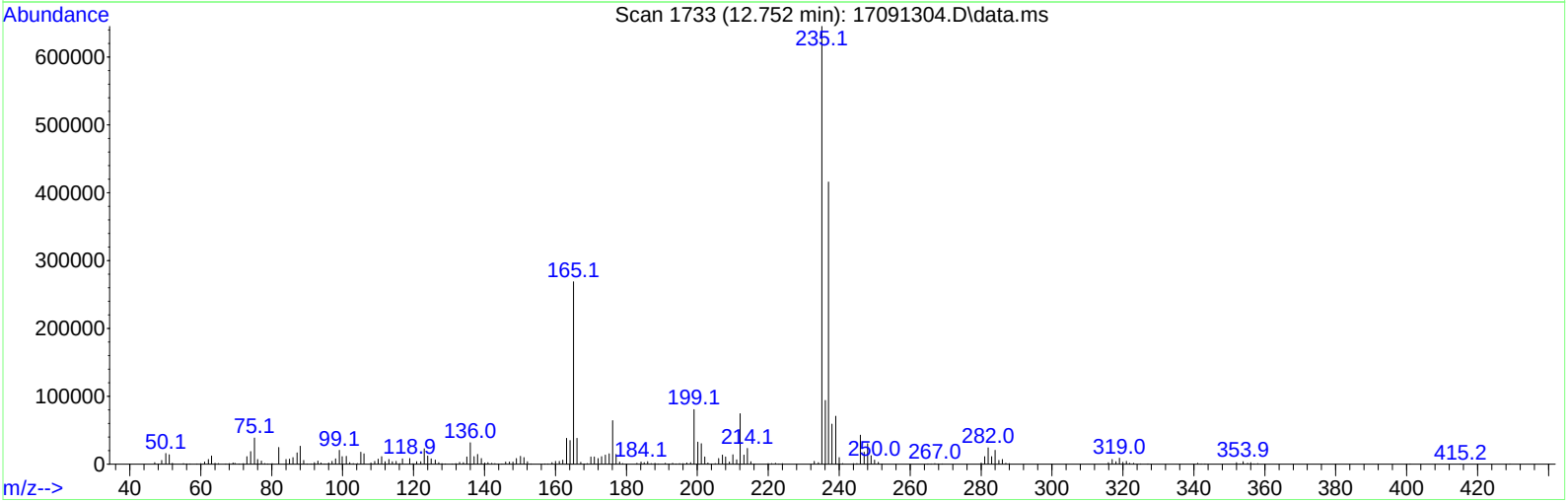
REVIEWED BY
By Janice Whitt at 9:19:22 AM, 9/14/2017

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\170913\
Data File : 17091304.D
Acq On : 13 Sep 2017 12:01 pm
Operator :
Sample : DFTPP-170913
Misc : TUNE
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 13 12:19:28 2017
QMeth File : DFTPPLVIBF.M
InstName : GCMS9
Quant Title :
QLast Update : Thu Oct 20 15:23:02 2016
Response via : Initial Calibration





TIC: 17091304.D\data.ms

(1) DDT

12.752min (+ 0.002) 0.000

response 758151 Qvalue 100

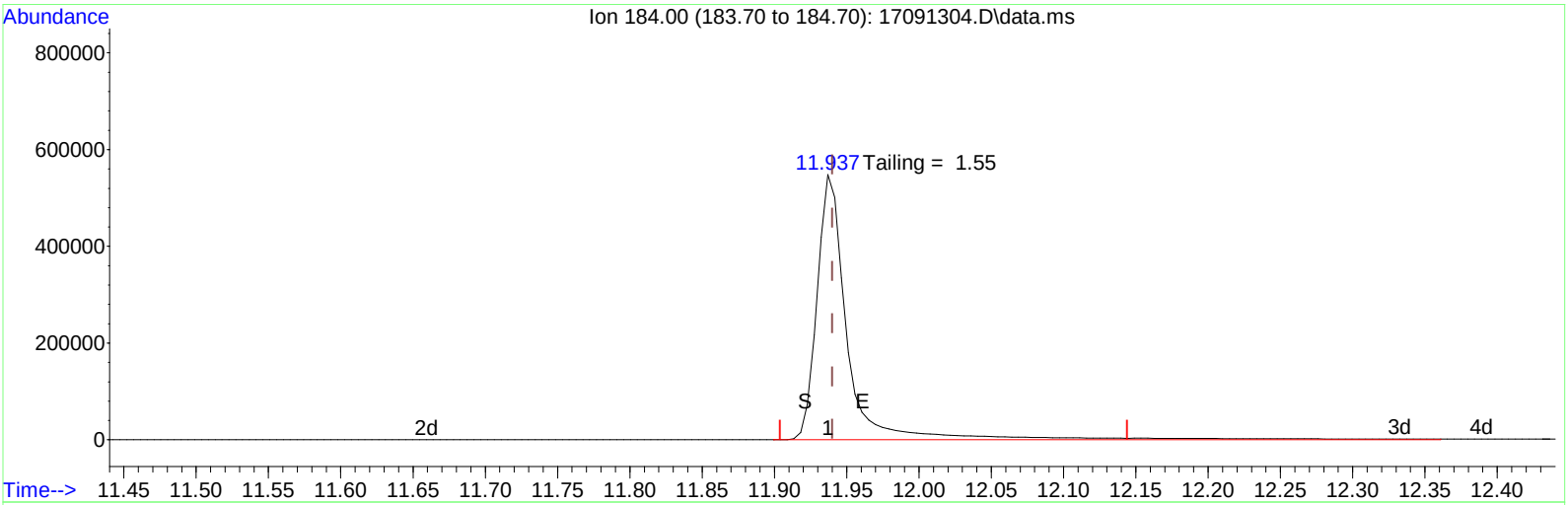
Ion	Exp%	Act%
235.00	100.00	100.00
0.00	11.50	0.00
0.00	11.50	0.00
0.00	11.50	0.00

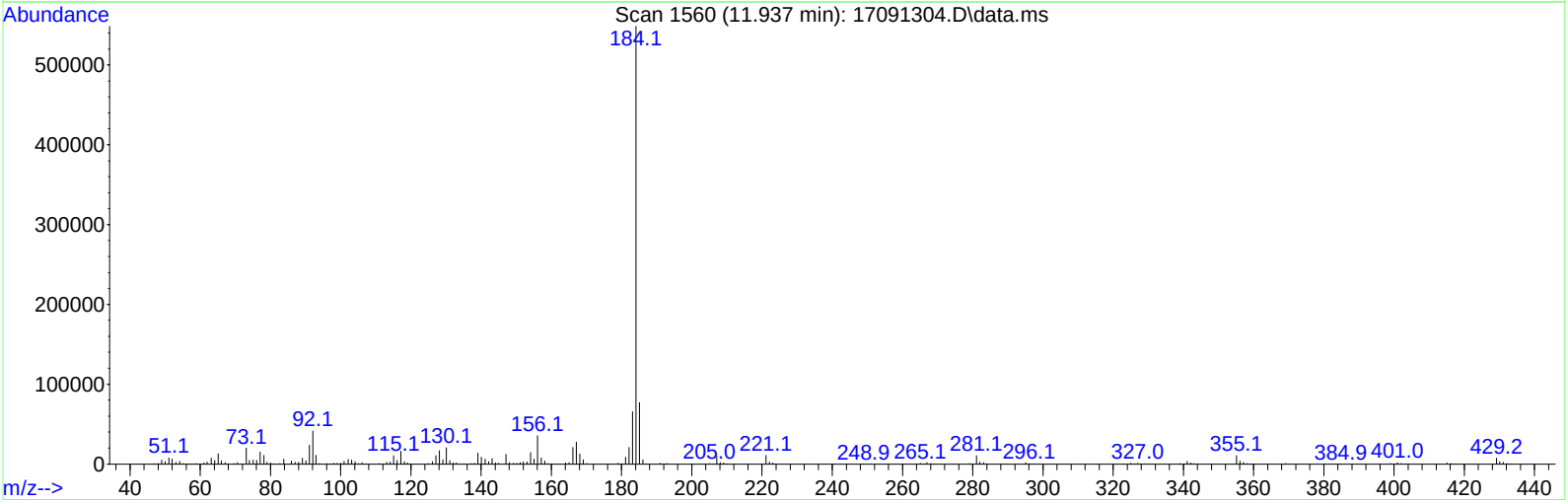
REVIEWED BY
By Janice Whitt at 9:19:35 AM, 9/14/2017

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\170913\
Data File : 17091304.D
Acq On : 13 Sep 2017 12:01 pm
Operator :
Sample : DFTPP-170913
Misc : TUNE
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 13 12:19:28 2017
QMeth File : DFTPPLVIBF.M
InstName : GCMS9
Quant Title :
QLast Update : Thu Oct 20 15:23:02 2016
Response via : Initial Calibration





TIC: 17091304.D\data.ms

(4) Benzidine

11.937min (-0.003) 0.000

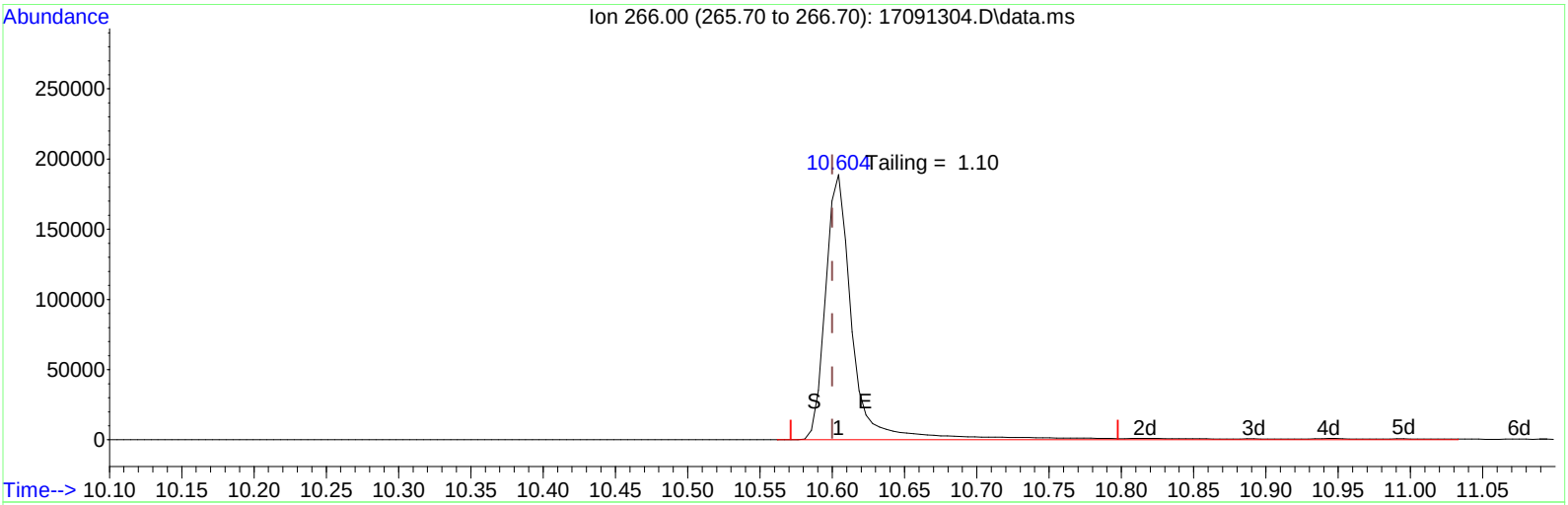
response 797675 Qvalue 100

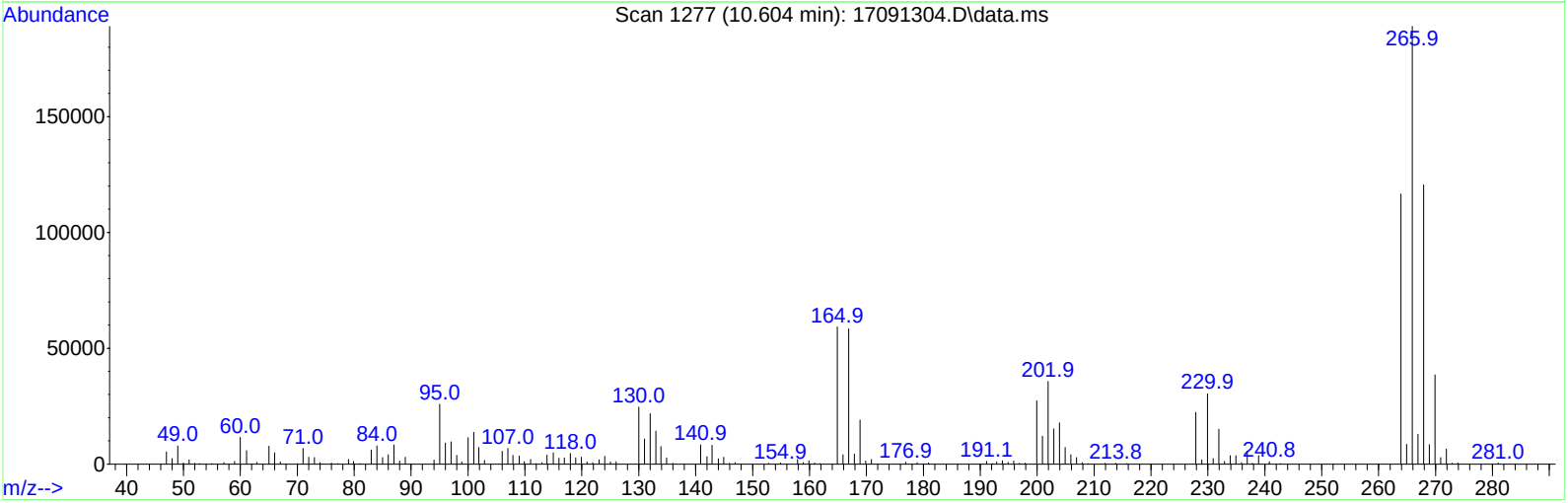
Ion	Exp%	Act%
184.00	100.00	100.00
0.00	11.50	0.00
0.00	11.50	0.00
0.00	11.50	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\170913\
Data File : 17091304.D
Acq On : 13 Sep 2017 12:01 pm
Operator :
Sample : DFTPP-170913
Misc : TUNE
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 13 12:19:28 2017
QMeth File : DFTPPLVIBF.M
InstName : GCMS9
Quant Title :
QLast Update : Thu Oct 20 15:23:02 2016
Response via : Initial Calibration





TIC: 17091304.D\data.ms

(5) Pentachlorophenol

10.604min (+ 0.004) 0.000

response 247742 Qvalue 100

Ion	Exp%	Act%
266.00	100.00	100.00
0.00	10.20	0.00
0.00	10.20	0.00
0.00	10.20	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\170913\
Data File : 17091305.D
Acq On : 13 Sep 2017 12:25 pm
Operator :
Sample : ICV-170913
Misc : ICV
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 14 08:34:26 2017
QMeth File : SV170606.M
InstName : GCMS9
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Tue Aug 29 10:36:46 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	%Rec
Internal Standards						
1) 1,4-Dichlorobenzene-d4	7.024	152	865088	4.00	mg/kg	112
22) Naphthalene-d8	8.062	136	3543712	4.00	mg/kg	103
42) Acenaphthene-d10	9.528	164	1604484	4.00	mg/kg	84
65) Phenanthrene-d10	10.780	188	3642153	4.00	mg/kg	89
80) Chrysene-d12	13.314	240	5017675	4.00	mg/kg	93
89) Perylene-d12	14.986	264	4808296	4.00	mg/kg	93
System Monitoring Compounds						Dev(Min)
7) 2-Fluorophenol	5.876	112	487969	2.41	mg/kg	0.00
Spiked Amount 4.000	Range 20 - 120		Recovery = 60.25%			
9) Phenol-d5	6.705	99	776488	2.28	mg/kg	0.00
Spiked Amount 4.000	Range 20 - 120		Recovery = 57.00%			
23) Nitrobenzene-d5	7.466	82	665717	2.49	mg/kg	0.00
Spiked Amount 4.000	Range 41 - 120		Recovery = 62.25%			
47) 2-Fluorobiphenyl	8.943	172	1562242	2.51	mg/kg	0.00
Spiked Amount 4.000	Range 48 - 120		Recovery = 62.75%			
69) 2,4,6-Tribromophenol	10.187	330	376243	2.16	mg/kg	0.00
Spiked Amount 4.000	Range 42 - 124		Recovery = 54.00%			
83) 4-Terphenyl-d14	12.170	244	2346335	2.32	mg/kg	-0.01
Spiked Amount 4.000	Range 51 - 135		Recovery = 58.00%			
Target Compounds						Qvalue
2) N-nitrosodimethylamine	4.733	74	273427	2.297	mg/kg	95
3) Pyridine	4.782	79	534925	2.255	mg/kg	96
4) N-nitrosodiethylamine	6.064	102	291220	2.618	mg/kg	97
5) Benzaldehyde	6.679	77	480344	2.571	mg/kg	99
6) Aniline	6.761	93	840709	2.318	mg/kg	98
8) bis(2-Chloroethyl)ether	6.799	95	183997	2.577	mg/kg	97
10) Phenol	6.716	94	719218	2.439	mg/kg	98
11) 2-Chlorophenol	6.859	128	632699	2.393	mg/kg	99
12) 1,3-Dichlorobenzene	6.979	146	661106	2.527	mg/kg	99
13) 1,4-Dichlorobenzene	7.039	146	705677	2.397	mg/kg	100
14) 1,2-Dichlorobenzene	7.162	146	695651	2.441	mg/kg	99
15) Benzyl alcohol	7.121	108	401037	2.681	mg/kg	98
16) bis(2-chloroisopropyl)...	7.218	45	753254	2.299	mg/kg	99
17) 2-Methylphenol	7.196	108	557577	2.244	mg/kg	100
18) Hexachloroethane	7.436	117	236842	2.383	mg/kg	98
19) N-Nitrosodi-n-propylamine	7.327	70	422164	2.191	mg/kg	99
20) 4-Methylphenol	7.312	108	578754	2.243	mg/kg	99
21) Acetophenone	7.338	105	968798	2.707	mg/kg	97
24) Nitrobenzene	7.481	77	599625	2.651	mg/kg	99
25) Isophorone	7.668	82	1048932	2.379	mg/kg	99
26) 2-Nitrophenol	7.740	139	351745	2.748	mg/kg	97
27) 2,4-Dimethylphenol	7.747	107	567448	2.418	mg/kg	99
28) bis(2-Chloroethoxy)met...	7.826	93	741996	2.569	mg/kg	99
29) Benzoic acid	7.811	105	239656	1.754	mg/kg	98
30) 2,4-Dichlorophenol	7.931	162	600941	2.376	mg/kg	100
31) 1,2,4-Trichlorobenzene	8.006	180	711422	2.614	mg/kg	99
32) Naphthalene	8.081	128	2114191	2.654	mg/kg	100
33) 4-Chloroaniline	8.107	127	718634	2.415	mg/kg	100
34) 2,6-Dichlorophenol	8.114	162	591060	2.569	mg/kg	100
35) Hexachlorobutadiene	8.167	225	447429	2.559	mg/kg	99
36) N-nitrosodi-n-butylamine	8.366	116	91941	1.958	mg/kg	100
37) Caprolactam	8.407	113	148594	2.432	mg/kg	95
38) 4-Chloro-3-methylphenol	8.489	107	441661	2.280	mg/kg	99
39) 1,2,4,5-Tetrachloroben...	8.785	216	751561	2.130	mg/kg	100

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\170913\
Data File : 17091305.D
Acq On : 13 Sep 2017 12:25 pm
Operator :
Sample : ICV-170913
Misc : ICV
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 14 08:34:26 2017
QMeth File : SV170606.M
InstName : GCMS9
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Tue Aug 29 10:36:46 2017
Response via : Initial Calibration

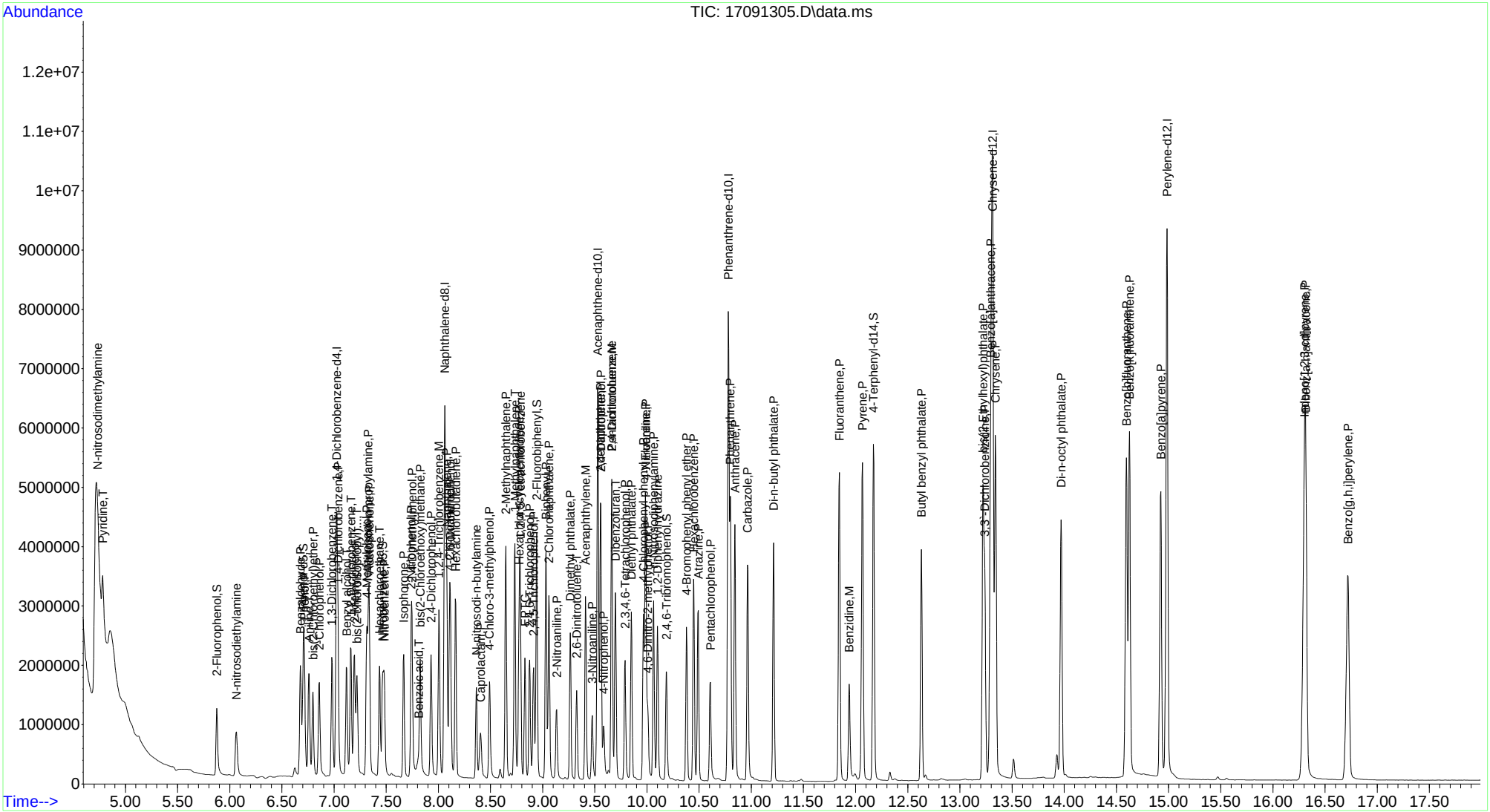
Compound	R.T.	QIon	Response	Conc	Units	%Rec
40) 2-Methylnaphthalene	8.647	142	1320847	2.306	mg/kg	100
41) 1-Methylnaphthalene	8.733	142	1287951	2.221	mg/kg	100
43) Hexachlorocyclopentadiene	8.774	237	432807	2.656	mg/kg	99
44) EPTC	8.830	128	404671	2.428	mg/kg	100
45) 2,4,6-Trichlorophenol	8.875	196	386786	2.816	mg/kg	100
46) 2,4,5-Trichlorophenol	8.913	196	405135	2.493	mg/kg	99
48) Biphenyl	9.033	154	1488887	2.887	mg/kg	100
49) 2-Chloronaphthalene	9.059	162	1169757	2.732	mg/kg	99
50) 2-Nitroaniline	9.134	138	328620	2.690	mg/kg	100
51) Acenaphthylene	9.411	152	1645866	2.742	mg/kg	100
52) Dimethyl phthalate	9.265	163	1314478	2.652	mg/kg	99
53) 2,6-Dinitrotoluene	9.325	165	264286	2.589	mg/kg	98
54) Acenaphthene	9.554	153	1265934	2.473	mg/kg	98
55) 3-Nitroaniline	9.475	138	264041	2.774	mg/kg	99
56) 2,4-Dinitrophenol	9.558	184	135037	3.106	mg/kg#	55
57) Dibenzofuran	9.696	168	1609106	2.492	mg/kg	99
58) 2,4-Dinitrotoluene	9.663	165	395054	2.752	mg/kg	83
59) 4-Nitrophenol	9.584	109	124338	2.800	mg/kg	96
60) 2,3,4,6-Tetrachlorophenol	9.790	232	354226	2.526	mg/kg	99
61) Fluorene	9.985	166	1303943	2.626	mg/kg	99
62) 4-Chlorophenyl phenyl ...	9.966	204	645748	2.592	mg/kg	99
63) Diethyl phthalate	9.850	149	1349238	2.747	mg/kg	100
64) 4-Nitroaniline	9.989	138	287120	3.088	mg/kg	96
66) 4,6-Dinitro-2-methylph...	10.007	198	223627	2.532	mg/kg	92
67) 1,2-Diphenylhydrazine	10.101	182	295473	2.348	mg/kg	99
68) n-Nitrosodiphenylamine	10.064	169	909327	2.571	mg/kg	100
70) 4-Bromophenyl phenyl e...	10.379	248	465993	2.441	mg/kg	100
71) Atrazine	10.491	200	459324	2.852	mg/kg	100
72) Hexachlorobenzene	10.450	284	643895	2.410	mg/kg	97
73) Pentachlorophenol	10.607	266	302765	2.240	mg/kg	100
74) Phenanthrene	10.798	178	2042529	2.470	mg/kg	100
75) Anthracene	10.843	178	2081290	2.484	mg/kg	100
76) Pentachlorobenzene	9.663	250	752586	2.411	mg/kg	99
77) Carbazole	10.963	167	1967004	2.653	mg/kg	100
78) Di-n-butyl phthalate	11.215	149	2621081	2.537	mg/kg	99
79) Fluoranthene	11.844	202	2760868	2.644	mg/kg	100
81) Benzidine	11.938	184	893867	2.202	mg/kg	99
82) Pyrene	12.065	202	2851224	2.505	mg/kg	100
84) Butyl benzyl phthalate	12.632	149	1211534	2.588	mg/kg	99
85) 3,3`-Dichlorobenzidine	13.239	252	1107370	2.343	mg/kg	100
86) Benzo[a]anthracene	13.295	228	3023939	2.555	mg/kg	100
87) Chrysene	13.340	228	2744154	2.432	mg/kg	100
88) bis(2-Ethylhexyl)phtha...	13.220	149	1882507	2.510	mg/kg	99
90) Di-n-octyl phthalate	13.970	149	3167330	2.652	mg/kg	100
91) Benzo[b]fluoranthene	14.596	252	3151682	2.702	mg/kg	100
92) Benzo[k]fluoranthene	14.626	252	2980601	2.460	mg/kg	100
93) Benzo[a]pyrene	14.926	252	2637459	2.796	mg/kg	100
94) Indeno[1,2,3-cd]pyrene	16.301	276	3868199	2.816	mg/kg	96
95) Dibenz[a,h]anthracene	16.316	278	3178929	2.807	mg/kg	100
96) Benzo[g,h,i]perylene	16.721	276	3044583	2.770	mg/kg	100

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\170913\
Data File : 17091305.D
Acq On : 13 Sep 2017 12:25 pm
Operator :
Sample : ICV-170913
Misc : ICV
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 14 08:34:26 2017
QMeth File : SV170606.M
InstName : GCMS9
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Tue Aug 29 10:36:46 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\170913\
Data File : 17091306.D
Acq On : 13 Sep 2017 12:52 pm
Operator :
Sample : LCS-82338
Misc : LCS
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 14 08:34:31 2017
QMeth File : SV170606.M
InstName : GCMS9
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Tue Aug 29 10:36:46 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	%Rec
Internal Standards						
1) 1,4-Dichlorobenzene-d4	7.031	152	985176	4.00	mg/kg	127
22) Naphthalene-d8	8.062	136	4094388	4.00	mg/kg	119
42) Acenaphthene-d10	9.527	164	1854271	4.00	mg/kg	97
65) Phenanthrene-d10	10.780	188	3037693	4.00	mg/kg	74
80) Chrysene-d12	13.314	240	3803002	4.00	mg/kg	71
89) Perylene-d12	14.986	264	3741579	4.00	mg/kg	72
System Monitoring Compounds						Dev(Min)
7) 2-Fluorophenol	5.918	112	588326	2.53	mg/kg	0.04
Spiked Amount 4.000	Range 20 - 120		Recovery = 63.25%			
9) Phenol-d5	6.712	99	649745	1.68	mg/kg	0.00
Spiked Amount 4.000	Range 20 - 120		Recovery = 42.00%			
23) Nitrobenzene-d5	7.470	82	806395	2.60	mg/kg	0.00
Spiked Amount 4.000	Range 41 - 120		Recovery = 65.00%			
47) 2-Fluorobiphenyl	8.943	172	1914019	2.66	mg/kg	0.00
Spiked Amount 4.000	Range 48 - 120		Recovery = 66.50%			
69) 2,4,6-Tribromophenol	10.187	330	352034	2.42	mg/kg	0.00
Spiked Amount 4.000	Range 42 - 124		Recovery = 60.50%			
83) 4-Terphenyl-d14	12.174	244	1974363	2.58	mg/kg	-0.01
Spiked Amount 4.000	Range 51 - 135		Recovery = 64.50%			
Target Compounds						Qvalue
2) N-nitrosodimethylamine	4.872	74	118738	0.835	mg/kg#	51
3) Pyridine	4.935	79	190657	0.706	mg/kg	91
4) N-nitrosodiethylamine	6.112	102	167728	1.339	mg/kg	95
5) Benzaldehyde	6.690	77	311525	1.464	mg/kg	99
6) Aniline	6.769	93	361342	0.898	mg/kg	98
8) bis(2-Chloroethyl)ether	6.806	95	108067	1.342	mg/kg	96
10) Phenol	6.724	94	319571	1.038	mg/kg	98
11) 2-Chlorophenol	6.866	128	399036	1.348	mg/kg	100
12) 1,3-Dichlorobenzene	6.990	146	369896	1.242	mg/kg	100
13) 1,4-Dichlorobenzene	7.046	146	405437	1.209	mg/kg	99
14) 1,2-Dichlorobenzene	7.166	146	396393	1.221	mg/kg	99
15) Benzyl alcohol	7.125	108	227561	1.381	mg/kg	97
16) bis(2-chloroisopropyl)...	7.222	45	427717	1.146	mg/kg	85
17) 2-Methylphenol	7.200	108	326675	1.198	mg/kg	99
18) Hexachloroethane	7.439	117	140798	1.244	mg/kg	99
19) N-Nitrosodi-n-propylamine	7.327	70	256256	1.168	mg/kg	98
20) 4-Methylphenol	7.316	108	324057	1.126	mg/kg	100
21) Acetophenone	7.338	105	590204	1.448	mg/kg	98
24) Nitrobenzene	7.484	77	375047	1.509	mg/kg	100
25) Isophorone	7.668	82	742373	1.457	mg/kg	100
26) 2-Nitrophenol	7.739	139	208851	1.554	mg/kg	94
27) 2,4-Dimethylphenol	7.747	107	379789	1.401	mg/kg	98
28) bis(2-Chloroethoxy)met...	7.826	93	500214	1.499	mg/kg	99
29) Benzoic acid	7.792	105	52120	0.457	mg/kg	83
30) 2,4-Dichlorophenol	7.931	162	366414	1.281	mg/kg	99
31) 1,2,4-Trichlorobenzene	8.006	180	425416	1.353	mg/kg	100
32) Naphthalene	8.081	128	1319604	1.434	mg/kg	100
33) 4-Chloroaniline	8.107	127	431058	1.254	mg/kg	100
34) 2,6-Dichlorophenol	8.118	162	362492	1.364	mg/kg	98
35) Hexachlorobutadiene	8.167	225	250328	1.239	mg/kg	99
36) N-nitrosodi-n-butylamine	8.365	116	64322	1.186	mg/kg	99
37) Caprolactam	8.392	113	33033	0.493	mg/kg	95
38) 4-Chloro-3-methylphenol	8.485	107	272740	1.219	mg/kg	99
39) 1,2,4,5-Tetrachloroben...	8.785	216	474852	1.165	mg/kg	99

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\170913\
Data File : 17091306.D
Acq On : 13 Sep 2017 12:52 pm
Operator :
Sample : LCS-82338
Misc : LCS
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 14 08:34:31 2017
QMeth File : SV170606.M
InstName : GCMS9
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Tue Aug 29 10:36:46 2017
Response via : Initial Calibration

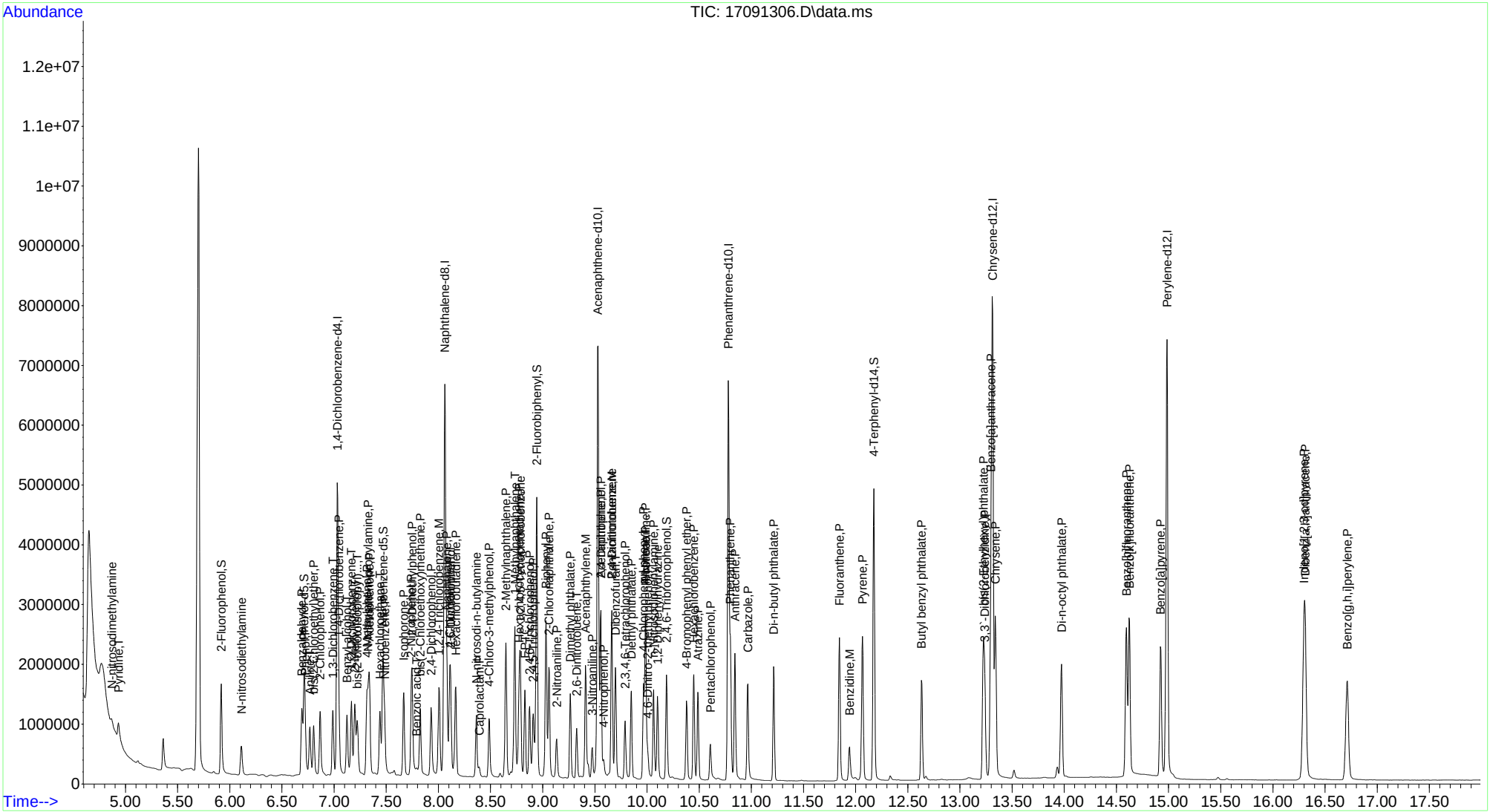
Compound	R.T.	QIon	Response	Conc	Units	%Rec
40) 2-Methylnaphthalene	8.647	142	842150	1.273	mg/kg	100
41) 1-Methylnaphthalene	8.733	142	920674	1.374	mg/kg	100
43) Hexachlorocyclopentadiene	8.774	237	243714	1.416	mg/kg	100
44) EPTC	8.830	128	300269	1.559	mg/kg	100
45) 2,4,6-Trichlorophenol	8.875	196	241021	1.632	mg/kg	99
46) 2,4,5-Trichlorophenol	8.909	196	241257	1.319	mg/kg	99
48) Biphenyl	9.033	154	1081595	1.814	mg/kg	99
49) 2-Chloronaphthalene	9.059	162	773806	1.564	mg/kg	100
50) 2-Nitroaniline	9.134	138	188338	1.511	mg/kg	100
51) Acenaphthylene	9.411	152	1071988	1.545	mg/kg	99
52) Dimethyl phthalate	9.265	163	770692	1.345	mg/kg	99
53) 2,6-Dinitrotoluene	9.325	165	151247	1.365	mg/kg	96
54) Acenaphthene	9.557	153	828810	1.401	mg/kg	99
55) 3-Nitroaniline	9.475	138	132927	1.425	mg/kg	99
56) 2,4-Dinitrophenol	9.557	184	49783	1.373	mg/kg#	4
57) Dibenzofuran	9.696	168	987044	1.322	mg/kg	100
58) 2,4-Dinitrotoluene	9.662	165	195295	1.366	mg/kg	83
59) 4-Nitrophenol	9.584	109	40933	1.003	mg/kg	98
60) 2,3,4,6-Tetrachlorophenol	9.790	232	178733	1.196	mg/kg	99
61) Fluorene	9.985	166	768477	1.339	mg/kg	99
62) 4-Chlorophenyl phenyl ...	9.966	204	374500	1.301	mg/kg	99
63) Diethyl phthalate	9.850	149	696194	1.227	mg/kg	100
64) 4-Nitroaniline	9.985	138	125837	1.273	mg/kg	94
66) 4,6-Dinitro-2-methylph...	10.007	198	86829	1.315	mg/kg	82
67) 1,2-Diphenylhydrazine	10.101	182	163092	1.551	mg/kg	98
68) n-Nitrosodiphenylamine	10.064	169	458963	1.556	mg/kg	100
70) 4-Bromophenyl phenyl e...	10.378	248	240610	1.511	mg/kg	99
71) Atrazine	10.487	200	224007	1.668	mg/kg	99
72) Hexachlorobenzene	10.450	284	331474	1.488	mg/kg	99
73) Pentachlorophenol	10.607	266	113100	1.120	mg/kg	99
74) Phenanthrene	10.798	178	1006206	1.459	mg/kg	100
75) Anthracene	10.843	178	1023343	1.465	mg/kg	99
76) Pentachlorobenzene	9.662	250	464865	1.786	mg/kg	100
77) Carbazole	10.967	167	895299	1.448	mg/kg	100
78) Di-n-butyl phthalate	11.214	149	1189612	1.403	mg/kg	100
79) Fluoranthene	11.844	202	1232718	1.416	mg/kg	99
81) Benzidine	11.942	184	348116	1.176	mg/kg	100
82) Pyrene	12.065	202	1283784	1.488	mg/kg	99
84) Butyl benzyl phthalate	12.631	149	524930	1.550	mg/kg	96
85) 3,3`-Dichlorobenzidine	13.239	252	509223	1.454	mg/kg	100
86) Benzo[a]anthracene	13.299	228	1360282	1.517	mg/kg	100
87) Chrysene	13.340	228	1267395	1.482	mg/kg	100
88) bis(2-Ethylhexyl)phtha...	13.224	149	821120	1.484	mg/kg	99
90) Di-n-octyl phthalate	13.973	149	1398914	1.531	mg/kg	99
91) Benzo[b]fluoranthene	14.596	252	1450181	1.598	mg/kg	99
92) Benzo[k]fluoranthene	14.626	252	1389112	1.474	mg/kg	99
93) Benzo[a]pyrene	14.922	252	1185750	1.616	mg/kg	99
94) Indeno[1,2,3-cd]pyrene	16.298	276	1772046	1.658	mg/kg	96
95) Dibenz[a,h]anthracene	16.309	278	1480020	1.679	mg/kg	100
96) Benzo[g,h,i]perylene	16.714	276	1423432	1.664	mg/kg	100

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\170913\
Data File : 17091306.D
Acq On : 13 Sep 2017 12:52 pm
Operator :
Sample : LCS-82338
Misc : LCS
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 14 08:34:31 2017
QMeth File : SV170606.M
InstName : GCMS9
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Tue Aug 29 10:36:46 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\170913\
Data File : 17091310.D
Acq On : 13 Sep 2017 2:29 pm
Operator :
Sample : MB-82338
Misc : MBLK
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 14 08:34:43 2017
QMeth File : SV170606.M
InstName : GCMS9
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Tue Aug 29 10:36:46 2017
Response via : Initial Calibration

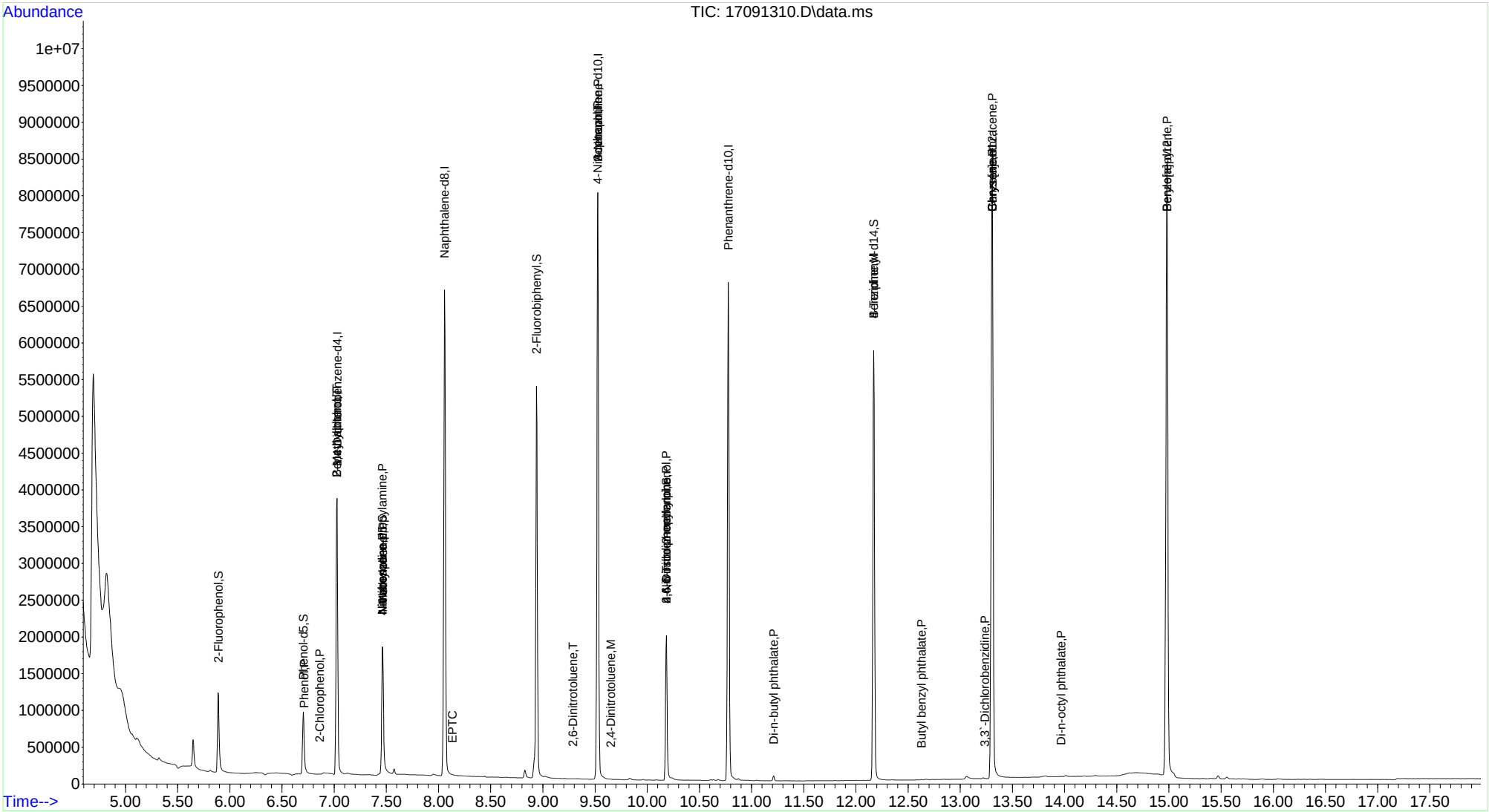
Compound	R.T.	QIon	Response	Conc	Units	%Rec
Internal Standards						
1) 1,4-Dichlorobenzene-d4	7.027	152	829111	4.00	mg/kg	107
22) Naphthalene-d8	8.058	136	3997003	4.00	mg/kg	116
42) Acenaphthene-d10	9.527	164	1966911	4.00	mg/kg	103
65) Phenanthrene-d10	10.776	188	3185287	4.00	mg/kg	78
80) Chrysene-d12	13.306	240	4369108	4.00	mg/kg	81
89) Perylene-d12	14.982	264	4418675	4.00	mg/kg	85
System Monitoring Compounds						Dev(Min)
7) 2-Fluorophenol	5.891	112	456555	2.35	mg/kg	0.01
Spiked Amount 4.000	Range 20 - 120		Recovery = 58.75%			
9) Phenol-d5	6.705	99	439194	1.35	mg/kg	0.00
Spiked Amount 4.000	Range 20 - 120		Recovery = 33.75%			
23) Nitrobenzene-d5	7.462	82	779701	2.58	mg/kg	0.00
Spiked Amount 4.000	Range 41 - 120		Recovery = 64.50%			
47) 2-Fluorobiphenyl	8.939	172	2123156	2.78	mg/kg	-0.01
Spiked Amount 4.000	Range 48 - 120		Recovery = 69.50%			
69) 2,4,6-Tribromophenol	10.184	330	392428	2.56	mg/kg	-0.01
Spiked Amount 4.000	Range 42 - 124		Recovery = 64.00%			
83) 4-Terphenyl-d14	12.170	244	2412922	2.75	mg/kg	-0.01
Spiked Amount 4.000	Range 51 - 135		Recovery = 68.75%			
Target Compounds						Qvalue
2) N-nitrosodimethylamine	4.688	74	9460	Below Cal	#	1
10) Phenol	6.712	94	922	0.031	mg/kg#	1
11) 2-Chlorophenol	6.862	128	405	0.025	mg/kg#	45
15) Benzyl alcohol	7.023	108	2498	0.081	mg/kg#	1
17) 2-Methylphenol	7.023	108	2498	0.039	mg/kg#	4
19) N-Nitrosodi-n-propylamine	7.462	70	95346	0.516	mg/kg	78
20) 4-Methylphenol	7.466	108	770	0.029	mg/kg#	1
24) Nitrobenzene	7.462	77	2540	0.029	mg/kg#	31
44) EPTC	8.133	128	440	0.002	mg/kg	85
53) 2,6-Dinitrotoluene	9.288	165	464	0.031	mg/kg#	38
55) 3-Nitroaniline	9.527	138	245	0.026	mg/kg#	1
58) 2,4-Dinitrotoluene	9.651	165	419	0.025	mg/kg#	37
59) 4-Nitrophenol	9.524	109	2151	0.121	mg/kg#	1
66) 4,6-Dinitro-2-methylph...	10.184	198	479	0.098	mg/kg#	1
68) n-Nitrosodiphenylamine	10.184	169	7287	0.024	mg/kg#	35
78) Di-n-butyl phthalate	11.211	149	43967	0.064	mg/kg	99
81) Benzidine	12.170	184	25994	0.096	mg/kg#	1
84) Butyl benzyl phthalate	12.628	149	1723	0.028	mg/kg	87
85) 3,3`-Dichlorobenzidine	13.235	252	833	0.018	mg/kg	87
86) Benzo[a]anthracene	13.306	228	11478	0.011	mg/kg#	70
87) Chrysene	13.306	228	11478	0.012	mg/kg#	67
90) Di-n-octyl phthalate	13.966	149	1028	0.030	mg/kg	73
93) Benzo[a]pyrene	14.982	252	13463	0.016	mg/kg	88

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\170913\
Data File : 17091310.D
Acq On : 13 Sep 2017 2:29 pm
Operator :
Sample : MB-82338
Misc : MBLK
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 14 08:34:43 2017
QMeth File : SV170606.M
InstName : GCMS9
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Tue Aug 29 10:36:46 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\170913\
Data File : 17091311.D
Acq On : 13 Sep 2017 2:53 pm
Operator :
Sample : 1709066-01C
Misc : SAMP
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 14 08:35:57 2017
QMeth File : SV170606.M
InstName : GCMS9
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Tue Aug 29 10:36:46 2017
Response via : Initial Calibration

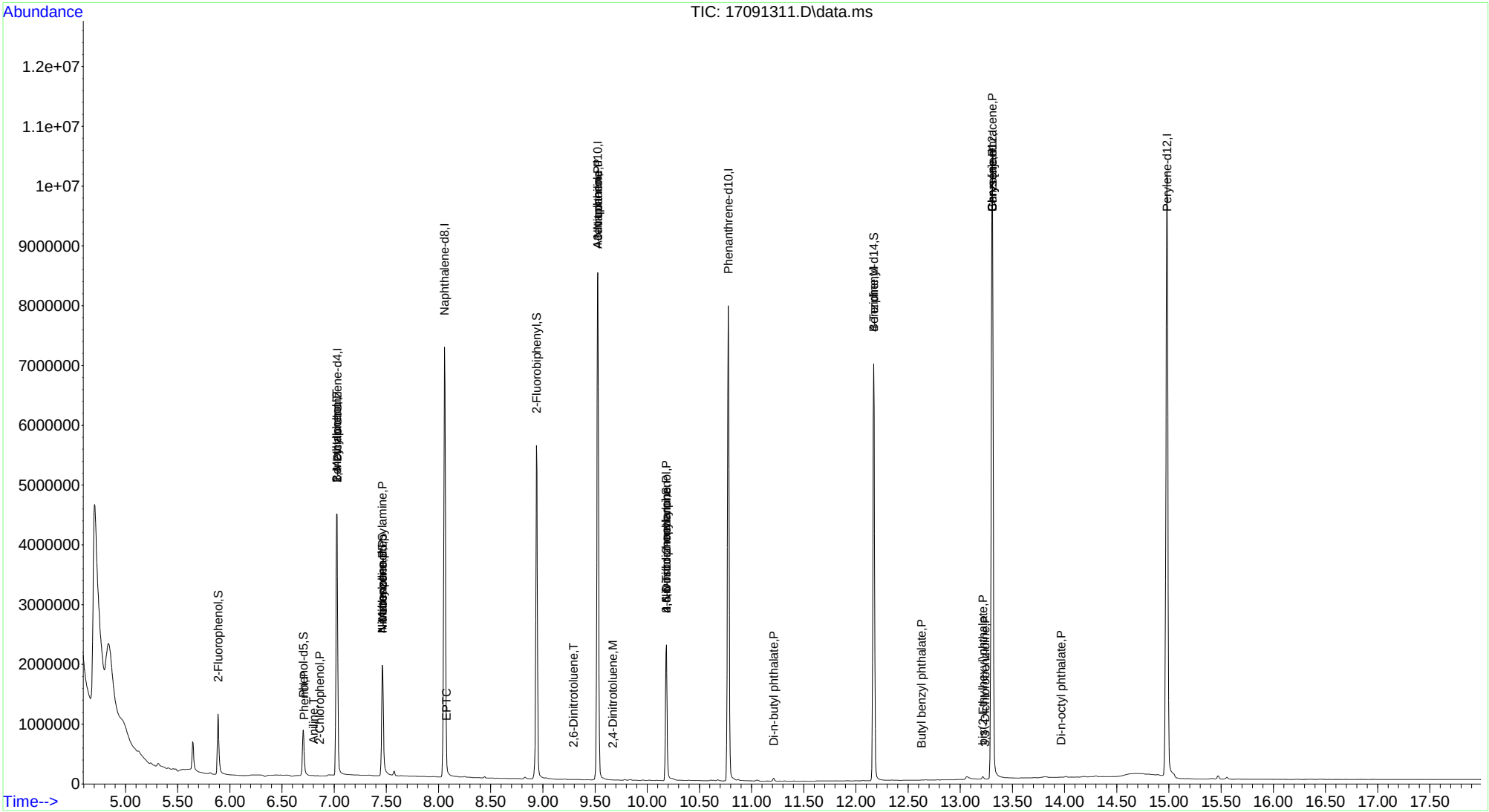
Compound	R.T.	QIon	Response	Conc	Units	%Rec
Internal Standards						
1) 1,4-Dichlorobenzene-d4	7.027	152	985646	4.00	mg/kg	127
22) Naphthalene-d8	8.058	136	4438787	4.00	mg/kg	129
42) Acenaphthene-d10	9.524	164	2163046	4.00	mg/kg	114
65) Phenanthrene-d10	10.776	188	3651168	4.00	mg/kg	89
80) Chrysene-d12	13.306	240	5348701	4.00	mg/kg	99
89) Perylene-d12	14.982	264	5383613	4.00	mg/kg	104
System Monitoring Compounds						Dev(Min)
7) 2-Fluorophenol	5.888	112	417650	1.86	mg/kg	0.00
Spiked Amount 4.000	Range 20 - 120		Recovery = 46.50%			
9) Phenol-d5	6.705	99	420835	1.10	mg/kg	0.00
Spiked Amount 4.000	Range 20 - 120		Recovery = 27.50%			
23) Nitrobenzene-d5	7.462	82	826565	2.47	mg/kg	0.00
Spiked Amount 4.000	Range 41 - 120		Recovery = 61.75%			
47) 2-Fluorobiphenyl	8.939	172	2284615	2.72	mg/kg	-0.01
Spiked Amount 4.000	Range 48 - 120		Recovery = 68.00%			
69) 2,4,6-Tribromophenol	10.184	330	446939	2.55	mg/kg	-0.01
Spiked Amount 4.000	Range 42 - 124		Recovery = 63.75%			
83) 4-Terphenyl-d14	12.170	244	2808576	2.61	mg/kg	-0.01
Spiked Amount 4.000	Range 51 - 135		Recovery = 65.25%			
Target Compounds						Qvalue
2) N-nitrosodimethylamine	4.711	74	7851	Below Cal	#	1
6) Aniline	6.802	93	101	0.028	mg/kg#	45
10) Phenol	6.712	94	785	0.030	mg/kg#	1
11) 2-Chlorophenol	6.862	128	483	0.025	mg/kg#	55
15) Benzyl alcohol	7.024	108	3057	0.081	mg/kg#	1
17) 2-Methylphenol	7.024	108	3057	0.039	mg/kg#	4
19) N-Nitrosodi-n-propylamine	7.462	70	101931	0.464	mg/kg	78
20) 4-Methylphenol	7.462	108	876	0.029	mg/kg#	1
24) Nitrobenzene	7.462	77	3057	0.030	mg/kg#	32
44) EPTC	8.077	128	1716	0.008	mg/kg	90
53) 2,6-Dinitrotoluene	9.291	165	164	0.028	mg/kg#	38
55) 3-Nitroaniline	9.528	138	333	0.027	mg/kg#	1
58) 2,4-Dinitrotoluene	9.670	165	259	0.024	mg/kg#	37
59) 4-Nitrophenol	9.524	109	2980	0.134	mg/kg#	1
66) 4,6-Dinitro-2-methylph...	10.184	198	485	0.097	mg/kg	69
68) n-Nitrosodiphenylamine	10.184	169	8526	0.024	mg/kg#	36
78) Di-n-butyl phthalate	11.211	149	31704	0.046	mg/kg	99
81) Benzidine	12.170	184	31455	0.095	mg/kg#	1
84) Butyl benzyl phthalate	12.628	149	1725	0.027	mg/kg	82
85) 3,3`-Dichlorobenzidine	13.239	252	662	0.017	mg/kg	89
86) Benzo[a]anthracene	13.306	228	14129	0.011	mg/kg	72
87) Chrysene	13.306	228	14129	0.012	mg/kg#	69
88) bis(2-Ethylhexyl)phtha...	13.216	149	13950	0.043	mg/kg	100
90) Di-n-octyl phthalate	13.966	149	830	0.030	mg/kg	73

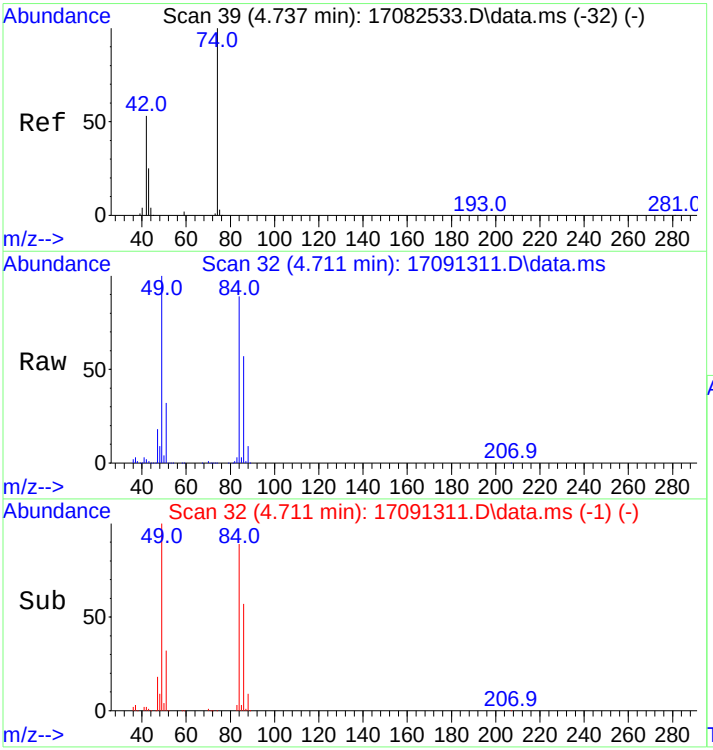
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\170913\
Data File : 17091311.D
Acq On : 13 Sep 2017 2:53 pm
Operator :
Sample : 1709066-01C
Misc : SAMP
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 14 08:35:57 2017
QMeth File : SV170606.M
InstName : GCMS9
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Tue Aug 29 10:36:46 2017
Response via : Initial Calibration

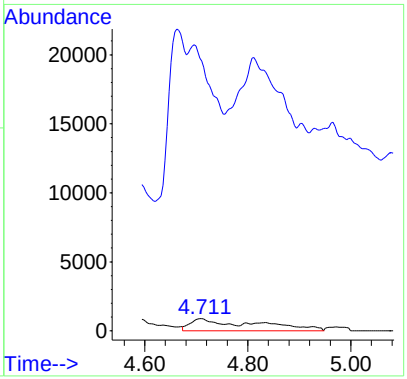


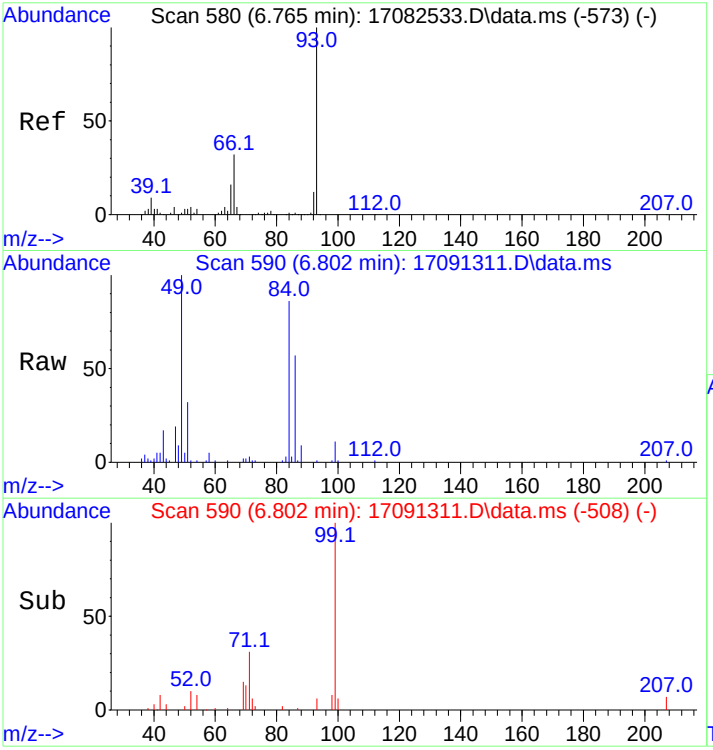


#2
N-nitrosodimethylamine
Concen: Below Cal
RT: 4.711 min Scan# 32
Delta R.T. -0.026 min
Lab File: 17091311.D
Acq: 13 Sep 2017 2:53 pm

Tgt Ion: 74 Resp: 7851

Ion	Ratio	Lower	Upper
74	100		
43	350.4	17.6	32.8#

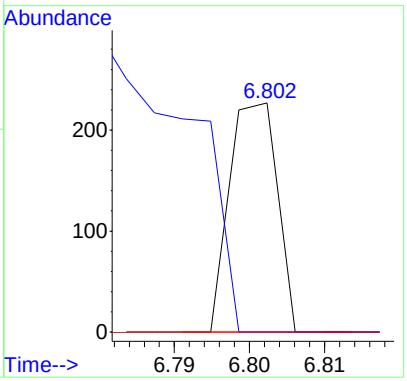


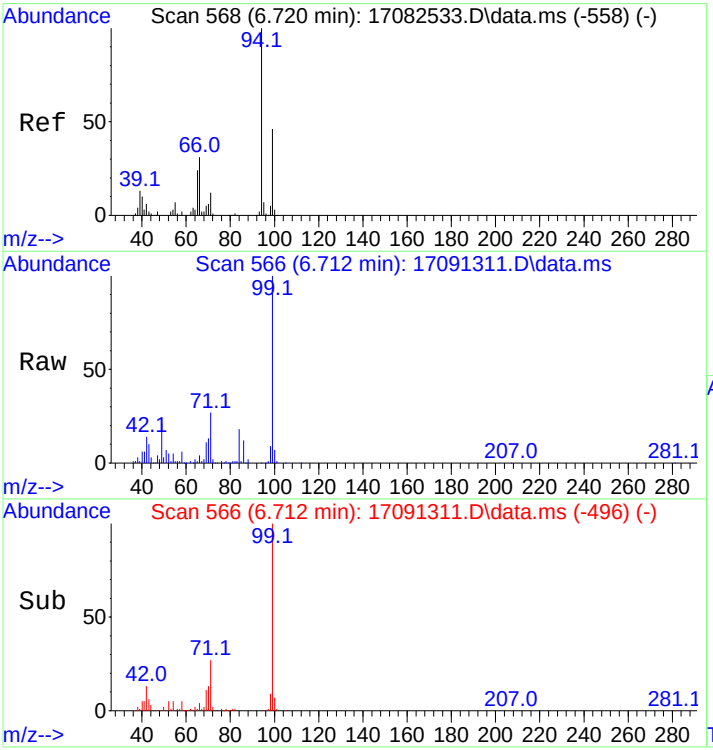


#6
Aniline
Concen: 0.028 mg/kg
RT: 6.802 min Scan# 590
Delta R.T. 0.038 min
Lab File: 17091311.D
Acq: 13 Sep 2017 2:53 pm

Tgt Ion: 93 Resp: 101

Ion	Ratio	Lower	Upper
93	100		
66	0.0	16.6	56.6#
65	0.0	0.0	38.5

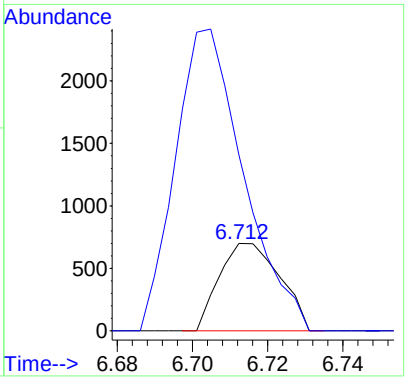


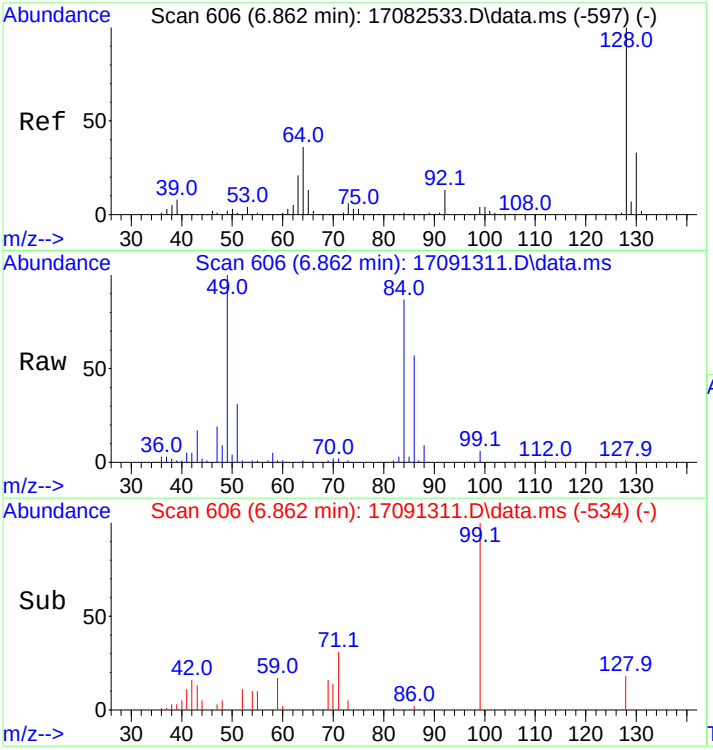


#10
Phenol
Concen: 0.030 mg/kg
RT: 6.712 min Scan# 566
Delta R.T. -0.007 min
Lab File: 17091311.D
Acq: 13 Sep 2017 2:53 pm

Tgt Ion: 94 Resp: 785

Ion	Ratio	Lower	Upper
94	100		
65	201.4	0.0	55.7#

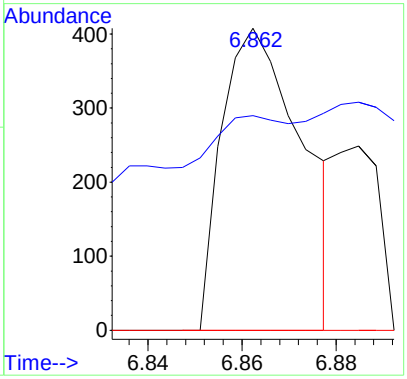


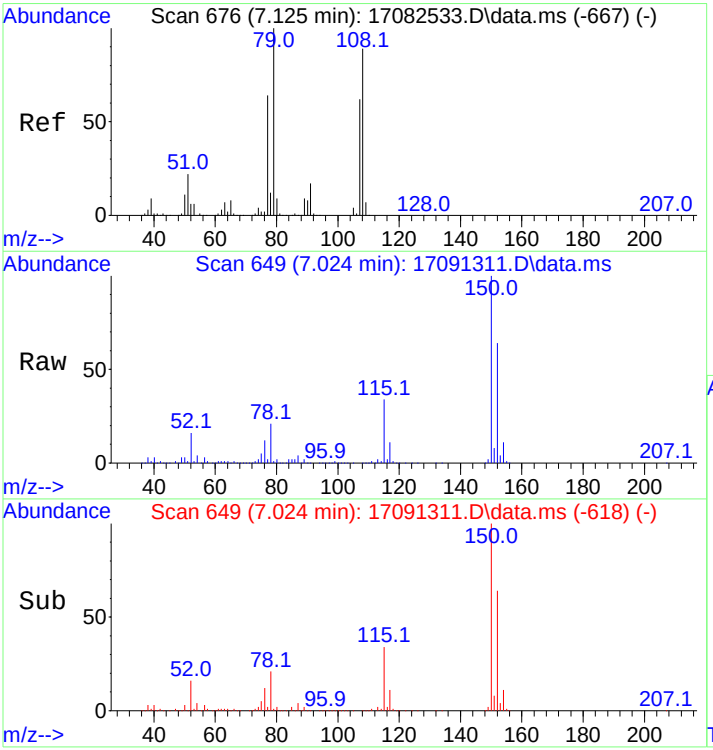


#11
2-Chlorophenol
Concen: 0.025 mg/kg
RT: 6.862 min Scan# 606
Delta R.T. 0.000 min
Lab File: 17091311.D
Acq: 13 Sep 2017 2:53 pm

Tgt Ion:128 Resp: 483

Ion	Ratio	Lower	Upper
128	100		
64	17.2	17.2	57.2#
130	0.0	12.7	52.7#

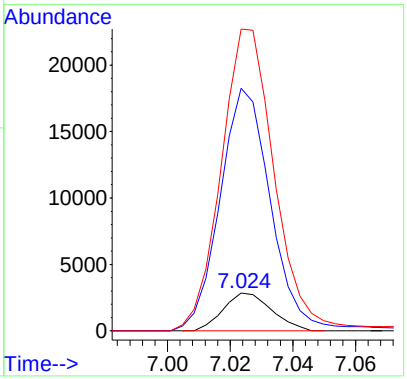


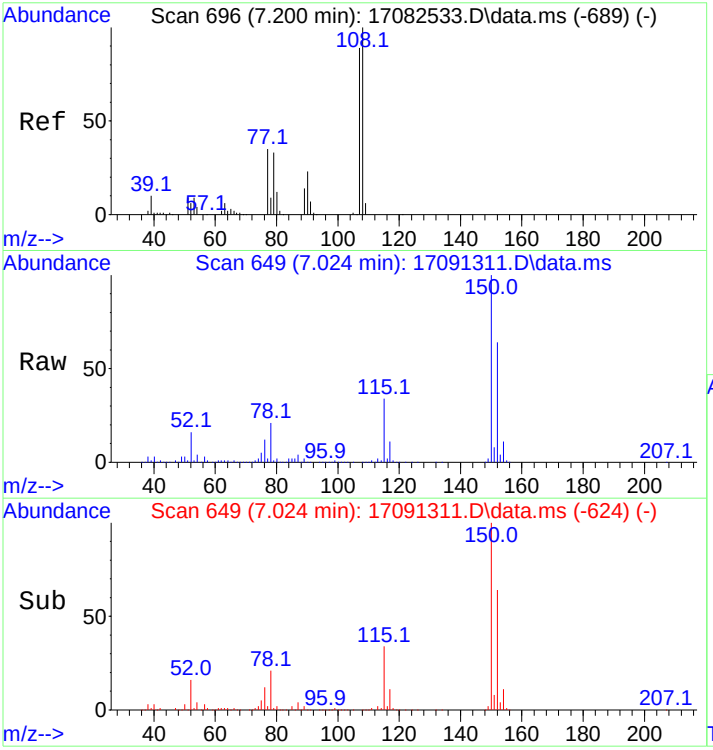


#15
Benzyl alcohol
Concen: 0.081 mg/kg
RT: 7.024 min Scan# 649
Delta R.T. -0.101 min
Lab File: 17091311.D
Acq: 13 Sep 2017 2:53 pm

Tgt Ion:108 Resp: 3057

Ion	Ratio	Lower	Upper
108	100		
79	628.7	94.2	134.2#
77	782.7	54.6	94.6#

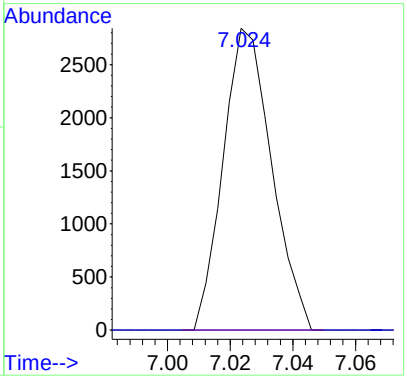


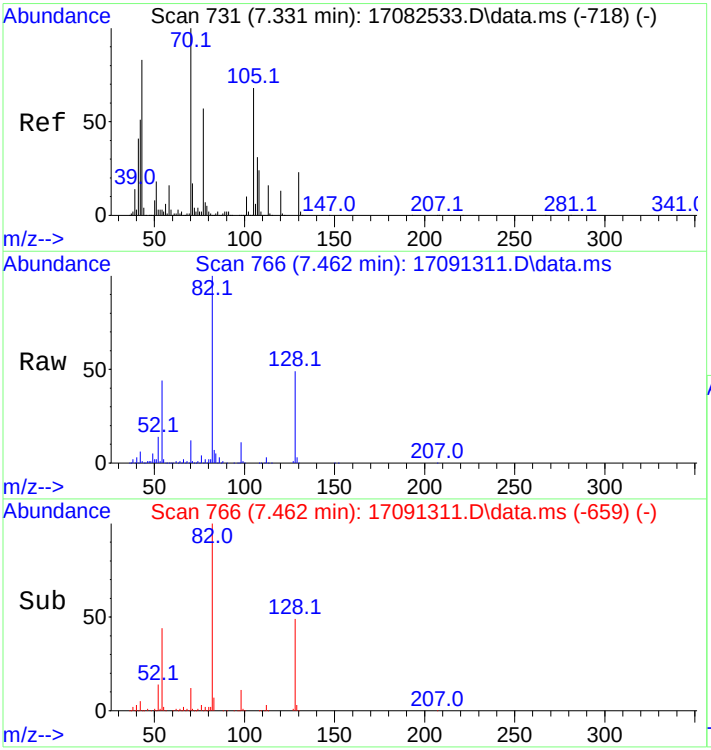


#17
2-Methylphenol
Concen: 0.039 mg/kg
RT: 7.024 min Scan# 649
Delta R.T. -0.176 min
Lab File: 17091311.D
Acq: 13 Sep 2017 2:53 pm

Tgt Ion:108 Resp: 3057

Ion	Ratio	Lower	Upper
108	100		
107	0.0	70.4	110.4#

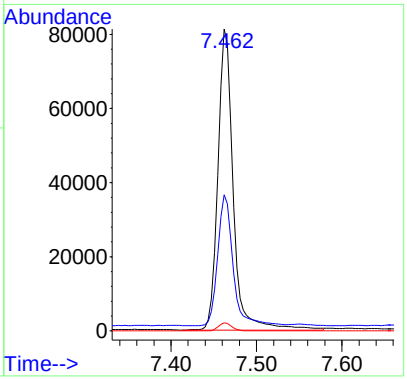


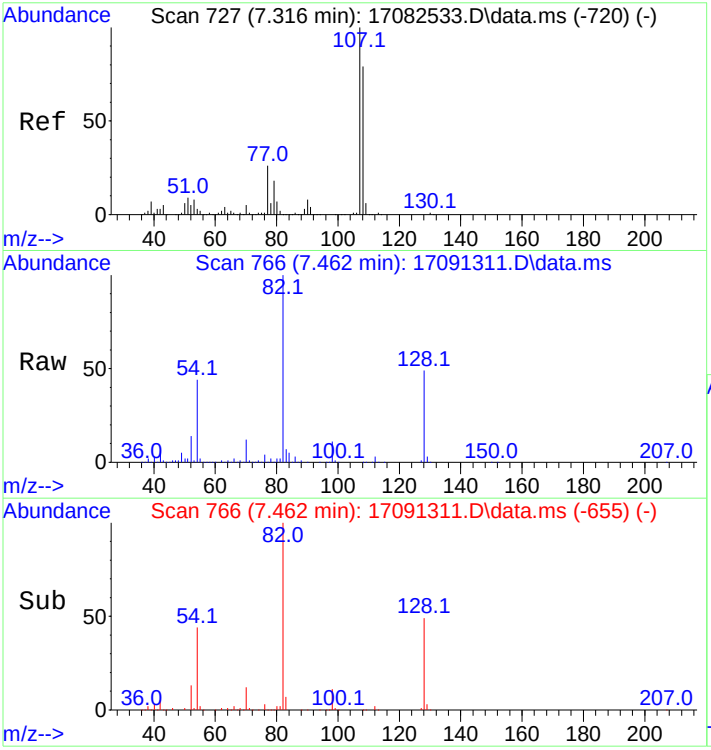


#19
N-Nitrosodi-n-propylamine
Concen: 0.464 mg/kg
RT: 7.462 min Scan# 766
Delta R.T. 0.131 min
Lab File: 17091311.D
Acq: 13 Sep 2017 2:53 pm

Tgt Ion: 70 Resp: 101931

Ion	Ratio	Lower	Upper
70	100		
42	43.4	33.3	73.3
130	2.6	2.4	42.4

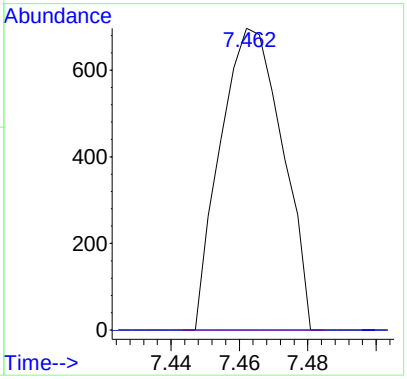


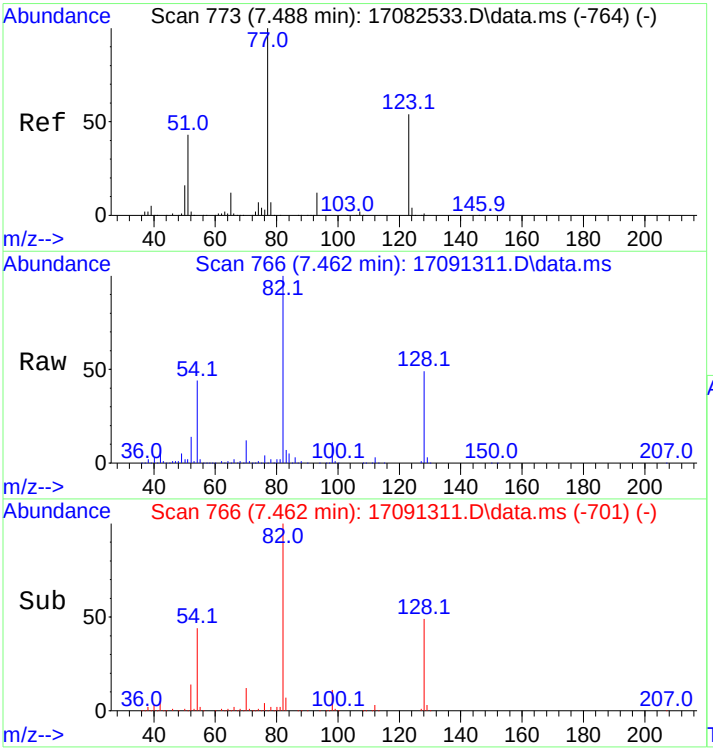


#20
4-Methylphenol
Concen: 0.029 mg/kg
RT: 7.462 min Scan# 766
Delta R.T. 0.146 min
Lab File: 17091311.D
Acq: 13 Sep 2017 2:53 pm

Tgt Ion:108 Resp: 876

Ion	Ratio	Lower	Upper
108	100		
107	0.0	106.4	146.4#

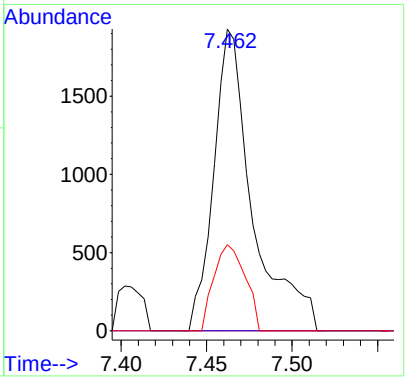


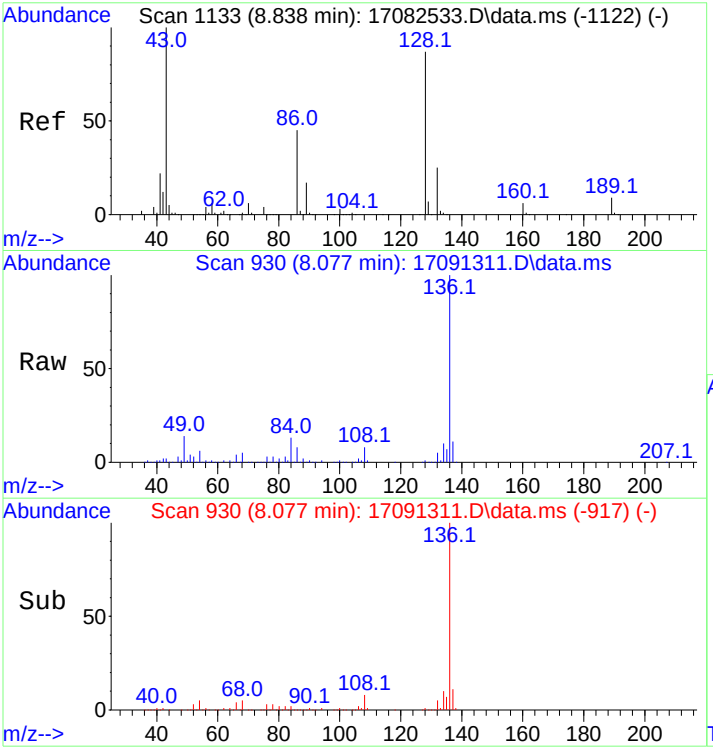


#24
Nitrobenzene
Concen: 0.030 mg/kg
RT: 7.462 min Scan# 766
Delta R.T. -0.026 min
Lab File: 17091311.D
Acq: 13 Sep 2017 2:53 pm

Tgt Ion: 77 Resp: 3057

Ion	Ratio	Lower	Upper
77	100		
123	0.0	32.1	72.1#
65	28.5	0.0	32.5

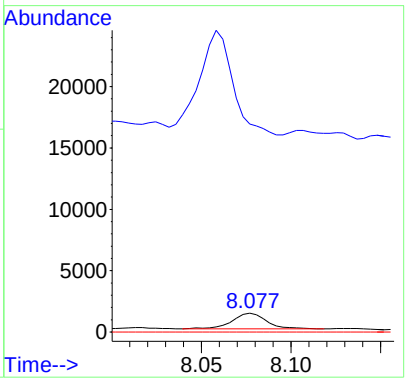


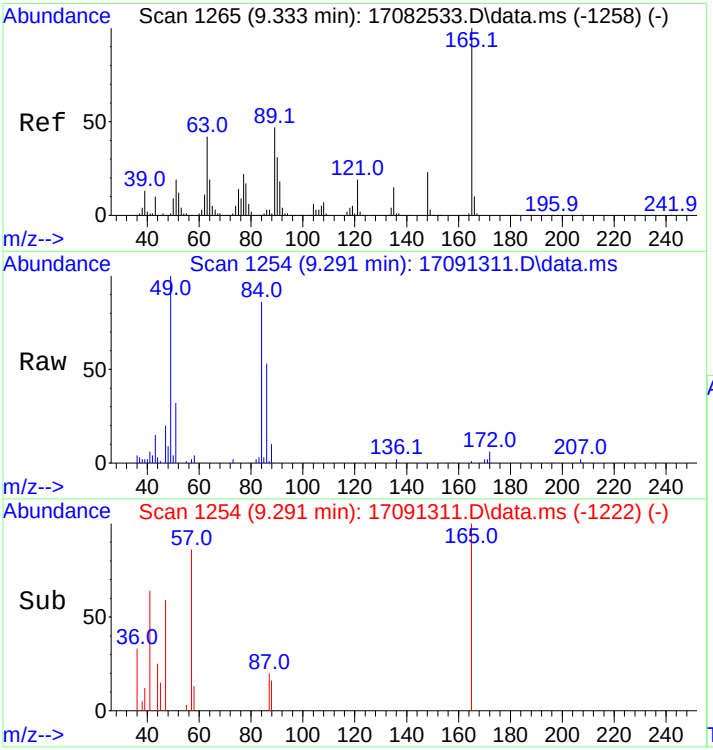


#44
EPTC
Concen: 0.008 mg/kg
RT: 8.077 min Scan# 930
Delta R.T. -0.761 min
Lab File: 17091311.D
Acq: 13 Sep 2017 2:53 pm

Tgt Ion:128 Resp: 1716

Ion	Ratio	Lower	Upper
128	100		
86	59.2	34.7	74.7
189	0.0	0.0	30.6

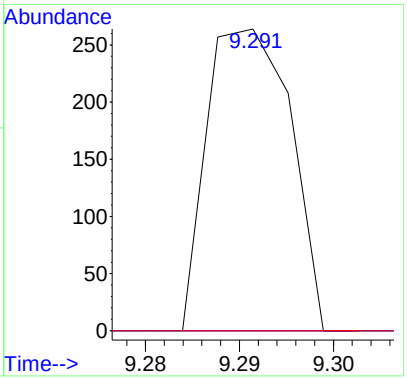


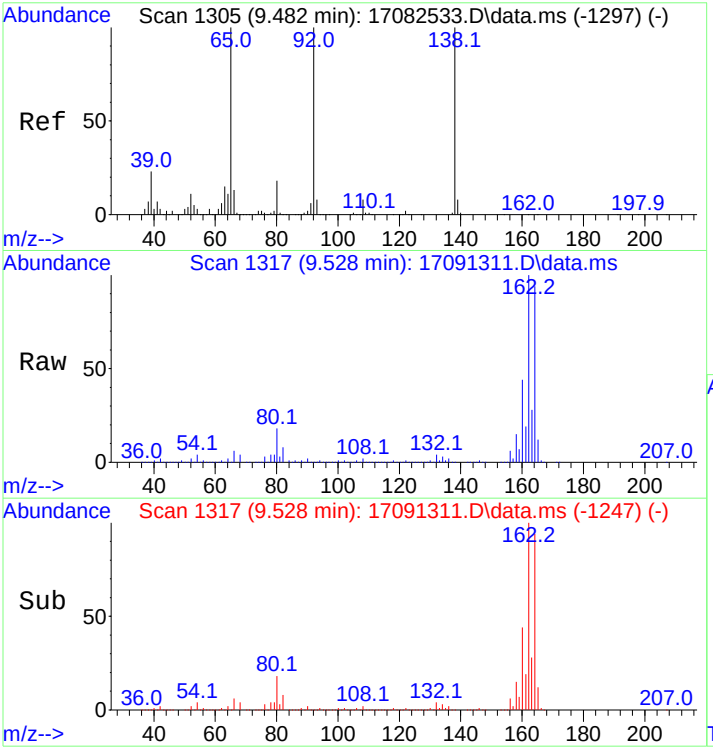


#53
2,6-Dinitrotoluene
Concen: 0.028 mg/kg
RT: 9.291 min Scan# 1254
Delta R.T. -0.041 min
Lab File: 17091311.D
Acq: 13 Sep 2017 2:53 pm

Tgt Ion:165 Resp: 164

Ion	Ratio	Lower	Upper
165	100		
89	0.0	26.7	66.7#
121	0.0	0.0	39.3

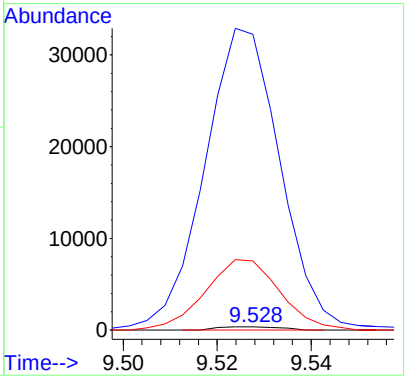


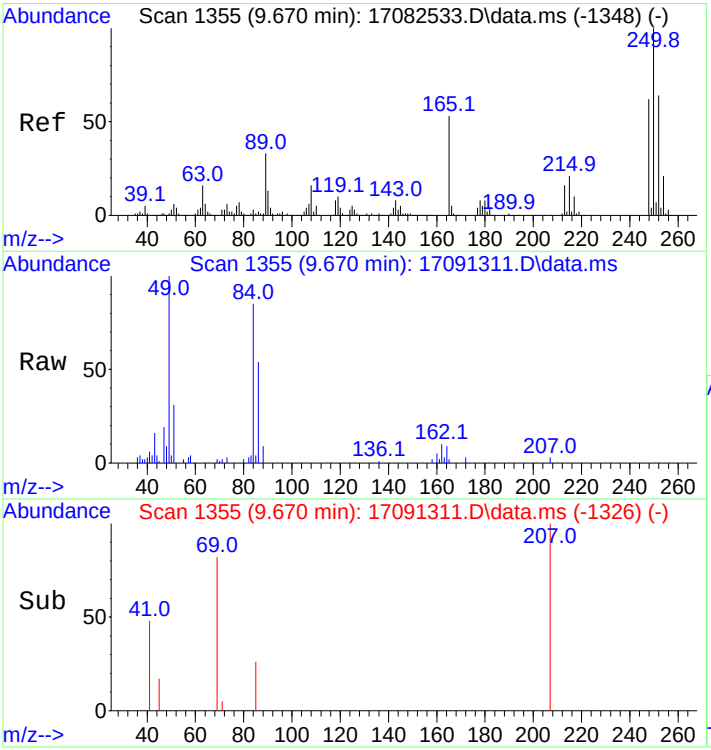


#55
3-Nitroaniline
Concen: 0.027 mg/kg
RT: 9.528 min Scan# 1317
Delta R.T. 0.045 min
Lab File: 17091311.D
Acq: 13 Sep 2017 2:53 pm

Tgt Ion:138 Resp: 333

Ion	Ratio	Lower	Upper
138	100		
108	8590.6	0.0	38.1#
92	1991.7	70.7	130.7#

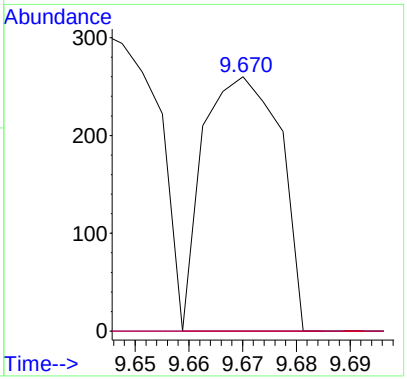


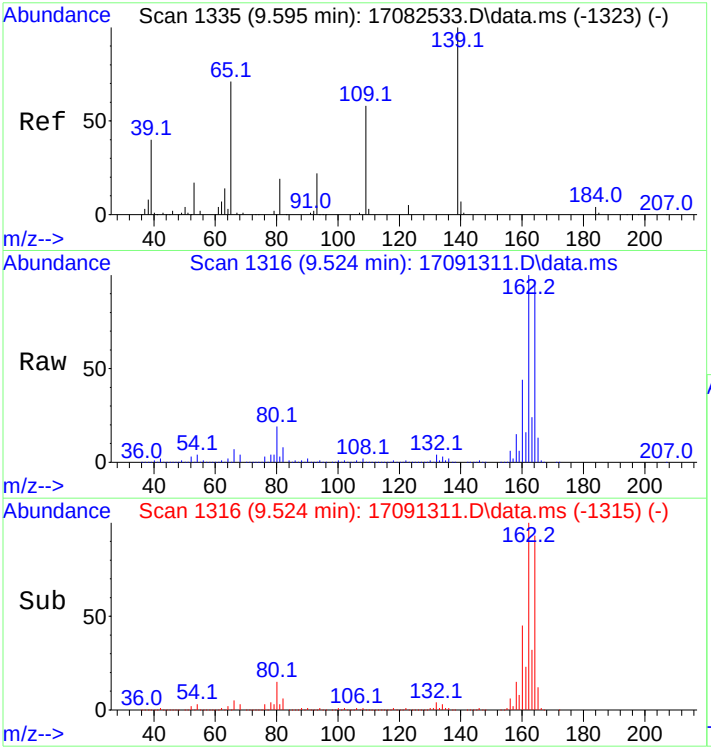


#58
2,4-Dinitrotoluene
Concen: 0.024 mg/kg
RT: 9.670 min Scan# 1355
Delta R.T. 0.000 min
Lab File: 17091311.D
Acq: 13 Sep 2017 2:53 pm

Tgt Ion:165 Resp: 259

Ion	Ratio	Lower	Upper
165	100		
63	0.0	24.6	64.6#
182	0.0	0.0	25.8

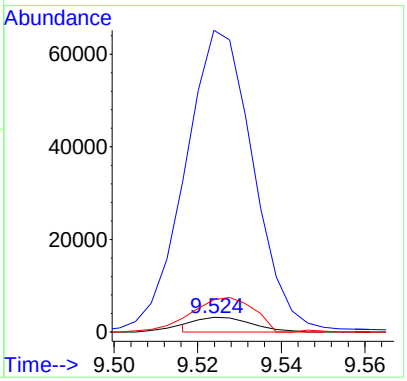


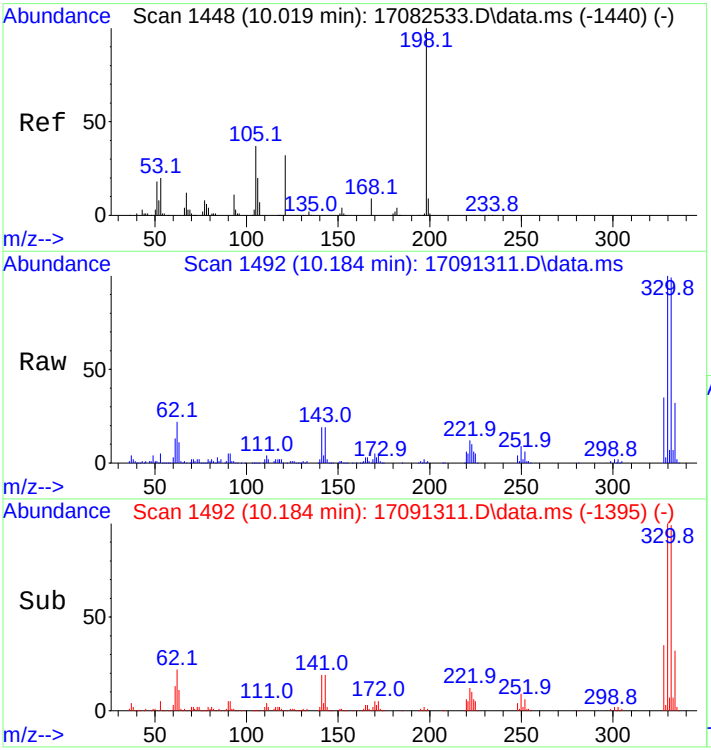


#59
4-Nitrophenol
Concen: 0.134 mg/kg
RT: 9.524 min Scan# 1316
Delta R.T. -0.071 min
Lab File: 17091311.D
Acq: 13 Sep 2017 2:53 pm

Tgt Ion:109 Resp: 2980

Ion	Ratio	Lower	Upper
109	100		
81	1997.9	13.8	73.8#
65	210.2	99.4	159.4#

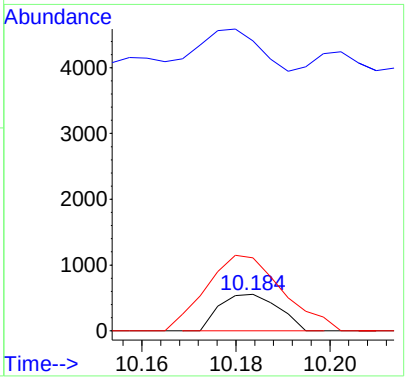


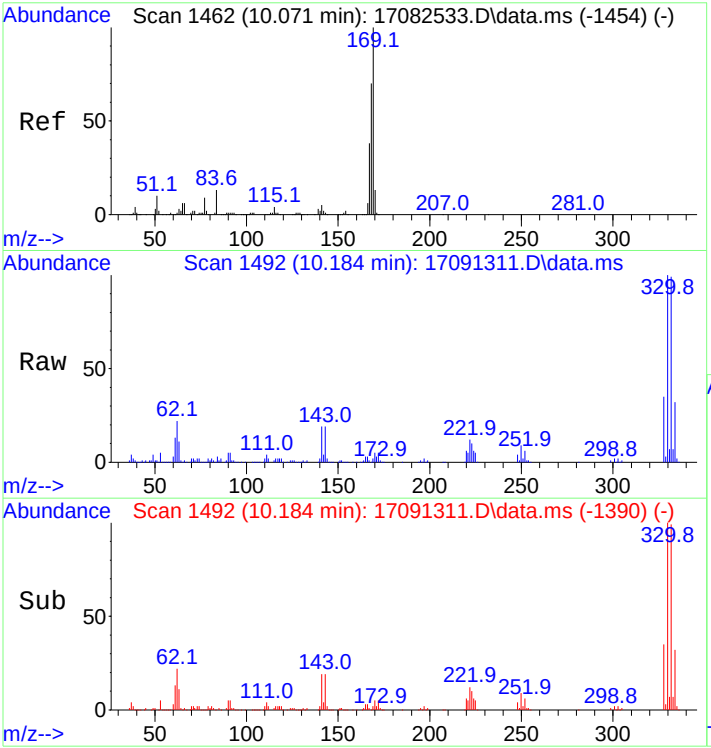


#66
4,6-Dinitro-2-methylphenol
Concen: 0.097 mg/kg
RT: 10.184 min Scan# 1492
Delta R.T. 0.165 min
Lab File: 17091311.D
Acq: 13 Sep 2017 2:53 pm

Tgt Ion:198 Resp: 485

Ion	Ratio	Lower	Upper
198	100		
51	7.6	1.5	61.5
105	25.1	7.9	67.9

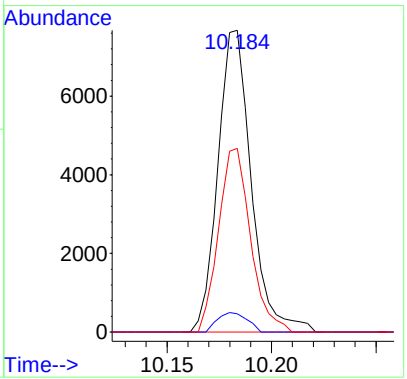


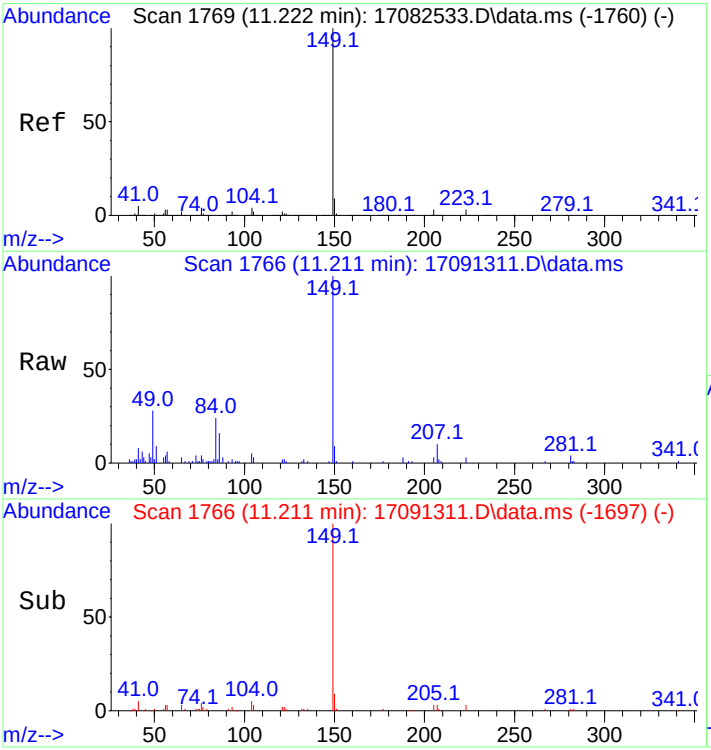


#68
n-Nitrosodiphenylamine
Concen: 0.024 mg/kg
RT: 10.184 min Scan# 1492
Delta R.T. 0.113 min
Lab File: 17091311.D
Acq: 13 Sep 2017 2:53 pm

Tgt Ion:169 Resp: 8526

Ion	Ratio	Lower	Upper
169	100		
168	6.0	51.5	91.5#
167	60.8	18.5	58.5#

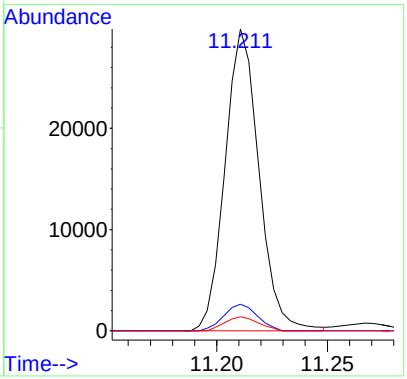


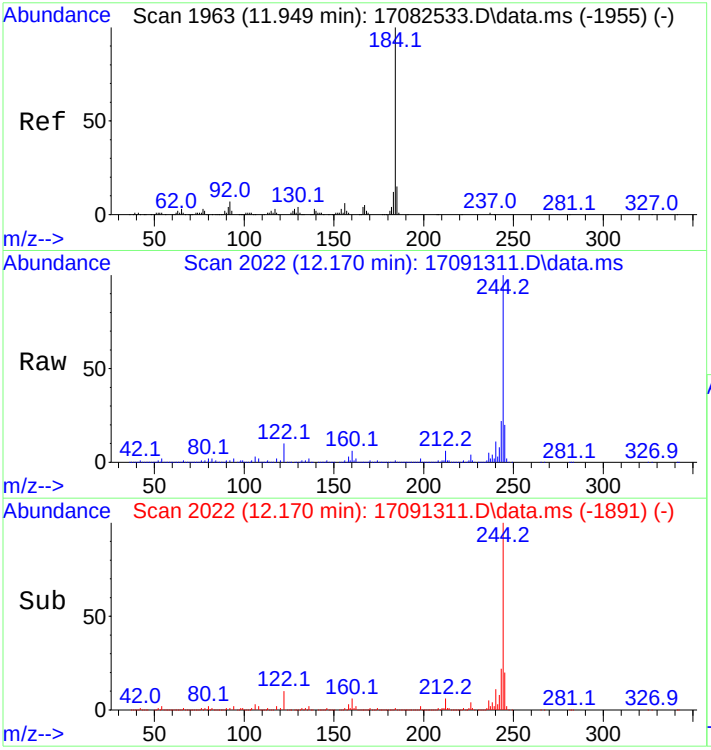


#78
Di-n-butyl phthalate
Concen: 0.046 mg/kg
RT: 11.211 min Scan# 1766
Delta R.T. -0.011 min
Lab File: 17091311.D
Acq: 13 Sep 2017 2:53 pm

Tgt Ion:149 Resp: 31704

Ion	Ratio	Lower	Upper
149	100		
150	8.9	0.0	29.3
104	4.7	0.0	24.1

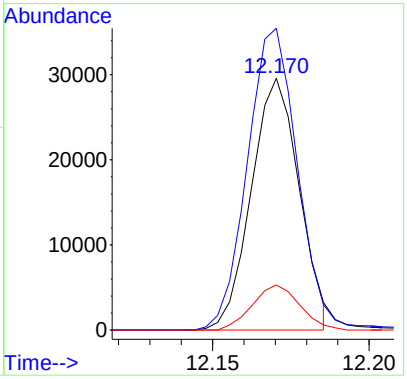


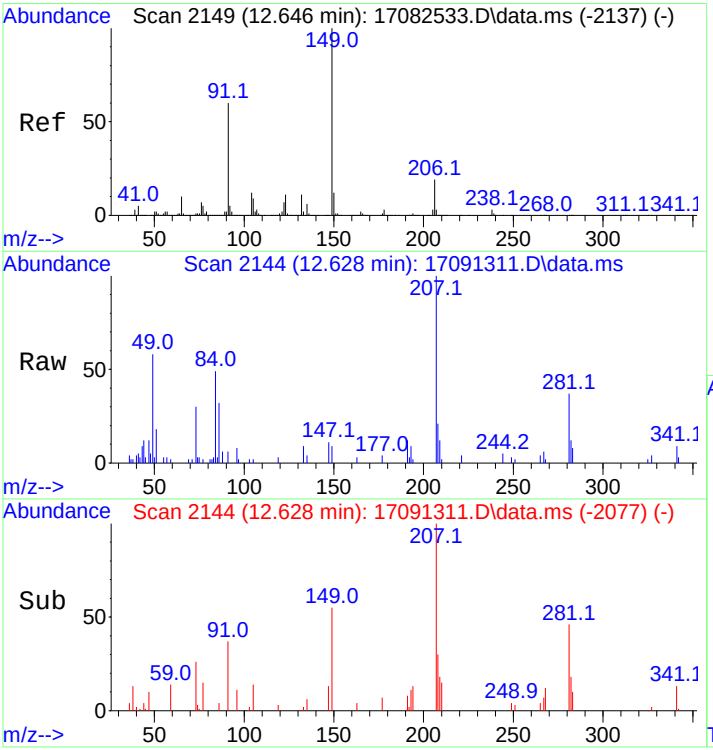


#81
Benzidine
Concen: 0.095 mg/kg
RT: 12.170 min Scan# 2022
Delta R.T. 0.221 min
Lab File: 17091311.D
Acq: 13 Sep 2017 2:53 pm

Tgt Ion:184 Resp: 31455

Ion	Ratio	Lower	Upper
184	100		
92	119.9	0.0	27.0#
185	18.0	0.0	34.2

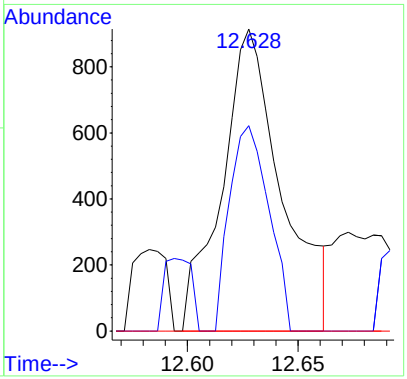


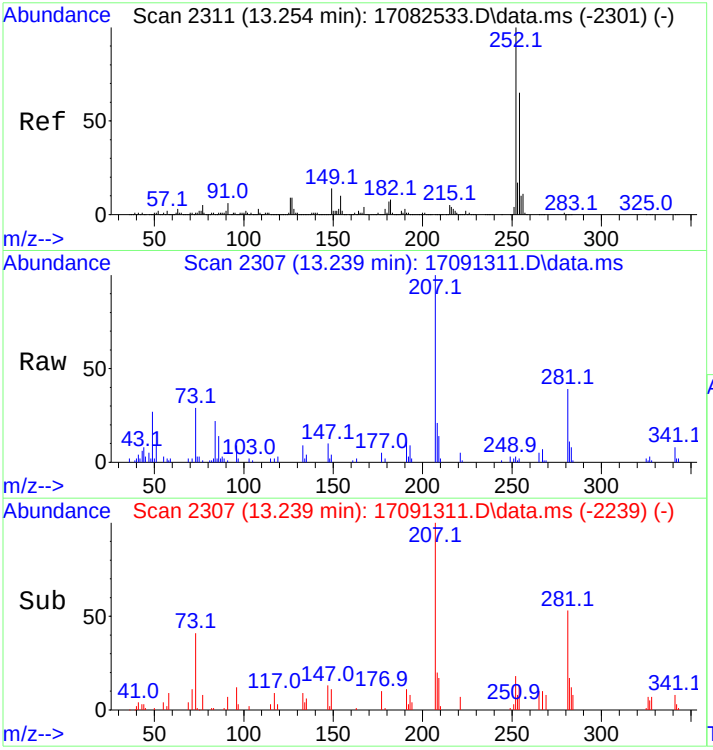


#84
Butyl benzyl phthalate
Concen: 0.027 mg/kg
RT: 12.628 min Scan# 2144
Delta R.T. -0.019 min
Lab File: 17091311.D
Acq: 13 Sep 2017 2:53 pm

Tgt Ion:149 Resp: 1725

Ion	Ratio	Lower	Upper
149	100		
91	68.0	40.6	80.6
206	0.0	0.0	39.1

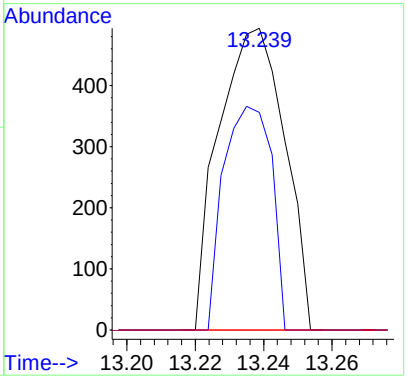


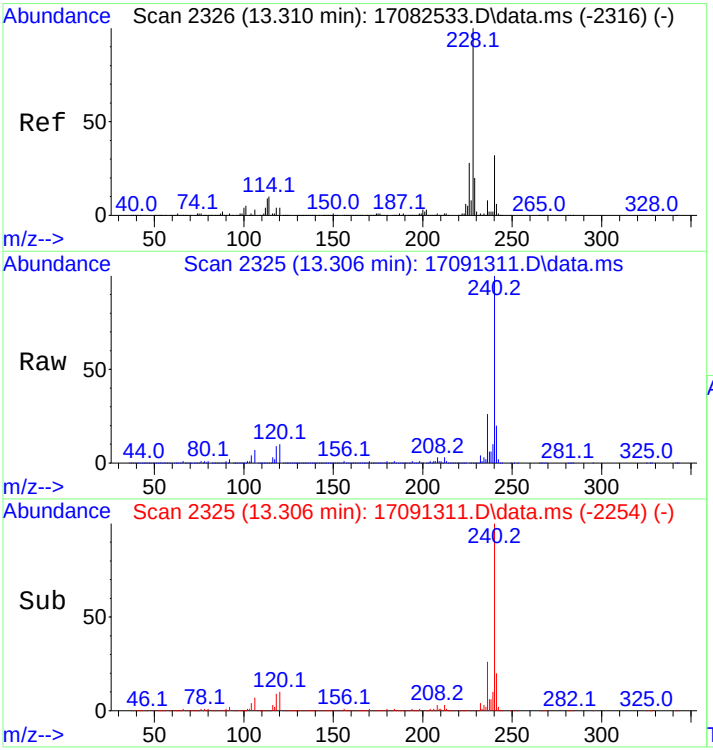


#85
3,3`-Dichlorobenzidine
Concen: 0.017 mg/kg
RT: 13.239 min Scan# 2307
Delta R.T. -0.015 min
Lab File: 17091311.D
Acq: 13 Sep 2017 2:53 pm

Tgt Ion:252 Resp: 662

Ion	Ratio	Lower	Upper
252	100		
254	72.1	44.8	84.8
126	0.0	0.0	29.2

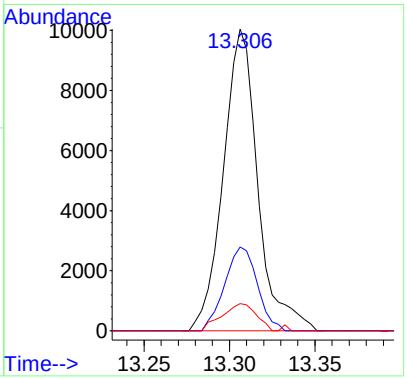


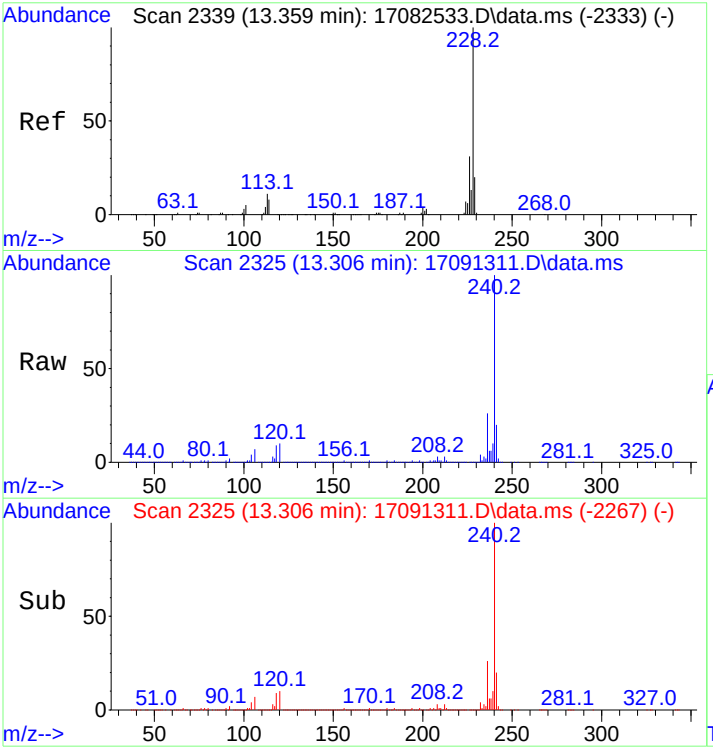


#86
Benzo[a]anthracene
Concen: 0.011 mg/kg
RT: 13.306 min Scan# 2325
Delta R.T. -0.004 min
Lab File: 17091311.D
Acq: 13 Sep 2017 2:53 pm

Tgt Ion:228 Resp: 14129

Ion	Ratio	Lower	Upper
228	100		
229	27.8	0.1	40.1
226	9.0	7.7	47.7

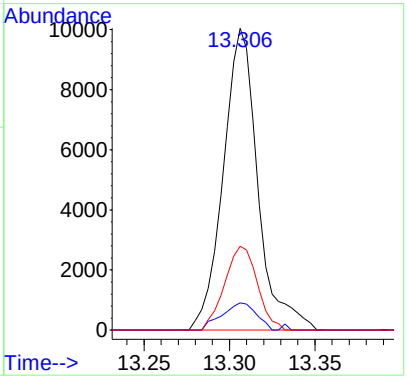


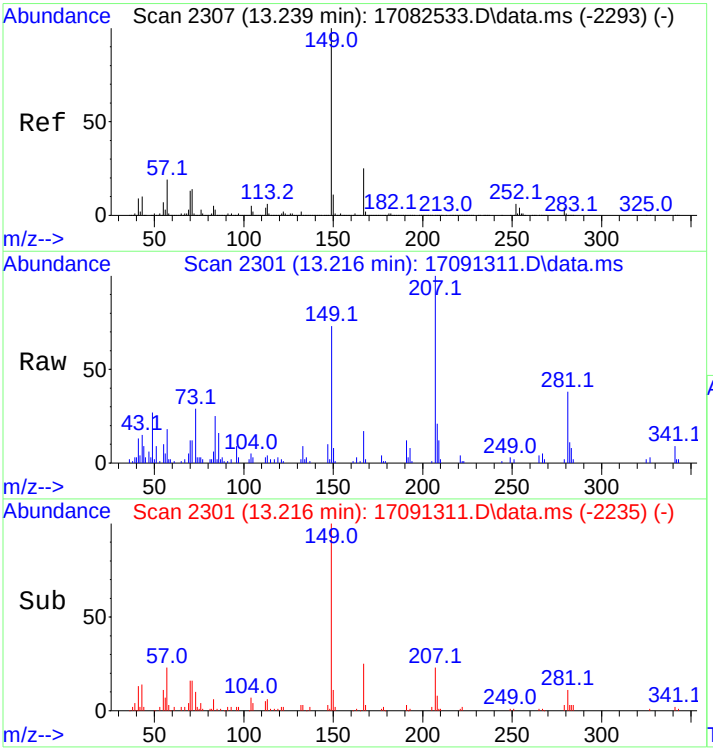


#87
Chrysene
Concen: 0.012 mg/kg
RT: 13.306 min Scan# 2325
Delta R.T. -0.052 min
Lab File: 17091311.D
Acq: 13 Sep 2017 2:53 pm

Tgt Ion:228 Resp: 14129

Ion	Ratio	Lower	Upper
228	100		
226	9.0	10.8	50.8#
229	27.8	0.0	40.0

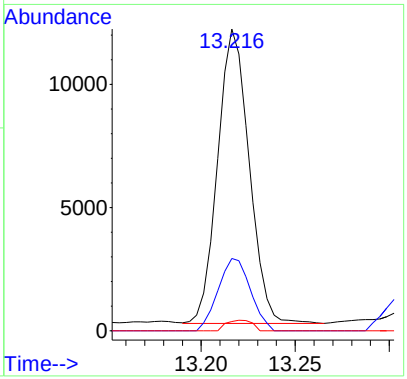


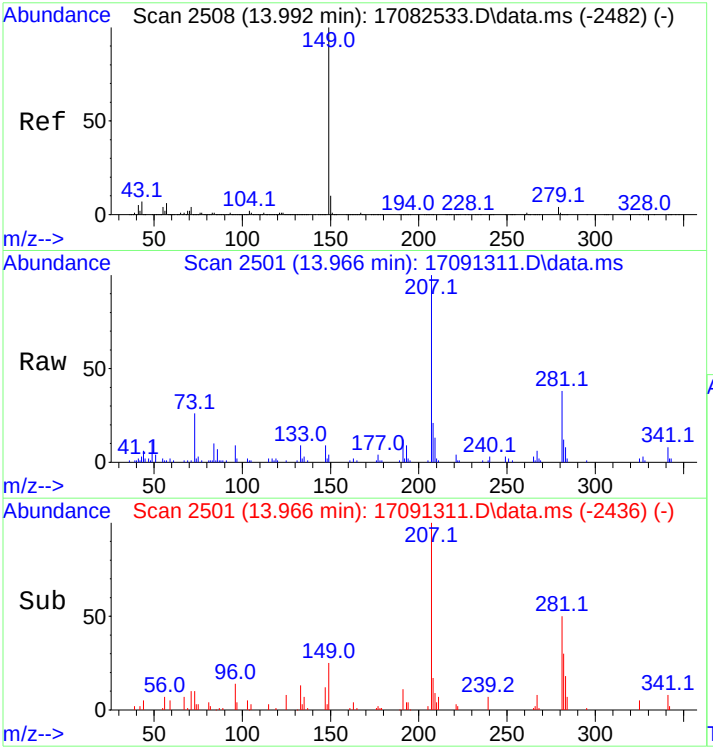


#88
bis(2-Ethylhexyl)phthalate
Concen: 0.043 mg/kg
RT: 13.216 min Scan# 2301
Delta R.T. -0.022 min
Lab File: 17091311.D
Acq: 13 Sep 2017 2:53 pm

Tgt Ion:149 Resp: 13950

Ion	Ratio	Lower	Upper
149	100		
167	24.6	4.6	44.6
279	3.2	0.0	23.6

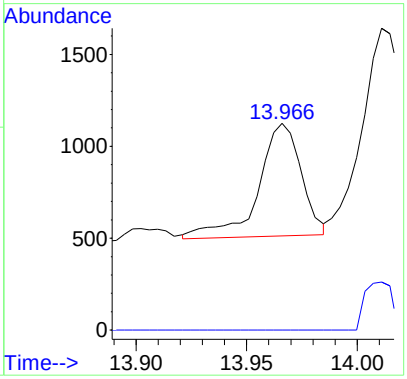




#90
Di-n-octyl phthalate
Concen: 0.030 mg/kg
RT: 13.966 min Scan# 2501
Delta R.T. -0.026 min
Lab File: 17091311.D
Acq: 13 Sep 2017 2:53 pm

Tgt Ion:149 Resp: 830

Ion	Ratio	Lower	Upper
149	100		
150	0.0	0.0	29.8



GCMS9
Calibration Curve
For

DHL Work Order
1709066

CAL ID 778

Method 8270 / 625 SVOC Calibration Curve Sheet

Instrument ID: GCMS # 9 **Calibration File Name:** GCMS#9 SV170606.CAL

Target Concentration	Standard Preparation Stocks and Surrogate (µL/mL)	Final Volume mL
0.04 ppm	0.008 mL of 5.0 ppm	1
0.10 ppm	0.02 mL of 5.0 ppm	1
0.20 ppm	0.04 mL of 5.0 ppm	1
0.50 ppm	0.10 mL of 5.0 ppm	1
1.0 ppm	0.20 mL of 5.0 ppm	1
2.0 ppm	0.40 mL of 5.0 ppm	1
3.0 ppm	0.60 mL of 5.0 ppm	1
4.0 ppm	0.80 mL of 5.0 ppm	1
5.0 ppm	1.0 mL of SVCAL170605	1
SSCV 2.5 ppm	0.5 mL of SVSSCV170605	1
SSCV 2.5 ppm	SVSSCV170605-1	1

Standards Used for the Calibration Curve

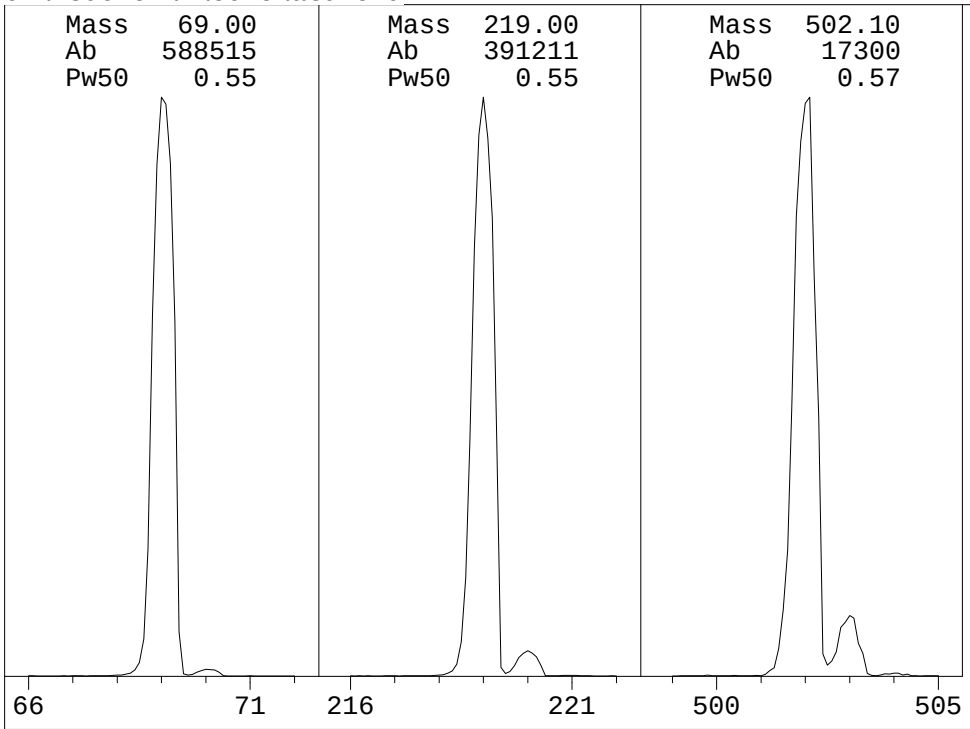
STANDARD NAME	DHL Standard ID
5.0 PPM SEMIVOL CAL STANDARD	**SVCAL170605**
5.0 PPM SEMIVOL SSCV STANDARD (FULL)	**SVSSCV170605**
2.5 PPM SEMIVOL SSCV STANDARD (EPTC)	**SVSSCV170605-1**
4000PPM SVOL SURROGATE	**SVSUR170104-15**
4000PPB INTERNAL STANDARD	**SVIS170104-2**

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	
3. Does the tune and DFTPP (breakdown / tailing factor) meet criteria?	≤ 20% for DDT / Benzidine and PCP tailing factor < 2 See Tune Eval Report	X			
3. Does the ICAL curve meet criteria? Use average CF only if %RSD < 15%	%RSD < 15% COD ≥ 0.990	X			
4. Has the low point been reprocessed under the new ICAL curve and meets criteria?	70-130% recovery	X			
5. Has the SSCV been analyzed and meets criteria?	80-120% recovery – DoD 70-130% recovery – non-DoD	X			

Analyst: Karyn Lane Date: 6/6/2017

Second-Level Review: Don Winston Date: 06/07/2017

Calibration prepared and spiked by Don Winston. Analyzed by Karyn Lane.

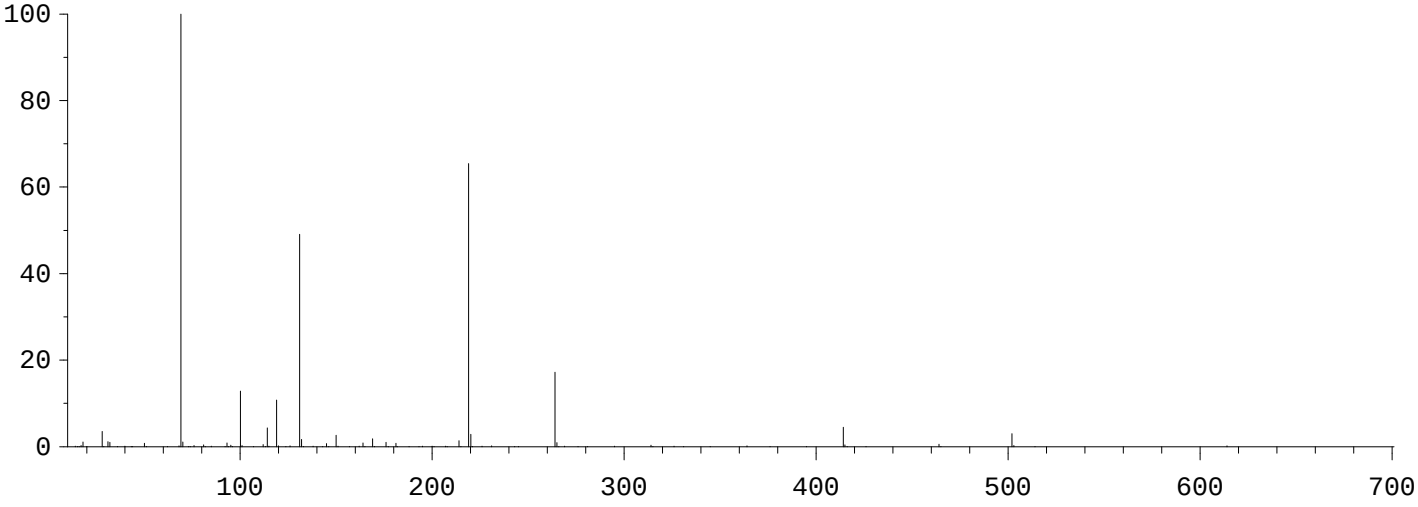


Ion Pol	Pos	MassGain	-993
		MassOffs	-41
Emission	34.6	AmuGain	1477
EIEnrgy	69.9	AmuOffs	125.81
Filament	1	Wid219	-0.021
		DC Pol	Pos
Repeller	21.75		
IonFcus	90.2	HEDEnab	On
EntLens	19.0	EMVolts	1282
EntOffs	19.07		
		Samples	8
PFTBA	Open	Averages	3
		Stepsize	0.10

Temperatures and Pressures:

MS Source	330	Turbo Speed	100
MS Quad	150	HiVac	1.00e10

Scan: 10.00 - 701.00 Samples: 8 Thresh: 100 Step: 0.10
102 peaks Base: 69.10 Abundance: 562176



Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
69.10	562176	100.00	70.10	6241	1.11
219.00	368000	65.46	220.10	15895	4.32
502.10	16992	3.02	503.10	1663	9.79

Air/Water Check: H20~1.06% N2~3.51% O2~0.99% CO2~0.05% N2/H2O~331.51%

Column(1) Flow: 1.3 Column(2): -1.79769e+308 ml/min. Interface Temp: 310

Ramp Criteria:
Ion Focus Maximum 90 volts using ion 502; EM Gain 90556
Repeller Maximum 35 volts using ion 219; Gain Factor 0.91

MassGain Values(Samples): -983(3) -979(2) -972(1) -946(0) -867(FS)

TARGET MASS:	50	69	131	219	414	502	1050
Amu Offset:	125.8	125.8	125.8	125.8	125.8	125.8	125.8
Entrance Lens Offset:	19.1	19.1	19.1	19.1	19.1	19.1	19.1

Response Factor Report GCMS9

Method Path : C:\msdchem\1\METHODS\
Method File : SV170606.M
Title : CLP BNA Calibration - Large Volume Injection
Last Update : Tue Jun 06 15:04:48 2017
Response Via : Initial Calibration

Calibration Files
.04 =17060603.D 0.1 =17060604.D 0.5 =17060606.D 1.0 =17060607.D 2.0 =17060608.D 3.0 =17060609.D 4.0 =17060610.D
5.0 =17060611.D 0.2 =17060605.D

		Compound	.04	0.1	0.5	1.0	2.0	3.0	4.0	5.0	0.2	Avg	%RSD	Fit	RSD/CF	Constant	Linear	Quad
1)	I	1,4-Dichlorobenzen...	----------	ISTD	----------													
2)		N-nitrosodimet...	1.982	1.075	0.564	0.551	0.547	0.583	0.568	0.551	0.758	0.798	59.78	*Q	0.998	0.0141	0.5006	0.0438
3)	T	Pyridine	0.887	1.067	1.153	1.139	1.127	1.219	1.152	1.073	1.056	1.097	8.60	A	0.086	0.0000	1.0970	0.0000
4)		N-nitrosodieth...	0.276	0.326	0.475	0.477	0.514	0.523	0.552	0.494	0.393	0.448	21.18	*Q	0.997	-0.0037	0.5191	0.0013
5)	P	Benzaldehyde	0.728	0.848	0.902	0.880	0.932	0.913	0.906	0.834	0.831	0.864	7.24	A	0.072	0.0000	0.8639	0.0000
6)	T	Aniline	0.987	1.085	1.468	1.597	1.656	1.731	1.819	1.625	1.200	1.463	20.50	*Q	0.997	-0.0117	1.6773	0.0345
7)	S	2-Fluorophenol	0.371	0.583	0.741	0.826	0.925	0.998	1.044	1.005	0.651	0.794	28.64	*Q	0.998	-0.0066	0.8570	0.1524
8)	P	bis(2-Chloroet...	0.216	0.241	0.303	0.313	0.334	0.333	0.350	0.320	0.252	0.296#	16.02	*Q	0.998	-0.0019	0.3320	0.0017
9)	S	Phenol-d5	1.020	1.124	1.421	1.537	1.577	1.579	1.688	1.503	1.151	1.400	17.11	*Q	0.997	-0.0098	1.5984	-0.0126
10)	P	Phenol	0.729	0.804	1.114	1.238	1.346	1.348	1.626	1.466	0.844	1.168	27.08	*Q	0.995	-0.0083	1.2115	0.2713
11)	P	2-Chlorophenol	0.774	0.872	1.096	1.175	1.196	1.268	1.303	1.211	0.904	1.089	17.55	*Q	0.998	-0.0070	1.2084	0.0432
12)	T	1,3-Dichlorobe...	1.181	1.180	1.204	1.170	1.265	1.239	1.272	1.200	1.174	1.209	3.27	A	0.033	0.0000	1.2095	0.0000
13)	P	1,4-Dichlorobe...	1.490	1.366	1.332	1.305	1.383	1.329	1.362	1.326	1.358	1.361	3.96	A	0.040	0.0000	1.3611	0.0000
14)	T	1,2-Dichlorobe...	1.345	1.382	1.292	1.274	1.351	1.317	1.367	1.263	1.271	1.318	3.41	A	0.034	0.0000	1.3180	0.0000
15)	T	Benzyl alcohol		0.384	0.559	0.575	0.722	0.698	0.744	0.683	0.421	0.599	23.03	*Q	0.996	-0.0109	0.6929	0.0226
16)	T	bis(2-chlorois...	1.683	1.634	1.621	1.435	1.518	1.461	1.460	1.335	1.491	1.515	7.33	A	0.073	0.0000	1.5152	0.0000
17)	T	2-Methylphenol	0.628	0.756	0.978	0.946	1.209	1.183	1.304	1.165	0.799	0.996	23.49	*Q	0.995	-0.0077	1.0983	0.1145
18)	T	Hexachloroethane	0.483	0.469	0.448	0.445	0.474	0.460	0.470	0.440	0.446	0.459	3.32	A	0.033	0.0000	0.4595	0.0000
19)	P	N-Nitrosodi-n-...	0.968	0.905	0.929	0.849	1.005	0.899	0.895	0.805	0.762	0.891	8.58	A	0.086	0.0000	0.8908	0.0000
20)	P	4-Methylphenol	0.666	0.874	1.016	1.006	1.284	1.195	1.320	1.156	0.926	1.049	20.13	*Q	0.994	-0.0078	1.1851	0.0388
21)	P	Acetophenone	1.319	1.380	1.750	1.691	1.952	1.847	1.848	1.666	1.441	1.655	13.63	A	0.136	0.0000	1.6549	0.0000
22)	I	Naphthalene-d8	----------	ISTD	----------													
23)	S	Nitrobenzene-d5	0.194	0.207	0.278	0.283	0.287	0.312	0.330	0.315	0.247	0.272	17.46	*Q	0.999	-0.0013	0.2824	0.0344
24)	P	Nitrobenzene	0.150	0.178	0.229	0.242	0.238	0.263	0.274	0.276	0.199	0.228	19.23	*Q	0.999	-0.0010	0.2307	0.0396
25)	P	Isophorone	0.451	0.448	0.523	0.504	0.543	0.512	0.539	0.490	0.470	0.498	7.15	A	0.072	0.0000	0.4978	0.0000
26)	P	2-Nitrophenol	0.068	0.078	0.119	0.129	0.141	0.161	0.161	0.155	0.103	0.124	28.16	*Q	0.994	-0.0006	0.1165	0.0419
27)	P	2,4-Dimethylph...	0.227	0.226	0.274	0.263	0.279	0.290	0.293	0.278	0.254	0.265	9.35	A	0.094	0.0000	0.2648	0.0000
28)	P	bis(2-Chloroet...	0.293	0.304	0.336	0.322	0.337	0.354	0.358	0.333	0.296	0.326	7.30	A	0.073	0.0000	0.3260	0.0000

Method Path : C:\msdchem\1\METHODS\
Method File : SV170606.M
Title : CLP BNA Calibration - Large Volume Injection

29)	T	Benzoic acid	0.042	0.081	0.117	0.163	0.182	0.208	0.188	0.042	0.128	52.33	*Q	0.991	-0.0040	0.1403	0.052
30)	P	2,4-Dichloroph...	0.155	0.177	0.258	0.270	0.287	0.291	0.304	0.286	0.202	0.248	22.26	*Q	0.999	-0.0020	0.2817	0.012
31)	M	1,2,4-Trichlor...	0.303	0.307	0.304	0.297	0.289	0.321	0.324	0.315	0.303	0.307	3.69	A	0.037	0.0000	0.3072	0.0000
32)	P	Naphthalene	0.940	0.902	0.889	0.902	0.908	0.896	0.898	0.864	0.891	0.899	2.23	A	0.022	0.0000	0.8990	0.0000
33)	P	4-Chloroaniline	0.275	0.274	0.344	0.333	0.387	0.362	0.390	0.367	0.292	0.336	13.63	A	0.136	0.0000	0.3359	0.0000
34)		2,6-Dichloroph...	0.220	0.220	0.262	0.261	0.288	0.275	0.291	0.282	0.238	0.260	10.64	A	0.106	0.0000	0.2597	0.0000
35)	P	Hexachlorobuta...	0.201	0.201	0.193	0.197	0.191	0.200	0.201	0.200	0.192	0.197	2.15	A	0.022	0.0000	0.1973	0.0000
36)		N-nitrosodi-n-...	0.030	0.038	0.050	0.053	0.054	0.051	0.054	0.051	0.041	0.047#	18.12	*Q	0.999	-0.0003	0.0548	-0.00
23																		
37)	P	Caprolactam	0.034	0.043	0.063	0.068	0.070	0.067	0.073	0.068	0.048	0.059	23.73	*Q	0.998	-0.0005	0.0698	0.000
1																		
38)	P	4-Chloro-3-met...	0.185	0.190	0.219	0.223	0.240	0.229	0.252	0.231	0.198	0.219	10.48	A	0.105	0.0000	0.2187	0.0000
39)		1,2,4,5-Tetrac...	0.414	0.403	0.403	0.401	0.388	0.387	0.411	0.386	0.391	0.398	2.60	A	0.026	0.0000	0.3983	0.0000
40)	P	2-Methylnaphth...	0.665	0.631	0.659	0.645	0.641	0.654	0.669	0.637	0.618	0.646	2.57	A	0.026	0.0000	0.6465	0.0000
41)	T	1-Methylnaphth...	0.727	0.670	0.673	0.634	0.620	0.638	0.644	0.613	0.672	0.655	5.36	A	0.054	0.0000	0.6547	0.0000
42)	I	Acenaphthene-d10	----------ISTD----------															
43)	P	Hexachlorocycl...	0.123	0.192	0.329	0.349	0.392	0.423	0.446	0.461	0.244	0.329	36.08	*Q	0.999	-0.0030	0.3447	0.099
5																		
44)		EPTC	0.383	0.395	0.438	0.417	0.428	0.414	0.434	0.422	0.409	0.415	4.29	A	0.043	0.0000	0.4155	0.0000
45)	P	2,4,6-Trichlor...	0.198	0.208	0.304	0.319	0.348	0.361	0.366	0.364	0.249	0.302	22.30	*Q	0.995	-0.0011	0.2900	0.076
6																		
46)	P	2,4,5-Trichlor...	0.277	0.338	0.393	0.381	0.413	0.393	0.431	0.420	0.351	0.377	12.84	*Q	0.999	-0.0012	0.3887	0.029
7																		
47)	S	2-Fluorobiphenyl	1.522	1.510	1.619	1.527	1.558	1.568	1.571	1.576	1.529	1.553	2.23	A	0.022	0.0000	1.5533	0.0000
48)	P	Biphenyl	1.219	1.219	1.315	1.279	1.289	1.294	1.322	1.379	1.258	1.286	3.95	A	0.040	0.0000	1.2859	0.0000
49)	P	2-Chloronaphth...	1.045	1.004	1.080	1.025	1.041	1.094	1.156	1.142	1.018	1.067	5.09	A	0.051	0.0000	1.0674	0.0000
50)	P	2-Nitroaniline	0.122	0.141	0.239	0.278	0.308	0.320	0.345	0.353	0.185	0.255	34.40	*Q	0.993	-0.0013	0.2282	0.116
4																		
51)	M	Acenaphthylene	1.318	1.354	1.530	1.556	1.588	1.540	1.582	1.587	1.414	1.497	7.06	A	0.071	0.0000	1.4965	0.0000
52)	P	Dimethyl phtha...	1.075	1.151	1.224	1.281	1.284	1.297	1.320	1.345	1.145	1.236	7.49	A	0.075	0.0000	1.2358	0.0000
53)	T	2,6-Dinitrotol...	0.130	0.146	0.212	0.237	0.251	0.260	0.273	0.280	0.175	0.218	25.67	*Q	1.000	-0.0015	0.2284	0.043
9																		
54)	P	Acenaphthene	1.326	1.286	1.271	1.222	1.269	1.279	1.305	1.259	1.271	1.276	2.27	A	0.023	0.0000	1.2764	0.0000
55)	P	3-Nitroaniline	0.083	0.107	0.167	0.213	0.236	0.269	0.257	0.278	0.127	0.193	38.31	*Q	0.990	-0.0010	0.1673	0.102
9																		
56)	P	2,4-Dinitrophenol		0.038	0.061	0.092	0.112	0.123	0.134	0.015	0.082		54.84	*Q	0.999	-0.0035	0.0688	0.056
7																		
57)	T	Dibenzofuran	1.417	1.549	1.597	1.597	1.742	1.662	1.687	1.694	1.546	1.610	6.15	A	0.062	0.0000	1.6101	0.0000
58)	M	2,4-Dinitrotol...	0.145	0.164	0.282	0.320	0.375	0.380	0.389	0.416	0.205	0.297	34.72	*Q	0.990	-0.0015	0.2662	0.136
2																		
59)	P	4-Nitrophenol		0.037	0.073	0.085	0.101	0.117	0.124	0.133	0.050	0.090	39.12	*Q	0.999	-0.0015	0.0834	0.042
0																		
60)	P	2,3,4,6-Tetrac...	0.165	0.203	0.310	0.342	0.355	0.370	0.378	0.379	0.259	0.307	26.04	*Q	0.995	-0.0016	0.3058	0.073
4																		
61)	P	Fluorene	1.175	1.202	1.239	1.240	1.231	1.261	1.292	1.299	1.205	1.238	3.33	A	0.033	0.0000	1.2381	0.0000
62)	P	4-Chlorophenyl...	0.580	0.590	0.613	0.615	0.631	0.643	0.663	0.663	0.595	0.621	4.92	A	0.049	0.0000	0.6211	0.0000
63)	P	Diethyl phthalate	1.093	1.146	1.206	1.224	1.252	1.301	1.298	1.342	1.157	1.224	6.72	A	0.067	0.0000	1.2243	0.0000
64)	P	4-Nitroaniline	0.088	0.113	0.179	0.224	0.235	0.225	0.234	0.253	0.138	0.188	32.33	*Q	0.998	-0.0018	0.2081	0.033
8																		

Method Path : C:\msdchem\1\METHODS\
Method File : SV170606.M
Title : CLP BNA Calibration - Large Volume Injection

65)	I	Phenanthrene-d10	----------ISTD----------														
66)	P	4,6-Dinitro-2-...	0.026	0.065	0.078	0.100	0.101	0.105	0.113	0.036	0.078	42.33	*Q	0.999	-0.0019	0.0850	0.0239
67)		1,2-Diphenylhy...	0.085	0.101	0.130	0.133	0.145	0.135	0.141	0.133	0.116	0.124	16.03	*Q	0.999	-0.0008	0.1425	-0.0050
68)	P	n-Nitrosodiphe...	0.340	0.359	0.392	0.394	0.426	0.404	0.397	0.413	0.372	0.388	6.99	A	0.070	0.0000	0.3885	0.0000
69)	S	2,4,6-Tribromo...	0.110	0.134	0.171	0.177	0.210	0.189	0.194	0.196	0.145	0.169	19.52	*Q	0.998	-0.0012	0.1906	0.0055
70)	P	4-Bromophenyl ...	0.187	0.201	0.207	0.206	0.228	0.213	0.230	0.217	0.197	0.210	6.66	A	0.067	0.0000	0.2096	0.0000
71)	P	Atrazine	0.152	0.155	0.177	0.186	0.196	0.183	0.192	0.187	0.163	0.177	9.11	A	0.091	0.0000	0.1769	0.0000
72)	P	Hexachlorobenzene	0.284	0.289	0.290	0.296	0.312	0.288	0.307	0.292	0.282	0.293	3.41	A	0.034	0.0000	0.2934	0.0000
73)	P	Pentachlorophenol	0.059	0.078	0.123	0.142	0.167	0.161	0.171	0.173	0.092	0.129	33.76	*Q	0.991	-0.0007	0.1214	0.0505
74)	P	Phenanthrene	0.933	0.904	0.891	0.860	1.000	0.882	0.915	0.910	0.878	0.908	4.51	A	0.045	0.0000	0.9083	0.0000
75)	P	Anthracene	0.877	0.932	0.893	0.875	0.958	0.932	0.941	0.922	0.950	0.920	3.37	A	0.034	0.0000	0.9201	0.0000
76)		Pentachloroben...	0.361	0.335	0.338	0.324	0.387	0.331	0.345	0.333	0.331	0.343	5.75	A	0.057	0.0000	0.3428	0.0000
77)	P	Carbazole	0.713	0.728	0.789	0.831	0.935	0.829	0.860	0.868	0.775	0.814	8.68	A	0.087	0.0000	0.8141	0.0000
78)	P	Di-n-butyl pht...	0.901	0.883	1.042	1.049	1.187	1.151	1.151	1.157	0.936	1.051	11.35	*Q	0.999	-0.0041	1.1120	0.0458
79)	P	Fluoranthene	1.103	1.046	1.117	1.088	1.195	1.165	1.292	1.230	1.084	1.147	6.96	A	0.070	0.0000	1.1466	0.0000
80)	I	Chrysene-d12	----------ISTD----------														
81)	M	Benzidine	0.240	0.233	0.288	0.300	0.336	0.319	0.364	0.341	0.236	0.295	16.77	*Q	0.997	-0.0014	0.3046	0.0388
82)	P	Pyrene	0.862	0.867	0.904	0.858	0.899	0.944	1.037	0.937	0.856	0.907	6.49	A	0.065	0.0000	0.9072	0.0000
83)	S	4-Terphenyl-d14	0.788	0.784	0.814	0.745	0.795	0.809	0.890	0.839	0.777	0.805	5.14	A	0.051	0.0000	0.8046	0.0000
84)	P	Butyl benzyl p...	0.223	0.240	0.325	0.324	0.355	0.394	0.419	0.390	0.264	0.326	21.75	*Q	0.997	-0.0019	0.3392	0.0571
85)	P	3,3`-Dichlorob...	0.300	0.281	0.336	0.330	0.388	0.382	0.420	0.379	0.305	0.347	13.68	*Q	0.997	-0.0014	0.3612	0.0306
86)	P	Benzo[a]anthra...	1.087	0.969	0.928	0.851	0.942	0.933	0.929	0.924	0.927	0.943	6.61	A	0.066	0.0000	0.9434	0.0000
87)	P	Chrysene	0.990	0.896	0.888	0.848	0.902	0.894	0.910	0.879	0.889	0.900	4.23	A	0.042	0.0000	0.8996	0.0000
88)	P	bis(2-Ethylhex...	0.378	0.389	0.517	0.524	0.612	0.606	0.666	0.597	0.427	0.524	20.10	*Q	0.996	-0.0036	0.5744	0.0465
89)	I	Perylene-d12	----------ISTD----------														
90)	P	Di-n-octyl pht...	0.588	0.608	0.857	0.892	1.017	1.058	1.014	0.989	0.686	0.857	21.56	*Q	0.998	-0.0072	0.9840	0.0306
91)	P	Benzo[b]fluora...	0.932	0.897	0.962	0.998	0.947	1.060	0.995	1.012	0.931	0.970	5.18	A	0.052	0.0000	0.9704	0.0000
92)	P	Benzo[k]fluora...	1.020	1.003	1.046	1.001	0.986	1.061	0.979	0.974	1.001	1.008	2.92	A	0.029	0.0000	1.0078	0.0000
93)	P	Benzo[a]pyrene	0.722	0.728	0.797	0.760	0.764	0.884	0.811	0.854	0.740	0.785	7.24	A	0.072	0.0000	0.7846	0.0000
94)	P	Indeno[1,2,3-c...	1.041	1.066	1.138	1.124	1.163	1.257	1.220	1.209	1.068	1.143	6.64	A	0.066	0.0000	1.1428	0.0000
95)	P	Dibenz[a,h]ant...	0.871	0.866	0.950	0.917	0.962	1.031	0.994	0.991	0.897	0.942	6.15	A	0.061	0.0000	0.9423	0.0000
96)	P	Benzo[g,h,i]pe...	0.877	0.870	0.912	0.897	0.903	0.993	0.952	0.933	0.890	0.914	4.30	A	0.043	0.0000	0.9143	0.0000

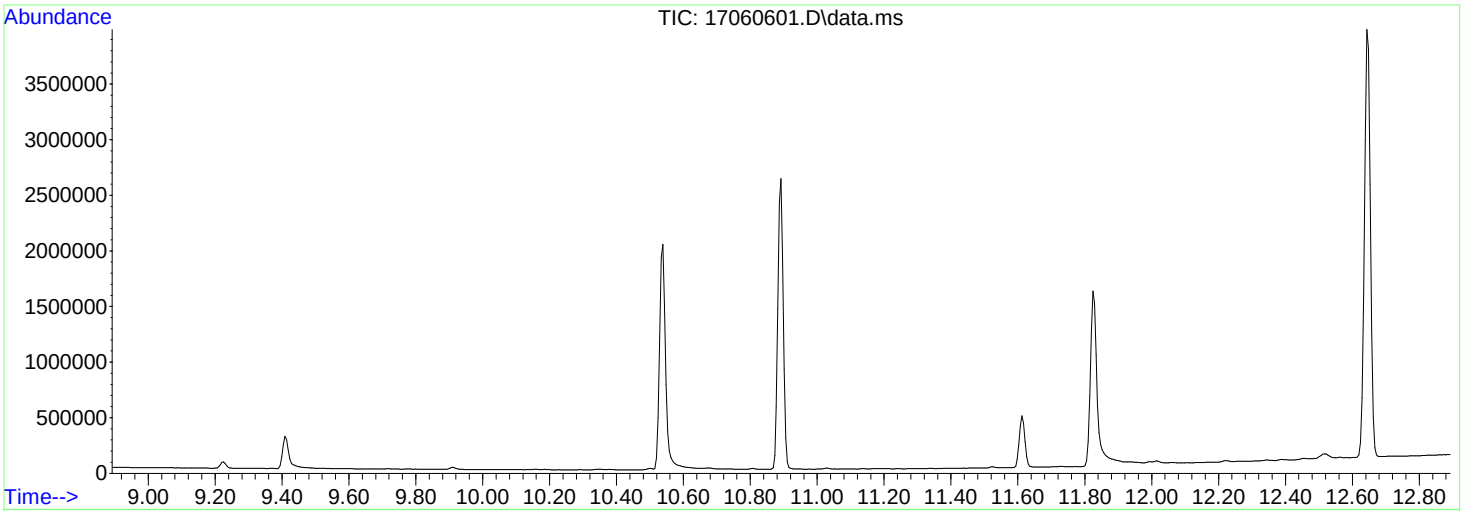
(#) = Out of Range

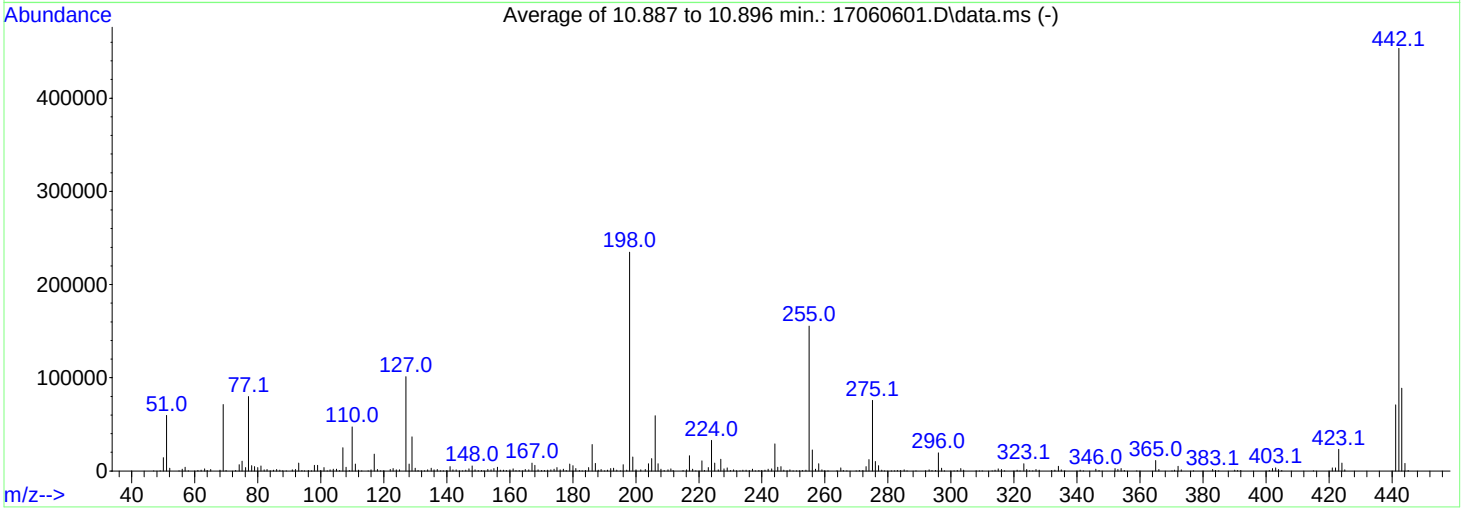
DFTPP

Data Path : C:\msdchem\1\DATA\170606\
Data File : 17060601.D
Acq On : 6 Jun 2017 10:24 am
Operator :
Sample : DFTPP-170606
Misc : TUNE
ALS Vial : 1 Sample Multiplier: 1

Integration File: TIC2.P

Method : C:\msdchem\1\METHODS\DFTPPLVIBF.M
Title :
Last Update : Thu Oct 20 15:23:02 2016





AutoFind: Scans 1337, 1338, 1339; Background Corrected with Scan 1330

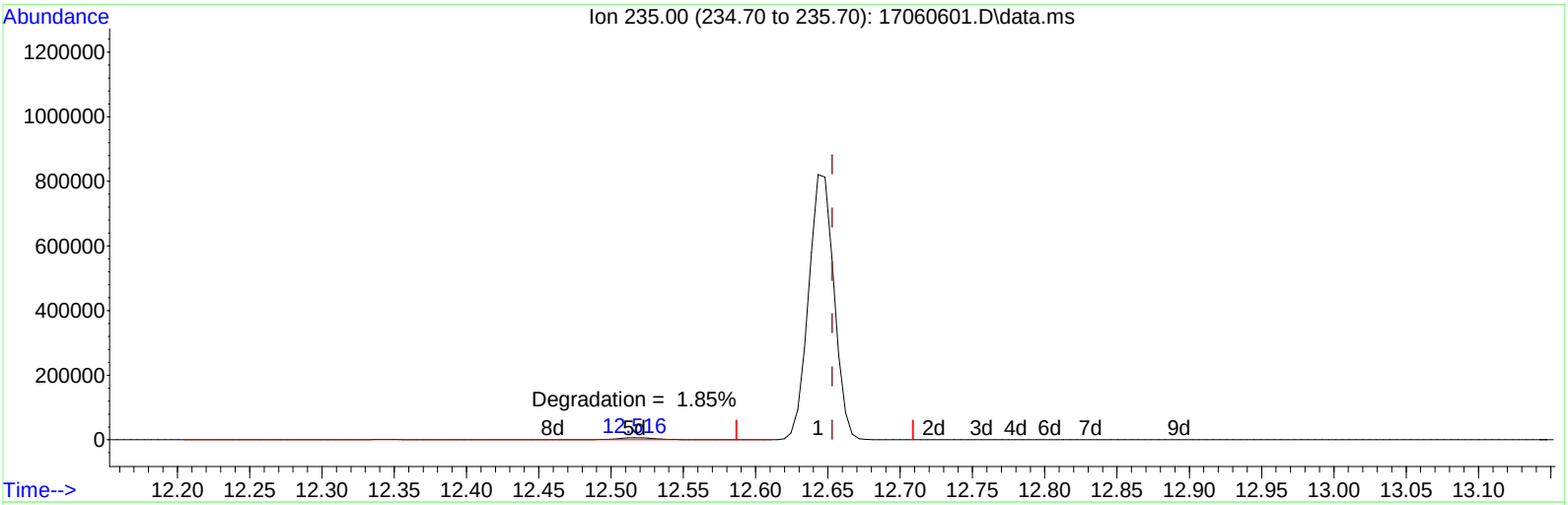
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	25.4	59616	PASS
68	69	0.00	2	1.5	1039	PASS
70	69	0.00	2	0.6	429	PASS
127	198	10	80	43.1	101104	PASS
197	198	0.00	2	0.4	961	PASS
198	198	100	100	100.0	234603	PASS
199	198	5	9	6.4	15077	PASS
275	198	10	60	32.2	75616	PASS
365	198	1	200	4.8	11330	PASS
441	442	0.01	24	15.6	70941	PASS
442	198	50	400	193.3	453568	PASS
443	442	15	24	19.5	88624	PASS

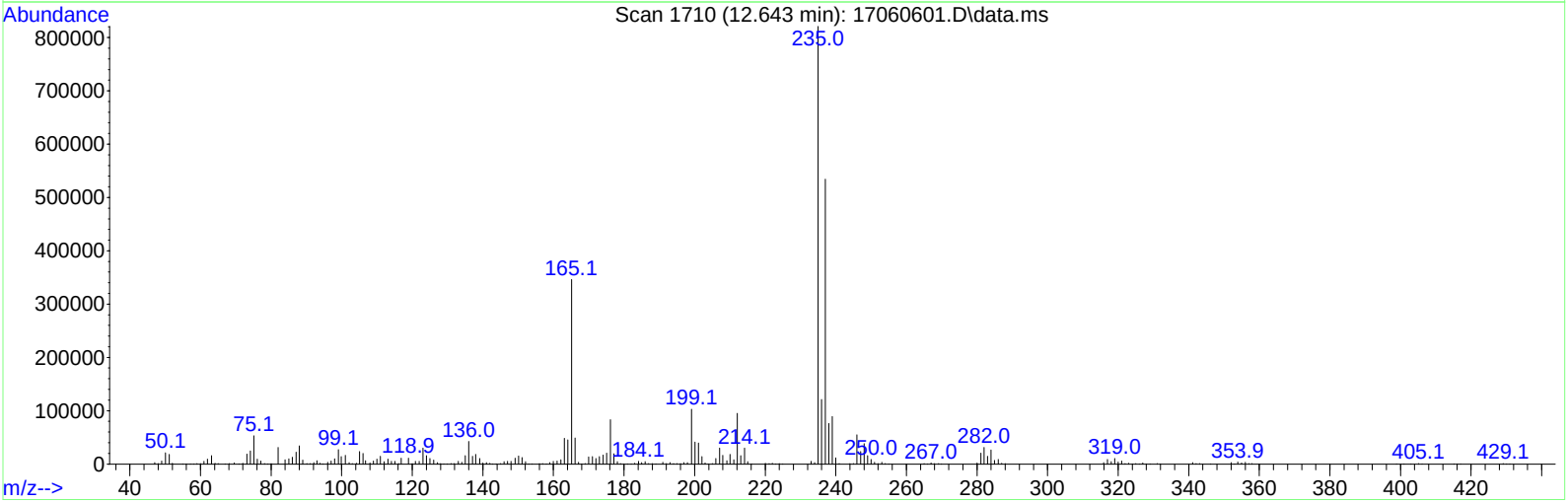
REVIEWED/APPROVED
By Sherri Herschmann at 10:32:23 AM, 6/7/2017

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\170606\
Data File : 17060601.D
Acq On : 6 Jun 2017 10:24 am
Operator :
Sample : DFTPP-170606
Misc : TUNE
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 06 10:42:47 2017
QMeth File : DFTPPLVIBF.M
InstName : GCMS9
Quant Title :
QLast Update : Thu Oct 20 15:23:02 2016
Response via : Initial Calibration





TIC: 17060601.D\data.ms

(1) DDT

12.643min (-0.010) 0.000

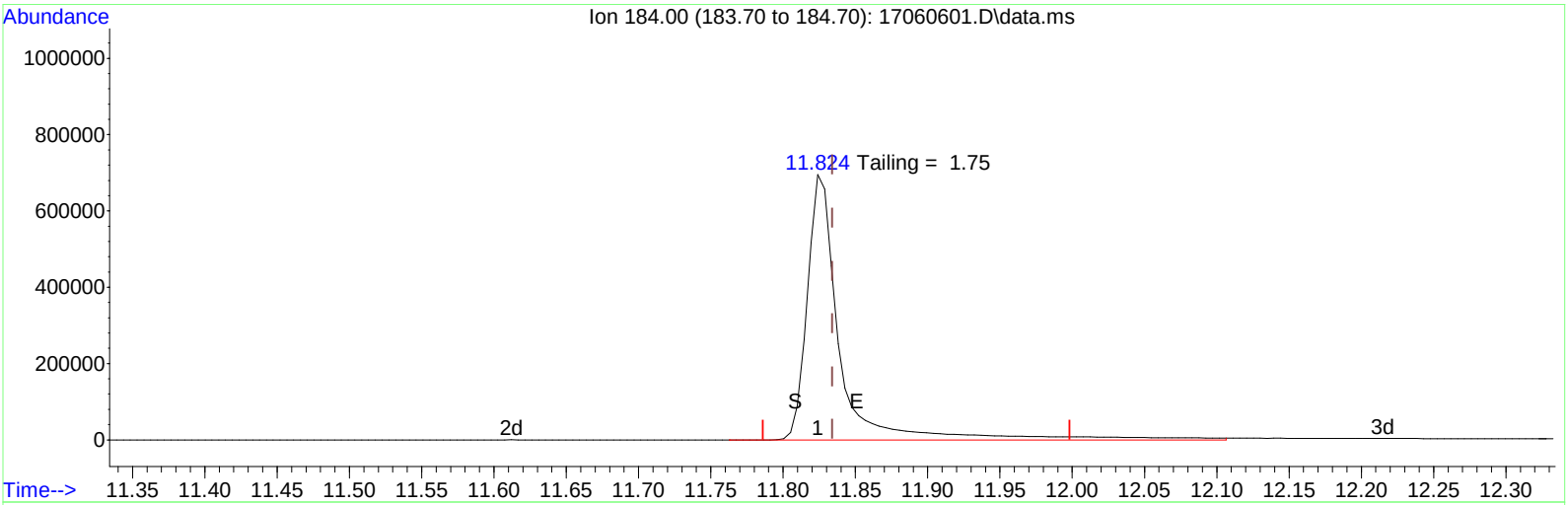
response 1005146

Ion	Exp%	Act%
235.00	100.00	100.00
0.00	11.50	0.00
0.00	11.50	0.00
0.00	11.50	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\170606\
Data File : 17060601.D
Acq On : 6 Jun 2017 10:24 am
Operator :
Sample : DFTPP-170606
Misc : TUNE
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 06 10:42:47 2017
QMeth File : DFTPPLVIBF.M
InstName : GCMS9
Quant Title :
QLast Update : Thu Oct 20 15:23:02 2016
Response via : Initial Calibration



TIC: 17060601.D\data.ms

(4) Benzidine

11.824min (-0.010) 0.000

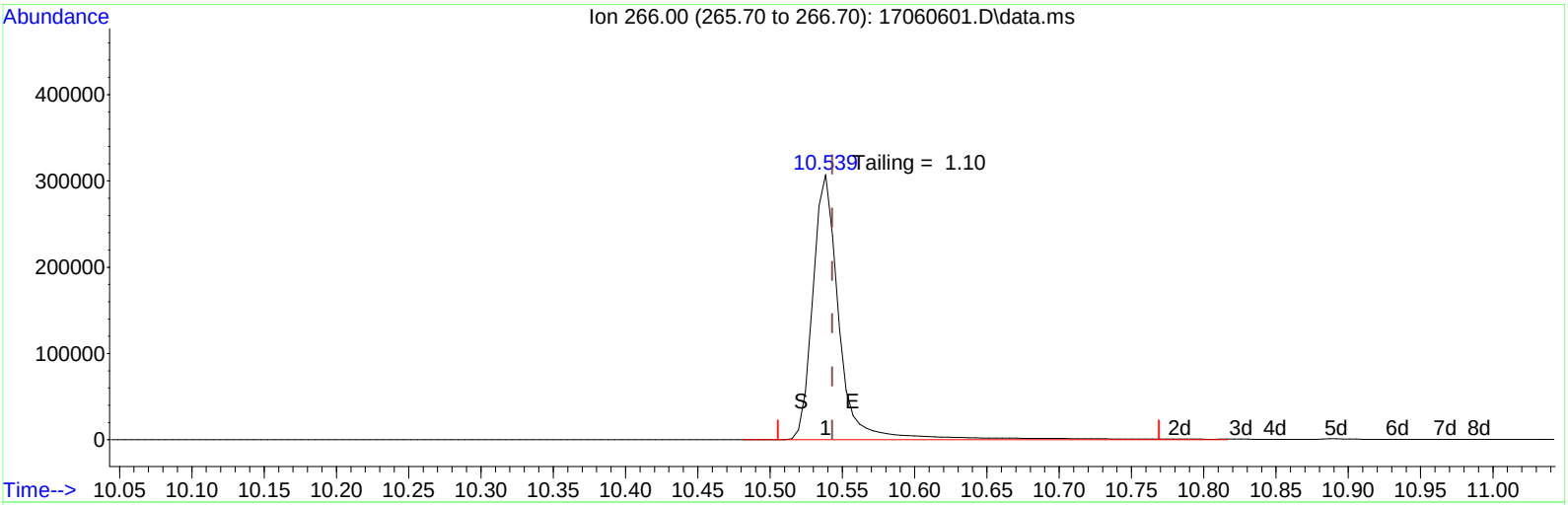
response 1063472

Ion	Exp%	Act%
184.00	100.00	100.00
0.00	11.50	0.00
0.00	11.50	0.00
0.00	11.50	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\170606\
Data File : 17060601.D
Acq On : 6 Jun 2017 10:24 am
Operator :
Sample : DFTPP-170606
Misc : TUNE
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 06 10:42:47 2017
QMeth File : DFTPPLVIBF.M
InstName : GCMS9
Quant Title :
QLast Update : Thu Oct 20 15:23:02 2016
Response via : Initial Calibration



TIC: 17060601.D\data.ms

(5) Pentachlorophenol

10.539min (-0.004) 0.000

response 394956

Ion	Exp%	Act%
266.00	100.00	100.00
0.00	10.20	0.00
0.00	10.20	0.00
0.00	10.20	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\170606\
Data File : 17060603.D
Acq On : 6 Jun 2017 11:13 am
Operator :
Sample : CAL1 0.04 ppm Reprocessed low point.
Misc : CAL1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jun 06 16:05:14 2017
QMeth File : SV170606.M
InstName : GCMS9
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Tue Jun 06 15:04:48 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	%Rec
Internal Standards						
1) 1,4-Dichlorobenzene-d4	6.941	152	762062	4.00	mg/kg	98
22) Naphthalene-d8	7.976	136	3716578	4.00	mg/kg	108
42) Acenaphthene-d10	9.438	164	2376010	4.00	mg/kg	125
65) Phenanthrene-d10	10.675	188	4873307	4.00	mg/kg	119
80) Chrysene-d12	13.179	240	6420780	4.00	mg/kg	119
89) Perylene-d12	14.862	264	6024473	4.00	mg/kg	116
System Monitoring Compounds						Dev(Min)
7) 2-Fluorophenol	5.862	112	2828	0.05	mg/kg	0.00
Spiked Amount 4.000	Range 20 - 120		Recovery = 1.25%#			
9) Phenol-d5	6.660	99	7771	0.05	mg/kg	0.00
Spiked Amount 4.000	Range 20 - 120		Recovery = 1.25%#			
23) Nitrobenzene-d5	7.398	82	7209	0.05	mg/kg	0.00
Spiked Amount 4.000	Range 41 - 120		Recovery = 1.25%#			
47) 2-Fluorobiphenyl	8.857	172	36155	0.04	mg/kg	0.00
Spiked Amount 4.000	Range 48 - 120		Recovery = 1.00%#			
69) 2,4,6-Tribromophenol	10.098	330	5373	0.05	mg/kg	0.00
Spiked Amount 4.000	Range 42 - 124		Recovery = 1.25%#			
83) 4-Terphenyl-d14	12.054	244	50618	0.04	mg/kg	0.00
Spiked Amount 4.000	Range 51 - 135		Recovery = 1.00%#			
Target Compounds						Qvalue
2) N-nitrosodimethylamine	4.778	74	15104	0.046	mg/kg#	1
3) Pyridine	4.932	79	6756	0.032	mg/kg#	16
4) N-nitrosodiethylamine	6.053	102	2104	0.049	mg/kg	83
5) Benzaldehyde	6.608	77	5547	0.034	mg/kg	98
6) Aniline	6.709	93	7519	0.051	mg/kg	95
8) bis(2-Chloroethyl)ether	6.746	95	1647	0.049	mg/kg#	83
10) Phenol	6.671	94	5553	0.051	mg/kg	99
11) 2-Chlorophenol	6.799	128	5898	0.049	mg/kg	94
12) 1,3-Dichlorobenzene	6.915	146	9000	0.039	mg/kg	96
13) 1,4-Dichlorobenzene	6.956	146	11351	0.044	mg/kg#	83
14) 1,2-Dichlorobenzene	7.102	146	10252	0.041	mg/kg	97
15) Benzyl alcohol	7.061	108	2788	0.084	mg/kg	96
16) bis(2-chloroisopropyl)...	7.162	45	12824	0.044	mg/kg	80
17) 2-Methylphenol	7.140	108	4783	0.051	mg/kg	98
18) Hexachloroethane	7.353	117	3682	0.042	mg/kg	95
19) N-Nitrosodi-n-propylamine	7.271	70	7378	0.043	mg/kg	91
20) 4-Methylphenol	7.252	108	5075	0.049	mg/kg	94
21) Acetophenone	7.271	105	10051	0.032	mg/kg	94
24) Nitrobenzene	7.413	77	5591	0.044	mg/kg	94
25) Isophorone	7.593	82	16768	0.036	mg/kg	100
26) 2-Nitrophenol	7.672	139	2532	0.042	mg/kg	91
27) 2,4-Dimethylphenol	7.680	107	8450	0.034	mg/kg	96
28) bis(2-Chloroethoxy)met...	7.758	93	10902	0.036	mg/kg	100
29) Benzoic acid	7.740	105	706	0.117	mg/kg#	38
30) 2,4-Dichlorophenol	7.856	162	5775	0.050	mg/kg	97
31) 1,2,4-Trichlorobenzene	7.931	180	11268	0.039	mg/kg	95
32) Naphthalene	7.991	128	34939	0.042	mg/kg	99
33) 4-Chloroaniline	8.036	127	10213	0.033	mg/kg	98
34) 2,6-Dichlorophenol	8.043	162	8173	0.034	mg/kg	97
35) Hexachlorobutadiene	8.111	225	7486	0.041	mg/kg	95
36) N-nitrosodi-n-butylamine	8.298	116	1125	0.047	mg/kg	94
37) Caprolactam	8.287	113	1247	0.050	mg/kg	90
38) 4-Chloro-3-methylphenol	8.414	107	6875	0.034	mg/kg	98
39) 1,2,4,5-Tetrachloroben...	8.714	216	15387	0.042	mg/kg	96

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\170606\
Data File : 17060603.D
Acq On : 6 Jun 2017 11:13 am
Operator :
Sample : CAL1 0.04 ppm
Misc : CAL1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jun 06 16:05:14 2017
QMeth File : SV170606.M
InstName : GCMS9
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Tue Jun 06 15:04:48 2017
Response via : Initial Calibration

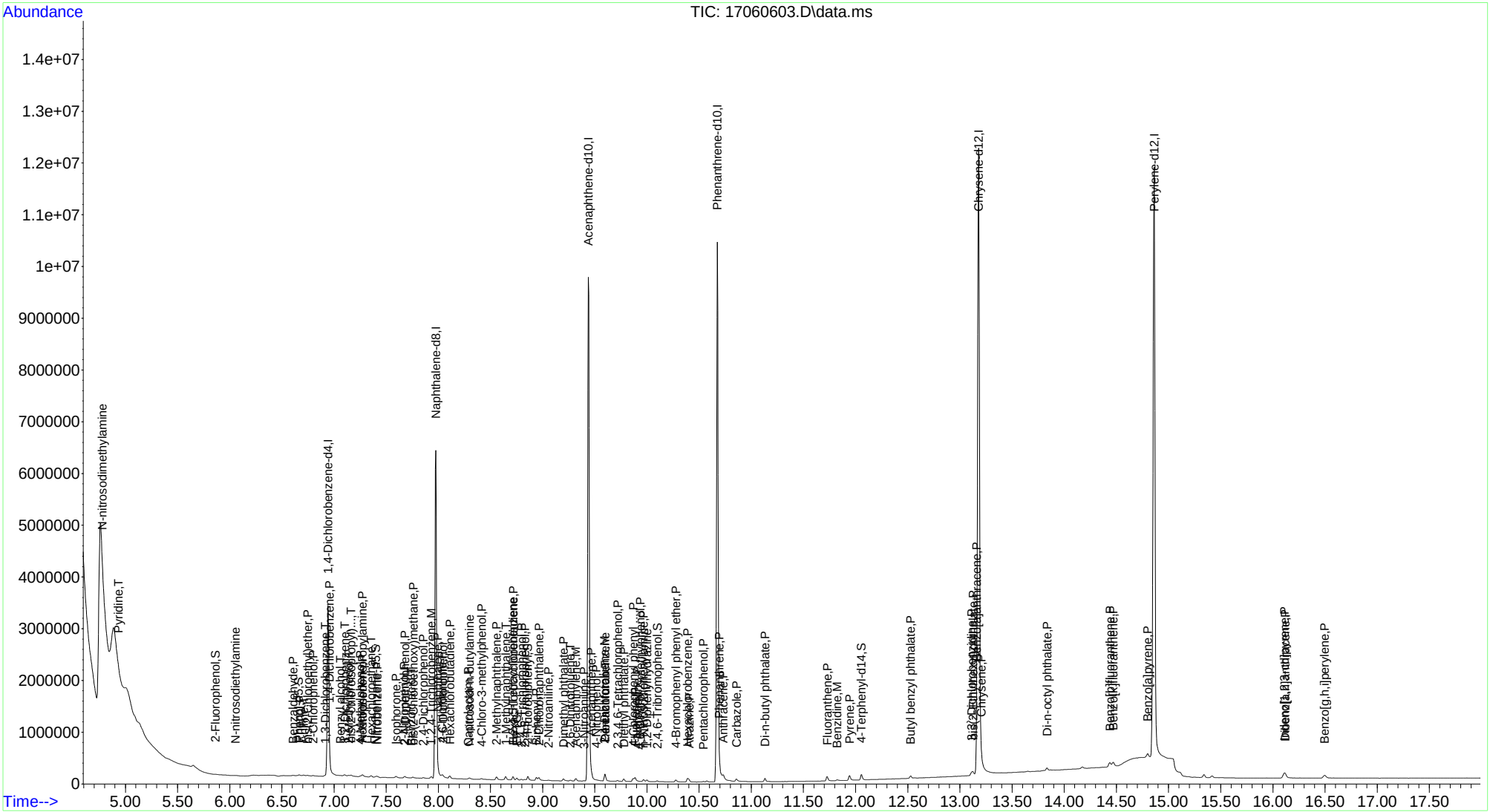
Compound	R.T.	QIon	Response	Conc	Units	%Rec
40) 2-Methylnaphthalene	8.557	142	24708	0.041	mg/kg	99
41) 1-Methylnaphthalene	8.647	142	27018	0.044	mg/kg	98
43) Hexachlorocyclopentadiene	8.718	237	2927	0.049	mg/kg	98
44) EPTC	8.752	128	9105	0.037	mg/kg	93
45) 2,4,6-Trichlorophenol	8.797	196	4714	0.043	mg/kg	97
46) 2,4,5-Trichlorophenol	8.830	196	6589	0.041	mg/kg	98
48) Biphenyl	8.939	154	28968	0.038	mg/kg	98
49) 2-Chloronaphthalene	8.965	162	24840	0.039	mg/kg	97
50) 2-Nitroaniline	9.055	138	2901	0.043	mg/kg	88
51) Acenaphthylene	9.318	152	31314	0.035	mg/kg	98
52) Dimethyl phthalate	9.202	163	25535	0.035	mg/kg	99
53) 2,6-Dinitrotoluene	9.265	165	3077	0.049	mg/kg	78
54) Acenaphthene	9.464	153	31498	0.042	mg/kg	97
55) 3-Nitroaniline	9.396	138	1982	0.043	mg/kg	87
56) 2,4-Dinitrophenol	0.000		0	N.D.		
57) Dibenzofuran	9.599	168	33676	0.035	mg/kg	98
58) 2,4-Dinitrotoluene	9.591	165	3454	0.044	mg/kg#	65
59) 4-Nitrophenol	9.513	109	323	0.076	mg/kg#	66
60) 2,3,4,6-Tetrachlorophenol	9.719	232	3915	0.042	mg/kg	97
61) Fluorene	9.888	166	27913	0.038	mg/kg	99
62) 4-Chlorophenyl phenyl ...	9.869	204	13772	0.037	mg/kg	99
63) Diethyl phthalate	9.779	149	25969	0.036	mg/kg	99
64) 4-Nitroaniline	9.906	138	2088	0.051	mg/kg	87
66) 4,6-Dinitro-2-methylph...	9.936	198	713	0.097	mg/kg#	50
67) 1,2-Diphenylhydrazine	10.000	182	4142	0.047	mg/kg	96
68) n-Nitrosodiphenylamine	9.966	169	16561	0.035	mg/kg	99
70) 4-Bromophenyl phenyl e...	10.277	248	9134	0.036	mg/kg	99
71) Atrazine	10.405	200	7423	0.034	mg/kg	98
72) Hexachlorobenzene	10.390	284	13864	0.039	mg/kg	97
73) Pentachlorophenol	10.540	266	2857	0.043	mg/kg	96
74) Phenanthrene	10.694	178	45470	0.041	mg/kg	99
75) Anthracene	10.731	178	42748	0.038	mg/kg	99
76) Pentachlorobenzene	9.599	250	17610	0.042	mg/kg	99
77) Carbazole	10.858	167	34730	0.035	mg/kg	97
78) Di-n-butyl phthalate	11.132	149	43900	0.047	mg/kg	99
79) Fluoranthene	11.728	202	53771	0.038	mg/kg	99
81) Benzidine	11.822	184	15411	0.049	mg/kg	96
82) Pyrene	11.942	202	55361	0.038	mg/kg	97
84) Butyl benzyl phthalate	12.527	149	14323	0.049	mg/kg	94
85) 3,3`-Dichlorobenzidine	13.111	252	19242	0.049	mg/kg	96
86) Benzo[a]anthracene	13.160	228	69817	0.046	mg/kg	99
87) Chrysene	13.205	228	63536	0.044	mg/kg	99
88) bis(2-Ethylhexyl)phtha...	13.126	149	24290	0.051	mg/kg	99
90) Di-n-octyl phthalate	13.835	149	35429	0.053	mg/kg	100
91) Benzo[b]fluoranthene	14.438	252	56149	0.038	mg/kg	99
92) Benzo[k]fluoranthene	14.468	252	61451	0.040	mg/kg	88
93) Benzo[a]pyrene	14.798	252	43507	0.037	mg/kg	98
94) Indeno[1,2,3-cd]pyrene	16.110	276	62696	0.036	mg/kg	98
95) Dibenz[a,h]anthracene	16.118	278	52503	0.037	mg/kg	99
96) Benzo[g,h,i]perylene	16.496	276	52849	0.038	mg/kg	97

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\170606\
Data File : 17060603.D
Acq On : 6 Jun 2017 11:13 am
Operator :
Sample : CAL1 0.04 ppm
Misc : CAL1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jun 06 16:05:14 2017
QMeth File : SV170606.M
InstName : GCMS9
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Tue Jun 06 15:04:48 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\170606\
Data File : 17060604.D
Acq On : 6 Jun 2017 11:37 am
Operator :
Sample : CAL2 0.1 ppm
Misc : CAL2
ALS Vial : 4 Sample Multiplier: 1

Reprocessed low point for highlighted analytes.

Quant Time: Jun 06 16:05:19 2017
QMeth File : SV170606.M
InstName : GCMS9
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Tue Jun 06 15:04:48 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	%Rec
Internal Standards						
1) 1,4-Dichlorobenzene-d4	6.945	152	758102	4.00	mg/kg	98
22) Naphthalene-d8	7.975	136	3615327	4.00	mg/kg	105
42) Acenaphthene-d10	9.437	164	2265200	4.00	mg/kg	119
65) Phenanthrene-d10	10.675	188	4684954	4.00	mg/kg	114
80) Chrysene-d12	13.179	240	6122065	4.00	mg/kg	114
89) Perylene-d12	14.862	264	5827788	4.00	mg/kg	112
System Monitoring Compounds						Dev(Min)
7) 2-Fluorophenol	5.865	112	11046	0.10	mg/kg	0.00
Spiked Amount 4.000	Range 20 - 120		Recovery =	2.50%#		
9) Phenol-d5	6.663	99	21300	0.09	mg/kg	0.00
Spiked Amount 4.000	Range 20 - 120		Recovery =	2.25%#		
23) Nitrobenzene-d5	7.398	82	18681	0.09	mg/kg	0.00
Spiked Amount 4.000	Range 41 - 120		Recovery =	2.25%#		
47) 2-Fluorobiphenyl	8.860	172	85497	0.10	mg/kg	0.00
Spiked Amount 4.000	Range 48 - 120		Recovery =	2.50%#		
69) 2,4,6-Tribromophenol	10.097	330	15659	0.10	mg/kg	0.00
Spiked Amount 4.000	Range 42 - 124		Recovery =	2.50%#		
83) 4-Terphenyl-d14	12.054	244	119931	0.10	mg/kg	0.00
Spiked Amount 4.000	Range 51 - 135		Recovery =	2.50%#		
Target Compounds						Qvalue
2) N-nitrosodimethylamine	4.785	74	20370	0.102	mg/kg#	79
3) Pyridine	4.879	79	20222	0.097	mg/kg#	16
4) N-nitrosodiethylamine	6.052	102	6178	0.091	mg/kg	87
5) Benzaldehyde	6.607	77	16077	0.098	mg/kg	93
6) Aniline	6.708	93	20561	0.092	mg/kg	92
8) bis(2-Chloroethyl)ether	6.746	95	4566	0.095	mg/kg#	88
10) Phenol	6.671	94	15239	0.093	mg/kg	99
11) 2-Chlorophenol	6.802	128	16524	0.095	mg/kg	96
12) 1,3-Dichlorobenzene	6.915	146	22365	0.098	mg/kg	97
13) 1,4-Dichlorobenzene	6.956	146	25896	0.100	mg/kg#	88
14) 1,2-Dichlorobenzene	7.102	146	26187	0.105	mg/kg	99
15) Benzyl alcohol	7.061	108	7287	0.119	mg/kg	95 119%
16) bis(2-chloroisopropyl)...	7.162	45	30962	0.108	mg/kg	95
17) 2-Methylphenol	7.140	108	14324	0.097	mg/kg	97
18) Hexachloroethane	7.353	117	8893	0.102	mg/kg	96
19) N-Nitrosodi-n-propylamine	7.271	70	17161	0.102	mg/kg	97
20) 4-Methylphenol	7.252	108	16573	0.100	mg/kg	94
21) Acetophenone	7.271	105	26157	0.083	mg/kg	96
24) Nitrobenzene	7.413	77	16053	0.094	mg/kg	92
25) Isophorone	7.593	82	40513	0.090	mg/kg	99
26) 2-Nitrophenol	7.672	139	7045	0.085	mg/kg	83
27) 2,4-Dimethylphenol	7.679	107	20400	0.085	mg/kg	95
28) bis(2-Chloroethoxy)met...	7.754	93	27463	0.093	mg/kg	97
29) Benzoic acid	7.717	105	3770	0.141	mg/kg#	25
30) 2,4-Dichlorophenol	7.856	162	15993	0.091	mg/kg	98
31) 1,2,4-Trichlorobenzene	7.931	180	27766	0.100	mg/kg	99
32) Naphthalene	7.990	128	81560	0.100	mg/kg	99
33) 4-Chloroaniline	8.035	127	24733	0.081	mg/kg	99
34) 2,6-Dichlorophenol	8.043	162	19892	0.085	mg/kg	97
35) Hexachlorobutadiene	8.110	225	18174	0.102	mg/kg	98
36) N-nitrosodi-n-butylamine	8.298	116	3468	0.095	mg/kg	93
37) Caprolactam	8.290	113	3929	0.093	mg/kg	89
38) 4-Chloro-3-methylphenol	8.410	107	17213	0.087	mg/kg	95
39) 1,2,4,5-Tetrachloroben...	8.714	216	36402	0.101	mg/kg	100

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\170606\
Data File : 17060604.D
Acq On : 6 Jun 2017 11:37 am
Operator :
Sample : CAL2 0.1 ppm
Misc : CAL2
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jun 06 16:05:19 2017
QMeth File : SV170606.M
InstName : GCMS9
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Tue Jun 06 15:04:48 2017
Response via : Initial Calibration

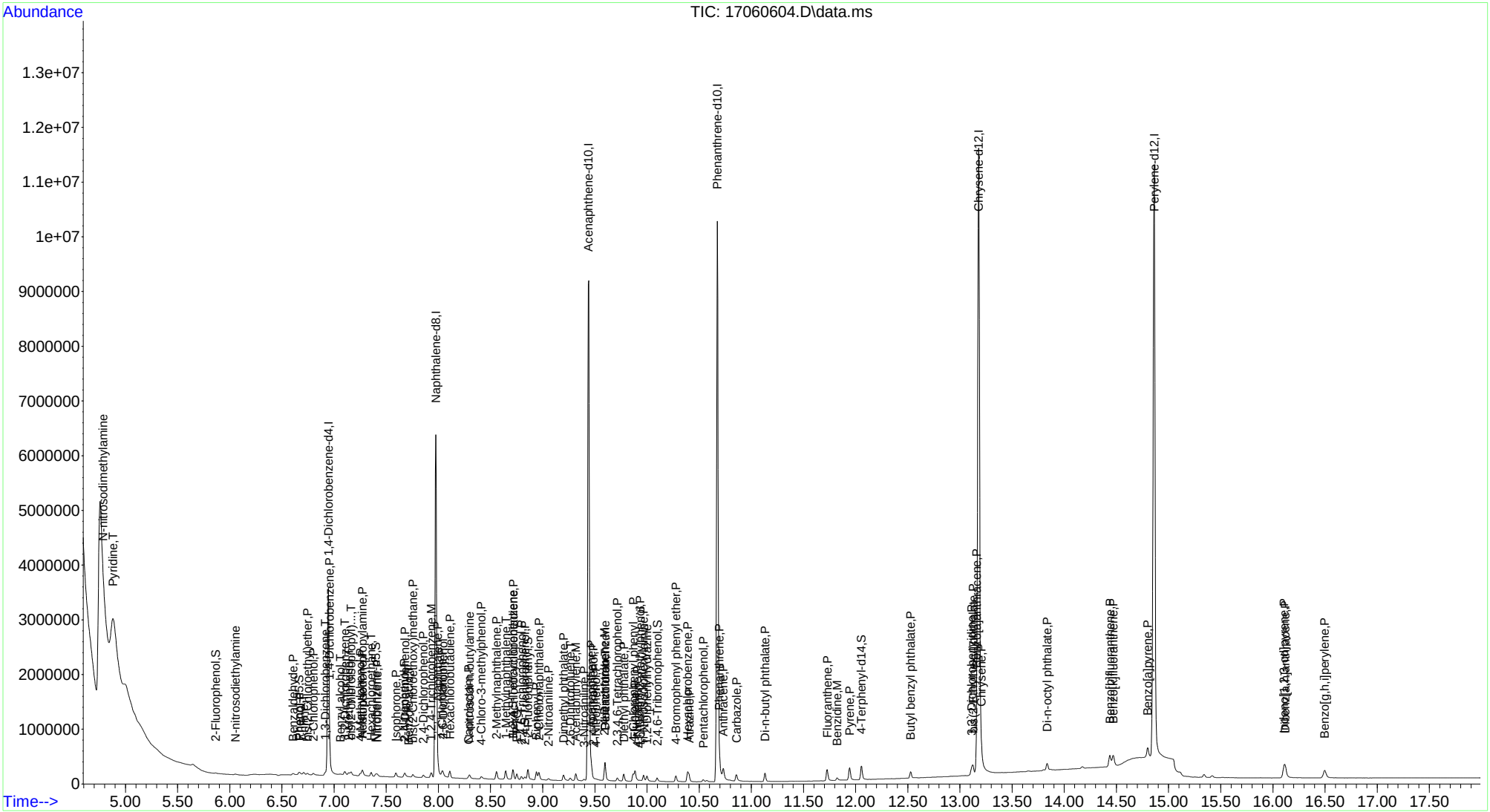
Compound	R.T.	QIon	Response	Conc	Units	%Rec	
40) 2-Methylnaphthalene	8.557	142	57015	0.098	mg/kg	99	
41) 1-Methylnaphthalene	8.646	142	60600	0.102	mg/kg	100	
43) Hexachlorocyclopentadiene	8.718	237	10889	0.090	mg/kg	100	
44) EPTC	8.751	128	22348	0.095	mg/kg	99	
45) 2,4,6-Trichlorophenol	8.796	196	11759	0.086	mg/kg	99	
46) 2,4,5-Trichlorophenol	8.830	196	19122	0.099	mg/kg	98	
48) Biphenyl	8.939	154	69020	0.095	mg/kg	99	
49) 2-Chloronaphthalene	8.965	162	56865	0.094	mg/kg	97	
50) 2-Nitroaniline	9.055	138	7969	0.083	mg/kg	86	
51) Acenaphthylene	9.317	152	76688	0.090	mg/kg	100	
52) Dimethyl phthalate	9.201	163	65179	0.093	mg/kg	99	
53) 2,6-Dinitrotoluene	9.265	165	8241	0.090	mg/kg	82	
54) Acenaphthene	9.464	153	72844	0.101	mg/kg	98	
55) 3-Nitroaniline	9.396	138	6083	0.087	mg/kg	94	
56) 2,4-Dinitrophenol	9.486	184	344	0.201	mg/kg#	30	
57) Dibenzofuran	9.599	168	87702	0.096	mg/kg	99	
58) 2,4-Dinitrotoluene	9.591	165	9296	0.083	mg/kg#	70	
59) 4-Nitrophenol	9.509	109	2102	0.113	mg/kg	90	113%
60) 2,3,4,6-Tetrachlorophenol	9.715	232	11500	0.087	mg/kg	98	
61) Fluorene	9.884	166	68045	0.097	mg/kg	100	
62) 4-Chlorophenyl phenyl ...	9.869	204	33398	0.095	mg/kg	100	
63) Diethyl phthalate	9.779	149	64874	0.094	mg/kg	99	
64) 4-Nitroaniline	9.906	138	6387	0.088	mg/kg	94	
66) 4,6-Dinitro-2-methylph...	9.932	198	3010	0.120	mg/kg	87	120%
67) 1,2-Diphenylhydrazine	10.000	182	11798	0.094	mg/kg	100	
68) n-Nitrosodiphenylamine	9.966	169	42003	0.092	mg/kg	99	
70) 4-Bromophenyl phenyl e...	10.277	248	23535	0.096	mg/kg	100	
71) Atrazine	10.405	200	18170	0.088	mg/kg	99	
72) Hexachlorobenzene	10.390	284	33811	0.098	mg/kg	99	
73) Pentachlorophenol	10.540	266	9137	0.087	mg/kg	97	
74) Phenanthrene	10.693	178	105926	0.100	mg/kg	99	
75) Anthracene	10.731	178	109121	0.101	mg/kg	99	
76) Pentachlorobenzene	9.599	250	39224	0.098	mg/kg	99	
77) Carbazole	10.858	167	85317	0.089	mg/kg	98	
78) Di-n-butyl phthalate	11.132	149	103432	0.094	mg/kg	99	
79) Fluoranthene	11.728	202	122497	0.091	mg/kg	99	
81) Benzidine	11.822	184	35655	0.094	mg/kg	98	
82) Pyrene	11.942	202	132771	0.096	mg/kg	99	
84) Butyl benzyl phthalate	12.526	149	36691	0.093	mg/kg	93	
85) 3,3`-Dichlorobenzidine	13.111	252	42982	0.093	mg/kg	100	
86) Benzo[a]anthracene	13.160	228	148378	0.103	mg/kg	98	
87) Chrysene	13.205	228	137190	0.100	mg/kg	99	
88) bis(2-Ethylhexyl)phtha...	13.126	149	59543	0.093	mg/kg	98	
90) Di-n-octyl phthalate	13.835	149	88596	0.091	mg/kg	100	91%
91) Benzo[b]fluoranthene	14.438	252	130649	0.092	mg/kg	99	
92) Benzo[k]fluoranthene	14.468	252	146116	0.100	mg/kg	94	
93) Benzo[a]pyrene	14.798	252	106029	0.093	mg/kg	100	
94) Indeno[1,2,3-cd]pyrene	16.106	276	155360	0.093	mg/kg	95	
95) Dibenz[a,h]anthracene	16.118	278	126219	0.092	mg/kg	99	
96) Benzo[g,h,i]perylene	16.496	276	126697	0.095	mg/kg	100	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\170606\
Data File : 17060604.D
Acq On : 6 Jun 2017 11:37 am
Operator :
Sample : CAL2 0.1 ppm
Misc : CAL2
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jun 06 16:05:19 2017
QMeth File : SV170606.M
InstName : GCMS9
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Tue Jun 06 15:04:48 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\170606\
Data File : 17060605.D
Acq On : 6 Jun 2017 12:02 pm
Operator :
Sample : CAL3 0.2 ppm
Misc : CAL3
ALS Vial : 5 Sample Multiplier: 1

Reprocessed low point for highlighted analytes.

Quant Time: Jun 06 16:05:24 2017
QMeth File : SV170606.M
InstName : GCMS9
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Tue Jun 06 15:04:48 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	%Rec
Internal Standards					
1) 1,4-Dichlorobenzene-d4	6.945	152	841242	4.00 mg/kg	109
22) Naphthalene-d8	7.976	136	3845604	4.00 mg/kg	111
42) Acenaphthene-d10	9.438	164	2265790	4.00 mg/kg	119
65) Phenanthrene-d10	10.675	188	4666465	4.00 mg/kg	114
80) Chrysene-d12	13.179	240	6257299	4.00 mg/kg	116
89) Perylene-d12	14.862	264	5949238	4.00 mg/kg	114
System Monitoring Compounds					Dev(Min)
7) 2-Fluorophenol	5.862	112	27373	0.18 mg/kg	0.00
Spiked Amount 4.000	Range 20 - 120		Recovery =	4.50%#	
9) Phenol-d5	6.660	99	48419	0.17 mg/kg	0.00
Spiked Amount 4.000	Range 20 - 120		Recovery =	4.25%#	
23) Nitrobenzene-d5	7.398	82	47490	0.19 mg/kg	0.00
Spiked Amount 4.000	Range 41 - 120		Recovery =	4.75%#	
47) 2-Fluorobiphenyl	8.857	172	173199	0.20 mg/kg	0.00
Spiked Amount 4.000	Range 48 - 120		Recovery =	5.00%#	
69) 2,4,6-Tribromophenol	10.097	330	33761	0.18 mg/kg	0.00
Spiked Amount 4.000	Range 42 - 124		Recovery =	4.50%#	
83) 4-Terphenyl-d14	12.054	244	243082	0.19 mg/kg	0.00
Spiked Amount 4.000	Range 51 - 135		Recovery =	4.75%#	
Target Compounds					Qvalue
2) N-nitrosodimethylamine	4.771	74	31865	0.189 mg/kg#	36
3) Pyridine	4.838	79	44404	0.192 mg/kg#	1
4) N-nitrosodiethylamine	6.049	102	16517	0.179 mg/kg	97
5) Benzaldehyde	6.604	77	34956	0.192 mg/kg	96
6) Aniline	6.709	93	50459	0.171 mg/kg	95
8) bis(2-Chloroethyl)ether	6.742	95	10609	0.175 mg/kg	93
10) Phenol	6.671	94	35518	0.165 mg/kg	100
11) 2-Chlorophenol	6.799	128	38040	0.173 mg/kg	97
12) 1,3-Dichlorobenzene	6.915	146	49377	0.194 mg/kg	99
13) 1,4-Dichlorobenzene	6.956	146	57131	0.200 mg/kg	96
14) 1,2-Dichlorobenzene	7.102	146	53480	0.193 mg/kg	99
15) Benzyl alcohol	7.057	108	17724	0.185 mg/kg	96
16) bis(2-chloroisopropyl)...	7.162	45	62704	0.197 mg/kg	98
17) 2-Methylphenol	7.140	108	33623	0.173 mg/kg	97
18) Hexachloroethane	7.353	117	18742	0.194 mg/kg	94
19) N-Nitrosodi-n-propylamine	7.271	70	32034	0.171 mg/kg	99
20) 4-Methylphenol	7.252	108	38952	0.182 mg/kg	97
21) Acetophenone	7.271	105	60623	0.174 mg/kg	98
24) Nitrobenzene	7.413	77	38359	0.189 mg/kg	97
25) Isophorone	7.590	82	90299	0.189 mg/kg	99
26) 2-Nitrophenol	7.668	139	19792	0.193 mg/kg	94
27) 2,4-Dimethylphenol	7.680	107	48765	0.192 mg/kg	99
28) bis(2-Chloroethoxy)met...	7.755	93	56983	0.182 mg/kg	99
29) Benzoic acid	7.717	105	8019	0.170 mg/kg#	34 85%
30) 2,4-Dichlorophenol	7.856	162	38745	0.171 mg/kg	97
31) 1,2,4-Trichlorobenzene	7.931	180	58318	0.197 mg/kg	99
32) Naphthalene	7.991	128	171409	0.198 mg/kg	100
33) 4-Chloroaniline	8.036	127	56122	0.174 mg/kg	100
34) 2,6-Dichlorophenol	8.043	162	45813	0.184 mg/kg	98
35) Hexachlorobutadiene	8.111	225	36986	0.195 mg/kg	98
36) N-nitrosodi-n-butylamine	8.298	116	7843	0.174 mg/kg	99
37) Caprolactam	8.291	113	9160	0.167 mg/kg	83
38) 4-Chloro-3-methylphenol	8.411	107	38105	0.181 mg/kg	99
39) 1,2,4,5-Tetrachloroben...	8.714	216	75276	0.197 mg/kg	99

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\170606\
Data File : 17060605.D
Acq On : 6 Jun 2017 12:02 pm
Operator :
Sample : CAL3 0.2 ppm
Misc : CAL3
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jun 06 16:05:24 2017
QMeth File : SV170606.M
InstName : GCMS9
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Tue Jun 06 15:04:48 2017
Response via : Initial Calibration

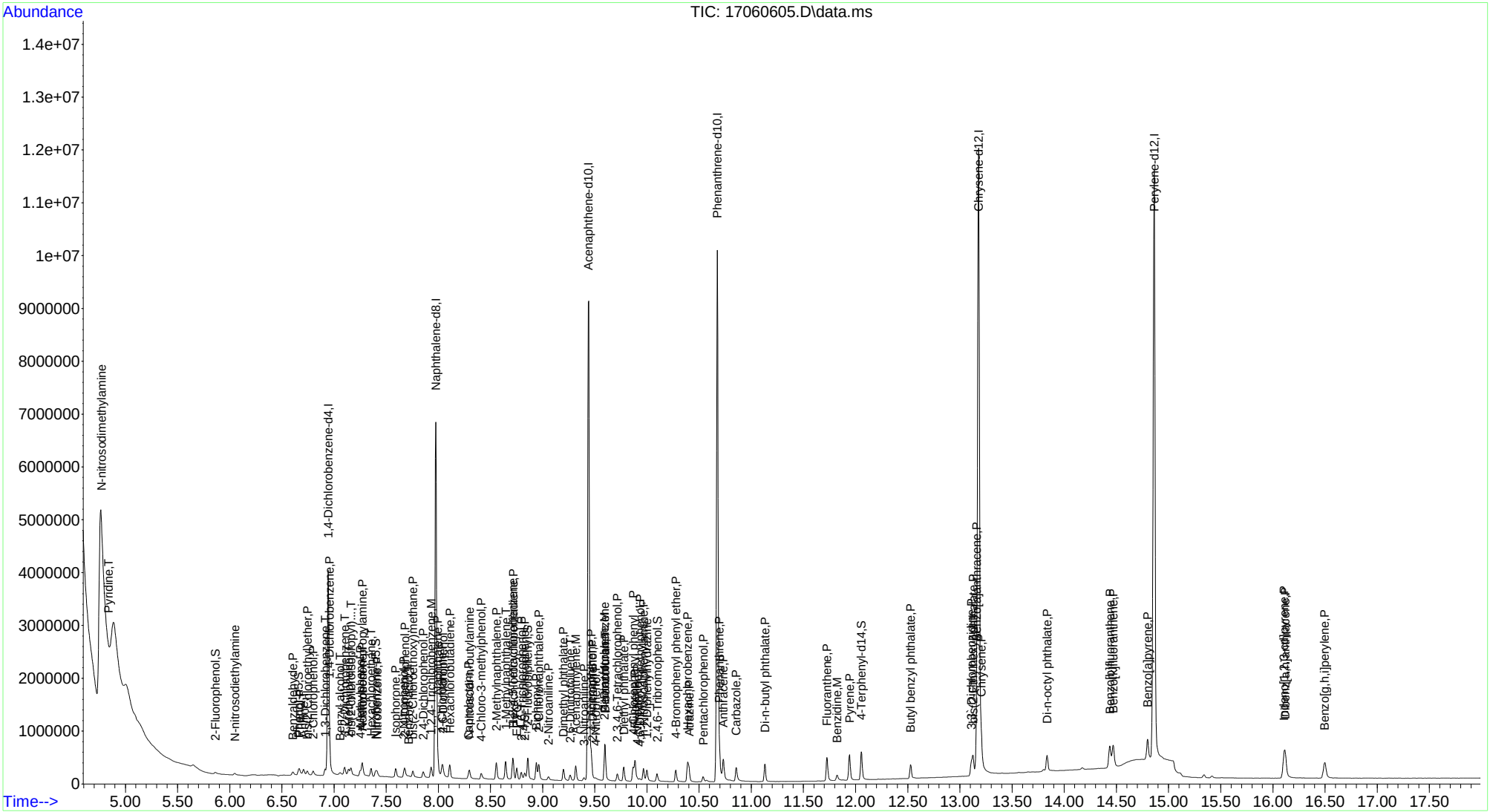
Compound	R.T.	QIon	Response	Conc	Units	%Rec
40) 2-Methylnaphthalene	8.557	142	118916	0.191	mg/kg	98
41) 1-Methylnaphthalene	8.647	142	129162	0.205	mg/kg	99
43) Hexachlorocyclopentadiene	8.718	237	27615	0.174	mg/kg	100
44) EPTC	8.752	128	46308	0.197	mg/kg	99
45) 2,4,6-Trichlorophenol	8.797	196	28208	0.185	mg/kg	99
46) 2,4,5-Trichlorophenol	8.827	196	39714	0.192	mg/kg	99
48) Biphenyl	8.939	154	142485	0.196	mg/kg	99
49) 2-Chloronaphthalene	8.962	162	115381	0.191	mg/kg	99
50) 2-Nitroaniline	9.055	138	20917	0.180	mg/kg	91
51) Acenaphthylene	9.318	152	160220	0.189	mg/kg	100
52) Dimethyl phthalate	9.198	163	129746	0.185	mg/kg	99
53) 2,6-Dinitrotoluene	9.265	165	19777	0.178	mg/kg	92
54) Acenaphthene	9.464	153	144038	0.199	mg/kg	98
55) 3-Nitroaniline	9.396	138	14384	0.171	mg/kg	96
56) 2,4-Dinitrophenol	9.479	184	1743	0.234	mg/kg	87 117%
57) Dibenzofuran	9.599	168	175115	0.192	mg/kg	99
58) 2,4-Dinitrotoluene	9.591	165	23231	0.172	mg/kg	75
59) 4-Nitrophenol	9.509	109	5615	0.185	mg/kg	92
60) 2,3,4,6-Tetrachlorophenol	9.715	232	29332	0.188	mg/kg	98
61) Fluorene	9.884	166	136569	0.195	mg/kg	99
62) 4-Chlorophenyl phenyl ...	9.869	204	67414	0.192	mg/kg	99
63) Diethyl phthalate	9.779	149	131112	0.189	mg/kg	99
64) 4-Nitroaniline	9.906	138	15590	0.166	mg/kg	99
66) 4,6-Dinitro-2-methylph...	9.933	198	8409	0.174	mg/kg	97
67) 1,2-Diphenylhydrazine	10.000	182	27063	0.186	mg/kg	97
68) n-Nitrosodiphenylamine	9.966	169	86851	0.192	mg/kg	99
70) 4-Bromophenyl phenyl e...	10.277	248	46063	0.188	mg/kg	100
71) Atrazine	10.405	200	38135	0.185	mg/kg	99
72) Hexachlorobenzene	10.390	284	65912	0.193	mg/kg	99
73) Pentachlorophenol	10.540	266	21427	0.172	mg/kg	98
74) Phenanthrene	10.694	178	204902	0.193	mg/kg	100
75) Anthracene	10.731	178	221702	0.207	mg/kg	99
76) Pentachlorobenzene	9.595	250	77227	0.193	mg/kg	99
77) Carbazole	10.855	167	180806	0.190	mg/kg	98
78) Di-n-butyl phthalate	11.132	149	218418	0.183	mg/kg	100
79) Fluoranthene	11.724	202	252957	0.189	mg/kg	99
81) Benzidine	11.822	184	73731	0.172	mg/kg	98
82) Pyrene	11.942	202	267811	0.189	mg/kg	99
84) Butyl benzyl phthalate	12.527	149	82492	0.177	mg/kg	93
85) 3,3`-Dichlorobenzidine	13.108	252	95445	0.184	mg/kg	99
86) Benzo[a]anthracene	13.160	228	290120	0.197	mg/kg	99
87) Chrysene	13.205	228	278038	0.198	mg/kg	99
88) bis(2-Ethylhexyl)phtha...	13.126	149	133715	0.173	mg/kg	99
90) Di-n-octyl phthalate	13.835	149	204032	0.168	mg/kg	99
91) Benzo[b]fluoranthene	14.438	252	276870	0.192	mg/kg	100
92) Benzo[k]fluoranthene	14.468	252	297734	0.199	mg/kg	97
93) Benzo[a]pyrene	14.798	252	220207	0.189	mg/kg	99
94) Indeno[1,2,3-cd]pyrene	16.107	276	317549	0.187	mg/kg	96
95) Dibenz[a,h]anthracene	16.118	278	266848	0.190	mg/kg	100
96) Benzo[g,h,i]perylene	16.496	276	264812	0.195	mg/kg	99

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\170606\
Data File : 17060605.D
Acq On : 6 Jun 2017 12:02 pm
Operator :
Sample : CAL3 0.2 ppm
Misc : CAL3
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jun 06 16:05:24 2017
QMeth File : SV170606.M
InstName : GCMS9
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Tue Jun 06 15:04:48 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\170606\
Data File : 17060606.D
Acq On : 6 Jun 2017 12:27 pm
Operator :
Sample : CAL4 0.5 ppm
Misc : CAL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jun 06 16:05:29 2017
QMeth File : SV170606.M
InstName : GCMS9
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Tue Jun 06 15:04:48 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	%Rec
Internal Standards						
1) 1,4-Dichlorobenzene-d4	6.945	152	781430	4.00	mg/kg	101
22) Naphthalene-d8	7.976	136	3797518	4.00	mg/kg	110
42) Acenaphthene-d10	9.438	164	2151926	4.00	mg/kg	113
65) Phenanthrene-d10	10.675	188	4413081	4.00	mg/kg	107
80) Chrysene-d12	13.179	240	5699994	4.00	mg/kg	106
89) Perylene-d12	14.862	264	5436707	4.00	mg/kg	105
System Monitoring Compounds						Dev(Min)
7) 2-Fluorophenol	5.858	112	72406	0.45	mg/kg	0.00
Spiked Amount 4.000	Range 20 - 120		Recovery = 11.25%#			
9) Phenol-d5	6.660	99	138804	0.47	mg/kg	0.00
Spiked Amount 4.000	Range 20 - 120		Recovery = 11.75%#			
23) Nitrobenzene-d5	7.398	82	132173	0.50	mg/kg	0.00
Spiked Amount 4.000	Range 41 - 120		Recovery = 12.50%#			
47) 2-Fluorobiphenyl	8.856	172	435535	0.52	mg/kg	0.00
Spiked Amount 4.000	Range 48 - 120		Recovery = 13.00%#			
69) 2,4,6-Tribromophenol	10.097	330	94369	0.47	mg/kg	0.00
Spiked Amount 4.000	Range 42 - 124		Recovery = 11.75%#			
83) 4-Terphenyl-d14	12.054	244	580097	0.51	mg/kg	0.00
Spiked Amount 4.000	Range 51 - 135		Recovery = 12.75%#			
Target Compounds						Qvalue
2) N-nitrosodimethylamine	4.755	74	55133	0.447	mg/kg#	78
3) Pyridine	4.800	79	112662	0.526	mg/kg	67
4) N-nitrosodiethylamine	6.041	102	46434	0.486	mg/kg	99
5) Benzaldehyde	6.600	77	88127	0.522	mg/kg	97
6) Aniline	6.705	93	143412	0.464	mg/kg	95
8) bis(2-Chloroethyl)ether	6.742	95	29582	0.478	mg/kg	98
10) Phenol	6.667	94	108780	0.474	mg/kg	100
11) 2-Chlorophenol	6.798	128	107051	0.475	mg/kg	100
12) 1,3-Dichlorobenzene	6.911	146	117576	0.498	mg/kg	99
13) 1,4-Dichlorobenzene	6.956	146	130101	0.489	mg/kg	99
14) 1,2-Dichlorobenzene	7.098	146	126184	0.490	mg/kg	99
15) Benzyl alcohol	7.053	108	54643	0.465	mg/kg	96
16) bis(2-chloroisopropyl)...	7.158	45	158322	0.535	mg/kg	99
17) 2-Methylphenol	7.140	108	95569	0.468	mg/kg	99
18) Hexachloroethane	7.353	117	43795	0.488	mg/kg	97
19) N-Nitrosodi-n-propylamine	7.267	70	90763	0.522	mg/kg	97
20) 4-Methylphenol	7.248	108	99268	0.453	mg/kg	99
21) Acetophenone	7.267	105	170928	0.529	mg/kg	99
24) Nitrobenzene	7.410	77	108772	0.504	mg/kg	97
25) Isophorone	7.589	82	248302	0.525	mg/kg	99
26) 2-Nitrophenol	7.668	139	56498	0.507	mg/kg	94
27) 2,4-Dimethylphenol	7.676	107	130240	0.518	mg/kg	100
28) bis(2-Chloroethoxy)met...	7.754	93	159653	0.516	mg/kg	99
29) Benzoic acid	7.721	105	38443	0.388	mg/kg#	76
30) 2,4-Dichlorophenol	7.856	162	122696	0.485	mg/kg	99
31) 1,2,4-Trichlorobenzene	7.931	180	144371	0.495	mg/kg	99
32) Naphthalene	7.991	128	422071	0.494	mg/kg	100
33) 4-Chloroaniline	8.036	127	163415	0.512	mg/kg	100
34) 2,6-Dichlorophenol	8.043	162	124480	0.505	mg/kg	98
35) Hexachlorobutadiene	8.111	225	91525	0.489	mg/kg	100
36) N-nitrosodi-n-butylamine	8.298	116	23932	0.487	mg/kg	99
37) Caprolactam	8.294	113	30071	0.484	mg/kg#	70
38) 4-Chloro-3-methylphenol	8.410	107	104187	0.502	mg/kg	100
39) 1,2,4,5-Tetrachloroben...	8.714	216	191150	0.506	mg/kg	99

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\170606\
Data File : 17060606.D
Acq On : 6 Jun 2017 12:27 pm
Operator :
Sample : CAL4 0.5 ppm
Misc : CAL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jun 06 16:05:29 2017
QMeth File : SV170606.M
InstName : GCMS9
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Tue Jun 06 15:04:48 2017
Response via : Initial Calibration

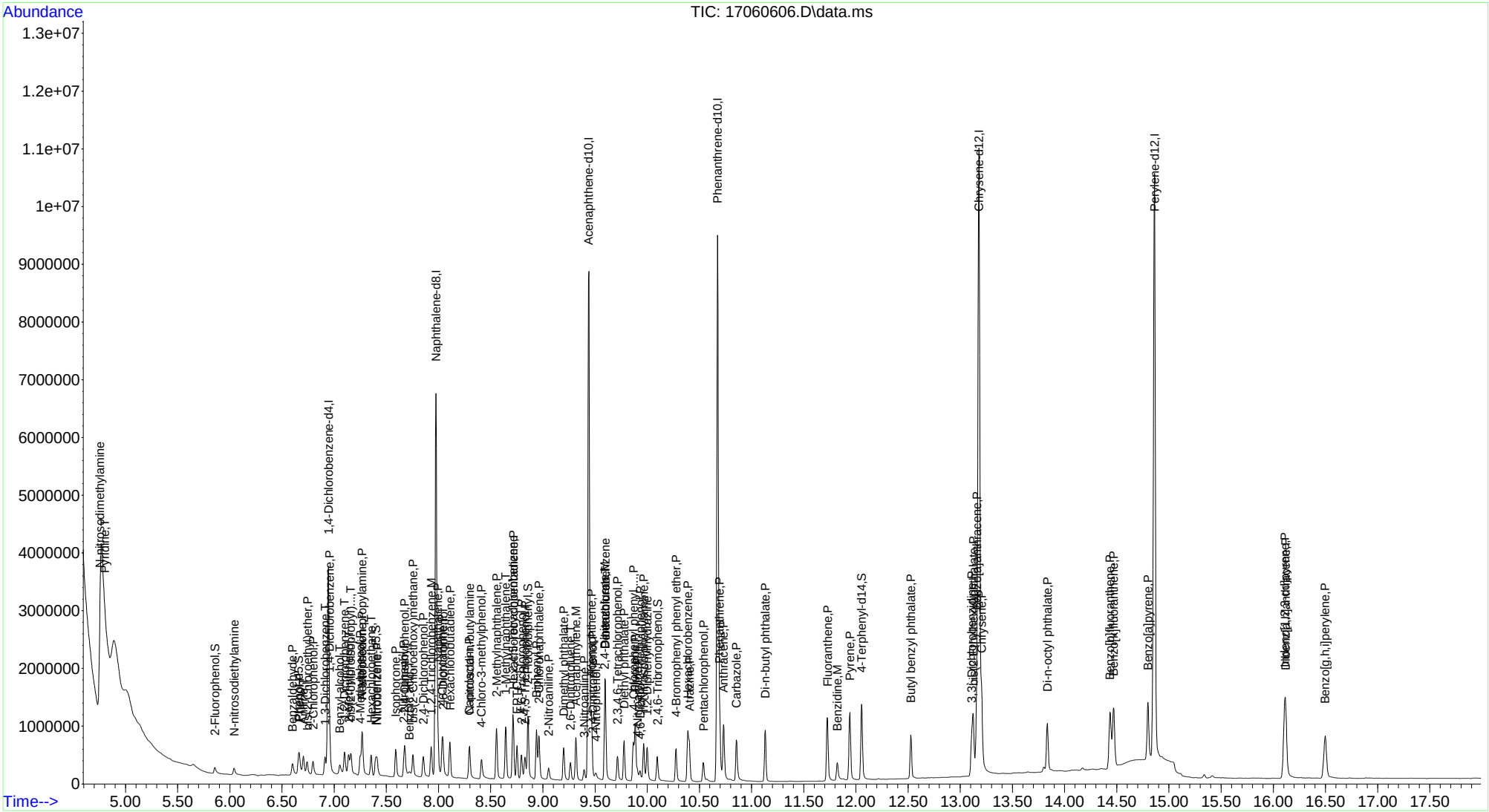
Compound	R.T.	QIon	Response	Conc	Units	%Rec
40) 2-Methylnaphthalene	8.557	142	312652	0.509	mg/kg	99
41) 1-Methylnaphthalene	8.643	142	319647	0.514	mg/kg	100
43) Hexachlorocyclopentadiene	8.718	237	88472	0.495	mg/kg	99
44) EPTC	8.752	128	117727	0.527	mg/kg	99
45) 2,4,6-Trichlorophenol	8.797	196	81805	0.522	mg/kg	99
46) 2,4,5-Trichlorophenol	8.830	196	105786	0.514	mg/kg	100
48) Biphenyl	8.939	154	353600	0.511	mg/kg	99
49) 2-Chloronaphthalene	8.961	162	290383	0.506	mg/kg	99
50) 2-Nitroaniline	9.055	138	64314	0.513	mg/kg	97
51) Acenaphthylene	9.318	152	411584	0.511	mg/kg	100
52) Dimethyl phthalate	9.201	163	329220	0.495	mg/kg	99
53) 2,6-Dinitrotoluene	9.265	165	56938	0.479	mg/kg	95
54) Acenaphthene	9.464	153	341759	0.498	mg/kg	99
55) 3-Nitroaniline	9.396	138	44996	0.487	mg/kg	100
56) 2,4-Dinitrophenol	9.479	184	10346	0.440	mg/kg#	56
57) Dibenzofuran	9.599	168	429511	0.496	mg/kg	99
58) 2,4-Dinitrotoluene	9.591	165	75987	0.518	mg/kg	90
59) 4-Nitrophenol	9.509	109	19528	0.477	mg/kg	93
60) 2,3,4,6-Tetrachlorophenol	9.715	232	83293	0.511	mg/kg	99
61) Fluorene	9.884	166	333251	0.500	mg/kg	100
62) 4-Chlorophenyl phenyl ...	9.869	204	164784	0.493	mg/kg	99
63) Diethyl phthalate	9.779	149	324414	0.493	mg/kg	100
64) 4-Nitroaniline	9.906	138	48261	0.457	mg/kg	98
66) 4,6-Dinitro-2-methylph...	9.932	198	36126	0.462	mg/kg	98
67) 1,2-Diphenylhydrazine	10.000	182	71616	0.480	mg/kg	97
68) n-Nitrosodiphenylamine	9.966	169	216047	0.504	mg/kg	100
70) 4-Bromophenyl phenyl e...	10.277	248	114367	0.494	mg/kg	98
71) Atrazine	10.405	200	97641	0.500	mg/kg	100
72) Hexachlorobenzene	10.390	284	160067	0.495	mg/kg	99
73) Pentachlorophenol	10.540	266	67629	0.502	mg/kg	99
74) Phenanthrene	10.693	178	491646	0.491	mg/kg	99
75) Anthracene	10.731	178	492841	0.486	mg/kg	99
76) Pentachlorobenzene	9.599	250	186202	0.492	mg/kg	99
77) Carbazole	10.855	167	435051	0.484	mg/kg	98
78) Di-n-butyl phthalate	11.132	149	574590	0.481	mg/kg	99
79) Fluoranthene	11.728	202	615994	0.487	mg/kg	99
81) Benzidine	11.822	184	204890	0.482	mg/kg	100
82) Pyrene	11.942	202	644391	0.498	mg/kg	100
84) Butyl benzyl phthalate	12.526	149	231503	0.492	mg/kg	95
85) 3,3`-Dichlorobenzidine	13.107	252	239290	0.476	mg/kg	99
86) Benzo[a]anthracene	13.160	228	661042	0.492	mg/kg	99
87) Chrysene	13.205	228	632412	0.493	mg/kg	99
88) bis(2-Ethylhexyl)phtha...	13.126	149	368412	0.471	mg/kg	99
90) Di-n-octyl phthalate	13.835	149	582242	0.463	mg/kg	99
91) Benzo[b]fluoranthene	14.434	252	653790	0.496	mg/kg	99
92) Benzo[k]fluoranthene	14.468	252	710550	0.519	mg/kg	98
93) Benzo[a]pyrene	14.798	252	541724	0.508	mg/kg	99
94) Indeno[1,2,3-cd]pyrene	16.110	276	773570	0.498	mg/kg	97
95) Dibenz[a,h]anthracene	16.118	278	645532	0.504	mg/kg	100
96) Benzo[g,h,i]perylene	16.496	276	620036	0.499	mg/kg	99

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\170606\
Data File : 17060606.D
Acq On : 6 Jun 2017 12:27 pm
Operator :
Sample : CAL4 0.5 ppm
Misc : CAL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jun 06 16:05:29 2017
QMeth File : SV170606.M
InstName : GCMS9
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Tue Jun 06 15:04:48 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\170606\
Data File : 17060607.D
Acq On : 6 Jun 2017 12:51 pm
Operator :
Sample : CAL5 1.0 ppm
Misc : CAL
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jun 06 16:05:34 2017
QMeth File : SV170606.M
InstName : GCMS9
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Tue Jun 06 15:04:48 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	%Rec
Internal Standards						
1) 1,4-Dichlorobenzene-d4	6.945	152	731280	4.00	mg/kg	94
22) Naphthalene-d8	7.976	136	3305540	4.00	mg/kg	96
42) Acenaphthene-d10	9.441	164	1983306	4.00	mg/kg	104
65) Phenanthrene-d10	10.675	188	4174522	4.00	mg/kg	102
80) Chrysene-d12	13.183	240	5714171	4.00	mg/kg	106
89) Perylene-d12	14.862	264	5436188	4.00	mg/kg	105
System Monitoring Compounds						Dev(Min)
7) 2-Fluorophenol	5.862	112	151013	0.95	mg/kg	0.00
Spiked Amount 4.000	Range 20 - 120		Recovery = 23.75%			
9) Phenol-d5	6.660	99	281024	0.99	mg/kg	0.00
Spiked Amount 4.000	Range 20 - 120		Recovery = 24.75%			
23) Nitrobenzene-d5	7.398	82	233688	0.99	mg/kg	0.00
Spiked Amount 4.000	Range 41 - 120		Recovery = 24.75%#			
47) 2-Fluorobiphenyl	8.857	172	757324	0.98	mg/kg	0.00
Spiked Amount 4.000	Range 48 - 120		Recovery = 24.50%#			
69) 2,4,6-Tribromophenol	10.097	330	184520	0.95	mg/kg	0.00
Spiked Amount 4.000	Range 42 - 124		Recovery = 23.75%#			
83) 4-Terphenyl-d14	12.054	244	1064610	0.93	mg/kg	0.00
Spiked Amount 4.000	Range 51 - 135		Recovery = 23.25%#			
Target Compounds						Qvalue
2) N-nitrosodimethylamine	4.759	74	100671	0.967	mg/kg	88
3) Pyridine	4.797	79	208235	1.038	mg/kg	81
4) N-nitrosodiethylamine	6.041	102	87176	0.946	mg/kg	97
5) Benzaldehyde	6.604	77	160820	1.018	mg/kg	99
6) Aniline	6.709	93	291914	0.975	mg/kg	97
8) bis(2-Chloroethyl)ether	6.742	95	57223	0.964	mg/kg	96
10) Phenol	6.671	94	226314	0.994	mg/kg	99
11) 2-Chlorophenol	6.799	128	214887	0.987	mg/kg	99
12) 1,3-Dichlorobenzene	6.915	146	213892	0.967	mg/kg	99
13) 1,4-Dichlorobenzene	6.960	146	238571	0.959	mg/kg	99
14) 1,2-Dichlorobenzene	7.102	146	232940	0.967	mg/kg	99
15) Benzyl alcohol	7.054	108	105120	0.887	mg/kg	98
16) bis(2-chloroisopropyl)...	7.162	45	262312	0.947	mg/kg	99
17) 2-Methylphenol	7.140	108	172959	0.870	mg/kg	99
18) Hexachloroethane	7.353	117	81446	0.970	mg/kg	99
19) N-Nitrosodi-n-propylamine	7.271	70	155145	0.953	mg/kg	100
20) 4-Methylphenol	7.248	108	183872	0.869	mg/kg	100
21) Acetophenone	7.271	105	309164	1.022	mg/kg	99
24) Nitrobenzene	7.413	77	200225	1.023	mg/kg	100
25) Isophorone	7.590	82	416310	1.012	mg/kg	99
26) 2-Nitrophenol	7.668	139	106350	1.029	mg/kg	96
27) 2,4-Dimethylphenol	7.676	107	217599	0.994	mg/kg	100
28) bis(2-Chloroethoxy)met...	7.755	93	266148	0.988	mg/kg	99
29) Benzoic acid	7.732	105	96914	0.877	mg/kg	90
30) 2,4-Dichlorophenol	7.856	162	223256	0.977	mg/kg	99
31) 1,2,4-Trichlorobenzene	7.931	180	245526	0.967	mg/kg	99
32) Naphthalene	7.991	128	745703	1.004	mg/kg	100
33) 4-Chloroaniline	8.036	127	275458	0.992	mg/kg	100
34) 2,6-Dichlorophenol	8.043	162	215541	1.005	mg/kg	99
35) Hexachlorobutadiene	8.111	225	162795	0.998	mg/kg	100
36) N-nitrosodi-n-butylamine	8.298	116	44191	1.011	mg/kg	99
37) Caprolactam	8.302	113	56535	1.010	mg/kg#	73
38) 4-Chloro-3-methylphenol	8.414	107	184385	1.020	mg/kg	99
39) 1,2,4,5-Tetrachloroben...	8.714	216	331244	1.006	mg/kg	100

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\170606\
Data File : 17060607.D
Acq On : 6 Jun 2017 12:51 pm
Operator :
Sample : CAL5 1.0 ppm
Misc : CAL
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jun 06 16:05:34 2017
QMeth File : SV170606.M
InstName : GCMS9
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Tue Jun 06 15:04:48 2017
Response via : Initial Calibration

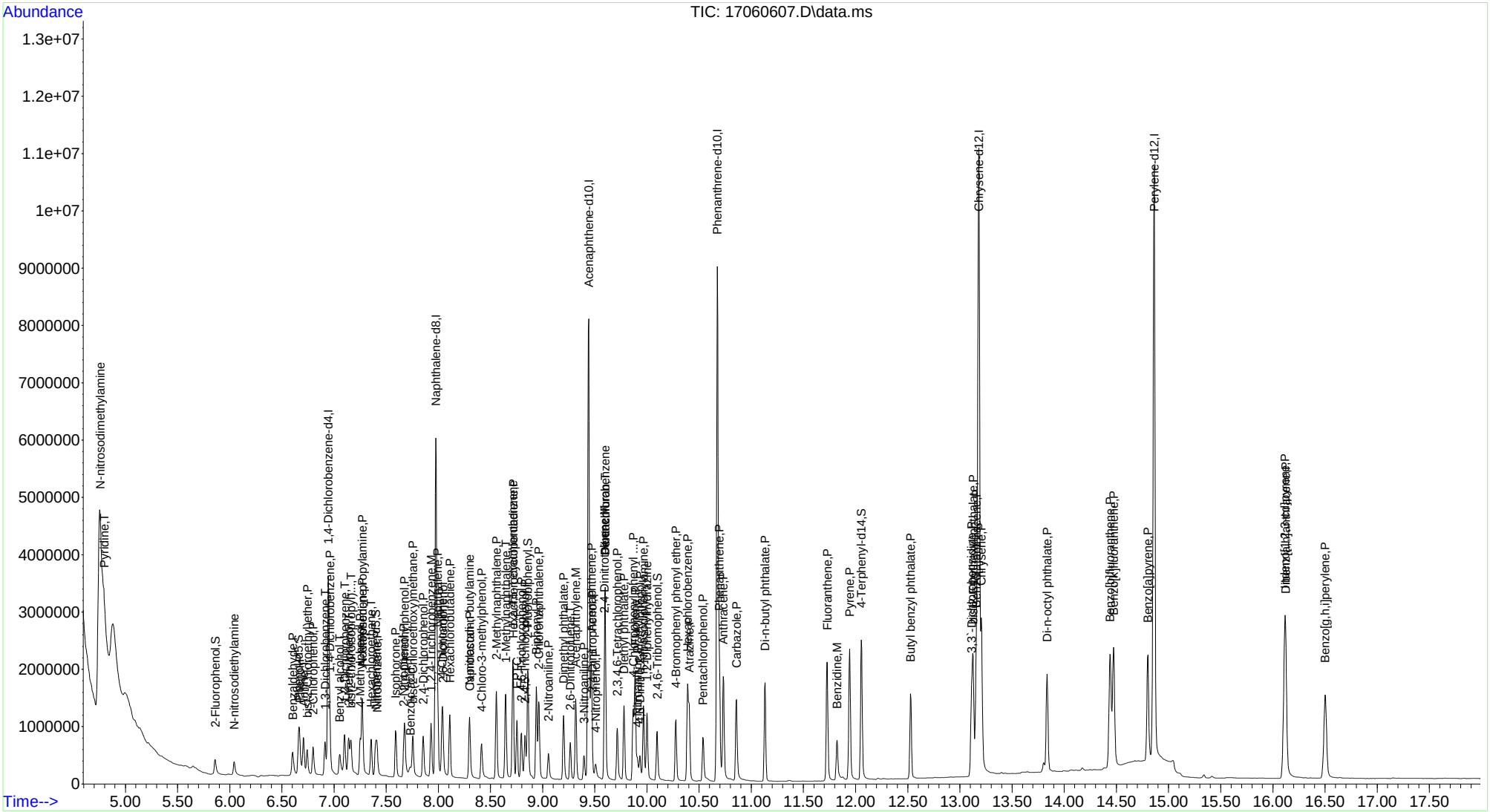
Compound	R.T.	QIon	Response	Conc	Units	%Rec
40) 2-Methylnaphthalene	8.557	142	532969	0.998	mg/kg	100
41) 1-Methylnaphthalene	8.647	142	524224	0.969	mg/kg	100
43) Hexachlorocyclopentadiene	8.718	237	172810	0.977	mg/kg	100
44) EPTC	8.755	128	206937	1.005	mg/kg	99
45) 2,4,6-Trichlorophenol	8.797	196	158278	1.044	mg/kg	100
46) 2,4,5-Trichlorophenol	8.830	196	188725	0.974	mg/kg	99
48) Biphenyl	8.939	154	634222	0.995	mg/kg	99
49) 2-Chloronaphthalene	8.962	162	508426	0.961	mg/kg	100
50) 2-Nitroaniline	9.055	138	137735	1.088	mg/kg	99
51) Acenaphthylene	9.318	152	771324	1.039	mg/kg	99
52) Dimethyl phthalate	9.202	163	635197	1.037	mg/kg	99
53) 2,6-Dinitrotoluene	9.265	165	117568	1.015	mg/kg	96
54) Acenaphthene	9.468	153	606073	0.958	mg/kg	100
55) 3-Nitroaniline	9.396	138	105561	1.108	mg/kg	100
56) 2,4-Dinitrophenol	9.475	184	30235	0.915	mg/kg	86
57) Dibenzofuran	9.599	168	791975	0.992	mg/kg	100
58) 2,4-Dinitrotoluene	9.591	165	158848	1.077	mg/kg	98
59) 4-Nitrophenol	9.509	109	42080	0.970	mg/kg	98
60) 2,3,4,6-Tetrachlorophenol	9.715	232	169584	1.071	mg/kg	99
61) Fluorene	9.888	166	614952	1.002	mg/kg	100
62) 4-Chlorophenyl phenyl ...	9.869	204	304764	0.990	mg/kg	100
63) Diethyl phthalate	9.779	149	607069	1.000	mg/kg	100
64) 4-Nitroaniline	9.910	138	111114	1.066	mg/kg	98
66) 4,6-Dinitro-2-methylph...	9.933	198	81348	0.946	mg/kg	98
67) 1,2-Diphenylhydrazine	10.000	182	138436	0.962	mg/kg	99
68) n-Nitrosodiphenylamine	9.966	169	411585	1.015	mg/kg	100
70) 4-Bromophenyl phenyl e...	10.277	248	214762	0.982	mg/kg	99
71) Atrazine	10.405	200	193734	1.050	mg/kg	98
72) Hexachlorobenzene	10.390	284	308799	1.009	mg/kg	99
73) Pentachlorophenol	10.536	266	148239	1.074	mg/kg	99
74) Phenanthrene	10.694	178	897136	0.946	mg/kg	100
75) Anthracene	10.731	178	912859	0.951	mg/kg	99
76) Pentachlorobenzene	9.599	250	337657	0.944	mg/kg	100
77) Carbazole	10.858	167	867212	1.021	mg/kg	99
78) Di-n-butyl phthalate	11.132	149	1095102	0.949	mg/kg	100
79) Fluoranthene	11.728	202	1135263	0.949	mg/kg	98
81) Benzidine	11.822	184	428160	0.972	mg/kg	100
82) Pyrene	11.942	202	1225773	0.946	mg/kg	99
84) Butyl benzyl phthalate	12.527	149	462986	0.941	mg/kg	97
85) 3,3`-Dichlorobenzidine	13.111	252	470804	0.911	mg/kg	100
86) Benzo[a]anthracene	13.156	228	1215747	0.902	mg/kg	99
87) Chrysene	13.205	228	1211621	0.943	mg/kg	100
88) bis(2-Ethylhexyl)phtha...	13.126	149	748314	0.920	mg/kg	100
90) Di-n-octyl phthalate	13.835	149	1212855	0.929	mg/kg	100
91) Benzo[b]fluoranthene	14.438	252	1356432	1.029	mg/kg	100
92) Benzo[k]fluoranthene	14.472	252	1359930	0.993	mg/kg	99
93) Benzo[a]pyrene	14.802	252	1033170	0.969	mg/kg	99
94) Indeno[1,2,3-cd]pyrene	16.114	276	1527366	0.983	mg/kg	98
95) Dibenz[a,h]anthracene	16.122	278	1246477	0.973	mg/kg	99
96) Benzo[g,h,i]perylene	16.500	276	1219669	0.982	mg/kg	99

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\170606\
Data File : 17060607.D
Acq On : 6 Jun 2017 12:51 pm
Operator :
Sample : CAL5 1.0 ppm
Misc : CAL
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jun 06 16:05:34 2017
QMeth File : SV170606.M
InstName : GCMS9
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Tue Jun 06 15:04:48 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\170606\
Data File : 17060608.D
Acq On : 6 Jun 2017 1:16 pm
Operator :
Sample : CAL6 2.0 ppm
Misc : CAL
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jun 06 16:05:39 2017
QMeth File : SV170606.M
InstName : GCMS9
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Tue Jun 06 15:04:48 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	%Rec
Internal Standards						
1) 1,4-Dichlorobenzene-d4	6.941	152	731555	4.00	mg/kg	94
22) Naphthalene-d8	7.976	136	3663201	4.00	mg/kg	106
42) Acenaphthene-d10	9.441	164	2086909	4.00	mg/kg	110
65) Phenanthrene-d10	10.675	188	4020559	4.00	mg/kg	98
80) Chrysene-d12	13.182	240	5709485	4.00	mg/kg	106
89) Perylene-d12	14.862	264	5865207	4.00	mg/kg	113
System Monitoring Compounds						Dev(Min)
7) 2-Fluorophenol	5.850	112	338227	2.01	mg/kg	0.00
Spiked Amount 4.000	Range 20 - 120		Recovery = 50.25%			
9) Phenol-d5	6.660	99	576886	2.01	mg/kg	0.00
Spiked Amount 4.000	Range 20 - 120		Recovery = 50.25%			
23) Nitrobenzene-d5	7.398	82	524768	1.93	mg/kg	0.00
Spiked Amount 4.000	Range 41 - 120		Recovery = 48.25%			
47) 2-Fluorobiphenyl	8.860	172	1625733	2.01	mg/kg	0.00
Spiked Amount 4.000	Range 48 - 120		Recovery = 50.25%			
69) 2,4,6-Tribromophenol	10.097	330	421357	2.19	mg/kg	0.00
Spiked Amount 4.000	Range 42 - 124		Recovery = 54.75%			
83) 4-Terphenyl-d14	12.058	244	2270271	1.98	mg/kg	0.00
Spiked Amount 4.000	Range 51 - 135		Recovery = 49.50%#			
Target Compounds						Qvalue
2) N-nitrosodimethylamine	4.733	74	200112	1.987	mg/kg	94
3) Pyridine	4.767	79	412073	2.054	mg/kg	95
4) N-nitrosodiethylamine	6.034	102	187877	2.004	mg/kg	99
5) Benzaldehyde	6.596	77	340970	2.158	mg/kg	99
6) Aniline	6.705	93	605770	1.982	mg/kg	97
8) bis(2-Chloroethyl)ether	6.738	95	122109	2.028	mg/kg	98
10) Phenol	6.667	94	492451	2.021	mg/kg	99
11) 2-Chlorophenol	6.795	128	437559	1.968	mg/kg	99
12) 1,3-Dichlorobenzene	6.911	146	462761	2.092	mg/kg	99
13) 1,4-Dichlorobenzene	6.956	146	505739	2.032	mg/kg	99
14) 1,2-Dichlorobenzene	7.098	146	494161	2.050	mg/kg	100
15) Benzyl alcohol	7.053	108	264249	2.112	mg/kg	99
16) bis(2-chloroisopropyl)...	7.158	45	555165	2.003	mg/kg	100
17) 2-Methylphenol	7.140	108	442159	2.113	mg/kg	100
18) Hexachloroethane	7.353	117	173393	2.063	mg/kg	100
19) N-Nitrosodi-n-propylamine	7.271	70	367779	2.257	mg/kg	99
20) 4-Methylphenol	7.252	108	469575	2.155	mg/kg	100
21) Acetophenone	7.267	105	713963	2.359	mg/kg	99
24) Nitrobenzene	7.409	77	436828	1.926	mg/kg	98
25) Isophorone	7.589	82	994343	2.181	mg/kg	99
26) 2-Nitrophenol	7.668	139	258875	2.063	mg/kg	98
27) 2,4-Dimethylphenol	7.679	107	511487	2.109	mg/kg	100
28) bis(2-Chloroethoxy)met...	7.754	93	617534	2.068	mg/kg	100
29) Benzoic acid	7.754	105	299212	2.050	mg/kg	100
30) 2,4-Dichlorophenol	7.856	162	524817	2.019	mg/kg	99
31) 1,2,4-Trichlorobenzene	7.931	180	529222	1.881	mg/kg	100
32) Naphthalene	7.994	128	1663519	2.020	mg/kg	100
33) 4-Chloroaniline	8.035	127	708932	2.304	mg/kg	100
34) 2,6-Dichlorophenol	8.043	162	527742	2.219	mg/kg	99
35) Hexachlorobutadiene	8.110	225	349515	1.934	mg/kg	100
36) N-nitrosodi-n-butylamine	8.302	116	99431	2.050	mg/kg	100
37) Caprolactam	8.313	113	128693	2.042	mg/kg	97
38) 4-Chloro-3-methylphenol	8.418	107	439137	2.193	mg/kg	100
39) 1,2,4,5-Tetrachloroben...	8.714	216	711506	1.951	mg/kg	99

Data Path : C:\msdchem\1\DATA\170606\
Data File : 17060608.D
Acq On : 6 Jun 2017 1:16 pm
Operator :
Sample : CAL6 2.0 ppm
Misc : CAL
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jun 06 16:05:39 2017
QMeth File : SV170606.M
InstName : GCMS9
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Tue Jun 06 15:04:48 2017
Response via : Initial Calibration

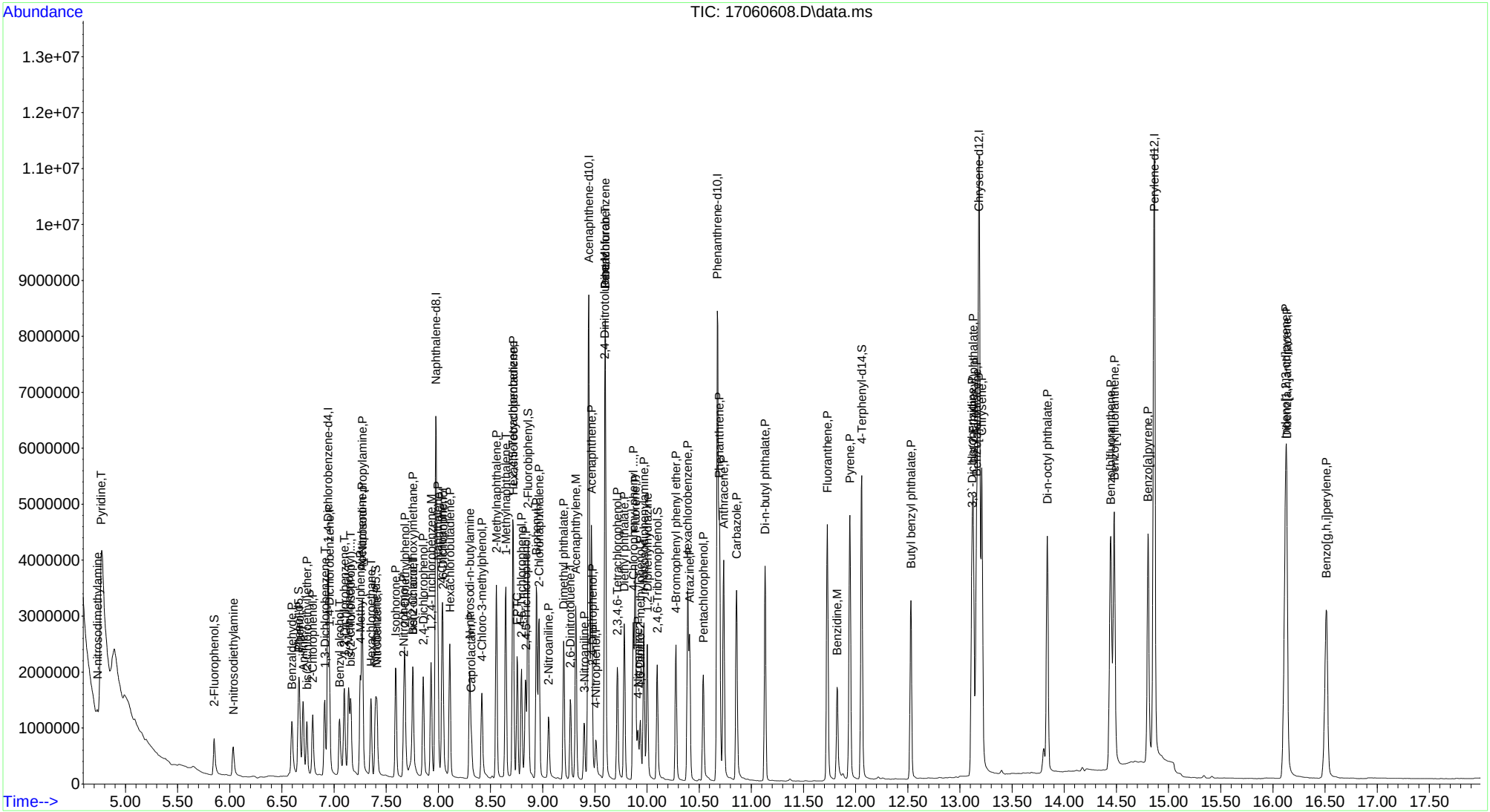
Compound	R.T.	QIon	Response	Conc	Units	%Rec
40) 2-Methylnaphthalene	8.557	142	1173928	1.983	mg/kg	100
41) 1-Methylnaphthalene	8.647	142	1136410	1.895	mg/kg	100
43) Hexachlorocyclopentadiene	8.718	237	409141	2.017	mg/kg	100
44) EPTC	8.755	128	446361	2.059	mg/kg	99
45) 2,4,6-Trichlorophenol	8.796	196	363270	2.119	mg/kg	99
46) 2,4,5-Trichlorophenol	8.838	196	431084	2.058	mg/kg	100
48) Biphenyl	8.939	154	1344984	2.005	mg/kg	100
49) 2-Chloronaphthalene	8.965	162	1086651	1.951	mg/kg	99
50) 2-Nitroaniline	9.055	138	321213	2.138	mg/kg	97
51) Acenaphthylene	9.318	152	1656542	2.122	mg/kg	99
52) Dimethyl phthalate	9.201	163	1340082	2.078	mg/kg	99
53) 2,6-Dinitrotoluene	9.265	165	262240	2.029	mg/kg	98
54) Acenaphthene	9.467	153	1323839	1.988	mg/kg	100
55) 3-Nitroaniline	9.400	138	246433	2.142	mg/kg	98
56) 2,4-Dinitrophenol	9.479	184	95586	2.021	mg/kg	98
57) Dibenzofuran	9.599	168	1818032	2.164	mg/kg	99
58) 2,4-Dinitrotoluene	9.595	165	390811	2.211	mg/kg	99
59) 4-Nitrophenol	9.509	109	105011	1.987	mg/kg	99
60) 2,3,4,6-Tetrachlorophenol	9.715	232	369922	2.080	mg/kg	100
61) Fluorene	9.887	166	1284239	1.988	mg/kg	100
62) 4-Chlorophenyl phenyl ...	9.869	204	657962	2.030	mg/kg	99
63) Diethyl phthalate	9.782	149	1306134	2.045	mg/kg	100
64) 4-Nitroaniline	9.914	138	244759	2.109	mg/kg	100
66) 4,6-Dinitro-2-methylph...	9.936	198	200439	2.122	mg/kg	98
67) 1,2-Diphenylhydrazine	10.004	182	291701	2.098	mg/kg	99
68) n-Nitrosodiphenylamine	9.970	169	857069	2.195	mg/kg	100
70) 4-Bromophenyl phenyl e...	10.277	248	458326	2.175	mg/kg	99
71) Atrazine	10.408	200	394197	2.217	mg/kg	99
72) Hexachlorobenzene	10.390	284	627327	2.127	mg/kg	99
73) Pentachlorophenol	10.540	266	335908	2.250	mg/kg	100
74) Phenanthrene	10.693	178	2011096	2.203	mg/kg	100
75) Anthracene	10.735	178	1926284	2.083	mg/kg	100
76) Pentachlorobenzene	9.599	250	777456	2.256	mg/kg	100
77) Carbazole	10.858	167	1880102	2.298	mg/kg	100
78) Di-n-butyl phthalate	11.132	149	2385983	2.104	mg/kg	100
79) Fluoranthene	11.728	202	2402434	2.084	mg/kg	100
81) Benzidine	11.822	184	959898	2.087	mg/kg	99
82) Pyrene	11.945	202	2566859	1.982	mg/kg	100
84) Butyl benzyl phthalate	12.530	149	1012517	1.954	mg/kg	100
85) 3,3`-Dichlorobenzidine	13.115	252	1107338	2.072	mg/kg	100
86) Benzo[a]anthracene	13.160	228	2688442	1.996	mg/kg	99
87) Chrysene	13.209	228	2576303	2.006	mg/kg	99
88) bis(2-Ethylhexyl)phtha...	13.126	149	1746102	2.068	mg/kg	99
90) Di-n-octyl phthalate	13.838	149	2982051	2.063	mg/kg	100
91) Benzo[b]fluoranthene	14.446	252	2777959	1.952	mg/kg	100
92) Benzo[k]fluoranthene	14.479	252	2891622	1.957	mg/kg	99
93) Benzo[a]pyrene	14.802	252	2239232	1.946	mg/kg	99
94) Indeno[1,2,3-cd]pyrene	16.121	276	3409850	2.035	mg/kg	98
95) Dibenz[a,h]anthracene	16.133	278	2822520	2.043	mg/kg	100
96) Benzo[g,h,i]perylene	16.511	276	2648599	1.976	mg/kg	100

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\170606\
Data File : 17060608.D
Acq On : 6 Jun 2017 1:16 pm
Operator :
Sample : CAL6 2.0 ppm
Misc : CAL
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jun 06 16:05:39 2017
QMeth File : SV170606.M
InstName : GCMS9
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Tue Jun 06 15:04:48 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\170606\
Data File : 17060609.D
Acq On : 6 Jun 2017 1:40 pm
Operator :
Sample : CAL7 3.0 ppm
Misc : CAL
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jun 06 16:05:44 2017
QMeth File : SV170606.M
InstName : GCMS9
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Tue Jun 06 15:04:48 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	%Rec
Internal Standards						
1) 1,4-Dichlorobenzene-d4	6.945	152	774826	4.00	mg/kg	100
22) Naphthalene-d8	7.976	136	3452787	4.00	mg/kg	100
42) Acenaphthene-d10	9.441	164	1903048	4.00	mg/kg	100
65) Phenanthrene-d10	10.675	188	4108775	4.00	mg/kg	100
80) Chrysene-d12	13.183	240	5376265	4.00	mg/kg	100
89) Perylene-d12	14.866	264	5196897	4.00	mg/kg	100
System Monitoring Compounds						Dev(Min)
7) 2-Fluorophenol	5.858	112	579679	3.10	mg/kg	0.00
Spiked Amount 4.000	Range 20 - 120		Recovery = 77.50%			
9) Phenol-d5	6.664	99	917677	3.01	mg/kg	0.00
Spiked Amount 4.000	Range 20 - 120		Recovery = 75.25%			
23) Nitrobenzene-d5	7.398	82	807034	3.05	mg/kg	0.00
Spiked Amount 4.000	Range 41 - 120		Recovery = 76.25%			
47) 2-Fluorobiphenyl	8.860	172	2237373	3.03	mg/kg	0.00
Spiked Amount 4.000	Range 48 - 120		Recovery = 75.75%			
69) 2,4,6-Tribromophenol	10.101	330	582505	2.94	mg/kg	0.00
Spiked Amount 4.000	Range 42 - 124		Recovery = 73.50%			
83) 4-Terphenyl-d14	12.058	244	3262969	3.02	mg/kg	0.00
Spiked Amount 4.000	Range 51 - 135		Recovery = 75.50%			
Target Compounds						Qvalue
2) N-nitrosodimethylamine	4.752	74	338691	3.161	mg/kg	100
3) Pyridine	4.782	79	708374	3.334	mg/kg	100
4) N-nitrosodiethylamine	6.038	102	304041	3.046	mg/kg	100
5) Benzaldehyde	6.600	77	530420	3.170	mg/kg	100
6) Aniline	6.709	93	1005942	3.075	mg/kg	100
8) bis(2-Chloroethyl)ether	6.742	95	193445	3.019	mg/kg	100
10) Phenol	6.675	94	783146	2.895	mg/kg	100
11) 2-Chlorophenol	6.799	128	736711	3.085	mg/kg	100
12) 1,3-Dichlorobenzene	6.915	146	720003	3.073	mg/kg	100
13) 1,4-Dichlorobenzene	6.960	146	772417	2.930	mg/kg	100
14) 1,2-Dichlorobenzene	7.098	146	765283	2.998	mg/kg	100
15) Benzyl alcohol	7.057	108	405792	3.013	mg/kg	100
16) bis(2-chloroisopropyl)...	7.162	45	848883	2.892	mg/kg	100
17) 2-Methylphenol	7.143	108	687719	3.023	mg/kg	100
18) Hexachloroethane	7.353	117	267151	3.002	mg/kg	100
19) N-Nitrosodi-n-propylamine	7.275	70	522227	3.026	mg/kg	100
20) 4-Methylphenol	7.252	108	694440	2.979	mg/kg	100
21) Acetophenone	7.271	105	1073566	3.349	mg/kg	100
24) Nitrobenzene	7.413	77	681996	3.045	mg/kg	100
25) Isophorone	7.593	82	1326125	3.086	mg/kg	100
26) 2-Nitrophenol	7.668	139	417090	3.229	mg/kg	100
27) 2,4-Dimethylphenol	7.680	107	749693	3.279	mg/kg	100
28) bis(2-Chloroethoxy)met...	7.758	93	917507	3.261	mg/kg	100
29) Benzoic acid	7.762	105	470887	3.103	mg/kg	100
30) 2,4-Dichlorophenol	7.859	162	753776	3.029	mg/kg	100
31) 1,2,4-Trichlorobenzene	7.931	180	831231	3.135	mg/kg	100
32) Naphthalene	7.994	128	2319053	2.988	mg/kg	100
33) 4-Chloroaniline	8.036	127	936191	3.229	mg/kg	100
34) 2,6-Dichlorophenol	8.043	162	711339	3.174	mg/kg	100
35) Hexachlorobutadiene	8.111	225	517307	3.037	mg/kg	100
36) N-nitrosodi-n-butylamine	8.302	116	132614	2.916	mg/kg	100
37) Caprolactam	8.321	113	174332	2.921	mg/kg	100
38) 4-Chloro-3-methylphenol	8.418	107	592341	3.138	mg/kg	100
39) 1,2,4,5-Tetrachloroben...	8.714	216	1002809	2.917	mg/kg	100

Data Path : C:\msdchem\1\DATA\170606\
Data File : 17060609.D
Acq On : 6 Jun 2017 1:40 pm
Operator :
Sample : CAL7 3.0 ppm
Misc : CAL
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jun 06 16:05:44 2017
QMeth File : SV170606.M
InstName : GCMS9
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Tue Jun 06 15:04:48 2017
Response via : Initial Calibration

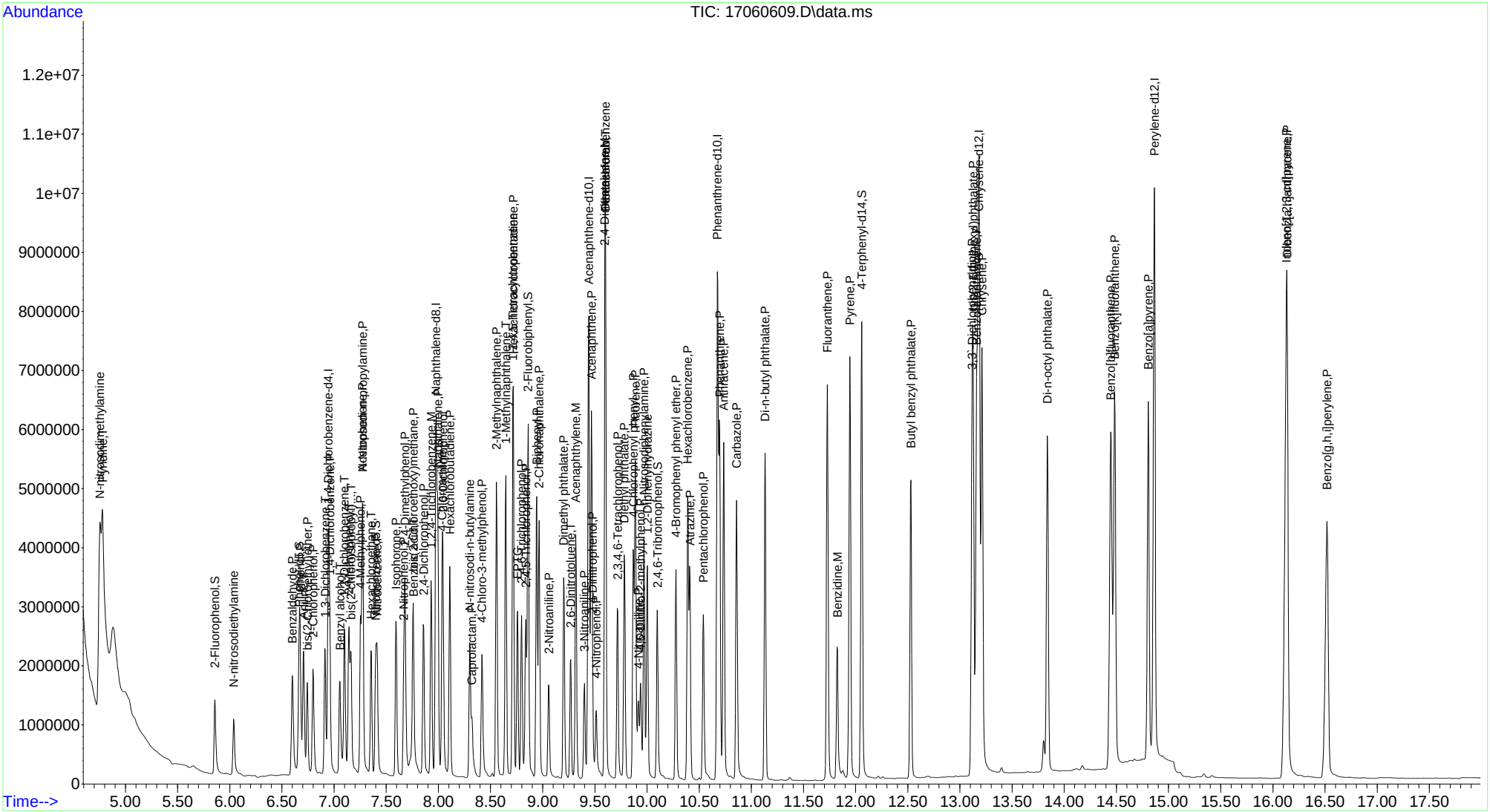
Compound	R.T.	QIon	Response	Conc	Units	%Rec
40) 2-Methylnaphthalene	8.557	142	1693361	3.035	mg/kg	100
41) 1-Methylnaphthalene	8.647	142	1652461	2.924	mg/kg	100
43) Hexachlorocyclopentadiene	8.718	237	603897	3.047	mg/kg	100
44) EPTC	8.759	128	591396	2.992	mg/kg	100
45) 2,4,6-Trichlorophenol	8.797	196	514571	3.107	mg/kg	100
46) 2,4,5-Trichlorophenol	8.838	196	561104	2.888	mg/kg	100
48) Biphenyl	8.943	154	1846436	3.018	mg/kg	100
49) 2-Chloronaphthalene	8.965	162	1561988	3.076	mg/kg	100
50) 2-Nitroaniline	9.059	138	457041	3.048	mg/kg	100
51) Acenaphthylene	9.318	152	2198188	3.087	mg/kg	100
52) Dimethyl phthalate	9.201	163	1851091	3.148	mg/kg	100
53) 2,6-Dinitrotoluene	9.269	165	370700	3.004	mg/kg	100
54) Acenaphthene	9.468	153	1824926	3.005	mg/kg	100
55) 3-Nitroaniline	9.400	138	384011	3.237	mg/kg	100
56) 2,4-Dinitrophenol	9.479	184	159192	3.093	mg/kg	100
57) Dibenzofuran	9.603	168	2372409	3.097	mg/kg	100
58) 2,4-Dinitrotoluene	9.595	165	543063	3.089	mg/kg	100
59) 4-Nitrophenol	9.513	109	167698	3.092	mg/kg	100
60) 2,3,4,6-Tetrachlorophenol	9.719	232	527601	3.079	mg/kg	100
61) Fluorene	9.887	166	1799421	3.055	mg/kg	100
62) 4-Chlorophenyl phenyl ...	9.869	204	917205	3.104	mg/kg	100
63) Diethyl phthalate	9.783	149	1857065	3.188	mg/kg	100
64) 4-Nitroaniline	9.917	138	321162	2.930	mg/kg	100
66) 4,6-Dinitro-2-methylph...	9.940	198	311264	3.018	mg/kg	100
67) 1,2-Diphenylhydrazine	10.004	182	417094	2.948	mg/kg	100
68) n-Nitrosodiphenylamine	9.970	169	1243597	3.116	mg/kg	100
70) 4-Bromophenyl phenyl e...	10.277	248	655816	3.046	mg/kg	100
71) Atrazine	10.412	200	563017	3.099	mg/kg	100
72) Hexachlorobenzene	10.390	284	886617	2.942	mg/kg	100
73) Pentachlorophenol	10.540	266	497642	3.048	mg/kg	100
74) Phenanthrene	10.697	178	2719205	2.915	mg/kg	100
75) Anthracene	10.735	178	2873426	3.040	mg/kg	100
76) Pentachlorobenzene	9.603	250	1020870	2.899	mg/kg	100
77) Carbazole	10.858	167	2553318	3.053	mg/kg	100
78) Di-n-butyl phthalate	11.132	149	3545592	3.025	mg/kg	100
79) Fluoranthene	11.728	202	3591137	3.049	mg/kg	100
81) Benzidine	11.826	184	1287478	2.895	mg/kg	100
82) Pyrene	11.945	202	3808195	3.123	mg/kg	100
84) Butyl benzyl phthalate	12.530	149	1588929	3.103	mg/kg	100
85) 3,3`-Dichlorobenzidine	13.115	252	1539417	2.996	mg/kg	100
86) Benzo[a]anthracene	13.160	228	3763059	2.968	mg/kg	100
87) Chrysene	13.213	228	3605142	2.982	mg/kg	100
88) bis(2-Ethylhexyl)phtha...	13.126	149	2442055	3.006	mg/kg	100
90) Di-n-octyl phthalate	13.839	149	4124034	3.176	mg/kg	100
91) Benzo[b]fluoranthene	14.446	252	4131839	3.277	mg/kg	100
92) Benzo[k]fluoranthene	14.483	252	4133857	3.157	mg/kg	100
93) Benzo[a]pyrene	14.806	252	3447128	3.382	mg/kg	100
94) Indeno[1,2,3-cd]pyrene	16.129	276	4898047	3.299	mg/kg	100
95) Dibenz[a,h]anthracene	16.136	278	4018787	3.283	mg/kg	100
96) Benzo[g,h,i]perylene	16.519	276	3869696	3.258	mg/kg	100

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\170606\
Data File : 17060609.D
Acq On : 6 Jun 2017 1:40 pm
Operator :
Sample : CAL7 3.0 ppm
Misc : CAL
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jun 06 16:05:44 2017
QMeth File : SV170606.M
InstName : GCMS9
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Tue Jun 06 15:04:48 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\170606\
Data File : 17060610.D
Acq On : 6 Jun 2017 2:05 pm
Operator :
Sample : CAL8 4.0 ppm
Misc : CAL
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jun 06 16:05:49 2017
QMeth File : SV170606.M
InstName : GCMS9
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Tue Jun 06 15:04:48 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	%Rec
Internal Standards						
1) 1,4-Dichlorobenzene-d4	6.945	152	760659	4.00	mg/kg	98
22) Naphthalene-d8	7.979	136	3426785	4.00	mg/kg	99
42) Acenaphthene-d10	9.441	164	1954781	4.00	mg/kg	103
65) Phenanthrene-d10	10.678	188	4090891	4.00	mg/kg	100
80) Chrysene-d12	13.186	240	5048135	4.00	mg/kg	94
89) Perylene-d12	14.866	264	5549257	4.00	mg/kg	107
System Monitoring Compounds						Dev(Min)
7) 2-Fluorophenol	5.854	112	794278	4.14	mg/kg	0.00
Spiked Amount 4.000	Range 20 - 120		Recovery = 103.50%			
9) Phenol-d5	6.667	99	1284155	4.29	mg/kg	0.00
Spiked Amount 4.000	Range 20 - 120		Recovery = 107.25%			
23) Nitrobenzene-d5	7.398	82	1129233	4.16	mg/kg	0.00
Spiked Amount 4.000	Range 41 - 120		Recovery = 104.00%			
47) 2-Fluorobiphenyl	8.860	172	3070518	4.05	mg/kg	0.00
Spiked Amount 4.000	Range 48 - 120		Recovery = 101.25%			
69) 2,4,6-Tribromophenol	10.101	330	792833	3.98	mg/kg	0.00
Spiked Amount 4.000	Range 42 - 124		Recovery = 99.50%			
83) 4-Terphenyl-d14	12.062	244	4493214	4.42	mg/kg	0.00
Spiked Amount 4.000	Range 51 - 135		Recovery = 110.50%			
Target Compounds						Qvalue
2) N-nitrosodimethylamine	4.741	74	432222	4.066	mg/kg	97
3) Pyridine	4.771	79	876592	4.202	mg/kg	98
4) N-nitrosodiethylamine	6.038	102	419738	4.268	mg/kg	97
5) Benzaldehyde	6.600	77	689431	4.197	mg/kg	99
6) Aniline	6.705	93	1383743	4.272	mg/kg	99
8) bis(2-Chloroethyl)ether	6.742	95	266238	4.217	mg/kg	98
10) Phenol	6.675	94	1236789	4.341	mg/kg	100
11) 2-Chlorophenol	6.799	128	991344	4.181	mg/kg	100
12) 1,3-Dichlorobenzene	6.911	146	967589	4.207	mg/kg	100
13) 1,4-Dichlorobenzene	6.956	146	1035952	4.002	mg/kg	100
14) 1,2-Dichlorobenzene	7.098	146	1039620	4.148	mg/kg	100
15) Benzyl alcohol	7.057	108	566073	4.214	mg/kg	99
16) bis(2-chloroisopropyl)...	7.162	45	1110274	3.853	mg/kg	100
17) 2-Methylphenol	7.143	108	991536	4.295	mg/kg	99
18) Hexachloroethane	7.353	117	357225	4.088	mg/kg	99
19) N-Nitrosodi-n-propylamine	7.278	70	680958	4.020	mg/kg	99
20) 4-Methylphenol	7.256	108	1004373	4.330	mg/kg	100
21) Acetophenone	7.271	105	1405473	4.466	mg/kg	99
24) Nitrobenzene	7.413	77	939764	4.065	mg/kg	100
25) Isophorone	7.597	82	1848464	4.335	mg/kg	98
26) 2-Nitrophenol	7.668	139	551500	4.062	mg/kg	99
27) 2,4-Dimethylphenol	7.680	107	1002576	4.419	mg/kg	100
28) bis(2-Chloroethoxy)met...	7.758	93	1225303	4.387	mg/kg	99
29) Benzoic acid	7.773	105	711265	4.302	mg/kg	99
30) 2,4-Dichlorophenol	7.859	162	1042205	4.161	mg/kg	100
31) 1,2,4-Trichlorobenzene	7.931	180	1111291	4.223	mg/kg	99
32) Naphthalene	7.994	128	3078897	3.997	mg/kg	100
33) 4-Chloroaniline	8.036	127	1335328	4.640	mg/kg	100
34) 2,6-Dichlorophenol	8.047	162	995630	4.476	mg/kg	99
35) Hexachlorobutadiene	8.111	225	688968	4.075	mg/kg	99
36) N-nitrosodi-n-butylamine	8.302	116	185399	4.153	mg/kg	99
37) Caprolactam	8.332	113	250117	4.206	mg/kg	98
38) 4-Chloro-3-methylphenol	8.422	107	864610	4.616	mg/kg	99
39) 1,2,4,5-Tetrachloroben...	8.714	216	1407606	4.126	mg/kg	99

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\170606\
Data File : 17060610.D
Acq On : 6 Jun 2017 2:05 pm
Operator :
Sample : CAL8 4.0 ppm
Misc : CAL
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jun 06 16:05:49 2017
QMeth File : SV170606.M
InstName : GCMS9
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Tue Jun 06 15:04:48 2017
Response via : Initial Calibration

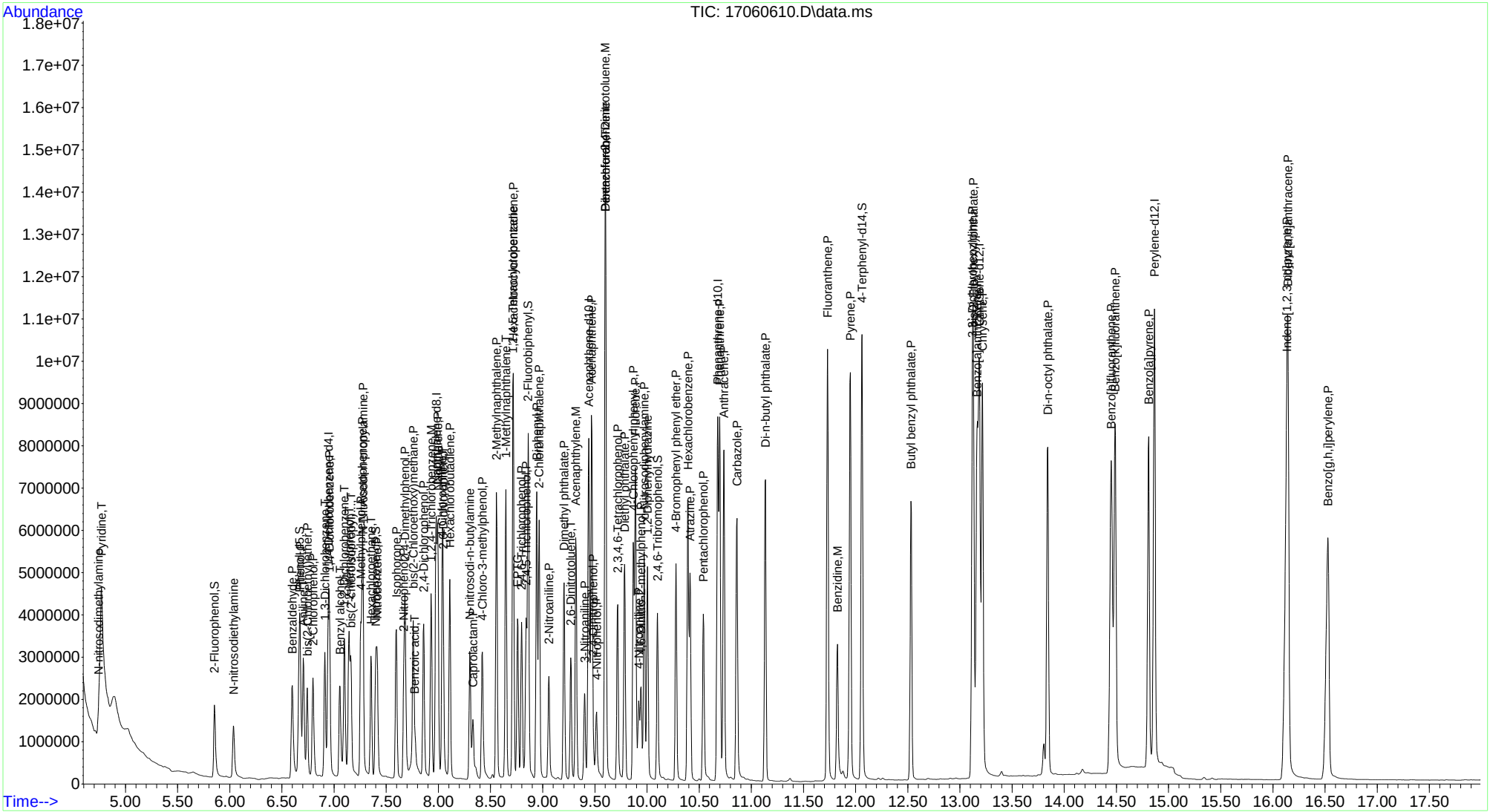
Compound	R.T.	QIon	Response	Conc	Units	%Rec
40) 2-Methylnaphthalene	8.557	142	2292797	4.140	mg/kg	100
41) 1-Methylnaphthalene	8.647	142	2206620	3.934	mg/kg	99
43) Hexachlorocyclopentadiene	8.718	237	871564	4.035	mg/kg	99
44) EPTC	8.759	128	847563	4.174	mg/kg	99
45) 2,4,6-Trichlorophenol	8.797	196	715148	4.003	mg/kg	99
46) 2,4,5-Trichlorophenol	8.842	196	842501	4.124	mg/kg	100
48) Biphenyl	8.943	154	2584028	4.112	mg/kg	100
49) 2-Chloronaphthalene	8.965	162	2260083	4.333	mg/kg	100
50) 2-Nitroaniline	9.059	138	675317	4.019	mg/kg	100
51) Acenaphthylene	9.318	152	3091990	4.228	mg/kg	100
52) Dimethyl phthalate	9.205	163	2579455	4.271	mg/kg	100
53) 2,6-Dinitrotoluene	9.269	165	532883	4.023	mg/kg	98
54) Acenaphthene	9.468	153	2551137	4.090	mg/kg	100
55) 3-Nitroaniline	9.404	138	503169	3.872	mg/kg	96
56) 2,4-Dinitrophenol	9.483	184	241356	4.031	mg/kg	94
57) Dibenzofuran	9.603	168	3297333	4.191	mg/kg	99
58) 2,4-Dinitrotoluene	9.599	165	759487	3.907	mg/kg	99
59) 4-Nitrophenol	9.516	109	242652	4.005	mg/kg	97
60) 2,3,4,6-Tetrachlorophenol	9.719	232	739129	4.004	mg/kg	100
61) Fluorene	9.887	166	2524962	4.173	mg/kg	99
62) 4-Chlorophenyl phenyl ...	9.869	204	1295183	4.267	mg/kg	100
63) Diethyl phthalate	9.786	149	2536489	4.239	mg/kg	99
64) 4-Nitroaniline	9.921	138	456546	3.905	mg/kg	98
66) 4,6-Dinitro-2-methylph...	9.944	198	431522	3.957	mg/kg	99
67) 1,2-Diphenylhydrazine	10.004	182	576603	4.128	mg/kg	100
68) n-Nitrosodiphenylamine	9.974	169	1622393	4.084	mg/kg	100
70) 4-Bromophenyl phenyl e...	10.277	248	941713	4.392	mg/kg	100
71) Atrazine	10.412	200	786283	4.347	mg/kg	100
72) Hexachlorobenzene	10.394	284	1255209	4.183	mg/kg	98
73) Pentachlorophenol	10.540	266	697777	3.988	mg/kg	100
74) Phenanthrene	10.697	178	3743830	4.030	mg/kg	99
75) Anthracene	10.738	178	3848495	4.090	mg/kg	100
76) Pentachlorobenzene	9.603	250	1413033	4.031	mg/kg	100
77) Carbazole	10.862	167	3518192	4.225	mg/kg	100
78) Di-n-butyl phthalate	11.136	149	4708819	3.991	mg/kg	100
79) Fluoranthene	11.732	202	5283456	4.505	mg/kg	100
81) Benzidine	11.826	184	1835478	4.223	mg/kg	100
82) Pyrene	11.949	202	5232413	4.570	mg/kg	100
84) Butyl benzyl phthalate	12.530	149	2117560	4.220	mg/kg	98
85) 3,3`-Dichlorobenzidine	13.119	252	2117754	4.274	mg/kg	100
86) Benzo[a]anthracene	13.164	228	4688690	3.938	mg/kg	100
87) Chrysene	13.216	228	4596207	4.049	mg/kg	100
88) bis(2-Ethylhexyl)phtha...	13.130	149	3363842	4.293	mg/kg	99
90) Di-n-octyl phthalate	13.842	149	5625581	4.024	mg/kg	100
91) Benzo[b]fluoranthene	14.450	252	5518768	4.099	mg/kg	99
92) Benzo[k]fluoranthene	14.487	252	5433433	3.886	mg/kg	100
93) Benzo[a]pyrene	14.809	252	4502826	4.137	mg/kg	99
94) Indeno[1,2,3-cd]pyrene	16.133	276	6772768	4.272	mg/kg	99
95) Dibenz[a,h]anthracene	16.144	278	5515535	4.219	mg/kg	100
96) Benzo[g,h,i]perylene	16.526	276	5285641	4.167	mg/kg	100

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\170606\
Data File : 17060610.D
Acq On : 6 Jun 2017 2:05 pm
Operator :
Sample : CAL8 4.0 ppm
Misc : CAL
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jun 06 16:05:49 2017
QMeth File : SV170606.M
InstName : GCMS9
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Tue Jun 06 15:04:48 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\170606\
Data File : 17060611.D
Acq On : 6 Jun 2017 2:30 pm
Operator :
Sample : CAL9 5.0 ppm
Misc : CAL
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jun 06 16:05:54 2017
QMeth File : SV170606.M
InstName : GCMS9
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Tue Jun 06 15:04:48 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	%Rec
Internal Standards						
1) 1,4-Dichlorobenzene-d4	6.945	152	817729	4.00	mg/kg	106
22) Naphthalene-d8	7.979	136	3385554	4.00	mg/kg	98
42) Acenaphthene-d10	9.441	164	1800828	4.00	mg/kg	95
65) Phenanthrene-d10	10.678	188	3965629	4.00	mg/kg	97
80) Chrysene-d12	13.186	240	5298714	4.00	mg/kg	99
89) Perylene-d12	14.865	264	5492803	4.00	mg/kg	106
System Monitoring Compounds						Dev(Min)
7) 2-Fluorophenol	5.854	112	1027279	4.85	mg/kg	0.00
Spiked Amount 4.000	Range 20 - 120		Recovery = 121.25%#			
9) Phenol-d5	6.667	99	1536541	4.77	mg/kg	0.00
Spiked Amount 4.000	Range 20 - 120		Recovery = 119.25%			
23) Nitrobenzene-d5	7.402	82	1334405	4.88	mg/kg	0.00
Spiked Amount 4.000	Range 41 - 120		Recovery = 122.00%#			
47) 2-Fluorobiphenyl	8.864	172	3548441	5.07	mg/kg	0.00
Spiked Amount 4.000	Range 48 - 120		Recovery = 126.75%#			
69) 2,4,6-Tribromophenol	10.101	330	972511	4.99	mg/kg	0.00
Spiked Amount 4.000	Range 42 - 124		Recovery = 124.75%#			
83) 4-Terphenyl-d14	12.062	244	5555606	5.21	mg/kg	0.00
Spiked Amount 4.000	Range 51 - 135		Recovery = 130.25%			
Target Compounds						Qvalue
2) N-nitrosodimethylamine	4.744	74	563432	4.874	mg/kg	97
3) Pyridine	4.774	79	1096888	4.891	mg/kg	100
4) N-nitrosodiethylamine	6.037	102	504729	4.769	mg/kg	97
5) Benzaldehyde	6.600	77	852943	4.830	mg/kg	99
6) Aniline	6.708	93	1661159	4.756	mg/kg	99
8) bis(2-Chloroethyl)ether	6.742	95	327217	4.814	mg/kg	98
10) Phenol	6.678	94	1498771	4.793	mg/kg	99
11) 2-Chlorophenol	6.798	128	1237751	4.825	mg/kg	100
12) 1,3-Dichlorobenzene	6.911	146	1227103	4.963	mg/kg	100
13) 1,4-Dichlorobenzene	6.960	146	1354930	4.869	mg/kg	100
14) 1,2-Dichlorobenzene	7.098	146	1290543	4.790	mg/kg	100
15) Benzyl alcohol	7.057	108	698382	4.805	mg/kg	100
16) bis(2-chloroisopropyl)...	7.162	45	1365055	4.407	mg/kg	98
17) 2-Methylphenol	7.143	108	1190496	4.744	mg/kg	100
18) Hexachloroethane	7.353	117	449692	4.788	mg/kg	100
19) N-Nitrosodi-n-propylamine	7.278	70	822997	4.519	mg/kg	100
20) 4-Methylphenol	7.256	108	1181730	4.722	mg/kg	99
21) Acetophenone	7.274	105	1703103	5.034	mg/kg	99
24) Nitrobenzene	7.417	77	1167523	4.948	mg/kg	99
25) Isophorone	7.597	82	2072004	4.918	mg/kg	100
26) 2-Nitrophenol	7.672	139	656292	4.694	mg/kg	99
27) 2,4-Dimethylphenol	7.683	107	1175896	5.246	mg/kg	100
28) bis(2-Chloroethoxy)met...	7.762	93	1409143	5.107	mg/kg	100
29) Benzoic acid	7.781	105	796748	4.732	mg/kg	100
30) 2,4-Dichlorophenol	7.863	162	1211703	4.856	mg/kg	100
31) 1,2,4-Trichlorobenzene	7.931	180	1334940	5.135	mg/kg	99
32) Naphthalene	7.994	128	3655204	4.804	mg/kg	100
33) 4-Chloroaniline	8.039	127	1553509	5.464	mg/kg	100
34) 2,6-Dichlorophenol	8.047	162	1194285	5.434	mg/kg	99
35) Hexachlorobutadiene	8.110	225	845684	5.063	mg/kg	100
36) N-nitrosodi-n-butylamine	8.305	116	214863	4.907	mg/kg	98
37) Caprolactam	8.339	113	286234	4.866	mg/kg	97
38) 4-Chloro-3-methylphenol	8.422	107	977372	5.281	mg/kg	99
39) 1,2,4,5-Tetrachloroben...	8.718	216	1634167	4.848	mg/kg	99

Data Path : C:\msdchem\1\DATA\170606\
Data File : 17060611.D
Acq On : 6 Jun 2017 2:30 pm
Operator :
Sample : CAL9 5.0 ppm
Misc : CAL
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jun 06 16:05:54 2017
QMeth File : SV170606.M
InstName : GCMS9
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Tue Jun 06 15:04:48 2017
Response via : Initial Calibration

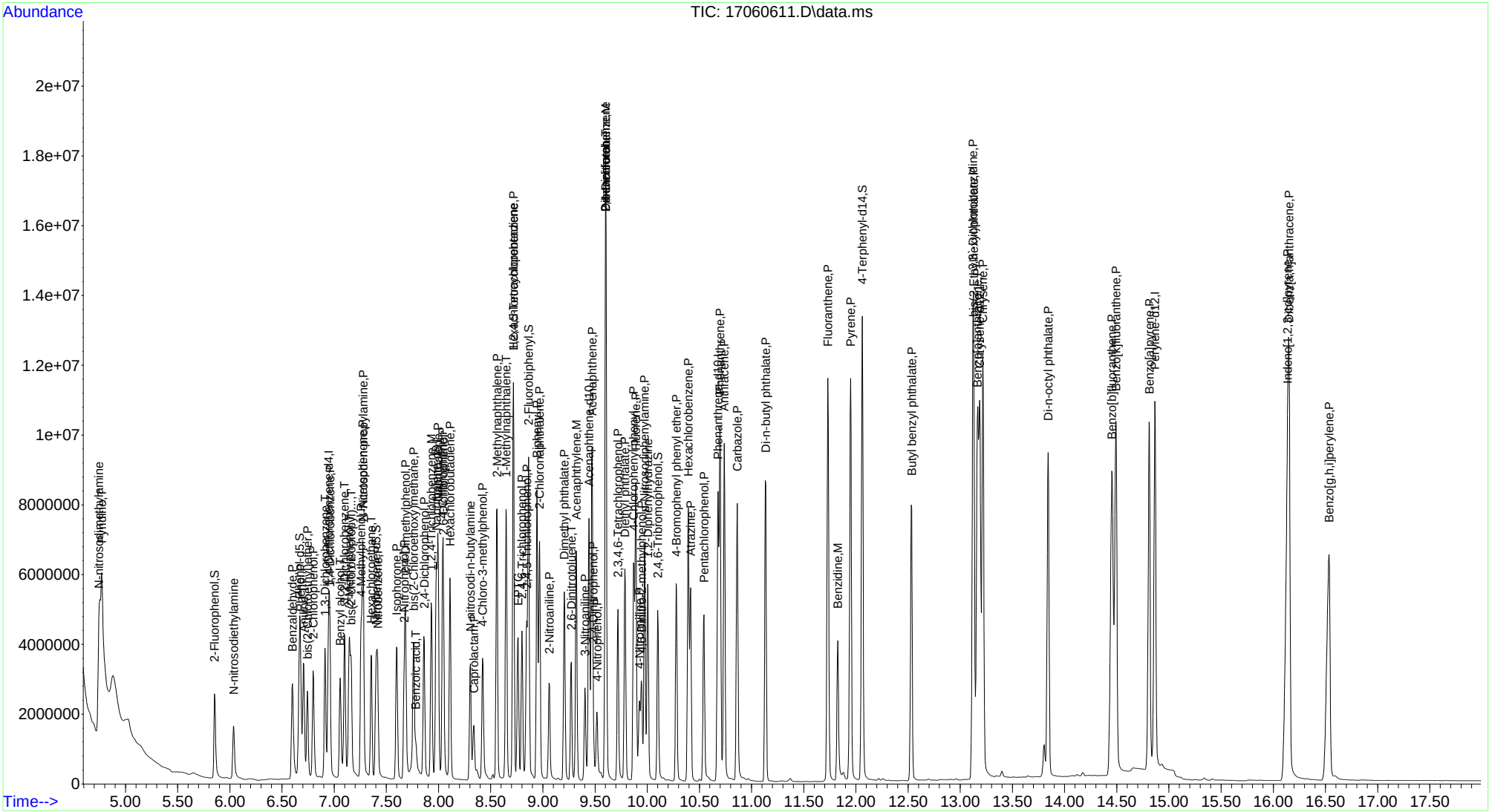
Compound	R.T.	QIon	Response	Conc	Units	%Rec
40) 2-Methylnaphthalene	8.560	142	2694156	4.924	mg/kg	100
41) 1-Methylnaphthalene	8.646	142	2592945	4.679	mg/kg	99
43) Hexachlorocyclopentadiene	8.718	237	1037025	4.950	mg/kg	100
44) EPTC	8.763	128	950023	5.079	mg/kg	100
45) 2,4,6-Trichlorophenol	8.800	196	820279	4.786	mg/kg	100
46) 2,4,5-Trichlorophenol	8.845	196	945744	4.950	mg/kg	98
48) Biphenyl	8.943	154	3104430	5.362	mg/kg	99
49) 2-Chloronaphthalene	8.969	162	2569742	5.348	mg/kg	99
50) 2-Nitroaniline	9.063	138	795357	4.812	mg/kg	99
51) Acenaphthylene	9.321	152	3573256	5.303	mg/kg	100
52) Dimethyl phthalate	9.205	163	3028274	5.443	mg/kg	100
53) 2,6-Dinitrotoluene	9.273	165	630437	4.971	mg/kg	99
54) Acenaphthene	9.471	153	2834397	4.932	mg/kg	99
55) 3-Nitroaniline	9.404	138	626770	4.801	mg/kg	99
56) 2,4-Dinitrophenol	9.482	184	302739	4.942	mg/kg	98
57) Dibenzofuran	9.602	168	3812419	5.259	mg/kg	99
58) 2,4-Dinitrotoluene	9.602	165	935655	4.836	mg/kg	96
59) 4-Nitrophenol	9.520	109	300035	4.962	mg/kg	95
60) 2,3,4,6-Tetrachlorophenol	9.719	232	853246	4.823	mg/kg	99
61) Fluorene	9.891	166	2924254	5.246	mg/kg	99
62) 4-Chlorophenyl phenyl ...	9.869	204	1491398	5.333	mg/kg	98
63) Diethyl phthalate	9.786	149	3021673	5.482	mg/kg	99
64) 4-Nitroaniline	9.925	138	568865	5.066	mg/kg	98
66) 4,6-Dinitro-2-methylph...	9.947	198	560698	4.995	mg/kg	99
67) 1,2-Diphenylhydrazine	10.007	182	659111	4.898	mg/kg	100
68) n-Nitrosodiphenylamine	9.973	169	2047651	5.317	mg/kg	100
70) 4-Bromophenyl phenyl e...	10.281	248	1074680	5.171	mg/kg	99
71) Atrazine	10.416	200	928119	5.293	mg/kg	99
72) Hexachlorobenzene	10.393	284	1448069	4.979	mg/kg	99
73) Pentachlorophenol	10.543	266	855465	4.767	mg/kg	100
74) Phenanthrene	10.697	178	4510199	5.009	mg/kg	99
75) Anthracene	10.738	178	4570787	5.011	mg/kg	99
76) Pentachlorobenzene	9.602	250	1652475	4.862	mg/kg	100
77) Carbazole	10.862	167	4301745	5.330	mg/kg	99
78) Di-n-butyl phthalate	11.136	149	5736618	4.965	mg/kg	100
79) Fluoranthene	11.732	202	6096394	5.363	mg/kg	100
81) Benzidine	11.825	184	2259177	4.862	mg/kg	99
82) Pyrene	11.949	202	6205359	5.163	mg/kg	100
84) Butyl benzyl phthalate	12.534	149	2583990	4.803	mg/kg	99
85) 3,3`-Dichlorobenzidine	13.122	252	2512251	4.781	mg/kg	99
86) Benzo[a]anthracene	13.164	228	6119779	4.897	mg/kg	99
87) Chrysene	13.216	228	5819562	4.884	mg/kg	99
88) bis(2-Ethylhexyl)phtha...	13.130	149	3952243	4.761	mg/kg	99
90) Di-n-octyl phthalate	13.842	149	6793903	4.872	mg/kg	99
91) Benzo[b]fluoranthene	14.453	252	6948214	5.214	mg/kg	99
92) Benzo[k]fluoranthene	14.494	252	6689051	4.834	mg/kg	99
93) Benzo[a]pyrene	14.813	252	5866360	5.445	mg/kg	99
94) Indeno[1,2,3-cd]pyrene	16.136	276	8300450	5.289	mg/kg	98
95) Dibenz[a,h]anthracene	16.151	278	6805486	5.259	mg/kg	99
96) Benzo[g,h,i]perylene	16.534	276	6407410	5.103	mg/kg	100

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\170606\
Data File : 17060611.D
Acq On : 6 Jun 2017 2:30 pm
Operator :
Sample : CAL9 5.0 ppm
Misc : CAL
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jun 06 16:05:54 2017
QMeth File : SV170606.M
InstName : GCMS9
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Tue Jun 06 15:04:48 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\170606\
Data File : 17060613.D
Acq On : 6 Jun 2017 3:19 pm
Operator :
Sample : SSCV 2.5 ppm EPTC
Misc : ICV
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jun 06 16:05:59 2017
QMeth File : SV170606.M
InstName : GCMS9
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Tue Jun 06 15:04:48 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	%Rec
Internal Standards						
1) 1,4-Dichlorobenzene-d4	6.941	152	621637	4.00	mg/kg	80
22) Naphthalene-d8	7.976	136	3227459	4.00	mg/kg	93
42) Acenaphthene-d10	9.437	164	2201132	4.00	mg/kg	116
65) Phenanthrene-d10	10.675	188	4417070	4.00	mg/kg	108
80) Chrysene-d12	13.179	240	5839857	4.00	mg/kg	109
89) Perylene-d12	14.862	264	5493617	4.00	mg/kg	106
System Monitoring Compounds						Dev(Min)
7) 2-Fluorophenol	0.000	112	0	0.00	mg/kg	
Spiked Amount 4.000	Range 20 - 120		Recovery =	0.00%#		
9) Phenol-d5	0.000	99	0	0.00	mg/kg	
Spiked Amount 4.000	Range 20 - 120		Recovery =	0.00%#		
23) Nitrobenzene-d5	7.394	82	74	0.02	mg/kg	0.00
Spiked Amount 4.000	Range 41 - 120		Recovery =	0.50%#		
47) 2-Fluorobiphenyl	8.864	172	114	0.00	mg/kg	0.00
Spiked Amount 4.000	Range 48 - 120		Recovery =	0.00%#		
69) 2,4,6-Tribromophenol	10.097	330	270	0.03	mg/kg	0.00
Spiked Amount 4.000	Range 42 - 124		Recovery =	0.75%#		
83) 4-Terphenyl-d14	12.054	244	8425	0.01	mg/kg	0.00
Spiked Amount 4.000	Range 51 - 135		Recovery =	0.25%#		
Target Compounds						Qvalue
2) N-nitrosodimethylamine	4.778	74	9640	0.011	mg/kg#	1
3) Pyridine	4.620	79	2759	0.016	mg/kg#	16
4) N-nitrosodiethylamine	0.000		0	N.D.		
5) Benzaldehyde	0.000		0	N.D.		
6) Aniline	0.000		0	N.D.		
8) bis(2-Chloroethyl)ether	0.000		0	N.D.		
10) Phenol	0.000		0	N.D.		
11) 2-Chlorophenol	0.000		0	N.D.		
12) 1,3-Dichlorobenzene	0.000		0	N.D.		
13) 1,4-Dichlorobenzene	0.000		0	N.D.		
14) 1,2-Dichlorobenzene	0.000		0	N.D.		
15) Benzyl alcohol	6.941	108	1671	0.079	mg/kg#	1
16) bis(2-chloroisopropyl)...	0.000		0	N.D.		
17) 2-Methylphenol	6.941	108	1671	0.038	mg/kg#	4
18) Hexachloroethane	7.136	117	98	0.001	mg/kg#	2
19) N-Nitrosodi-n-propylamine	7.282	70	258	0.002	mg/kg#	33
20) 4-Methylphenol	0.000		0	N.D.		
21) Acetophenone	0.000		0	N.D.		
24) Nitrobenzene	0.000		0	N.D.		
25) Isophorone	7.578	82	22	0.000	mg/kg	59
26) 2-Nitrophenol	0.000		0	N.D.		
27) 2,4-Dimethylphenol	0.000		0	N.D.		
28) bis(2-Chloroethoxy)met...	7.976	93	732	0.003	mg/kg#	1
29) Benzoic acid	0.000		0	N.D.		
30) 2,4-Dichlorophenol	0.000		0	N.D.		
31) 1,2,4-Trichlorobenzene	0.000		0	N.D.		
32) Naphthalene	7.990	128	157	0.000	mg/kg	69
33) 4-Chloroaniline	0.000		0	N.D.		
34) 2,6-Dichlorophenol	0.000		0	N.D.		
35) Hexachlorobutadiene	0.000		0	N.D.		
36) N-nitrosodi-n-butylamine	0.000		0	N.D.		
37) Caprolactam	0.000		0	N.D.		
38) 4-Chloro-3-methylphenol	0.000		0	N.D.		
39) 1,2,4,5-Tetrachloroben...	0.000		0	N.D.		

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\170606\
Data File : 17060613.D
Acq On : 6 Jun 2017 3:19 pm
Operator :
Sample : SSCV 2.5 ppm EPTC
Misc : ICV
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jun 06 16:05:59 2017
QMeth File : SV170606.M
InstName : GCMS9
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Tue Jun 06 15:04:48 2017
Response via : Initial Calibration

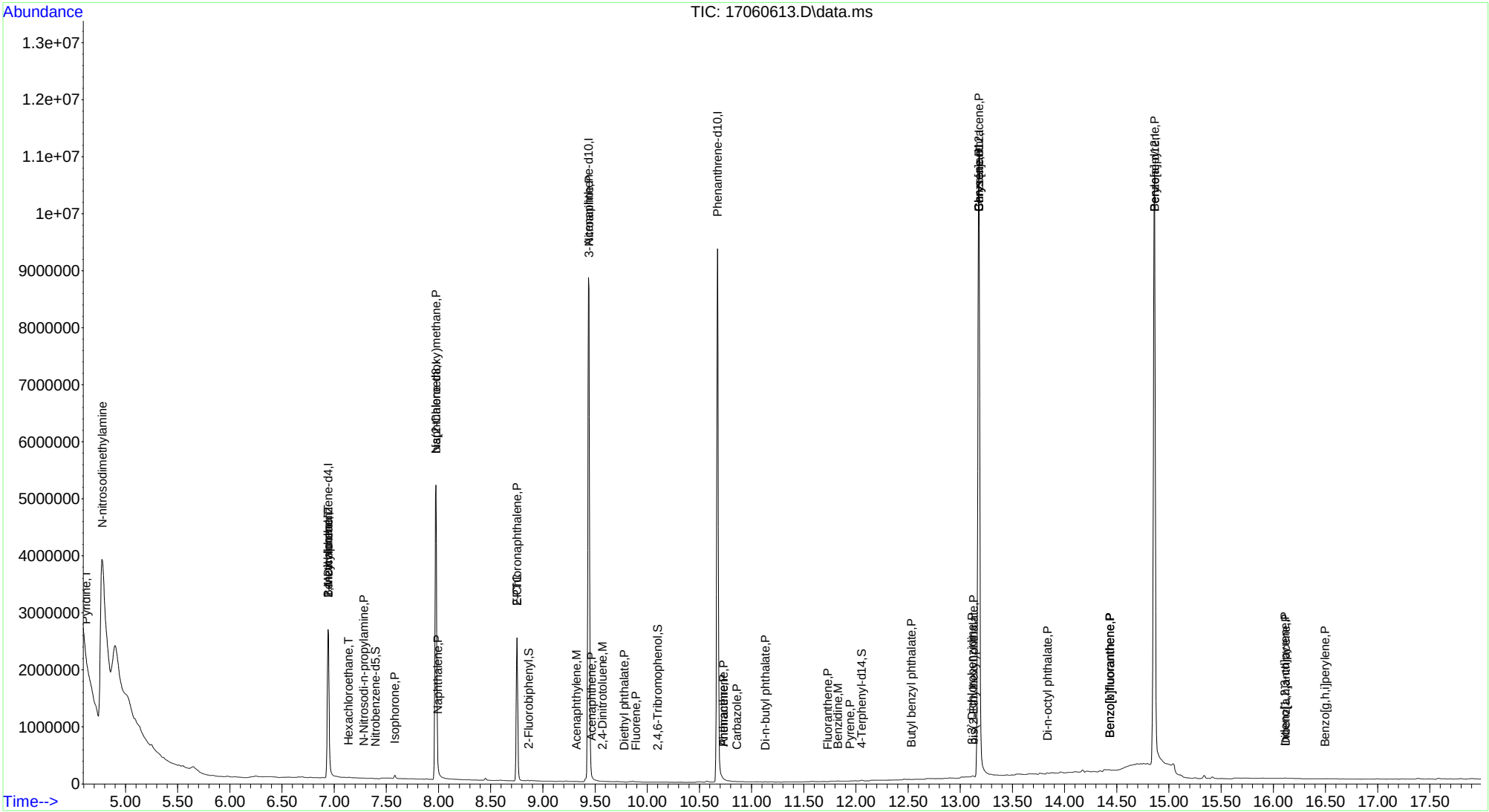
Compound	R.T.	QIon	Response	Conc Units	%Rec	
40) 2-Methylnaphthalene	0.000		0	N.D.		
41) 1-Methylnaphthalene	0.000		0	N.D.		
43) Hexachlorocyclopentadiene	0.000		0	N.D.		
44) EPTC	8.751	128	518890	2.270 mg/kg	99	90.8%
45) 2,4,6-Trichlorophenol	0.000		0	N.D.		
46) 2,4,5-Trichlorophenol	0.000		0	N.D.		
48) Biphenyl	0.000		0	N.D.		
49) 2-Chloronaphthalene	8.751	162	1912	0.003 mg/kg#	40	
50) 2-Nitroaniline	0.000		0	N.D.		
51) Acenaphthylene	9.321	152	148	0.000 mg/kg#	60	
52) Dimethyl phthalate	0.000		0	N.D.		
53) 2,6-Dinitrotoluene	0.000		0	N.D.		
54) Acenaphthene	9.464	153	147	0.000 mg/kg#	22	
55) 3-Nitroaniline	9.441	138	273	0.026 mg/kg#	1	
56) 2,4-Dinitrophenol	0.000		0	N.D.		
57) Dibenzofuran	0.000		0	N.D.		
58) 2,4-Dinitrotoluene	9.569	165	104	0.023 mg/kg#	37	
59) 4-Nitrophenol	0.000		0	N.D.		
60) 2,3,4,6-Tetrachlorophenol	0.000		0	N.D.		
61) Fluorene	9.891	166	156	0.000 mg/kg#	63	
62) 4-Chlorophenyl phenyl ...	0.000		0	N.D.		
63) Diethyl phthalate	9.779	149	704	0.001 mg/kg#	59	
64) 4-Nitroaniline	0.000		0	N.D.		
66) 4,6-Dinitro-2-methylph...	0.000		0	N.D.		
67) 1,2-Diphenylhydrazine	0.000		0	N.D.		
68) n-Nitrosodiphenylamine	0.000		0	N.D.		
70) 4-Bromophenyl phenyl e...	0.000		0	N.D.		
71) Atrazine	0.000		0	N.D.		
72) Hexachlorobenzene	0.000		0	N.D.		
73) Pentachlorophenol	0.000		0	N.D.		
74) Phenanthrene	10.731	178	782	0.001 mg/kg	60	
75) Anthracene	10.731	178	782	0.001 mg/kg	60	
76) Pentachlorobenzene	0.000		0	N.D.		
77) Carbazole	10.858	167	622	0.001 mg/kg#	69	
78) Di-n-butyl phthalate	11.132	149	4341	0.018 mg/kg	96	
79) Fluoranthene	11.728	202	762	0.001 mg/kg	72	
81) Benzidine	11.825	184	6875	0.033 mg/kg	97	
82) Pyrene	11.942	202	752	0.001 mg/kg	71	
84) Butyl benzyl phthalate	12.530	149	597	0.024 mg/kg#	44	
85) 3,3`-Dichlorobenzidine	13.111	252	5537	0.026 mg/kg	98	
86) Benzo[a]anthracene	13.179	228	15940	0.012 mg/kg	70	
87) Chrysene	13.179	228	15940	0.012 mg/kg#	67	
88) bis(2-Ethylhexyl)phtha...	13.126	149	5801	0.032 mg/kg	98	
90) Di-n-octyl phthalate	13.835	149	850	0.030 mg/kg	58	
91) Benzo[b]fluoranthene	14.434	252	1105	0.001 mg/kg	65	
92) Benzo[k]fluoranthene	14.434	252	1105	0.001 mg/kg	66	
93) Benzo[a]pyrene	14.862	252	17175	0.016 mg/kg	75	
94) Indeno[1,2,3-cd]pyrene	16.110	276	3515	0.002 mg/kg	98	
95) Dibenz[a,h]anthracene	16.118	278	2423	0.002 mg/kg	88	
96) Benzo[g,h,i]perylene	16.496	276	3468	0.003 mg/kg	97	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\170606\
Data File : 17060613.D
Acq On : 6 Jun 2017 3:19 pm
Operator :
Sample : SSCV 2.5 ppm EPTC
Misc : ICV
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jun 06 16:05:59 2017
QMeth File : SV170606.M
InstName : GCMS9
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Tue Jun 06 15:04:48 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\170606\
Data File : 17060614.D
Acq On : 6 Jun 2017 3:44 pm
Operator :
Sample : SSCV 2.5 ppm
Misc : ICV
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jun 06 16:06:03 2017
QMeth File : SV170606.M
InstName : GCMS9
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Tue Jun 06 15:04:48 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	%Rec
Internal Standards						
1) 1,4-Dichlorobenzene-d4	6.945	152	732162	4.00	mg/kg	94
22) Naphthalene-d8	7.976	136	3380174	4.00	mg/kg	98
42) Acenaphthene-d10	9.441	164	1912392	4.00	mg/kg	100
65) Phenanthrene-d10	10.675	188	4018657	4.00	mg/kg	98
80) Chrysene-d12	13.183	240	5545598	4.00	mg/kg	103
89) Perylene-d12	14.862	264	5516977	4.00	mg/kg	106
System Monitoring Compounds						Dev(Min)
7) 2-Fluorophenol	5.854	112	388607	2.28	mg/kg	0.00
Spiked Amount 4.000	Range 20 - 120		Recovery = 57.00%			
9) Phenol-d5	6.660	99	635015	2.20	mg/kg	0.00
Spiked Amount 4.000	Range 20 - 120		Recovery = 55.00%			
23) Nitrobenzene-d5	7.398	82	565944	2.24	mg/kg	0.00
Spiked Amount 4.000	Range 41 - 120		Recovery = 56.00%			
47) 2-Fluorobiphenyl	8.860	172	1702518	2.29	mg/kg	0.00
Spiked Amount 4.000	Range 48 - 120		Recovery = 57.25%			
69) 2,4,6-Tribromophenol	10.097	330	430556	2.24	mg/kg	0.00
Spiked Amount 4.000	Range 42 - 124		Recovery = 56.00%			
83) 4-Terphenyl-d14	12.054	244	2421931	2.17	mg/kg	0.00
Spiked Amount 4.000	Range 51 - 135		Recovery = 54.25%			
Target Compounds						Qvalue
2) N-nitrosodimethylamine	4.737	74	272901	2.705	mg/kg	97
3) Pyridine	4.771	79	489306	2.437	mg/kg	98
4) N-nitrosodiethylamine	6.034	102	231401	2.460	mg/kg	100
5) Benzaldehyde	6.596	77	374436	2.368	mg/kg	99
6) Aniline	6.705	93	729332	2.374	mg/kg	97
8) bis(2-Chloroethyl)ether	6.739	95	140823	2.333	mg/kg	99
10) Phenol	6.671	94	566524	2.289	mg/kg	100
11) 2-Chlorophenol	6.795	128	544095	2.430	mg/kg	99
12) 1,3-Dichlorobenzene	6.911	146	582668	2.632	mg/kg	100
13) 1,4-Dichlorobenzene	6.956	146	582984	2.340	mg/kg	100
14) 1,2-Dichlorobenzene	7.098	146	579041	2.400	mg/kg	99
15) Benzyl alcohol	7.054	108	277803	2.214	mg/kg	99
16) bis(2-chloroisopropyl)...	7.158	45	565874	2.040	mg/kg	98
17) 2-Methylphenol	7.140	108	538345	2.538	mg/kg	100
18) Hexachloroethane	7.353	117	201101	2.391	mg/kg	98
19) N-Nitrosodi-n-propylamine	7.271	70	418840	2.569	mg/kg	99
20) 4-Methylphenol	7.252	108	562054	2.564	mg/kg	99
21) Acetophenone	7.271	105	808102	2.668	mg/kg	99
24) Nitrobenzene	7.413	77	551376	2.564	mg/kg	99
25) Isophorone	7.593	82	1084246	2.578	mg/kg	99
26) 2-Nitrophenol	7.668	139	310178	2.574	mg/kg	98
27) 2,4-Dimethylphenol	7.680	107	557838	2.493	mg/kg	100
28) bis(2-Chloroethoxy)met...	7.755	93	769686	2.794	mg/kg	99
29) Benzoic acid	7.751	105	355761	2.521	mg/kg	98
30) 2,4-Dichlorophenol	7.856	162	582355	2.412	mg/kg	99
31) 1,2,4-Trichlorobenzene	7.931	180	641410	2.471	mg/kg	100
32) Naphthalene	7.994	128	1879640	2.474	mg/kg	100
33) 4-Chloroaniline	8.036	127	781111	2.752	mg/kg	100
34) 2,6-Dichlorophenol	8.043	162	595702	2.715	mg/kg	99
35) Hexachlorobutadiene	8.111	225	417568	2.504	mg/kg	99
36) N-nitrosodi-n-butylamine	8.302	116	106670	2.387	mg/kg	99
37) Caprolactam	8.324	113	163582	2.801	mg/kg	98
38) 4-Chloro-3-methylphenol	8.418	107	498845	2.700	mg/kg	100
39) 1,2,4,5-Tetrachloroben...	8.714	216	733902	2.181	mg/kg	100

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\170606\
Data File : 17060614.D
Acq On : 6 Jun 2017 3:44 pm
Operator :
Sample : SSCV 2.5 ppm
Misc : ICV
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jun 06 16:06:03 2017
QMeth File : SV170606.M
InstName : GCMS9
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Tue Jun 06 15:04:48 2017
Response via : Initial Calibration

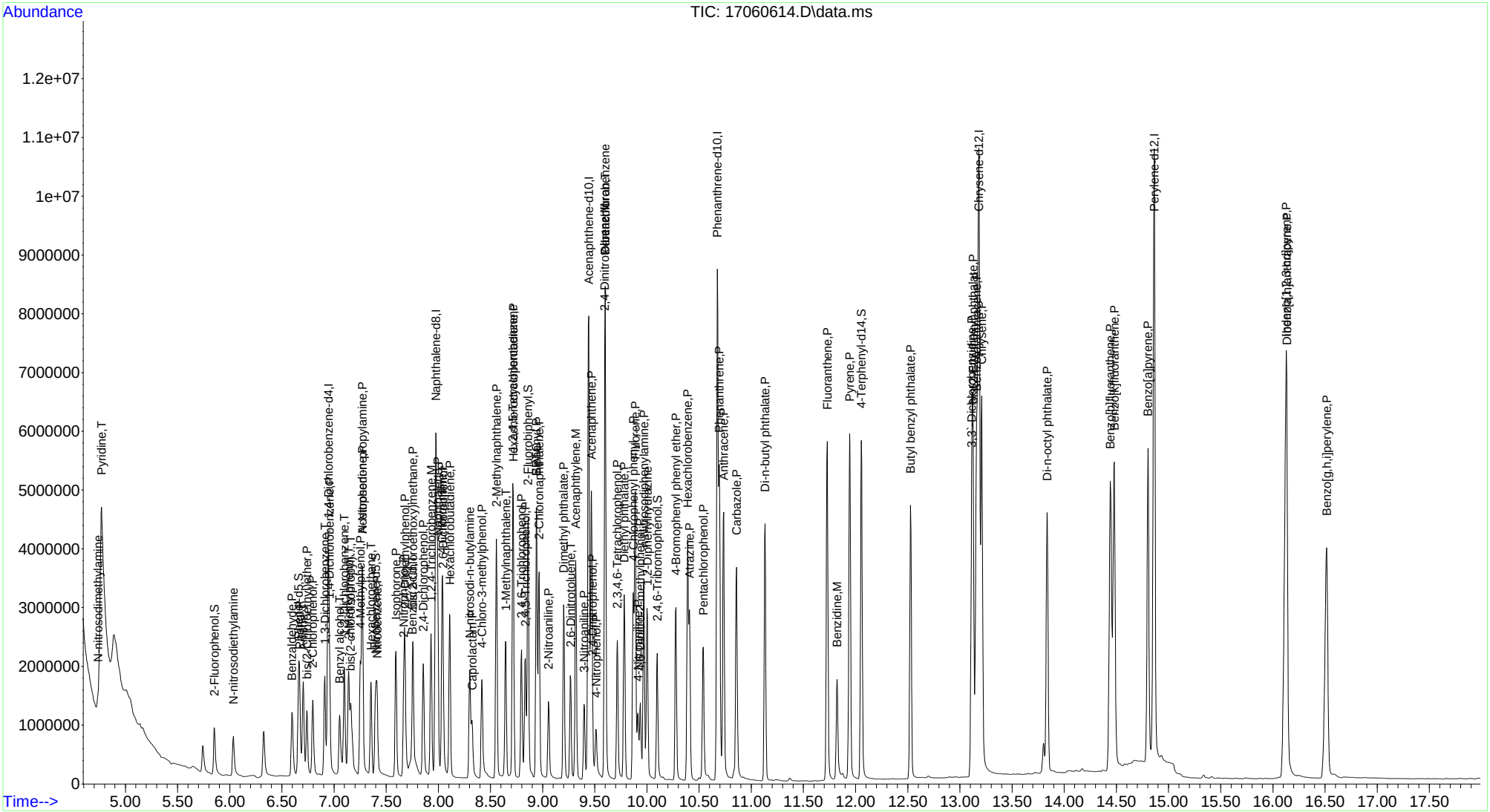
Compound	R.T.	QIon	Response	Conc	Units	%Rec	
40) 2-Methylnaphthalene	8.557	142	1396316	2.556	mg/kg	100	
41) 1-Methylnaphthalene	~~8.647~~	~~142~~	~~765997~~	~~1.385~~	~~mg/kg~~	~~100~~	See RR
43) Hexachlorocyclopentadiene	8.718	237	471633	2.460	mg/kg	99	
44) EPTC	~~8.939~~	~~128~~	~~82404~~	~~0.415~~	~~mg/kg#~~	~~53~~	NC
45) 2,4,6-Trichlorophenol	8.797	196	418236	2.589	mg/kg	99	
46) 2,4,5-Trichlorophenol	8.834	196	483646	2.496	mg/kg	98	
48) Biphenyl	8.939	154	1776953	2.890	mg/kg	100	
49) 2-Chloronaphthalene	8.965	162	1306813	2.561	mg/kg	99	
50) 2-Nitroaniline	9.055	138	364117	2.538	mg/kg	98	
51) Acenaphthylene	9.318	152	1981446	2.769	mg/kg	100	
52) Dimethyl phthalate	9.201	163	1598368	2.705	mg/kg	100	
53) 2,6-Dinitrotoluene	9.269	165	319919	2.625	mg/kg	100	
54) Acenaphthene	9.468	153	1440993	2.361	mg/kg	100	
55) 3-Nitroaniline	9.396	138	305313	2.711	mg/kg	98	
56) 2,4-Dinitrophenol	9.479	184	142704	2.857	mg/kg	97	
57) Dibenzofuran	9.599	168	1900033	2.468	mg/kg	99	
58) 2,4-Dinitrotoluene	9.595	165	445099	2.632	mg/kg	99	
59) 4-Nitrophenol	9.513	109	128197	2.499	mg/kg	97	
60) 2,3,4,6-Tetrachlorophenol	9.715	232	423840	2.534	mg/kg	100	
61) Fluorene	9.887	166	1629181	2.752	mg/kg	99	
62) 4-Chlorophenyl phenyl ...	9.869	204	759067	2.556	mg/kg	100	
63) Diethyl phthalate	9.783	149	1525481	2.606	mg/kg	100	
64) 4-Nitroaniline	9.914	138	300566	2.749	mg/kg	100	
66) 4,6-Dinitro-2-methylph...	9.936	198	244573	2.513	mg/kg	99	
67) 1,2-Diphenylhydrazine	10.004	182	340247	2.452	mg/kg	99	
68) n-Nitrosodiphenylamine	9.970	169	1075234	2.755	mg/kg	100	
70) 4-Bromophenyl phenyl e...	10.277	248	560779	2.663	mg/kg	99	
71) Atrazine	10.409	200	440585	2.480	mg/kg	100	
72) Hexachlorobenzene	10.390	284	752453	2.553	mg/kg	99	
73) Pentachlorophenol	10.540	266	410141	2.654	mg/kg	100	
74) Phenanthrene	10.693	178	2284180	2.503	mg/kg	100	
75) Anthracene	10.735	178	2244280	2.428	mg/kg	100	
76) Pentachlorobenzene	9.599	250	741537	2.153	mg/kg	100	
77) Carbazole	10.858	167	2047647	2.503	mg/kg	100	
78) Di-n-butyl phthalate	11.132	149	2821982	2.478	mg/kg	100	
79) Fluoranthene	11.728	202	3035034	2.635	mg/kg	99	
81) Benzidine	11.822	184	1026254	2.282	mg/kg	100	
82) Pyrene	11.942	202	3166048	2.517	mg/kg	99	
84) Butyl benzyl phthalate	12.527	149	1460699	2.799	mg/kg	98	
85) 3,3`-Dichlorobenzidine	13.111	252	1362815	2.594	mg/kg	100	
86) Benzo[a]anthracene	13.160	228	3180151	2.431	mg/kg	100	
87) Chrysene	13.209	228	3111077	2.495	mg/kg	100	
88) bis(2-Ethylhexyl)phtha...	13.126	149	2086110	2.517	mg/kg	100	
90) Di-n-octyl phthalate	13.835	149	3187769	2.335	mg/kg	100	
91) Benzo[b]fluoranthene	14.442	252	3454593	2.581	mg/kg	100	
92) Benzo[k]fluoranthene	14.480	252	3410063	2.453	mg/kg	100	
93) Benzo[a]pyrene	14.802	252	2928033	2.706	mg/kg	100	
94) Indeno[1,2,3-cd]pyrene	16.125	276	3983800	2.527	mg/kg	99	
95) Dibenz[a,h]anthracene	16.133	278	3396173	2.613	mg/kg	100	
96) Benzo[g,h,i]perylene	16.515	276	3427204	2.718	mg/kg	99	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\170606\
Data File : 17060614.D
Acq On : 6 Jun 2017 3:44 pm
Operator :
Sample : SSCV 2.5 ppm
Misc : ICV
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jun 06 16:06:03 2017
QMeth File : SV170606.M
InstName : GCMS9
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Tue Jun 06 15:04:48 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\170606\
Data File : 17060615.D
Acq On : 6 Jun 2017 4:08 pm
Operator :
Sample : SSCV RERUN
Misc : ICV
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Jun 06 16:33:17 2017
QMeth File : SV170606.M
InstName : GCMS9
Quant Title : CLP BNA Calibration - Large Volume Injection
QLast Update : Tue Jun 06 15:04:48 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	%Rec
Internal Standards						
1) 1,4-Dichlorobenzene-d4	6.945	152	691931	4.00	mg/kg	89
22) Naphthalene-d8	7.976	136	3072952	4.00	mg/kg	89
42) Acenaphthene-d10	9.438	164	2116751	4.00	mg/kg	111
65) Phenanthrene-d10	10.675	188	4126951	4.00	mg/kg	100
80) Chrysene-d12	13.179	240	5303886	4.00	mg/kg	99
89) Perylene-d12	14.858	264	5786160	4.00	mg/kg	111
System Monitoring Compounds						Dev(Min)
7) 2-Fluorophenol	0.000	112	0	0.00	mg/kg	
Spiked Amount 4.000	Range 20 - 120		Recovery =	0.00%#		
9) Phenol-d5	6.667	99	481	0.03	mg/kg	0.00
Spiked Amount 4.000	Range 20 - 120		Recovery =	0.75%#		
23) Nitrobenzene-d5	7.413	82	464	0.02	mg/kg	0.02
Spiked Amount 4.000	Range 41 - 120		Recovery =	0.50%#		
47) 2-Fluorobiphenyl	8.860	172	2426	0.00	mg/kg	0.00
Spiked Amount 4.000	Range 48 - 120		Recovery =	0.00%#		
69) 2,4,6-Tribromophenol	10.097	330	612	0.03	mg/kg	0.00
Spiked Amount 4.000	Range 42 - 124		Recovery =	0.75%#		
83) 4-Terphenyl-d14	12.054	244	6890	0.01	mg/kg	0.00
Spiked Amount 4.000	Range 51 - 135		Recovery =	0.25%#		
Target Compounds						Qvalue
2) N-nitrosodimethylamine	4.752	74	9540	Below Cal #		1
6) Aniline	6.716	93	524	0.030	mg/kg#	45
10) Phenol	6.679	94	471	0.029	mg/kg	49
15) Benzyl alcohol	7.147	108	525	0.068	mg/kg#	1
17) 2-Methylphenol	7.147	108	525	0.031	mg/kg	80
20) 4-Methylphenol	7.256	108	378	0.028	mg/kg#	76
24) Nitrobenzene	7.425	77	371	0.020	mg/kg#	34
30) 2,4-Dichlorophenol	7.859	162	327	0.030	mg/kg#	26
37) Caprolactam	8.290	113	365	0.037	mg/kg	87
40) 2-Methylnaphthalene	8.643	142	1336455	2.691	mg/kg	97
41) 1-Methylnaphthalene	8.643	142	1336455	2.657	mg/kg	100
44) EPTC	8.845	128	95	0.000	mg/kg	76
45) 2,4,6-Trichlorophenol	8.797	196	415	0.018	mg/kg#	80
46) 2,4,5-Trichlorophenol	8.834	196	520	0.015	mg/kg#	68
53) 2,6-Dinitrotoluene	9.265	165	94	0.027	mg/kg#	38
55) 3-Nitroaniline	9.396	138	107	0.025	mg/kg	91
58) 2,4-Dinitrotoluene	9.595	165	188	0.023	mg/kg#	37
60) 2,3,4,6-Tetrachlorophenol	9.719	232	364	0.023	mg/kg#	79
67) 1,2-Diphenylhydrazine	10.007	182	93	0.024	mg/kg#	63
78) Di-n-butyl phthalate	11.128	149	11286	0.025	mg/kg	97
81) Benzidine	11.825	184	6414	0.034	mg/kg	89
84) Butyl benzyl phthalate	12.526	149	1823	0.027	mg/kg	81
85) 3,3`-Dichlorobenzidine	13.108	252	6775	0.030	mg/kg	97
86) Benzo[a]anthracene	13.175	228	18819	0.015	mg/kg	75
90) Di-n-octyl phthalate	13.831	149	3756	0.032	mg/kg	89

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\170606\
Data File : 17060615.D
Acq On : 6 Jun 2017 4:08 pm
Operator :
Sample : SSCV RERUN
Misc : ICV
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Jun 06 16:33:17 2017
QMeth File : SV170606.M
InstName : GCMS9
Quant Title : CLP BNA Calibration - Large Volume Injection
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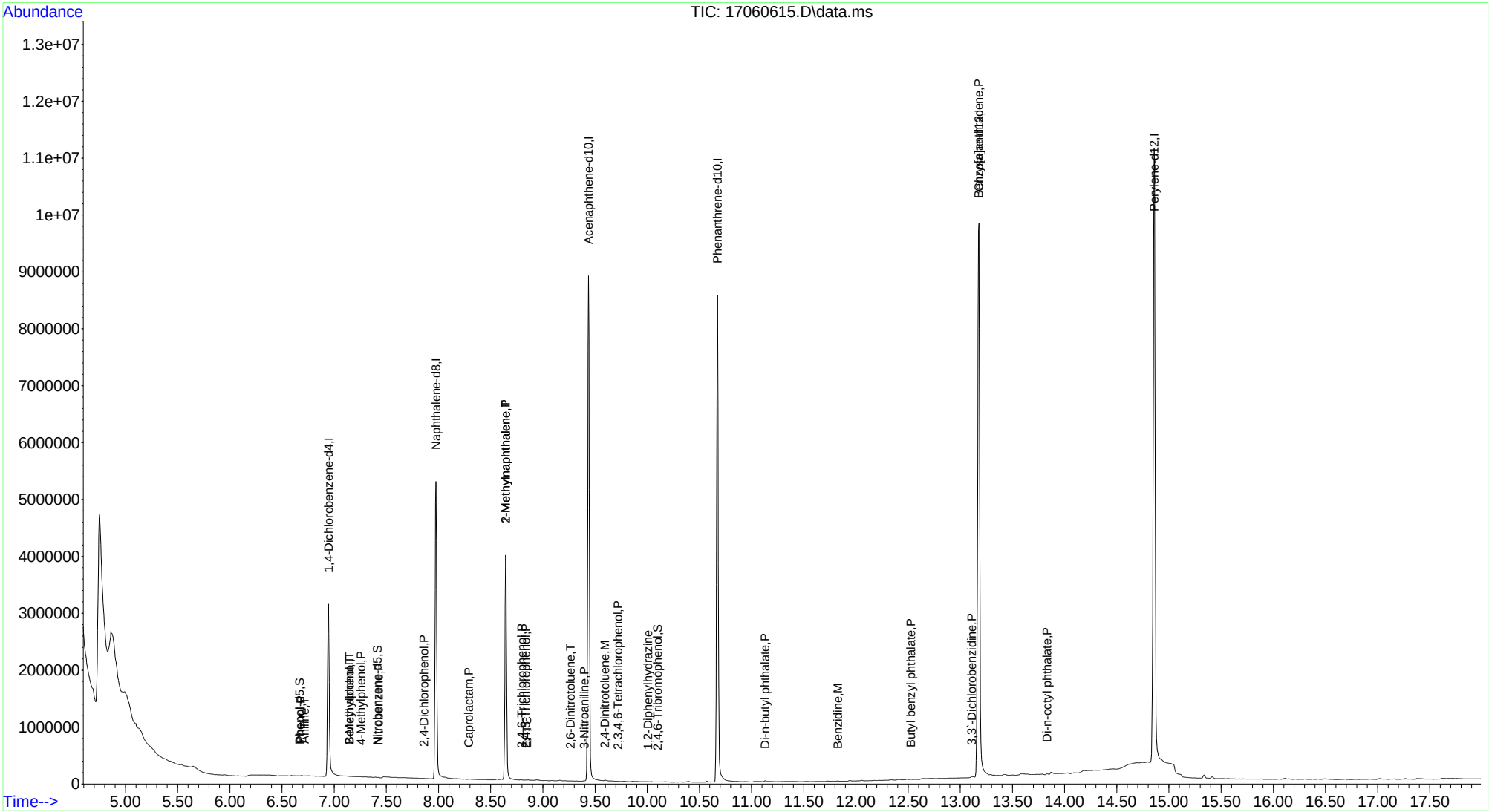

ICP-MS4
For

DHL Work Order
1709066

ICP-MS4_170913A
For

DHL Work Order
1709066

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			
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			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			
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			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: [signature] 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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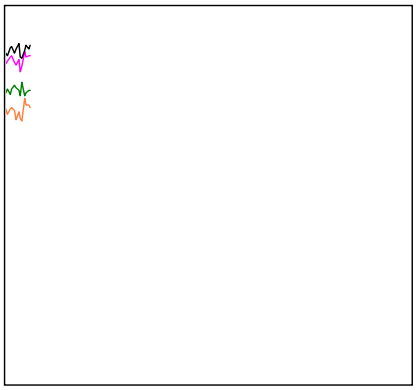
By Janice Whitt at 4:26:01 PM, 9/13/2017

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

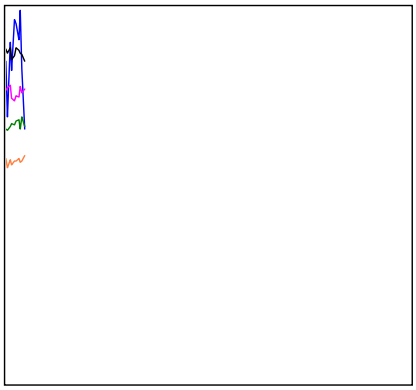
Use Gas	Yes		OctP RF	200	V
He Flow	5.0	mL/min	Energy Discrimination	3.0	V
OctP Bias	-19.0	V			

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

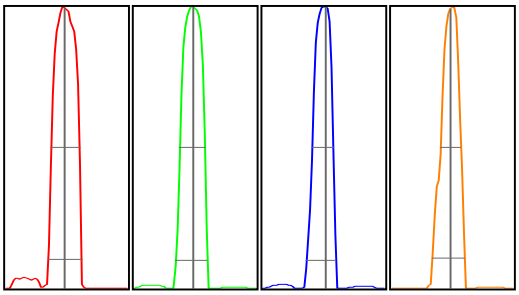
Batch Folder C:\Agilent\ICPMH\1\DATA\DHL Li+U TEMPLATE.b
Report Comment
Instrument Name ICPMS4 JP12361998

[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			

REVIEWED BY
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

REVIEWED BY
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	

Sample Report

Date Acquired	9/13/17 1:56 PM	Sample Name	1709066-01B
Data Batch	170913.b	Comment	SAMP6020A_W
Data File Name	039_ARF.d	Dilution	1

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
9	Be	45	-0.063	2	69.28	2000	
11	B	45	176.535	6114	2.32	2000	>RL
23	Na	45	128043.548	140073314	0.71	25000	OUTCAL
24	Mg	45	16404.019	9376608	0.20	25000	>RL
27	Al	45	89.544	20529	3.92	10000	>RL
39	K	45	38308.485	18650248	0.60	25000	OUTCAL
44	Ca	45	11768.730	352583	0.44	10000	OUTCAL
47	Ti	45	2.109	408	5.44	2000	
51	V	45	6.284	42995	2.04	2000	>RL
52	Cr	45	1.271	10426	28.30	2000	
55	Mn	45	6.139	28204	2.08	2000	>RL
56	Fe	45	224.002	1414601	1.71	10000	>RL
59	Co	72	0.323	4257	5.01	2000	
60	Ni	72	0.358	1359	6.96	2000	
63	Cu	72	0.888	8478	3.59	2000	
66	Zn	72	5.380	7534	2.57	2000	>RL
75	As	72	5.269	4632	2.34	2000	>RL
78	Se	72	0.272	41	1.38	2000	
88	Sr	115	225.513	1277544	0.63	2000	>RL
95	Mo	115	2.727	14695	1.54	2000	>RL
107	Ag	115	0.029	539	12.62	500	
111	Cd	115	0.028	74	60.46	2000	
118	Sn	115	0.186	1390	2.20	2000	
121	Sb	115	2.146	14021	3.41	500	>RL
137	Ba	115	90.317	212619	0.70	2000	>RL
205	Tl	209	0.097	4353	6.25	2000	
208	Pb	209	1.989	109241	0.56	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1251180	0.82	1273504	98.25	70	120	
72	Ge	837978	0.63	903560	92.74	70	120	
115	In	8556621	0.36	9034804	94.71	70	120	
209	Bi	22635937	0.77	24406682	92.74	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	

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	

ICP-MS4_170914A
For

DHL Work Order
1709066

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_170914A 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: 09/14/2017

Second-Level Review: Janice Whitt Date Stamp: 9/14/2017

REVIEWED BY
By Janice Whitt at 1:59:12 PM, 9/14/2017

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		---	09/14/2017	
MET CAL 2	L2-	170914	MET-L2CAL- 170802	09/14/2017	CAL2 - CAL6
MET CAL 3	L-	170914	MET-LCAL- 170802	09/14/2017	MADE FRESH DAILY
MET CAL 4	10X-	170914	MET-LCAL10X- 170802	09/14/2017	
MET CAL 5	5X-	170914	MET-LCAL5X- 170802	09/14/2017	
MET CAL 6	2X-	170914	MET-MCAL- 170802	09/14/2017	
MET CAL 7	H-	170914	**MET-HCAL-170802**	08/02/2017	
MET CAL 8	H2-	170914	**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: 09/14/2017

Second-Level Review/Date: REVIEWED BY By Janice Whitt at 1:24:46 PM, 9/14/2017

DHL Analytical, Inc.

Run ID: ICP-MS4_170914A **Run No.:** 94153

Analytical Run Date: 9/14/2017 **InstrumentID:** ICP-MS4

Analyst: Ryan Oliver

SampID	DF	TestCode	SampType	Batch ID	Analysis Date/Time	Q	Comments
BLANK STD 1	1	6020A_W	CAL	R94153	9/14/2017 10:04:00 AM		
L2-170914	1	6020A_W	CAL	R94153	9/14/2017 10:06:00 AM		
L-170914	1	6020A_W	CAL	R94153	9/14/2017 10:07:00 AM		
10X-170914	1	6020A_W	CAL	R94153	9/14/2017 10:09:00 AM		
5X-170914	1	6020A_W	CAL	R94153	9/14/2017 10:11:00 AM		
2X-170914	1	6020A_W	CAL	R94153	9/14/2017 10:13:00 AM		
H-170914	1	6020A_W	CAL	R94153	9/14/2017 10:15:00 AM		
H2-170914	1	6020A_W	CAL	R94153	9/14/2017 10:17:00 AM		
ICSA-170914	1	6020A_W	ICSA	R94153	9/14/2017 10:23:00 AM		
ICSAB-170914	1	6020A_W	ICSB	R94153	9/14/2017 10:24:00 AM		
ICV-170914	1	6020A_W	ICV	R94153	9/14/2017 10:30:00 AM		
LCVL-170914	1	6020A_W	LCVL	R94153	9/14/2017 10:35:00 AM		
ICB-170914	1	6020A_W	ICB	R94153	9/14/2017 10:39:00 AM		
MB-82336	5	6020A_S	MBLK	82336	9/14/2017 10:41:00 AM		
DCS1-82336	5	6020A_S	DCS	82336	9/14/2017 10:43:00 AM		Ca slightly high; Cannot report for DOD
DCS2-82336	5	6020A_S	DCS2	82336	9/14/2017 10:45:00 AM		
DCS3-82336	5	6020A_S	DCS3	82336	9/14/2017 10:47:00 AM		Zn slightly high; Cannot report for DOD; Rerunning for B
DCS4-82336	5	6020A_S	DCS4	82336	9/14/2017 10:48:00 AM		
LCS-82336	5	6020A_S	LCS	82336	9/14/2017 10:50:00 AM		
LCSD-82336	5	6020A_S	LCSD	82336	9/14/2017 10:52:00 AM		
1709070-02A	5	6020A_S	SAMP	82336	9/14/2017 10:56:00 AM		
1709070-02A SD	25	6020A_S	SD	82336	9/14/2017 10:58:00 AM		
1709066-03A	5	6020A_S	SAMP	82336	9/14/2017 11:00:00 AM		
1709070-01A	5	6020A_S	SAMP	82336	9/14/2017 11:02:00 AM		
1709070-03A	5	6020A_S	SAMP	82336	9/14/2017 11:04:00 AM		
1709070-04A	5	6020A_S	SAMP	82336	9/14/2017 11:06:00 AM		
1709070-05A	5	6020A_S	SAMP	82336	9/14/2017 11:07:00 AM		
1709070-06A	5	6020A_S	SAMP	82336	9/14/2017 11:09:00 AM		
1709080-01A	5	6020A_S	SAMP	82336	9/14/2017 11:11:00 AM		

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

DHL Analytical, Inc.

Run ID: ICP-MS4_170914A **Run No.:** 94153

1709062-01A	5	6020A_S	SAMP	82336	9/14/2017 11:13:00 AM		
1709062-02A	5	6020A_S	SAMP	82336	9/14/2017 11:15:00 AM		
1709070-02A PDS	5	6020A_S	PDS	82336	9/14/2017 11:21:00 AM		
1709070-02A MS	5	6020A_S	MS	82336	9/14/2017 11:23:00 AM		S-flag Al, Fe- Low, Ba, Ca- High
1709070-02A MSD	5	6020A_S	MSD	82336	9/14/2017 11:24:00 AM		S-flag Al, Fe- Low, Ba, Ca- High; R-flag Ca
CCV1-170914	1	6020A_W	CCV	R94153	9/14/2017 11:30:00 AM		
LCVL1-170914	1	6020A_W	LCVL	R94153	9/14/2017 11:40:00 AM		
CCB1-170914	1	6020A_W	CCB	R94153	9/14/2017 11:42:00 AM		
1709070-02A	50	6020A_S	SAMP	82336	9/14/2017 11:44:00 AM		DNR; QC ref only
1709070-02A SD	250	6020A_S	SD	82336	9/14/2017 11:46:00 AM		
1709070-02A PDS	50	6020A_S	PDS	82336	9/14/2017 11:48:00 AM		
1709080-01A	500	6020A_S	SAMP	82336	9/14/2017 11:49:00 AM		
1709062-01A	50	6020A_S	SAMP	82336	9/14/2017 11:51:00 AM		
1709062-02A	50	6020A_S	SAMP	82336	9/14/2017 11:53:00 AM		
1709062-03A	50	6020A_S	SAMP	82336	9/14/2017 11:55:00 AM		
1709062-03A	5	6020A_S	SAMP	82336	9/14/2017 11:57:00 AM		
CCV2-170914	1	6020A_W	CCV	R94153	9/14/2017 11:59:00 AM		
LCVL2-170914	1	6020A_W	LCVL	R94153	9/14/2017 12:03:00 PM		
CCB2-170914	1	6020A_W	CCB	R94153	9/14/2017 12:08:00 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\170914.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	L2-170914	CAL 6020A_W	2102	2	
11		CalStd	L-170914	CAL 6020A_W	2103	3	
12		CalStd	10X-170914	CAL 6020A_W	2104	4	
13		CalStd	5X-170914	CAL 6020A_W	2105	5	
14		CalStd	2X-170914	CAL 6020A_W	2106	6	
15		CalStd	H-170914	CAL 6020A_W	2107	7	
16		CalStd	H2-170914	CAL 6020A_W	2108	8	
17		ICB	BLANK	CCB 6020A_W	1101		
18		ICB	BLANK	CCB 6020A_W	1102		
19		ICSA	ICSA-170914	ICSA6020A_W	2109		
20		ICSB	ICSAB-170914	ICSB6020A_W	2110		
21		ICB	BLANK	CCB 6020A_W	1101		
22		ICB	BLANK	CCB 6020A_W	1102		
23		ICV	ICV-170914	ICV 6020A_W	2111		
24		ICB	ICB-170914	ICB 6020A_W	1101		
25		LLICV	LCVL-170914	LCVL6020A_W	2112		
26		ICB	ICB-170914	ICB 6020A_W	1102		
27		ICB	ICB-170914	ICB 6020A_W	1103		
28		PB	MB-82336	MBLK6020A_S	2201		5
29		LCS_S	DCS1-82336	DCS 6020A_S	2202		5
30		LCS_S	DCS2-82336	DCS26020A_S	2203		5
31		LCS_S	DCS3-82336	DCS36020A_S	2204		5
32		LCS_S	DCS4-82336	DCS46020A_S	2205		5
33		LCS_S	LCS-82336	LCS 6020A_S	2206		5
34		LCS_S	LCSD-82336	LCSD6020A_S	2207		5
35		CCB	RINSE	CCB 6020A_W	1101		
36		AllRef	1709070-02A	SAMP6020A_S	2208		5
37		SD	1709070-02A SD	SD 6020A_S	2209		25
38		Sample	1709066-03A	SAMP6020A_S	2210		5
39		Sample	1709070-01A	SAMP6020A_S	2211		5
40		Sample	1709070-03A	SAMP6020A_S	2212		5
41		Sample	1709070-04A	SAMP6020A_S	2301		5
42		Sample	1709070-05A	SAMP6020A_S	2302		5
43		Sample	1709070-06A	SAMP6020A_S	2303		5
44		Sample	1709080-01A	SAMP6020A_S	2304		5
45		Sample	1709062-01A	SAMP6020A_S	2305		5
46		Sample	1709062-02A	SAMP6020A_S	2306		5
47		CCB	RINSE	CCB 6020A_W	1102		
48		CCB	RINSE	CCB 6020A_W	1103		

Sample List

49		PDS	1709070-02A PDS	PDS 6020A_S	2307		5
50		MS_S	1709070-02A MS	MS 6020A_S	2308		5
51		MS_S	1709070-02A MSD	MSD 6020A_S	2309		5
52		CCB	RINSE	CCB 6020A_W	1102		
53		CCB	RINSE	CCB 6020A_W	1103		
54		CCV	CCV1-170914	CCV 6020A_W	1207		
55		CCB	CCB1-170914	CCB 6020A_W	1102		
56		LLCCV	LCVL1-170914	LCVL6020A_W	2112		
57		LLCCV	LCVL1-170914	LCVL6020A_W	2512		
58		CCB	CCB1-170914	CCB 6020A_W	1103		
59		AllRef	1709070-02A	SAMP6020A_S	3101		50
60		SD	1709070-02A SD	SD 6020A_S	3102		250
61		PDS	1709070-02A PDS	PDS 6020A_S	3103		50
62		Sample	1709080-01A	SAMP6020A_S	3104		500
63		Sample	1709062-01A	SAMP6020A_S	3105		50
64		Sample	1709062-02A	SAMP6020A_S	3106		50
65		Sample	1709062-03A	SAMP6020A_S	3107		50
66		Sample	1709062-03A	SAMP6020A_S	2310		5
67		CCV	CCV2-170914	CCV 6020A_W	1207		
68		CCB	CCB2-170914	CCB 6020A_W	1102		
69		LLCCV	LCVL2-170914	LCVL6020A_W	2512		
70		CCB	CCB2-170914	CCB 6020A_W	1103		
71	Skip	PB_W	MB-82337	MBLK7_DAY_MET	4101		1
72	Skip	PB_W	MB-82256-7DAY	MBLK7_DAY_MET	4102		1
73	Skip	LCS_W	LCS-82337	LCS 7_DAY_MET	4103		1
74	Skip	LCS_W	LCSD-82337	LCSD7_DAY_MET	4104		1
75	Skip	CCB	RINSE	CCB 6020A_W	1101		
76	Skip	AllRef	1708304-01A	SAMP7_DAY_MET	4105		1
77	Skip	SD	1708304-01A SD	SD 7_DAY_MET	4106		5
78	Skip	SAMP_W	1709072-01A	SAMPTCLP_MET	4107		1
79	Skip	SAMP_W	1709073-01A	SAMPTCLP_MET	4108		1
80	Skip	SAMP_W	1709074-01A	SAMPTCLP_MET	4109		1
81	Skip	SAMP_W	1709075-01A	SAMPTCLP_MET	4110		1
82	Skip	SAMP_W	1709075-02A	SAMPTCLP_MET	4111		1
83	Skip	PDS	1708304-01A PDS	PDS 7_DAY_MET	4112		1
84	Skip	MS_W	1708304-01A MS	MS 7_DAY_MET	4201		1
85	Skip	MS_W	1708304-01A MSD	MSD 7_DAY_MET	4202		1
86	Skip	CCV	CCV3-170914	CCV 6020A_W	1207		
87	Skip	CCB	CCB3-170914	CCB 6020A_W	1102		
88	Skip	LLCCV	LCVL3-170914	LCVL6020A_W	2512		
89	Skip	CCB	CCB3-170914	CCB 6020A_W	1102		
90	Skip	CCB	CCB3-170914	CCB 6020A_W	1102		
91	Skip	CCB	CCB3-170914	CCB 6020A_W	1102		
92	Skip	CCB	CCB3-170914	CCB 6020A_W	1103		
93	Skip	CCB	CCB3-170914	CCB 6020A_W	1103		
94	Skip	CCB	CCB3-170914	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

Sample List

#	Block Name	Period	Unit	Reset By

Sublist

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **9/13/2017 8:00:13 AM**
Digestion:
Prep End Date:

Prep Batch **82336** Prep Code: **3050_I** Technician: **Sydney Powers** Prep Factor Units: **mL/g**

Equipment List
Thermometer #60
Pipette#-P-40
Pipette #P-41
Hot Block #4
Balance #28

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Vessel	Cleanup
1709062-01A	Sediment		1.17	50	50.000	1 of 1		
Need DCS in each batch.								
1709062-02A	Sediment		1.06	50	50.000	1 of 1		
chlordane reported if a-g pres								
1709062-03A	Sediment		1.15	50	50.000	1 of 1		
1709066-03A	Soil		1.06	50	50.000	1 of 1		
1709070-01A	Soil		1.03	50	50.000	1 of 1		
1709070-02A MS/MSD	Soil		1.02	50	50.000	1 of 1		
1709070-03A	Soil		1.08	50	50.000	1 of 1		
1709070-04A	Soil		1.06	50	50.000	1 of 1		
1709070-05A	Soil		1.07	50	50.000	1 of 1		
1709070-06A	Soil		1.09	50	50.000	1 of 1		
1709080-01A	Soil		1.04	50	50.000	1 of 1		
DCS1-82336			1	50	50.000	of		
DCS2-82336			1	50	50.000	of		
DCS3-82336			1	50	50.000	of		
DCS4-82336			1	50	50.000	of		
LCS-82336	Soil		1	50	50.000	of		
LCSD-82336	Soil		1	50	50.000	of		
MB-82336	Soil		1	50	50.000	of		

1709070-02A MS 1.03
1709070-02A MSD 1.03

Number	Reagent Name	Amt	Units	Exp. Da
11086	Hydrogen Peroxide, 30%	3	ml	01/19/2018
11328	Acid Cleaned Boiling Chips	1	gm	10/15/2017
11489	Nitric Acid (Trace Metal Grade)	10	ml	06/14/2027
11490	Hydrochloric Acid (trace metal grade)	5	ml	12/15/2019
11594	Digestion Vessels	1	vessel	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	0.5	02/04/2018
MET-SPIKE-170815-1	Sb+Ag 50 PPM	LCS/MS/MSD	1	02/16/2018
MET-SPIKE-170815-2	50 PPM Custom+Sr,Sn,Ti,U,B,Li,Mo	LCS/MS/MSD	1	02/16/2018

10:05-10:15
10:20-12:20
12:35-14:35
14:45-15:00

REVIEWED BY
By Janice Whitt at 1:25:52 PM, 9/14/2017

9/13/17

Metals DCS Spikes – Soil

Date: 9/13/17

Analyst: [signature]

Prep Batch: 82336

0.5 PPM CUSTOM STANDARD	DHL ID: MET-DCS-170913-1	EXPIRATION: 10/13/17
0.5 PPM AG/SB STANDARD	DHL ID: MET-DCS-170913-2	EXPIRATION: 10/13/17
25 PPM AL STANDARD	DHL ID: MET-ALSPIKE-170404-2	EXPIRATION: 10/14/17
25 PPM FE STANDARD	DHL ID: MET-FeSPIKE-170404-1	EXPIRATION: 10/14/17
12.5 PPM NATURALS STANDARD	DHL ID: MET-DCS-170913-3	EXPIRATION: 10/13/17
50 PPM CUSTOM STANDARD	DHL ID: MET-SPIKE-170815-2	EXPIRATION: 2/16/17

DCS1

0.5 mL of 0.5 ppm Custom Standard

0.5 mL of 0.5 ppm Ag/Sb Standard

1.5 mL of 25 ppm Al Standard

1.5 mL of 25 ppm Fe Standard

3 mL of 12.5 ppm Naturals Standard

DCS2

2.5 mL of 0.5 ppm Custom Standard

2.5 mL of 0.5 ppm Ag/Sb Standard

DCS3

5 mL of 0.5 ppm Custom Standard

DCS4

0.2 mL of 50 ppm Custom Standard

Pipettors used: P.40
P.41

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **9/13/2017 8:00:13 AM**
Digestion: **Start: 9/13/2017 10:05:00 AM / Stop: 9/13/2017 3:00:00 PM**
Prep End Date: **9/13/2017 4:29:02 PM**

Prep Batch **82336** Prep Code: **3050_I** Technician: **Sydney Powers**

Prep Factor Units: **mL/g**

Equipment List

Thermometer #60
Pipette#-P-40
Pipette #P-41
Hot Block #4
Balance #28

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Vessel	Cleanup
1709062-01A	Sediment		1.17	50	42.735	1 of 1		
Need DCS in each batch.								
1709062-02A	Sediment		1.06	50	47.170	1 of 1		
chlordane reported if a-g pres								
1709062-03A	Sediment		1.15	50	43.478	1 of 1		
1709066-03A	Soil		1.06	50	47.170	1 of 1		
1709070-01A	Soil		1.03	50	48.544	1 of 1		
1709070-02A	Soil		1.02	50	49.020	1 of 1		
1709070-02A MS	Soil		1.03	50	48.544	of		
1709070-02A MSD	Soil		1.03	50	48.544	of		
1709070-02A PDS	Soil		1.02	50	49.020	of		
1709070-02A SD	Soil		1.02	50	49.020	of		
1709070-03A	Soil		1.08	50	46.296	1 of 1		
1709070-04A	Soil		1.06	50	47.170	1 of 1		
1709070-05A	Soil		1.07	50	46.729	1 of 1		
1709070-06A	Soil		1.09	50	45.872	1 of 1		
1709080-01A	Soil		1.04	50	48.077	1 of 1		
DCS1-82336			1	50	50.000	of		
DCS2-82336			1	50	50.000	of		
DCS3-82336			1	50	50.000	of		
DCS4-82336			1	50	50.000	of		
LCS-82336	Soil		1	50	50.000	of		
LCSD-82336	Soil		1	50	50.000	of		
MB-82336	Soil		1	50	50.000	of		

Number	Reagent Name	Amt	Units	Exp. Da
11086	Hydrogen Peroxide, 30%	3	ml	01/19/2018
11328	Acid Cleaned Boiling Chips	1	gm	10/15/2017
11489	Nitric Acid (Trace Metal Grade)	10	ml	06/14/2027
11490	Hydrochloric Acid (trace metal grade)	5	ml	12/15/2019
11594	Digestion Vessels	1	vessel	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	0.5	02/04/2018
MET-SPIKE-170815-1	Sb+Ag 50 PPM	LCS/MS/MSD	1	02/16/2018
MET-SPIKE-170815-2	50 PPM Custom+Sr,Sn,Ti,U,B,Li,Mo	LCS/MS/MSD	1	02/16/2018

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By Janice Whitt at 1:25:55 PM, 9/14/2017

Calibration Summary Report

Date Acquired 9/14/2017 10:04
Data Batch 170914.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 + 7.0064E-005
Be	1.0000	y = 5.6276E-005 * x + 4.5610E-006
B	1.0000	y = 2.7039E-005 * x + 1.3414E-004
Na	1.0000	y = 8.7753E-004 * x + 0.0159
Mg	1.0000	y = 4.5288E-004 * x + 6.0211E-004
Al	1.0000	y = 1.6511E-004 * x + 9.4479E-004
K	1.0000	y = 3.7194E-004 * x + 0.0207
Ca	1.0000	y = 2.2396E-005 * x + 1.8794E-004
Ti	1.0000	y = 1.4976E-004 * x + 2.6927E-006
V	1.0000	y = 0.0052 * x + 0.0015
Cr	1.0000	y = 0.0064 * x + 3.4523E-004
Mn	1.0000	y = 0.0036 * x + 7.2462E-005
Fe	1.0000	y = 0.0051 * x + 0.0030
Co	1.0000	y = 0.0154 * x + 2.4834E-004
Ni	1.0000	y = 0.0042 * x + 2.5339E-004
Cu	1.0000	y = 0.0111 * x + 6.3547E-004
Zn	1.0000	y = 0.0016 * x + 4.3555E-004
Se	1.0000	y = 7.7833E-005 * x + 2.4360E-005
Sr	0.9999	y = 6.5146E-004 * x + 3.8146E-005
Mo	0.9999	y = 6.5815E-004 * x + 1.0425E-005
Ag	1.0000	y = 0.0020 * x + 9.5383E-006
Cd	1.0000	y = 2.8992E-004 * x + 1.6521E-006
Sn	1.0000	y = 6.0988E-004 * x + 5.2772E-005
Sb	1.0000	y = 7.5379E-004 * x + 2.2763E-005
Tl	1.0000	y = 0.0018 * x + 2.2086E-005
Ba	1.0000	y = 2.7382E-004 * x + 6.3563E-006
Pb	1.0000	y = 0.0024 * x + 7.4965E-005

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Calibration Summary Report

Level 7 Cal

Ele	Conc	Calc	%Rec
As	500	495.37	99
Be	500	505.00	101
B	500	501.79	100
Na	10000	10031.00	100
Mg	10000	10039.86	100
Al	10000	9960.75	100
K	10000	10010.44	100
Ca	10000	9915.77	99
Ti	500	498.54	100
V	500	497.67	100
Cr	500	503.43	101
Mn	500	496.35	99
Fe	10000	9963.65	100
Co	500	506.91	101
Ni	500	498.71	100
Cu	500	502.39	100
Zn	500	505.38	101
Se	500	499.37	100
Sr	500	477.17	95
Mo	500	481.12	96
Ag	500	498.90	100
Cd	500	500.61	100
Sn	500	486.39	97
Sb	500	499.94	100
Tl	500	500.57	100
Ba	500	498.35	100
Pb	500	499.90	100

Level 8 Cal

Ele	Conc	Calc	%Rec
As	2000	2001.67	100
Be	2000	1998.19	100
B	2000	1999.67	100
Na	25000	24966.42	100
Mg	25000	24951.07	100
K	25000	24976.77	100
Ca	25000	25035.91	100
Ti	2000	2000.02	100
V	2000	2000.34	100
Cr	2000	1998.31	100
Mn	2000	2000.71	100
Co	2000	1997.94	100
Ni	2000	1999.88	100
Cu	2000	1998.52	100
Zn	2000	1997.75	100
Se	2000	2000.17	100
Sr	2000	2007.41	100
Mo	2000	2006.38	100
Cd	2000	1999.33	100
Sn	2000	2004.37	100
Tl	2000	1999.93	100
Ba	2000	2000.67	100
Pb	2000	2000.52	100

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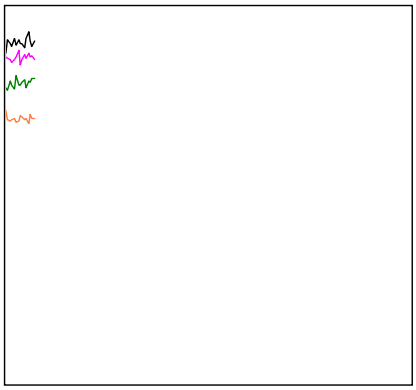
Current Signal

[Helium]



Mass	Range	Count	Avg. Count	RSD [%]
63	500	211	199.9	7.70
59	20000	16150	15929.0	1.42
89	20000	14088	14065.6	1.30
140	50000	43008	43184.3	1.11
205	50000	45378	45176.2	1.50
156/140	1	0.428 %	0.399 %	9.62
51	100	54	66.5	13.83
56	5000	2993	2920.9	2.21
75	20	3	2.6	66.30
78	20	0	2.4	79.99
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	-175.0	V	Cell Exit	-58	V
Omega Bias	-75	V	Deflect	0.8	V
Omega Lens	8.0	V	Plate Bias	-60	V

Cell Parameters

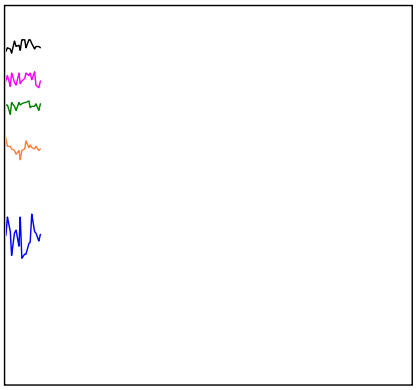
Use Gas	Yes		OctP RF	200	V
He Flow	5.0	mL/min	Energy Discrimination	3.0	V
OctP Bias	-19.0	V			

Meters

IF/BK Press	2.18E+2	Pa	Carrier Gas(BP)	3.06E+2	kPa	Forward Power	1549	W
Analyzer Press	1.55E-4	Pa	Reflected Power	6	W			

Current Signal

[No Gas]



Mass	Range	Count	Avg. Count	RSD [%]
63	500	197	193.5	9.14
59	20000	14841	14745.4	1.20
89	20000	12466	12474.4	1.90
140	50000	40184	40342.8	1.70
205	50000	44464	44782.1	1.27
156/140	1	0.428 %	0.410 %	8.68
51	100	63	59.4	14.83
56	5000	2610	2556.7	2.30
75	20	0	0.8	121.22
78	20	1	1.4	86.04
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	-175.0	V	Cell Exit	-58	V
Omega Bias	-75	V	Deflect	1.4	V
Omega Lens	8.0	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	2.18E+2	Pa	Carrier Gas(BP)	3.07E+2	kPa	Forward Power	1550	W
Analyzer Press	1.56E-4	Pa	Reflected Power	6	W			

US EPA Tune Check Sample Report

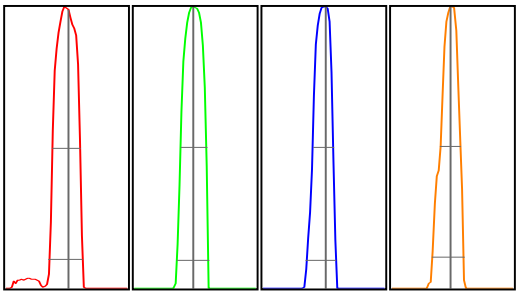
Batch Folder C:\Agilent\ICPMH\1\DATA\DHL Li+U TEMPLATE.b
Report Comment
Instrument Name ICPMS4 JP12361998

[No Gas]

Mass	Count (Mean)	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
7	357	1.16	5.00	
59	74491	0.16	5.00	
115	66993	0.32	5.00	
205	197197	0.30	5.00	

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
7	357	357	350	359	361
59	74321	74638	74525	74437	74533
115	66750	67048	66786	67225	67154
205	196599	196510	197761	197672	197444

Integration Time [sec] = 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	Width-X% (Flag)
7	561	7.05	6.9 - 7.1		0.809	0.850	
59	125684	59.00	58.9 - 59.1		0.758	0.850	
115	137216	115.05	114.9 - 115.1		0.706	0.850	
205	399229	205.00	204.9 - 205.1		0.747	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	-175.0	V	Cell Exit	-58	V
Omega Bias	-75	V	Deflect	1.4	V
Omega Lens	8.0	V	Plate Bias	-60	V

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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			

P/A Factor Tuning Report

Current Sample

Sample Name: LCVL1-170914
Data File: 057LCCV.d
Acquired: 9/14/2017 11:40:13 AM

Detector Parameters and P/A Factors

Discriminator: 4.5 mV
AnalogHV: 1751 V
PulseHV: 1590 V

Acquired: 9/14/2017 9:24:48 AM

Mass[u]	Element	P/A Factor
9	Be	0.111101
23	Na	0.121050
24	Mg	0.125104
27	Al	0.127487
39	K	0.127414
45	Sc	0.128811
47	Ti	0.129878
51	V	0.131524
52	Cr	0.134846
55	Mn	0.135690
56	Fe	0.124975
59	Co	0.138593
60	Ni	0.140360
63	Cu	0.141236
66	Zn	0.140724
72	Ge	0.140555
75	As	0.139898
88	Sr	0.140893
95	Mo	0.140411
111	Cd	0.145403
115	In	0.145283
118	Sn	0.145679
121	Sb	0.145259
137	Ba	0.144689
205	Tl	0.150108
206	[Pb]	0.151412
207	[Pb]	0.152004
208	Pb	0.150110
209	Bi	0.152627
238	U	0.150134
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: 9/14/2017 12:12:20 PM

REVIEWED BY
By Janice Whitt at 1:26:13 PM, 9/14/2017

Calibration Blank Report

Date Acquired	9/14/2017 10:04	Sample Name	BLANK STD 1
Data Batch	170914.b	Comment	CAL 6020A_W
Data File Name	009CALB.d	Dilution	1

Mass	Name	IS	CPS	%RSD
9	Be	45	6	56.73
11	B	45	167	15.62
23	Na	45	19775	1.14
24	Mg	45	748	11.16
27	Al	45	1173	6.15
39	K	45	25740	1.56
44	Ca	45	233	11.81
47	Ti	45	3	173.21
51	V	45	1833	5.02
52	Cr	45	429	9.01
55	Mn	45	90	19.60
56	Fe	45	3667	3.01
59	Co	72	217	4.07
60	Ni	72	221	14.64
63	Cu	72	554	5.78
66	Zn	72	380	7.18
75	As	72	61	13.36
78	Se	72	21	37.00
88	Sr	115	333	8.89
95	Mo	115	91	22.35
107	Ag	115	83	8.00
111	Cd	115	14	87.37
118	Sn	115	461	11.53
121	Sb	115	199	2.56
137	Ba	115	56	27.71
205	Tl	209	548	3.72
208	Pb	209	1859	7.66

QC ISTD Table

Mass	Name	CPS	%RSD
45	Sc	1242141	0.34
72	Ge	872431	0.25
115	In	8737575	0.18
209	Bi	24812497	1.23

Calibration Standard Report

Date Acquired	9/14/2017 10:06	Sample Name	L2-170914
Data Batch	170914.b	Comment	CAL 6020A_W
Data File Name	010CALS.d	Dilution	1

Mass	Name	IS	CPS	%RSD
9	Be	45	71	17.69
11	B	45	213	17.61
23	Na	45	42254	1.31
24	Mg	45	11871	2.39
27	Al	45	5244	3.73
39	K	45	34701	0.74
44	Ca	45	900	5.77
47	Ti	45	189	8.34
51	V	45	7840	1.72
52	Cr	45	8330	0.55
55	Mn	45	4402	1.95
56	Fe	45	136098	0.63
59	Co	72	13579	0.96
60	Ni	72	3868	2.83
63	Cu	72	10408	2.11
66	Zn	72	1931	1.47
75	As	72	909	0.66
78	Se	72	82	12.26
88	Sr	115	5559	2.41
95	Mo	115	5154	1.35
107	Ag	115	17417	0.53
111	Cd	115	2454	3.77
118	Sn	115	5228	4.12
121	Sb	115	6205	2.42
137	Ba	115	2358	4.30
205	Tl	209	40505	0.75
208	Pb	209	55528	0.26

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	Flag
45	Sc	1237897	0.59	1242141	99.66	70	120	
72	Ge	877151	0.15	872431	100.54	70	120	
115	In	8746635	0.35	8737575	100.10	70	120	
209	Bi	24648760	0.71	24812497	99.34	70	120	

Calibration Standard Report

Date Acquired	9/14/2017 10:07	Sample Name	L-170914
Data Batch	170914.b	Comment	CAL 6020A_W
Data File Name	011CALS.d	Dilution	1

Mass	Name	IS	CPS	%RSD
9	Be	45	649	4.76
11	B	45	543	7.66
23	Na	45	227414	0.68
24	Mg	45	109184	0.90
27	Al	45	39639	0.52
39	K	45	112435	0.36
44	Ca	45	5496	2.72
47	Ti	45	1830	1.11
51	V	45	62447	1.62
52	Cr	45	77046	1.44
55	Mn	45	42144	1.22
56	Fe	45	1311480	0.23
59	Co	72	129662	0.95
60	Ni	72	35609	1.92
63	Cu	72	96323	1.40
66	Zn	72	14247	0.83
75	As	72	8490	1.30
78	Se	72	645	11.13
88	Sr	115	51086	0.77
95	Mo	115	50834	0.59
107	Ag	115	169032	0.19
111	Cd	115	23894	0.98
118	Sn	115	48726	0.79
121	Sb	115	61154	0.38
137	Ba	115	22292	0.70
205	Tl	209	397369	0.47
208	Pb	209	533326	0.45

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	Flag
45	Sc	1230547	0.23	1242141	99.07	70	120	
72	Ge	879039	0.46	872431	100.76	70	120	
115	In	8728726	0.69	8737575	99.90	70	120	
209	Bi	24635573	0.52	24812497	99.29	70	120	

Calibration Standard Report

Date Acquired	9/14/2017 10:09	Sample Name	10X-170914
Data Batch	170914.b	Comment	CAL 6020A_W
Data File Name	012CALS.d	Dilution	1

Mass	Name	IS	CPS	%RSD
9	Be	45	3657	3.47
11	B	45	1961	4.05
23	Na	45	1137695	0.20
24	Mg	45	586640	0.60
27	Al	45	208643	0.77
39	K	45	494179	0.53
44	Ca	45	28489	2.14
47	Ti	45	9130	1.04
51	V	45	325630	0.75
52	Cr	45	409882	0.77
55	Mn	45	224233	0.62
56	Fe	45	6402647	0.29
59	Co	72	701888	0.26
60	Ni	72	191308	0.37
63	Cu	72	515147	0.24
66	Zn	72	73455	1.31
75	As	72	45254	0.66
78	Se	72	3486	2.76
88	Sr	115	271948	0.71
95	Mo	115	273299	0.84
107	Ag	115	907748	0.01
111	Cd	115	129510	0.44
118	Sn	115	260619	0.04
121	Sb	115	329480	0.06
137	Ba	115	119263	0.90
205	Tl	209	2149730	0.69
208	Pb	209	2871427	0.30

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	Flag
45	Sc	1228585	0.12	1242141	98.91	70	120	
72	Ge	875921	0.27	872431	100.40	70	120	
115	In	8699985	0.43	8737575	99.57	70	120	
209	Bi	24669680	0.99	24812497	99.42	70	120	

Calibration Standard Report

Date Acquired	9/14/2017 10:11	Sample Name	5X-170914
Data Batch	170914.b	Comment	CAL 6020A_W
Data File Name	013CALS.d	Dilution	1

Mass	Name	IS	CPS	%RSD
9	Be	45	7023	2.45
11	B	45	3562	4.96
23	Na	45	2247662	0.36
24	Mg	45	1162501	0.46
27	Al	45	414155	0.91
39	K	45	955307	0.11
44	Ca	45	55211	0.84
47	Ti	45	18514	0.17
51	V	45	642812	0.61
52	Cr	45	808075	0.50
55	Mn	45	445054	0.73
56	Fe	45	12690495	0.53
59	Co	72	1384192	0.38
60	Ni	72	378634	0.05
63	Cu	72	1012871	0.36
66	Zn	72	145799	0.73
75	As	72	89533	0.90
78	Se	72	6923	1.24
88	Sr	115	537735	0.61
95	Mo	115	543240	1.35
107	Ag	115	1793703	0.81
111	Cd	115	256599	0.44
118	Sn	115	514883	0.58
121	Sb	115	652654	0.30
137	Ba	115	236721	0.47
205	Tl	209	4269343	0.38
208	Pb	209	5698725	0.51

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	Flag
45	Sc	1224540	0.16	1242141	98.58	70	120	
72	Ge	869734	0.44	872431	99.69	70	120	
115	In	8641633	0.81	8737575	98.90	70	120	
209	Bi	24344473	0.95	24812497	98.11	70	120	

Calibration Standard Report

Date Acquired	9/14/2017 10:13	Sample Name	2X-170914
Data Batch	170914.b	Comment	CAL 6020A_W
Data File Name	014CALS.d	Dilution	1

Mass	Name	IS	CPS	%RSD
9	Be	45	17440	1.19
11	B	45	8342	1.70
23	Na	45	5462505	0.28
24	Mg	45	2835884	0.44
27	Al	45	1022817	0.46
39	K	45	2334366	0.37
44	Ca	45	136746	0.13
47	Ti	45	46255	1.74
51	V	45	1603366	0.15
52	Cr	45	2007631	0.50
55	Mn	45	1099136	0.20
56	Fe	45	31404415	0.62
59	Co	72	3381611	0.19
60	Ni	72	923874	0.35
63	Cu	72	2464546	0.36
66	Zn	72	355688	0.62
75	As	72	221748	0.38
78	Se	72	16916	1.80
88	Sr	115	1339071	0.44
95	Mo	115	1354749	0.33
107	Ag	115	4392306	0.33
111	Cd	115	631527	0.79
118	Sn	115	1279373	0.46
121	Sb	115	1623402	0.27
137	Ba	115	584814	0.61
205	Tl	209	10772159	1.50
208	Pb	209	14006936	0.40

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	Flag
45	Sc	1223569	0.48	1242141	98.50	70	120	
72	Ge	871773	0.48	872431	99.92	70	120	
115	In	8613100	1.13	8737575	98.58	70	120	
209	Bi	24026887	0.63	24812497	96.83	70	120	

Calibration Standard Report

Date Acquired	9/14/2017 10:15	Sample Name	H-170914
Data Batch	170914.b	Comment	CAL 6020A_W
Data File Name	015CALS.d	Dilution	1

Mass	Name	IS	CPS	%RSD
9	Be	45	34866	1.08
11	B	45	16810	1.87
23	Na	45	10817551	0.08
24	Mg	45	5578362	0.50
27	Al	45	2018576	0.52
39	K	45	4592833	0.18
44	Ca	45	272642	0.16
47	Ti	45	91592	0.38
51	V	45	3178234	0.57
52	Cr	45	3969531	0.50
55	Mn	45	2180402	0.51
56	Fe	45	62098155	0.17
59	Co	72	6779740	0.44
60	Ni	72	1816704	0.80
63	Cu	72	4829889	0.21
66	Zn	72	699672	0.41
75	As	72	443140	0.23
78	Se	72	33668	0.99
88	Sr	115	2648649	0.29
95	Mo	115	2697584	0.76
107	Ag	115	8633937	0.80
111	Cd	115	1236464	0.07
118	Sn	115	2527594	0.34
121	Sb	115	3210711	0.40
137	Ba	115	1162610	0.54
205	Tl	209	21263987	0.48
208	Pb	209	28046871	0.22

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	Flag
45	Sc	1226750	0.73	1242141	98.76	70	120	
72	Ge	865706	0.48	872431	99.23	70	120	
115	In	8519867	0.94	8737575	97.51	70	120	
209	Bi	23738810	0.30	24812497	95.67	70	120	

Calibration Standard Report

Date Acquired	9/14/2017 10:17	Sample Name	H2-170914
Data Batch	170914.b	Comment	CAL 6020A_W
Data File Name	016CALS.d	Dilution	1

Mass	Name	IS	CPS	%RSD
9	Be	45	137734	0.12
11	B	45	66387	0.27
23	Na	45	26853248	0.90
24	Mg	45	13840371	1.37
27	Al	45	3655	13.22
39	K	45	11403416	1.20
44	Ca	45	686969	0.36
47	Ti	45	366842	1.02
51	V	45	12748915	0.69
52	Cr	45	15730642	0.44
55	Mn	45	8774506	1.00
56	Fe	45	63588	20.13
59	Co	72	26295966	1.21
60	Ni	72	7168372	0.97
63	Cu	72	18905919	0.85
66	Zn	72	2720620	0.57
75	As	72	1761932	0.21
78	Se	72	132646	0.57
88	Sr	115	10977379	0.53
95	Mo	115	11084504	0.86
107	Ag	115	5415	22.23
111	Cd	115	4865247	0.69
118	Sn	115	10261286	0.51
121	Sb	115	4674	10.68
137	Ba	115	4598295	0.27
205	Tl	209	83148894	1.15
208	Pb	209	109841727	0.75

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	Flag
45	Sc	1224823	0.54	1242141	98.61	70	120	
72	Ge	851915	0.10	872431	97.65	70	120	
115	In	8394076	0.68	8737575	96.07	70	120	
209	Bi	23233921	1.01	24812497	93.64	70	120	

Interference Check Solution A (ICS-A) Report

Date Acquired	9/14/2017 10:23	Sample Name	ICSA-170914
Data Batch	170914.b	Comment	ICSA6020A_W
Data File Name	019ICSA.d	Dilution	1

Mass	Name	Conc	CPS	%RSD	MDL S	MDL Aq	QC Flag
9	Be	0.088	12	19.8	1.2	0.8	
11	B	13.285	604	5.6	30	30	
51	V	0.068	2241	1.7	10	10	
52	Cr	1.086	8979	2.1	8	5	
55	Mn	0.789	3549	3.0	8	10	
59	Co	1.285	16659	1.0	8	10	
60	Ni	0.604	2316	3.5	8	10	
63	Cu	2.076	19633	0.9	8	10	
66	Zn	3.356	4807	3.0	10	5	
75	As	0.374	378	8.9	4	5	
78	Se	0.290	39	11.4	2	5	
88	Sr	1.219	6790	3.9	10	10	
107	Ag	0.226	3828	2.1	0.8	2	
111	Cd	0.644	1538	4.6	1.2	1	
118	Sn	0.389	2369	2.7	10	10	
121	Sb	0.057	537	11.2	4	2.5	
137	Ba	1.016	2324	0.4	8	10	
205	Tl	0.304	12041	4.5	4	1.5	
208	Pb	0.469	25145	1.7	1.2	1	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1225438	0.51	1242141	98.66	70	120	
72	Ge	828934	0.55	872431	95.01	70	120	
115	In	8164377	1.28	8737575	93.44	70	120	
209	Bi	21261344	0.82	24812497	85.69	70	120	

Interference Check Solution AB (ICS-AB) Report

Date Acquired	9/14/2017 10:24	Sample Name	ICSAB-170914
Data Batch	170914.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	40.573	258188	0.27	40	101.4	80	120	
52	Cr	45	21.300	166686	0.99	20	106.5	80	120	
55	Mn	45	20.207	87974	0.67	20	101.0	80	120	
59	Co	72	41.140	526690	0.32	40	102.8	80	120	
60	Ni	72	39.086	136432	0.13	40	97.7	80	120	
63	Cu	72	22.092	203734	1.13	20	110.5	80	120	
66	Zn	72	22.352	29955	0.87	20	111.8	80	120	
75	As	72	21.234	18232	1.68	20	106.2	80	120	
78	Se	72	21.575	1411	2.75	20	107.9	80	120	
107	Ag	115	19.461	320569	0.18	20	97.3	80	120	
111	Cd	115	10.456	24592	0.99	10	104.6	80	120	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1214586	0.55	1242141	97.78	70	120	
72	Ge	828364	0.23	872431	94.95	70	120	
115	In	8107593	0.60	8737575	92.79	70	120	
209	Bi	21324552	0.51	24812497	85.94	70	120	

Initial Calibration Verification (ICV) Report

Date Acquired	9/14/2017 10:30	Sample Name	ICV-170914
Data Batch	170914.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	100.183	7218	1.97	100	100.2	90	110	
11	B	45	107.183	3879	1.33	100	107.2	90	110	
23	Na	45	2619.409	2961021	0.19	2500	104.8	90	110	
24	Mg	45	2616.039	1516425	0.06	2500	104.6	90	110	
27	Al	45	2439.515	516496	0.34	2500	97.6	90	110	
39	K	45	2575.542	1252038	0.55	2500	103.0	90	110	
44	Ca	45	2468.838	70975	0.13	2500	98.8	90	110	
47	Ti	45	101.831	19514	1.31	100	101.8	90	110	
51	V	45	102.227	682344	0.32	100	102.2	90	110	
52	Cr	45	105.577	868523	0.67	100	105.6	90	110	
55	Mn	45	100.619	461033	0.49	100	100.6	90	110	
56	Fe	45	2493.339	16208890	0.68	2500	99.7	90	110	
59	Co	72	102.406	1444046	0.68	100	102.4	90	110	
60	Ni	72	102.998	395709	1.19	100	103.0	90	110	
63	Cu	72	103.760	1052044	0.73	100	103.8	90	110	
66	Zn	72	102.804	150352	0.16	100	102.8	90	110	
75	As	72	99.106	93511	0.35	100	99.1	90	110	
78	Se	72	100.326	7148	2.18	100	100.3	90	110	
88	Sr	115	96.440	572435	0.61	100	96.4	90	110	
95	Mo	115	94.349	565521	0.90	100	94.3	90	110	
107	Ag	115	103.802	1920034	0.29	100	103.8	90	110	
111	Cd	115	101.090	266880	0.21	100	101.1	90	110	
118	Sn	115	99.666	553963	0.88	100	99.7	90	110	
121	Sb	115	102.665	704885	0.45	100	102.7	90	110	
137	Ba	115	99.749	248760	0.75	100	99.7	90	110	
205	Tl	209	96.894	4366953	0.45	100	96.9	90	110	
208	Pb	209	98.529	5866331	0.73	100	98.5	90	110	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1279335	0.48	1242141	102.99	70	120	
72	Ge	912595	0.32	872431	104.60	70	120	
115	In	9105756	0.29	8737575	104.21	70	120	
209	Bi	25187206	1.37	24812497	101.51	70	120	

Low Level Calibration Verification (LLCV) Report

Date Acquired	9/14/2017 10:35	Sample Name	LCVL-170914
Data Batch	170914.b	Comment	LCVL6020A_W
Data File Name	025LICV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
9	Be	45	0.852	67	8.79	1	85.2	70	130	
11	B	45	20.995	891	10.86	20	105.0	70	130	
23	Na	45	93.390	124258	1.66	100	93.4	70	130	
24	Mg	45	94.123	54882	1.92	100	94.1	70	130	
27	Al	45	95.670	21254	2.92	100	95.7	70	130	
39	K	45	91.633	69577	0.97	100	91.6	70	130	
44	Ca	45	92.243	2861	1.93	100	92.2	70	130	
47	Ti	45	5.154	983	4.11	5	103.1	70	130	
51	V	45	0.961	8221	2.11	1	96.1	70	130	
52	Cr	45	4.887	40313	1.51	5	97.7	70	130	
55	Mn	45	5.749	26228	0.53	5	115.0	70	130	
56	Fe	45	109.878	712423	0.12	100	109.9	70	130	
59	Co	72	4.854	68313	0.11	5	97.1	70	130	
60	Ni	72	4.962	19188	2.63	5	99.2	70	130	
63	Cu	72	5.961	60678	0.74	5	119.2	70	130	
66	Zn	72	4.835	7413	3.48	5	96.7	70	130	
75	As	72	4.686	4459	1.56	5	93.7	70	130	
78	Se	72	4.538	343	1.16	5	90.8	70	130	
88	Sr	115	4.547	27099	0.90	5	90.9	70	130	
95	Mo	115	4.674	27878	2.70	5	93.5	70	130	
107	Ag	115	1.915	35225	0.48	2	95.8	70	130	
111	Cd	115	0.910	2397	5.39	1	91.0	70	130	
118	Sn	115	4.788	26852	1.44	5	95.8	70	130	
121	Sb	115	1.908	13193	1.09	2	95.4	70	130	
137	Ba	115	4.642	11538	1.50	5	92.8	70	130	
205	Tl	209	0.974	44792	3.16	1	97.4	70	130	
208	Pb	209	0.932	57859	1.13	1	93.2	70	130	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1269551	0.42	1242141	102.21	70	120	
72	Ge	908047	0.48	872431	104.08	70	120	
115	In	9032571	0.92	8737575	103.38	70	120	
209	Bi	25391766	1.07	24812497	102.33	70	120	

Initial Calibration Blank (ICB) Report

Date Acquired	9/14/2017 10:39	Sample Name	ICB-170914
Data Batch	170914.b	Comment	ICB 6020A_W
Data File Name	027_ICB.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	MDL S	MDL Aq	QC Flag
9	Be	45	0.021	7	43.8	0.4	0.3	
11	B	45	0.586	191	7.9	10	10	
23	Na	45	0.519	20862	1.7	50	100	
24	Mg	45	0.131	842	6.3	50	100	
27	Al	45	0.126	1230	5.8	50	10	
39	K	45	0.434	26605	0.7	50	100	
44	Ca	45	2.841	320	10.8	50	100	
47	Ti	45	0.011	6	91.6	4	3	
51	V	45	0.002	1892	4.0	4	3	
52	Cr	45	0.005	478	7.5	2	2	
55	Mn	45	0.004	111	6.2	2	3	
56	Fe	45	0.616	7745	1.9	50	50	
59	Co	72	-0.008	119	26.9	2	3	
60	Ni	72	0.000	230	12.6	2	3	
63	Cu	72	0.003	604	6.3	2	2	
66	Zn	72	-0.027	358	12.0	4	2	
75	As	72	0.013	76	17.5	2	2	
78	Se	72	-0.022	21	34.3	1	2	
88	Sr	115	0.008	394	16.3	4	3	
95	Mo	115	0.117	792	6.3	2	2	
107	Ag	115	0.003	149	14.4	0.4	1	
111	Cd	115	0.001	19	66.8	0.4	0.3	
118	Sn	115	0.048	743	17.0	4	3	
121	Sb	115	-0.007	156	16.2	2	0.8	
137	Ba	115	0.007	76	5.1	2	3	
205	Tl	209	0.035	2159	1.4	2	0.5	
208	Pb	209	0.007	2331	5.0	0.4	0.3	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1273984	0.39	1242141	102.56	70	120	
72	Ge	909794	0.33	872431	104.28	70	120	
115	In	9049949	0.43	8737575	103.58	70	120	
209	Bi	25318118	0.47	24812497	102.04	70	120	

Method Blank Report

Date Acquired	9/14/17 10:41 AM	Sample Name	MB-82336
Data Batch	170914.b	Comment	MBLK6020A_S
Data File Name	028_PB.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
9	Be	45	-0.040	3	66.67		
11	B	45	2.108	249	7.38		
23	Na	45	5.624	27169	1.79		
24	Mg	45	2.742	2402	4.40		
27	Al	45	2.544	1778	2.00		
39	K	45	5.760	29781	1.12		
44	Ca	45	11.316	575	7.22		
47	Ti	45	0.102	23	24.74		
51	V	45	0.004	1951	5.85		
52	Cr	45	0.138	1608	3.23		
55	Mn	45	0.033	247	8.86		
56	Fe	45	2.524	20557	8.18		
59	Co	72	-0.006	141	17.89		
60	Ni	72	0.095	599	10.02		
63	Cu	72	0.266	3283	4.70		
66	Zn	72	0.871	1670	1.73		
75	As	72	0.019	82	12.08		
78	Se	72	0.106	30	43.89		
88	Sr	115	0.033	562	12.21		
95	Mo	115	0.133	919	5.69		
107	Ag	115	0.005	191	5.61		
111	Cd	115	0.005	28	6.92		
118	Sn	115	4.676	27250	1.41		J
121	Sb	115	0.003	232	34.61		
137	Ba	115	0.030	137	15.99		
205	Tl	209	0.040	2444	2.96		
208	Pb	209	0.037	4200	5.13		

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1302638	0.66	1242141	104.87	70	120	
72	Ge	913791	0.89	872431	104.74	70	120	
115	In	9381341	0.62	8737575	107.37	70	120	
209	Bi	25924819	0.49	24812497	104.48	70	120	

Laboratory Control Sample (LCS) Report

Date Acquired	9/14/2017 10:43	Sample Name	DCS1-82336
Data Batch	170914.b	Comment	DCS 6020A_S
Data File Name	029_LS.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
9	Be	45	0.942	75	22.46	200	0.5	80	120	Fail
11	B	45	5.403	367	6.36	200	2.7	80	120	Fail
23	Na	45	155.841	199765	0.72	1000	15.6	80	120	Fail
24	Mg	45	154.263	92198	0.11	1000	15.4	80	120	Fail
27	Al	45	167.946	37518	0.29	1000	16.8	80	120	Fail
39	K	45	154.488	102296	0.61	1000	15.4	80	120	Fail
44	Ca	45	184.427	5650	3.59	1000	18.4	80	120	Fail
47	Ti	45	1.167	232	16.76	200	0.6	80	120	Fail
51	V	45	0.986	8645	3.45	200	0.5	80	120	Fail
52	Cr	45	1.170	10293	0.82	200	0.6	80	120	Fail
55	Mn	45	1.056	5042	1.47	200	0.5	80	120	Fail
56	Fe	45	169.909	1133293	0.29	1000	17.0	80	120	Fail
59	Co	72	0.987	14247	2.99	200	0.5	80	120	Fail
60	Ni	72	1.118	4561	3.54	200	0.6	80	120	Fail
63	Cu	72	1.081	11624	1.83	200	0.5	80	120	Fail
66	Zn	72	3.481	5518	2.60	200	1.7	80	120	Fail
75	As	72	0.991	1006	2.62	200	0.5	80	120	Fail
78	Se	72	1.075	99	9.48	200	0.5	80	120	Fail
88	Sr	115	1.210	7666	1.21	200	0.6	80	120	Fail
95	Mo	115	1.002	6215	1.40	200	0.5	80	120	Fail
107	Ag	115	1.027	19432	2.40	200	0.5	80	120	Fail
111	Cd	115	0.942	2547	5.27	200	0.5	80	120	Fail
118	Sn	115	5.743	32966	1.21	200	2.9	80	120	Fail
121	Sb	115	0.986	7107	3.63	200	0.5	80	120	Fail
137	Ba	115	1.000	2598	1.19	200	0.5	80	120	Fail
205	Tl	209	0.959	44910	1.08	200	0.5	80	120	Fail
208	Pb	209	0.975	61510	1.92	200	0.5	80	120	Fail

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1308438	0.12	1242141	105.34	70	120	
72	Ge	919622	0.53	872431	105.41	70	120	
115	In	9273330	0.81	8737575	106.13	70	120	
209	Bi	25848699	0.94	24812497	104.18	70	120	

Laboratory Control Sample (LCS) Report

Date Acquired	9/14/2017 10:45	Sample Name	DCS2-82336
Data Batch	170914.b	Comment	DCS26020A_S
Data File Name	030_LS.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
9	Be	45	4.809	360	6.26	200	2.4	80	120	Fail
11	B	45	10.478	546	7.47	200	5.2	80	120	Fail
23	Na	45	7.912	29875	1.05	1000	0.8	80	120	Fail
24	Mg	45	5.555	4074	0.91	1000	0.6	80	120	Fail
27	Al	45	21.264	5822	1.47	1000	2.1	80	120	Fail
39	K	45	7.998	30963	0.98	1000	0.8	80	120	Fail
44	Ca	45	69.208	2271	5.34	1000	6.9	80	120	Fail
47	Ti	45	5.422	1064	2.70	200	2.7	80	120	Fail
51	V	45	4.746	34199	0.76	200	2.4	80	120	Fail
52	Cr	45	5.001	42455	1.13	200	2.5	80	120	Fail
55	Mn	45	4.789	22502	0.45	200	2.4	80	120	Fail
56	Fe	45	3.420	26558	2.90	1000	0.3	80	120	Fail
59	Co	72	4.860	68819	0.44	200	2.4	80	120	Fail
60	Ni	72	5.011	19492	1.21	200	2.5	80	120	Fail
63	Cu	72	5.216	53493	0.93	200	2.6	80	120	Fail
66	Zn	72	8.477	12776	1.84	200	4.2	80	120	Fail
75	As	72	4.623	4428	2.53	200	2.3	80	120	Fail
78	Se	72	4.468	340	9.22	200	2.2	80	120	Fail
88	Sr	115	4.831	29840	0.76	200	2.4	80	120	Fail
95	Mo	115	4.392	27173	1.18	200	2.2	80	120	Fail
107	Ag	115	4.929	93878	0.52	200	2.5	80	120	Fail
111	Cd	115	4.578	12448	1.16	200	2.3	80	120	Fail
118	Sn	115	9.125	52634	0.65	200	4.6	80	120	Fail
121	Sb	115	4.672	33208	0.83	200	2.3	80	120	Fail
137	Ba	115	4.613	11892	0.83	200	2.3	80	120	Fail
205	Tl	209	4.534	210690	0.42	200	2.3	80	120	Fail
208	Pb	209	4.602	283599	0.32	200	2.3	80	120	Fail

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1306716	0.49	1242141	105.20	70	120	
72	Ge	913554	0.24	872431	104.71	70	120	
115	In	9368646	0.81	8737575	107.22	70	120	
209	Bi	25900419	0.44	24812497	104.38	70	120	

Laboratory Control Sample (LCS) Report

Date Acquired	9/14/2017 10:47	Sample Name	DCS3-82336
Data Batch	170914.b	Comment	DCS36020A_S
Data File Name	031_LS.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
9	Be	45	9.241	680	2.45	200	4.6	80	120	Fail
11	B	45	16.311	746	5.08	200	8.2	80	120	Fail
23	Na	45	7.339	28983	1.72	1000	0.7	80	120	Fail
24	Mg	45	5.236	3854	5.63	1000	0.5	80	120	Fail
27	Al	45	29.881	7620	1.89	1000	3.0	80	120	Fail
39	K	45	7.271	30366	0.99	1000	0.7	80	120	Fail
44	Ca	45	83.329	2663	4.75	1000	8.3	80	120	Fail
47	Ti	45	9.920	1929	1.90	200	5.0	80	120	Fail
51	V	45	9.581	66531	0.77	200	4.8	80	120	Fail
52	Cr	45	10.033	84025	0.69	200	5.0	80	120	Fail
55	Mn	45	9.897	46030	1.69	200	4.9	80	120	Fail
56	Fe	45	4.151	31164	0.25	1000	0.4	80	120	Fail
59	Co	72	10.065	141751	0.90	200	5.0	80	120	Fail
60	Ni	72	10.200	39290	0.72	200	5.1	80	120	Fail
63	Cu	72	10.460	106287	1.46	200	5.2	80	120	Fail
66	Zn	72	13.328	19785	1.39	200	6.7	80	120	Fail
75	As	72	9.566	9059	0.36	200	4.8	80	120	Fail
78	Se	72	9.168	672	5.93	200	4.6	80	120	Fail
88	Sr	115	9.648	58355	0.51	200	4.8	80	120	Fail
95	Mo	115	9.054	55086	0.80	200	4.5	80	120	Fail
107	Ag	115	0.003	146	20.78	200	0.0	80	120	Fail
111	Cd	115	9.485	25394	1.18	200	4.7	80	120	Fail
118	Sn	115	14.343	81218	1.77	200	7.2	80	120	Fail
121	Sb	115	-0.002	197	8.81	200	0.0	80	120	Fail
137	Ba	115	9.601	24319	0.74	200	4.8	80	120	Fail
205	Tl	209	9.252	430066	0.45	200	4.6	80	120	Fail
208	Pb	209	9.357	575606	0.24	200	4.7	80	120	Fail

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1296209	0.39	1242141	104.35	70	120	
72	Ge	910140	0.43	872431	104.32	70	120	
115	In	9228784	0.09	8737575	105.62	70	120	
209	Bi	25942565	0.25	24812497	104.55	70	120	

Laboratory Control Sample (LCS) Report

Date Acquired	9/14/2017 10:48	Sample Name	DCS4-82336
Data Batch	170914.b	Comment	DCS46020A_S
Data File Name	032_LS.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
9	Be	45	39.950	2907	3.54	200	20.0	80	120	Fail
11	B	45	60.846	2296	4.82	200	30.4	80	120	Fail
23	Na	45	11.242	33275	1.68	1000	1.1	80	120	Fail
24	Mg	45	9.184	6145	2.89	1000	0.9	80	120	Fail
27	Al	45	103.763	23327	1.90	1000	10.4	80	120	Fail
39	K	45	9.426	31264	1.12	1000	0.9	80	120	Fail
44	Ca	45	261.367	7795	4.12	1000	26.1	80	120	Fail
47	Ti	45	41.157	7958	3.53	200	20.6	80	120	Fail
51	V	45	39.787	269028	0.20	200	19.9	80	120	Fail
52	Cr	45	41.479	344434	0.66	200	20.7	80	120	Fail
55	Mn	45	40.757	188419	0.48	200	20.4	80	120	Fail
56	Fe	45	7.858	55328	1.20	1000	0.8	80	120	Fail
59	Co	72	42.216	587329	0.20	200	21.1	80	120	Fail
60	Ni	72	42.426	160912	0.56	200	21.2	80	120	Fail
63	Cu	72	42.747	427862	0.27	200	21.4	80	120	Fail
66	Zn	72	44.977	65107	0.87	200	22.5	80	120	Fail
75	As	72	39.516	36816	0.07	200	19.8	80	120	Fail
78	Se	72	38.637	2729	0.57	200	19.3	80	120	Fail
88	Sr	115	40.281	241300	0.81	200	20.1	80	120	Fail
95	Mo	115	37.549	227009	0.57	200	18.8	80	120	Fail
107	Ag	115	0.002	133	5.00	200	0.0	80	120	Fail
111	Cd	115	39.724	105760	0.67	200	19.9	80	120	Fail
118	Sn	115	43.716	245286	0.17	200	21.9	80	120	Fail
121	Sb	115	-0.002	198	11.84	200	0.0	80	120	Fail
137	Ba	115	39.522	99423	0.83	200	19.8	80	120	Fail
205	Tl	209	38.151	1777623	0.22	200	19.1	80	120	Fail
208	Pb	209	38.583	2375440	0.15	200	19.3	80	120	Fail

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1290406	0.53	1242141	103.89	70	120	
72	Ge	900182	0.21	872431	103.18	70	120	
115	In	9182154	0.69	8737575	105.09	70	120	
209	Bi	26031261	0.82	24812497	104.91	70	120	

Laboratory Control Sample (LCS) Report

Date Acquired	9/14/2017 10:50	Sample Name	LCS-82336
Data Batch	170914.b	Comment	LCS 6020A_S
Data File Name	033_LS.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
9	Be	45	204.651	14687	2.28	200	102.3	80	120	
11	B	45	212.280	7488	2.11	200	106.1	80	120	
23	Na	45	5095.853	5720746	1.30	1000	509.6	80	120	Fail
24	Mg	45	5132.787	2964020	1.06	1000	513.3	80	120	Fail
27	Al	45	1002.294	212166	0.46	1000	100.2	80	120	
39	K	45	5065.686	2428317	0.65	1000	506.6	80	120	Fail
44	Ca	45	4986.389	142599	0.50	1000	498.6	80	120	Fail
47	Ti	45	207.022	39526	1.29	200	103.5	80	120	
51	V	45	204.464	1358055	0.40	200	102.2	80	120	
52	Cr	45	208.542	1709050	0.49	200	104.3	80	120	
55	Mn	45	204.039	931489	0.68	200	102.0	80	120	
56	Fe	45	1033.751	6698679	0.85	1000	103.4	80	120	
59	Co	72	211.089	2882203	0.40	200	105.5	80	120	
60	Ni	72	211.461	786483	0.45	200	105.7	80	120	
63	Cu	72	213.385	2094517	0.25	200	106.7	80	120	
66	Zn	72	205.616	290822	0.21	200	102.8	80	120	
75	As	72	200.857	183461	0.16	200	100.4	80	120	
78	Se	72	195.937	13499	0.56	200	98.0	80	120	
88	Sr	115	198.045	1148964	0.75	200	99.0	80	120	
95	Mo	115	195.817	1147482	0.27	200	97.9	80	120	
107	Ag	115	210.193	3801239	0.49	200	105.1	80	120	
111	Cd	115	202.997	523994	0.40	200	101.5	80	120	
118	Sn	115	205.892	1118439	0.37	200	102.9	80	120	
121	Sb	115	203.862	1368262	0.82	200	101.9	80	120	
137	Ba	115	200.784	489538	0.08	200	100.4	80	120	
205	Tl	209	204.793	9200052	0.31	200	102.4	80	120	
208	Pb	209	200.181	11878023	0.64	200	100.1	80	120	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1274808	0.31	1242141	102.63	70	120	
72	Ge	883739	0.26	872431	101.30	70	120	
115	In	8904005	1.18	8737575	101.90	70	120	
209	Bi	25103770	0.27	24812497	101.17	70	120	

Laboratory Control Sample (LCS) Report

Date Acquired	9/14/2017 10:52	Sample Name	LCSD-82336
Data Batch	170914.b	Comment	LCSD6020A_S
Data File Name	034_LS.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
9	Be	45	204.692	14503	0.64	200	102.3	80	120	
11	B	45	214.481	7467	0.79	200	107.2	80	120	
23	Na	45	5118.230	5672434	1.32	1000	511.8	80	120	Fail
24	Mg	45	5179.963	2952983	0.44	1000	518.0	80	120	Fail
27	Al	45	1018.278	212770	0.36	1000	101.8	80	120	
39	K	45	5099.112	2412849	0.41	1000	509.9	80	120	Fail
44	Ca	45	4982.321	140659	0.45	1000	498.2	80	120	Fail
47	Ti	45	208.403	39281	0.65	200	104.2	80	120	
51	V	45	206.376	1353170	0.26	200	103.2	80	120	
52	Cr	45	209.112	1691766	0.30	200	104.6	80	120	
55	Mn	45	204.371	921076	0.62	200	102.2	80	120	
56	Fe	45	1035.310	6622920	0.39	1000	103.5	80	120	
59	Co	72	211.378	2873615	0.39	200	105.7	80	120	
60	Ni	72	210.789	780567	0.59	200	105.4	80	120	
63	Cu	72	212.623	2077977	0.59	200	106.3	80	120	
66	Zn	72	204.857	288499	0.94	200	102.4	80	120	
75	As	72	199.201	181158	0.49	200	99.6	80	120	
78	Se	72	197.338	13536	0.24	200	98.7	80	120	
88	Sr	115	197.595	1138926	0.25	200	98.8	80	120	
95	Mo	115	194.879	1134550	0.08	200	97.4	80	120	
107	Ag	115	211.416	3798347	0.69	200	105.7	80	120	
111	Cd	115	203.358	521488	0.34	200	101.7	80	120	
118	Sn	115	206.001	1111746	0.44	200	103.0	80	120	
121	Sb	115	205.991	1373576	0.38	200	103.0	80	120	
137	Ba	115	202.569	490634	0.96	200	101.3	80	120	
205	Tl	209	206.111	9174577	1.29	200	103.1	80	120	
208	Pb	209	201.845	11867720	0.78	200	100.9	80	120	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1258491	0.44	1242141	101.32	70	120	
72	Ge	879910	0.43	872431	100.86	70	120	
115	In	8845566	0.94	8737575	101.24	70	120	
209	Bi	24875410	0.91	24812497	100.25	70	120	

Dilution Sample (Dil) Report

Date Acquired	9/14/2017 10:58	Sample Name	1709070-02A SD
Data Batch	170914.b	Comment	SD 6020A_S
Data File Name	037_SD.d	Dilution	25

Mass	Name	IS	Conc	CPS	%RSD	Ref Value	%Rec	Low	High	Flag
9	Be	45	0.944	72	27.43	4.2	113.2	110	90	
11	B	45	9.966	503	8.69	41.4	120.4	110	90	
23	Na	45	358.104	411434	0.61	1670.1	107.2	110	90	Good
24	Mg	45	2823.782	1594601	1.78	13071.5	108.0	110	90	Good
27	Al	45	25563.114	5261457	1.70	123124.2	103.8	110	90	Good
39	K	45	1196.904	580724	2.65	5718.2	104.7	110	90	Good
44	Ca	45	8476.802	236853	2.16	41013.5	103.3	110	90	Good
47	Ti	45	219.032	40890	3.08	1074.1	102.0	110	90	Good
51	V	45	28.218	184823	1.76	138.1	102.1	110	90	Good
52	Cr	45	21.998	176631	1.49	105.7	104.0	110	90	Good
55	Mn	45	442.000	1972412	0.43	2161.3	102.3	110	90	Good
56	Fe	45	13406.950	84866314	1.29	63238.6	106.0	110	90	Good
59	Co	72	8.005	108037	0.97	38.5	103.8	110	90	Good
60	Ni	72	11.292	41644	0.52	53.7	105.2	110	90	Good
63	Cu	72	7.384	72039	0.44	34.6	106.9	110	90	Good
66	Zn	72	33.859	47566	1.35	158.4	106.9	110	90	Good
75	As	72	5.140	4691	1.31	24.4	105.3	110	90	Good
78	Se	72	2.089	163	13.67	10.6	98.8	110	90	Good
88	Sr	115	17.087	98104	1.78	85.5	99.9	110	90	Good
95	Mo	115	0.186	1169	4.32	0.7	127.3	110	90	
107	Ag	115	0.056	1091	9.84	0.3	105.3	110	90	Good
111	Cd	115	0.087	237	38.60	0.5	96.7	110	90	Good
118	Sn	115	1.707	9610	2.80	8.6	99.4	110	90	Good
121	Sb	115	0.163	1278	8.75	0.7	112.5	110	90	
137	Ba	115	86.976	209208	0.64	431.8	100.7	110	90	Good
205	Tl	209	0.259	12089	0.67	1.2	108.2	110	90	Good
208	Pb	209	10.861	641013	0.75	55.3	98.1	110	90	Good

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1246321	1.60	1242141	100.34	70	120	
72	Ge	871912	0.55	872431	99.94	70	120	
115	In	8782536	0.68	8737575	100.51	70	120	
209	Bi	24901437	0.40	24812497	100.36	70	120	

Sample Report

Date Acquired	9/14/17 11:00 AM	Sample Name	1709066-03A
Data Batch	170914.b	Comment	SAMP6020A_S
Data File Name	038SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
9	Be	45	1.755	129	17.88	2000	>RL
11	B	45	39.419	1499	5.77	2000	>RL
23	Na	45	1500.235	1664476	0.58	25000	>RL
24	Mg	45	9927.104	5617037	0.60	25000	>RL
27	Al	45	39786.931	8207509	0.55	10000	OUTCAL
39	K	45	5189.315	2437015	1.08	25000	>RL
44	Ca	45	307023.614	8590017	0.24	10000	OUTCAL
47	Ti	45	438.233	81990	0.97	2000	>RL
51	V	45	74.446	485717	0.50	2000	>RL
52	Cr	45	67.756	544413	0.69	2000	>RL
55	Mn	45	779.609	3487405	0.96	2000	>RL
56	Fe	45	34776.188	220701316	1.24	10000	OUTCAL
59	Co	72	12.156	157893	1.00	2000	>RL
60	Ni	72	30.435	107725	0.44	2000	>RL
63	Cu	72	81.986	764902	0.42	2000	>RL
66	Zn	72	525.962	706212	0.29	2000	>RL
75	As	72	12.773	11139	1.74	2000	>RL
78	Se	72	4.935	343	6.10	2000	>RL
88	Sr	115	733.843	4062184	0.94	2000	>RL
95	Mo	115	1.991	11221	1.66	2000	
107	Ag	115	0.944	16369	1.15	500	>RL
111	Cd	115	1.188	2941	3.51	2000	>RL
118	Sn	115	32.009	166307	0.69	2000	>RL
121	Sb	115	2.024	13159	2.28	500	>RL
137	Ba	115	329.822	767371	0.85	2000	>RL
205	Tl	209	0.402	16612	1.33	2000	
208	Pb	209	162.665	8605776	0.39	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1249274	0.62	1242141	100.57	70	120	
72	Ge	839621	0.25	872431	96.24	70	120	
115	In	8496333	0.68	8737575	97.24	70	120	
209	Bi	22381949	0.54	24812497	90.20	70	120	

Post Digestion Spike Sample (PDS) Report

Date Acquired	9/14/2017 11:21	Sample Name	1709070-02A PDS
Data Batch	170914.b	Comment	PDS 6020A_S
Data File Name	049_PDS.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Ref Conc	Spk Amt	%Rec	Low	High	Flag
9	Be	45	190.996	14007	1.52	4.2	200	93.4	75	125	
11	B	45	227.065	8172	2.26	41.4	200	92.8	75	125	
23	Na	45	6508.637	7461331	1.84	1670.1	5000	96.8	75	125	
24	Mg	45	17981.059	10609460	2.01	13071.5	5000	98.2	75	125	
27	Al	45	########	27602880	1.54	123124.2	5000	104.2	75	125	
39	K	45	10604.270	5165293	2.10	5718.2	5000	97.7	75	125	
44	Ca	45	46612.415	1360173	1.59	41013.5	5000	112.0	75	125	
47	Ti	45	1298.471	253321	1.37	1074.1	200	112.2	75	125	
51	V	45	339.494	2302877	1.27	138.1	200	100.7	75	125	
52	Cr	45	308.709	2585119	1.78	105.7	200	101.5	75	125	
55	Mn	45	2393.570	11166183	1.89	2161.3	200	116.1	75	125	
56	Fe	45	69740.471	461558524	1.50	63238.6	5000	130.0	75	125	Fail
59	Co	72	241.910	3274230	1.10	38.5	200	101.7	75	125	
60	Ni	72	254.531	938392	1.27	53.7	200	100.4	75	125	
63	Cu	72	232.123	2258501	0.93	34.6	200	98.8	75	125	
66	Zn	72	354.430	496655	1.05	158.4	200	98.0	75	125	
75	As	72	220.686	199806	1.05	24.4	200	98.1	75	125	
78	Se	72	200.688	13706	1.52	10.6	200	95.1	75	125	
88	Sr	115	285.217	1615503	0.99	85.5	200	99.8	75	125	
95	Mo	115	193.681	1108111	0.43	0.7	200	96.5	75	125	
107	Ag	115	199.474	3522278	1.13	0.3	200	99.6	75	125	
111	Cd	115	197.633	498078	0.96	0.5	200	98.6	75	125	
118	Sn	115	209.012	1108481	0.38	8.6	200	100.2	75	125	
121	Sb	115	202.520	1327205	1.02	0.7	200	100.9	75	125	
137	Ba	115	645.157	1535657	0.85	431.8	200	106.7	75	125	
205	Tl	209	203.758	8488402	1.10	1.2	200	101.3	75	125	
208	Pb	209	254.486	14002515	0.79	55.3	200	99.6	75	125	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1302785	1.89	1242141	104.88	70	120	
72	Ge	876059	1.35	872431	100.42	70	120	
115	In	8692791	1.05	8737575	99.49	70	120	
209	Bi	23279017	0.24	24812497	93.82	70	120	

Matrix Spike Sample (MS) Report

Date Acquired	9/14/2017 11:23	Sample Name	1709070-02A MS
Data Batch	170914.b	Comment	MS 6020A_S
Data File Name	050_MSS.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Ref Conc	Spk Amt	%Rec	Low	High	Flag
9	Be	45	191.213	13999	0.45	4.2	200	93.5	80	120	
11	B	45	220.425	7925	2.19	41.4	200	89.5	80	120	
23	Na	45	6422.089	7349254	0.74	1670.1	1000	475.2	80	120	Fail
24	Mg	45	17769.336	10465265	0.33	13071.5	1000	469.8	80	120	Fail
27	Al	45	########	26310610	0.67	123124.2	1000	-58.7	80	120	Fail
39	K	45	10710.773	5207384	0.51	5718.2	1000	499.3	80	120	Fail
44	Ca	45	########	3006207	0.18	41013.5	1000	6220.3	80	120	Fail
47	Ti	45	1262.178	245802	0.63	1074.1	200	94.0	80	120	
51	V	45	332.202	2249547	0.39	138.1	200	97.0	80	120	
52	Cr	45	302.433	2527996	0.37	105.7	200	98.4	80	120	
55	Mn	45	2173.915	10122891	0.42	2161.3	200	6.3	80	120	Fail
56	Fe	45	63353.631	418537441	0.97	63238.6	1000	11.5	80	120	Fail
59	Co	72	236.019	3185130	0.28	38.5	200	98.7	80	120	
60	Ni	72	250.729	921633	0.55	53.7	200	98.5	80	120	
63	Cu	72	230.766	2238795	0.20	34.6	200	98.1	80	120	
66	Zn	72	345.419	482625	0.60	158.4	200	93.5	80	120	
75	As	72	214.364	193523	0.53	24.4	200	95.0	80	120	
78	Se	72	195.585	13318	0.69	10.6	200	92.5	80	120	
88	Sr	115	299.455	1686422	0.25	85.5	200	107.0	80	120	
95	Mo	115	183.698	1045014	0.55	0.7	200	91.5	80	120	
107	Ag	115	200.075	3512723	0.40	0.3	200	99.9	80	120	
111	Cd	115	196.814	493188	0.35	0.5	200	98.2	80	120	
118	Sn	115	206.475	1088855	0.76	8.6	200	98.9	80	120	
121	Sb	115	158.706	1034180	0.20	0.7	200	79.0	80	120	Fail
137	Ba	115	897.165	2123256	0.64	431.8	200	232.7	80	120	Fail
205	Tl	209	209.675	8613179	1.81	1.2	200	104.2	80	120	
208	Pb	209	256.146	13899205	0.54	55.3	200	100.4	80	120	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1300405	0.47	1242141	104.69	70	120	
72	Ge	873502	0.74	872431	100.12	70	120	
115	In	8643328	0.67	8737575	98.92	70	120	
209	Bi	22958359	0.83	24812497	92.53	70	120	

Matrix Spike Sample (MS) Report

Date Acquired	9/14/2017 11:24	Sample Name	1709070-02A MSD
Data Batch	170914.b	Comment	MSD 6020A_S
Data File Name	051_MSS.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Ref Conc	Spk Amt	%Rec	Low	High	Flag
9	Be	45	185.783	14013	0.47	4.2	200	90.8	80	120	
11	B	45	221.649	8209	0.87	41.4	200	90.1	80	120	
23	Na	45	6348.876	7485227	0.93	1670.1	1000	467.9	80	120	Fail
24	Mg	45	17764.683	10778934	0.41	13071.5	1000	469.3	80	120	Fail
27	Al	45	########	27618672	0.70	123124.2	1000	173.1	80	120	Fail
39	K	45	10947.895	5483109	1.19	5718.2	1000	523.0	80	120	Fail
44	Ca	45	51537.084	1546569	0.78	41013.5	1000	1052.4	80	120	Fail
47	Ti	45	1154.381	231612	0.48	1074.1	200	40.1	80	120	Fail
51	V	45	341.262	2380762	0.49	138.1	200	101.6	80	120	
52	Cr	45	302.979	2609181	0.26	105.7	200	98.6	80	120	
55	Mn	45	2856.417	13703048	0.23	2161.3	200	347.6	80	120	Fail
56	Fe	45	64493.291	438956347	0.26	63238.6	1000	125.5	80	120	Fail
59	Co	72	241.311	3389078	0.36	38.5	200	101.4	80	120	
60	Ni	72	251.615	962547	0.34	53.7	200	99.0	80	120	
63	Cu	72	229.285	2314928	0.29	34.6	200	97.4	80	120	
66	Zn	72	345.019	501687	0.60	158.4	200	93.3	80	120	
75	As	72	214.925	201920	0.52	24.4	200	95.3	80	120	
78	Se	72	191.015	13537	0.89	10.6	200	90.2	80	120	
88	Sr	115	286.052	1658569	0.15	85.5	200	100.3	80	120	
95	Mo	115	180.606	1057810	0.25	0.7	200	89.9	80	120	
107	Ag	115	199.211	3600788	0.29	0.3	200	99.5	80	120	
111	Cd	115	193.685	499684	0.34	0.5	200	96.6	80	120	
118	Sn	115	205.650	1116546	0.72	8.6	200	98.5	80	120	
121	Sb	115	154.998	1039844	0.29	0.7	200	77.1	80	120	Fail
137	Ba	115	754.481	1838446	0.68	431.8	200	161.3	80	120	Fail
205	Tl	209	205.965	8642641	1.85	1.2	200	102.4	80	120	
208	Pb	209	258.729	14339541	0.63	55.3	200	101.7	80	120	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1339717	0.33	1242141	107.86	70	120	
72	Ge	909015	0.20	872431	104.19	70	120	
115	In	8898975	1.01	8737575	101.85	70	120	
209	Bi	23448697	0.44	24812497	94.50	70	120	

Continuing Calibration Verification (CCV) Report

Date Acquired	9/14/2017 11:30	Sample Name	CCV1-170914
Data Batch	170914.b	Comment	CCV 6020A_W
Data File Name	054_CCV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
9	Be	45	186.506	14003	1.63	200	93.3	90	110	
11	B	45	181.798	6735	3.48	200	90.9	90	110	
23	Na	45	4683.498	5502422	0.90	5000	93.7	90	110	
24	Mg	45	4685.273	2830612	0.59	5000	93.7	90	110	
27	Al	45	4858.253	1071021	0.32	5000	97.2	90	110	
39	K	45	4746.177	2381958	0.21	5000	94.9	90	110	
44	Ca	45	4624.049	138365	0.63	5000	92.5	90	110	
47	Ti	45	198.572	39664	0.51	200	99.3	90	110	
51	V	45	194.366	1350688	0.38	200	97.2	90	110	
52	Cr	45	197.748	1695454	0.50	200	98.9	90	110	
55	Mn	45	193.827	925752	0.44	200	96.9	90	110	
56	Fe	45	4997.625	33865082	0.38	5000	100.0	90	110	
59	Co	72	200.982	2868905	0.18	200	100.5	90	110	
60	Ni	72	202.075	785704	0.69	200	101.0	90	110	
63	Cu	72	204.843	2102016	0.39	200	102.4	90	110	
66	Zn	72	198.926	294161	0.26	200	99.5	90	110	
75	As	72	197.004	188120	0.21	200	98.5	90	110	
78	Se	72	198.880	14324	0.88	200	99.4	90	110	
88	Sr	115	188.041	1144654	1.05	200	94.0	90	110	
95	Mo	115	183.629	1129021	0.24	200	91.8	90	110	
107	Ag	115	199.413	3783898	0.24	200	99.7	90	110	
111	Cd	115	192.244	520635	0.76	200	96.1	90	110	
118	Sn	115	188.525	1074552	0.80	200	94.3	90	110	
121	Sb	115	194.681	1371039	0.43	200	97.3	90	110	
137	Ba	115	191.776	490595	0.95	200	95.9	90	110	
205	Tl	209	193.045	8726695	0.33	200	96.5	90	110	
208	Pb	209	190.320	11364099	0.21	200	95.2	90	110	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1333696	0.56	1242141	107.37	70	120	
72	Ge	923933	0.82	872431	105.90	70	120	
115	In	9341435	0.55	8737575	106.91	70	120	
209	Bi	25261789	0.57	24812497	101.81	70	120	

Low Level Calibration Verification (LLCV) Report

Date Acquired	9/14/2017 11:40	Sample Name	LCVL1-170914
Data Batch	170914.b	Comment	LCVL6020A_W
Data File Name	057LCCV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
9	Be	45	0.981	77	6.38	1	98.1	70	130	
11	B	45	20.823	902	0.43	20	104.1	70	130	
23	Na	45	89.781	122566	1.01	100	89.8	70	130	
24	Mg	45	92.204	54820	0.85	100	92.2	70	130	
27	Al	45	93.158	21128	0.95	100	93.2	70	130	
39	K	45	91.706	70959	1.49	100	91.7	70	130	
44	Ca	45	90.837	2876	3.30	100	90.8	70	130	
47	Ti	45	4.821	938	1.44	5	96.4	70	130	
51	V	45	0.971	8451	1.90	1	97.1	70	130	
52	Cr	45	4.898	41188	1.00	5	98.0	70	130	
55	Mn	45	4.798	22326	0.40	5	96.0	70	130	
56	Fe	45	104.885	693418	0.30	100	104.9	70	130	
59	Co	72	4.948	70415	0.17	5	99.0	70	130	
60	Ni	72	4.953	19365	0.44	5	99.1	70	130	
63	Cu	72	5.129	52877	1.93	5	102.6	70	130	
66	Zn	72	4.875	7554	1.52	5	97.5	70	130	
75	As	72	4.711	4533	0.57	5	94.2	70	130	
78	Se	72	4.479	342	3.42	5	89.6	70	130	
88	Sr	115	4.443	27183	1.17	5	88.9	70	130	
95	Mo	115	4.463	27320	0.75	5	89.3	70	130	
107	Ag	115	1.942	36647	0.47	2	97.1	70	130	
111	Cd	115	0.977	2640	6.05	1	97.7	70	130	
118	Sn	115	4.613	26564	0.72	5	92.3	70	130	
121	Sb	115	1.812	12870	2.66	2	90.6	70	130	
137	Ba	115	4.583	11691	0.86	5	91.7	70	130	
205	Tl	209	0.920	42830	0.18	1	92.0	70	130	
208	Pb	209	0.890	55884	0.90	1	89.0	70	130	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1294169	0.26	1242141	104.19	70	120	
72	Ge	918102	0.58	872431	105.23	70	120	
115	In	9268816	0.45	8737575	106.08	70	120	
209	Bi	25661427	0.11	24812497	103.42	70	120	

Continuing Calibration Blank (CCB) Report

Date Acquired	9/14/2017 11:42	Sample Name	CCB1-170914
Data Batch	170914.b	Comment	CCB 6020A_W
Data File Name	058_CCB.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	MDL S	MDL Aq	QC Flag
9	Be	45	-0.035	3	34.6	0.4	0.3	
11	B	45	2.499	261	16.4	10	10	
23	Na	45	-1.660	18718	0.8	50	100	
24	Mg	45	-0.376	559	7.1	50	100	
27	Al	45	0.529	1336	3.5	50	10	
39	K	45	0.174	26901	1.5	50	100	
44	Ca	45	1.236	279	11.7	50	100	
47	Ti	45	0.005	4	43.4	4	3	
51	V	45	0.034	2137	4.4	4	3	
52	Cr	45	0.000	444	5.5	2	2	
55	Mn	45	0.015	164	15.5	2	3	
56	Fe	45	0.473	6930	2.4	50	50	
59	Co	72	-0.009	97	32.9	2	3	
60	Ni	72	-0.026	130	42.7	2	3	
63	Cu	72	0.002	603	10.0	2	2	
66	Zn	72	-0.038	342	6.8	4	2	
75	As	72	0.008	72	12.7	2	2	
78	Se	72	0.110	30	25.3	1	2	
88	Sr	115	0.011	419	8.0	4	3	
95	Mo	115	0.030	279	24.3	2	2	
107	Ag	115	0.006	201	16.6	0.4	1	
111	Cd	115	-0.003	8	107.8	0.4	0.3	
118	Sn	115	-0.001	482	8.8	4	3	
121	Sb	115	0.002	226	9.0	2	0.8	
137	Ba	115	0.012	90	20.6	2	3	
205	Tl	209	0.017	1350	6.5	2	0.5	
208	Pb	209	-0.006	1572	5.3	0.4	0.3	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1294191	0.29	1242141	104.19	70	120	
72	Ge	914159	0.30	872431	104.78	70	120	
115	In	9262511	1.26	8737575	106.01	70	120	
209	Bi	25531155	1.39	24812497	102.90	70	120	

Dilution Sample (Dil) Report

Date Acquired	9/14/2017 11:46	Sample Name	1709070-02A SD
Data Batch	170914.b	Comment	SD 6020A_S
Data File Name	060_SD.d	Dilution	250

Mass	Name	IS	Conc	CPS	%RSD	Ref Value	%Rec	Low	High	Flag
9	Be	45	0.025	8	45.81	0.5	26.1	110	90	
11	B	45	1.271	217	21.54	5.3	120.9	110	90	
23	Na	45	34.899	59854	1.17	164.5	106.1	110	90	Good
24	Mg	45	268.271	157004	0.92	1313.4	102.1	110	90	Good
27	Al	45	2455.018	522447	0.86	11955.2	102.7	110	90	Good
39	K	45	117.310	82754	0.66	567.5	103.3	110	90	Good
44	Ca	45	827.640	24078	1.64	4026.1	102.8	110	90	Good
47	Ti	45	20.210	3895	3.40	105.4	95.9	110	90	Good
51	V	45	2.705	19997	0.45	13.7	99.0	110	90	Good
52	Cr	45	2.132	18066	0.72	10.5	101.2	110	90	Good
55	Mn	45	43.233	199161	0.38	211.3	102.3	110	90	Good
56	Fe	45	1327.519	8676242	0.21	6521.1	101.8	110	90	Good
59	Co	72	0.753	10798	1.95	3.8	99.9	110	90	Good
60	Ni	72	1.181	4747	4.21	5.5	107.4	110	90	Good
63	Cu	72	0.750	8148	0.76	3.6	105.1	110	90	Good
66	Zn	72	5.342	8157	1.83	17.5	152.3	110	90	
75	As	72	0.500	533	2.12	2.4	104.9	110	90	Good
78	Se	72	0.112	30	18.54	0.9	61.1	110	90	
88	Sr	115	1.596	10001	2.06	8.0	100.1	110	90	Good
95	Mo	115	0.020	220	9.46	0.1	119.9	110	90	
107	Ag	115	0.008	239	13.98	0.0	124.2	110	90	
111	Cd	115	0.009	39	17.85	0.0	115.0	110	90	
118	Sn	115	0.114	1137	6.18	0.8	72.7	110	90	
121	Sb	115	0.001	216	3.22	0.1	5.2	110	90	
137	Ba	115	8.125	20706	0.12	40.4	100.6	110	90	Good
205	Tl	209	0.028	1858	3.63	0.1	123.3	110	90	
208	Pb	209	1.028	64055	0.27	5.2	99.8	110	90	Good

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1285927	0.55	1242141	103.53	70	120	
72	Ge	908922	0.67	872431	104.18	70	120	
115	In	9281388	1.04	8737575	106.22	70	120	
209	Bi	25572059	0.38	24812497	103.06	70	120	

Post Digestion Spike Sample (PDS) Report

Date Acquired	9/14/2017 11:48	Sample Name	1709070-02A PDS
Data Batch	170914.b	Comment	PDS 6020A_S
Data File Name	061_PDS.d	Dilution	50

Mass	Name	IS	Conc	CPS	%RSD	Ref Conc	Spk Amt	%Rec	Low	High	Flag
9	Be	45	196.989	13875	1.88	0.5	200	98.3	75	125	
11	B	45	190.451	6610	2.70	5.3	200	92.6	75	125	
23	Na	45	5199.891	5728517	0.92	164.5	5000	100.7	75	125	
24	Mg	45	6247.621	3540479	0.23	1313.4	5000	98.7	75	125	
27	Al	45	17511.017	3618218	0.73	11955.2	5000	111.1	75	125	
39	K	45	5557.695	2612021	0.93	567.5	5000	99.8	75	125	
44	Ca	45	9157.893	256822	0.38	4026.1	5000	102.6	75	125	
47	Ti	45	316.402	59283	0.26	105.4	200	105.5	75	125	
51	V	45	220.353	1436171	0.70	13.7	200	103.3	75	125	
52	Cr	45	222.841	1792169	0.46	10.5	200	106.2	75	125	
55	Mn	45	421.071	1886399	0.51	211.3	200	104.9	75	125	
56	Fe	45	11704.727	74396175	0.60	6521.1	5000	103.7	75	125	
59	Co	72	210.135	2847254	1.29	3.8	200	103.2	75	125	
60	Ni	72	211.623	781062	1.07	5.5	200	103.1	75	125	
63	Cu	72	212.612	2070961	0.57	3.6	200	104.5	75	125	
66	Zn	72	226.412	317743	0.39	17.5	200	104.4	75	125	
75	As	72	204.819	185644	0.24	2.4	200	101.2	75	125	
78	Se	72	203.079	13882	0.83	0.9	200	101.1	75	125	
88	Sr	115	201.410	1162416	0.74	8.0	200	96.7	75	125	
95	Mo	115	187.873	1095190	0.82	0.1	200	93.9	75	125	
107	Ag	115	206.001	3706036	0.38	0.0	200	103.0	75	125	
111	Cd	115	200.790	515580	0.75	0.0	200	100.4	75	125	
118	Sn	115	198.801	1074276	0.72	0.8	200	99.0	75	125	
121	Sb	115	191.916	1281427	0.22	0.1	200	95.9	75	125	
137	Ba	115	242.215	587454	0.69	40.4	200	100.9	75	125	
205	Tl	209	198.448	8668423	0.93	0.1	200	99.2	75	125	
208	Pb	209	201.488	11624980	0.62	5.2	200	98.2	75	125	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1251056	0.06	1242141	100.72	70	120	
72	Ge	876968	0.37	872431	100.52	70	120	
115	In	8856601	0.27	8737575	101.36	70	120	
209	Bi	24409156	0.07	24812497	98.37	70	120	

Continuing Calibration Verification (CCV) Report

Date Acquired	9/14/2017 11:59	Sample Name	CCV2-170914
Data Batch	170914.b	Comment	CCV 6020A_W
Data File Name	067_CCV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
9	Be	45	194.812	13913	0.34	200	97.4	90	110	
11	B	45	198.237	6969	1.10	200	99.1	90	110	
23	Na	45	4811.821	5376477	0.28	5000	96.2	90	110	
24	Mg	45	4768.711	2740284	0.32	5000	95.4	90	110	
27	Al	45	4901.335	1027727	0.47	5000	98.0	90	110	
39	K	45	4763.275	2273601	0.52	5000	95.3	90	110	
44	Ca	45	4707.323	133973	1.27	5000	94.1	90	110	
47	Ti	45	198.574	37727	1.33	200	99.3	90	110	
51	V	45	196.824	1300912	0.17	200	98.4	90	110	
52	Cr	45	198.994	1622780	0.56	200	99.5	90	110	
55	Mn	45	195.386	887574	0.51	200	97.7	90	110	
56	Fe	45	5086.829	32785478	0.30	5000	101.7	90	110	
59	Co	72	199.896	2759416	0.17	200	99.9	90	110	
60	Ni	72	200.452	753752	0.21	200	100.2	90	110	
63	Cu	72	202.823	2012775	0.12	200	101.4	90	110	
66	Zn	72	199.435	285196	0.23	200	99.7	90	110	
75	As	72	196.208	181189	0.26	200	98.1	90	110	
78	Se	72	191.542	13342	0.38	200	95.8	90	110	
88	Sr	115	185.516	1103911	0.63	200	92.8	90	110	
95	Mo	115	181.348	1089934	0.50	200	90.7	90	110	
107	Ag	115	197.615	3665375	0.12	200	98.8	90	110	
111	Cd	115	191.514	507002	0.40	200	95.8	90	110	
118	Sn	115	186.520	1039169	0.61	200	93.3	90	110	
121	Sb	115	192.727	1326705	0.48	200	96.4	90	110	
137	Ba	115	190.011	475128	0.94	200	95.0	90	110	
205	Tl	209	195.578	8789305	1.10	200	97.8	90	110	
208	Pb	209	190.505	11307633	0.43	200	95.3	90	110	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1268524	0.50	1242141	102.12	70	120	
72	Ge	893479	0.57	872431	102.41	70	120	
115	In	9131205	0.53	8737575	104.51	70	120	
209	Bi	25113273	1.17	24812497	101.21	70	120	

Low Level Calibration Verification (LLCV) Report

Date Acquired	9/14/2017 12:03	Sample Name	LCVL2-170914
Data Batch	170914.b	Comment	LCVL6020A_W
Data File Name	069LCCV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
9	Be	45	0.927	73	11.12	1	92.7	70	130	
11	B	45	20.042	866	5.68	20	100.2	70	130	
23	Na	45	89.963	121470	0.30	100	90.0	70	130	
24	Mg	45	91.505	53835	0.81	100	91.5	70	130	
27	Al	45	93.406	20955	2.43	100	93.4	70	130	
39	K	45	91.074	69907	0.81	100	91.1	70	130	
44	Ca	45	93.958	2935	3.21	100	94.0	70	130	
47	Ti	45	5.169	994	6.00	5	103.4	70	130	
51	V	45	0.971	8361	1.79	1	97.1	70	130	
52	Cr	45	4.847	40328	0.59	5	96.9	70	130	
55	Mn	45	4.757	21903	1.91	5	95.1	70	130	
56	Fe	45	104.704	684920	0.93	100	104.7	70	130	
59	Co	72	4.924	68808	1.31	5	98.5	70	130	
60	Ni	72	4.929	18924	1.59	5	98.6	70	130	
63	Cu	72	5.050	51127	1.73	5	101.0	70	130	
66	Zn	72	4.860	7396	0.82	5	97.2	70	130	
75	As	72	4.666	4409	0.79	5	93.3	70	130	
78	Se	72	4.601	345	3.48	5	92.0	70	130	
88	Sr	115	4.456	27152	0.72	5	89.1	70	130	
95	Mo	115	4.464	27216	2.28	5	89.3	70	130	
107	Ag	115	1.897	35664	1.40	2	94.8	70	130	
111	Cd	115	0.961	2587	1.68	1	96.1	70	130	
118	Sn	115	4.651	26677	0.20	5	93.0	70	130	
121	Sb	115	1.900	13436	1.59	2	95.0	70	130	
137	Ba	115	4.503	11448	3.34	5	90.1	70	130	
205	Tl	209	0.933	43276	0.85	1	93.3	70	130	
208	Pb	209	0.909	56889	0.48	1	90.9	70	130	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1280489	0.53	1242141	103.09	70	120	
72	Ge	901553	0.53	872431	103.34	70	120	
115	In	9235270	1.74	8737575	105.70	70	120	
209	Bi	25588267	0.66	24812497	103.13	70	120	

Continuing Calibration Blank (CCB) Report

Date Acquired	9/14/2017 12:08	Sample Name	CCB2-170914
Data Batch	170914.b	Comment	CCB 6020A_W
Data File Name	070_CCB.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	MDL S	MDL Aq	QC Flag
9	Be	45	-0.048	2	24.7	0.4	0.3	
11	B	45	1.610	220	6.6	10	10	
23	Na	45	-1.734	17827	2.0	50	100	
24	Mg	45	-0.517	456	5.1	50	100	
27	Al	45	0.258	1223	12.8	50	10	
39	K	45	0.098	25704	1.1	50	100	
44	Ca	45	2.005	288	15.6	50	100	
47	Ti	45	-0.006	2	86.6	4	3	
51	V	45	0.022	1967	4.2	4	3	
52	Cr	45	-0.002	408	7.9	2	2	
55	Mn	45	0.009	129	9.8	2	3	
56	Fe	45	0.340	5792	1.3	50	50	
59	Co	72	-0.011	73	23.6	2	3	
60	Ni	72	-0.032	103	14.8	2	3	
63	Cu	72	-0.004	520	5.1	2	2	
66	Zn	72	-0.058	301	11.1	4	2	
75	As	72	0.010	70	9.3	2	2	
78	Se	72	0.060	25	10.2	1	2	
88	Sr	115	0.009	390	16.2	4	3	
95	Mo	115	0.019	203	10.2	2	2	
107	Ag	115	0.006	201	15.9	0.4	1	
111	Cd	115	-0.001	11	86.6	0.4	0.3	
118	Sn	115	-0.012	406	3.3	4	3	
121	Sb	115	0.041	478	7.1	2	0.8	
137	Ba	115	0.009	79	16.0	2	3	
205	Tl	209	0.018	1376	6.3	2	0.5	
208	Pb	209	-0.011	1229	7.4	0.4	0.3	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1238266	0.70	1242141	99.69	70	120	
72	Ge	879139	0.37	872431	100.77	70	120	
115	In	8914164	0.73	8737575	102.02	70	120	
209	Bi	25252163	0.35	24812497	101.77	70	120	

Pmoist
For

DHL Work Order
1709066

PMOIST_170912A
For

DHL Work Order
1709066

DHL Analytical, Inc.

Run ID: **PMOIST_170912A** **Run No.:** 94132

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

Analyst: Billy Jenkins

SampID	DF	TestCode	SampType	Batch ID	Analysis Date/Time	Q	Comments
1709056-05A	1	PMOIST	SAMP	82331	9/13/2017 1:00:00 PM		
1709056-05A-DUP	1	PMOIST	DUP	82331	9/13/2017 1:00:00 PM		
1709056-06A	1	PMOIST	SAMP	82331	9/13/2017 1:00:00 PM		
1709056-07A	1	PMOIST	SAMP	82331	9/13/2017 1:00:00 PM		
1709056-08A	1	PMOIST	SAMP	82331	9/13/2017 1:00:00 PM		
1709056-09A	1	PMOIST	SAMP	82331	9/13/2017 1:00:00 PM		
1709056-10A	1	PMOIST	SAMP	82331	9/13/2017 1:00:00 PM		
1709056-11A	1	PMOIST	SAMP	82331	9/13/2017 1:00:00 PM		
1709056-12A	1	PMOIST	SAMP	82331	9/13/2017 1:00:00 PM		
1709056-13A	1	PMOIST	SAMP	82331	9/13/2017 1:00:00 PM		
1709056-14A	1	PMOIST	SAMP	82331	9/13/2017 1:00:00 PM		
1709056-15A	1	PMOIST	SAMP	82331	9/13/2017 1:00:00 PM		
1709056-16A	1	PMOIST	SAMP	82331	9/13/2017 1:00:00 PM		
1709056-17A	1	PMOIST	SAMP	82331	9/13/2017 1:00:00 PM		
1709056-18A	1	PMOIST	SAMP	82331	9/13/2017 1:00:00 PM		
1709056-19A	1	PMOIST	SAMP	82331	9/13/2017 1:00:00 PM		
1709056-20A	1	PMOIST	SAMP	82331	9/13/2017 1:00:00 PM		
1709066-03A	1	PMOIST	SAMP	82331	9/13/2017 1:00:00 PM		

Percent Moisture - Bench Sheet

Enter ALL weights into the DHL LIMS - Single Analyte Worksheet

Method Requirements: Samples dried to constant weight (12-16 hours) at oven temperature of 110 ± 5°C

Constant Weight is achieved if 2nd weight is <0.1% of 1st weight
[(Final Weight - 2nd Weight) / (Final Weight)] x 100%

RUN ID:	PMOIST_170912A				
Date Started:	9/12/17	Date Ended:	9/13/17	Date Ended:	
Time Started:	4:15 PM	Time Ended:	1:00 PM	Time Ended:	
Analyst Start:	JPM	Analyst End:	JPM	Analyst End:	
Balance #	20	Balance #	20	Balance #	
Oven #	FISHER-2	Thermometer #	81 (08/22/17)	Dry Time >12hrs	
		Correction Factor	0.0	2nd Weighing - if 1st dry is <12 hrs	
Initial Temperature	110.5	Final Temperature	113.1		

Sample ID	Tare Wt (g)	Tare + Sample (g)	Final Wt (g)	2nd Weight	<0.1% (Y/N)
SampID					
1709056-05A	1.02	16.42	15.78		
1709056-05A-DUP	1.05	16.31	15.65		
1709056-06A	1.06	17.09	15.68		
1709056-07A	1.03	17.88	17.07		
1709056-08A	1.04	15.07	13.78		
1709056-09A	1.05	17.03	16.29		
1709056-10A	1.03	18.04	17.53		
1709056-11A	1.07	17.07	16.40		
1709056-12A	1.06	17.50	16.13		
1709056-13A	1.08	16.31	15.50		
1709056-14A	1.00	17.90	17.15		
1709056-15A	1.03	18.12	17.70		
1709056-16A	1.05	15.78	16.96		
1709056-17A	1.04	15.25	13.81		
1709056-18A	1.06	15.44	14.93		
1709056-19A	1.04	18.59	17.94		
1709056-20A	1.03	16.54	15.92		
1709066-03A	1.04	15.41	13.95		

Data Folder Contents	Review Items	Check	2nd Level Review
Hard Copies MUST match LIMS data			
1. Is the Prep Batch Report included?	Prep Start/End Dates SampAmt=10, FinVol=10 20 field samples/batch, 1 DUP/batch	X	
2. Is the Run Log included?	Test Code, Sample Type Batch ID, and Analysis Date/Time	X	
3. Is PMOIST bench sheet included?	Bench sheet vs. LIMS - Single Analyte Worksheet	X	
4. Is the RPD for the DUP ≤30%?	If RPD fails criteria, then state reason below:	X	

Comments:

Analyst: Jaden Miner Date: 9/13/17

Second-Level Review: REVIEWED BY By Janice Whitt at 2:47:08 PM, 9/13/2017 Date:

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **9/12/2017 12:11:49 PM**
Digestion: **Start: 9/12/2017 4:15:00 PM / Stop: 9/13/2017 1:00:00 PM**
Prep End Date: **9/13/2017 2:07:32 PM**

Prep Batch **82331** Prep Code: **PMOIST_PREP** Technician: **Jade Wines**

Prep Factor Units: **mL/g**

Equipment List

Oven #2
Balance #20
Thermometer # 81

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Vessel	Cleanup
1709056-05A	Soil		10	10	1.000	1 of 1		
1709056-05A-DUP	Soil		10	10	1.000	of		
1709056-06A	Soil		10	10	1.000	1 of 1		
1709056-07A	Soil		10	10	1.000	1 of 1		
1709056-08A	Soil		10	10	1.000	1 of 1		
1709056-09A	Soil		10	10	1.000	1 of 1		
1709056-10A	Soil		10	10	1.000	1 of 1		
1709056-11A	Soil		10	10	1.000	1 of 1		
1709056-12A	Soil		10	10	1.000	1 of 1		
1709056-13A	Soil		10	10	1.000	1 of 1		
1709056-14A	Soil		10	10	1.000	1 of 1		
1709056-15A	Soil		10	10	1.000	1 of 1		
1709056-16A	Soil		10	10	1.000	1 of 1		
1709056-17A	Soil		10	10	1.000	1 of 1		
1709056-18A	Soil		10	10	1.000	1 of 1		
1709056-19A	Soil		10	10	1.000	1 of 1		
1709056-20A	Soil		10	10	1.000	1 of 1		
1709066-03A	Soil		10	10	1.000	1 of 1		

REVIEWED BY
By Janice Whitt at 2:41:44 PM, 9/13/2017

Percent Moisture - Bench Sheet

Enter ALL weights into the DHL LIMS - Single Analyte Worksheet

Method Requirements: Samples dried to constant weight (12-16 hours) at oven temperature of 110 ± 5ºC

Constant Weight is achieved if 2nd weight is <0.1% of 1st weight
[(Final Weight - 2nd Weight) / (Final Weight)] x 100%

RUN ID:	PMOIST_170912A				
Date Started:	9/12/2017	Date Ended:	9/13/2017	Date Ended:	
Time Started:	16:15	Time Ended:	13:00	Time Ended:	
Analyst Start:	JAW	Analyst End:	JAW	Analyst End:	
Balance #	20	Balance #	20	Balance #	
Oven #	FISHER-2	Thermometer #	81 (08/22/17)	Dry Time >12hrs	
		Correction Factor	0.0	2nd Weighing - if 1st dry is <12 hrs	
Initial Temperature	110.5	Final Temperature	113.1		

Sample ID	Tare Wt (g)	Tare + Sample (g)	Final Wt (g)	2nd Weight	<0.1% (Y/N)
SampID					
1709056-05A	1.02	16.42	15.78		
1709056-05A-DUP	1.05	16.31	15.65		
1709056-06A	1.06	17.09	15.08		
1709056-07A	1.03	17.88	17.67		
1709056-08A	1.04	15.67	13.78		
1709056-09A	1.05	17.03	16.29		
1709056-10A	1.03	18.64	17.53		
1709056-11A	1.07	17.07	16.40		
1709056-12A	1.06	17.56	16.13		
1709056-13A	1.08	16.31	15.50		
1709056-14A	1.06	17.90	17.15		
1709056-15A	1.03	18.12	17.70		
1709056-16A	1.05	15.78	16.96		
1709056-17A	1.04	15.25	13.87		
1709056-18A	1.06	15.44	14.93		
1709056-19A	1.04	18.59	17.94		
1709056-20A	1.03	16.54	15.92		
1709066-03A	1.04	15.41	13.95		

Data Folder Contents	Review Items	Check	2nd Level Review
Hard Copies MUST match LIMS data			
1. Is the Prep Batch Report included?	Prep Start/End Dates SampAmt=10, FinVol=10 20 field samples/batch, 1 DUP/batch	X	x
2. Is the Run Log included?	Test Code, Sample Type Batch ID, and Analysis Date/Time	X	
3. Is PMOIST bench sheet included?	Bench sheet vs. LIMS - Single Analyte Worksheet	X	
4. Is the RPD for the DUP ≤30%?	If RPD fails criteria, then state reason below:	X	

Comments:

Analyst: Jaden Vines Date: **9/13/2017**

Second-Level Review: Janice Whitt 276 Date: 9/13/2017