September 15, 2017

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

Order No.: 1709085

RE: Jensen Drive - Harvey Sampling

Dear Dawn Denham:

DHL Analytical, Inc. received 2 sample(s) on 9/13/2017 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

№ 77962

CHAIN-OF-CUSTODY

CLIENT: Weston Solutions
ADDRESS: 5599 San Felipe, Suite 700, Houston, TX 77056
PHONE: (713) 985-6610 FAX/E-MAIL:
DATA REPORTED TO: Dawn Denham
ADDITIONAL REPORT COPIES TO:

DATE: 9/12/17 PAGE 1 OF 1
PO #:
DHL WORK ORDER #: 1709085
PROJECT LOCATION OR NAME: Harvey Superfund
CLENT PROJECT #: 02444.034.001.0001 COLLECTOR: Michael Kanarek

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:
1. BTEX ☐ MTBE ☐ [METHOD 8021]
2. TPH 1005 ☐ TPH 1006 ☐ HOLD 1006 ☐
3. GRO [METHOD 8015] ☐ DRO [METHOD 8105] ☐
4. VOC 8260 ☐ VOC 624 ☐ VOC 8260/5035 ☐
5. SVOC 8270 ☐ PAH 8270 ☐ HOLD PAH ☐ SVOC 625 ☐
6. 8270 PEST ☐ 625 PEST/PCB ☐ 608 PCB ☐
7. 8270 O-P PEST ☐ 8082 PCB ☒ 8270 PCB ☐
8. 8321 HERB ☐ T PHOS, AMMONIA ☐
9. METALS 6020 ☒ METALS 200.8 ☐ DISS. METALS ☐
10. RCRA ☐ TX11 ☐ ______ ☐
11. PH ☐ HEX CHROM ☐ ALKALINITY ☐ COD ☐
12. CHLORIDE ☐ ANIONS ______ ☐
13. **TCLP**-SVOC ☐ VOC ☐ PEST ☐ HERB ☐
14. **TCLP**-METALS ☐ RCRA 8 ☐ TX-11 ☐ Pb ☐
15. RCI ☐ FLASHPOINT ☐ DGAS ☐
16. 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	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				FIELD NOTES
Jensen W-1	01	9/12/17	1040	W	Several poly, amber	3		X		X	X							X		X											See table in FSP for specific analytes
Jensen SO-1	02	↓	1105	S	4oz glass	1				X	X							X		X											

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
[signature]	9/12/17 17:00	FedEx
FedEx	9/13/17 9:15	[signature]

☐ DHL DISPOSAL @ $5.00 each ☐ Return

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

LABORATORY USE ONLY:
RECEIVING TEMP: 2.2 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
~~Industrial Road~~	~~lead~~	~~SW6020A~~	~~None~~	~~N/A~~
	~~PCBs (as Aroclors)~~	~~SW8082A~~		
~~International Creosoting~~	Arsenic	SW6020A	Arsenic	SW6020A
	Chromium		Chromium	
	benzo(a)pyrene	SW8270D	benzo(a)pyrene	SW8270D
	benzo(a)anthracene		benzo(a)anthracene	
	benzo(b)fluoroanthene		benzo(b)fluoroanthene	
	carbazole		carbazole	
	vinyl chloride	SW8260C	vinyl chloride	SW8260C
Jensen Drive Scrap	lead	SW6020A	lead	SW6020A
	arsenic		arsenic	
	PCBs (as Aroclors)	SW8082A	PCBs (as Aroclors)	SW8082A
~~Maintech International~~	~~Benzo(a)pyrene~~	~~SW8270D~~	None	N/A
	~~chrysene~~			
~~Spector Salvage Yard~~	~~None~~	~~N/A~~	Carbon tetrachloride	SW8260C
			chloroform	
			Methylene chloride	
~~Toups~~	~~None~~	~~N/A~~	pentachlorophenol	SW8270D
			lead	SW6020A

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

5599 SAN FELIPE ST STE 700

HOUSTON, TX 77056
UNITED STATES US

SHIP DATE: 12SEP17
ACTWGT: 45.00 LB
CAD: 006994250/SSFE1802
DIMS: 23x13x13 IN

BILL THIRD PARTY

Part # 156297-435 RIT EXP 03/18
549J1/FF19/104C

TO JENNIFER BARKER
DHL ANALYTICAL
2300 DOUBLE CREEK DR

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

FedEx
Express
E

J172017062901uv

WED – 13 SEP 10:30A
PRIORITY OVERNIGHT

2 of 3
MPS# 7877 0526 9673
0263
Mstr# 7877 0526 9662 0201

78664
TX-US AUS

A8 BSMA

CUSTODY SEAL
DATE
SIGNATURE

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

DHL Analytical, Inc.

Sample Receipt Checklist

Client Name Weston Solutions, Inc. Date Received: 9/13/2017

Work Order Number 1709085 Received by EL

Checklist completed by: _____ 9/13/2017 Reviewed by _____ 9/13/2017
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 ☐	2.2 °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: Jensen Drive - Harvey Sampling	**LRC Date:** 9/15/2017
Reviewer Name: Angie O'Donnell	**Laboratory Work Order:** 1709085
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: Jensen Drive - Harvey Sampling	**LRC Date:** 9/15/2017
Reviewer Name: Angie O'Donnell	**Laboratory Work Order:** 1709085
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

09/15/17

Date

Name: Scott Schroeder
Official Title: Technical Director

DHL Analytical, Inc. **Date:** *15-Sep-17*

CLIENT: Weston Solutions, Inc.
Project: Jensen Drive - Harvey Sampling
Lab Order: 1709085

CASE NARRATIVE

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

Method SW6020A - Metals Analysis
Method SW8082A - PCB Analysis
Method D2216 - Percent Moisture Analysis

Exception Report R1-01

The samples were received and log in performed on 9/13/2017. A total of 2 samples were received and analyzed. The samples arrived in good condition and were properly packaged.

Exception Report R10-01

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

DHL Analytical, Inc.

Date: *15-Sep-17*

CLIENT: Weston Solutions, Inc.
Project: Jensen Drive - Harvey Sampling
Lab Order: 1709085

Work Order Sample Summary

Lab Smp ID	Client Sample ID	Tag Number	Date Collected	Date Recved
1709085-01	Jensen W-1		09/12/17 10:40 AM	9/13/2017
1709085-02	Jensen SO-1		09/12/17 11:05 AM	9/13/2017

Lab Order: 1709085
Client: Weston Solutions, Inc.
Project: Jensen Drive - Harvey Sampling

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1709085-01A	Jensen W-1	09/12/17 10:40 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	09/14/17 08:20 AM	82354
1709085-01B	Jensen W-1	09/12/17 10:40 AM	Aqueous	SW3510C	Aq Prep Sep Funnel: PCB	09/14/17 01:00 PM	82370
1709085-02A	Jensen SO-1	09/12/17 11:05 AM	Soil	D2216	Moisture Preparation	09/13/17 02:36 PM	82351
	Jensen SO-1	09/12/17 11:05 AM	Soil	SW3550C	Soil Prep Sonication: PCB	09/14/17 09:45 AM	82362
	Jensen SO-1	09/12/17 11:05 AM	Soil	SW3550C	Soil Prep Sonication: PCB	09/14/17 09:45 AM	82362
	Jensen SO-1	09/12/17 11:05 AM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	09/14/17 08:19 AM	82353

Lab Order: 1709085
Client: Weston Solutions, Inc.
Project: Jensen Drive - Harvey Sampling

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1709085-01A	Jensen W-1	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	82354	1	09/15/17 01:02 PM	ICP-MS4_170915A
1709085-01B	Jensen W-1	Aqueous	SW8082A	PCB by GC - Aqueous	82370	1	09/14/17 08:53 PM	GC16_170914B
1709085-02A	Jensen SO-1	Soil	SW8082A	PCB by GC - Soil/Solid	82362	1	09/15/17 10:58 AM	GC16_170914A
	Jensen SO-1	Soil	SW8082A	PCB by GC - Soil/Solid	82362	1	09/14/17 08:02 PM	GC16_170914A
	Jensen SO-1	Soil	D2216	Percent Moisture	82351	1	09/14/17 08:40 AM	PMOIST_170913A
	Jensen SO-1	Soil	SW6020A	Trace Metals: ICP-MS - Solid	82353	5	09/15/17 11:09 AM	ICP-MS4_170915A

DHL Analytical, Inc.

Date: *15-Sep-17*

CLIENT:	Weston Solutions, Inc.	**Client Sample ID:**	Jensen W-1
Project:	Jensen Drive - Harvey Sampling	**Lab ID:**	1709085-01
Project No:	02444.034.001.0001	**Collection Date:**	09/12/17 10:40 AM
Lab Order:	1709085	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
PCB BY GC - AQUEOUS		**SW8082A**					Analyst: **LG**
Aroclor 1016	<0.0000983	0.0000983	0.000246		mg/L	1	09/14/17 08:53 PM
Aroclor 1221	<0.0000983	0.0000983	0.000246		mg/L	1	09/14/17 08:53 PM
Aroclor 1232	<0.0000983	0.0000983	0.000246		mg/L	1	09/14/17 08:53 PM
Aroclor 1242	<0.0000983	0.0000983	0.000246		mg/L	1	09/14/17 08:53 PM
Aroclor 1248	<0.0000983	0.0000983	0.000246		mg/L	1	09/14/17 08:53 PM
Aroclor 1254	<0.0000983	0.0000983	0.000246		mg/L	1	09/14/17 08:53 PM
Aroclor 1260	<0.0000983	0.0000983	0.000246		mg/L	1	09/14/17 08:53 PM
Surr: Decachlorobiphenyl	84.2	0	42-133		%REC	1	09/14/17 08:53 PM
Surr: Tetrachloro-m-xylene	74.9	0	25-140		%REC	1	09/14/17 08:53 PM
TRACE METALS: ICP-MS - WATER		**SW6020A**					Analyst: **RO**
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	09/15/17 01:02 PM
Lead	0.00114	0.000300	0.00100		mg/L	1	09/15/17 01:02 PM
IS: Bismuth	91.3	0	70-200		%REC	1	09/15/17 01:02 PM
IS: Germanium	95.4	0	70-200		%REC	1	09/15/17 01:02 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: *15-Sep-17*

CLIENT:	Weston Solutions, Inc.	**Client Sample ID:**	Jensen SO-1
Project:	Jensen Drive - Harvey Sampling	**Lab ID:**	1709085-02
Project No:	02444.034.001.0001	**Collection Date:**	09/12/17 11:05 AM
Lab Order:	1709085	**Matrix:**	SOIL

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
PCB BY GC - SOIL/SOLID		**SW8082A**					Analyst: **LG**
Aroclor 1016	<0.0539	0.0539	0.108		mg/Kg-dry	1	09/15/17 10:58 AM
Aroclor 1221	<0.0539	0.0539	0.108		mg/Kg-dry	1	09/15/17 10:58 AM
Aroclor 1232	<0.0539	0.0539	0.108		mg/Kg-dry	1	09/15/17 10:58 AM
Aroclor 1242	<0.0539	0.0539	0.108		mg/Kg-dry	1	09/15/17 10:58 AM
Aroclor 1248	<0.0539	0.0539	0.108		mg/Kg-dry	1	09/15/17 10:58 AM
Aroclor 1254	1.14	0.0539	0.108		mg/Kg-dry	1	09/15/17 10:58 AM
Aroclor 1260	<0.0539	0.0539	0.108		mg/Kg-dry	1	09/15/17 10:58 AM
Surr: Decachlorobiphenyl	86.2	0	58-125		%REC	1	09/15/17 10:58 AM
Surr: Tetrachloro-m-xylene	82.3	0	40-130		%REC	1	09/15/17 10:58 AM
TRACE METALS: ICP-MS - SOLID		**SW6020A**					Analyst: **RO**
Arsenic	3.47	0.510	1.02		mg/Kg-dry	5	09/15/17 11:09 AM
Lead	111	0.102	0.306		mg/Kg-dry	5	09/15/17 11:09 AM
IS: Bismuth	97.5	0	70-200		%REC	5	09/15/17 11:09 AM
IS: Germanium	99.0	0	70-200		%REC	5	09/15/17 11:09 AM
PERCENT MOISTURE		**D2216**					Analyst: **VA**
Percent Moisture	9.28	0	0		WT%	1	09/14/17 08:40 AM

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: 1709085
Project: Jensen Drive - Harvey Sampling

ANALYTICAL QC SUMMARY REPORT

RunID: GC16_170720A

Sample ID **DCS-81499** Batch ID: **81499** TestNo: **SW8082A** Units: **mg/L**
SampType: **DCS** Run ID: **GC16_170720A** Analysis Date: **7/20/2017 12:06:00 PM** Prep Date: **7/20/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	0.000183	0.000250	0.000200	0	91.6	20	400	0	0	
Aroclor 1260	0.000205	0.000250	0.000200	0	103	20	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: 1709085
Project: Jensen Drive - Harvey Sampling

ANALYTICAL QC SUMMARY REPORT

RunID: GC16_170824A

Sample ID **DCS/LQV-82116**	Batch ID: **82116**	TestNo: **SW8082A**		Units: **mg/Kg**	
SampType: **DCS**	Run ID: **GC16_170824A**	Analysis Date: **8/24/2017 3:21:00 PM**		Prep Date: **8/24/2017**	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	0.0728	0.100	0.1000	0	72.8	21	158	0	0	
Aroclor 1260	0.0966	0.100	0.1000	0	96.6	41	151	0	0	
Surr: Decachlorobiphenyl	0.0821		0.1000		82.1	58	125	0	0	
Surr: Tetrachloro-m-xylene	0.0878		0.1000		87.8	40	130	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: 1709085
Project: Jensen Drive - Harvey Sampling

ANALYTICAL QC SUMMARY REPORT

RunID: GC16_170914A

The QC data in batch 82362 applies to the following samples: 1709085-02A

Sample ID **LCS-82362** Batch ID: **82362** TestNo: **SW8082A** Units: **mg/Kg**
SampType: **LCS** Run ID: **GC16_170914A** Analysis Date: **9/14/2017 4:13:00 PM** Prep Date: **9/14/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	0.933	0.100	1.000	0	93.3	41	138			
Aroclor 1260	1.01	0.100	1.000	0	101	61	131			
Surr: Decachlorobiphenyl	0.105		0.1000		105	58	125			
Surr: Tetrachloro-m-xylene	0.107		0.1000		107	40	130			

Sample ID **MB-82362** Batch ID: **82362** TestNo: **SW8082A** Units: **mg/Kg**
SampType: **MBLK** Run ID: **GC16_170914A** Analysis Date: **9/14/2017 5:55:00 PM** Prep Date: **9/14/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	<0.0500	0.100								
Aroclor 1221	<0.0500	0.100								
Aroclor 1232	<0.0500	0.100								
Aroclor 1242	<0.0500	0.100								
Aroclor 1248	<0.0500	0.100								
Aroclor 1254	<0.0500	0.100								
Aroclor 1260	<0.0500	0.100								
Surr: Decachlorobiphenyl	0.0992		0.1000		99.2	58	125			
Surr: Tetrachloro-m-xylene	0.0997		0.1000		99.7	40	130			

Sample ID **SB-170915** Batch ID: **82362** TestNo: **SW8082A** Units: **mg/Kg**
SampType: **SBLK** Run ID: **GC16_170914A** Analysis Date: **9/15/2017 10:32:00 AM** Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	<0.0500	0.100	0							
Aroclor 1221	<0.0500	0.100	0							
Aroclor 1232	<0.0500	0.100	0							
Aroclor 1242	<0.0500	0.100	0							
Aroclor 1248	<0.0500	0.100	0							
Aroclor 1254	<0.0500	0.100	0							
Aroclor 1260	<0.0500	0.100	0							
Surr: Decachlorobiphenyl	0		0							
Surr: Tetrachloro-m-xylene	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: 1709085
Project: Jensen Drive - Harvey Sampling

ANALYTICAL QC SUMMARY REPORT

RunID: GC16_170914A

Sample ID **ICV-170914**	Batch ID: **R94163**	TestNo: **SW8082A**	Units: **mg/Kg**
SampType: **ICV**	Run ID: **GC16_170914A**	Analysis Date: **9/14/2017 3:22:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	1.91	0.100	2.000	0	95.4	80	120			
Aroclor 1260	1.89	0.100	2.000	0	94.6	80	120			
Surr: Decachlorobiphenyl	0.196		0.2000		98.0	58	125			
Surr: Tetrachloro-m-xylene	0.204		0.2000		102	40	130			

Sample ID **CCV-170914**	Batch ID: **R94163**	TestNo: **SW8082A**	Units: **mg/Kg**
SampType: **CCV**	Run ID: **GC16_170914A**	Analysis Date: **9/14/2017 10:10:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	1.02	0.100	1.000	0	102	80	120			
Aroclor 1260	1.04	0.100	1.000	0	104	80	120			
Surr: Decachlorobiphenyl	0.106		0.1000		106	58	125			
Surr: Tetrachloro-m-xylene	0.107		0.1000		107	40	130			

Sample ID **ICV-170915-2154**	Batch ID: **R94163**	TestNo: **SW8082A**	Units: **mg/Kg**
SampType: **ICV**	Run ID: **GC16_170914A**	Analysis Date: **9/15/2017 10:07:00 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1221	2.23	0.100	2.000	0	111	80	120			
Aroclor 1254	2.18	0.100	2.000	0	109	80	120			
Surr: Decachlorobiphenyl	0.223		0.2000		111	58	125			
Surr: Tetrachloro-m-xylene	0.230		0.2000		115	40	130			

Sample ID **CCV-170915-2154**	Batch ID: **R94163**	TestNo: **SW8082A**	Units: **mg/Kg**
SampType: **CCV**	Run ID: **GC16_170914A**	Analysis Date: **9/15/2017 11:28:00 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1221	1.04	0.100	1.000	0	104	80	120			
Aroclor 1254	1.01	0.100	1.000	0	101	80	120			
Surr: Decachlorobiphenyl	0.104		0.1000		104	58	125			
Surr: Tetrachloro-m-xylene	0.102		0.1000		102	40	130			

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: 1709085
Project: Jensen Drive - Harvey Sampling

ANALYTICAL QC SUMMARY REPORT

RunID: GC16_170914B

The QC data in batch 82370 applies to the following samples: 1709085-01B

Sample ID **LCS-82370** Batch ID: **82370** TestNo: **SW8082A** Units: **mg/L**
SampType: **LCS** Run ID: **GC16_170914B** Analysis Date: **9/14/2017 4:38:00 PM** Prep Date: **9/14/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	0.00383	0.000250	0.00500	0	76.7	40	144			
Aroclor 1260	0.00437	0.000250	0.00500	0	87.3	45	145			
Surr: Decachlorobiphenyl	0.435		0.5000		87.1	42	133			
Surr: Tetrachloro-m-xylene	0.372		0.5000		74.5	25	140			

Sample ID **LCSD-82370** Batch ID: **82370** TestNo: **SW8082A** Units: **mg/L**
SampType: **LCSD** Run ID: **GC16_170914B** Analysis Date: **9/14/2017 5:04:00 PM** Prep Date: **9/14/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	0.00415	0.000250	0.00500	0	83.0	40	144	7.87	30	
Aroclor 1260	0.00490	0.000250	0.00500	0	98.0	45	145	11.5	30	
Surr: Decachlorobiphenyl	0.455		0.5000		90.9	42	133	0	0	
Surr: Tetrachloro-m-xylene	0.359		0.5000		71.8	25	140	0	0	

Sample ID **MB-82370** Batch ID: **82370** TestNo: **SW8082A** Units: **mg/L**
SampType: **MBLK** Run ID: **GC16_170914B** Analysis Date: **9/14/2017 6:20:00 PM** Prep Date: **9/14/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	<0.000100	0.000250								
Aroclor 1221	<0.000100	0.000250								
Aroclor 1232	<0.000100	0.000250								
Aroclor 1242	<0.000100	0.000250								
Aroclor 1248	<0.000100	0.000250								
Aroclor 1254	<0.000100	0.000250								
Aroclor 1260	<0.000100	0.000250								
Surr: Decachlorobiphenyl	0.485		0.5000		97.0	42	133			
Surr: Tetrachloro-m-xylene	0.358		0.5000		71.5	25	140			

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: 1709085
Project: Jensen Drive - Harvey Sampling

ANALYTICAL QC SUMMARY REPORT

RunID: GC16_170914B

Sample ID **ICV-170914**	Batch ID: **R94166**	TestNo: **SW8082A**	Units: **mg/L**
SampType: **ICV**	Run ID: **GC16_170914B**	Analysis Date: **9/14/2017 3:22:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	1.91	0.000250	2.00	0	95.4	80	120			
Aroclor 1260	1.89	0.000250	2.00	0	94.6	80	120			
Surr: Decachlorobiphenyl	196		200.0		98.0	42	133			
Surr: Tetrachloro-m-xylene	204		200.0		102	25	140			

Sample ID **CCV-170914**	Batch ID: **R94166**	TestNo: **SW8082A**	Units: **mg/L**
SampType: **CCV**	Run ID: **GC16_170914B**	Analysis Date: **9/14/2017 10:10:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	1.02	0.000250	1.00	0	102	80	120			
Aroclor 1260	1.04	0.000250	1.00	0	104	80	120			
Surr: Decachlorobiphenyl	106		100.0		106	42	133			
Surr: Tetrachloro-m-xylene	107		100.0		107	25	140			

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: 1709085
Project: Jensen Drive - 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
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	

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: 1709085
Project: Jensen Drive - Harvey Sampling

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_170914A

Sample ID **DCS1-82336**	Batch ID: **82336**	TestNo: **SW6020A**	Units: **mg/Kg**
SampType: **DCS**	Run ID: **ICP-MS4_170914A**	Analysis Date: **9/14/2017 10:43:00 AM**	Prep Date: **9/13/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.244	0.300	0.2500	0	97.5	80	120	0	0	

Sample ID **DCS2-82336**	Batch ID: **82336**	TestNo: **SW6020A**	Units: **mg/Kg**
SampType: **DCS2**	Run ID: **ICP-MS4_170914A**	Analysis Date: **9/14/2017 10:45:00 AM**	Prep Date: **9/13/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	1.16	1.00	1.250	0	92.5	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: 1709085
Project: Jensen Drive - Harvey Sampling

ANALYTICAL QC SUMMARY REPORT

RunID: **ICP-MS4_170915A**

The QC data in batch 82353 applies to the following samples: 1709085-02A

Sample ID **MB-82353**	Batch ID: **82353**	TestNo: **SW6020A**	Units: **mg/Kg**
SampType: **MBLK**	Run ID: **ICP-MS4_170915A**	Analysis Date: **9/15/2017 10:56:00 AM**	Prep Date: **9/14/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	<0.500	1.00								
Lead	<0.100	0.300								
IS: Bismuth	50.0		200.0		101	70	200			

Sample ID **LCS-82353**	Batch ID: **82353**	TestNo: **SW6020A**	Units: **mg/Kg**
SampType: **LCS**	Run ID: **ICP-MS4_170915A**	Analysis Date: **9/15/2017 10:58:00 AM**	Prep Date: **9/14/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	49.6	1.00	50.00	0	99.2	80	120			
Lead	50.0	0.300	50.00	0	100	80	120			
IS: Bismuth	50.0		200.0		98.6	70	200			

Sample ID **LCSD-82353**	Batch ID: **82353**	TestNo: **SW6020A**	Units: **mg/Kg**
SampType: **LCSD**	Run ID: **ICP-MS4_170915A**	Analysis Date: **9/15/2017 11:00:00 AM**	Prep Date: **9/14/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	49.5	1.00	50.00	0	99.0	80	120	0.204	25	
Lead	49.6	0.300	50.00	0	99.2	80	120	0.791	25	
IS: Bismuth	50.0		200.0		98.6	70	200	0	0	

Qualifiers:

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

CLIENT: Weston Solutions, Inc.
Work Order: 1709085
Project: Jensen Drive - Harvey Sampling

ANALYTICAL QC SUMMARY REPORT

RunID: **ICP-MS4_170915A**

The QC data in batch 82354 applies to the following samples: 1709085-01A

Sample ID **MB-82354**	Batch ID: **82354**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **MBLK**	Run ID: **ICP-MS4_170915A**	Analysis Date: **9/15/2017 12:46:00 PM**	Prep Date: **9/14/2017**

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		103	70	200			

Sample ID **LCS-82354**	Batch ID: **82354**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **LCS**	Run ID: **ICP-MS4_170915A**	Analysis Date: **9/15/2017 12:48:00 PM**	Prep Date: **9/14/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.199	0.00500	0.200	0	99.6	80	120			
Lead	0.191	0.00100	0.200	0	95.7	80	120			
IS: Bismuth	0.200		0.200		98.5	70	200			

Sample ID **LCSD-82354**	Batch ID: **82354**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **LCSD**	Run ID: **ICP-MS4_170915A**	Analysis Date: **9/15/2017 12:50:00 PM**	Prep Date: **9/14/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.196	0.00500	0.200	0	98.1	80	120	1.56	15	
Lead	0.189	0.00100	0.200	0	94.5	80	120	1.17	15	
IS: Bismuth	0.200		0.200		98.2	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

Sample ID **ICV-170915**	Batch ID: **R94175**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **ICV**	Run ID: **ICP-MS4_170915A**	Analysis Date: **9/15/2017 10:40:00 AM**	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	0.0990	0.00100	0.100	0	99.0	90	110			
IS: Bismuth	0.200		0.200		99.9	70	200			

Sample ID **LCVL-170915**	Batch ID: **R94175**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **LCVL**	Run ID: **ICP-MS4_170915A**	Analysis Date: **9/15/2017 10:50:00 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00472	0.00500	0.00500	0	94.4	70	130			
Lead	0.000924	0.00100	0.00100	0	92.4	70	130			
IS: Bismuth	0.200		0.200		99.0	70	200			

Sample ID **CCV1-170915**	Batch ID: **R94175**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **CCV**	Run ID: **ICP-MS4_170915A**	Analysis Date: **9/15/2017 11:30:00 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.196	0.00500	0.200	0	98.1	90	110			
Lead	0.192	0.00100	0.200	0	95.9	90	110			
IS: Bismuth	0.200		0.200		97.9	70	200			

Sample ID **LCVL1-170915**	Batch ID: **R94175**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **LCVL**	Run ID: **ICP-MS4_170915A**	Analysis Date: **9/15/2017 11:35:00 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00478	0.00500	0.00500	0	95.6	70	130			
Lead	0.000911	0.00100	0.00100	0	91.1	70	130			
IS: Bismuth	0.200		0.200		99.6	70	200			
IS: Germanium	0.200		0.200		99.7	70	200			

Sample ID **CCV3-170915**	Batch ID: **R94175**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **CCV**	Run ID: **ICP-MS4_170915A**	Analysis Date: **9/15/2017 12:36:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.196	0.00500	0.200	0	97.8	90	110			
Lead	0.190	0.00100	0.200	0	95.0	90	110			
IS: Bismuth	0.200		0.200		98.2	70	200			

Sample ID **LCVL3-170915**	Batch ID: **R94175**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **LCVL**	Run ID: **ICP-MS4_170915A**	Analysis Date: **9/15/2017 12:42:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

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: 1709085
Project: Jensen Drive - Harvey Sampling

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_170915A

Sample ID **LCVL3-170915**	Batch ID: **R94175**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **LCVL**	Run ID: **ICP-MS4_170915A**	Analysis Date: **9/15/2017 12:42:00 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	0.000897	0.00100	0.00100	0	89.7	70	130			
IS: Bismuth	0.200		0.200		100	70	200			

Sample ID **CCV4-170915**	Batch ID: **R94175**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **CCV**	Run ID: **ICP-MS4_170915A**	Analysis Date: **9/15/2017 1:24:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.195	0.00500	0.200	0	97.4	90	110			
Lead	0.188	0.00100	0.200	0	94.1	90	110			
IS: Bismuth	0.200		0.200		97.6	70	200			

Sample ID **LCVL4-170915**	Batch ID: **R94175**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **LCVL**	Run ID: **ICP-MS4_170915A**	Analysis Date: **9/15/2017 1:46:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00467	0.00500	0.00500	0	93.4	70	130			
Lead	0.000876	0.00100	0.00100	0	87.6	70	130			
IS: Bismuth	0.200		0.200		99.3	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: 1709085
Project: Jensen Drive - Harvey Sampling

ANALYTICAL QC SUMMARY REPORT

RunID: PMOIST_170913A

The QC data in batch 82351 applies to the following samples: 1709085-02A

Sample ID **1709062-01A-DUP** Batch ID: **82351** TestNo: **D2216** Units: **WT%**
SampType: **DUP** Run ID: **PMOIST_170913A** Analysis Date: **9/14/2017 8:40:00 AM** Prep Date: **9/13/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Percent Moisture	74.3	0	0	75.56				1.66	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

CLIENT: Weston Solutions, Inc.
Work Order: 1709085
Project: Jensen Drive - Harvey Sampling

MQL SUMMARY REPORT

TestNo: SW6020A	MDL	MQL
Analyte	**mg/Kg**	**mg/Kg**
Arsenic	0.500	1.00
Lead	0.100	0.300

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

TestNo: SW8082A	MDL	MQL
Analyte	**mg/Kg**	**mg/Kg**
Aroclor 1016	0.0500	0.100
Aroclor 1221	0.0500	0.100
Aroclor 1232	0.0500	0.100
Aroclor 1242	0.0500	0.100
Aroclor 1248	0.0500	0.100
Aroclor 1254	0.0500	0.100
Aroclor 1260	0.0500	0.100

TestNo: SW8082A	MDL	MQL
Analyte	**mg/L**	**mg/L**
Aroclor 1016	0.000100	0.000250
Aroclor 1221	0.000100	0.000250
Aroclor 1232	0.000100	0.000250
Aroclor 1242	0.000100	0.000250
Aroclor 1248	0.000100	0.000250
Aroclor 1254	0.000100	0.000250
Aroclor 1260	0.000100	0.000250

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

GC16
For

DHL Work Order
1709085

GC16_170914A
For

DHL Work Order
1709085

Lab Data Review Check List

EPA Method 8082 / 608 - Polychlorinated Biphenyls (PCBs) as Aroclors by GC

PROJECT AND BATCH NUMBERS ARE LISTED ON THE RUN LOG	Run ID: GC16_170914A SOP: ORG-PCB-01			
Review Item	**Yes**	**No**	**N/A**	**2nd Level Review**
Data Folder Contents 1. Is the Prep Batch Report included? ***Up to 20 field samples per batch*** ***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			
4. Is the Sequence File 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
ICAL containing a mixture of Aroclors 1016 and 1260 (5 levels) is used to demonstrate the instrument linearity					
Initial Calibration Curve (ICAL) (minimum: 5 Standards)	Prior to samples and when ICV fails	%RSD < 20% - 8082 (ALL) %RSD < 15% - 608 COD $R^2 \geq 0.990$	X		
SSCV - (Second Source)	After calibration (ICAL)	%R (80-120) - 8082 (ALL) %R (85-115) - 608	X		x
ICV - (Daily Initial Cal Verification)	Prior to sample analysis	%R (80-120) - 8082 (ALL) %R (85-115) - 608	X		
CCV - (Continuing Cal Verification)	Every 10 samples and End of Run	%R (80-120) - 8082 (ALL) %R (85-115) - 608	X		

Review Item	Frequency	Limits	Pass	Fail	N/A	Review
Method Blank (MB) System Blank (SBLK)	Every Batch (MB) Daily (SBLK)	< MDL / <½ RL (DoD) or <1/10 the sample/reg limit	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	≤ 30 (Aq/DoD) / ≤ 50 (Soil)			X	
Matrix Spike (MS)	Every Batch/20 samples	See LIMS	X			x
Matrix Spike Duplicate (MSD) (MSD is N/A for Method 608)	Every Prep Batch except Method 625	See LIMS	X			
MSD - RPD (MSD is N/A for Method 608)	Every MS/MSD except Method 625	≤ 30 (Aq/DoD) / ≤ 50 (Soil)	X			
Surrogates	All field and QC samples	See LIMS	X			
Aroclor Pattern Identification-Use each Aroclor standard to ID pattern	Pattern recognition: Use minimum of 3 peaks for quantitation	Calculate the average of 3 to 5 primary peaks of pattern	X			

Lab Data Review Check List

EPA Method 8082 / 608 - Polychlorinated Biphenyls (PCBs) as Aroclors by GC

Review Item	Criteria	Yes	No	N/A	2nd Level Review
Sample Analysis	7 days (Aq) - extraction			X	
1. Are all sample hold times met?	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	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. Have the individual Aroclor standards been used to determine the pattern found in the sample(s)?	Aroclor 1016/1260 STD used to determine that sample is ND	X			x
5. Is the Aroclor average result (+ J flags) circled 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	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
___ Hold Time exceeded (14E/40A)	___ Sample Received out of HT	___ Reanalyze QC to confirm
___ ICV out of control (±15%-608 / ± 20%-8082)	___ Carryover from previous run	___ Recalibrate
___ CCV out of control (±15%-608 / ± 20%-8082)	___ Cross contamination	___ Reprep/Reanalyze sample
___ MB/SBLK out of control (> MQL / >½ RL)	___ Lab Artifact	___ Reprep/Reanalyze Batch
___ LCS ___ LCSD out of control (See LIMS)	___ Prep Spike error (describe)	___ Reanalyze Batch/Sample/QC
___ RPD out of control for LCS/LCSD (>30/50%)	___ Matrix Effect/Co-elution	___ Verify reagents are clean
___ MS ___ MSD out of control (See LIMS)	___ High Levels of non-targets	___ Reanalyze sample to confirm
___ RPD out of control for MS/MSD (>30/50%)	___ Insufficient sample for QC	___ Sample results ND w/ dilution
___ Surrogate(s) out of control	___ 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	___ Other (describe below)	___ Accept data
___ Other (describe below)		___ Cannot reanalyze (HT out/Lack of Sample)

General Comments and Impact on Data: SEE RUN LOG.

Analyst: Jaureen Garcia Date of Completion: 9/15/2017

Second-Level Review: Janice Whitt Date Stamp: 9/15/2017

REVIEWED BY
By Janice Whitt at 3:56:36 PM, 9/15/2017

8082-PCB-RVU-R3

DHL Analytical, Inc.

Run ID: GC16_170914A **Run No.:** 94163

Analytical Run Date: 9/14/2017 **InstrumentID:** GC16

Analyst: Lauren Garcia **Column:** Rxi®-XLB (30m x 0.25mm ID x 0.25µm df)

Calibration ID: 786 **Column ID:** 0.25mm

Column Length: 30m

Cal Comments: 170718-1660.M 170718-2154.M 170718-1232.M 170719-1242 170719-1248.M
All PCB/AROCLOR calibrations included. No manual integrations.

SampID	DF	TestCode	SampType	Batch ID	Analysis Date/Time	Q	Comments
ICV-170914	1	8082_S	ICV	R94163	9/14/2017 3:22:00 PM		
LCS-82362	1	8082_S	LCS	82362	9/14/2017 4:13:00 PM		
MB-82362	1	8082_S	MBLK	82362	9/14/2017 5:55:00 PM		
1709085-02A	1	8082_S	SAMP	82362	9/14/2017 8:02:00 PM		See re-run for confirmation of 1254.
1709098-01B	1	8082_S	SAMP	82362	9/14/2017 8:28:00 PM		
1709098-01BMS	1	8082_S	MS	82362	9/14/2017 9:19:00 PM		
1709098-01BMSD	1	8082_S	MSD	82362	9/14/2017 9:44:00 PM		
CCV-170914	1	8082_S	CCV	R94163	9/14/2017 10:10:00 PM		
ICV-170915-2154	1	8082_S	ICV	R94163	9/15/2017 10:07:00 AM		
SB-170915	1	8082_S	SBLK	82362	9/15/2017 10:32:00 AM		
1709085-02A	1	8082_S	SAMP	82362	9/15/2017 10:58:00 AM		
CCV-170915-2154	1	8082_S	CCV	R94163	9/15/2017 11:28:00 AM		

Std ID	Std Name	Type	Exp. Date
GC1660CCV-17071	1000 PPB 1016/1260 CCV Standard	ICV	10/16/2017
GC1660ICV-170718	2000 PPB 1016/1260 ICV Standard	CCV	10/16/2017
GC2154CCV-17091	1000 PPB 1221/1254 CCV Standard	CCV	12/13/2017
GC2154ICV-170914	2000 PPB 1221/1254 ICV Standard	ICV	12/13/2017

Sequence Name: C:\msdchem\3\sequence\170914.S
Comment:
Operator:
Data Path: C:\MSDCHEM\3\170914\
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	SB
Datafile		17091401
Method		170718-1660
2) Sample	2	ICV-170914
Datafile		17091402
Method		170718-1660
3) Sample	3	ICV-170914-1268
Datafile		17091403
Method		170913-1268
4) Sample	4	LCS-82362
Datafile		17091404
Method		170718-1660
5) Sample	5	LCS-82370
Datafile		17091405
Method		170718-1660
6) Sample	6	LCSD-82370
Datafile		17091406
Method		170718-1660
7) Sample	7	DCS/LQV-82362
Datafile		17091407
Method		170718-1660
8) Sample	8	MB-82362
Datafile		17091408
Method		170718-1660
9) Sample	9	MB-82370
Datafile		17091409
Method		170718-1660
10) Sample	10	1709062-01A
Datafile		17091410
Method		170718-1660
11) Sample	11	1709062-02A
Datafile		17091411
Method		170718-1660
12) Sample	12	1709062-03A
Datafile		17091412
Method		170718-1660
13) Sample	13	1709085-02A
Datafile		17091413
Method		170718-1660
14) Sample	14	1709098-01B
Datafile		17091414
Method		170718-1660
15) Sample	15	1709085-01B
Datafile		17091415
Method		170718-1660
16) Sample	16	1709098-01BMS
Datafile		17091416
Method		170718-1660
17) Sample	17	1709098-01BMSD
Datafile		17091417
Method		170718-1660
18) Sample	18	CCV-170914
Datafile		17091418
Method		170718-1660
19) Sample	19	CCV-170914-1268
Datafile		17091419
Method		170913-1268
20) Sample	20	ICV-170915-2154
Datafile		17091420
Method		170718-2154

```
21) Sample        21  SB-170915
     Datafile         17091421
     Method           170718-1660
22) Sample        22  1709085-02A
     Datafile         17091422
     Method           170718-1660
23) Sample        23  CCV-170915-2154
     Datafile         17091423
     Method           170718-2154
```

Sequence Name: C:\msdchem\3\sequence\170914.S
Comment:
Operator:
Data Path: C:\MSDCHEM\3\170914\
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	SB
Datafile		17091401
Method		170718-1660
2) Sample	2	ICV-170914
Datafile		17091402
Method		170718-1660
3) Sample	3	ICV-170914-1268
Datafile		17091403
Method		170913-1268
4) Sample	4	LCS-82362
Datafile		17091404
Method		170718-1660
5) Sample	5	LCS-82370
Datafile		17091405
Method		170718-1660
6) Sample	6	LCSD-82370
Datafile		17091406
Method		170718-1660
7) Sample	7	DCS/LQV-82362
Datafile		17091407
Method		170718-1660
8) Sample	8	MB-82362
Datafile		17091408
Method		170718-1660
9) Sample	9	MB-82370
Datafile		17091409
Method		170718-1660
10) Sample	10	1709062-01A
Datafile		17091410
Method		170718-1660
11) Sample	11	1709062-02A
Datafile		17091411
Method		170718-1660
12) Sample	12	1709062-03A
Datafile		17091412
Method		170718-1660
13) Sample	13	1709085-02A
Datafile		17091413
Method		170718-1660
14) Sample	14	1709098-01B
Datafile		17091414
Method		170718-1660
15) Sample	15	1709085-01B
Datafile		17091415
Method		170718-1660
16) Sample	16	1709098-01BMS
Datafile		17091416
Method		170718-1660
17) Sample	17	1709098-01BMSD
Datafile		17091417
Method		170718-1660
18) Sample	18	CCV-170914
Datafile		17091418
Method		170718-1660
19) Sample	19	CCV-170914-1268
Datafile		17091419
Method		170913-1268
20) Sample	20	ICV-170915-2154
Datafile		17091420
Method		170718-2154

```
21) Sample        21  ICV-170915-2154
     Datafile         17091421
     Method           170718-1660
22) Sample        22  SB-170915
     Datafile         17091422
     Method           170718-1660
23) Sample        23  1709085-02A
     Datafile         17091423
     Method           170718-1660
24) Sample        24  CCV-170915-2154
     Datafile         17091424
     Method           170718-1660
25) Sample        25  CCV-170915-1254
     Datafile         17091425
     Method           170718-1660
```

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **9/14/2017 9:45:00 AM**
Digestion:
Prep End Date: **9/14/2017 12:40:00 PM**

Prep Batch **82362** Prep Code: **3550_PCB** Technician: **Michael Payne**

Prep Factor Units: **mL/g**

Equipment List

Turbo-Vap # 1,2
Balance # 25
Sonicators #1,2,3,4

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Vessel	Cleanup
1709062-01A	Sediment		10.89	10	0.918	1 of 1		
Need DCS in each batch.								
1709062-02A	Sediment		10.85	10	0.922	1 of 1		
chlordane reported if a-g pres								
1709062-03A	Sediment		10.29	10	0.972	1 of 1		
1709085-02A	Soil		10.23	10	0.978	1 of 1		
1709098-01B	Soil		10.18	10	0.982	1 of 1		
1709098-01BMS	Soil		10.85	10	0.922	of		
1709098-01BMSD	Soil		10.51	10	0.951	of		
DCS/LQV-82362	Soil		10	10	1.000	of		Acid
Spiked with 10.0 uL of PCBPREP170808.								
LCS-82362	Soil		10	10	1.000	of		
MB-82362	Soil		10	10	1.000	of		

Number	Reagent Name	Amt	Units	Exp. Da
10846	Hexane (Optima)	120	ml	11/02/2026
11181	Sulfuric Acid (Certified ACS PLUS)	4	ml	02/27/2027
11404	Purified Sodium Sulfate	15	g	05/18/2027
11557	Whatman 41 Filter	1	filter	07/06/2027

Spk ID	Spike Name	SampType	Amt (mL or g)	Exp. Date
PCB140408V	200PPM PCB/GC TCMX/DCBP SURRO	ALL	0.005	12/05/2017
PCBPREP170808	100 PPM 1016/1260 Spiking Standard	LCS/MS/MSD	0.1	11/06/2017

REVIEWED BY
By Janice Whitt at 3:36:38 PM, 9/15/2017

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **9/14/2017 9:45:00 AM**
Digestion:
Prep End Date: 9/14/2017 @ 12:40 PM

Prep Batch **82362** Prep Code: **3550_PCB** Technician: **Michael Payne**

Prep Factor Units: **mL/g**

Equipment List
Turbo-Vap # 1, ~~3~~ 2 MP 9/14/17
Balance # 25
Sonicators #1,2,3,4

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Vessel	Cleanup
1709062-01A	Sediment		10.89	10	1.000	1 of 1		
Need DCS in each batch.								
1709062-02A	Sediment		10.85	10	1.000	1 of 1		
chlordane reported if a-g pres								
1709062-03A	Sediment		10.29	10	1.000	1 of 1		
1709085-02A	Soil		10.23	10	1.000	1 of 1		
1709098-01B	Soil		10.18	10	1.000	1 of 1		
1709098-01BMS	Soil		10.85	10	1.000	of		
1709098-01BMSD	Soil		10.51	10	1.000	of		
DCS/LQV-82362	Soil		10	10	1.000	of		Acid
Spiked with 10.0 uL of PCBPREP170808.								
LCS-82362	Soil		10	10	1.000	of		
MB-82362	Soil		10	10	1.000	of		

Number	Reagent Name	Amt	Units	Exp. Da
10846	Hexane (Optima)	120	ml	11/02/2026
11181	Sulfuric Acid (Certified ACS PLUS)	4	ml	02/27/2027
11404	Purified Sodium Sulfate	15	g	05/18/2027
11557	Whatman 41 Filter	1	filter	07/06/2027

MP 9/14/17

Spk ID	Spike Name	SampType	Amt (mL or g)	Exp. Date
PCB140408 ~~5~~ ✓	200PPM PCB/GC TCMX/DCBP SURRO	ALL	0.005	08/06/2018
PCBPREP170808	100 PPM 1016/1260 Spiking Standard	LCS/MS/MSD	0.1	11/06/2017

REVIEWED BY
By Janice Whitt at 3:36:35 PM, 9/15/2017

AD 9/14/17

MP 9/14/17

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170914\
Data File : 17091402.D
Acq On : 14 Sep 2017 3:22 pm
Operator :
Sample : ICV-170914
Misc : ICV
ALS Vial : 0 (Sig #1); 2 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Sep 15 09:06:22 2017
InstName : GC16
QLast Update : Wed Jul 19 10:08:29 2017
Response via : Initial Calibration

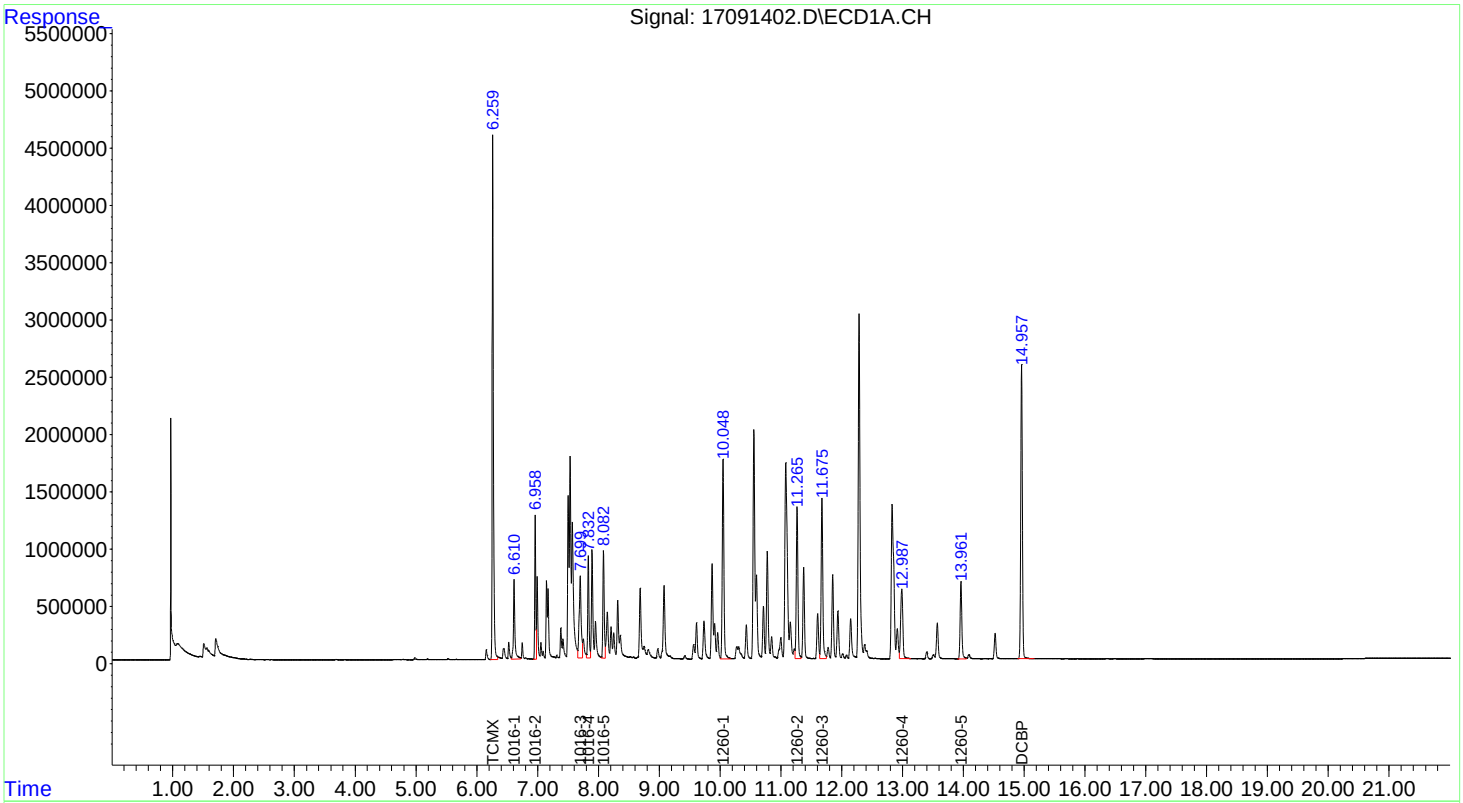
		Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
		System Monitoring Compounds						
1)	S	TCMX	6.259	6.238	5982999	5777656	204.426	192.671
14)	S	DCBP	14.957	15.683	4791595	4733453	195.968	193.526
		Target Compounds						
2)	L1	1016-1	6.610	6.887	1123726	981643	1897.407	1695.598
3)	L1	1016-2	6.958	7.297	1445366	2363700	1921.150	1760.520
4)	L1	1016-3	7.699	7.622	1615243	1248552	1926.259	1776.190
5)	L1	1016-4	7.832	8.614	1296280	1656864	1839.865	1803.413
6)	L1	1016-5	8.082	9.137	1428181	517215	1948.438	1711.557
7)	L1	1016-TOTAL	0.000	0.000	6908796	6767974	1908.156m	1760.010m
8)	L2	1260-1	10.048	10.657	3204319	3316686	1857.256	1835.344
9)	L2	1260-2	11.265	10.898	2491805	3748343	1913.964	1853.731
10)	L2	1260-3	11.675	12.387	2661931	2516588	1917.873	1898.171
11)	L2	1260-4	12.987	13.396	1532591	1183673	1875.781	1839.558
12)	L2	1260-5	13.961	14.510	1315582	1345846	1903.930	1858.961
13)	L2	1260-TOTAL	0.000	0.000	11206228	12111136	1891.925m	1856.852m

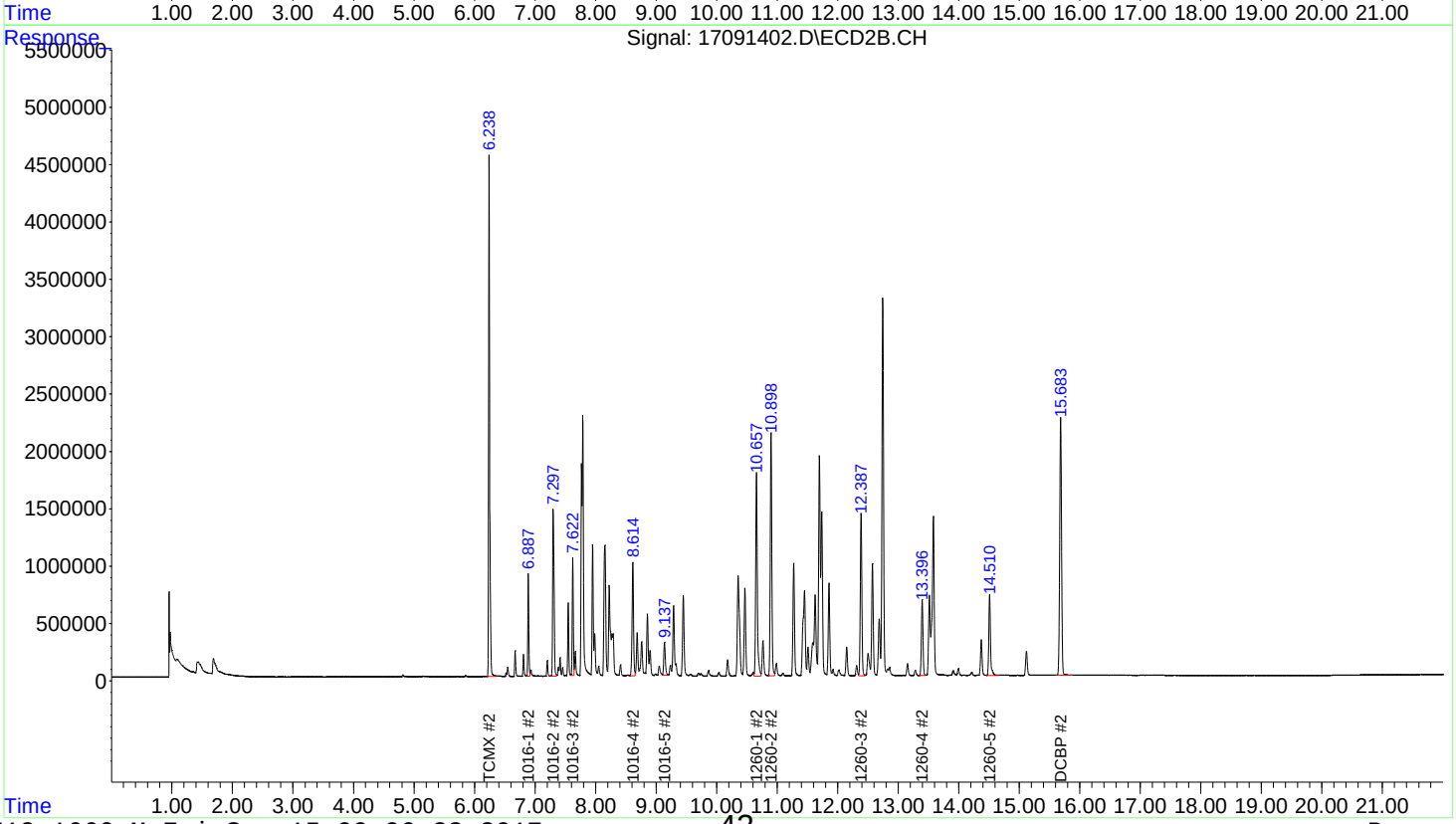
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170914\
Data File : 17091402.D
Acq On : 14 Sep 2017 3:22 pm
Operator :
Sample : ICV-170914
Misc : ICV
ALS Vial : 0 (Sig #1); 2 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Sep 15 09:06:22 2017
InstName : GC16
QLast Update : Wed Jul 19 10:08:29 2017
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170914\
Data File : 17091404.D
Acq On : 14 Sep 2017 4:13 pm
Operator :
Sample : LCS-82362
Misc : LCS
ALS Vial : 0 (Sig #1); 4 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Sep 15 09:06:25 2017
InstName : GC16
QLast Update : Wed Jul 19 10:08:29 2017
Response via : Initial Calibration

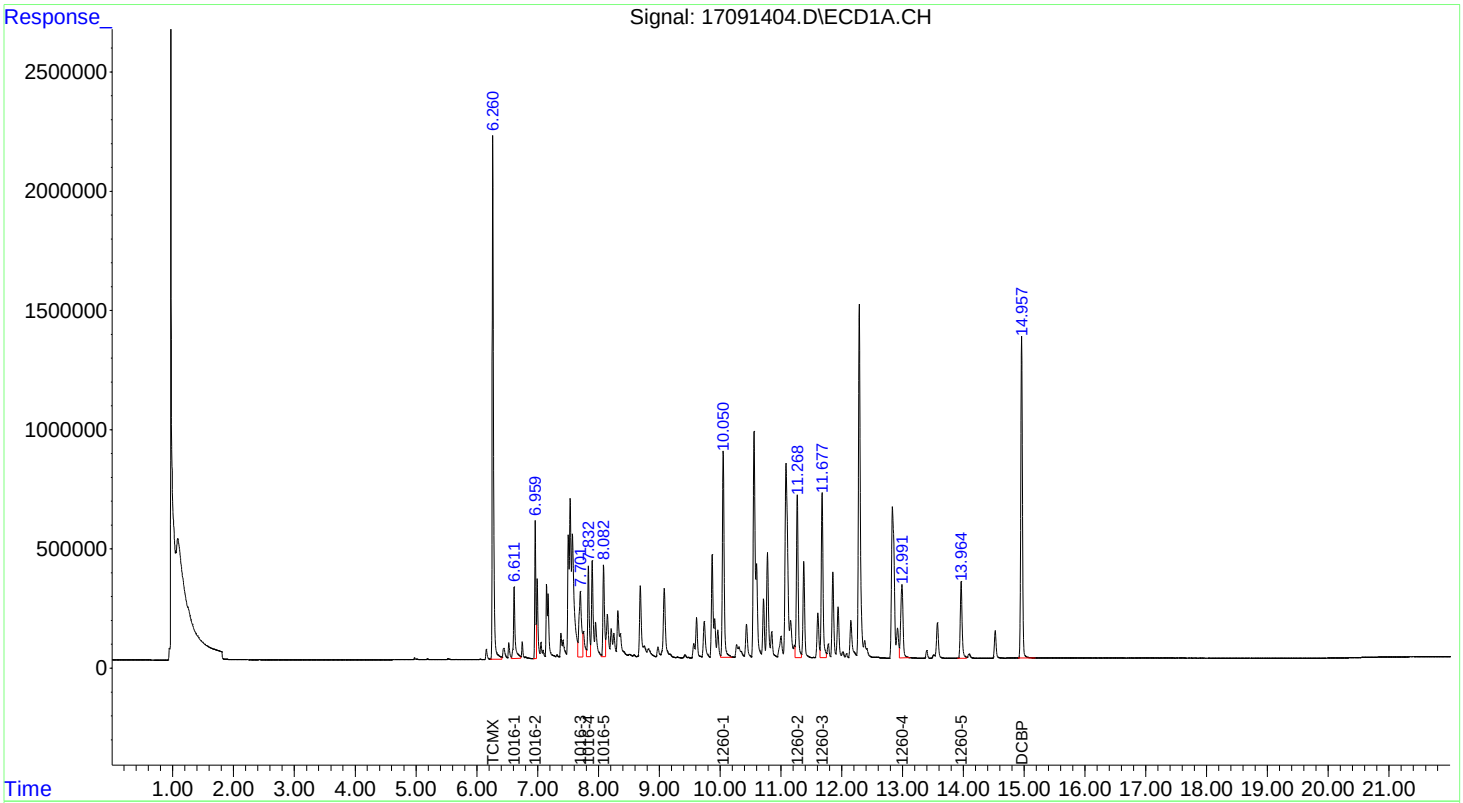
		Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
		System Monitoring Compounds						
1)	S	TCMX	6.260	6.237	3122941	2830910	106.704	94.404
14)	S	DCBP	14.957	15.682	2568199	2231177	105.035	91.221
		Target Compounds						
2)	L1	1016-1	6.611	6.886	548511	439317	926.158	758.835
3)	L1	1016-2	6.959	7.297	687153	1079371	913.349	803.932
4)	L1	1016-3	7.701	7.621	795714	571080	948.929	812.419
5)	L1	1016-4	7.832	8.613	656935	739278	932.416	804.667
6)	L1	1016-5	8.082	9.136	690496	237538	942.030	786.056
7)	L1	1016-TOTAL	0.000	0.000	3378809	3066584	933.201m	797.465m
8)	L2	1260-1	10.050	10.657	1717388	1608023	995.416	889.827
9)	L2	1260-2	11.268	10.897	1371575	1801307	1053.511	890.831
10)	L2	1260-3	11.677	12.386	1406474	1170518	1013.339	882.879
11)	L2	1260-4	12.991	13.396	814191	556837	996.511	865.386
12)	L2	1260-5	13.964	14.511	679984	616103	984.083	850.997
13)	L2	1260-TOTAL	0.000	0.000	5989612	5752788	1011.214m	882.005m

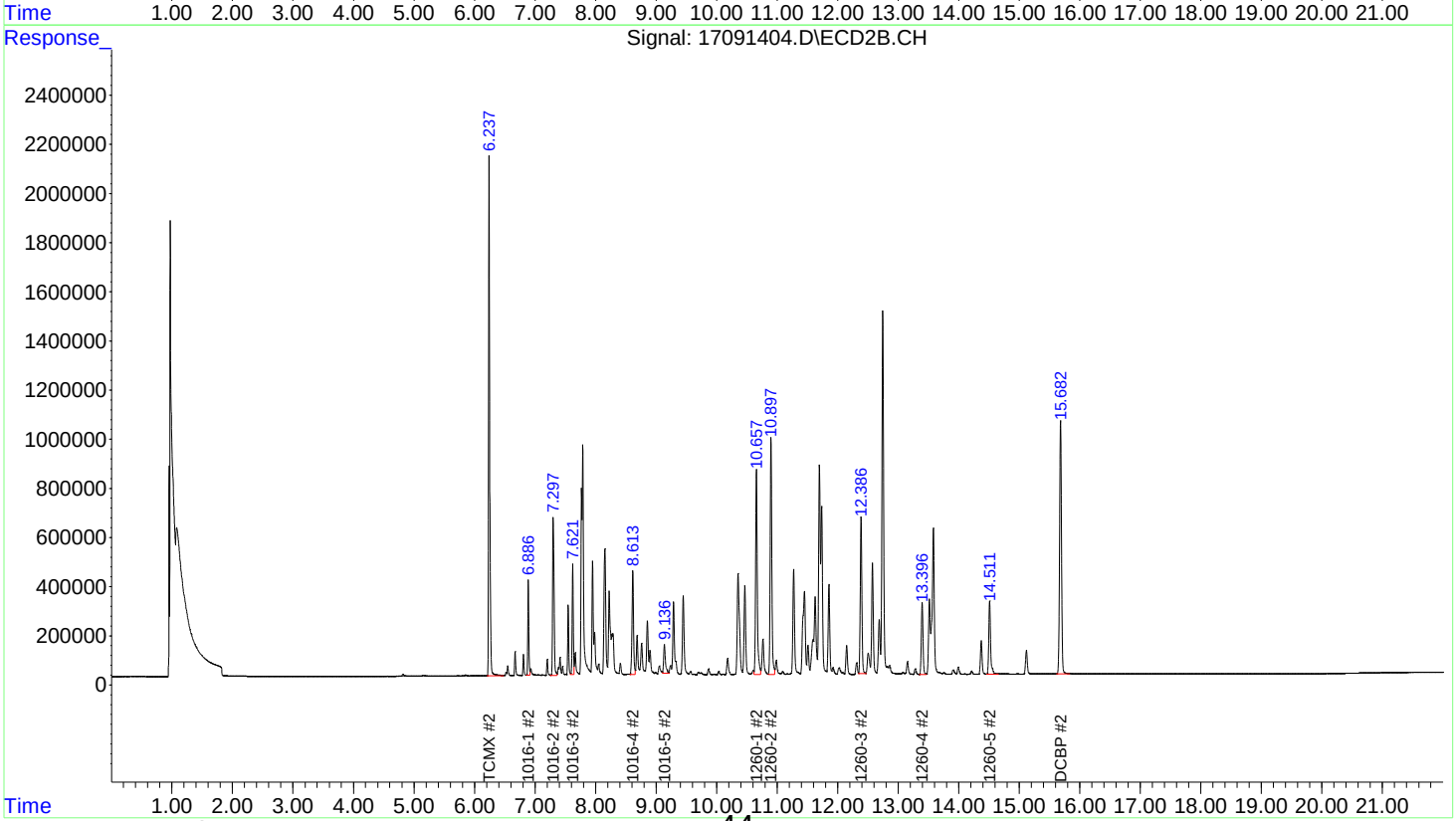
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170914\
Data File : 17091404.D
Acq On : 14 Sep 2017 4:13 pm
Operator :
Sample : LCS-82362
Misc : LCS
ALS Vial : 0 (Sig #1); 4 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Sep 15 09:06:25 2017
InstName : GC16
QLast Update : Wed Jul 19 10:08:29 2017
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170914\
Data File : 17091408.D
Acq On : 14 Sep 2017 5:55 pm
Operator :
Sample : MB-82362
Misc : MBLK
ALS Vial : 0 (Sig #1); 8 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Sep 15 09:06:42 2017
InstName : GC16
QLast Update : Wed Jul 19 10:08:29 2017
Response via : Initial Calibration

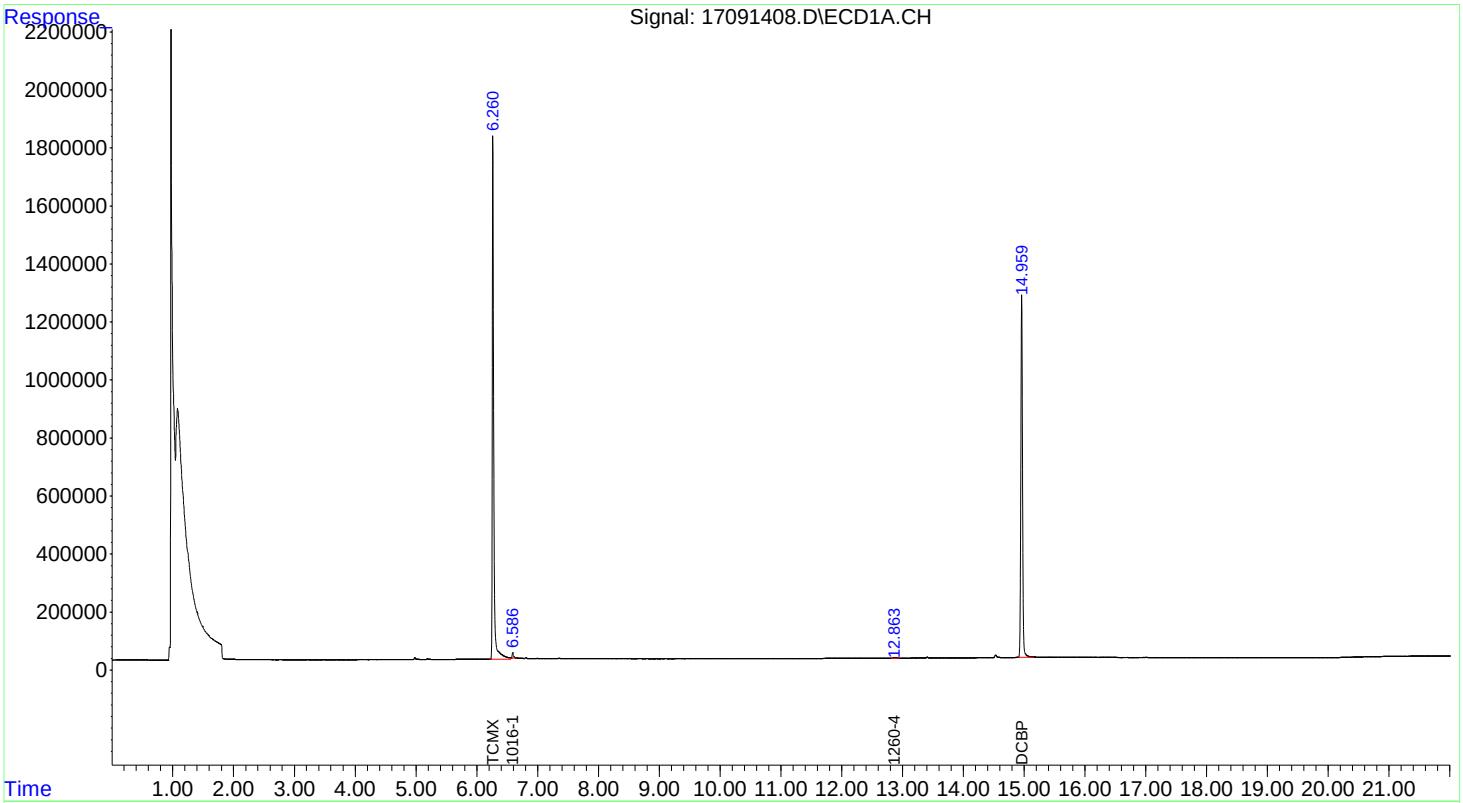
		Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
		System Monitoring Compounds						
1)	S	TCMX	6.260	6.237	2917537	2829151	99.686	94.345
14)	S	DCBP	14.959	15.682	2425893	2335933	99.215	95.504
		Target Compounds						
2)	L1	1016-1	6.586	6.877	27562	5594	46.538	9.663 #
3)	L1	1016-2	0.000	0.000	0	0	N.D.	N.D.
4)	L1	1016-3	0.000	0.000	0	0	N.D.	N.D.
5)	L1	1016-4	0.000	0.000	0	0	N.D.	N.D.
6)	L1	1016-5	0.000	0.000	0	0	N.D.	N.D.
7)	L1	1016-TOTAL	0.000	0.000	27562	5594	7.612m	1.455m#
8)	L2	1260-1	0.000	0.000	0	0	N.D.	N.D.
9)	L2	1260-2	0.000	0.000	0	0	N.D.	N.D.
10)	L2	1260-3	0.000	12.574f	0	7045	N.D.	5.314 #
11)	L2	1260-4	12.863f	0.000	6228	0	7.623	N.D. #
12)	L2	1260-5	0.000	0.000	0	0	N.D.	N.D.
13)	L2	1260-TOTAL	0.000	0.000	6228	7045	1.051m	1.080m

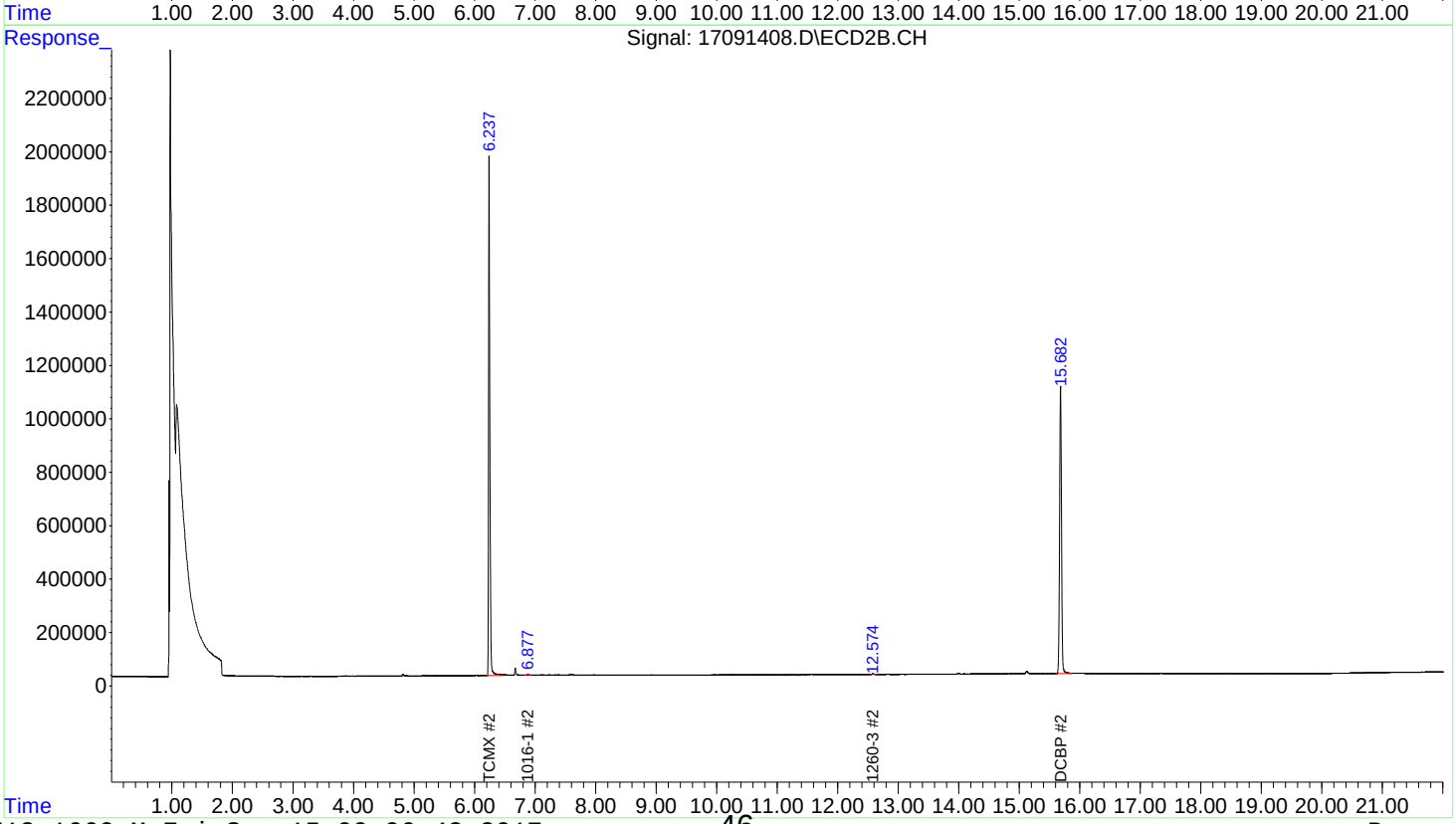
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170914\
Data File : 17091408.D
Acq On : 14 Sep 2017 5:55 pm
Operator :
Sample : MB-82362
Misc : MBLK
ALS Vial : 0 (Sig #1); 8 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Sep 15 09:06:42 2017
InstName : GC16
QLast Update : Wed Jul 19 10:08:29 2017
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170914\
Data File : 17091413.D
Acq On : 14 Sep 2017 8:02 pm
Operator :
Sample : 1709085-02A
Misc : SAMP
ALS Vial : 0 (Sig #1); 13 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Sep 15 09:06:57 2017
InstName : GC16
QLast Update : Wed Jul 19 10:08:29 2017
Response via : Initial Calibration

		Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb	
		System Monitoring Compounds							
1)	S	TCMX	6.260	6.237	2070134	2111117	70.732	70.401	
14)	S	DCBP	14.957	15.680	1669985	1753249	68.299	71.681	
		Target Compounds							
2)	L1	1016-1	6.587	6.815	22048	48737	37.228	84.184	#
3)	L1	1016-2	6.960	7.296	10453	21806	13.894	16.241	
4)	L1	1016-3	7.683	7.620	28137	12854	33.555	18.286	#
5)	L1	1016-4	7.835	8.613	148298	91540	210.486	99.637	#
6)	L1	1016-5	8.085	9.136	71650	334920	97.751	1108.310	#
7)	L1	1016-TOTAL	0.000	0.000	280586	509857	77.496m	132.588m	#
8)	L2	1260-1	10.049	10.686	697000	1212674	403.988	671.054	#
9)	L2	1260-2	11.265	10.895	354159	1162972	272.031	575.144	#
10)	L2	1260-3	11.676	12.384	272221	248562	196.130	187.481	
11)	L2	1260-4	12.989	13.393	140303	113445	171.721	176.306	
12)	L2	1260-5	13.960	14.507	108570	137953	157.124	190.549	
13)	L2	1260-TOTAL	0.000	0.000	1572253	2875606	265.440m	440.882m	#

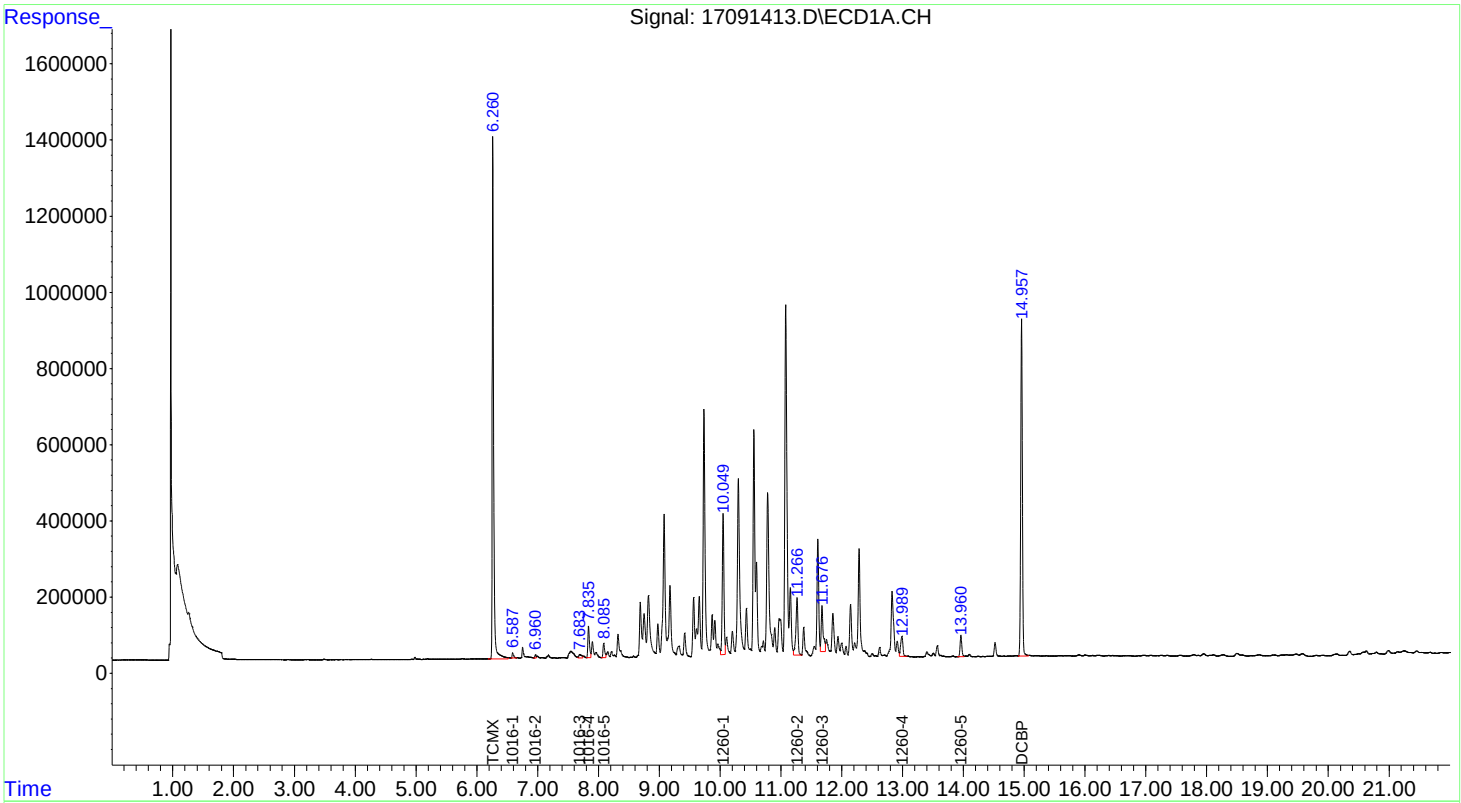
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

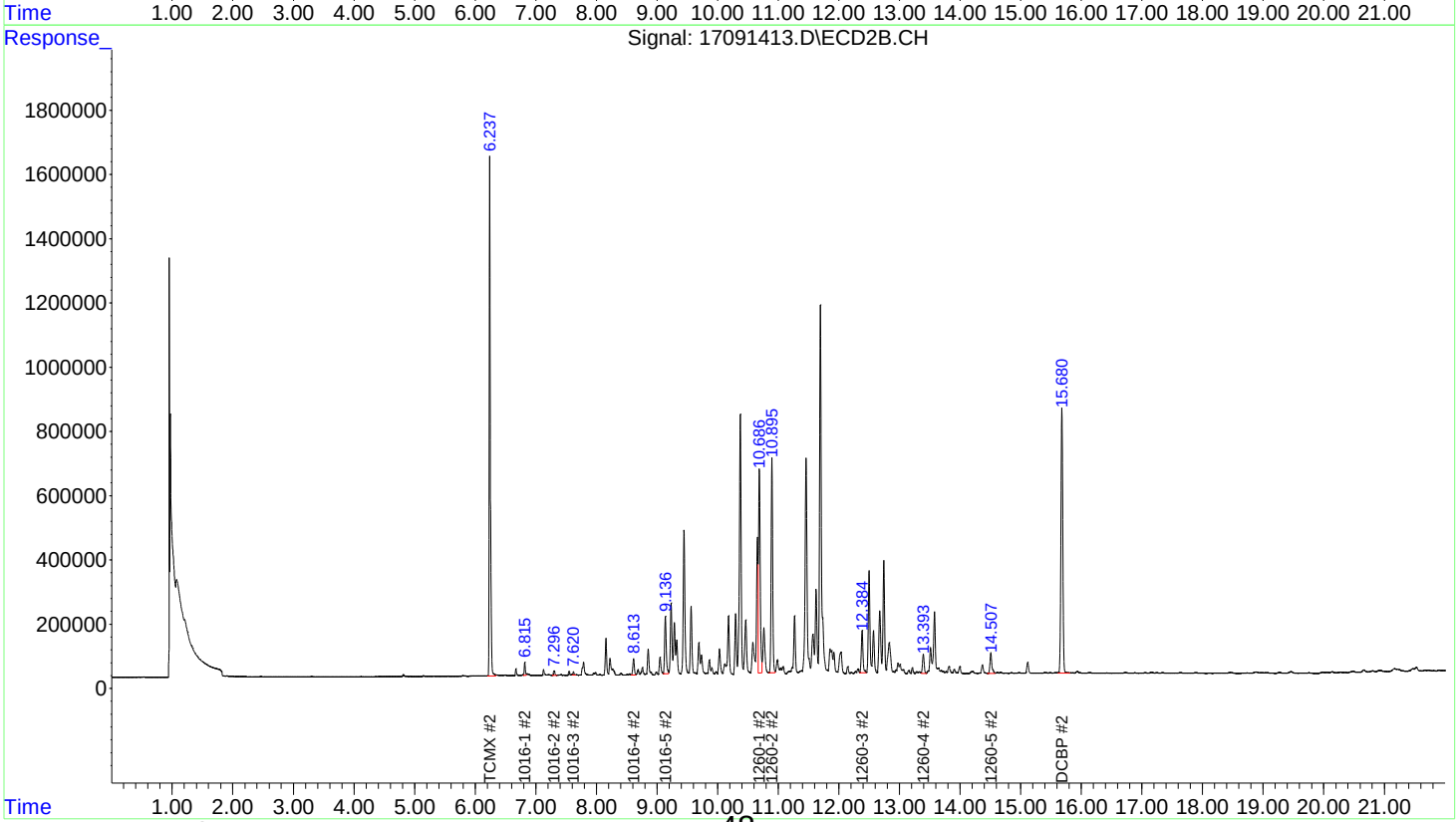
See Aroclor 1254.

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170914\
Data File : 17091413.D
Acq On : 14 Sep 2017 8:02 pm
Operator :
Sample : 1709085-02A
Misc : SAMP
ALS Vial : 0 (Sig #1); 13 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Sep 15 09:06:57 2017
InstName : GC16
QLast Update : Wed Jul 19 10:08:29 2017
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170914\
Data File : 17091416.D
Acq On : 14 Sep 2017 9:19 pm
Operator :
Sample : 1709098-01BMS
Misc : MS
ALS Vial : 0 (Sig #1); 16 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Sep 15 09:07:06 2017
InstName : GC16
QLast Update : Wed Jul 19 10:08:29 2017
Response via : Initial Calibration

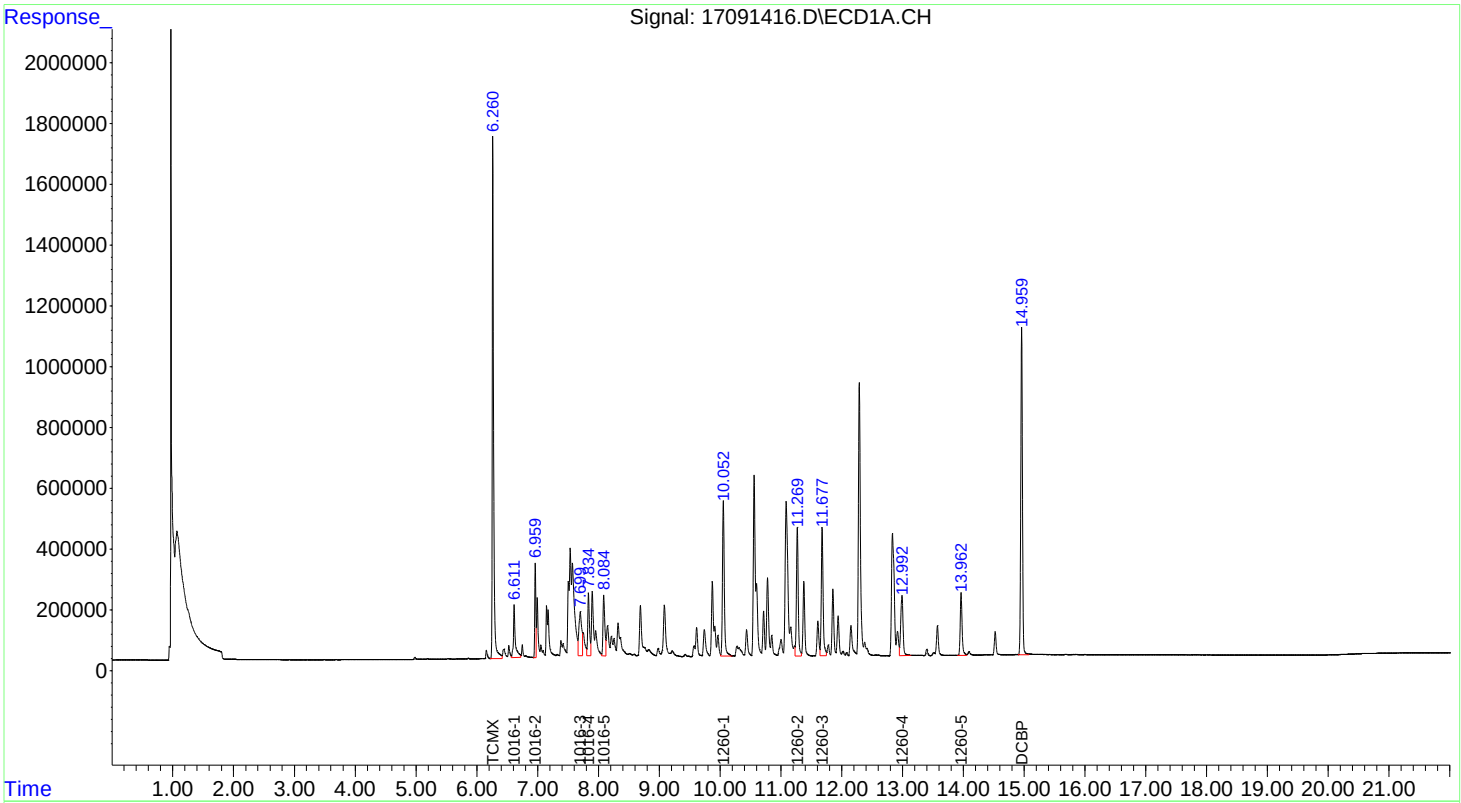
		Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
		System Monitoring Compounds						
1)	S	TCMX	6.260	6.237	2559112	2514334	87.439	83.847
14)	S	DCBP	14.959	15.682	2046000	1969287	83.678	80.514
		Target Compounds						
2)	L1	1016-1	6.611	6.885	361719	314879	610.761	543.892
3)	L1	1016-2	6.959	7.296	397210	717892	527.963	534.697
4)	L1	1016-3	7.699	7.620	473153	383303	564.259	545.287
5)	L1	1016-4	7.834	8.613	406875	493376	577.495	537.015
6)	L1	1016-5	8.084	9.135	421945	182143	575.651	602.744
7)	L1	1016-TOTAL	0.000	0.000	2060902	2091593	569.205m	543.918m
8)	L2	1260-1	10.052	10.654	1063507	1101047	616.420	609.283
9)	L2	1260-2	11.269	10.896	865339	1260042	664.670	623.150
10)	L2	1260-3	11.677	12.385	874277	815032	629.901	614.749
11)	L2	1260-4	12.992	13.395	523640	393431	640.898	611.435
12)	L2	1260-5	13.962	14.509	439853	445853	636.562	615.838
13)	L2	1260-TOTAL	0.000	0.000	3766616	4015405	635.910m	615.633m

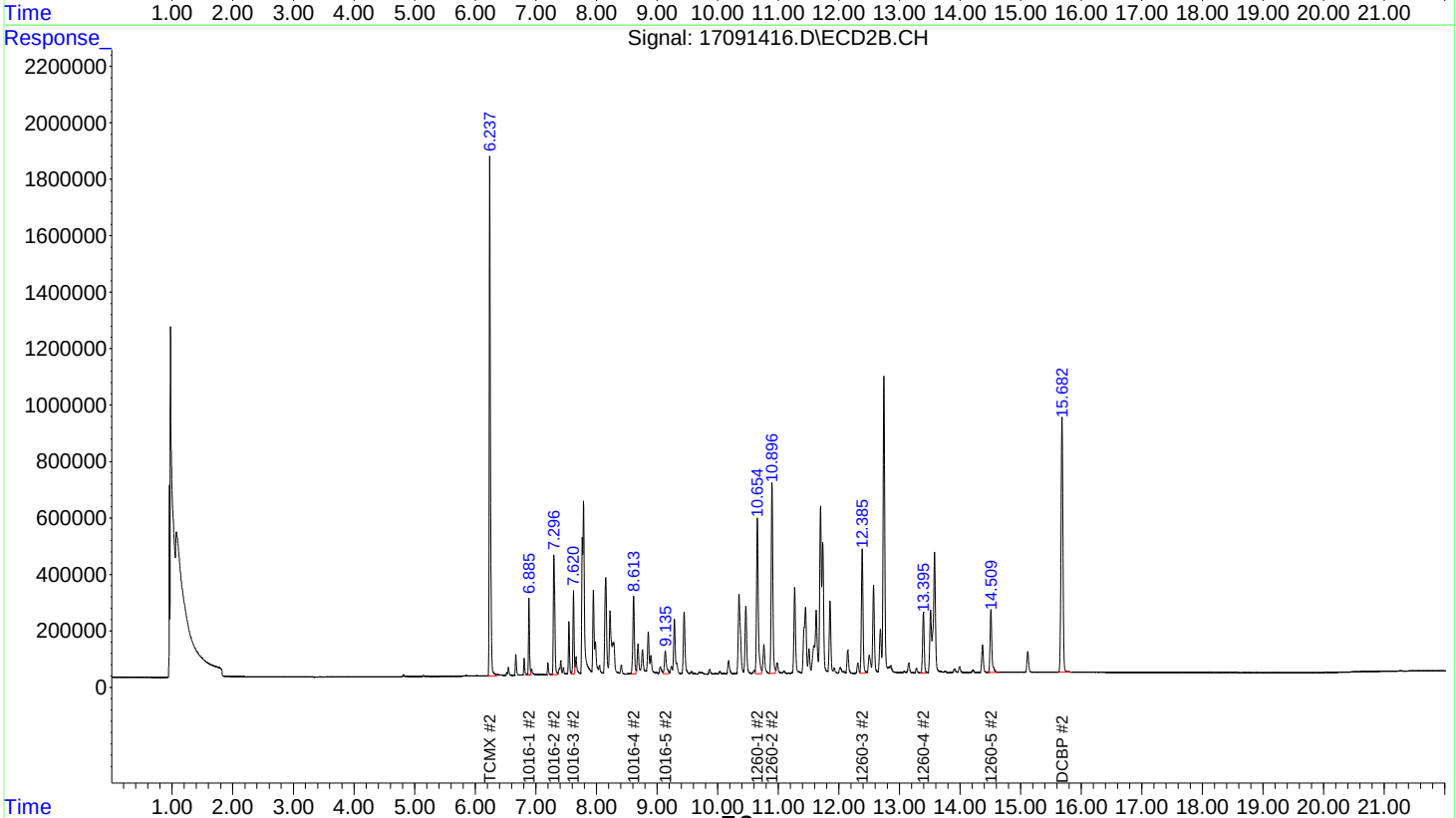
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170914\
Data File : 17091416.D
Acq On : 14 Sep 2017 9:19 pm
Operator :
Sample : 1709098-01BMS
Misc : MS
ALS Vial : 0 (Sig #1); 16 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Sep 15 09:07:06 2017
InstName : GC16
QLast Update : Wed Jul 19 10:08:29 2017
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170914\
Data File : 17091417.D
Acq On : 14 Sep 2017 9:44 pm
Operator :
Sample : 1709098-01BMSD
Misc : MSD
ALS Vial : 0 (Sig #1); 17 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Sep 15 09:07:09 2017
InstName : GC16
QLast Update : Wed Jul 19 10:08:29 2017
Response via : Initial Calibration

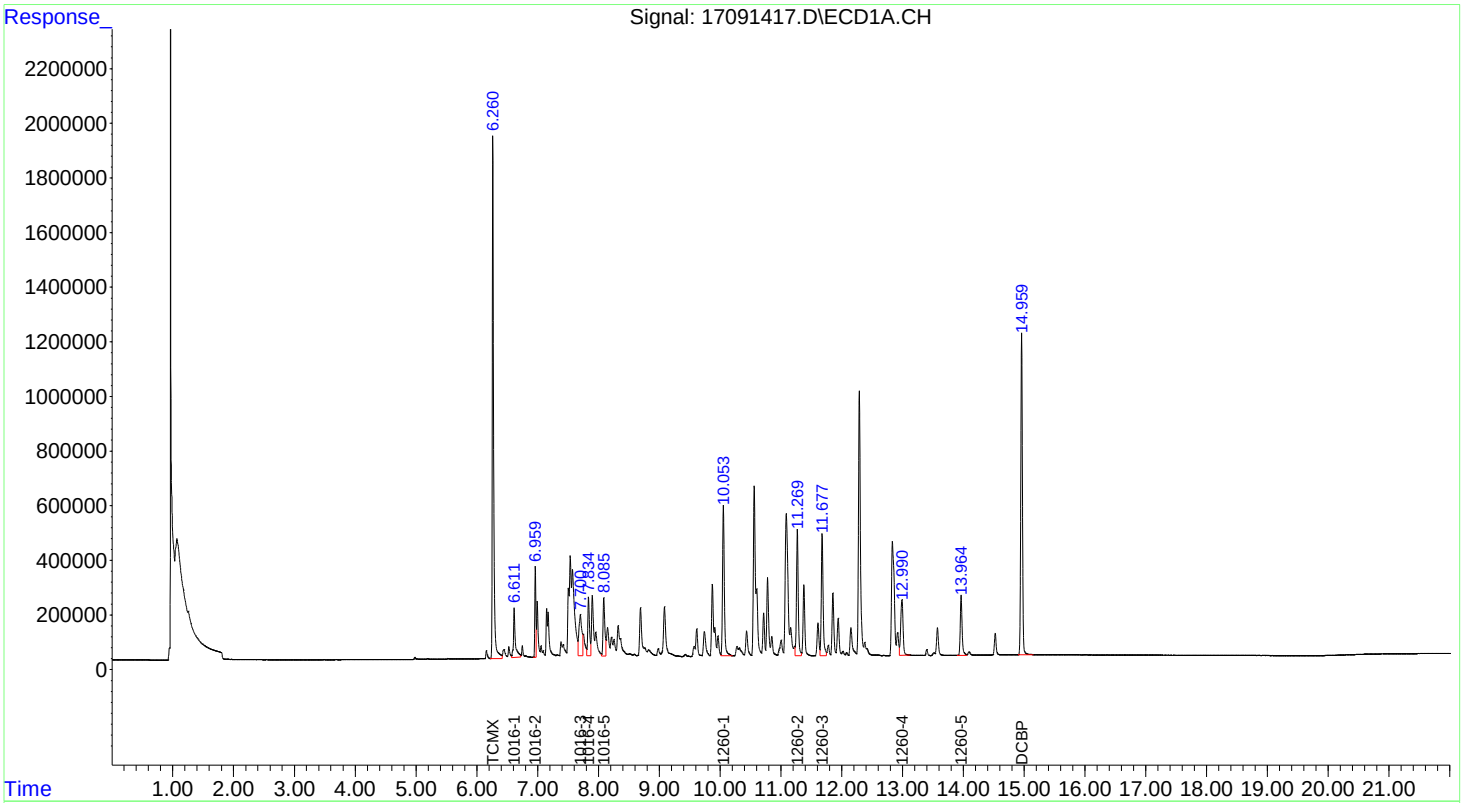
		Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
		System Monitoring Compounds						
1)	S	TCMX	6.260	6.238	2848092	2464471	97.313	82.184
14)	S	DCBP	14.959	15.681	2221739	1872213	90.865	76.545
		Target Compounds						
2)	L1	1016-1	6.611	6.886	379878	290640	641.422	502.024
3)	L1	1016-2	6.959	7.297	413358	668690	549.427	498.050
4)	L1	1016-3	7.700	7.621	506704	357328	604.270	508.335
5)	L1	1016-4	7.834	8.614	429202	464495	609.185	505.579
6)	L1	1016-5	8.085	9.135	440729	179229	601.278	593.101
7)	L1	1016-TOTAL	0.000	0.000	2169871	1960382	599.302m	509.797m
8)	L2	1260-1	10.053	10.655	1128930	1046278	654.339	578.976
9)	L2	1260-2	11.269	10.896	919820	1197137	706.517	592.040
10)	L2	1260-3	11.677	12.384	922755	761740	664.828	574.553
11)	L2	1260-4	12.990	13.394	545962	370628	668.218	575.997
12)	L2	1260-5	13.964	14.509	460488	409928	666.425	566.216
13)	L2	1260-TOTAL	0.000	0.000	3977955	3785711	671.590m	580.417m

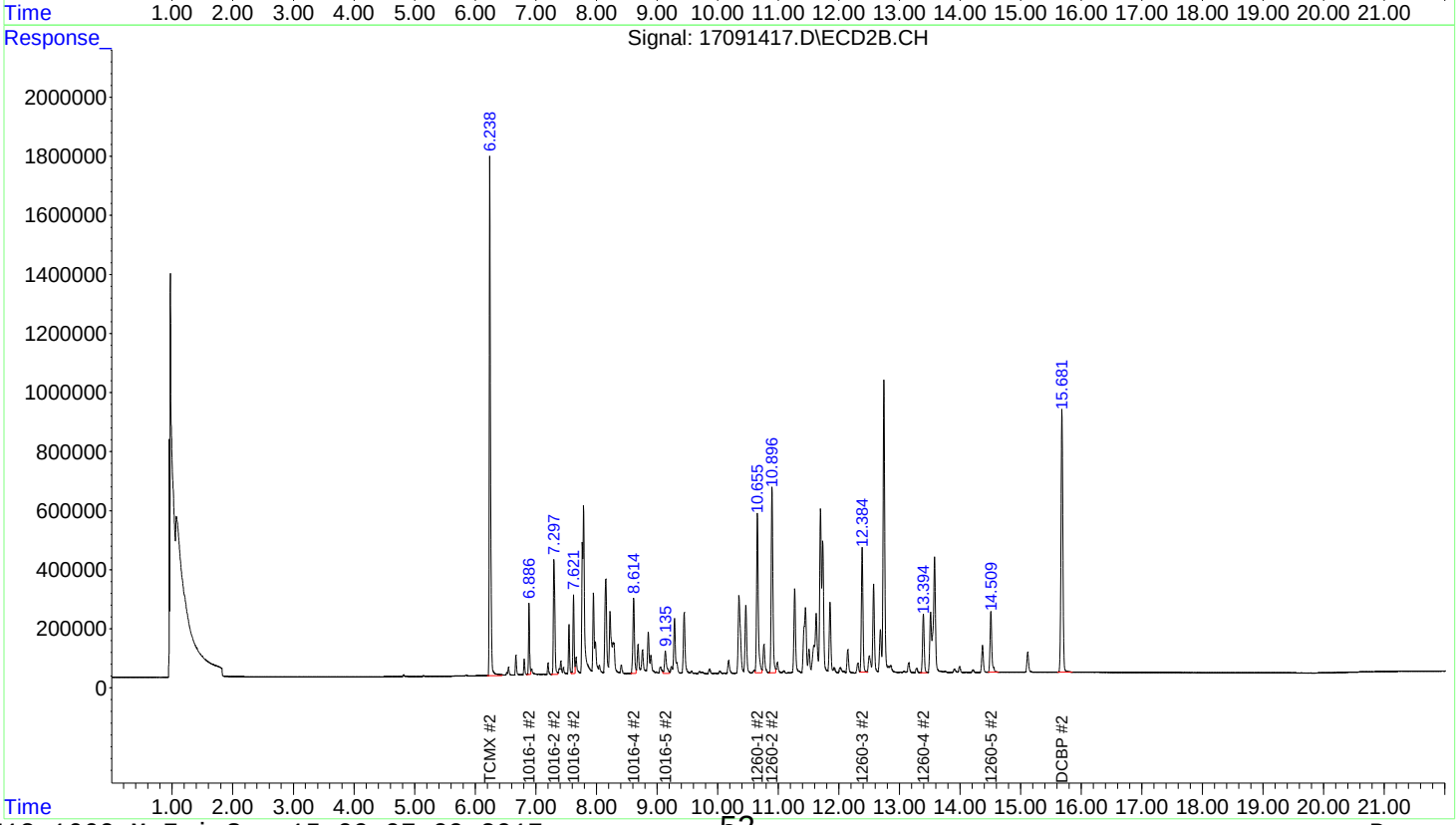
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170914\
Data File : 17091417.D
Acq On : 14 Sep 2017 9:44 pm
Operator :
Sample : 1709098-01BMSD
Misc : MSD
ALS Vial : 0 (Sig #1); 17 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Sep 15 09:07:09 2017
InstName : GC16
QLast Update : Wed Jul 19 10:08:29 2017
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170914\
Data File : 17091418.D
Acq On : 14 Sep 2017 10:10 pm
Operator :
Sample : CCV-170914
Misc : CCV
ALS Vial : 0 (Sig #1); 18 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Sep 15 09:07:12 2017
InstName : GC16
QLast Update : Wed Jul 19 10:08:29 2017
Response via : Initial Calibration

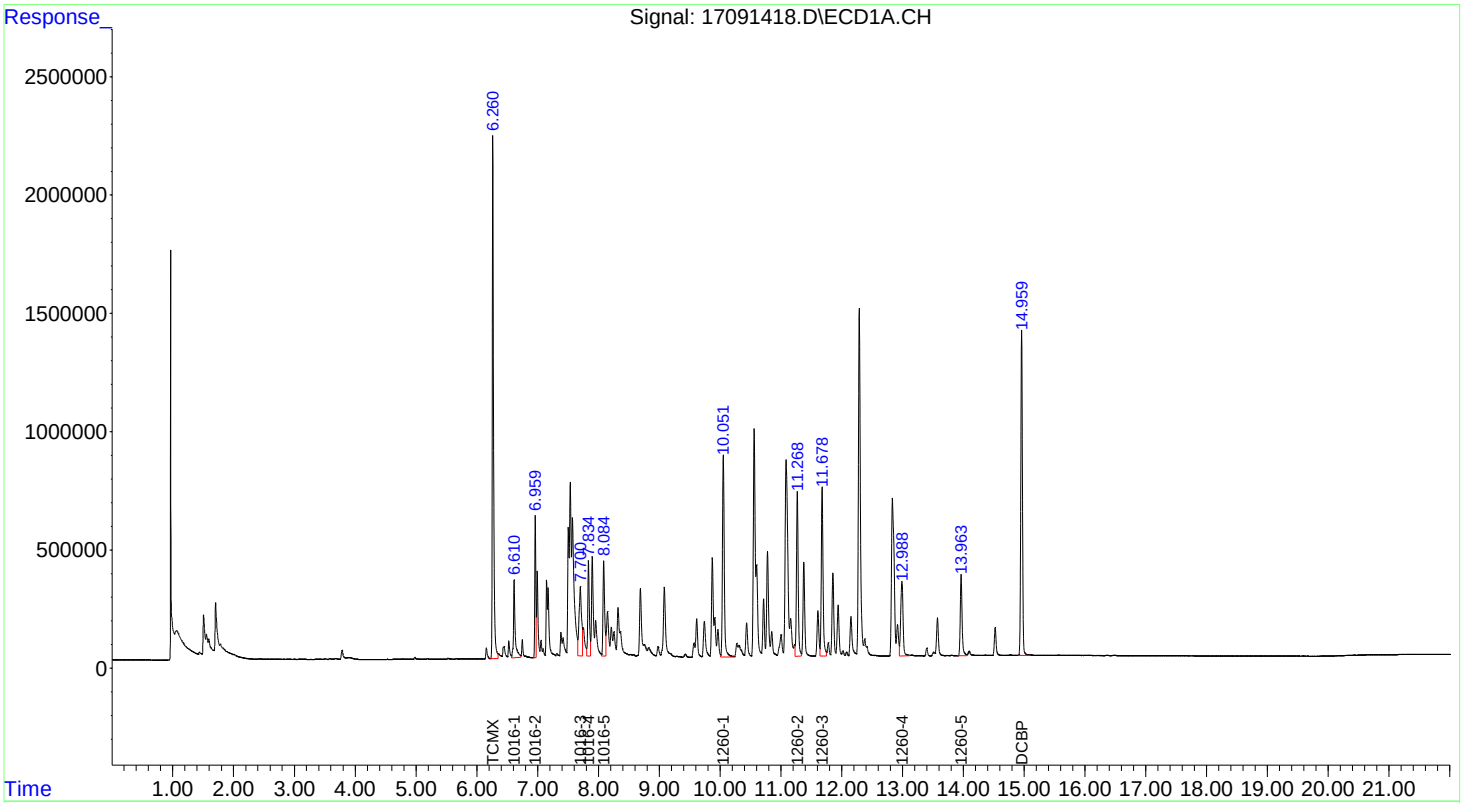
		Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
		System Monitoring Compounds						
1)	S	TCMX	6.260	6.237	3128826	2894531	106.905	96.525
14)	S	DCBP	14.959	15.682	2597495	2342559	106.233	95.775
		Target Compounds						
2)	L1	1016-1	6.610	6.885	615014	507681	1038.448	876.920
3)	L1	1016-2	6.959	7.296	733302	1225009	974.689	912.405
4)	L1	1016-3	7.700	7.620	853126	645465	1017.396	918.239
5)	L1	1016-4	7.834	8.613	712484	843935	1011.259	918.581
6)	L1	1016-5	8.084	9.136	762595	259377	1040.393	858.325
7)	L1	1016-TOTAL	0.000	0.000	3676521	3481467	1015.427m	905.355m
8)	L2	1260-1	10.051	10.654	1776190	1696535	1029.498	938.806
9)	L2	1260-2	11.268	10.896	1364444	1903749	1048.034	941.493
10)	L2	1260-3	11.678	12.384	1436234	1269511	1034.781	957.546
11)	L2	1260-4	12.988	13.394	849307	600236	1039.491	932.833
12)	L2	1260-5	13.963	14.509	712490	675137	1031.126	932.539
13)	L2	1260-TOTAL	0.000	0.000	6138665	6145168	1036.378m	942.163m

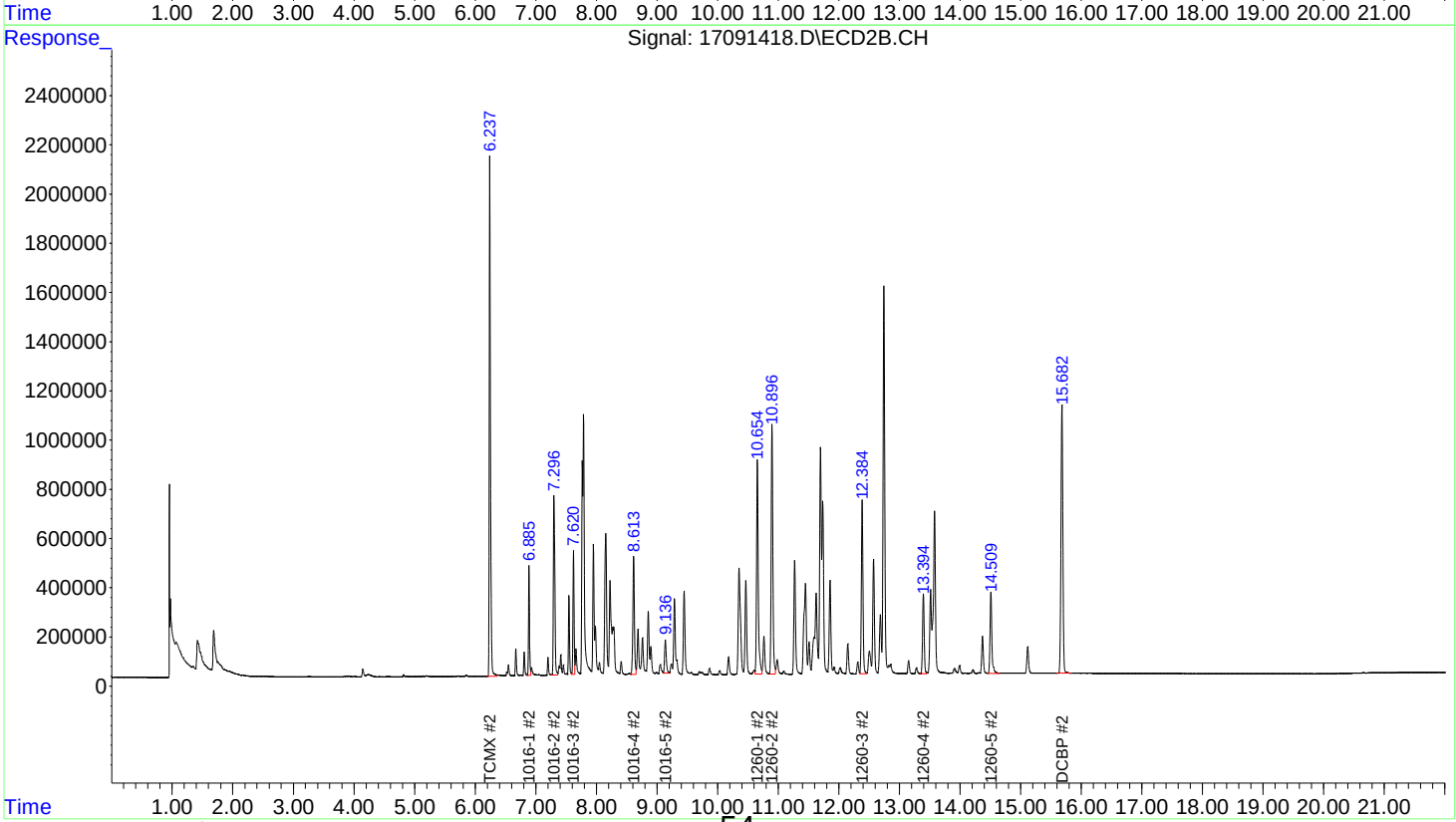
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170914\
Data File : 17091418.D
Acq On : 14 Sep 2017 10:10 pm
Operator :
Sample : CCV-170914
Misc : CCV
ALS Vial : 0 (Sig #1); 18 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Sep 15 09:07:12 2017
InstName : GC16
QLast Update : Wed Jul 19 10:08:29 2017
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170914\
Data File : 17091421.D
Acq On : 15 Sep 2017 10:07 am
Operator :
Sample : ICV-170915-2154
Misc : ICV
ALS Vial : 0 (Sig #1); 21 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Sep 15 14:55:44 2017
InstName : GC16
QLast Update : Thu Jul 20 16:36:57 2017
Response via : Initial Calibration

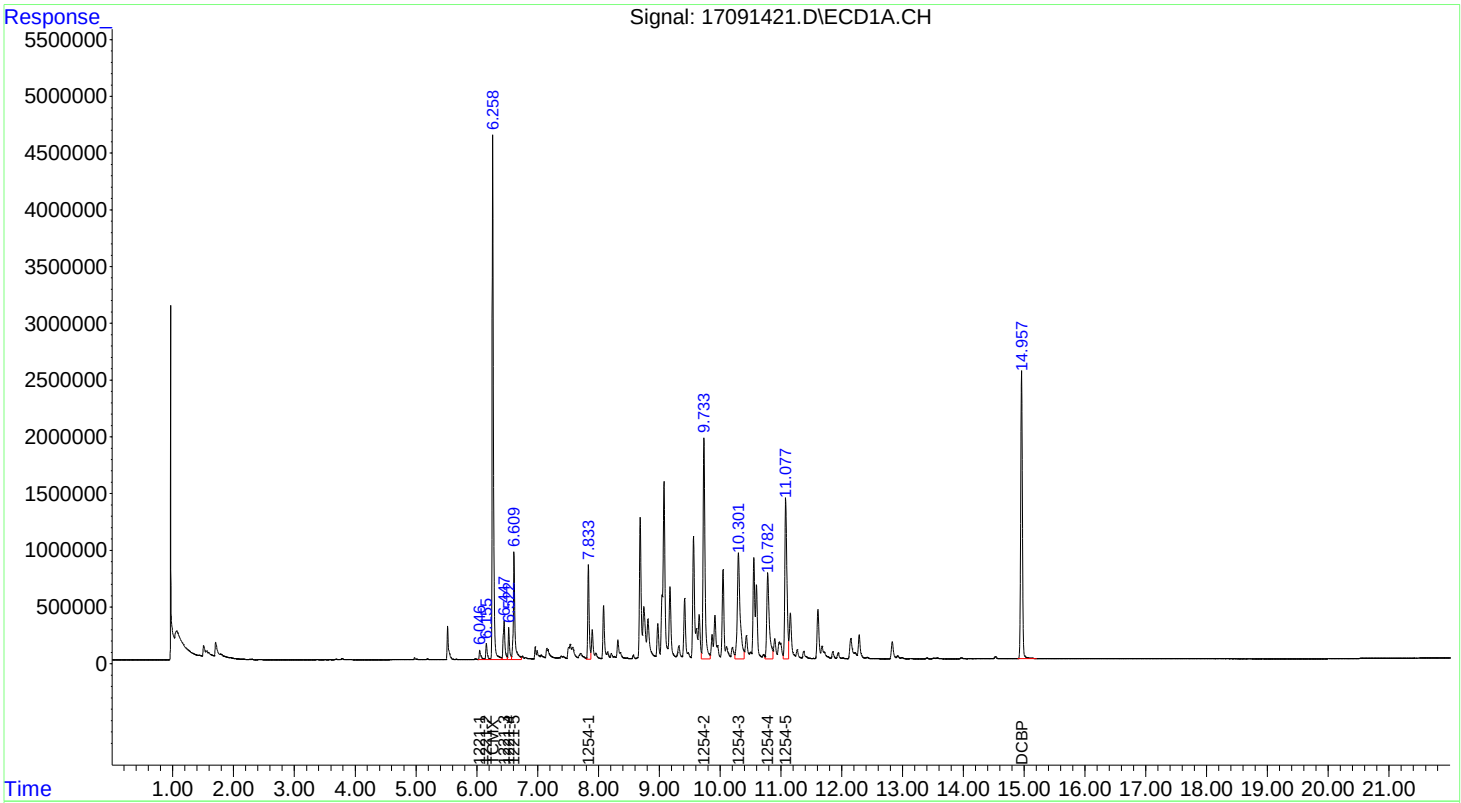
		Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
		System Monitoring Compounds						
1)	S	TCMX	6.258	6.238	6423325	6039229	230.435	209.045
14)	S	DCBP	14.957	15.682	4924904	4710996	222.562	211.047
		Target Compounds						
2)	L1	1221-1	6.046	5.843	146200	458029	2163.962	1989.309
3)	L1	1221-2	6.155	6.667	228814	693650	2205.195	2032.965
4)	L1	1221-3	6.447	6.807	675943	399963	2236.669	2025.235
5)	L1	1221-4	6.522	6.887	418380	1264356	2219.735	2011.507
6)	L1	1221-5	6.609	6.930	1652693	250070	2232.920	2145.730
7)	L1	1221-TOTAL	0.000	0.000	3122030	3066068	2226.808m	2024.343m
8)	L2	1254-1	7.833	8.157	1327211	1392789	2201.397	2006.689
9)	L2	1254-2	9.733	9.446	4302711	3165518	2218.319	2050.428
10)	L2	1254-3	10.301	10.375	3031911	4381230	2134.998	2061.577
11)	L2	1254-4	10.782	10.897	2233506	1756268	2147.776	2037.225
12)	L2	1254-5	11.077	11.459	3397662	3009099	2191.124	2036.089
13)	L2	1254-TOTAL	0.000	0.000	14293001	13704904	2180.710m	2044.574m

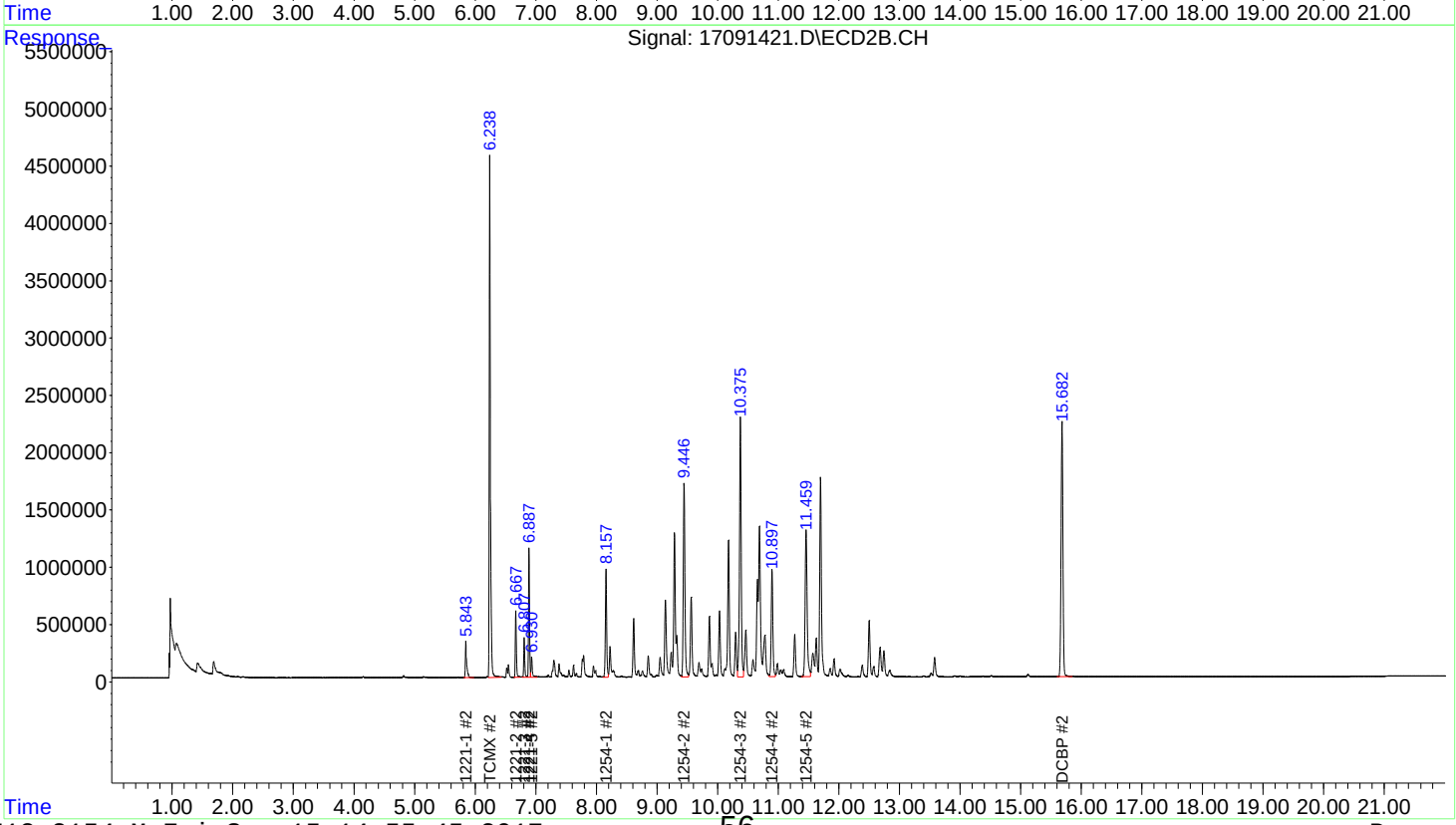
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170914\
Data File : 17091421.D
Acq On : 15 Sep 2017 10:07 am
Operator :
Sample : ICV-170915-2154
Misc : ICV
ALS Vial : 0 (Sig #1); 21 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Sep 15 14:55:44 2017
InstName : GC16
QLast Update : Thu Jul 20 16:36:57 2017
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170914\
Data File : 17091422.D
Acq On : 15 Sep 2017 10:32 am
Operator :
Sample : SB-170915
Misc : SBLK
ALS Vial : 0 (Sig #1); 22 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Sep 15 14:55:47 2017
InstName : GC16
QLast Update : Thu Jul 20 16:36:57 2017
Response via : Initial Calibration

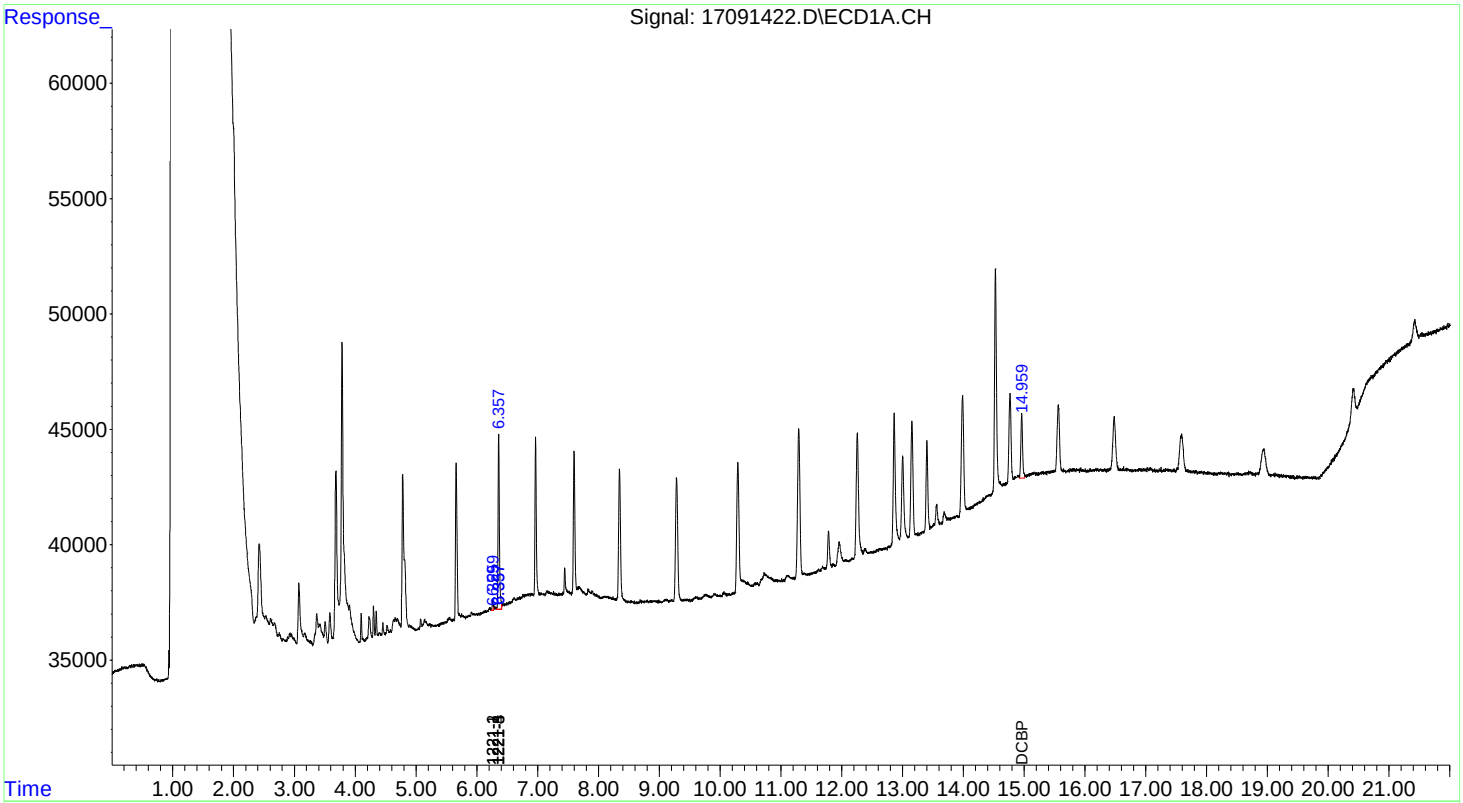
		Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb	
		System Monitoring Compounds							
1)	S	TCMX	6.259	6.256	495	11094	BelowCal	0.362	
14)	S	DCBP	14.959	15.681	5539	5645	38490.931	2750.459	#
		Target Compounds							
2)	L1	1221-1	6.259	5.933	495	275	4.299	21161.600	#
3)	L1	1221-2	6.259	6.748	495	11875	33296.835	17.656	#
4)	L1	1221-3	6.357	6.818	11568	275	16.787	23230.366	#
5)	L1	1221-4	6.357	6.890	11568	421	39.380	28460.650	#
6)	L1	1221-5	6.357f	6.890	11568	421	719840.352	13746.574	#
7)	L1	1221-TOTAL	0.000	0.000	35694	13267	1.220m	24357.451m	#
8)	L2	1254-1	7.829	8.157	485	701	BelowCal	26633.350	#
9)	L2	1254-2	9.903	9.443	180	501	BelowCal	25137.604	#
10)	L2	1254-3	10.291	10.376	15186	651	BelowCal	27825.173	#
11)	L2	1254-4	10.723	10.897	333	285	BelowCal	25670.537	#
12)	L2	1254-5	11.090	11.430	304	1130	BelowCal	33225.772	#
13)	L2	1254-TOTAL	0.000	0.000	16488	3268	BelowCalm	27690.955m	#

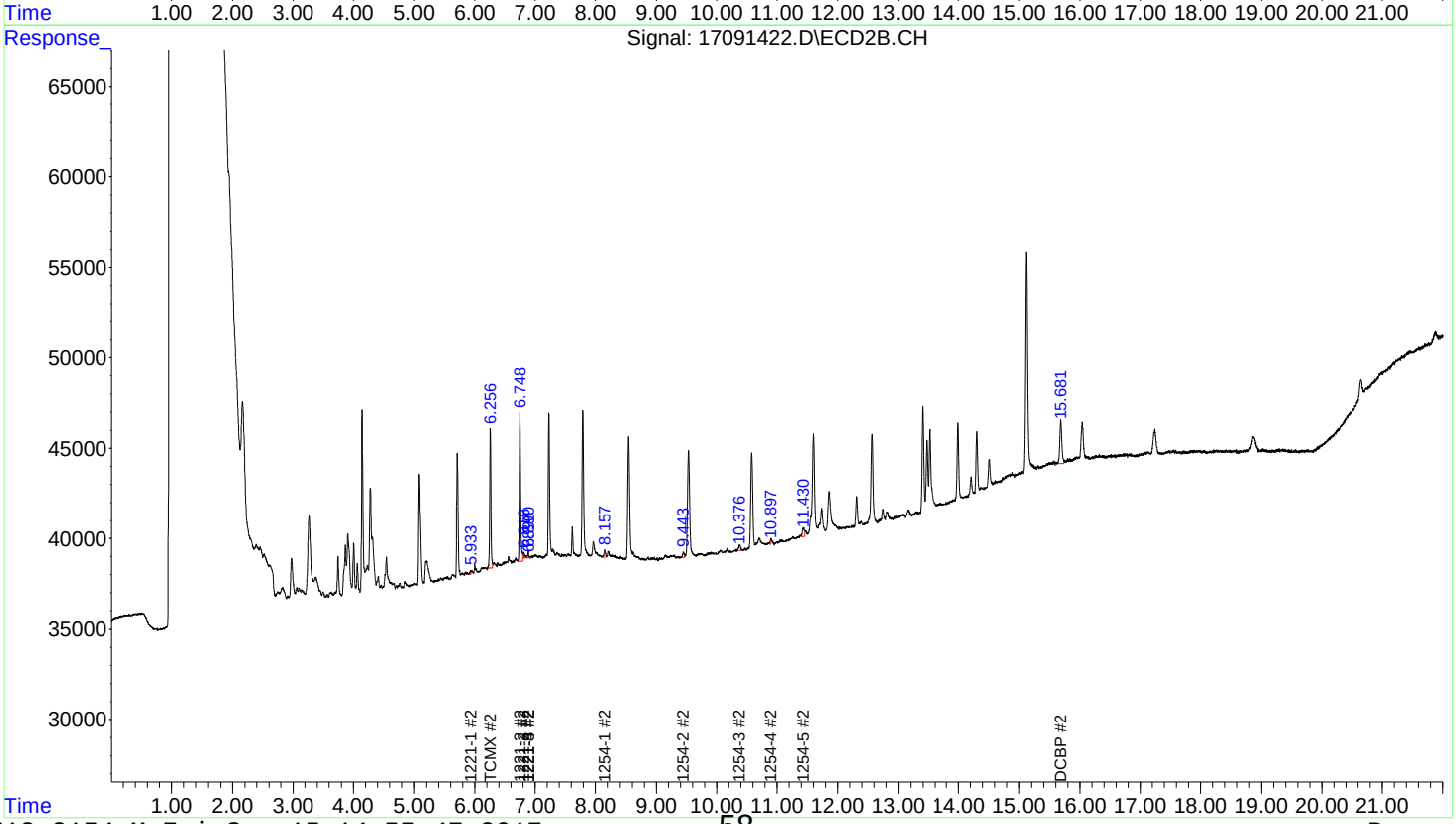
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170914\
Data File : 17091422.D
Acq On : 15 Sep 2017 10:32 am
Operator :
Sample : SB-170915
Misc : SBLK
ALS Vial : 0 (Sig #1); 22 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Sep 15 14:55:47 2017
InstName : GC16
QLast Update : Thu Jul 20 16:36:57 2017
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170914\
Data File : 17091423.D
Acq On : 15 Sep 2017 10:58 am
Operator :
Sample : 1709085-02A
Misc : SAMP
ALS Vial : 0 (Sig #1); 23 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Sep 15 14:55:50 2017
InstName : GC16
QLast Update : Thu Jul 20 16:36:57 2017
Response via : Initial Calibration

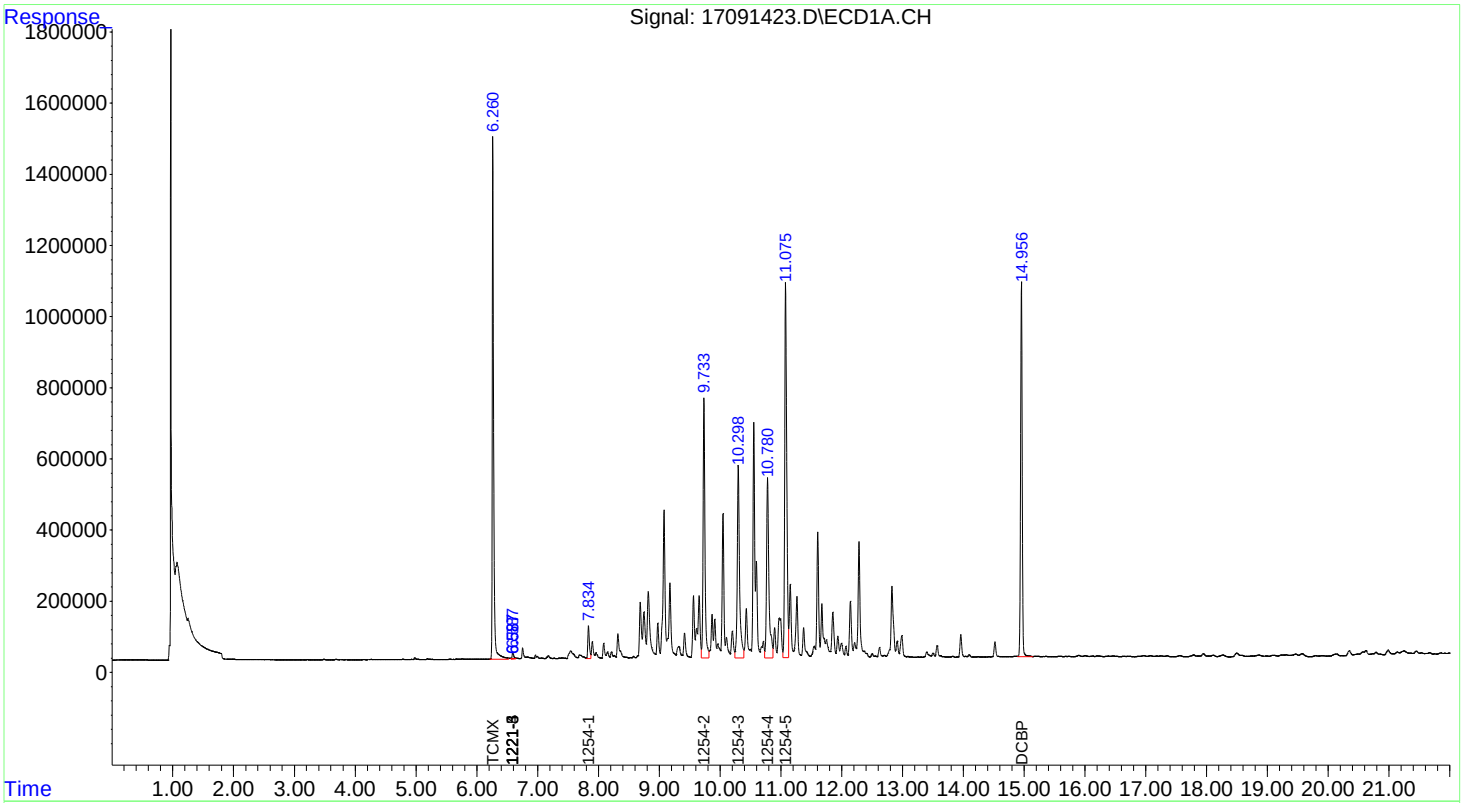
		Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
		System Monitoring Compounds						
1)	S	TCMX	6.260	6.237	2226950	2047312	82.335	68.092
14)	S	DCBP	14.956	15.677	1939275	1735182	86.161	73.232
		Target Compounds						
2)	L1	1221-1	6.260	6.237f	2226950	2047312	BelowCal	BelowCal
3)	L1	1221-2	6.260	6.670	2226950	25250	BelowCal	54.485 #
4)	L1	1221-3	6.587	6.815	28547	49202	74.220	207.421 #
5)	L1	1221-4	6.587	6.815	28547	49202	128.659	58.595 #
6)	L1	1221-5	6.587	6.815	28547	49202	11.414	361.152 #
7)	L1	1221-TOTAL	0.000	0.000	4539541	2220168	3262.089m	1422.268m#
8)	L2	1254-1	7.834	8.156	164522	172756	247.397	212.800
9)	L2	1254-2	9.733	9.444	1561722	830111	787.938	487.444 #
10)	L2	1254-3	10.298	10.373	1414257	1533450	991.645	675.739 #
11)	L2	1254-4	10.780	10.893	1369932	1144409	1332.953	1277.713
12)	L2	1254-5	11.075	11.456	2424124	1463125	1562.584	949.071 #
13)	L2	1254-TOTAL	0.000	0.000	6934557	5143851	1053.663m	718.358m#

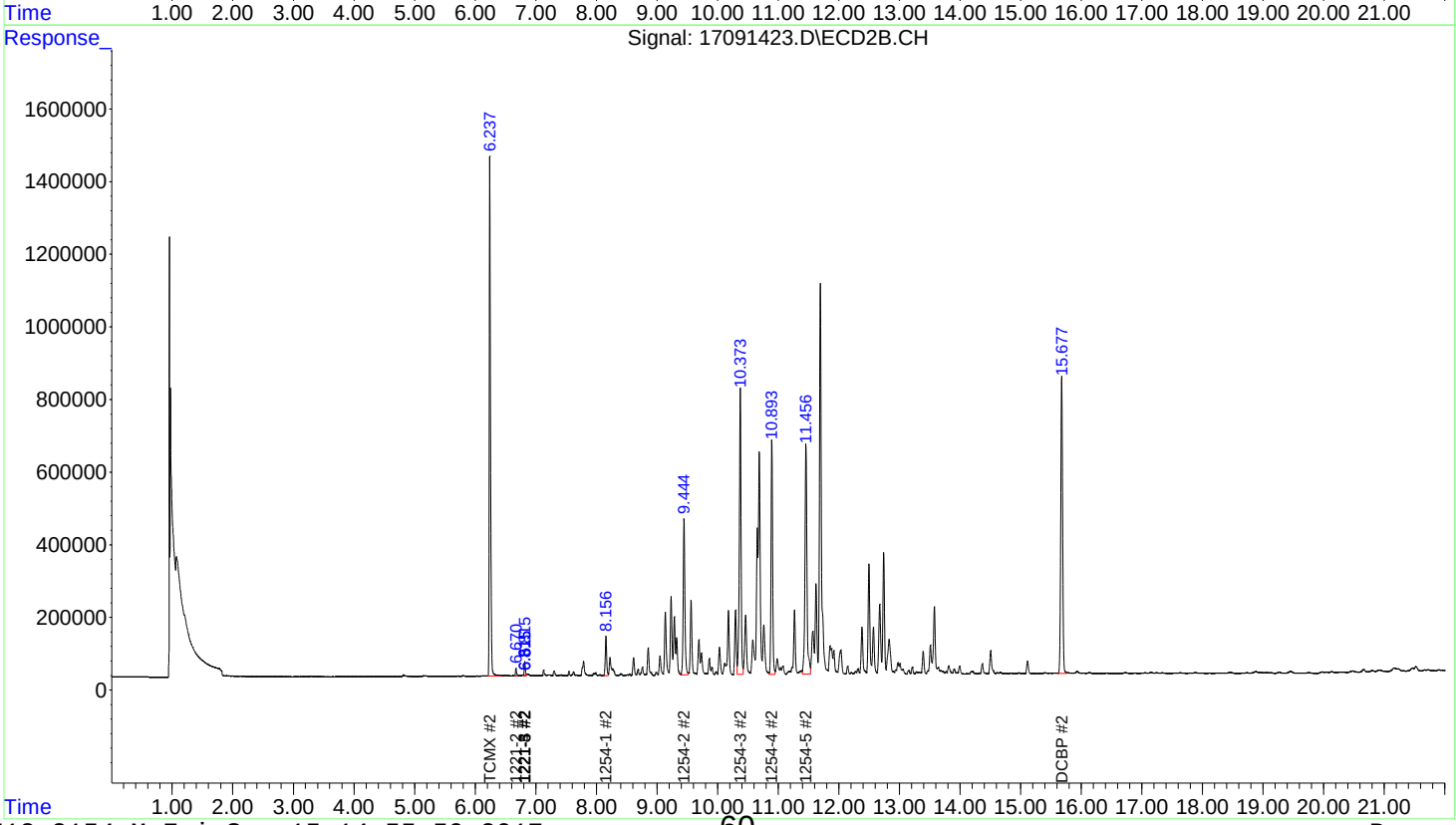
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170914\
Data File : 17091423.D
Acq On : 15 Sep 2017 10:58 am
Operator :
Sample : 1709085-02A
Misc : SAMP
ALS Vial : 0 (Sig #1); 23 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Sep 15 14:55:50 2017
InstName : GC16
QLast Update : Thu Jul 20 16:36:57 2017
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170914\
Data File : 17091424.D
Acq On : 15 Sep 2017 11:28 am
Operator :
Sample : CCV-170915-2154
Misc : CCV
ALS Vial : 0 (Sig #1); 24 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Sep 15 14:55:53 2017
InstName : GC16
QLast Update : Thu Jul 20 16:36:57 2017
Response via : Initial Calibration

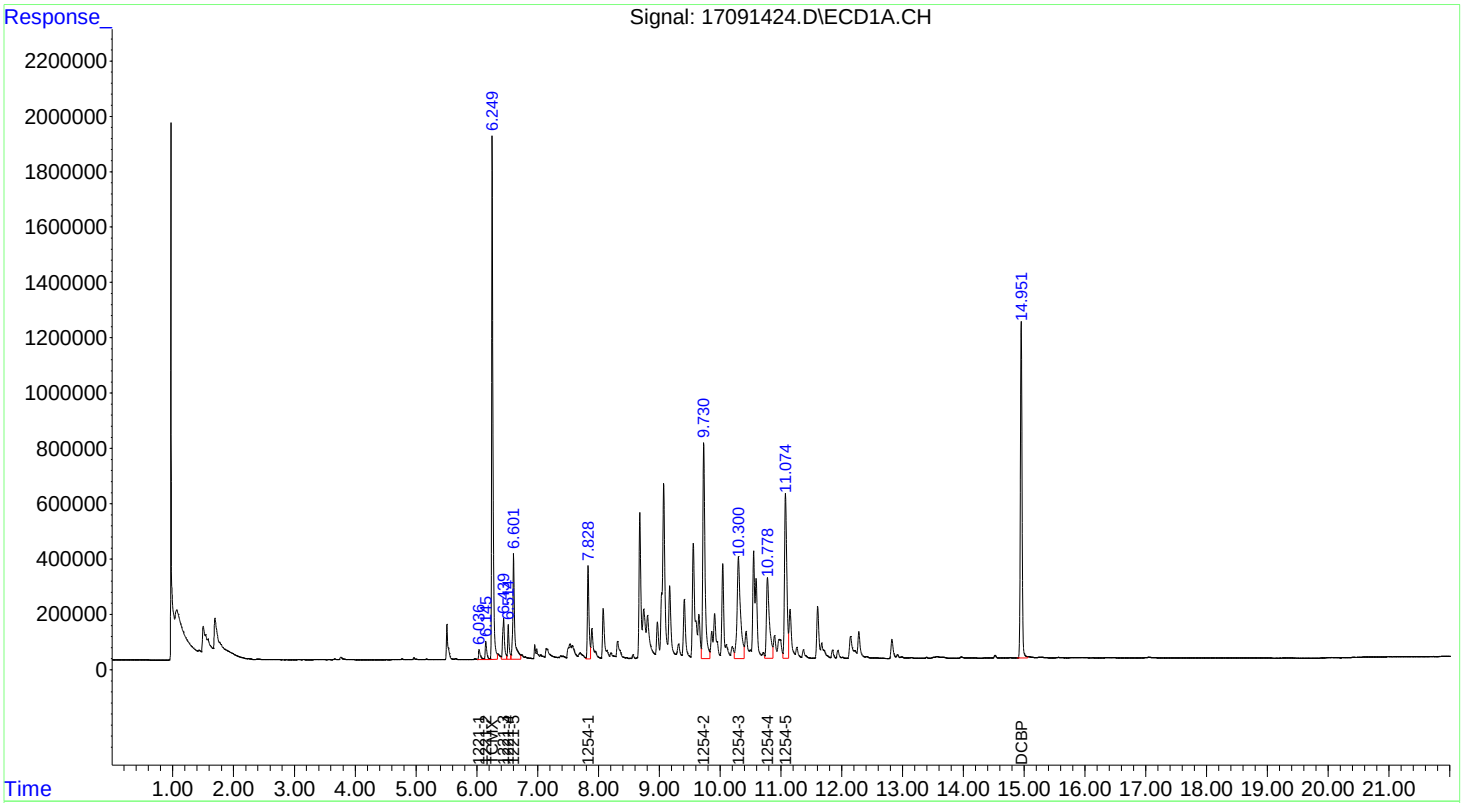
		Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
		System Monitoring Compounds						
1)	S	TCMX	6.249	6.235	2773667	2815590	102.281	94.332
14)	S	DCBP	14.951	15.681	2332947	2248745	104.091	95.955
		Target Compounds						
2)	L1	1221-1	6.036	5.841	68904	237121	1000.469	963.625
3)	L1	1221-2	6.145	6.665	114546	334842	1050.566	934.925
4)	L1	1221-3	6.439	6.805	315821	196310	1040.309	932.038
5)	L1	1221-4	6.514	6.884	201815	617354	1048.130	935.914
6)	L1	1221-5	6.601	6.929	787038	128556	1047.166	1000.978
7)	L1	1221-TOTAL	0.000	0.000	1488124	1514183	1043.795m	944.463m
8)	L2	1254-1	7.828	8.156	612557	676377	1005.333	921.772
9)	L2	1254-2	9.730	9.444	2004159	1540822	1019.179	940.811
10)	L2	1254-3	10.300	10.374	1417743	2096201	994.134	937.848
11)	L2	1254-4	10.778	10.894	1018494	862060	993.711	943.590
12)	L2	1254-5	11.074	11.458	1571528	1434618	1007.836	929.734
13)	L2	1254-TOTAL	0.000	0.000	6624481	6610078	1005.748m	935.817m

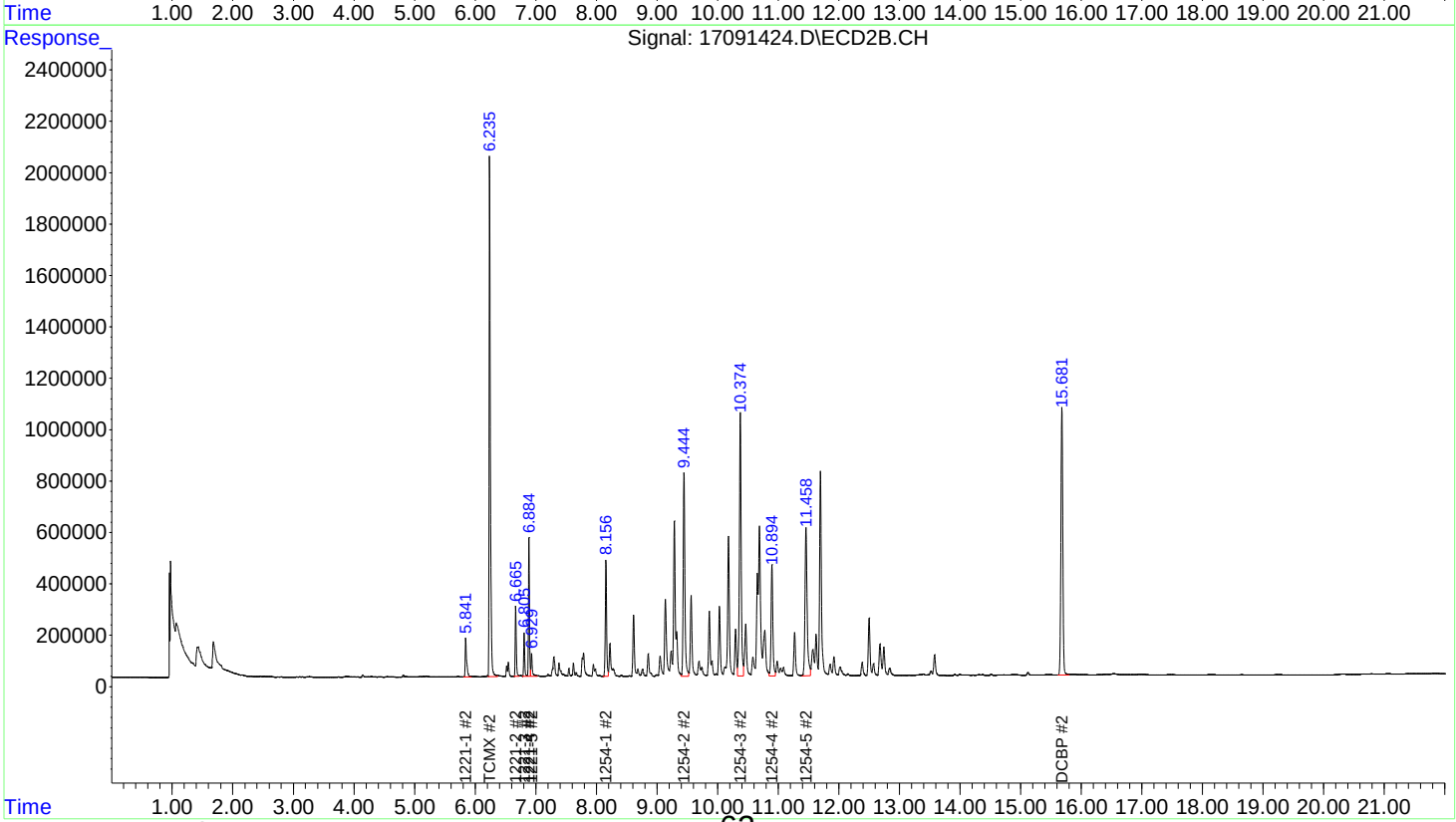
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170914\
Data File : 17091424.D
Acq On : 15 Sep 2017 11:28 am
Operator :
Sample : CCV-170915-2154
Misc : CCV
ALS Vial : 0 (Sig #1); 24 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Sep 15 14:55:53 2017
InstName : GC16
QLast Update : Thu Jul 20 16:36:57 2017
Response via : Initial Calibration





GC16_170914B
For

DHL Work Order
1709085

Lab Data Review Check List

EPA Method 8082 / 608 - Polychlorinated Biphenyls (PCBs) as Aroclors by GC

PROJECT AND BATCH NUMBERS ARE LISTED ON THE RUN LOG	Run ID: GC16_170914B SOP: ORG-PCB-01			
Review Item	**Yes**	**No**	**N/A**	**2nd Level Review**
Data Folder Contents 1. Is the Prep Batch Report included? ***Up to 20 field samples per batch*** ***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			
4. Is the Sequence File 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
ICAL containing a mixture of Aroclors 1016 and 1260 (5 levels) is used to demonstrate the instrument linearity					
Initial Calibration Curve (ICAL) (minimum: 5 Standards)	Prior to samples and when ICV fails	%RSD < 20% - 8082 (ALL) %RSD < 15% - 608 COD R^2 ≥ 0.990	X		
SSCV - (Second Source)	After calibration (ICAL)	%R (80-120) - 8082 (ALL) %R (85-115) - 608	X		x
ICV - (Daily Initial Cal Verification)	Prior to sample analysis	%R (80-120) - 8082 (ALL) %R (85-115) - 608	X		
CCV - (Continuing Cal Verification)	Every 10 samples and End of Run	%R (80-120) - 8082 (ALL) %R (85-115) - 608	X		

Review Item	Frequency	Limits	Pass	Fail	N/A	Review
Method Blank (MB) System Blank (SBLK)	Every Batch (MB) Daily (SBLK)	< MDL / <½ RL (DoD) or <1/10 the sample/reg limit	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	≤ 30 (Aq/DoD) / ≤ 50 (Soil)	X			
Matrix Spike (MS)	Every Batch/20 samples	See LIMS			X	x
Matrix Spike Duplicate (MSD) (MSD is N/A for Method 608)	Every Prep Batch except Method 625	See LIMS			X	
MSD - RPD (MSD is N/A for Method 608)	Every MS/MSD except Method 625	≤ 30 (Aq/DoD) / ≤ 50 (Soil)			X	
Surrogates	All field and QC samples	See LIMS	X			
Aroclor Pattern Identification-Use each Aroclor standard to ID pattern	Pattern recognition: Use minimum of 3 peaks for quantitation	Calculate the average of 3 to 5 primary peaks of pattern	X			

Lab Data Review Check List

EPA Method 8082 / 608 - Polychlorinated Biphenyls (PCBs) as Aroclors by GC

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. Have the individual Aroclor standards been used to determine the pattern found in the sample(s)?	Aroclor 1016/1260 STD used to determine that sample is ND	X			x
5. Is the Aroclor average result (+ J flags) circled 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	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
___ Hold Time exceeded (14E/40A)	___ Sample Received out of HT	___ Reanalyze QC to confirm
___ ICV out of control (±15%-608 / ± 20%-8082)	___ Carryover from previous run	___ Recalibrate
___ CCV out of control (±15%-608 / ± 20%-8082)	___ Cross contamination	___ Reprep/Reanalyze sample
___ MB/SBLK out of control (> MQL / >½ RL)	___ Lab Artifact	___ Reprep/Reanalyze Batch
___ LCS ___ LCSD out of control (See LIMS)	___ Prep Spike error (describe)	___ Reanalyze Batch/Sample/QC
___ RPD out of control for LCS/LCSD (>30/50%)	___ Matrix Effect/Co-elution	___ Verify reagents are clean
___ MS ___ MSD out of control (See LIMS)	___ High Levels of non-targets	___ Reanalyze sample to confirm
___ RPD out of control for MS/MSD (>30/50%)	___ Insufficient sample for QC	___ Sample results ND w/ dilution
___ Surrogate(s) out of control	___ 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	___ Other (describe below)	___ Accept data
___ Other (describe below)		___ Cannot reanalyze (HT out/Lack of Sample)

General Comments and Impact on Data: SEE RUN LOG.

Analyst: Lauren Garcia Date of Completion: 9/15/2017

Second-Level Review: Janice Whitt Date Stamp: 9/15/2017

REVIEWED BY
By Janice Whitt at 10:36:54 AM, 9/15/2017

DHL Analytical, Inc.

Run ID: GC16_170914B **Run No.:** 94166

Analytical Run Date: 9/14/2017 **InstrumentID:** GC16

Analyst: Lauren Garcia **Column:** Rxi®-XLB (30m x 0.25mm ID x 0.25µm df)

Calibration ID: 786 **Column ID:** 0.25mm

Column Length: 30m

Cal Comments: 170718-1660.M 170718-2154.M 170718-1232.M 170719-1242 170719-1248.M
All PCB/AROCLOR calibrations included. No manual integrations.

SampID	DF	TestCode	SampType	Batch ID	Analysis Date/Time	Q	Comments
ICV-170914	1	8082_W	ICV	R94166	9/14/2017 3:22:00 PM		
LCS-82370	1	8082_W	LCS	82370	9/14/2017 4:38:00 PM		
LCSD-82370	1	8082_W	LCSD	82370	9/14/2017 5:04:00 PM		Insufficient sample for MS/MSD.
MB-82370	1	8082_W	MBLK	82370	9/14/2017 6:20:00 PM		
1709085-01B	1	8082_W	SAMP	82370	9/14/2017 8:53:00 PM		
CCV-170914	1	8082_W	CCV	R94166	9/14/2017 10:10:00 PM		

Std ID	Std Name	Type	Exp. Date
GC1660CCV-17071	1000 PPB 1016/1260 CCV Standard	ICV	10/16/2017
GC1660ICV-170718	2000 PPB 1016/1260 ICV Standard	CCV	10/16/2017

Sequence Name: C:\msdchem\3\sequence\170914.S
Comment:
Operator:
Data Path: C:\MSDCHEM\3\170914\
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	SB
Datafile		17091401
Method		170718-1660
2) Sample	2	ICV-170914
Datafile		17091402
Method		170718-1660
3) Sample	3	ICV-170914-1268
Datafile		17091403
Method		170913-1268
4) Sample	4	LCS-82362
Datafile		17091404
Method		170718-1660
5) Sample	5	LCS-82370
Datafile		17091405
Method		170718-1660
6) Sample	6	LCSD-82370
Datafile		17091406
Method		170718-1660
7) Sample	7	DCS/LQV-82362
Datafile		17091407
Method		170718-1660
8) Sample	8	MB-82362
Datafile		17091408
Method		170718-1660
9) Sample	9	MB-82370
Datafile		17091409
Method		170718-1660
10) Sample	10	1709062-01A
Datafile		17091410
Method		170718-1660
11) Sample	11	1709062-02A
Datafile		17091411
Method		170718-1660
12) Sample	12	1709062-03A
Datafile		17091412
Method		170718-1660
13) Sample	13	1709085-02A
Datafile		17091413
Method		170718-1660
14) Sample	14	1709098-01B
Datafile		17091414
Method		170718-1660
15) Sample	15	1709085-01B
Datafile		17091415
Method		170718-1660
16) Sample	16	1709098-01BMS
Datafile		17091416
Method		170718-1660
17) Sample	17	1709098-01BMSD
Datafile		17091417
Method		170718-1660
18) Sample	18	CCV-170914
Datafile		17091418
Method		170718-1660
19) Sample	19	CCV-170914-1268
Datafile		17091419
Method		170913-1268
20) Sample	20	ICV-170915-2154
Datafile		17091420
Method		170718-2154

```
21) Sample        21  SB-170915
     Datafile         17091421
     Method           170718-1660
22) Sample        22  1709085-02A
     Datafile         17091422
     Method           170718-1660
23) Sample        23  CCV-170915-2154
     Datafile         17091423
     Method           170718-2154
```

Sequence Name: C:\msdchem\3\sequence\170914.S
Comment:
Operator:
Data Path: C:\MSDCHEM\3\170914\
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	SB
Datafile		17091401
Method		170718-1660
2) Sample	2	ICV-170914
Datafile		17091402
Method		170718-1660
3) Sample	3	ICV-170914-1268
Datafile		17091403
Method		170913-1268
4) Sample	4	LCS-82362
Datafile		17091404
Method		170718-1660
5) Sample	5	LCS-82370
Datafile		17091405
Method		170718-1660
6) Sample	6	LCSD-82370
Datafile		17091406
Method		170718-1660
7) Sample	7	DCS/LQV-82362
Datafile		17091407
Method		170718-1660
8) Sample	8	MB-82362
Datafile		17091408
Method		170718-1660
9) Sample	9	MB-82370
Datafile		17091409
Method		170718-1660
10) Sample	10	1709062-01A
Datafile		17091410
Method		170718-1660
11) Sample	11	1709062-02A
Datafile		17091411
Method		170718-1660
12) Sample	12	1709062-03A
Datafile		17091412
Method		170718-1660
13) Sample	13	1709085-02A
Datafile		17091413
Method		170718-1660
14) Sample	14	1709098-01B
Datafile		17091414
Method		170718-1660
15) Sample	15	1709085-01B
Datafile		17091415
Method		170718-1660
16) Sample	16	1709098-01BMS
Datafile		17091416
Method		170718-1660
17) Sample	17	1709098-01BMSD
Datafile		17091417
Method		170718-1660
18) Sample	18	CCV-170914
Datafile		17091418
Method		170718-1660
19) Sample	19	CCV-170914-1268
Datafile		17091419
Method		170913-1268
20) Sample	20	ICV-170915-2154
Datafile		17091420
Method		170718-2154

```
21) Sample        21  ICV-170915-2154
     Datafile         17091421
     Method           170718-1660
22) Sample        22  SB-170915
     Datafile         17091422
     Method           170718-1660
23) Sample        23  1709085-02A
     Datafile         17091423
     Method           170718-1660
24) Sample        24  CCV-170915-2154
     Datafile         17091424
     Method           170718-1660
25) Sample        25  CCV-170915-1254
     Datafile         17091425
     Method           170718-1660
```

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **9/14/2017 1:00:00 PM**
Digestion:
Prep End Date: 9/14/17 2:15 PM
Prep Batch **82370** Prep Code: **3510_PCB**

Technician: ~~ADMIN~~ Alice Daar AD 9/14/17

Prep Factor Units: mL/mL

Equipment List
Turbo-Vap # 2
Balance # 25, 29

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Vessel	Cleanup
1709085-01B	Aqueous	7	500	2.5	0.005	1 of 2	786.7 - 278.0 = 508.7	
LCS-82370	Aqueous	6	500	2.5	0.005	of		
LCSD-82370	Aqueous	↓	500	2.5	0.005	of		
MB-82370	Aqueous	↓	500	2.5	0.005	of		

Number	Reagent Name	Amt	Units	Exp. Da
7509	pH paper 0-14	1	paper	10/15/2025
10846	Hexane (Optima)	120	ml	11/02/2026
10997	Purified Sodium Sulfate	15	g	12/21/2026
11181	Sulfuric Acid (Certified ACS PLUS)	4	ml	02/27/2027
11448	Methylene Chloride	120	ml	06/01/2027
11557	Whatman 41 Filter	1	filter	07/06/2027

Spk ID	Spike Name	SampType	Amt (mL or g)	Exp. Date
PCBPREP170808	100 PPM 1016/1260 Spiking Standard	LCS/LCSD	0.025	11/06/2017
PCBPREP170906	20 PPM PCB (GC) SURROGATE	ALL	0.0125	12/06/2017

REVIEWED BY
By Janice Whitt at 10:32:34 AM, 9/15/2017

AD 9/14/17

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **9/14/2017 1:00:00 PM**
Digestion:
Prep End Date: **9/14/2017 2:15:00 PM**

Prep Batch **82370** Prep Code: **3510_PCB** Technician: **Alice Dacic**

Prep Factor Units: **mL/mL**

Equipment List

Turbo-Vap # 2
Balance # 25, 29

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Vessel	Cleanup
1709085-01B	Aqueous	7	508.7	2.5	0.005	1 of 2		
LCS-82370	Aqueous	6	500	2.5	0.005	of		
LCSD-82370	Aqueous	6	500	2.5	0.005	of		
MB-82370	Aqueous	6	500	2.5	0.005	of		

Number	Reagent Name	Amt	Units	Exp. Da
7509	pH paper 0-14	1	paper	10/15/2025
10846	Hexane (Optima)	120	ml	11/02/2026
10997	Purified Sodium Sulfate	15	g	12/21/2026
11181	Sulfuric Acid (Certified ACS PLUS)	4	ml	02/27/2027
11448	Methylene Chloride	120	ml	06/01/2027
11557	Whatman 41 Filter	1	filter	07/06/2027

Spk ID	Spike Name	SampType	Amt (mL or g)	Exp. Date
PCBPREP170808	100 PPM 1016/1260 Spiking Standard	LCS/LCSD	0.025	11/06/2017
PCBPREP170906	20 PPM PCB (GC) SURROGATE	ALL	0.0125	12/06/2017

REVIEWED BY
By Janice Whitt at 10:32:36 AM, 9/15/2017

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170914\
Data File : 17091402.D
Acq On : 14 Sep 2017 3:22 pm
Operator :
Sample : ICV-170914
Misc : ICV
ALS Vial : 0 (Sig #1); 2 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Sep 15 09:06:22 2017
InstName : GC16
QLast Update : Wed Jul 19 10:08:29 2017
Response via : Initial Calibration

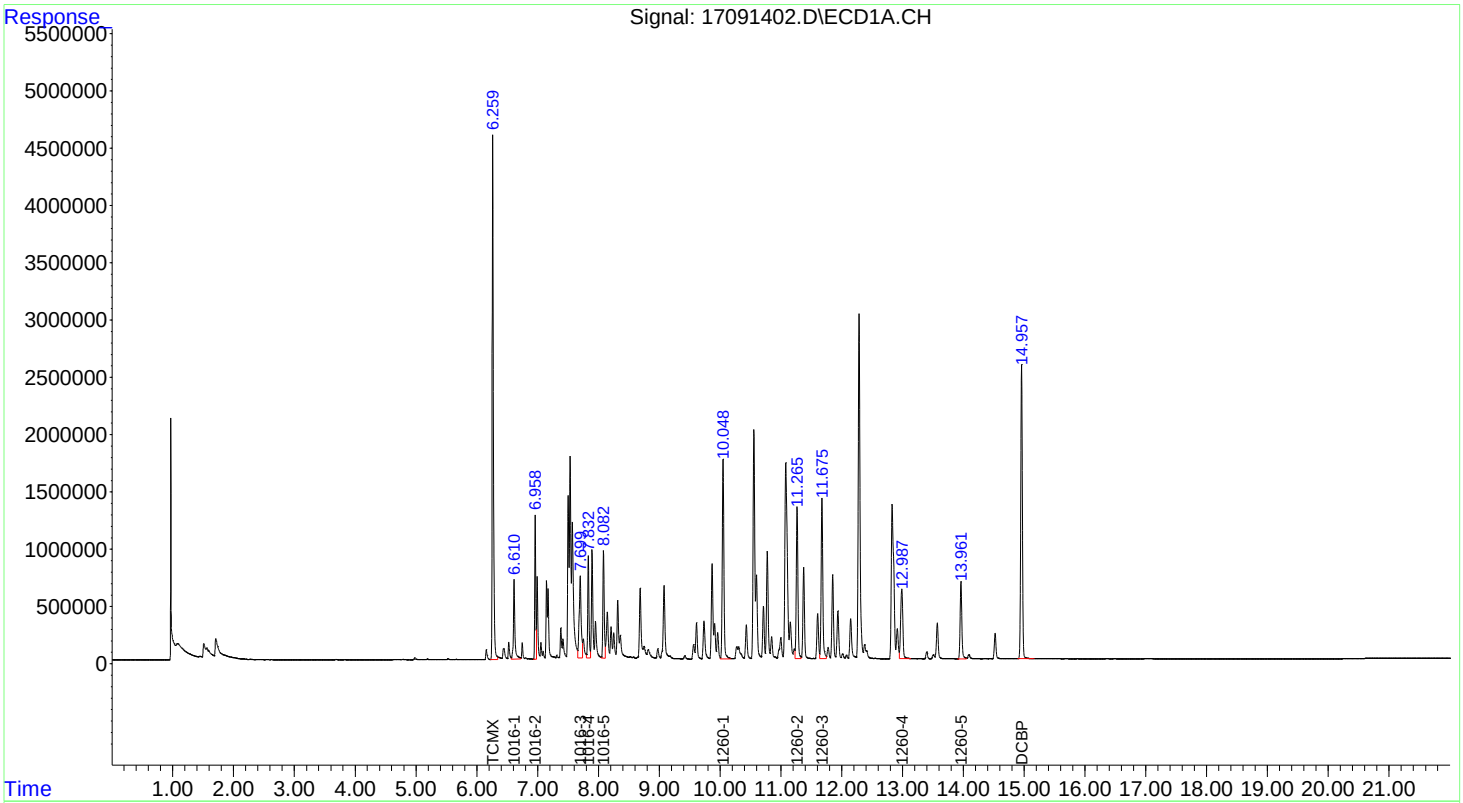
		Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
		System Monitoring Compounds						
1)	S	TCMX	6.259	6.238	5982999	5777656	204.426	192.671
14)	S	DCBP	14.957	15.683	4791595	4733453	195.968	193.526
		Target Compounds						
2)	L1	1016-1	6.610	6.887	1123726	981643	1897.407	1695.598
3)	L1	1016-2	6.958	7.297	1445366	2363700	1921.150	1760.520
4)	L1	1016-3	7.699	7.622	1615243	1248552	1926.259	1776.190
5)	L1	1016-4	7.832	8.614	1296280	1656864	1839.865	1803.413
6)	L1	1016-5	8.082	9.137	1428181	517215	1948.438	1711.557
7)	L1	1016-TOTAL	0.000	0.000	6908796	6767974	1908.156m	1760.010m
8)	L2	1260-1	10.048	10.657	3204319	3316686	1857.256	1835.344
9)	L2	1260-2	11.265	10.898	2491805	3748343	1913.964	1853.731
10)	L2	1260-3	11.675	12.387	2661931	2516588	1917.873	1898.171
11)	L2	1260-4	12.987	13.396	1532591	1183673	1875.781	1839.558
12)	L2	1260-5	13.961	14.510	1315582	1345846	1903.930	1858.961
13)	L2	1260-TOTAL	0.000	0.000	11206228	12111136	1891.925m	1856.852m

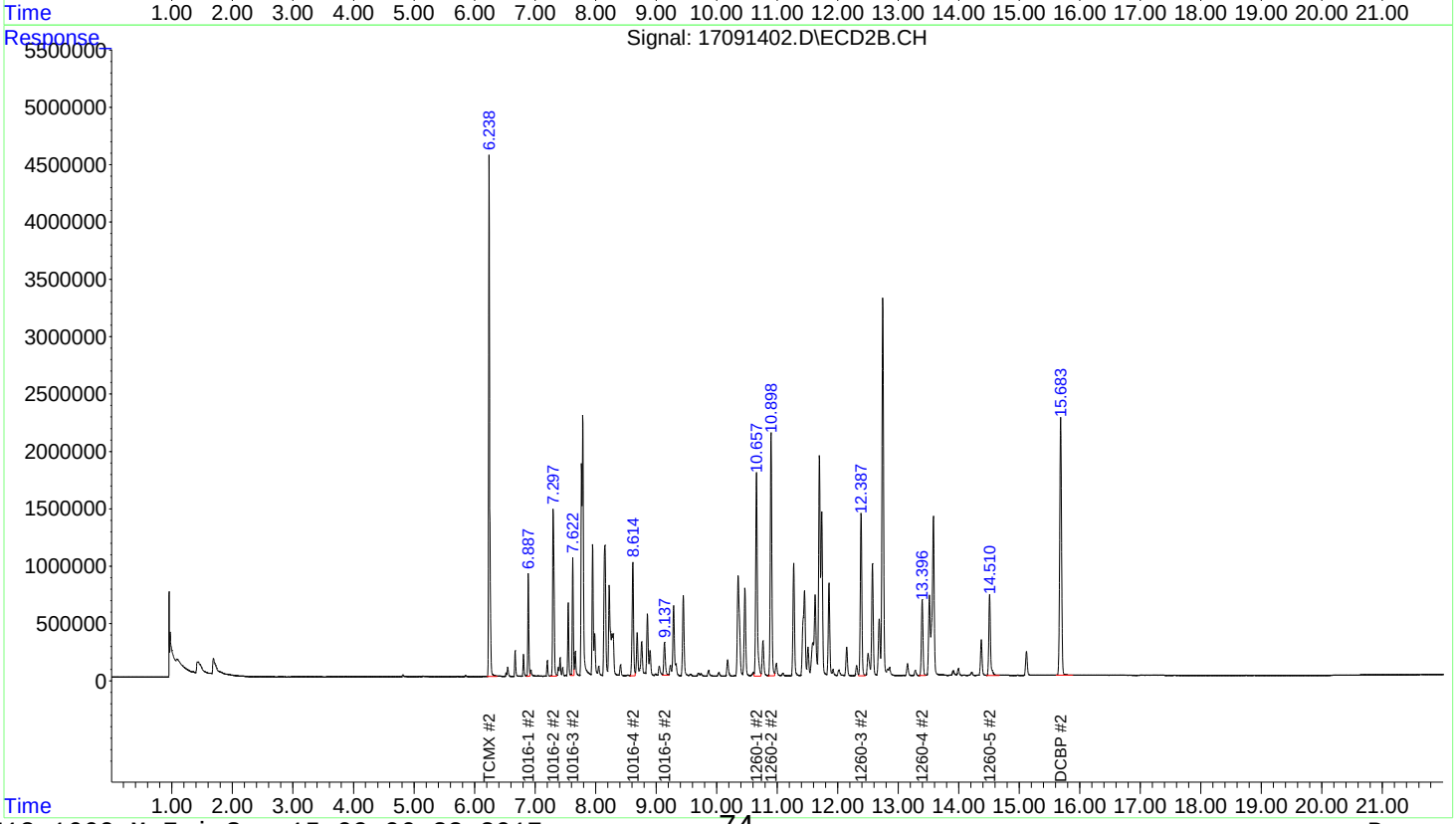
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170914\
Data File : 17091402.D
Acq On : 14 Sep 2017 3:22 pm
Operator :
Sample : ICV-170914
Misc : ICV
ALS Vial : 0 (Sig #1); 2 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Sep 15 09:06:22 2017
InstName : GC16
QLast Update : Wed Jul 19 10:08:29 2017
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170914\
Data File : 17091405.D
Acq On : 14 Sep 2017 4:38 pm
Operator :
Sample : LCS-82370
Misc : LCS
ALS Vial : 0 (Sig #1); 5 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Sep 15 09:06:28 2017
InstName : GC16
QLast Update : Wed Jul 19 10:08:29 2017
Response via : Initial Calibration

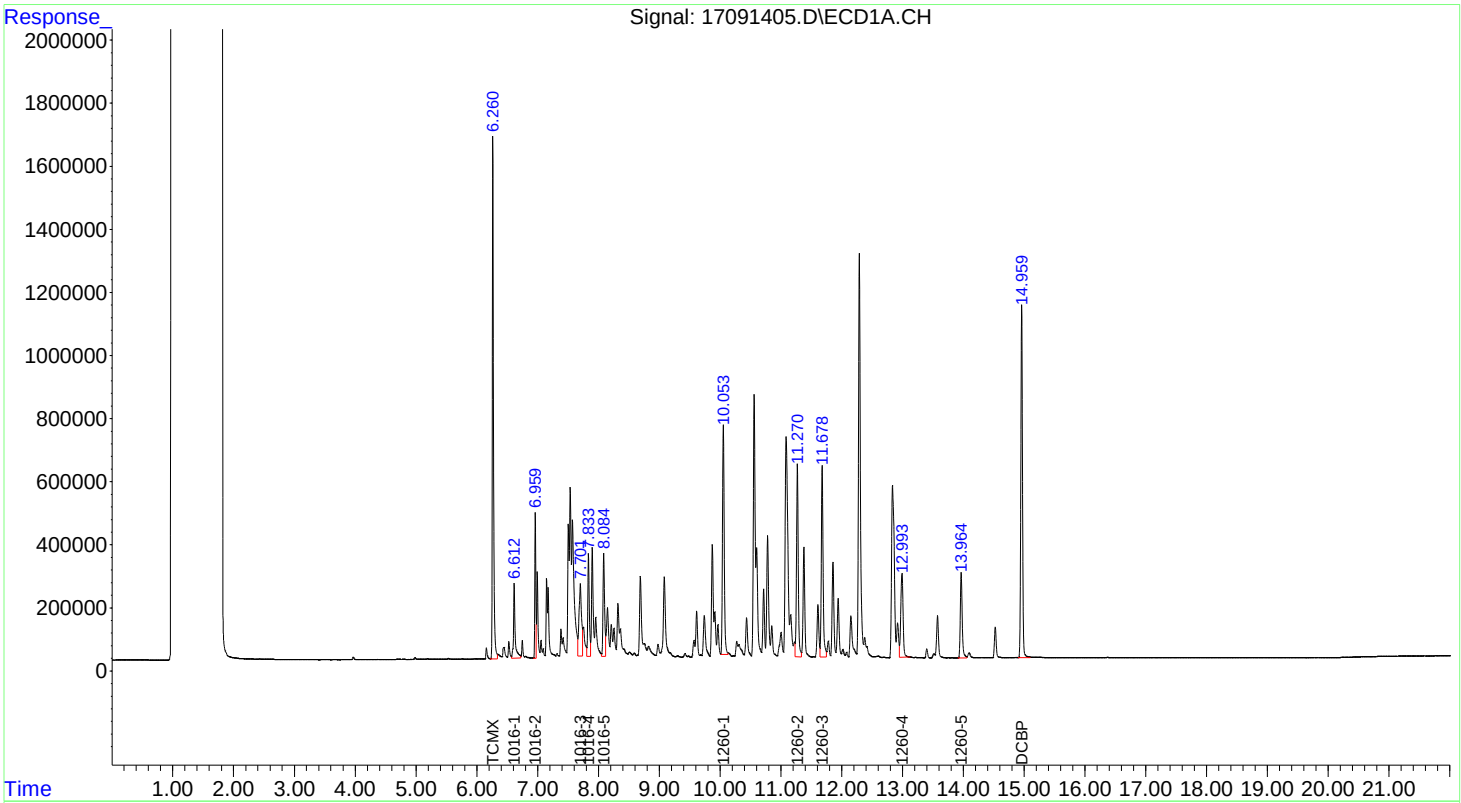
		Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
		System Monitoring Compounds						
1)	S	TCMX	6.260	6.238	2179836	2049339	74.480	68.340
14)	S	DCBP	14.959	15.683	2128976	1888396	87.071	77.206
		Target Compounds						
2)	L1	1016-1	6.612	6.886	425635	350625	718.683	605.637
3)	L1	1016-2	6.959	7.297	538444	879344	715.688	654.949
4)	L1	1016-3	7.701	7.621	665329	486081	793.438	691.499
5)	L1	1016-4	7.833	8.613	556970	648878	790.531	706.271
6)	L1	1016-5	8.084	9.138	590397	220502	805.467	729.680
7)	L1	1016-TOTAL	0.000	0.000	2776775	2585430	766.924m	672.341m
8)	L2	1260-1	10.053	10.656	1446886	1436882	838.630	795.123
9)	L2	1260-2	11.270	10.899	1202942	1610946	923.984	796.688
10)	L2	1260-3	11.678	12.385	1230778	1069906	886.753	806.991
11)	L2	1260-4	12.993	13.395	704650	496000	862.441	770.838
12)	L2	1260-5	13.964	14.509	586050	543078	848.140	750.131
13)	L2	1260-TOTAL	0.000	0.000	5171306	5156812	873.061m	790.631m

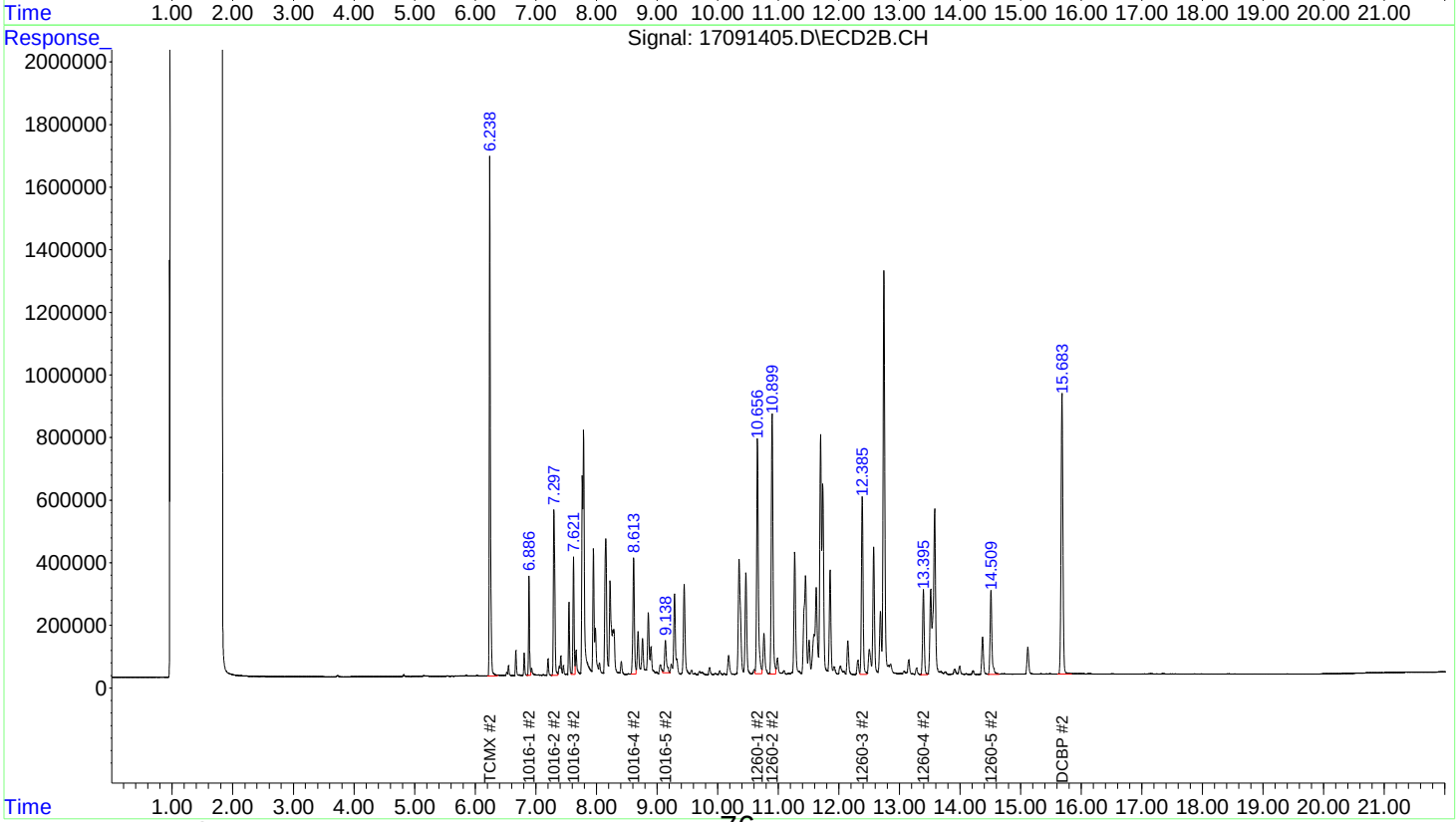
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170914\
Data File : 17091405.D
Acq On : 14 Sep 2017 4:38 pm
Operator :
Sample : LCS-82370
Misc : LCS
ALS Vial : 0 (Sig #1); 5 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Sep 15 09:06:28 2017
InstName : GC16
QLast Update : Wed Jul 19 10:08:29 2017
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170914\
Data File : 17091406.D
Acq On : 14 Sep 2017 5:04 pm
Operator :
Sample : LCSD-82370
Misc : LCSD
ALS Vial : 0 (Sig #1); 6 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Sep 15 09:06:36 2017
InstName : GC16
QLast Update : Wed Jul 19 10:08:29 2017
Response via : Initial Calibration

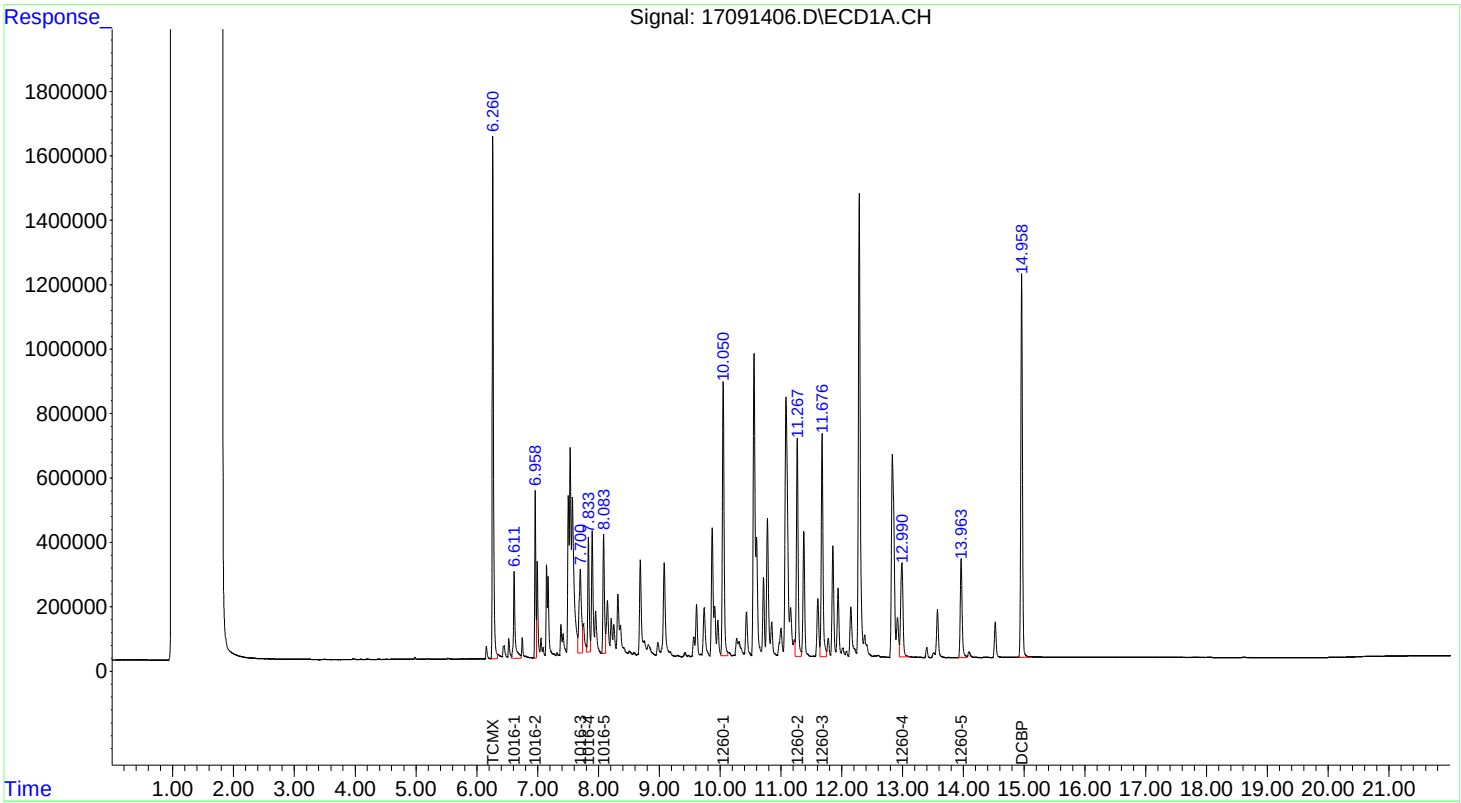
		Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
		System Monitoring Compounds						
1)	S	TCMX	6.260	6.238	2102491	1883223	71.838	62.801
14)	S	DCBP	14.958	15.682	2222792	1964736	90.908	80.328
		Target Compounds						
2)	L1	1016-1	6.611	6.886	489010	378327	825.691	653.486
3)	L1	1016-2	6.958	7.296	609641	945217	810.322	704.012
4)	L1	1016-3	7.700	7.621	697729	521691	832.077	742.158
5)	L1	1016-4	7.833	8.613	578104	702376	820.527	764.501
6)	L1	1016-5	8.083	9.136	629902	240331	859.362	795.298
7)	L1	1016-TOTAL	0.000	0.000	3004386	2787942	829.788m	725.004m
8)	L2	1260-1	10.050	10.655	1653732	1551975	958.520	858.812
9)	L2	1260-2	11.267	10.896	1340102	1749608	1029.337	865.263
10)	L2	1260-3	11.676	12.386	1369565	1162254	986.747	876.646
11)	L2	1260-4	12.990	13.396	782934	544830	958.255	846.726
12)	L2	1260-5	13.963	14.509	655833	604320	949.131	834.722
13)	L2	1260-TOTAL	0.000	0.000	5802166	5612987	979.568m	860.571m

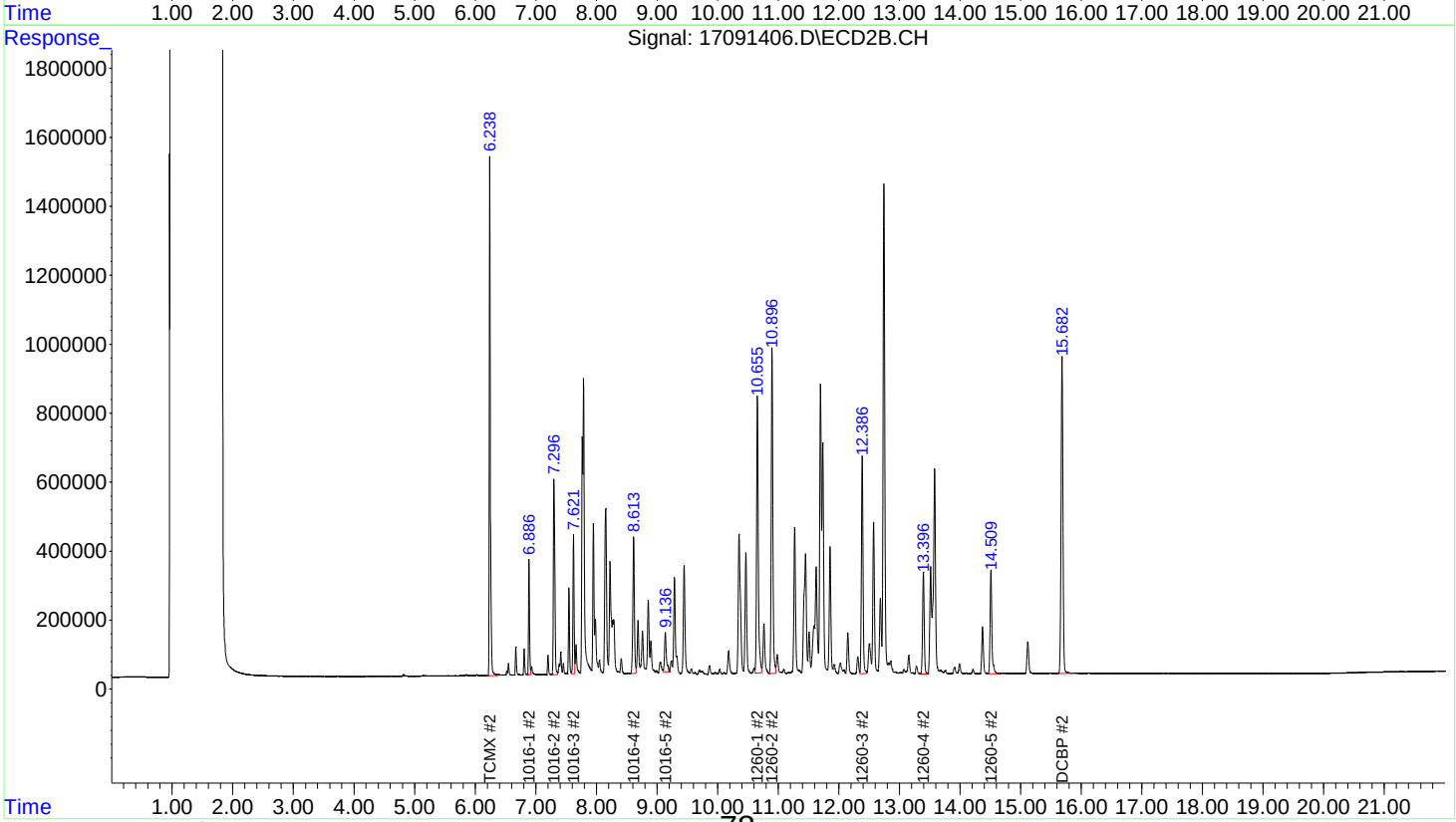
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170914\
Data File : 17091406.D
Acq On : 14 Sep 2017 5:04 pm
Operator :
Sample : LCSD-82370
Misc : LCSD
ALS Vial : 0 (Sig #1); 6 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Sep 15 09:06:36 2017
InstName : GC16
QLast Update : Wed Jul 19 10:08:29 2017
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170914\
Data File : 17091409.D
Acq On : 14 Sep 2017 6:20 pm
Operator :
Sample : MB-82370
Misc : MBLK
ALS Vial : 0 (Sig #1); 9 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Sep 15 09:06:45 2017
InstName : GC16
QLast Update : Wed Jul 19 10:08:29 2017
Response via : Initial Calibration

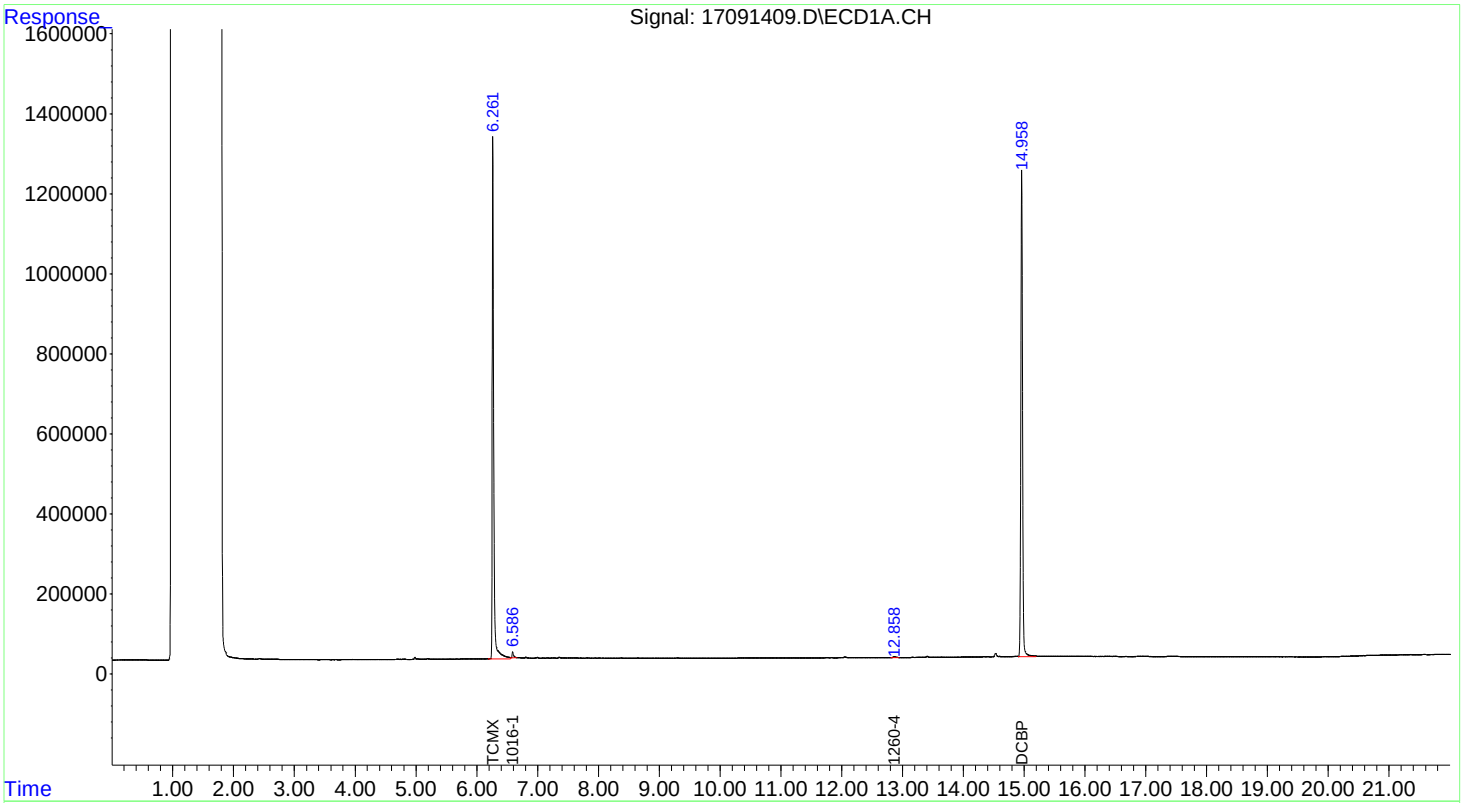
		Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
		System Monitoring Compounds						
1)	S	TCMX	6.261	6.238	2093616	1816076	71.534	60.562
14)	S	DCBP	14.958	15.682	2370677	1961838	96.956	80.209
		Target Compounds						
2)	L1	1016-1	6.586	0.000	23765	0	40.127	N.D. #
3)	L1	1016-2	0.000	0.000	0	0	N.D.	N.D.
4)	L1	1016-3	0.000	0.000	0	0	N.D.	N.D.
5)	L1	1016-4	0.000	0.000	0	0	N.D.	N.D.
6)	L1	1016-5	0.000	0.000	0	0	N.D.	N.D.
7)	L1	1016-TOTAL	0.000	0.000	23765	0	6.564m	N.D. m#
8)	L2	1260-1	0.000	10.744	0	5610	N.D.	3.104 #
9)	L2	1260-2	0.000	10.744f	0	5610	N.D.	2.774 #
10)	L2	1260-3	0.000	0.000	0	0	N.D.	N.D.
11)	L2	1260-4	12.858f	0.000	7389	0	9.044	N.D. #
12)	L2	1260-5	0.000	0.000	0	0	N.D.	N.D.
13)	L2	1260-TOTAL	0.000	0.000	7389	11220	1.247m	1.720m#

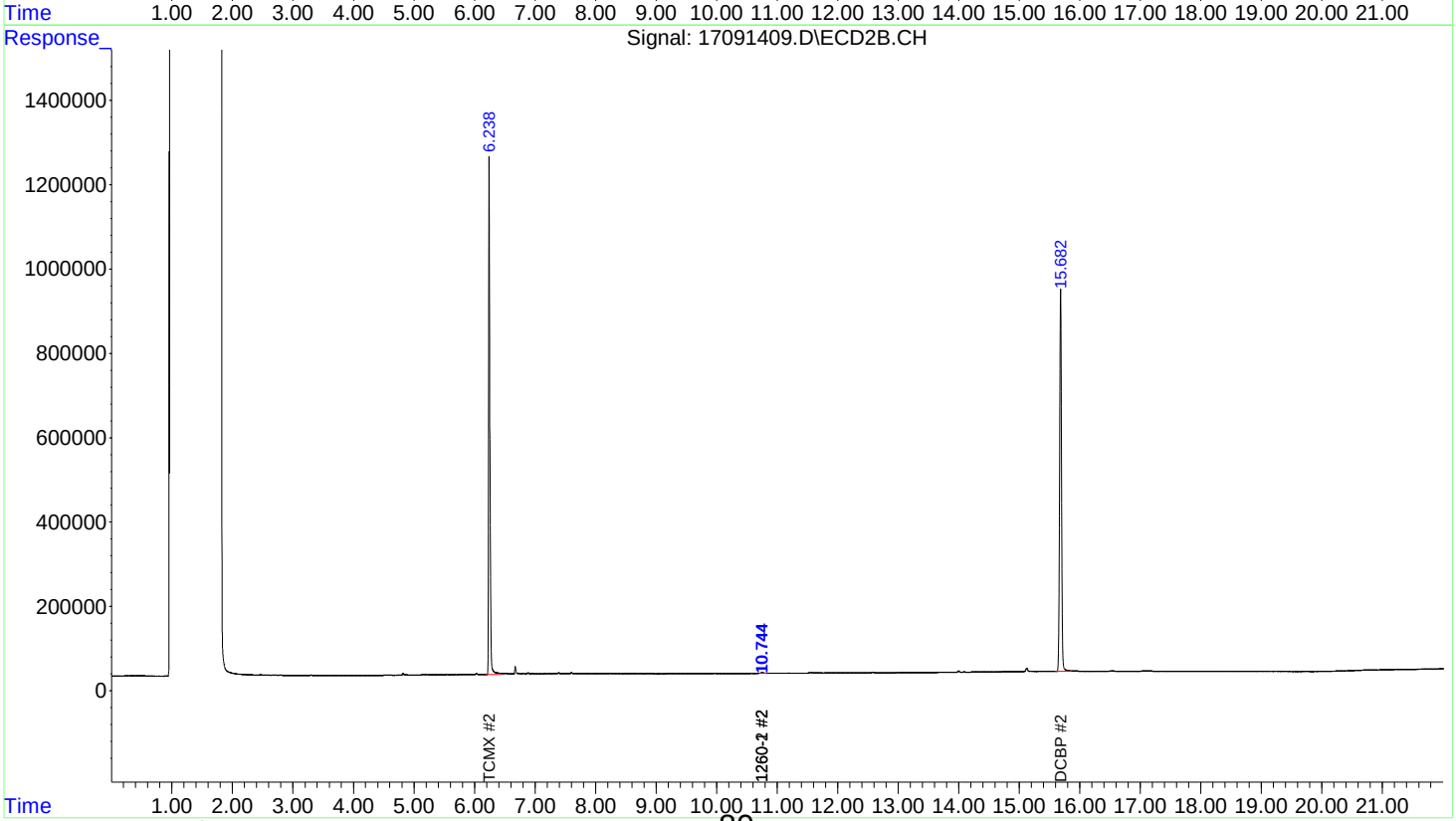
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170914\
Data File : 17091409.D
Acq On : 14 Sep 2017 6:20 pm
Operator :
Sample : MB-82370
Misc : MBLK
ALS Vial : 0 (Sig #1); 9 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Sep 15 09:06:45 2017
InstName : GC16
QLast Update : Wed Jul 19 10:08:29 2017
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170914\
Data File : 17091415.D
Acq On : 14 Sep 2017 8:53 pm
Operator :
Sample : 1709085-01B
Misc : SAMP
ALS Vial : 0 (Sig #1); 15 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Sep 15 09:07:03 2017
InstName : GC16
QLast Update : Wed Jul 19 10:08:29 2017
Response via : Initial Calibration

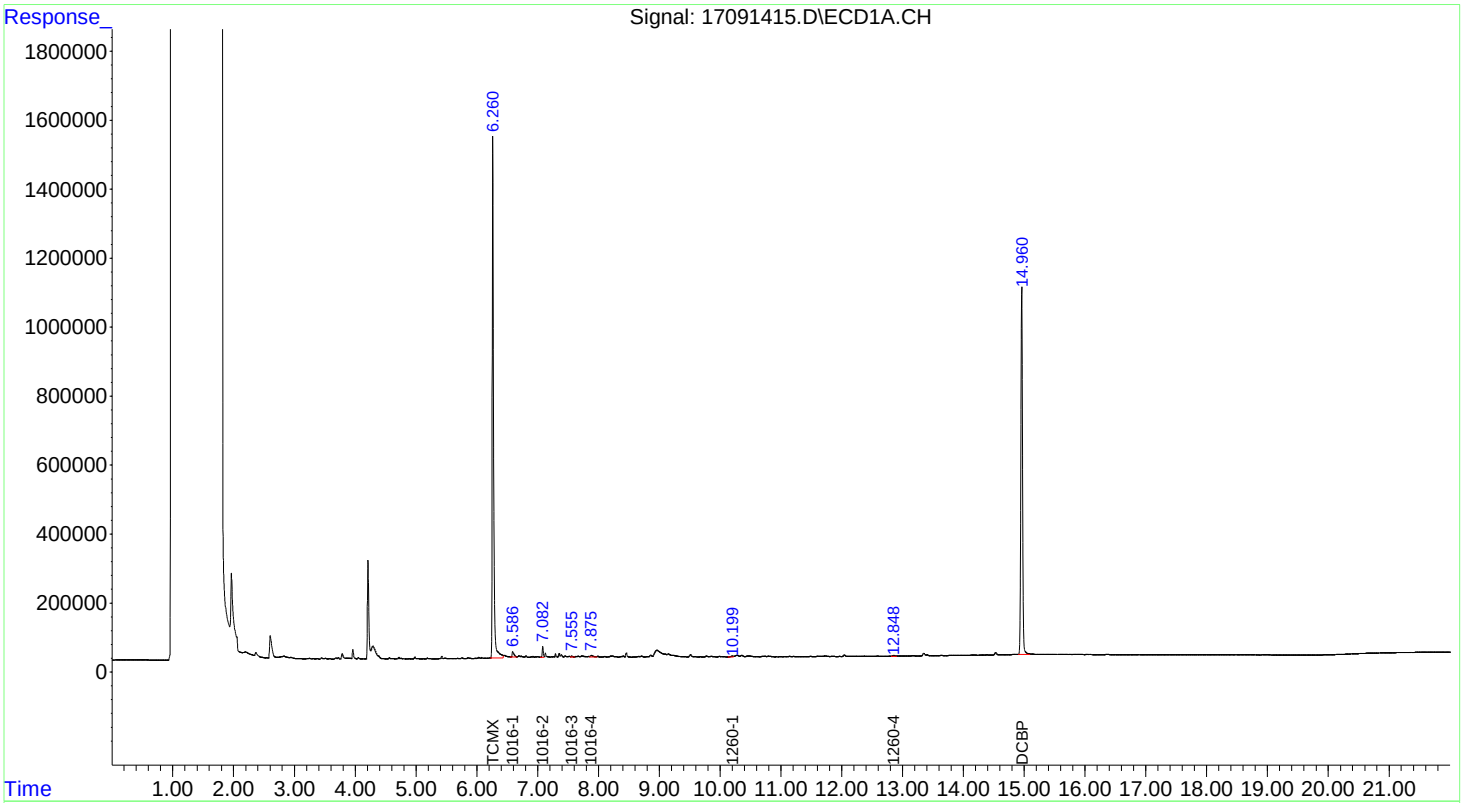
		Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb	
		System Monitoring Compounds							
1)	S	TCMX	6.260	6.238	2191179	1868011	74.868	62.294	
14)	S	DCBP	14.960	15.681	2058120	1685601	84.173	68.915	
		Target Compounds							
2)	L1	1016-1	6.586	6.879	31412	5322	53.039	9.193	#
3)	L1	1016-2	7.082f	7.333	38334	15055	50.953	11.213	#
4)	L1	1016-3	7.555f	7.596	5003	8300	5.966	11.808	#
5)	L1	1016-4	7.875	8.597	10947	5357	15.538	5.831	#
6)	L1	1016-5	0.000	9.273f	0	18191	N.D.	60.197	#
7)	L1	1016-TOTAL	0.000	0.000	85696	52225	23.669m	13.581m	#
8)	L2	1260-1	10.199f	10.691	8439	6044	4.891	3.345	#
9)	L2	1260-2	0.000	10.743f	0	7483	N.D.	3.701	#
10)	L2	1260-3	0.000	0.000	0	0	N.D.	N.D.	
11)	L2	1260-4	12.848f	0.000	5144	0	6.296	N.D.	#
12)	L2	1260-5	0.000	0.000	0	0	N.D.	N.D.	
13)	L2	1260-TOTAL	0.000	0.000	13583	13527	2.293m	2.074m	

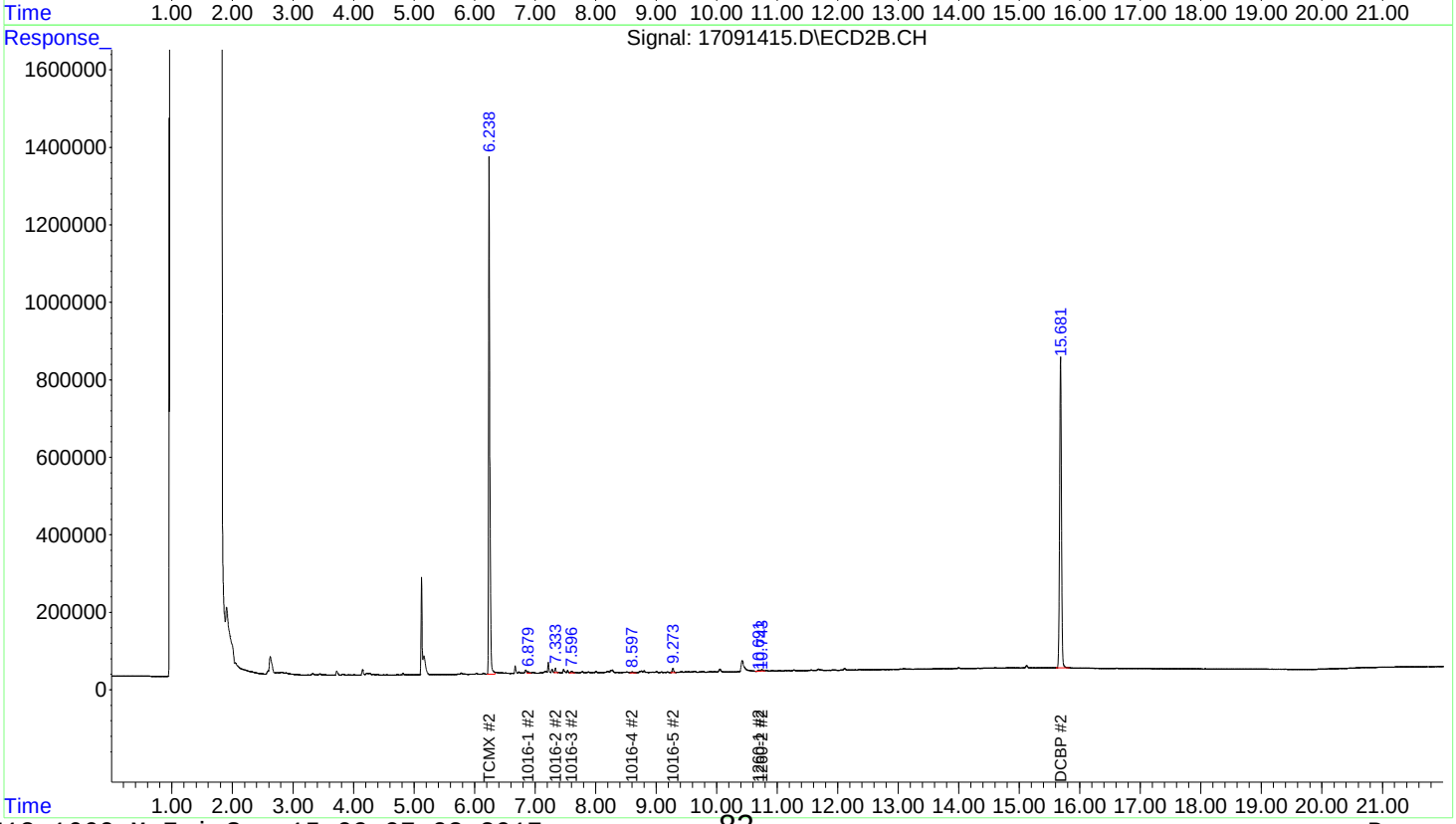
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170914\
Data File : 17091415.D
Acq On : 14 Sep 2017 8:53 pm
Operator :
Sample : 1709085-01B
Misc : SAMP
ALS Vial : 0 (Sig #1); 15 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Sep 15 09:07:03 2017
InstName : GC16
QLast Update : Wed Jul 19 10:08:29 2017
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170914\
Data File : 17091418.D
Acq On : 14 Sep 2017 10:10 pm
Operator :
Sample : CCV-170914
Misc : CCV
ALS Vial : 0 (Sig #1); 18 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Sep 15 09:07:12 2017
InstName : GC16
QLast Update : Wed Jul 19 10:08:29 2017
Response via : Initial Calibration

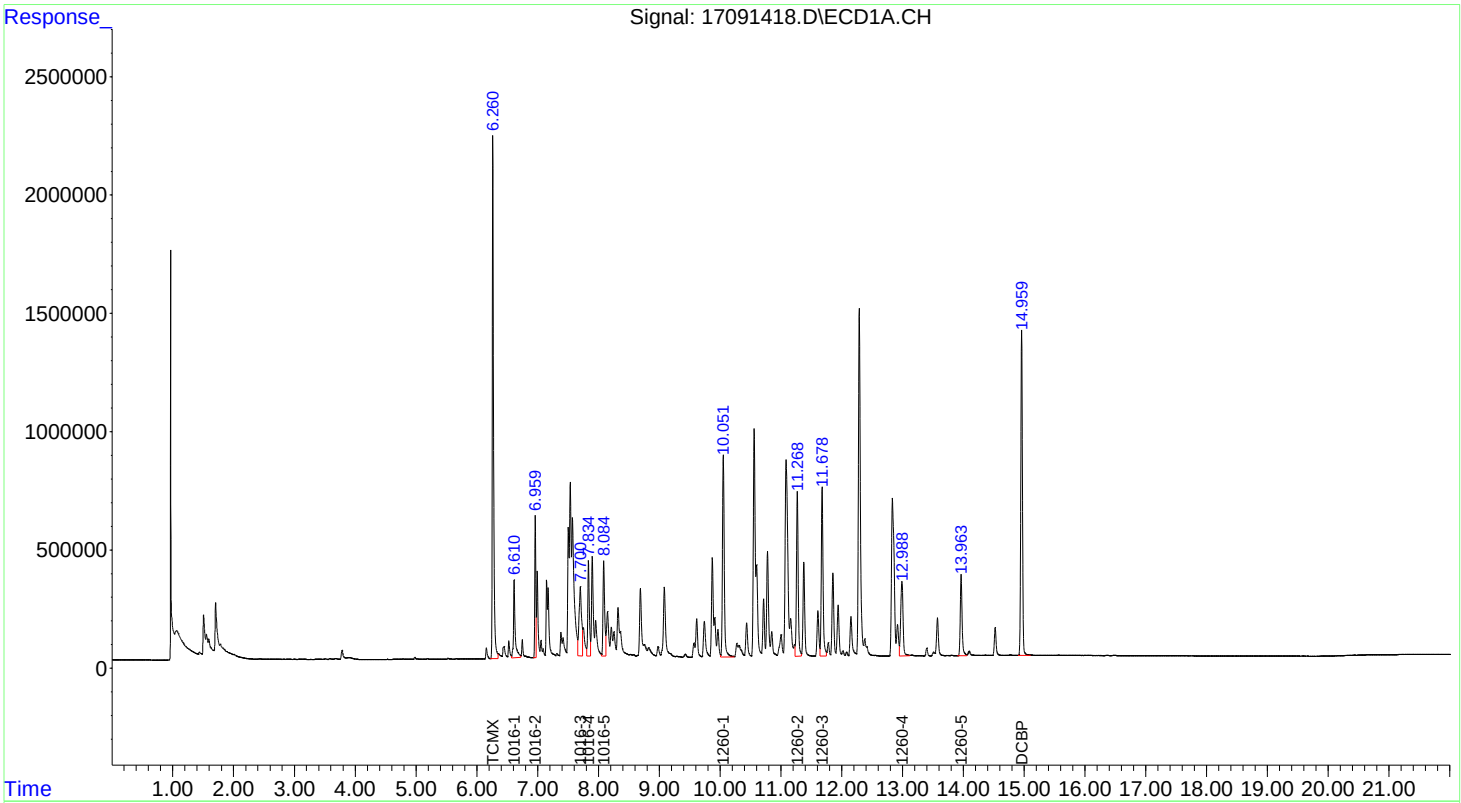
		Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
		System Monitoring Compounds						
1)	S	TCMX	6.260	6.237	3128826	2894531	106.905	96.525
14)	S	DCBP	14.959	15.682	2597495	2342559	106.233	95.775
		Target Compounds						
2)	L1	1016-1	6.610	6.885	615014	507681	1038.448	876.920
3)	L1	1016-2	6.959	7.296	733302	1225009	974.689	912.405
4)	L1	1016-3	7.700	7.620	853126	645465	1017.396	918.239
5)	L1	1016-4	7.834	8.613	712484	843935	1011.259	918.581
6)	L1	1016-5	8.084	9.136	762595	259377	1040.393	858.325
7)	L1	1016-TOTAL	0.000	0.000	3676521	3481467	1015.427m	905.355m
8)	L2	1260-1	10.051	10.654	1776190	1696535	1029.498	938.806
9)	L2	1260-2	11.268	10.896	1364444	1903749	1048.034	941.493
10)	L2	1260-3	11.678	12.384	1436234	1269511	1034.781	957.546
11)	L2	1260-4	12.988	13.394	849307	600236	1039.491	932.833
12)	L2	1260-5	13.963	14.509	712490	675137	1031.126	932.539
13)	L2	1260-TOTAL	0.000	0.000	6138665	6145168	1036.378m	942.163m

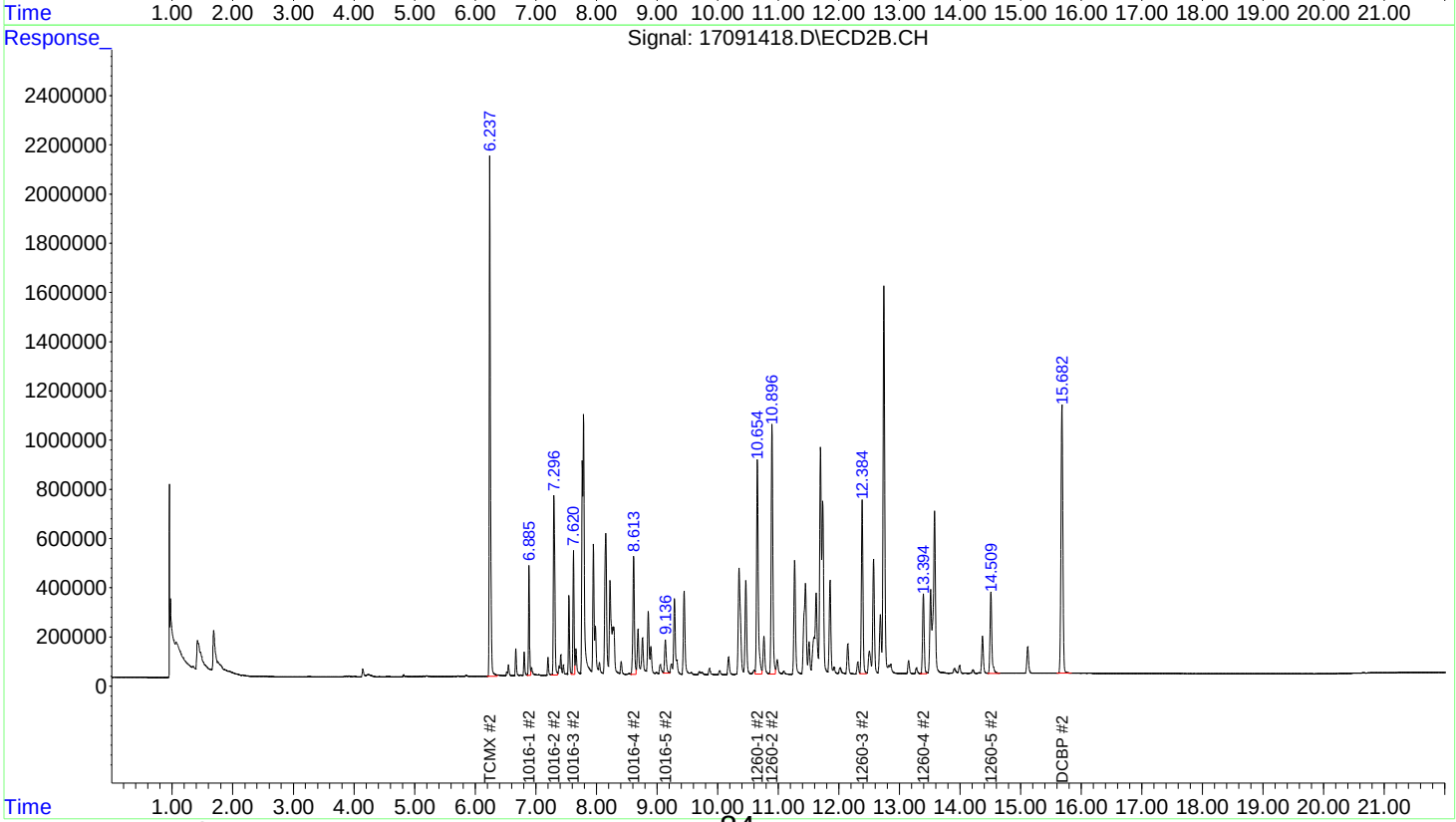
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170914\
Data File : 17091418.D
Acq On : 14 Sep 2017 10:10 pm
Operator :
Sample : CCV-170914
Misc : CCV
ALS Vial : 0 (Sig #1); 18 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Sep 15 09:07:12 2017
InstName : GC16
QLast Update : Wed Jul 19 10:08:29 2017
Response via : Initial Calibration





GC16
Calibration Curve
For

DHL Work Order
1709085

Method 8082 - PCB 1016/1260 Calibration Curve Sheet

Instrument ID: GC #16 **Calibration File Name: 170718-1660.CAL**

Target Concentration	Solvent Amount mL	Standard Preparation Stocks and Surrogate (µL/mL)	Final Volume mL
50 ppb	0.990	0.010 mL of 5000 ppb	1
100 ppb	0.980	0.020 mL of 5000 ppb	1
200 ppb	0.960	0.040 mL of 5000 ppb	1
500 ppb	0.900	0.100 mL of 5000 ppb	1
1000 ppb	0.800	0.200 mL of 5000 ppb	1
2000 ppb	0.600	0.400 mL of 5000 ppb	1
5000 ppb	0	1.0 mL of 5000 ppb	1
SSCV 2000 ppb	0	1.0 mL of 2000 ppb	1

Standards Used for the Calibration Curve

Primary Stock STDs	DHL Standard ID	Second Source (SS) Stock STDs	DHL Standard ID
1000 PPM AROCLOR 1016 PRIMARY	**PCBP151118-01D**	1000 PPM AROCLOR 1016/1260 SSCV	**PCBS150128-01D**
1000 PPM AROCLOR 1260 PRIMARY	**PCBP151118-02E**	-----	**-----**
200 PPM PEST/PCB SURROGATE	**PCB140408T**	200 PPM PEST/PCB SURROGATE	**PCB140408T**
1000 PPB AROCLOR 1016/1260 CCV STD	**GC1660CCV-170718**	2000 PPB AROCLOR 1016/1260 STD SSCV	**GC1660SSCV-170718**

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. Has the ChromPerfect Cal File been updated for both columns?	Check that each Cal Level has been updated (response and file name)	X			
4. Does the ICAL curve meet criteria? Use average RF only if %RSD < 15% (< 20%-DoD)	Response Factor Report %RSD < 15% / 20% (DoD) COD $R^2 \geq 0.990$	X			
5. Has the low point been reprocessed under the new ICAL curve and meets criteria?	70-130% recovery	X			
6. Has the SSCV been analyzed and meets criteria?	80-120% recovery	X			

Analyst: Lauren Garcia Date: 07/19/2017

Second-Level Review: Date: 07/19/2017

Method 8082 - PCB 1221/1254 Calibration Curve Sheet

Instrument ID: GC #16 **Calibration File Name: 170718-2154.CAL**

Target Concentration	Solvent Amount mL	Standard Preparation Stocks and Surrogate (µL/mL)	Final Volume mL
50 ppb	0.990	0.010 mL of 5000 ppb	1
100 ppb	0.980	0.020 mL of 5000 ppb	1
200 ppb	0.960	0.040 mL of 5000 ppb	1
500 ppb	0.900	0.100 mL of 5000 ppb	1
1000 ppb	0.800	0.200 mL of 5000 ppb	1
2000 ppb	0.600	0.400 mL of 5000 ppb	1
5000 ppb	9.875	50 µL of 1000 PPM AROCLOR 1221 PRIMARY 50 µL of 1000 PPM AROCLOR 1254 PRIMARY 25 µL of 200 PPM PEST/PCB SURROGATE Solvent: Hexane (Pesticide Grade)	10
SSCV 2000 ppb	9.950	20 µL of 1000 PPM AROCLOR 1221 SS 20 µL of 1000 PPM AROCLOR 1254 SS 10 µL of 200 PPM PEST/PCB SURROGATE Solvent: Hexane (Pesticide Grade)	10

Standards Used for the Calibration Curve

Primary Stock STDs	DHL Standard ID	Second Source (SS) Stock STDs	DHL Standard ID
1000 PPM AROCLOR 1221 PRIMARY	**PCBP160927-1**	1000 PPM AROCLOR 1221 SSCV	**PCBS160616-03A**
1000 PPM AROCLOR 1254 PRIMARY	**PCBP160616-5**	1000 PPM AROCLOR 1254 SSCV	**PCBS160927**
200 PPM PEST/PCB SURROGATE	**PCB140408T**	200 PPM PEST/PCB SURROGATE	**PCB140408T**
5000 PPB AROCLOR 1221/1254 ICV/CAL STD	**GC2154-170718**	2000 PPB AROCLOR 1221/1254 STD SSCV	**GCSSCV2154-170718**

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. Has the ChromPerfect Cal File been updated for both columns?	Check that each Cal Level has been updated (response and file name)	X			
4. Does the ICAL curve meet criteria? Use average RF only if %RSD < 15% (< 20%-DoD)	Response Factor Report %RSD < 15% / 20% (DoD) COD $R^2 \geq 0.990$	X			
5. Has the low point been reprocessed under the new ICAL curve and meets criteria?	70-130% recovery	X			
6. Has the SSCV been analyzed and meets criteria?	80-120% recovery	X			

Analyst: Lauren Garcia Date: 07/20/2017

Second-Level Review: Date: 07/20/2017

Method 8082 - PCB 1232 Calibration Curve Sheet

Instrument ID: GC #16 **Calibration File Name: 170718-1232.CAL**

Target Concentration	Solvent Amount mL	Standard Preparation Stocks and Surrogate (µL/mL)	Final Volume mL
50 ppb	0.990	0.010 mL of 5000 ppb	1
100 ppb	0.980	0.020 mL of 5000 ppb	1
200 ppb	0.960	0.040 mL of 5000 ppb	1
500 ppb	0.900	0.100 mL of 5000 ppb	1
1000 ppb	0.800	0.200 mL of 5000 ppb	1
2000 ppb	0.600	0.400 mL of 5000 ppb	1
5000 ppb	9.925	50 µL of 1000 PPM AROCLOR 1232 PRIMARY 25 µL of 200 PPM PEST/PCB SURROGATE Solvent: Hexane (Pesticide Grade)	10
SSCV 2000 ppb	9.970	20 µL of 1000 PPM AROCLOR 1232 SS 10 µL of 200 PPM PEST/PCB SURROGATE Solvent: Hexane (Pesticide Grade)	10

Standards Used for the Calibration Curve

Primary Stock STDs	DHL Standard ID	Second Source (SS) Stock STDs	DHL Standard ID
1000 PPM AROCLOR 1232 PRIMARY	**PCBP160616-2**	1000 PPM AROCLOR 1232 SSCV	**PCBS160616-01A**
-----	**-------**	-----	**-----**
200 PPM PEST/PCB SURROGATE	**PCB140408T**	200 PPM PEST/PCB SURROGATE	**PCB140408T**
5000 PPB AROCLOR 1232 ICV/CAL STD	**GC1232-170718**	2000 PPB AROCLOR 1232 STD SSCV	**GCSSCV1232-170718**

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. Has the ChromPerfect Cal File been updated for both columns?	Check that each Cal Level has been updated (response and file name)	X			
4. Does the ICAL curve meet criteria? Use average RF only if %RSD < 15% (< 20%-DoD)	Response Factor Report %RSD < 15% / 20% (DoD) COD $R^2 \geq 0.990$	X			
5. Has the low point been reprocessed under the new ICAL curve and meets criteria?	70-130% recovery	X			
6. Has the SSCV been analyzed and meets criteria?	80-120% recovery	X			

Analyst: Lauren Garcia Date: 07/20/2017

Second-Level Review: Date: 07/20/2017

Method 8082 - PCB 1242 Calibration Curve Sheet

Instrument ID: GC #16 **Calibration File Name: 170718-1242.CAL**

Target Concentration	Solvent Amount mL	Standard Preparation Stocks and Surrogate (µL/mL)	Final Volume mL
50 ppb	0.990	0.010 mL of 5000 ppb	1
100 ppb	0.980	0.020 mL of 5000 ppb	1
200 ppb	0.960	0.040 mL of 5000 ppb	1
500 ppb	0.900	0.100 mL of 5000 ppb	1
1000 ppb	0.800	0.200 mL of 5000 ppb	1
2000 ppb	0.600	0.400 mL of 5000 ppb	1
5000 ppb	0	1.0 mL of 5000 ppb	1
SSCV 2000 ppb	0	1.0 mL of 2000 ppb	1

Standards Used for the Calibration Curve

Primary Stock STDs	DHL Standard ID	Second Source (SS) Stock STDs	DHL Standard ID
1000 PPM AROCLOR 1242 PRIMARY	**PCBP160616-3**	1000 PPM AROCLOR 1242 SSCV	**PCBS60616-02A**
-----	**-------**	-----	**-----**
200 PPM PEST/PCB SURROGATE	**PCB140408T**	200 PPM PEST/PCB SURROGATE	**PCB140408T**
5000 PPB AROCLOR 1242 STD	**GC1242-170718**	2000 PPB AROCLOR 1242 STD SSCV	**GCSSCV1242-170718**

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. Has the ChromPerfect Cal File been updated for both columns?	Check that each Cal Level has been updated (response and file name)	X			
4. Does the ICAL curve meet criteria? Use average RF only if %RSD < 15% (< 20%-DoD)	Response Factor Report %RSD < 15% / 20% (DoD) COD $R^2 \geq 0.990$	X			
5. Has the low point been reprocessed under the new ICAL curve and meets criteria?	70-130% recovery	X			
6. Has the SSCV been analyzed and meets criteria?	80-120% recovery	X			

Analyst: Lauren Garcia Date:07/20/2017

Second-Level Review: Date: 07/20/2017

Method 8082 - PCB 1248 Calibration Curve Sheet

Instrument ID: GC #16 **Calibration File Name: 170719-1248.CAL**

Target Concentration	Solvent Amount mL	Standard Preparation Stocks and Surrogate (µL/mL)	Final Volume mL
50 ppb	0.990	0.010 mL of 5000 ppb	1
100 ppb	0.980	0.020 mL of 5000 ppb	1
200 ppb	0.960	0.040 mL of 5000 ppb	1
500 ppb	0.900	0.100 mL of 5000 ppb	1
1000 ppb	0.800	0.200 mL of 5000 ppb	1
2000 ppb	0.600	0.400 mL of 5000 ppb	1
5000 ppb	9.925	50 µL of 1000 PPM AROCLOR 1248 PRIMARY 25 µL of 200 PPM PEST/PCB SURROGATE Solvent: Hexane (Pesticide Grade)	10
SSCV 2000 ppb	9.970	20 µL of 1000 PPM AROCLOR 1248 SS 10 µL of 200 PPM PEST/PCB SURROGATE Solvent: Hexane (Pesticide Grade)	10

Standards Used for the Calibration Curve

Primary Stock STDs	DHL Standard ID	Second Source (SS) Stock STDs	DHL Standard ID
1000 PPM AROCLOR 1248 PRIMARY	**PCBP150128-02B**	1000 PPM AROCLOR 1248 SSCV	**PCBS150128-02A**
-----	**-------**	-----	**-----**
200 PPM PEST/PCB SURROGATE	**PCB140408T**	200 PPM PEST/PCB SURROGATE	**PCB140408T**
5000 PPB AROCLOR 1248 STD	**GC1248-170718**	2000 PPB AROCLOR 1248 STD SSCV	**GCSSCV1248-170718**

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. Has the ChromPerfect Cal File been updated for both columns?	Check that each Cal Level has been updated (response and file name)	X			
4. Does the ICAL curve meet criteria? Use average RF only if %RSD < 15% (< 20%-DoD)	Response Factor Report %RSD < 15% / 20% (DoD) COD $R^2 \geq 0.990$	X			
5. Has the low point been reprocessed under the new ICAL curve and meets criteria?	70-130% recovery	X			
6. Has the SSCV been analyzed and meets criteria?	80-120% recovery	X			

Analyst: Lauren Garcia Date: 07/20/2017

Second-Level Review: [signature] Date: 07/20/2017

Response Factor Report GC16

Method Path : C:\msdchem\3\METHODS\
Method File : 170718-1660.M
Title :
Last Update : Wed Jul 19 10:08:29 2017
Response Via : Initial Calibration

Calibration Files
50 =17071801.D 100 =17071802.D 200 =17071803.D
500 =17071804.D 1000 =17071805.D 2000 =17071806.D

		Compound	50	100	200	500	1000	2000	Avg		%RSD
1)	S	TCMX	3.203	2.901	2.879	2.942	2.777	2.994	2.927	E4	4.93
2)	L1	1016-1	7.205	6.431	6.068	5.866	5.449	5.365	5.922	E2	12.30
3)	L1	1016-2	8.697	7.891	7.650	7.484	6.864	7.386	7.523	E2	8.87
4)	L1	1016-3	8.596	9.574	8.775	8.296	7.499	8.192	8.385	E2	8.18
5)	L1	1016-4	7.378	8.545	7.788	6.984	6.214	6.490	7.046	E2	13.18
6)	L1	1016-5	7.911	8.101	7.567	7.140	6.660	7.196	7.330	E2	7.57
7)	L1	1016-TOTAL	3.979	4.054	3.785	3.577	3.269	3.463	3.621	E3	9.13
8)	L2	1260-1	2.083	1.937	1.787	1.691	1.489	1.612	1.725	E3	13.12
9)	L2	1260-2	1.513	1.395	1.301	1.293	1.161	1.269	1.302	E3	9.33
10)	L2	1260-3	1.622	1.495	1.419	1.340	1.214	1.360	1.388	E3	9.98
11)	L2	1260-4	9.598	8.984	8.462	7.799	6.951	7.943	8.170	E2	11.14
12)	L2	1260-5	8.653	7.578	6.954	6.494	5.682	6.680	6.910	E2	13.93
13)	L2	1260-TOTAL	7.042	6.483	6.049	5.754	5.127	5.703	5.923	E3	11.27
14)	S	DCBP	2.999	2.605	2.462	2.342	2.050	2.415	2.445	E4	12.29

Signal #2 Calibration Files
50 =17071801.D 100 =17071802.D 200 =17071803.D
500 =17071804.D 1000 =17071805.D 2000 =17071806.D

		Compound	50	100	200	500	1000	2000	Avg		%RSD
1)	S	TCMX	3.115	3.072	3.024	2.816	3.073	2.946	2.999	E4	3.45
2)	L1	1016-1	6.815	6.623	6.165	5.253	5.495	5.142	5.789	E2	12.72
3)	L1	1016-2	1.502	1.522	1.430	1.246	1.304	1.214	1.343	E3	10.49
4)	L1	1016-3	7.673	7.606	7.528	6.557	6.923	6.494	7.029	E2	7.97
5)	L1	1016-4	0.997	1.014	0.967	0.848	0.903	0.854	0.919	E3	7.97
6)	L1	1016-5	2.960	3.431	3.279	3.014	2.825	2.704	3.022	E2	8.37
7)	L1	1016-TOTAL	4.244	4.303	4.094	3.577	3.731	3.502	3.845	E3	9.35
8)	L2	1260-1	1.968	1.956	1.929	1.677	1.781	1.671	1.807	E3	7.79
9)	L2	1260-2	2.213	2.184	2.123	1.868	2.005	1.878	2.022	E3	7.45
10)	L2	1260-3	1.431	1.411	1.366	1.207	1.329	1.255	1.326	E3	6.23
11)	L2	1260-4	7.100	6.966	6.725	5.845	6.271	5.937	6.435	E2	7.74
12)	L2	1260-5	8.340	7.610	7.450	6.497	7.023	6.680	7.240	E2	8.61
13)	L2	1260-TOTAL	7.155	7.009	6.837	5.987	6.444	6.066	6.522	E3	7.32
14)	S	DCBP	2.784	2.551	2.508	2.238	2.421	2.272	2.446	E4	7.71

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

Calibration Report GC16

Method Path : C:\msdchem\3\METHODS\
Method File : 170719-1248.M
Title :
Last Update : Thu Jul 20 11:49:11 2017
Response Via : Initial Calibration

Calibration Files
50 =17071836 100 =17071837 200 =17071838 500 =17071839 1000=17071840
2000=17071843 5000=17071842

	Compound	Fit	Constant	Linear	Quad	RSD/Cf
1) S	TCMX	Avg	-----	3.2367 e4	-----	0.0584
2) L1	1248-1	Quad	2.1081 e4	3.3423 e2	-0.0079	0.9986
3) L1	1248-2	Quad	4.6142 e4	9.1113 e2	-0.0190	0.9996
4) L1	1248-3	Quad	4.4980 e4	1.0180 e3	-0.0146	0.9997
5) L1	1248-4	Quad	1.1522 e5	1.4824 e3	-0.0467	0.9974
6) L1	1248-5	Quad	4.9790 e4	7.6658 e2	-0.0085	0.9979
7) L1	1248-TOTAL	Quad	2.7721 e5	4.5124 e3	-0.0966	0.9992
8) S	DCBP	Avg	-----	2.6466 e4	-----	0.0930

Signal #2

	Compound	Fit	Constant	Linear	Quad	RSD/Cf
1) S	TCMX	Quad	2.4387 e4	3.0792 e4	-3.5481	0.9999
2) L1	1248-1	Quad	4.6898 e4	4.8529 e2	-0.0126	0.9998
3) L1	1248-2	Quad	7.2456 e4	1.0432 e3	-0.0104	0.9994
4) L1	1248-3	Quad	6.5876 e4	1.0546 e3	-0.0088	0.9989
5) L1	1248-4	Quad	8.2085 e4	1.4111 e3	-0.0031	0.9974
6) L1	1248-5	Quad	5.2123 e4	6.7696 e2	0.0040	0.9972
7) L1	1248-TOTAL	Quad	3.1944 e5	4.6712 e3	-0.0309	0.9987
8) S	DCBP	Quad	4.7886 e4	2.2842 e4	-0.3242	0.9990

170719-1248.M Thu Jul 20 16:29:22 2017

Calibration Report GC16

Method Path : C:\msdchem\3\METHODS\
Method File : 170718-2154.M
Title :
Last Update : Thu Jul 20 16:36:57 2017
Response Via : Initial Calibration

Calibration Files
50 =17071809 100 =17071810 200 =17071811 500 =17071812 1000=17071813
2000=17071814 5000=17071815

	Compound	Fit	Constant	Linear	Quad	RSD/Cf
1) S	TCMX	Quad	3.0880 e4	2.6078 e4	7.2147	0.9992
2) L1	1221-1	Quad	1.9532 e2	6.9713 e1	-0.0010	0.9987
3) L1	1221-2	Quad	2.9389 e3	1.0970 e2	-0.0033	0.9959
4) L1	1221-3	Quad	6.6076 e3	2.9547 e2	0.0017	0.9981
5) L1	1221-4	Quad	4.0701 e3	1.9047 e2	-0.0017	0.9977
6) L1	1221-5	Quad	2.0176 e4	7.3339 e2	-0.0010	0.9977
7) L1	1221-TOTAL	Quad	3.3988 e4	1.3987 e3	-0.0054	0.9978
8) L2	1254-1	Quad	1.9091 e4	5.8704 e2	0.0033	0.9985
9) L2	1254-2	Quad	5.6120 e4	1.9089 e3	0.0025	0.9991
10) L2	1254-3	Quad	3.7651 e4	1.3758 e3	0.0125	0.9993
11) L2	1254-4	Quad	1.6464 e4	9.8781 e2	0.0207	0.9995
12) L2	1254-5	Quad	3.8523 e4	1.5109 e3	0.0101	0.9995
13) L2	1254-TOTAL	Quad	1.6785 e5	6.3704 e3	0.0490	0.9993
14) S	DCBP	Quad	4.2336 e4	2.2066 e4	-0.5733	0.9992

Signal #2

	Compound	Fit	Constant	Linear	Quad	RSD/Cf
1) S	TCMX	QuadF	-----	3.0635 e4	-8.3507	0.9988
2) L1	1221-1	Quad	6.8722 e3	2.5035 e2	-0.0118	0.9955
3) L1	1221-2	Quad	5.4511 e3	3.6407 e2	-0.0126	0.9980
4) L1	1221-3	Quad	5.3139 e3	2.1350 e2	-0.0092	0.9973
5) L1	1221-4	Quad	9.9625 e3	6.7106 e2	-0.0236	0.9981
6) L1	1221-5	Quad	7.8922 e2	1.3767 e2	-0.0100	0.9955
7) L1	1221-TOTAL	Quad	2.8389 e4	1.6366 e3	-0.0672	0.9975
8) L2	1254-1	Quad	1.6124 e4	7.4199 e2	-0.0279	0.9979
9) L2	1254-2	Quad	3.5632 e4	1.6621 e3	-0.0662	0.9980
10) L2	1254-3	Quad	3.0698 e4	2.2792 e3	-0.0820	0.9984
11) L2	1254-4	Quad	2.1195 e4	9.2517 e2	-0.0361	0.9976
12) L2	1254-5	Quad	2.2420 e4	1.5627 e3	-0.0471	0.9986
13) L2	1254-TOTAL	Quad	1.2607 e5	7.1712 e3	-0.2591	0.9982
14) S	DCBP	Quad	1.8548 e4	2.4082 e4	-8.7575	0.9982

170718-2154.M Thu Jul 20 16:37:10 2017

Calibration Report GC16

Method Path : C:\msdchem\3\METHODS\
Method File : 170718-1232.M
Title :
Last Update : Wed Jul 19 10:34:10 2017
Response Via : Initial Calibration

Calibration Files
50 =17071817 100 =17071818 200 =17071819 500 =17071820 1000=17071821
2000=17071822 5000=17071823

	Compound	Fit	Constant	Linear	Quad	RSD/Cf
1) S	TCMX	Quad	1.1963 e4	3.0611 e4	2.0369	0.9995
2) L1	1232-1	Quad	1.3862 e4	6.7699 e2	-0.0090	0.9986
3) L1	1232-2	Quad	1.0811 e4	2.8562 e2	0.0021	0.9995
4) L1	1232-3	Quad	-1.3917 e4	3.6645 e2	-0.0151	0.9919
5) L1	1232-4	Quad	7.2657 e3	2.6278 e2	0.0001	0.9996
6) L1	1232-5	Quad	4.2556 e3	4.3303 e2	-0.0255	0.9842
7) L1	1232-TOTAL	Quad	2.2278 e4	2.0249 e3	-0.0475	0.9982
8) S	DCBP	Quad	2.9740 e4	2.5220 e4	-3.0661	0.9995

Signal #2

	Compound	Fit	Constant	Linear	Quad	RSD/Cf
1) S	TCMX	Quad	1.6082 e4	3.1439 e4	-7.9794	0.9995
2) L1	1232-1	Quad	1.3148 e4	5.8327 e2	-0.0201	0.9991
3) L1	1232-2	Quad	1.2503 e4	5.7636 e2	-0.0214	0.9989
4) L1	1232-3	Quad	1.2116 e4	5.0153 e2	-0.0149	0.9992
5) L1	1232-4	Quad	8.2785 e3	3.4346 e2	-0.0108	0.9986
6) L1	1232-5	Quad	8.4015 e3	4.2293 e2	-0.0131	0.9996
7) L1	1232-TOTAL	Quad	5.4447 e4	2.4276 e3	-0.0803	0.9993
8) S	DCBP	Quad	1.8209 e4	2.4951 e4	-7.3615	0.9987

170718-1232.M Thu Jul 20 16:37:38 2017

Method Path : C:\msdchem\3\METHODS\
Method File : 170719-1242.M
Title :
Last Update : Thu Jul 20 16:56:39 2017
Response Via : Initial Calibration

Calibration Files
50 =17071844 100 =17071829 200 =17071830 500 =17071831 1000=17071832
2000=17071833 5000=17071834

	Compound	Fit	Constant	Linear	Quad	RSD/Cf
1) S	TCMX	Quad	2.3018 e4	2.9931 e4	6.2634	0.9998
2) L1	1242-1	Quad	1.8127 e4	4.9568 e2	-0.0044	0.9994
3) L1	1242-2	Quad	1.7783 e4	6.4014 e2	0.0026	0.9982
4) L1	1242-3	Quad	3.2477 e4	5.7507 e2	-0.0007	0.9996
5) L1	1242-4	Quad	2.5999 e4	5.6221 e2	0.0041	0.9997
6) L1	1242-5	Quad	2.9884 e4	9.2107 e2	-0.0289	0.9963
7) L1	1242-TOTAL	Quad	1.2427 e5	3.1942 e3	-0.0273	0.9993
8) S	DCBP	Quad	3.0388 e4	2.4474 e4	1.8197	0.9994

Signal #2

	Compound	Fit	Constant	Linear	Quad	RSD/Cf
1) S	TCMX	Quad	3.6921 e4	3.0068 e4	-5.6730	0.9998
2) L1	1242-1	Quad	2.4671 e4	4.0539 e2	-0.0097	0.9992
3) L1	1242-2	Quad	5.0817 e4	9.2342 e2	-0.0262	0.9991
4) L1	1242-3	Quad	4.6828 e4	8.9998 e2	-0.0167	0.9994
5) L1	1242-4	Quad	3.6863 e4	6.5150 e2	-0.0134	0.9995
6) L1	1242-5	Quad	4.7519 e4	8.0592 e2	-0.0136	0.9994
7) L1	1242-TOTAL	Quad	2.0670 e5	3.6862 e3	-0.0797	0.9993
8) S	DCBP	Quad	4.1225 e4	2.3056 e4	-2.5600	0.9999

170719-1242.M Thu Jul 20 16:56:45 2017

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071801.D
Acq On : 18 Jul 2017 3:30 pm
Operator :
Sample : 1660-1 50 PPB
Misc : CAL1
ALS Vial : 0 (Sig #1); 1 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 19 10:59:33 2017
InstName : GC16
QLast Update : Wed Jul 19 10:08:29 2017
Response via : Initial Calibration

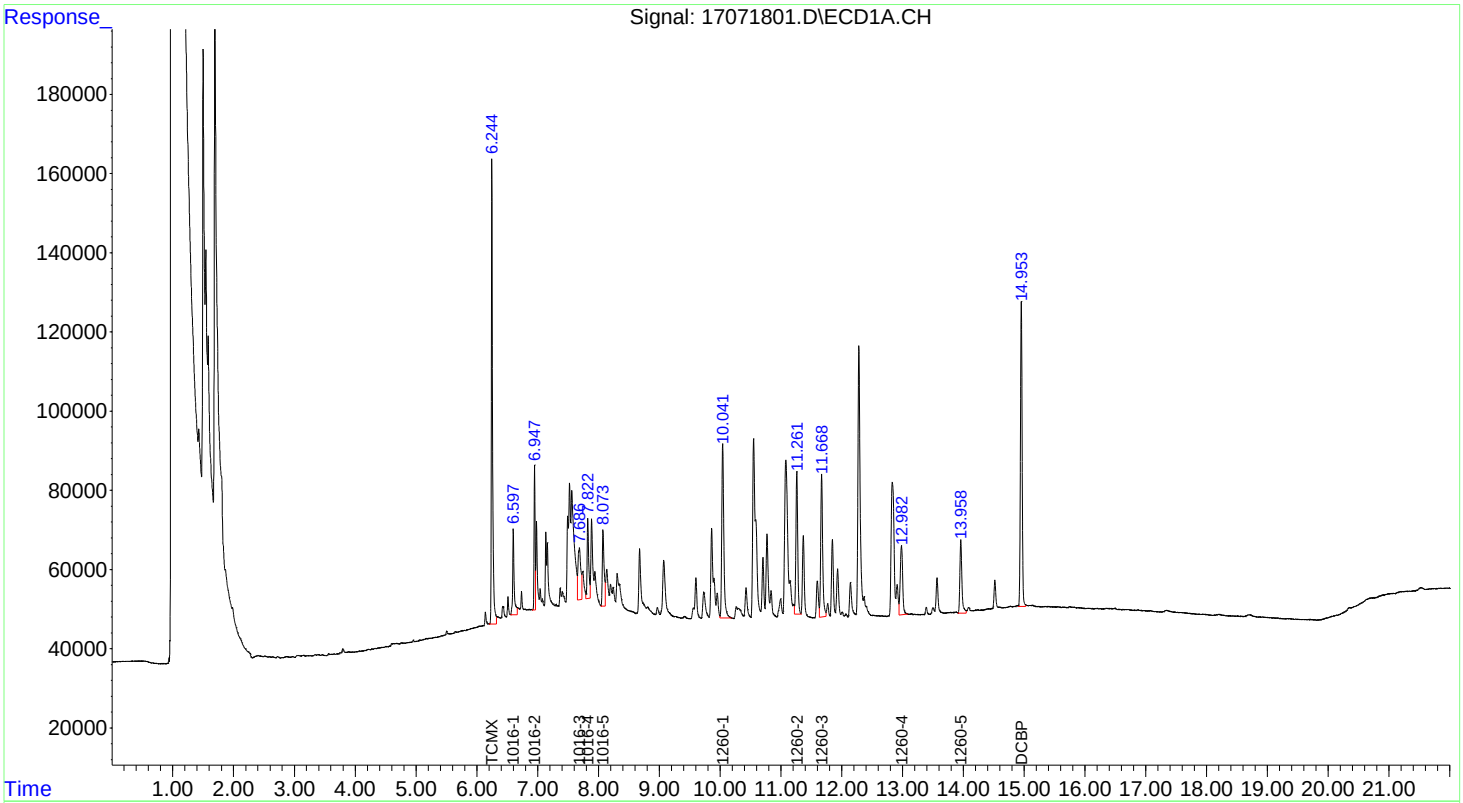
		Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
		System Monitoring Compounds						
1)	S	TCMX	6.244	6.236	160167	155753	5.473	5.194
14)	S	DCBP	14.953	15.690	149963	139206	6.133	5.691
		Target Compounds						
2)	L1	1016-1	6.597	6.885	36024	34076	60.826	58.860
3)	L1	1016-2	6.947	7.296	43487	75093	57.802	55.930
4)	L1	1016-3	7.686	7.621	42982	38364	51.258	54.577
5)	L1	1016-4	7.822	8.616	36891	49863	52.361	54.273
6)	L1	1016-5	8.073	9.139	39557	14802	53.967	48.982
7)	L1	1016-TOTAL	0.000	0.000	198941	212198	54.946m	55.182m
8)	L2	1260-1	10.041	10.660	104130	98388	60.355	54.445
9)	L2	1260-2	11.261	10.902	75637	110631	58.097	54.712
10)	L2	1260-3	11.668	12.391	81081	71528	58.417	53.951
11)	L2	1260-4	12.982	13.401	47989	35500	58.735	55.171
12)	L2	1260-5	13.958	14.517	43264	41701	62.612	57.600
13)	L2	1260-TOTAL	0.000	0.000	352101	357748	59.444m	54.849m

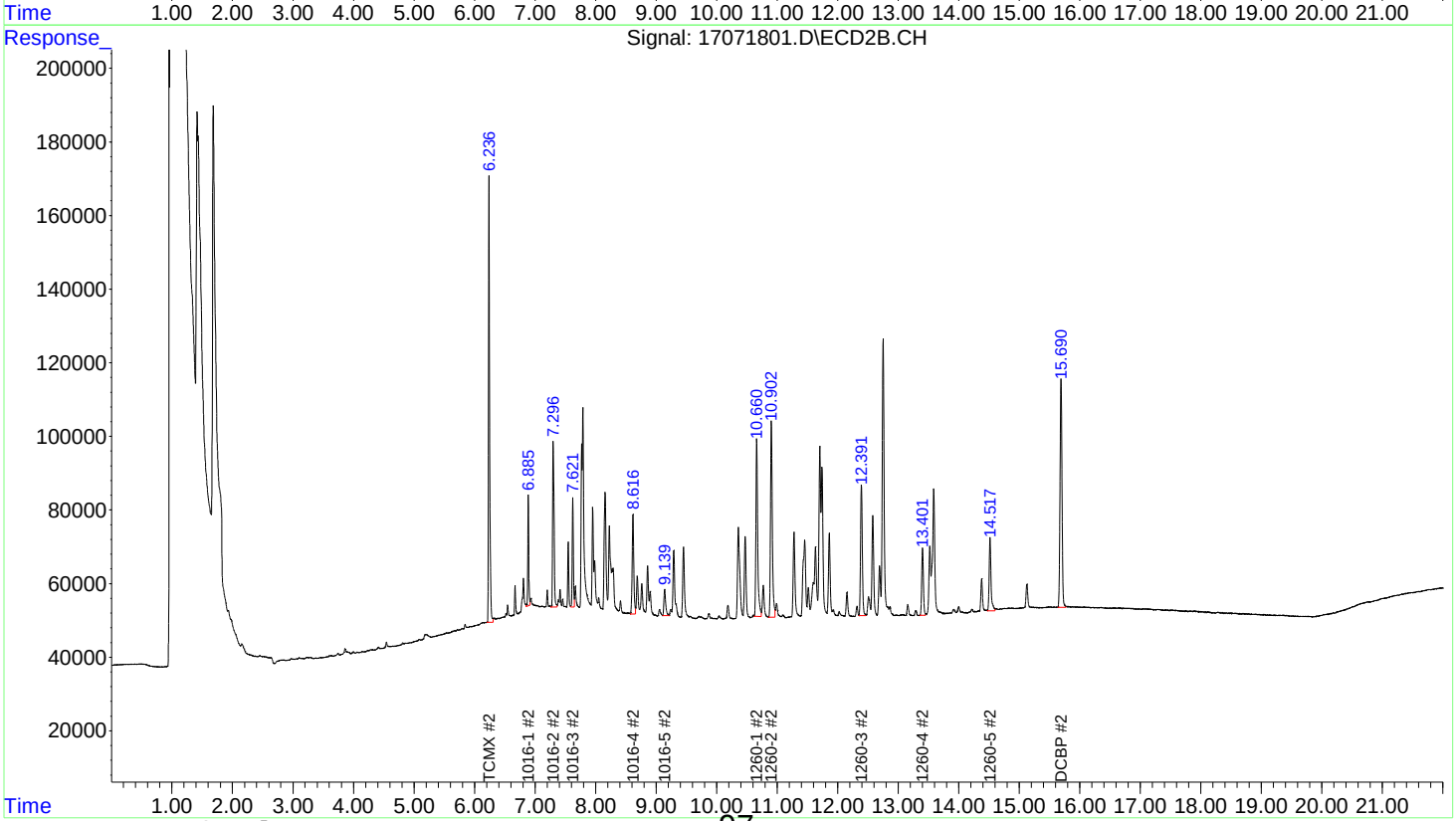
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071801.D
Acq On : 18 Jul 2017 3:30 pm
Operator :
Sample : 1660-1 50 PPB
Misc : CAL1
ALS Vial : 0 (Sig #1); 1 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 19 10:59:33 2017
InstName : GC16
QLast Update : Wed Jul 19 10:08:29 2017
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071802.D
Acq On : 18 Jul 2017 3:55 pm
Operator :
Sample : 1660-2 100 PPB
Misc : CAL
ALS Vial : 0 (Sig #1); 2 (Sig #2) Sample Multiplier: 1
InstName : GC16

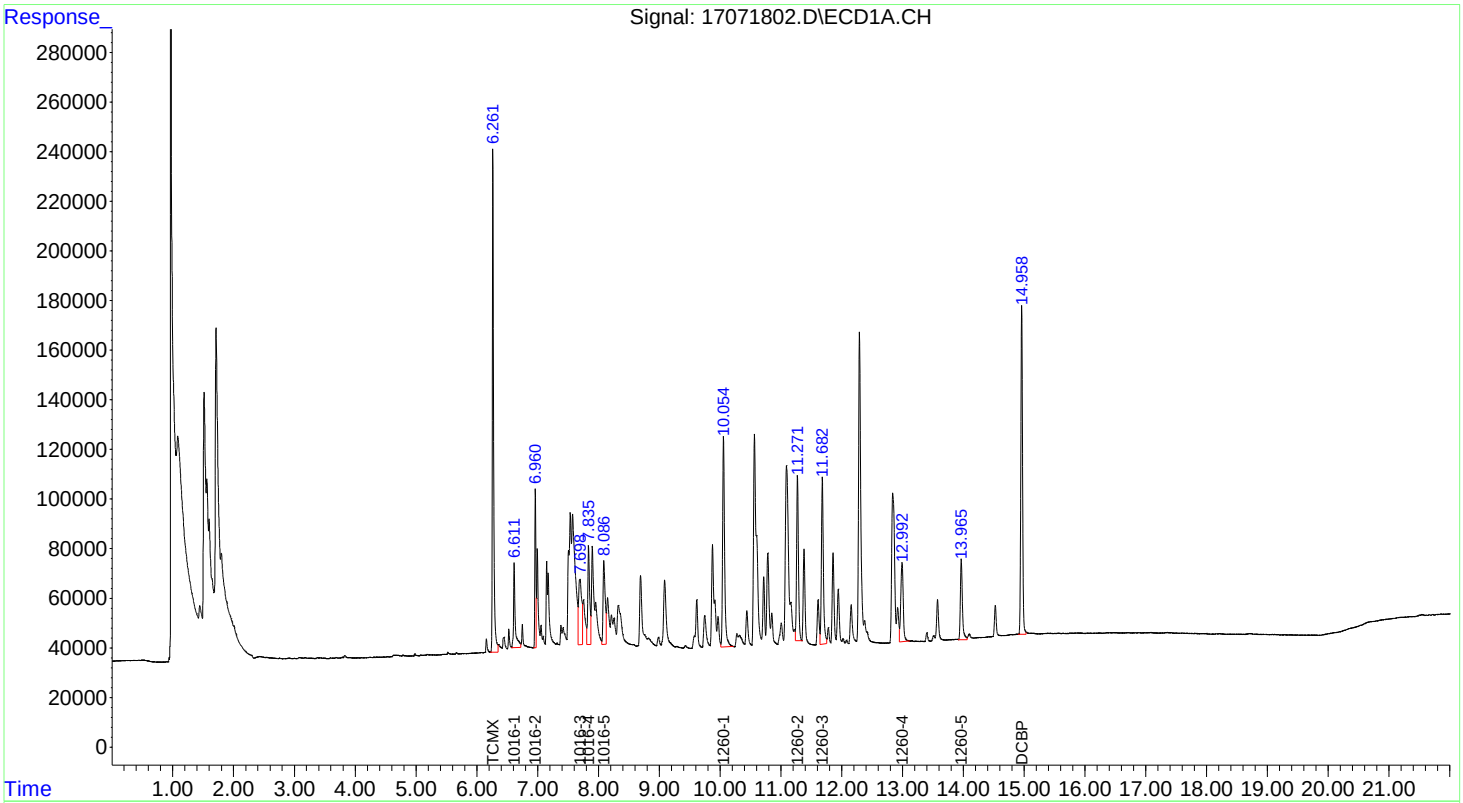
Quant Time: Jul 19 10:59:37 2017
InstName : GC16
QLast Update : Wed Jul 19 10:08:29 2017
Response via : Initial Calibration

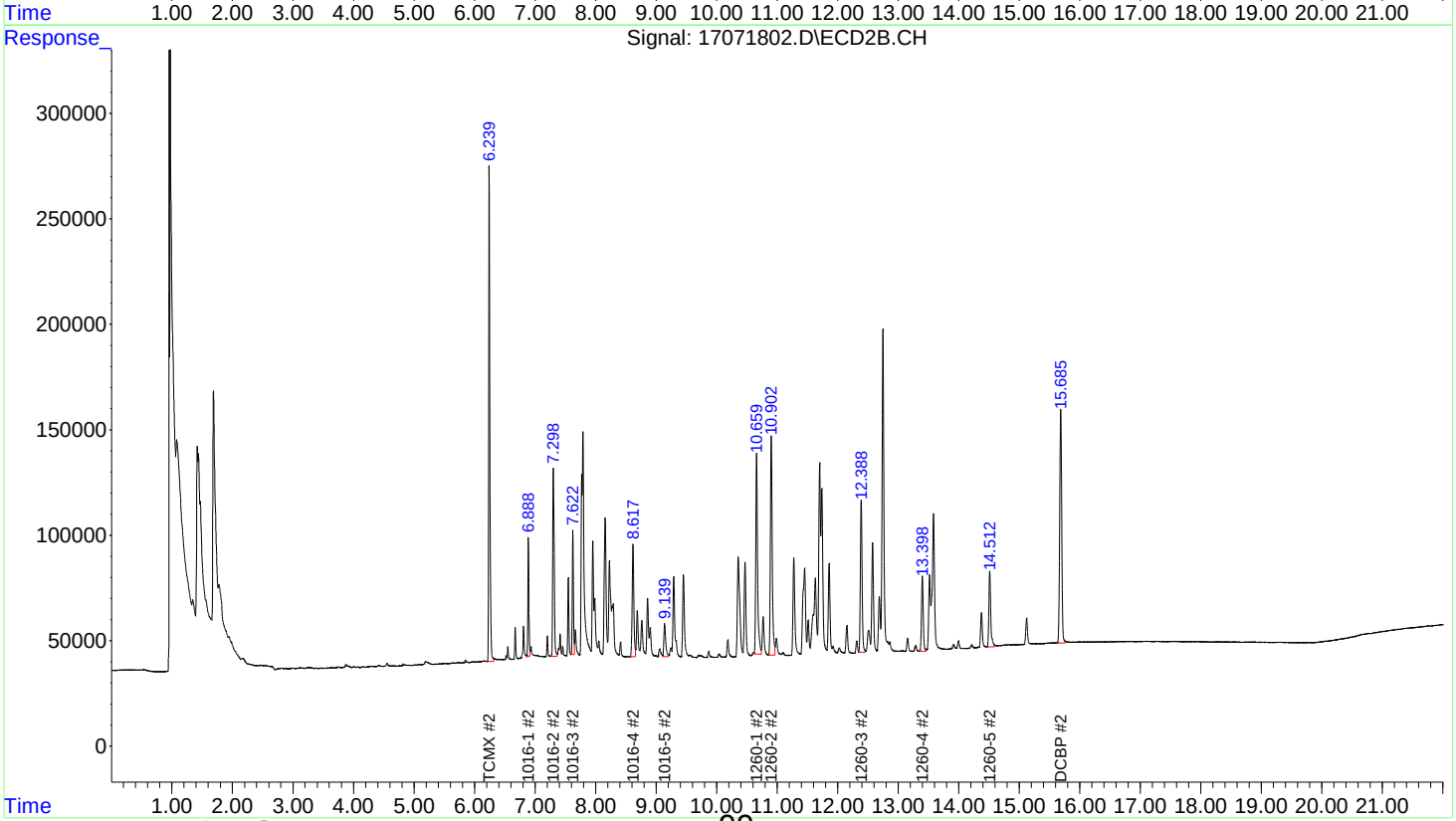
		Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
		System Monitoring Compounds						
1)	S	TCMX	6.261	6.239	290128	307195	9.913	10.244
14)	S	DCBP	14.958	15.685	260469	255117	10.653	10.430
		Target Compounds						
2)	L1	1016-1	6.611	6.888	64315	66232	108.596	114.403
3)	L1	1016-2	6.960	7.298	78907	152233	104.882	113.385
4)	L1	1016-3	7.698	7.622	95738	76065	114.172	108.210
5)	L1	1016-4	7.835	8.617	85446	101441	121.277	110.413
6)	L1	1016-5	8.086	9.139	81011	34308	110.522	113.531
7)	L1	1016-TOTAL	0.000	0.000	405417	430279	111.973m	111.894m
8)	L2	1260-1	10.054	10.659	193721	195643	112.283	108.262
9)	L2	1260-2	11.271	10.902	139488	218352	107.141	107.985
10)	L2	1260-3	11.682	12.388	149480	141106	107.698	106.431
11)	L2	1260-4	12.992	13.398	89840	69663	109.958	108.264
12)	L2	1260-5	13.965	14.512	75781	76099	109.671	105.112
13)	L2	1260-TOTAL	0.000	0.000	648310	700863	109.453m	107.455m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : C:\msdchem\3\170718\
Data File : 17071802.D
Acq On : 18 Jul 2017 3:55 pm
Operator :
Sample : 1660-2 100 PPB
Misc : CAL
ALS Vial : 0 (Sig #1); 2 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 19 10:59:37 2017
InstName : GC16
QLast Update : Wed Jul 19 10:08:29 2017
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071803.D
Acq On : 18 Jul 2017 4:21 pm
Operator :
Sample : 1660-3 200 PPB
Misc : CAL
ALS Vial : 0 (Sig #1); 3 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 19 10:59:41 2017
InstName : GC16
QLast Update : Wed Jul 19 10:08:29 2017
Response via : Initial Calibration

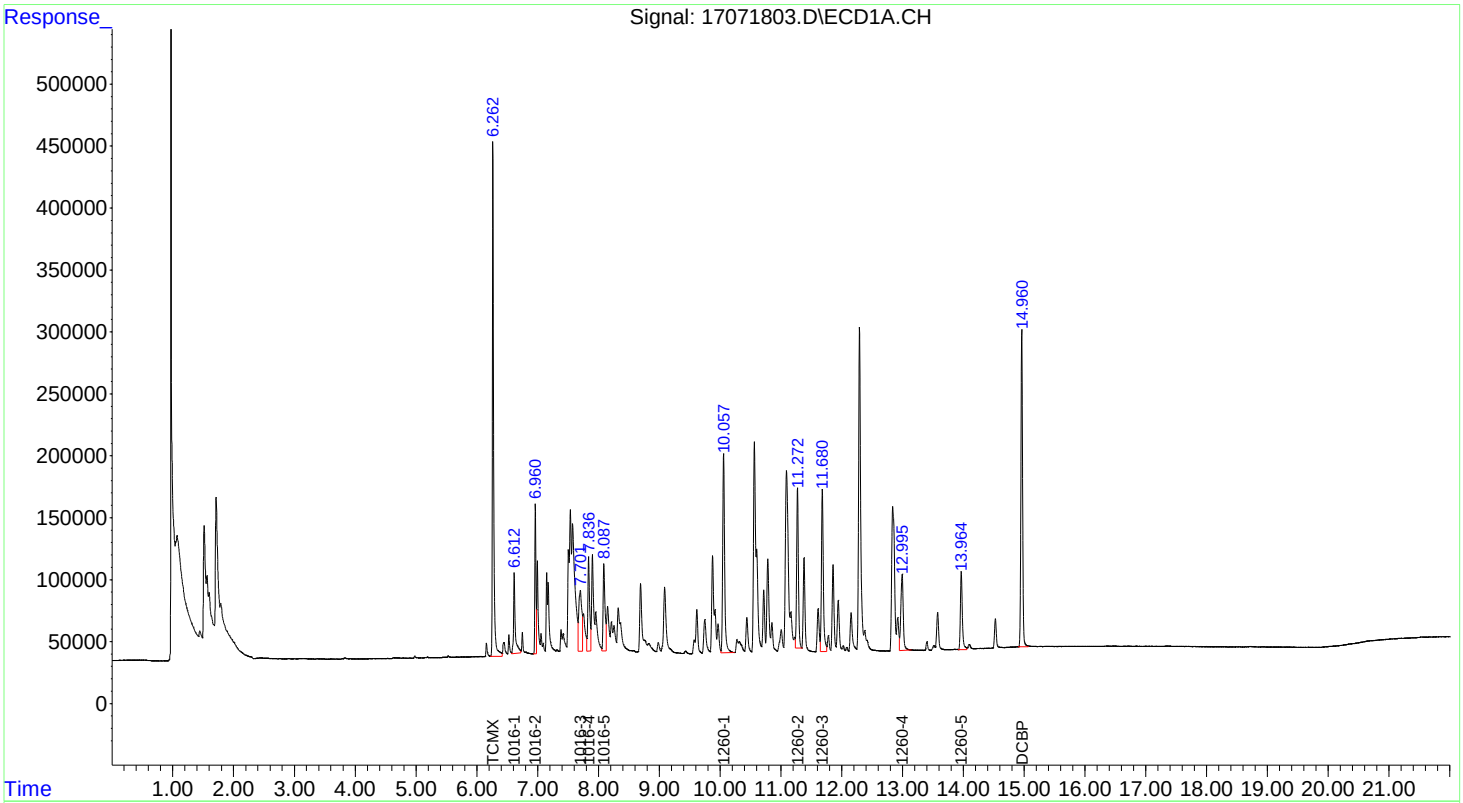
		Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
		System Monitoring Compounds						
1)	S	TCMX	6.262	6.239	575754	604813	19.672	20.169
14)	S	DCBP	14.960	15.684	492498	501697	20.142	20.512
		Target Compounds						
2)	L1	1016-1	6.612	6.887	121364	123300	204.923	212.977
3)	L1	1016-2	6.960	7.298	152992	285914	203.354	212.953
4)	L1	1016-3	7.701	7.622	175499	150559	209.291	214.185
5)	L1	1016-4	7.836	8.616	155752	193439	221.065	210.549
6)	L1	1016-5	8.087	9.138	151344	65586	206.476	217.036
7)	L1	1016-TOTAL	0.000	0.000	756951	818798	209.064m	212.928m
8)	L2	1260-1	10.057	10.658	357448	385891	207.181	213.539
9)	L2	1260-2	11.272	10.901	260228	424638	199.882	210.003
10)	L2	1260-3	11.680	12.388	283811	273266	204.481	206.115
11)	L2	1260-4	12.995	13.396	169248	134501	207.147	209.029
12)	L2	1260-5	13.964	14.513	139080	149008	201.279	205.819
13)	L2	1260-TOTAL	0.000	0.000	1209815	1367304	204.251m	209.632m

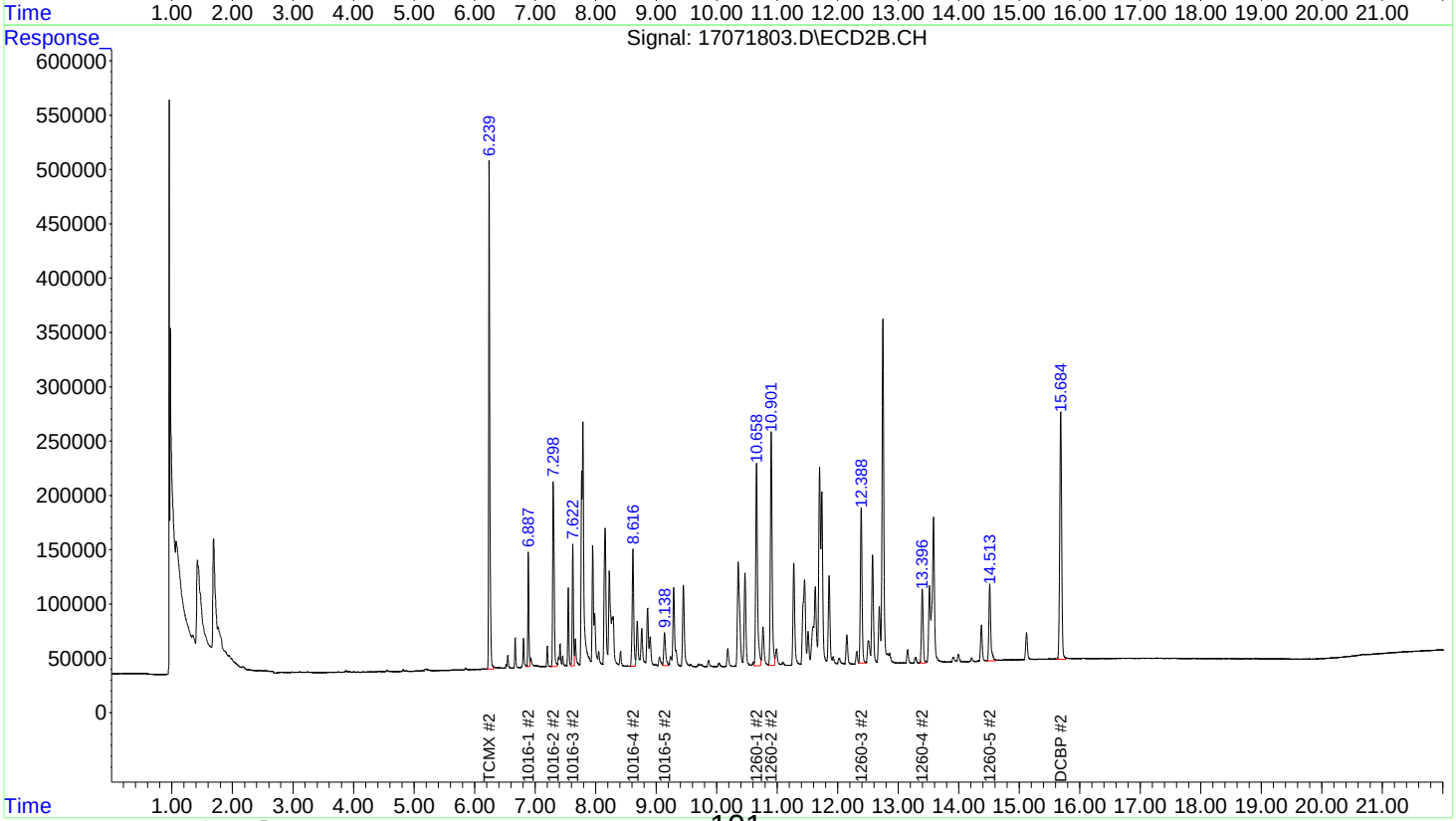
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071803.D
Acq On : 18 Jul 2017 4:21 pm
Operator :
Sample : 1660-3 200 PPB
Misc : CAL
ALS Vial : 0 (Sig #1); 3 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 19 10:59:41 2017
InstName : GC16
QLast Update : Wed Jul 19 10:08:29 2017
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071804.D
Acq On : 18 Jul 2017 4:46 pm
Operator :
Sample : 1660-4 500 PPB
Misc : CAL
ALS Vial : 0 (Sig #1); 4 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 19 10:59:45 2017
InstName : GC16
QLast Update : Wed Jul 19 10:08:29 2017
Response via : Initial Calibration

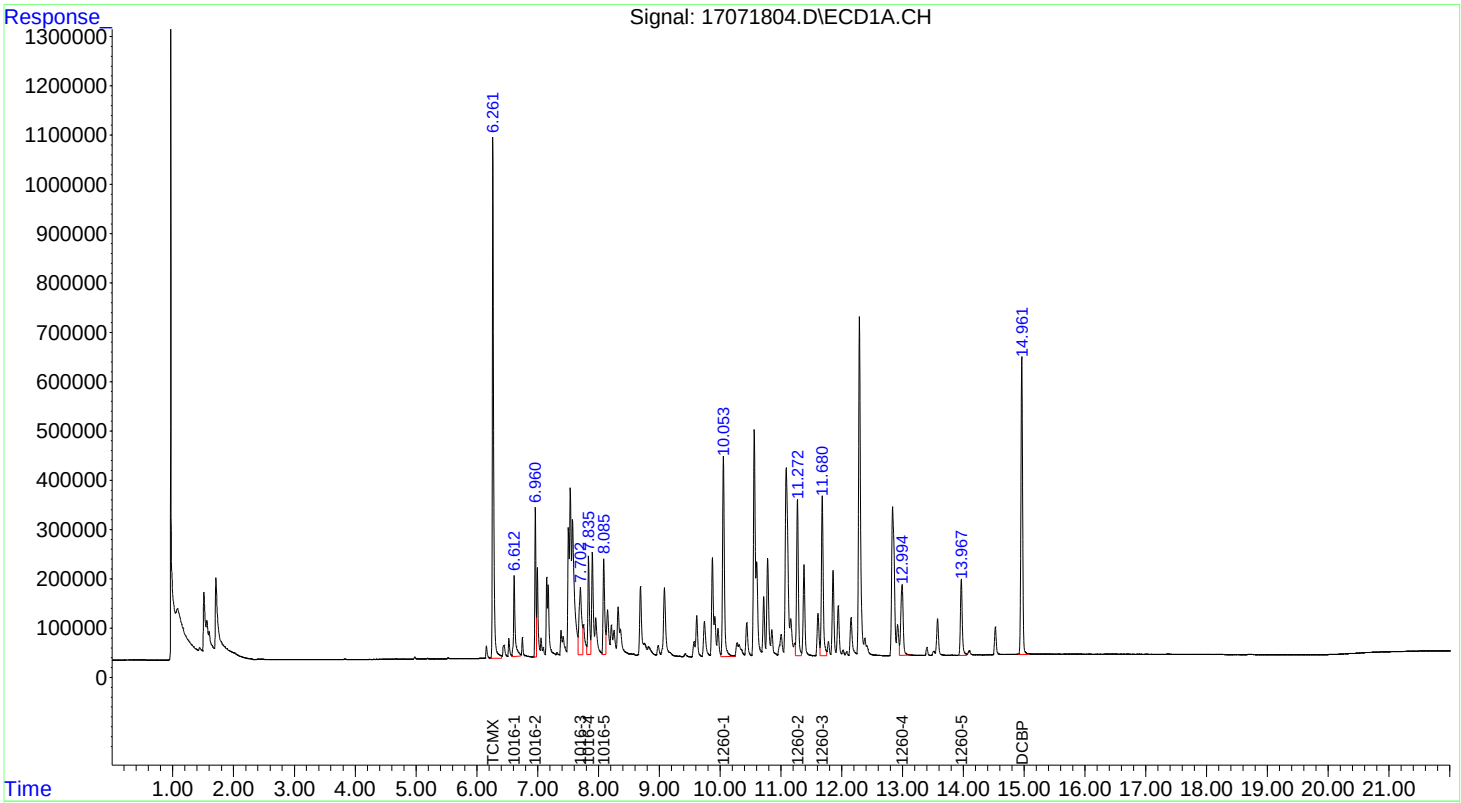
		Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
		System Monitoring Compounds						
1)	S	TCMX	6.261	6.239	1471145	1407843	50.266	46.948
14)	S	DCBP	14.961	15.684	1171099	1118815	47.896	45.742
		Target Compounds						
2)	L1	1016-1	6.612	6.887	293285	262671	495.210	453.713
3)	L1	1016-2	6.960	7.298	374179	623212	497.351	464.178
4)	L1	1016-3	7.702	7.622	414795	327832	494.664	466.374
5)	L1	1016-4	7.835	8.615	349175	424177	495.599	461.695
6)	L1	1016-5	8.085	9.137	356990	150698	487.034	498.687
7)	L1	1016-TOTAL	0.000	0.000	1788424	1788590	493.949m	465.122m
8)	L2	1260-1	10.053	10.658	845559	838617	490.095	464.063
9)	L2	1260-2	11.272	10.900	646621	934156	496.672	461.984
10)	L2	1260-3	11.680	12.388	670158	603596	482.837	455.271
11)	L2	1260-4	12.994	13.398	389945	292229	477.265	454.156
12)	L2	1260-5	13.967	14.513	324711	324847	469.927	448.698
13)	L2	1260-TOTAL	0.000	0.000	2876994	2993445	485.717m	458.948m

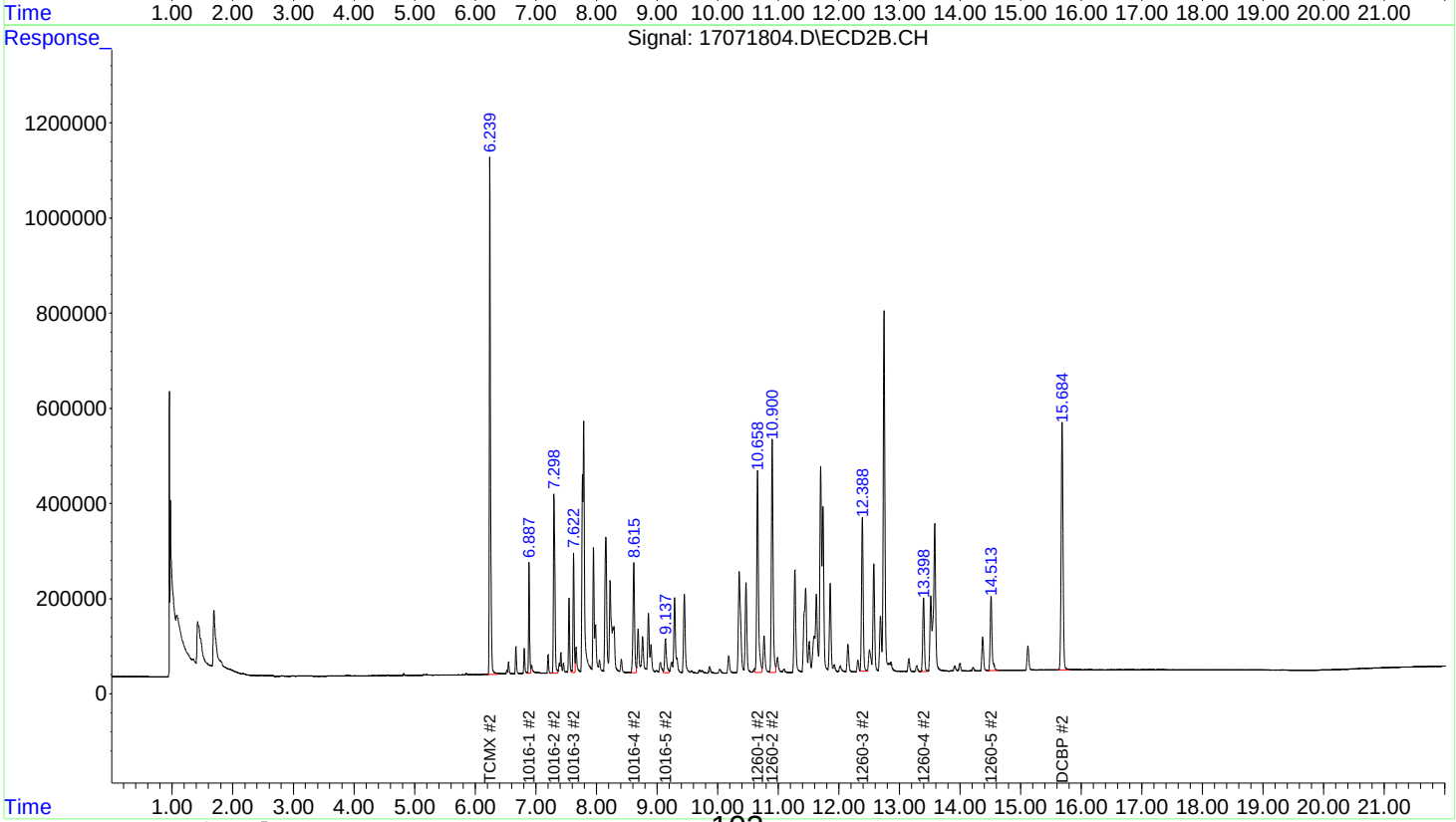
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071804.D
Acq On : 18 Jul 2017 4:46 pm
Operator :
Sample : 1660-4 500 PPB
Misc : CAL
ALS Vial : 0 (Sig #1); 4 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 19 10:59:45 2017
InstName : GC16
QLast Update : Wed Jul 19 10:08:29 2017
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071805.D
Acq On : 18 Jul 2017 5:12 pm
Operator :
Sample : 1660-5 1000 PPB
Misc : CAL
ALS Vial : 0 (Sig #1); 5 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 19 10:59:49 2017
InstName : GC16
QLast Update : Wed Jul 19 10:08:29 2017
Response via : Initial Calibration

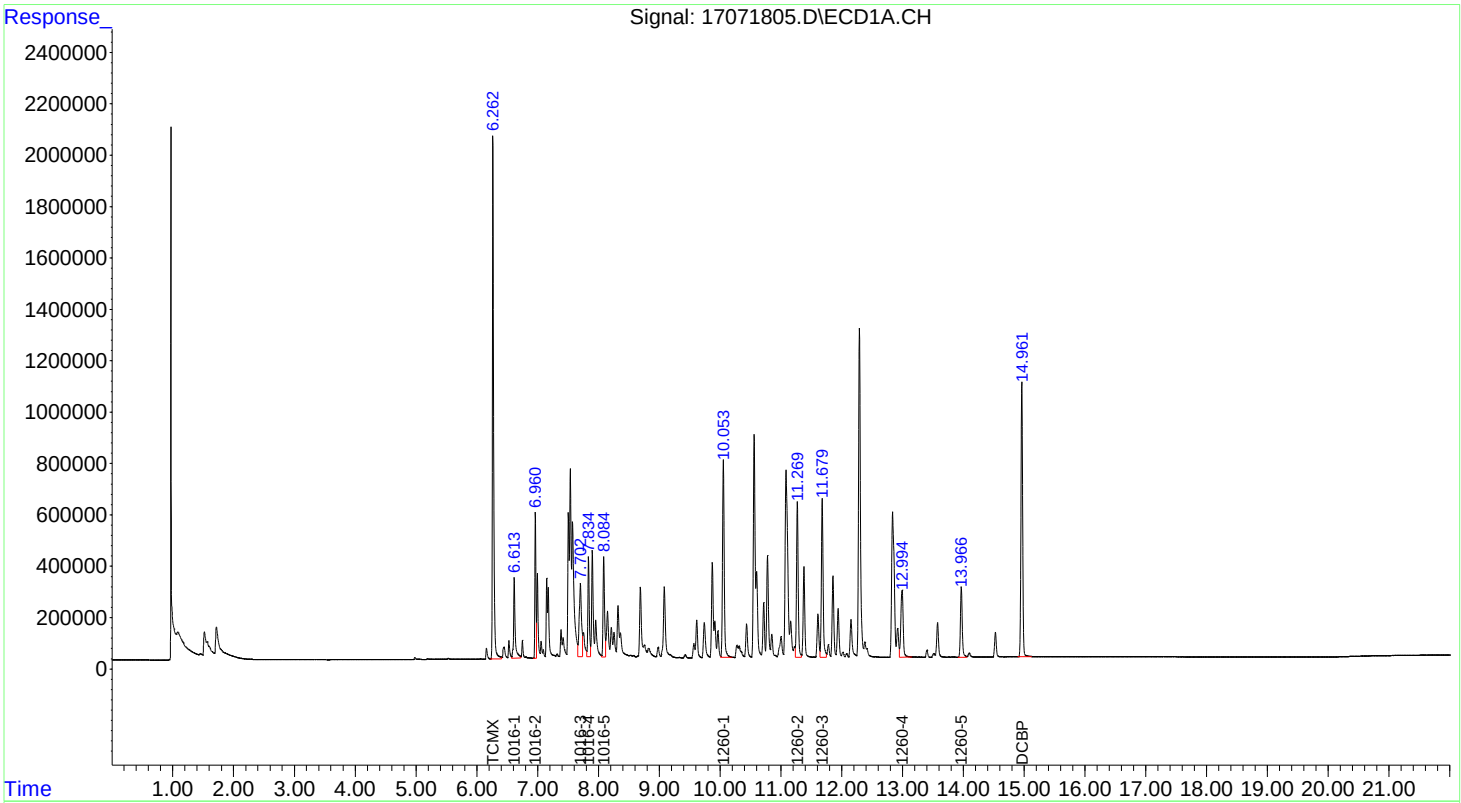
		Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
		System Monitoring Compounds						
1)	S	TCMX	6.262	6.239	2777057	3072740	94.886	102.468
14)	S	DCBP	14.961	15.685	2049521	2421161	83.822	98.988
		Target Compounds						
2)	L1	1016-1	6.613	6.887	544924	549539	920.102	949.222
3)	L1	1016-2	6.960	7.298	686447	1304493	912.411	971.606
4)	L1	1016-3	7.702	7.622	749895	692328	894.288	984.906
5)	L1	1016-4	7.834	8.614	621431	902677	882.023	982.519
6)	L1	1016-5	8.084	9.138	666045	282450	908.672	934.677
7)	L1	1016-TOTAL	0.000	0.000	3268742	3731487	902.801m	970.373m
8)	L2	1260-1	10.053	10.658	1489145	1780975	863.124	985.533
9)	L2	1260-2	11.269	10.899	1161182	2004588	891.908	991.363
10)	L2	1260-3	11.679	12.389	1213850	1329005	874.557	1002.420
11)	L2	1260-4	12.994	13.398	695097	627149	850.749	974.658
12)	L2	1260-5	13.966	14.512	568208	702301	822.319	970.059
13)	L2	1260-TOTAL	0.000	0.000	5127482	6444018	865.662m	987.982m

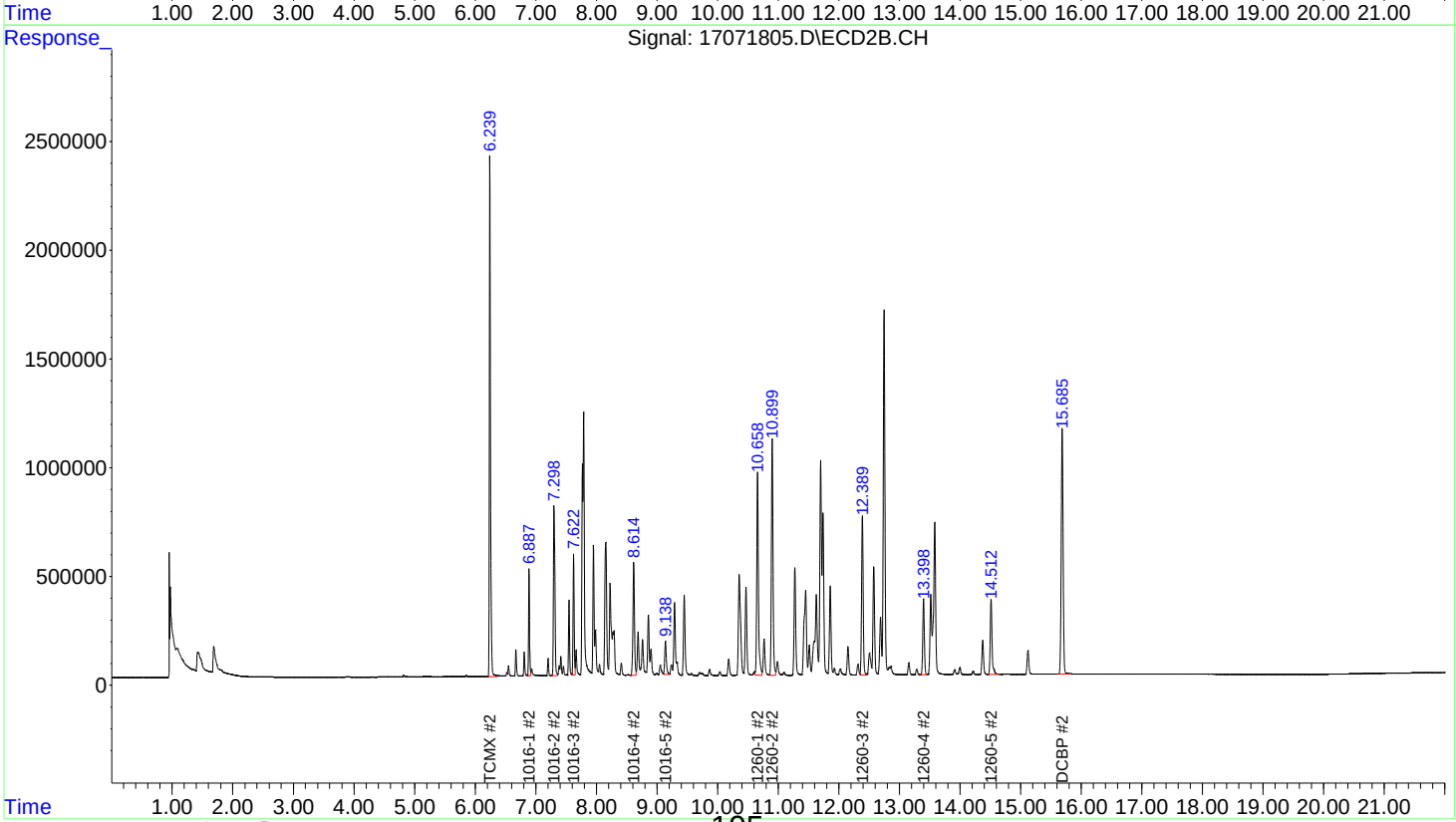
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071805.D
Acq On : 18 Jul 2017 5:12 pm
Operator :
Sample : 1660-5 1000 PPB
Misc : CAL
ALS Vial : 0 (Sig #1); 5 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 19 10:59:49 2017
InstName : GC16
QLast Update : Wed Jul 19 10:08:29 2017
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071806.D
Acq On : 18 Jul 2017 5:37 pm
Operator :
Sample : 1660-6 2000 PPB
Misc : CAL
ALS Vial : 0 (Sig #1); 6 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 19 10:59:53 2017
InstName : GC16
QLast Update : Wed Jul 19 10:08:29 2017
Response via : Initial Calibration

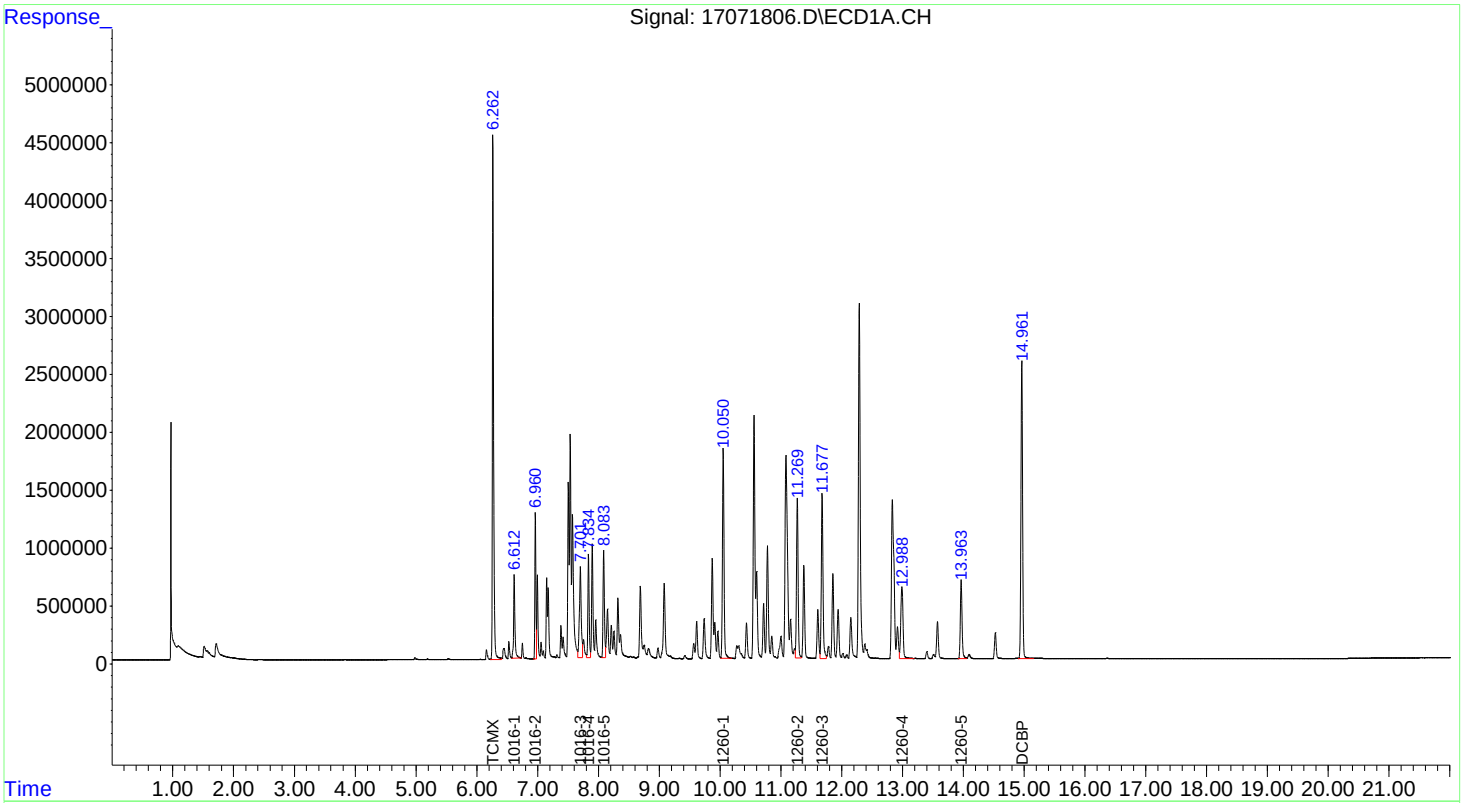
		Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
		System Monitoring Compounds						
1)	S	TCMX	6.262	6.239	5987433	5892934	204.578	196.515
14)	S	DCBP	14.961	15.686	4829702	4544462	197.526	185.799
		Target Compounds						
2)	L1	1016-1	6.612	6.887	1072934	1028379	1811.644	1776.325
3)	L1	1016-2	6.960	7.298	1477137	2427046	1963.379	1807.701
4)	L1	1016-3	7.701	7.622	1638393	1298761	1953.866	1847.618
5)	L1	1016-4	7.834	8.614	1297964	1708243	1842.255	1859.337
6)	L1	1016-5	8.083	9.137	1439210	540800	1963.485	1789.604
7)	L1	1016-TOTAL	0.000	0.000	6925638	7003229	1912.808m	1821.188m
8)	L2	1260-1	10.050	10.658	3223076	3342579	1868.128	1849.673
9)	L2	1260-2	11.269	10.898	2537722	3756648	1949.233	1857.839
10)	L2	1260-3	11.677	12.387	2719967	2509448	1959.687	1892.786
11)	L2	1260-4	12.988	13.398	1588606	1187381	1944.340	1845.320
12)	L2	1260-5	13.963	14.513	1336026	1336003	1933.517	1845.365
13)	L2	1260-TOTAL	0.000	0.000	11405397	12132059	1925.550m	1860.060m

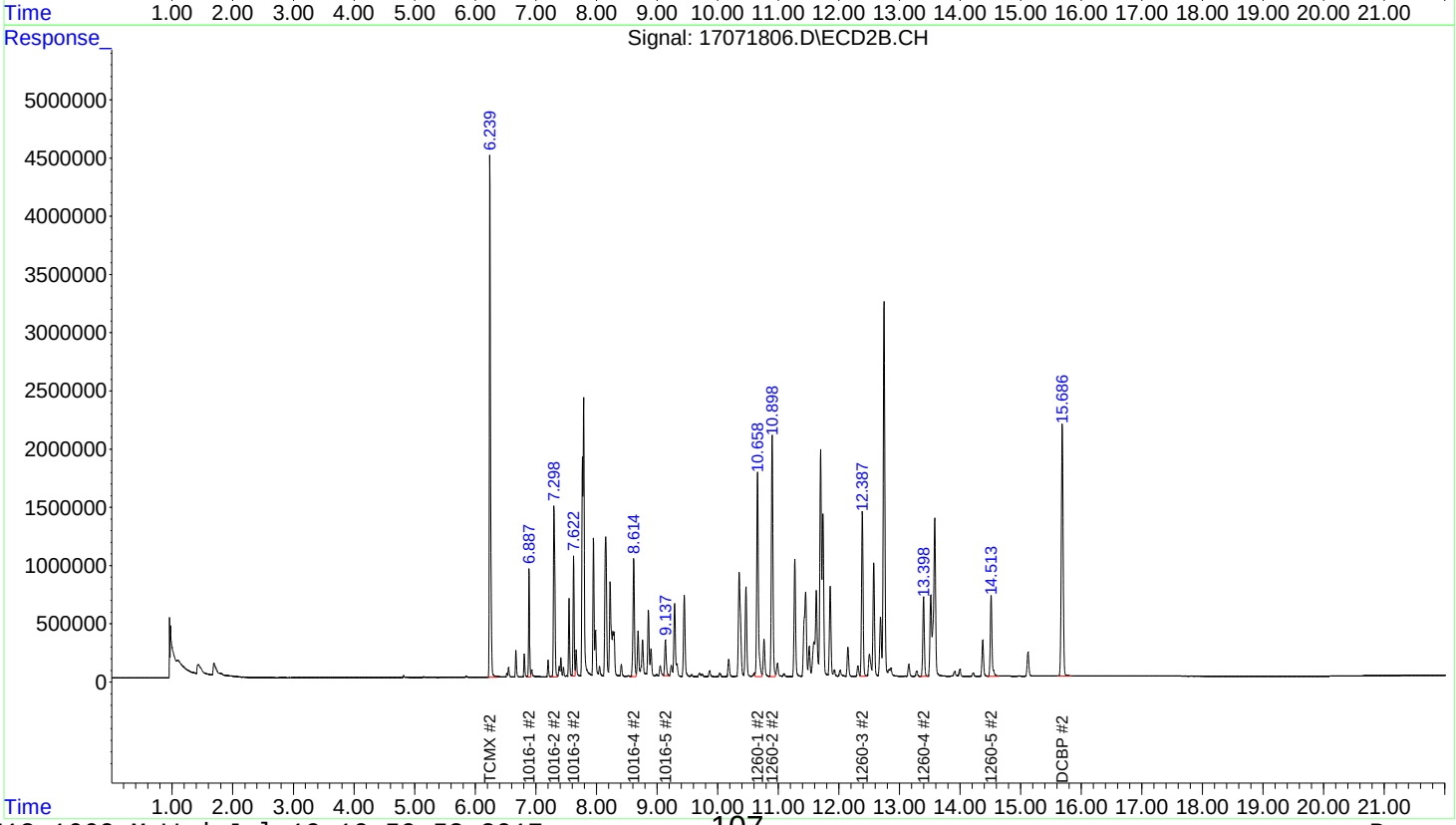
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071806.D
Acq On : 18 Jul 2017 5:37 pm
Operator :
Sample : 1660-6 2000 PPB
Misc : CAL
ALS Vial : 0 (Sig #1); 6 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 19 10:59:53 2017
InstName : GC16
QLast Update : Wed Jul 19 10:08:29 2017
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071807.D
Acq On : 18 Jul 2017 6:03 pm
Operator :
Sample : 1660-7 5000 PPB (Sig #1); 1660-7 2000 PPB (Sig #2)
Misc : CAL
ALS Vial : 0 (Sig #1); 7 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 19 10:59:57 2017
InstName : GC16
QLast Update : Wed Jul 19 10:08:29 2017
Response via : Initial Calibration

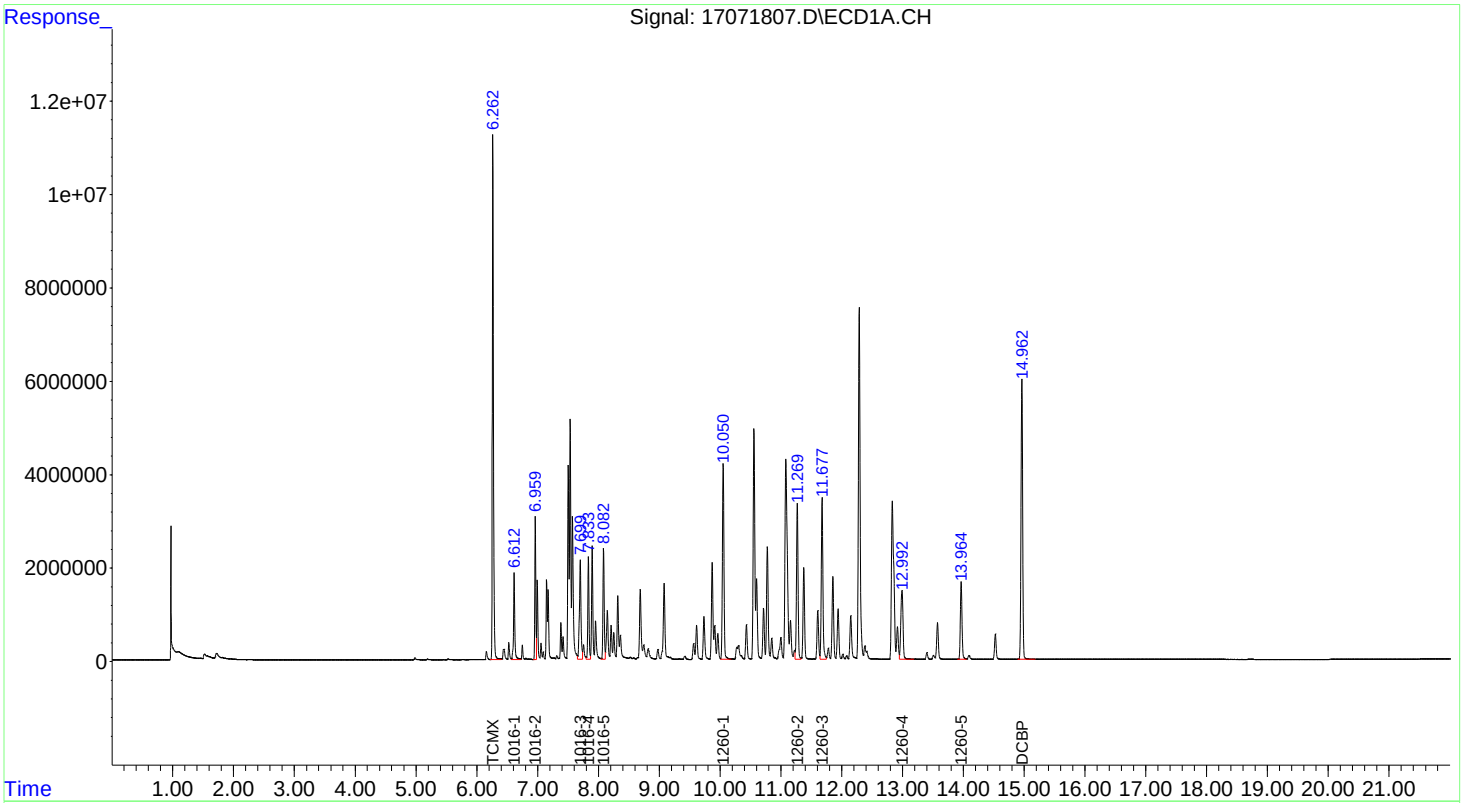
		Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
		System Monitoring Compounds						
1)	S	TCMX	6.262	6.239	13953158	14725439	476.750	491.057
14)	S	DCBP	14.962	15.686	11213299	11732636	458.604	479.685
		Target Compounds						
2)	L1	1016-1	6.612	6.887	2536455	2515717	4282.793	4345.413
3)	L1	1016-2	6.959	7.297	3346331	5900522	4447.872	4394.798
4)	L1	1016-3	7.699	7.622	3882882	3212349	4630.532	4569.888
5)	L1	1016-4	7.833	8.614	2960294	4235739	4201.670	4610.389
6)	L1	1016-5	8.082	9.137	3366566	1470163	4592.937	4865.032
7)	L1	1016-TOTAL	0.000	0.000	16092528	17334490	4444.632m	4507.831m
8)	L2	1260-1	10.050	10.657	7391156	8333458	4283.989	4611.460
9)	L2	1260-2	11.269	10.898	5906560	9419081	4536.848	4658.177
10)	L2	1260-3	11.677	12.387	6330474	6408508	4560.992	4833.706
11)	L2	1260-4	12.992	13.397	3727898	3098772	4562.680	4815.831
12)	L2	1260-5	13.964	14.512	3163718	3538982	4578.580	4888.248
13)	L2	1260-TOTAL	0.000	0.000	26519806	30798801	4477.285m	4722.004m

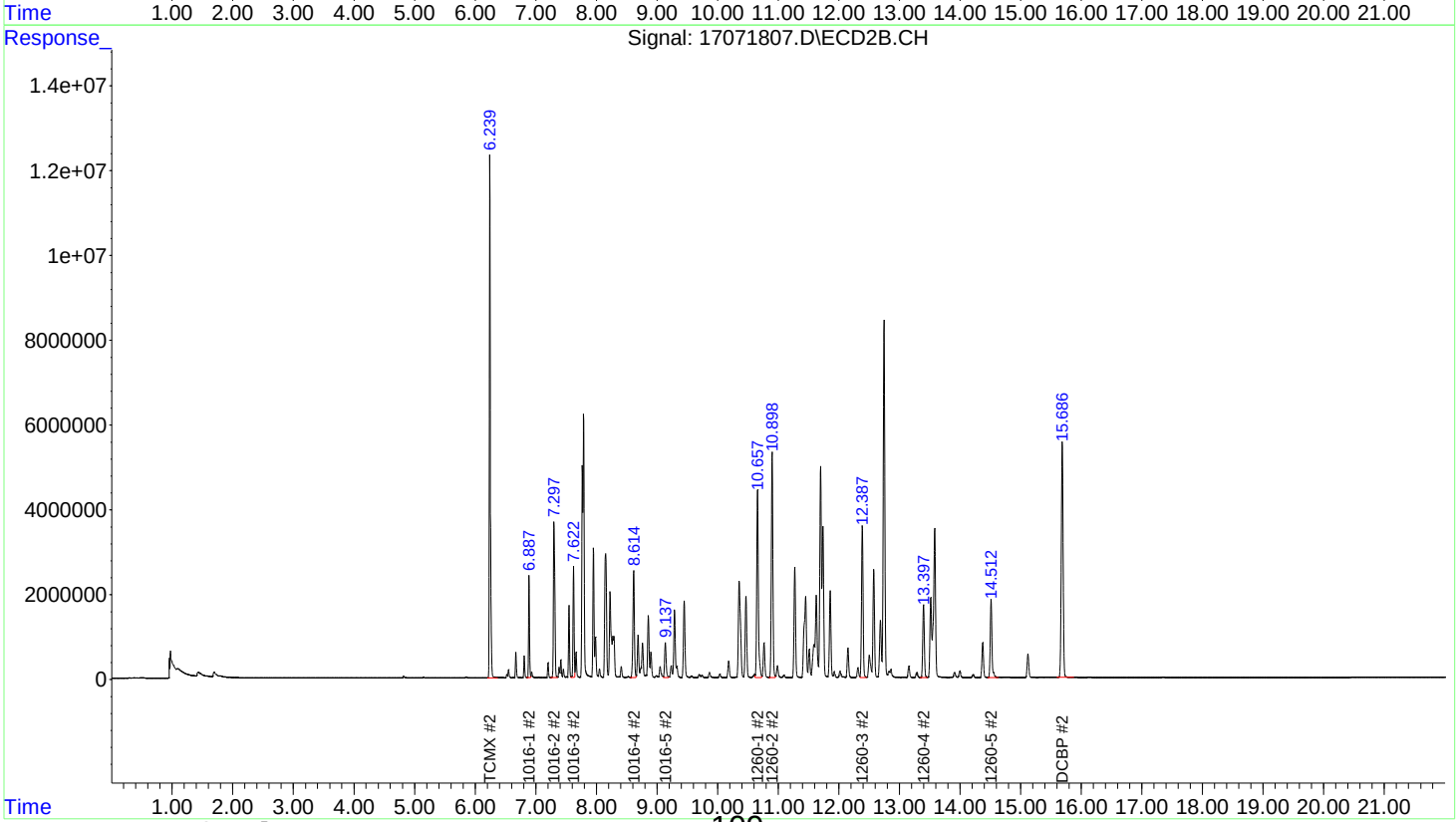
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071807.D
Acq On : 18 Jul 2017 6:03 pm
Operator :
Sample : 1660-7 5000 PPB (Sig #1); 1660-7 2000 PPB (Sig #2)
Misc : CAL
ALS Vial : 0 (Sig #1); 7 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 19 10:59:57 2017
InstName : GC16
QLast Update : Wed Jul 19 10:08:29 2017
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071808.D
Acq On : 18 Jul 2017 6:28 pm
Operator :
Sample : 1660 SSCV 2000 PPB
Misc : ICV
ALS Vial : 0 (Sig #1); 8 (Sig #2) Sample Multiplier: 1
InstName : GC16

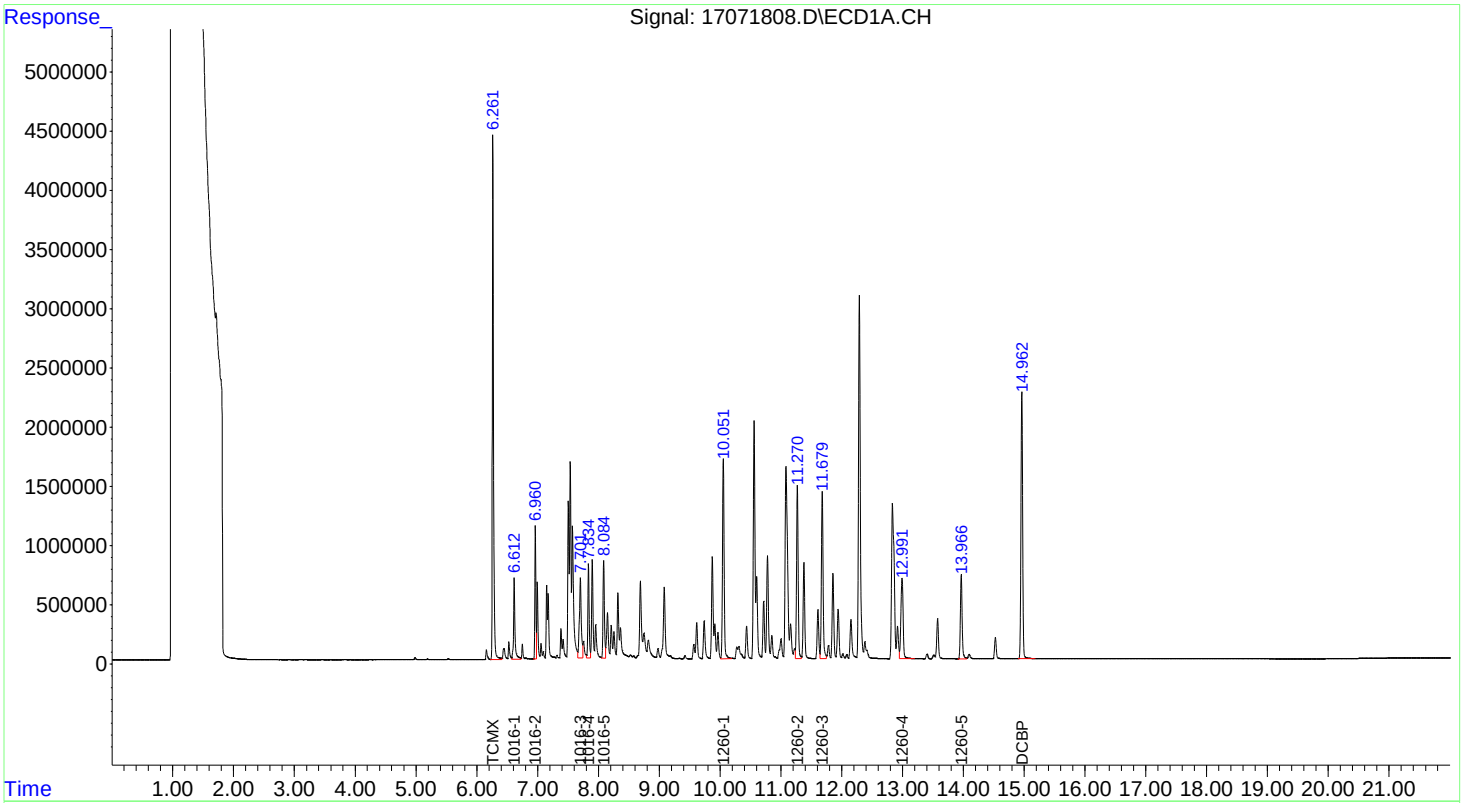
Quant Time: Jul 19 11:00:01 2017
InstName : GC16
QLast Update : Wed Jul 19 10:08:29 2017
Response via : Initial Calibration

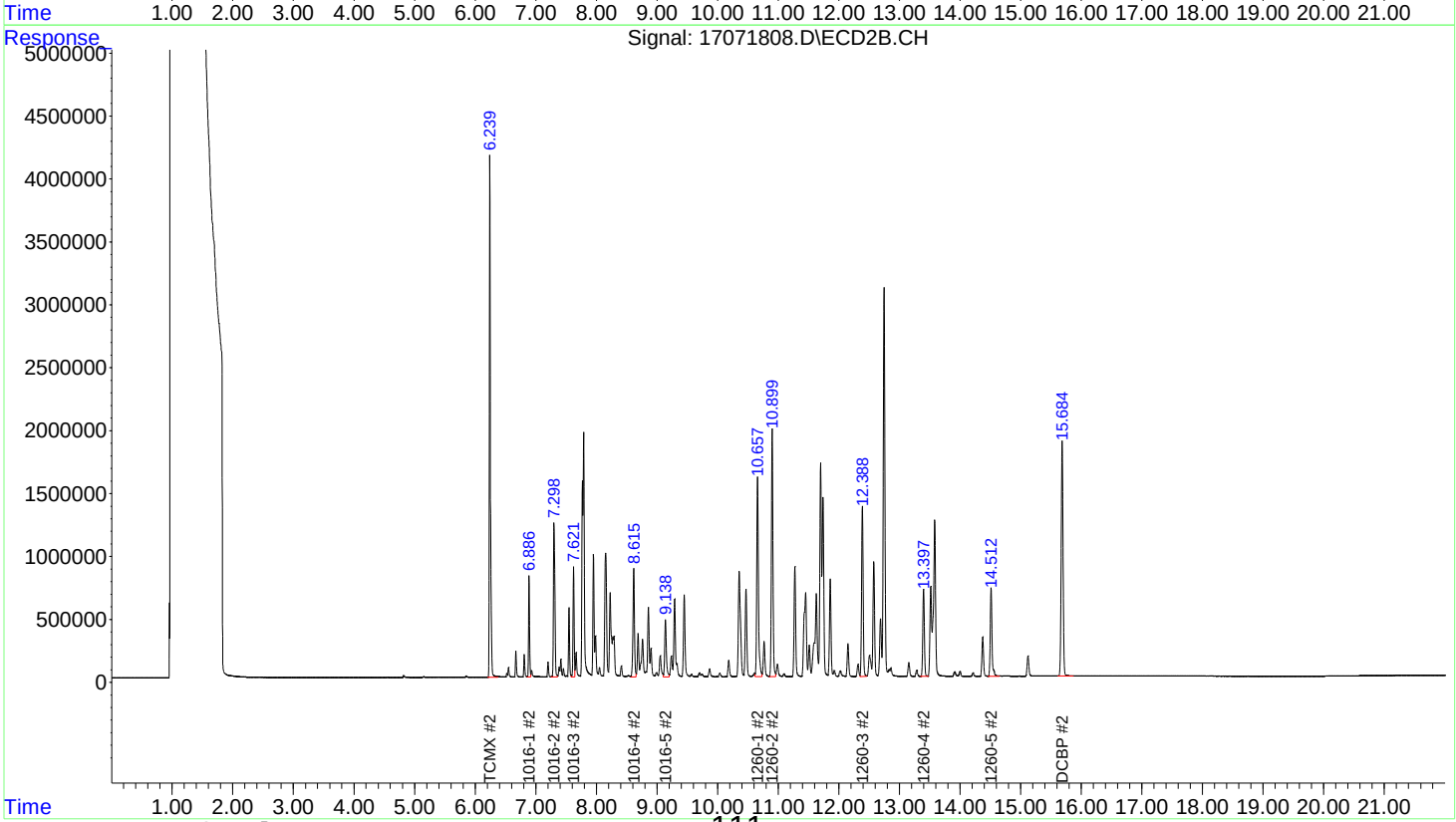
		Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
		System Monitoring Compounds						
1)	S	TCMX	6.261	6.239	5679300	5215204	194.050	173.914
14)	S	DCBP	14.962	15.684	4325655	3983030	176.911	162.845
		Target Compounds						
2)	L1	1016-1	6.612	6.886	1065660	891540	1799.362	1539.962
3)	L1	1016-2	6.960	7.298	1279291	2016152	1700.406	1501.661
4)	L1	1016-3	7.701	7.621	1455017	1102855	1735.181	1568.922
5)	L1	1016-4	7.834	8.615	1159560	1465327	1645.813	1594.935
6)	L1	1016-5	8.084	9.138	1304635	871130	1779.887	2882.725 #
7)	L1	1016-TOTAL	0.000	0.000	6264163	6347004	1730.114m	1650.537m
8)	L2	1260-1	10.051	10.657	3119741	3071505	1808.234	1699.669
9)	L2	1260-2	11.270	10.899	2674061	3465606	2053.955	1713.905
10)	L2	1260-3	11.679	12.388	2731090	2451592	1967.701	1849.147
11)	L2	1260-4	12.991	13.397	1741959	1261453	2132.033	1960.436
12)	L2	1260-5	13.966	14.512	1416502	1380640	2049.983	1907.020
13)	L2	1260-TOTAL	0.000	0.000	11683353	11630796	1972.477m	1783.208m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : C:\msdchem\3\170718\
Data File : 17071808.D
Acq On : 18 Jul 2017 6:28 pm
Operator :
Sample : 1660 SSCV 2000 PPB
Misc : ICV
ALS Vial : 0 (Sig #1); 8 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 19 11:00:01 2017
InstName : GC16
QLast Update : Wed Jul 19 10:08:29 2017
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071809.D
Acq On : 18 Jul 2017 6:54 pm
Operator :
Sample : 2154-1 50 PPB
Misc : CAL1
ALS Vial : 0 (Sig #1); 9 (Sig #2) Sample Multiplier: 1
InstName : GC16

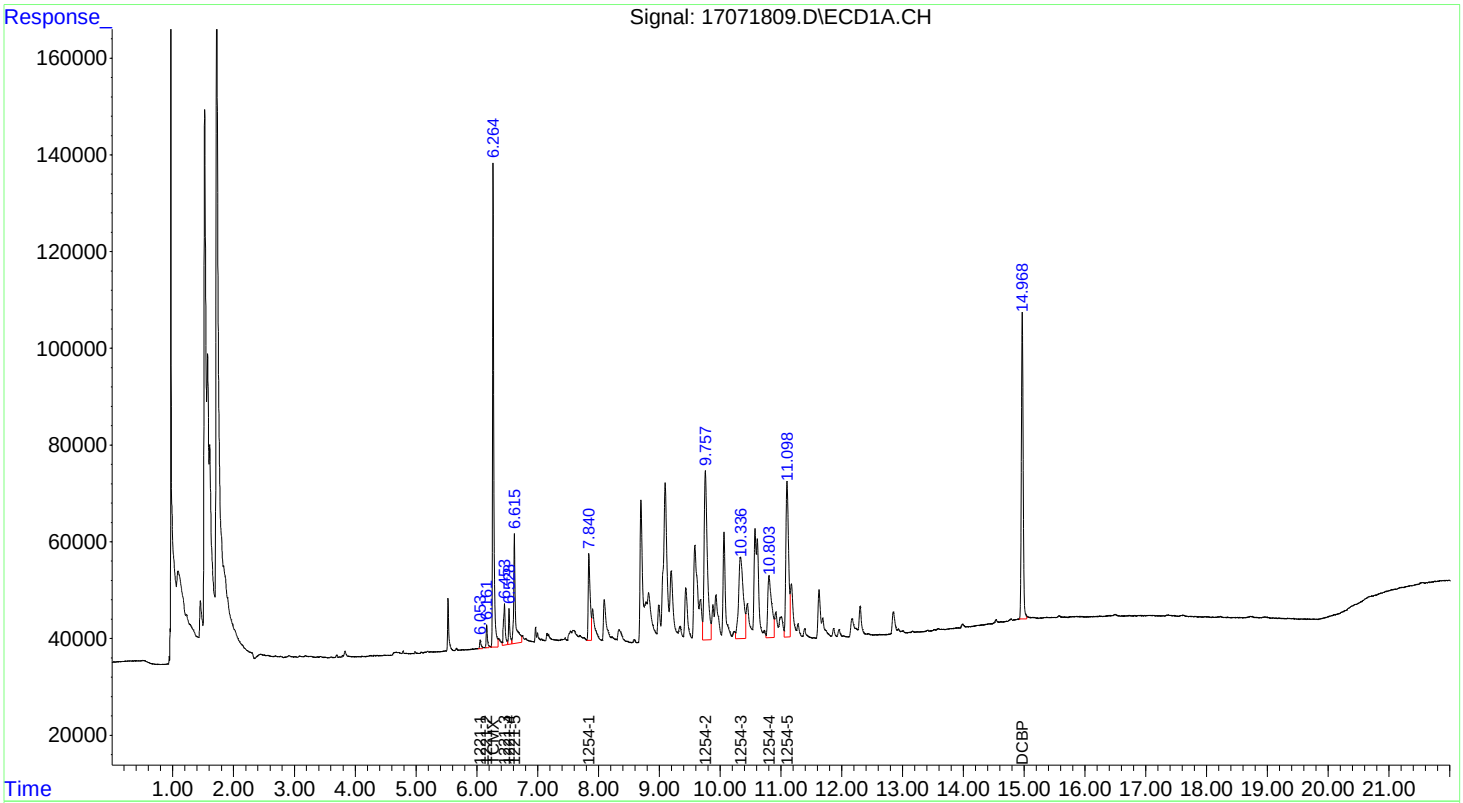
Quant Time: Jul 19 11:00:47 2017
InstName : GC16
QLast Update : Wed Jul 19 10:24:26 2017
Response via : Initial Calibration

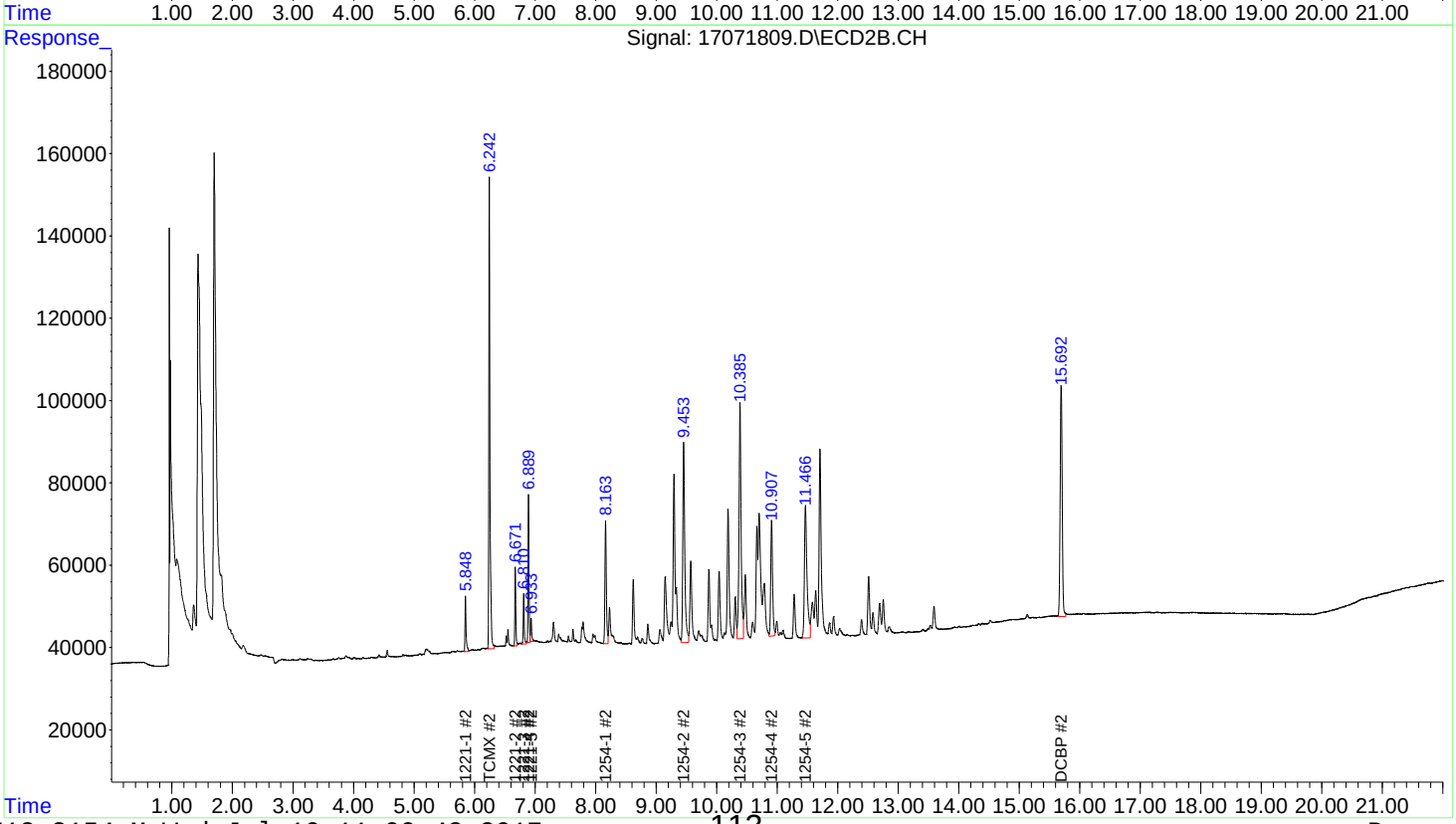
		Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
		System Monitoring Compounds						
1)	S	TCMX	6.264	6.242	136181	146346	4.745	4.783
14)	S	DCBP	14.968	15.692	129424	131163	5.319	4.684
		Target Compounds						
2)	L1	1221-1	6.053	5.848	3031	16355	43.622	37.946
3)	L1	1221-2	6.161	6.671	6539	21041	53.696	42.885
4)	L1	1221-3	6.453	6.810	16944	14362	50.709	42.458
5)	L1	1221-4	6.528	6.889	10795	39292	51.211	43.774
6)	L1	1221-5	6.615	6.933	45550	6746	53.992	43.406
7)	L1	1221-TOTAL	0.000	0.000	82859	97796	52.448m	42.482m
8)	L2	1254-1	7.840	8.163	40310	48585	57.858	43.821
9)	L2	1254-2	9.757	9.453	130852	111222	58.883	45.560
10)	L2	1254-3	10.336	10.385	91841	135347	57.409	45.990
11)	L2	1254-4	10.803	10.907	57375	60214	51.923	42.245
12)	L2	1254-5	11.098	11.466	100760	96193	58.019	47.277
13)	L2	1254-TOTAL	0.000	0.000	421138	451561	57.217m	45.463m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : C:\msdchem\3\170718\
Data File : 17071809.D
Acq On : 18 Jul 2017 6:54 pm
Operator :
Sample : 2154-1 50 PPB
Misc : CAL1
ALS Vial : 0 (Sig #1); 9 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 19 11:00:47 2017
InstName : GC16
QLast Update : Wed Jul 19 10:24:26 2017
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071810.D
Acq On : 18 Jul 2017 7:19 pm
Operator :
Sample : 2154-2 100 PPB
Misc : CAL
ALS Vial : 0 (Sig #1); 10 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 19 11:00:51 2017
InstName : GC16
QLast Update : Wed Jul 19 10:24:26 2017
Response via : Initial Calibration

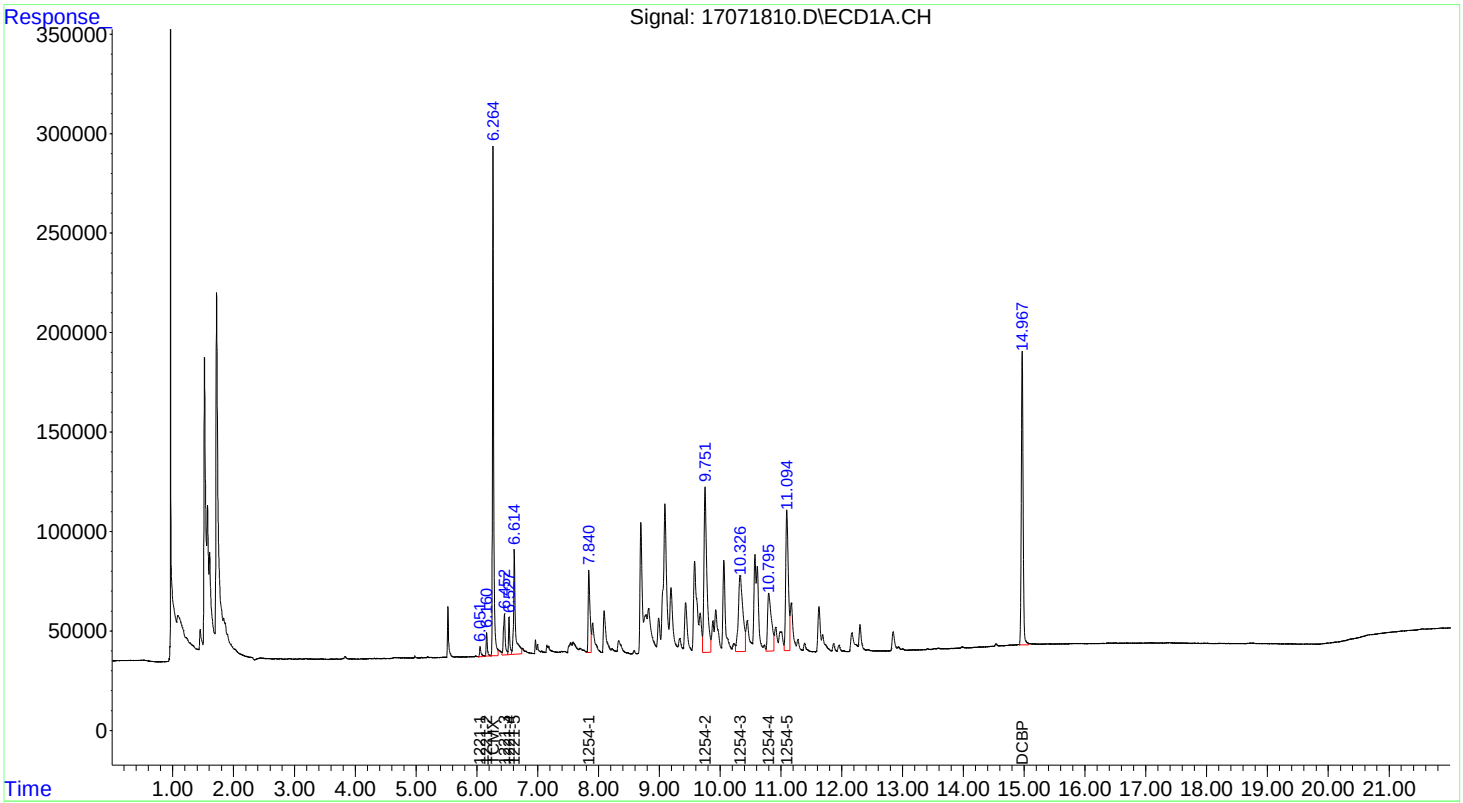
		Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb	
		System Monitoring Compounds							
1)	S	TCMX	6.264	6.241	326741	294093	11.386	9.625	
14)	S	DCBP	14.967	15.690	300317	240248	12.342	9.237	#
		Target Compounds							
2)	L1	1221-1	6.051	5.848	8016	31781	115.366	99.967	
3)	L1	1221-2	6.160	6.671	15767	40624	129.473	96.935	#
4)	L1	1221-3	6.452	6.810	41963	25650	125.585	95.647	
5)	L1	1221-4	6.527	6.890	26387	74120	125.179	95.930	
6)	L1	1221-5	6.614	6.933	106891	13522	126.702	93.120	#
7)	L1	1221-TOTAL	0.000	0.000	199024	185697	125.977m	96.498m	
8)	L2	1254-1	7.840	8.163	88312	86288	126.756	94.901	#
9)	L2	1254-2	9.751	9.453	279266	187367	125.668	91.623	#
10)	L2	1254-3	10.326	10.383	198174	243088	123.877	93.499	
11)	L2	1254-4	10.795	10.905	129152	110740	116.880	97.156	
12)	L2	1254-5	11.094	11.465	210998	166018	121.496	92.148	
13)	L2	1254-TOTAL	0.000	0.000	905902	793501	123.078m	93.386m	

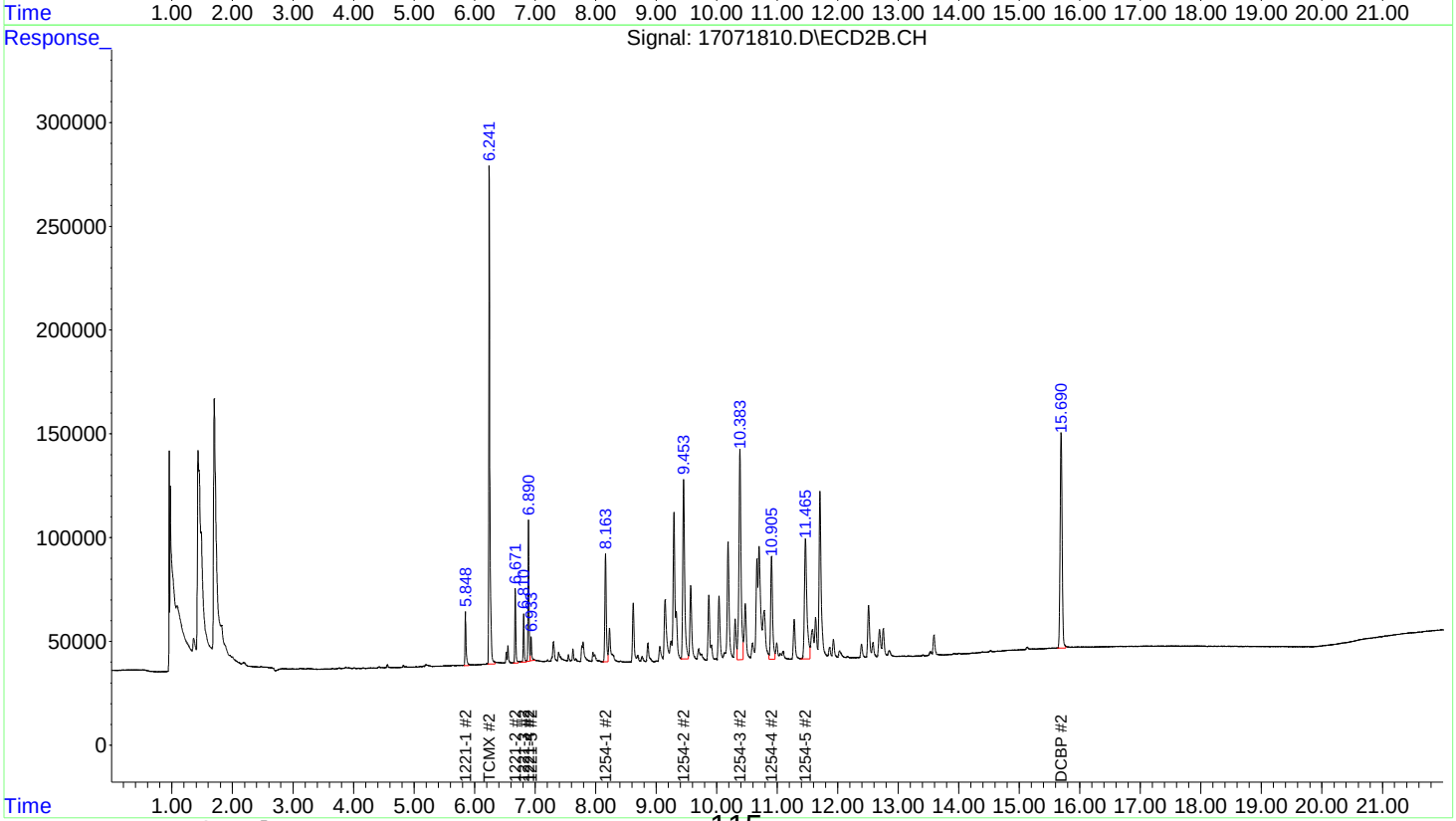
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071810.D
Acq On : 18 Jul 2017 7:19 pm
Operator :
Sample : 2154-2 100 PPB
Misc : CAL
ALS Vial : 0 (Sig #1); 10 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 19 11:00:51 2017
InstName : GC16
QLast Update : Wed Jul 19 10:24:26 2017
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071811.D
Acq On : 18 Jul 2017 7:45 pm
Operator :
Sample : 2154-3 200 PPB
Misc : CAL
ALS Vial : 0 (Sig #1); 11 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 19 11:00:55 2017
InstName : GC16
QLast Update : Wed Jul 19 10:24:26 2017
Response via : Initial Calibration

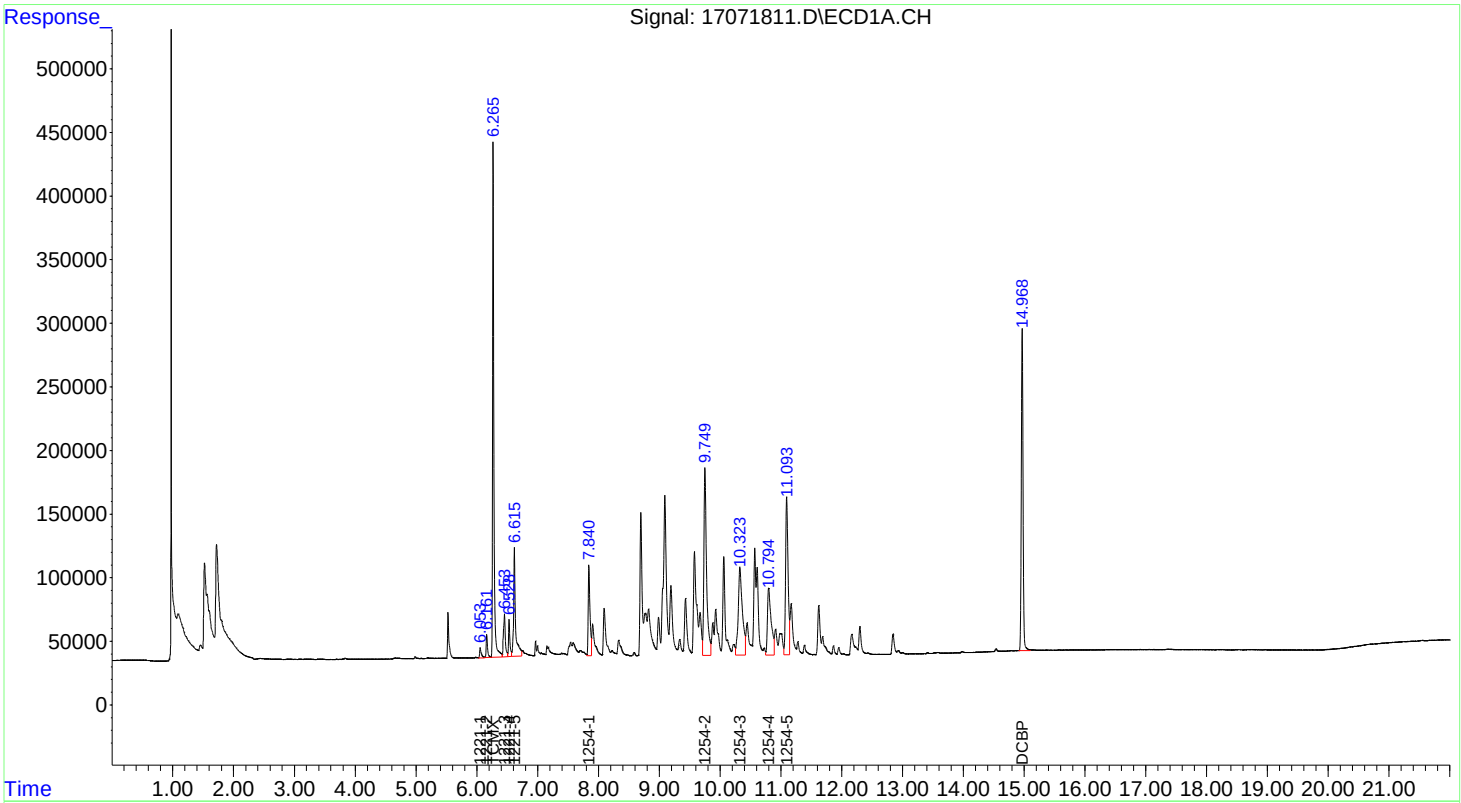
		Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
		System Monitoring Compounds						
1)	S	TCMX	6.265	6.242	578433	678895	20.156	22.296
14)	S	DCBP	14.968	15.692	500036	558833	20.549	22.621
		Target Compounds						
2)	L1	1221-1	6.053	5.847	14609	66981	210.253	242.886
3)	L1	1221-2	6.161	6.671	27724	89017	227.659	231.383
4)	L1	1221-3	6.453	6.810	70995	54712	212.470	233.730
5)	L1	1221-4	6.528	6.889	45700	162480	216.799	229.124
6)	L1	1221-5	6.615	6.933	181586	31667	215.240	228.076
7)	L1	1221-TOTAL	0.000	0.000	340614	404857	215.600m	232.239m
8)	L2	1254-1	7.840	8.164	146860	186924	210.790	232.219
9)	L2	1254-2	9.749	9.454	455986	418469	205.191	232.479
10)	L2	1254-3	10.323	10.382	327789	545207	204.899	227.599
11)	L2	1254-4	10.794	10.905	224144	237573	202.847	236.052
12)	L2	1254-5	11.093	11.464	355176	373508	204.517	226.212
13)	L2	1254-TOTAL	0.000	0.000	1509955	1761681	205.146m	229.991m

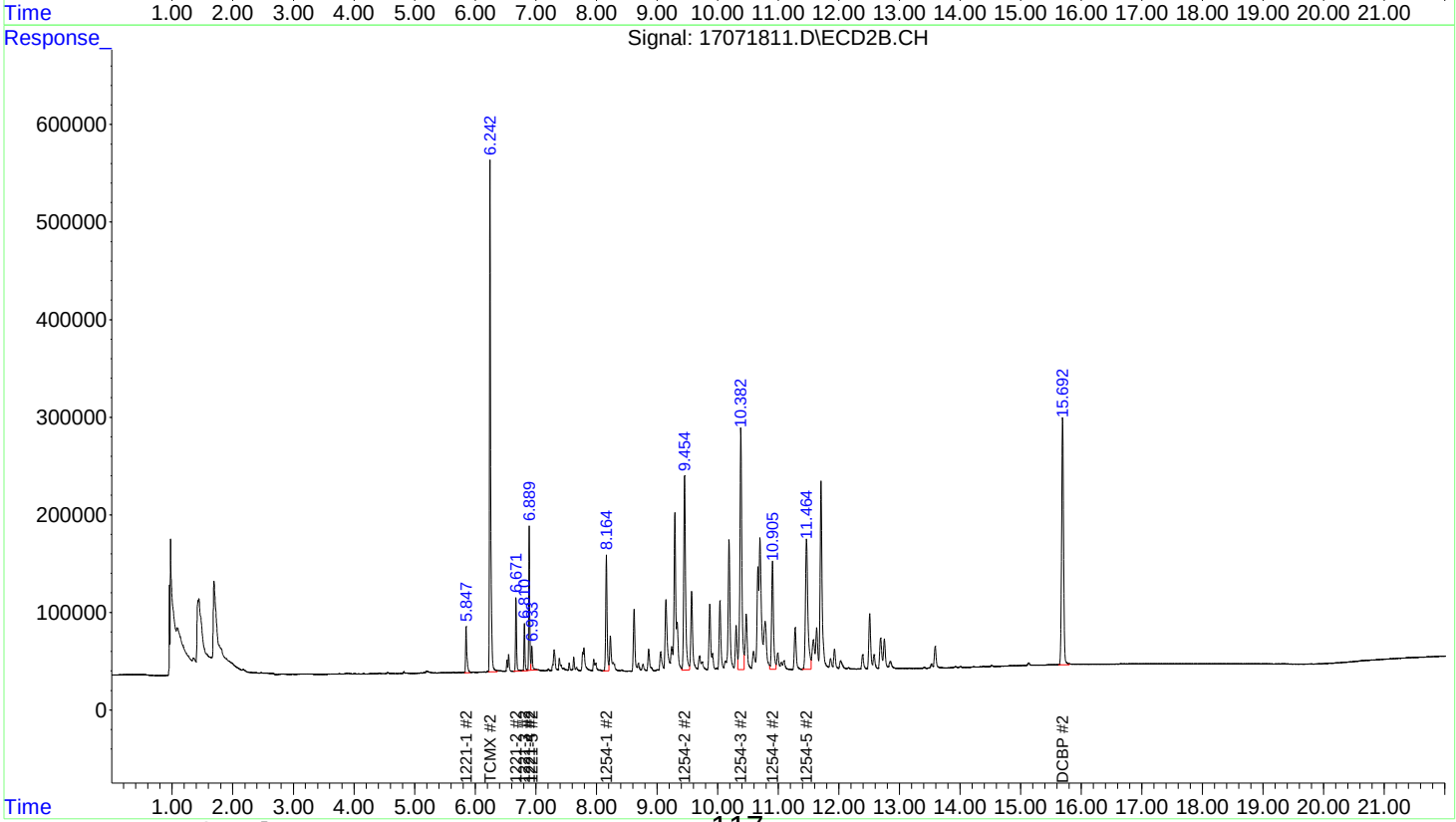
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071811.D
Acq On : 18 Jul 2017 7:45 pm
Operator :
Sample : 2154-3 200 PPB
Misc : CAL
ALS Vial : 0 (Sig #1); 11 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 19 11:00:55 2017
InstName : GC16
QLast Update : Wed Jul 19 10:24:26 2017
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071812.D
Acq On : 18 Jul 2017 8:10 pm
Operator :
Sample : 2154-4 500 PPB
Misc : CAL
ALS Vial : 0 (Sig #1); 12 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 19 11:00:59 2017
InstName : GC16
QLast Update : Wed Jul 19 10:24:26 2017
Response via : Initial Calibration

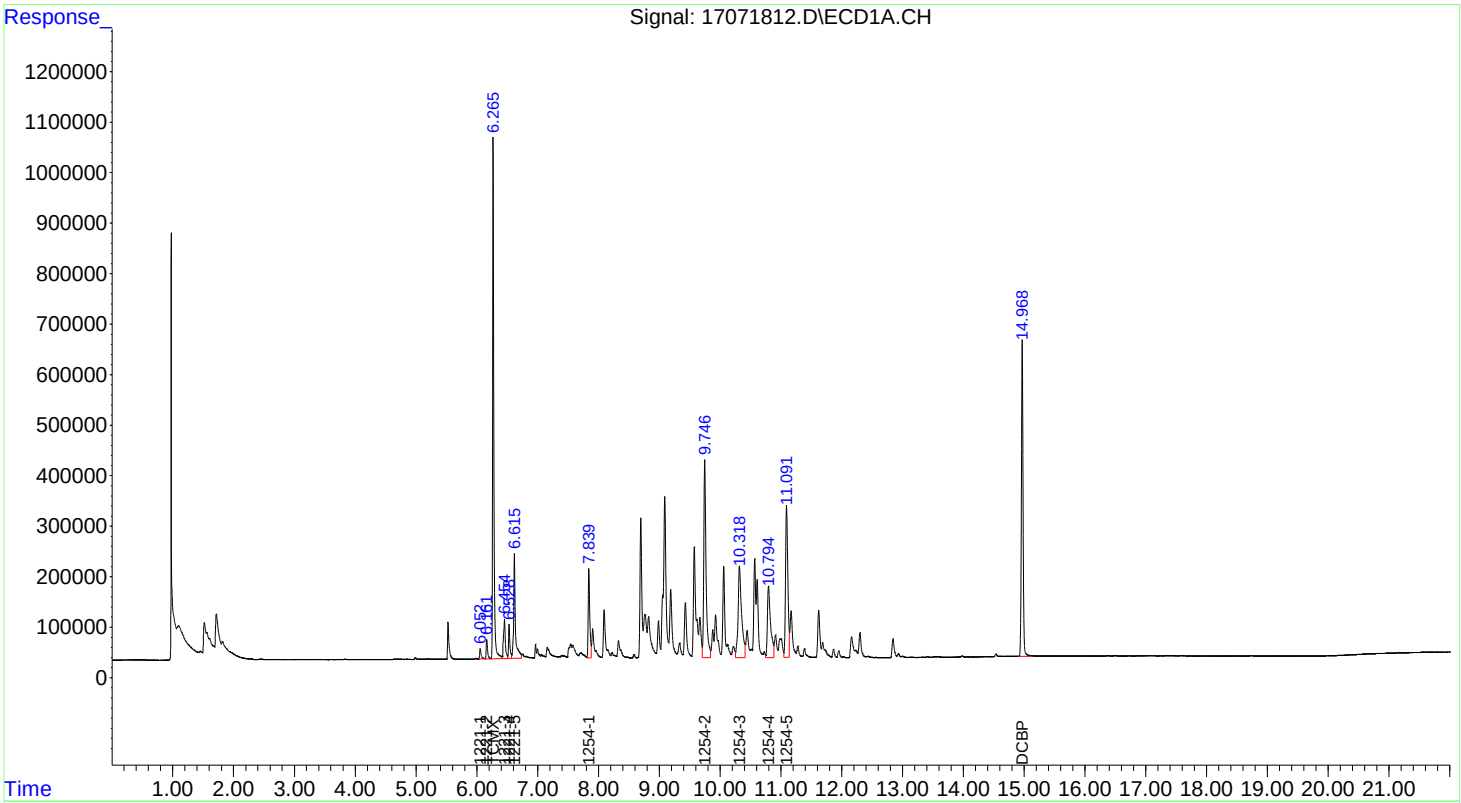
		Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
		System Monitoring Compounds						
1)	S	TCMX	6.265	6.242	1386302	1541930	48.307	51.042
14)	S	DCBP	14.968	15.694	1166841	1202418	47.952	50.071
		Target Compounds						
2)	L1	1221-1	6.052	5.848	35795	136143	515.162	529.622
3)	L1	1221-2	6.161	6.671	60124	189975	493.716	516.032
4)	L1	1221-3	6.454	6.810	159867	114568	478.441	523.546
5)	L1	1221-4	6.528	6.889	103097	350173	489.088	516.347
6)	L1	1221-5	6.615	6.934	403400	73180	478.164	547.657
7)	L1	1221-TOTAL	0.000	0.000	762283	864039	482.506m	521.767m
8)	L2	1254-1	7.839	8.163	322870	388805	463.420	512.130
9)	L2	1254-2	9.746	9.453	1026334	865064	461.845	509.341
10)	L2	1254-3	10.318	10.383	736007	1158320	460.073	503.864
11)	L2	1254-4	10.794	10.906	514345	481351	465.473	507.413
12)	L2	1254-5	11.091	11.466	797432	789732	459.175	498.508
13)	L2	1254-TOTAL	0.000	0.000	3396988	3683272	461.524m	505.264m

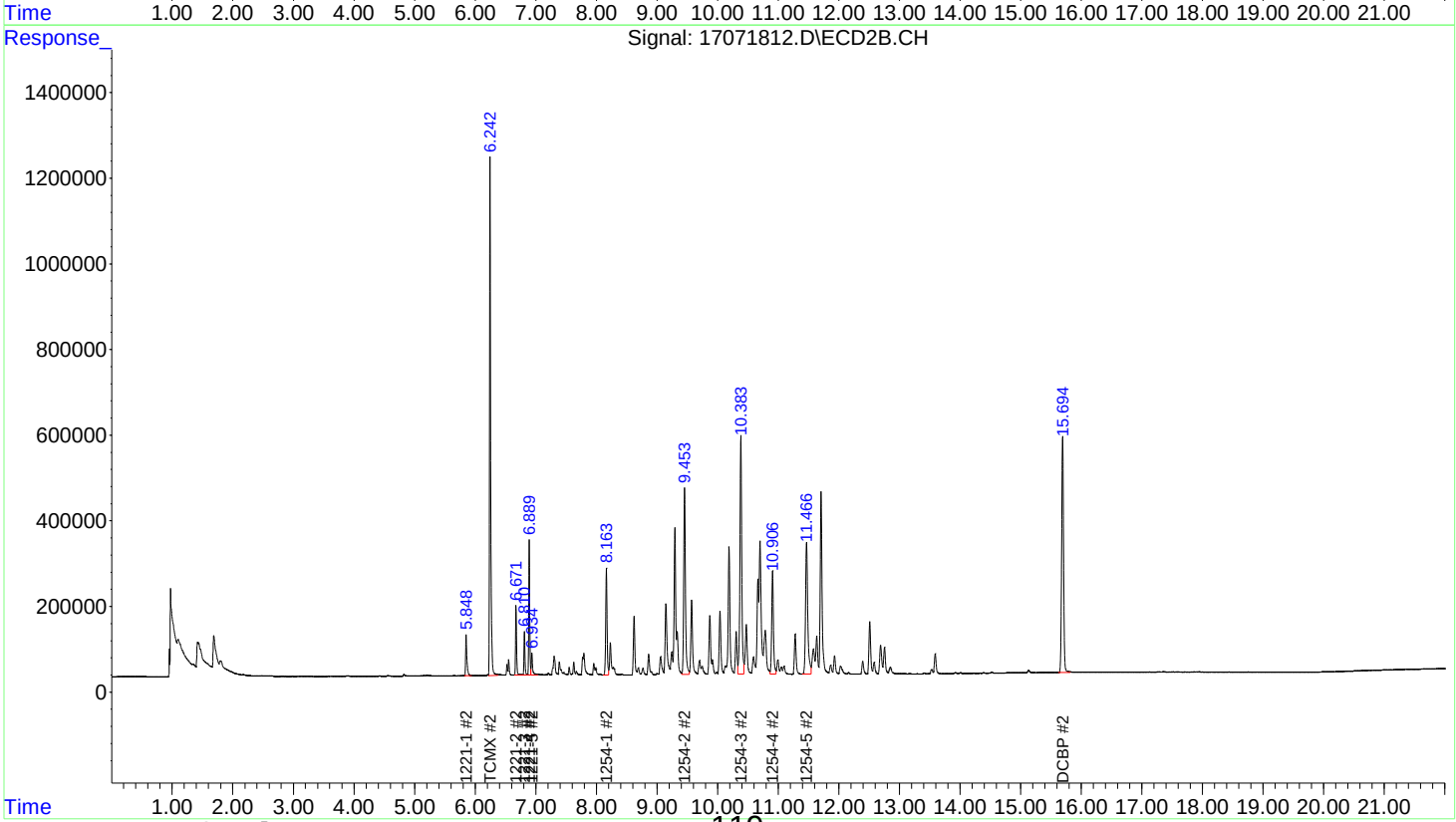
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071812.D
Acq On : 18 Jul 2017 8:10 pm
Operator :
Sample : 2154-4 500 PPB
Misc : CAL
ALS Vial : 0 (Sig #1); 12 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 19 11:00:59 2017
InstName : GC16
QLast Update : Wed Jul 19 10:24:26 2017
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071813.D
Acq On : 18 Jul 2017 8:36 pm
Operator :
Sample : 2154-5 1000 PPB
Misc : CAL
ALS Vial : 0 (Sig #1); 13 (Sig #2) Sample Multiplier: 1
InstName : GC16

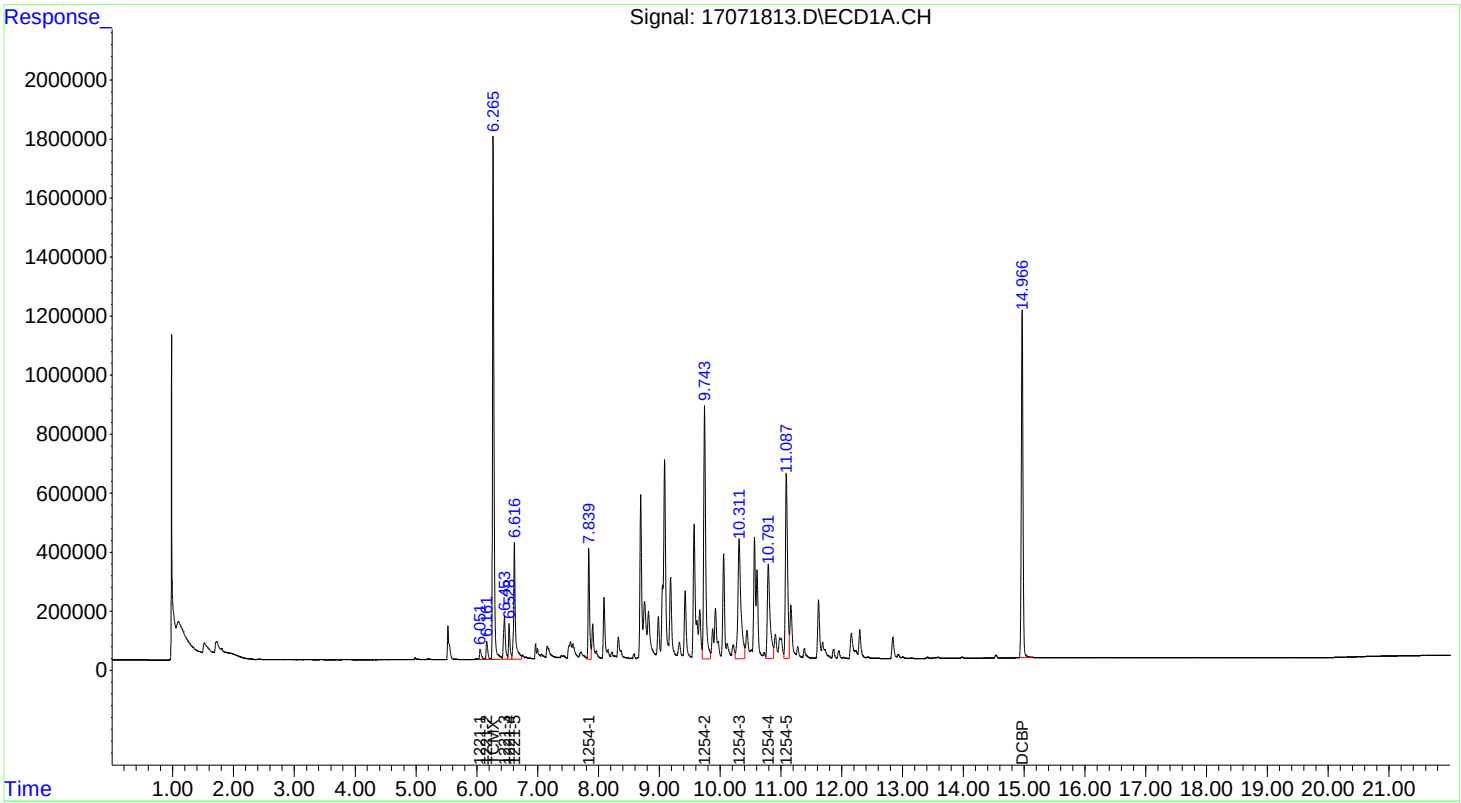
Quant Time: Jul 19 11:01:03 2017
InstName : GC16
QLast Update : Wed Jul 19 10:24:26 2017
Response via : Initial Calibration

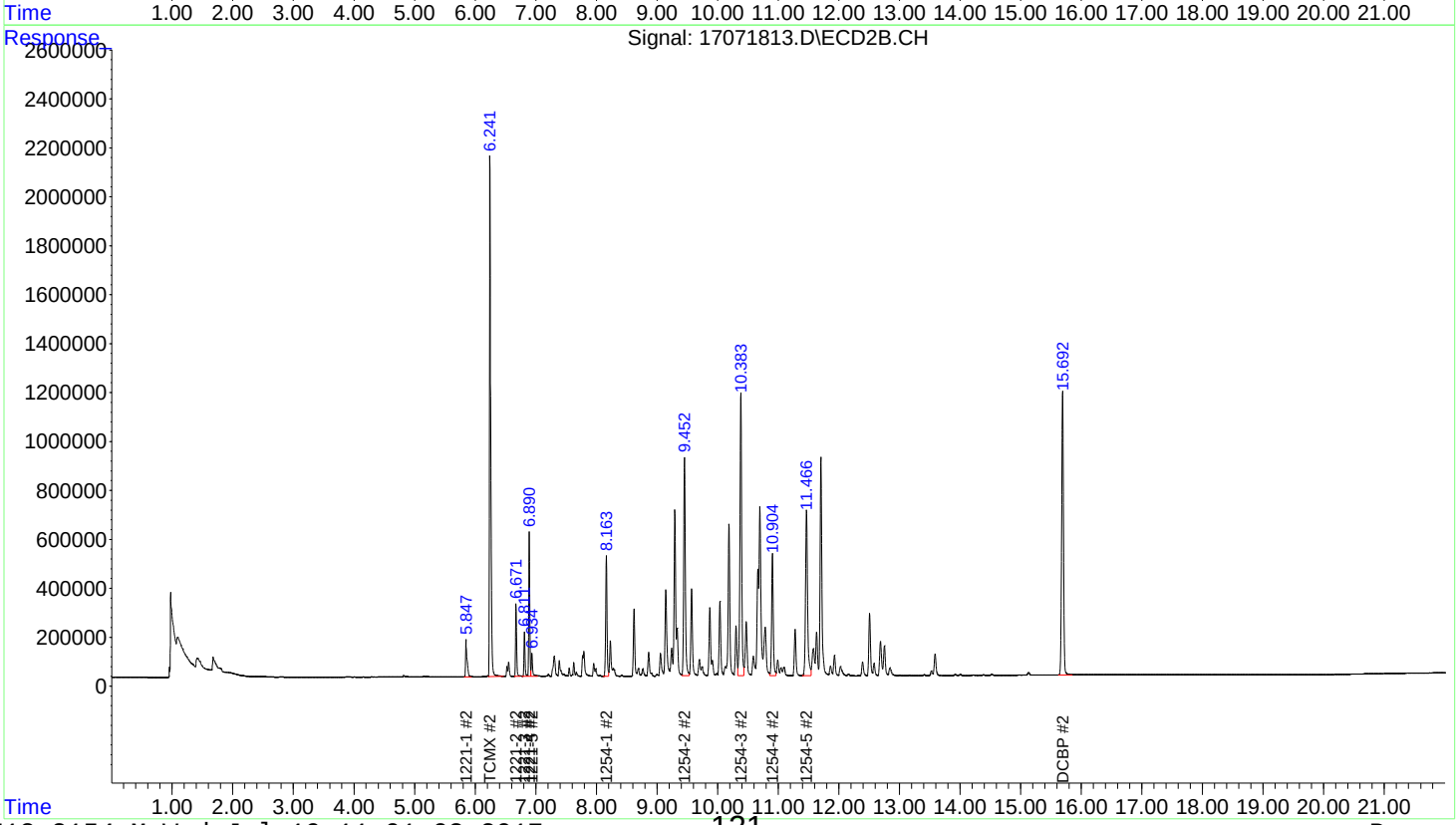
		Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
		System Monitoring Compounds						
1)	S	TCMX	6.265	6.241	2768358	3075883	96.466	103.313
14)	S	DCBP	14.966	15.692	2238055	2452969	91.974	105.104
		Target Compounds						
2)	L1	1221-1	6.051	5.847	71188	253281	1024.539	1034.915
3)	L1	1221-2	6.161	6.671	113072	366792	928.506	1029.065
4)	L1	1221-3	6.453	6.811	309688	215925	926.817	1032.409
5)	L1	1221-4	6.528	6.890	197975	677975	939.185	1032.967
6)	L1	1221-5	6.616	6.934	769795	132792	912.464	1037.105
7)	L1	1221-TOTAL	0.000	0.000	1461718	1646765	925.231m	1032.631m
8)	L2	1254-1	7.839	8.163	615914	754919	884.031	1036.031
9)	L2	1254-2	9.743	9.452	1971651	1684740	887.232	1034.788
10)	L2	1254-3	10.311	10.383	1420167	2312474	887.737	1040.001
11)	L2	1254-4	10.791	10.904	1021560	939762	924.494	1034.596
12)	L2	1254-5	11.087	11.466	1552453	1597690	893.930	1040.671
13)	L2	1254-TOTAL	0.000	0.000	6581745	7289585	894.213m	1037.848m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : C:\msdchem\3\170718\
Data File : 17071813.D
Acq On : 18 Jul 2017 8:36 pm
Operator :
Sample : 2154-5 1000 PPB
Misc : CAL
ALS Vial : 0 (Sig #1); 13 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 19 11:01:03 2017
InstName : GC16
QLast Update : Wed Jul 19 10:24:26 2017
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071814.D
Acq On : 18 Jul 2017 9:01 pm
Operator :
Sample : 2154-6 2000 PPB
Misc : CAL
ALS Vial : 0 (Sig #1); 14 (Sig #2) Sample Multiplier: 1
InstName : GC16

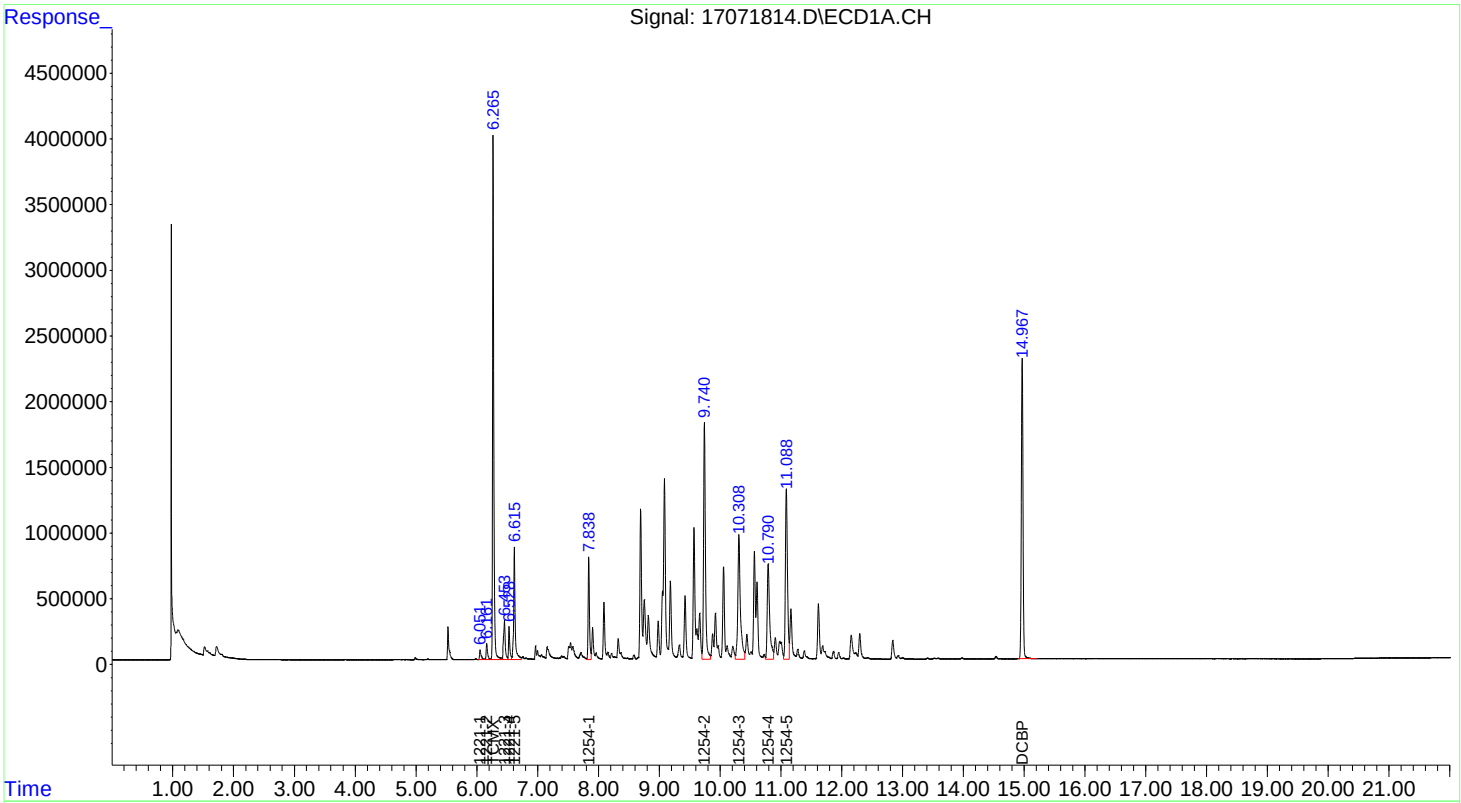
Quant Time: Jul 19 11:01:07 2017
InstName : GC16
QLast Update : Wed Jul 19 10:24:26 2017
Response via : Initial Calibration

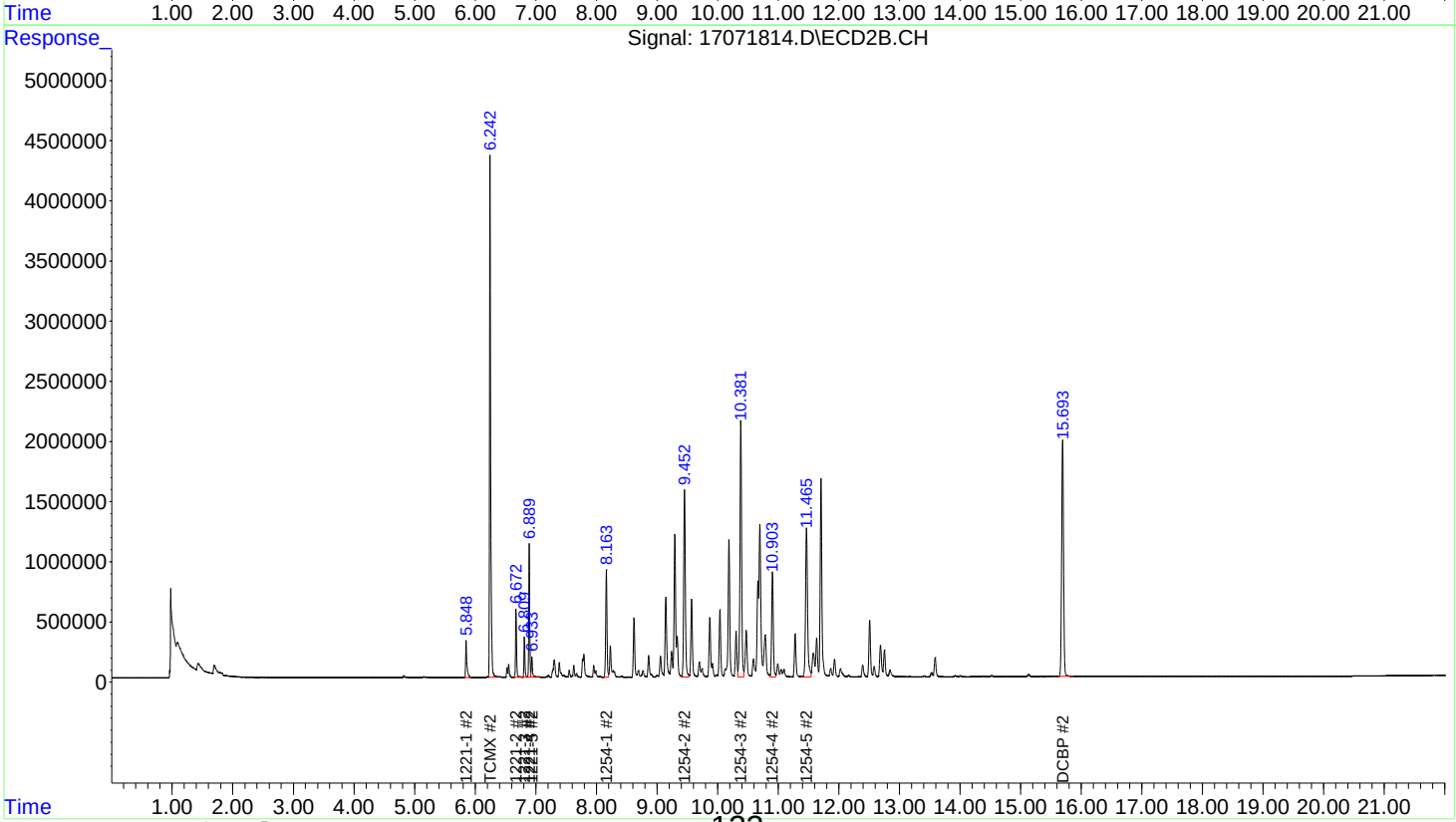
		Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
		System Monitoring Compounds						
1)	S	TCMX	6.265	6.242	5356869	5536999	186.666	190.647
14)	S	DCBP	14.967	15.693	4356017	4273461	179.012	189.779
		Target Compounds						
2)	L1	1221-1	6.051	5.848	129730	427239	1867.077	1839.119
3)	L1	1221-2	6.161	6.672	194678	649812	1598.624	1893.674
4)	L1	1221-3	6.453	6.809	578288	372729	1730.669	1871.929
5)	L1	1221-4	6.528	6.889	358385	1194971	1700.163	1891.668
6)	L1	1221-5	6.615	6.933	1407831	218188	1668.750	1820.213
7)	L1	1221-TOTAL	0.000	0.000	2668912	2862939	1689.355m	1876.553m
8)	L2	1254-1	7.838	8.163	1163297	1318711	1669.698	1889.727
9)	L2	1254-2	9.740	9.452	3808114	2951822	1713.631	1897.882
10)	L2	1254-3	10.308	10.381	2799681	4075961	1750.062	1905.360
11)	L2	1254-4	10.790	10.903	2058023	1641678	1862.476	1890.966
12)	L2	1254-5	11.088	11.465	3073535	2845645	1769.795	1917.356
13)	L2	1254-TOTAL	0.000	0.000	12902650	12833817	1752.988m	1902.894m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : C:\msdchem\3\170718\
Data File : 17071814.D
Acq On : 18 Jul 2017 9:01 pm
Operator :
Sample : 2154-6 2000 PPB
Misc : CAL
ALS Vial : 0 (Sig #1); 14 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 19 11:01:07 2017
InstName : GC16
QLast Update : Wed Jul 19 10:24:26 2017
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071815.D
Acq On : 18 Jul 2017 9:27 pm
Operator :
Sample : 2154-7 5000 PPB
Misc : CAL
ALS Vial : 0 (Sig #1); 15 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 19 11:01:11 2017
InstName : GC16
QLast Update : Wed Jul 19 10:24:26 2017
Response via : Initial Calibration

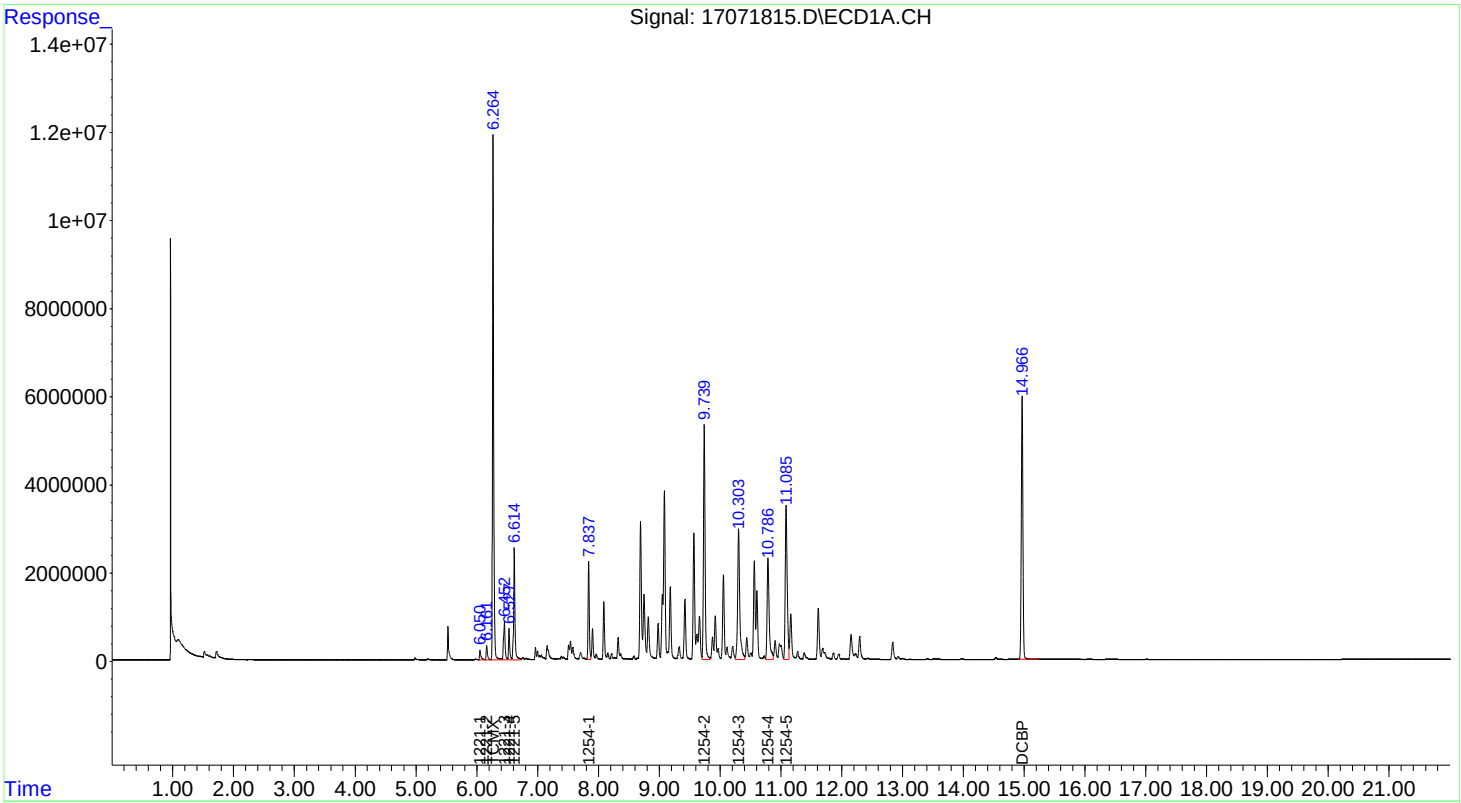
		Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb	
		System Monitoring Compounds							
1)	S	TCMX	6.264	6.242	14928807	13307629	520.210	503.489	
14)	S	DCBP	14.966	15.691	10959983	9929912	450.404	503.894	
		Target Compounds							
2)	L1	1221-1	6.050	5.848	324563	973021	4671.118	5080.251	
3)	L1	1221-2	6.161	6.671	473601	1522097	3889.038	5044.016	#
4)	L1	1221-3	6.452	6.810	1534691	849928	4592.940	5058.871	
5)	L1	1221-4	6.527	6.890	919649	2794769	4362.776	5044.368	
6)	L1	1221-5	6.614	6.933	3685789	444264	4368.891	5154.361	
7)	L1	1221-TOTAL	0.000	0.000	6938293	6584079	4391.766m	5055.071m	
8)	L2	1254-1	7.837	8.161	3050271	3050353	4378.101	5046.161	
9)	L2	1254-2	9.739	9.452	9688682	6735396	4359.855	5043.577	
10)	L2	1254-3	10.303	10.381	7244010	9432450	4528.182	5037.297	
11)	L2	1254-4	10.786	10.903	5479752	3771742	4959.082	5047.069	
12)	L2	1254-5	11.085	11.465	7857419	6692025	4524.440	5029.823	
13)	L2	1254-TOTAL	0.000	0.000	33320134	29681966	4526.961m	5038.981m	

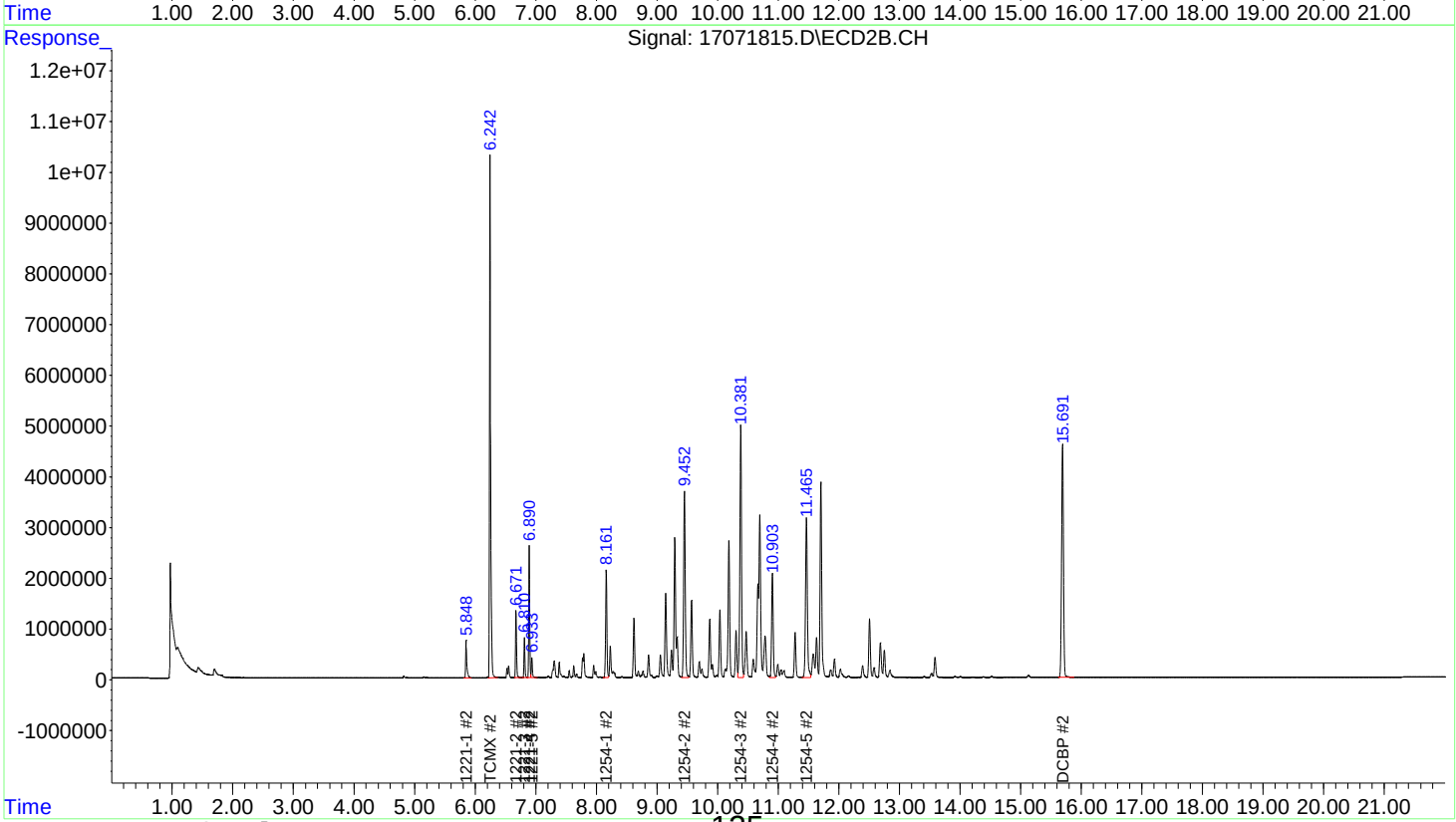
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071815.D
Acq On : 18 Jul 2017 9:27 pm
Operator :
Sample : 2154-7 5000 PPB
Misc : CAL
ALS Vial : 0 (Sig #1); 15 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 19 11:01:11 2017
InstName : GC16
QLast Update : Wed Jul 19 10:24:26 2017
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071816.D
Acq On : 18 Jul 2017 9:52 pm
Operator :
Sample : 2154 SSCV 2000 PPB
Misc : ICV
ALS Vial : 0 (Sig #1); 16 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 19 11:01:15 2017
InstName : GC16
QLast Update : Wed Jul 19 10:24:26 2017
Response via : Initial Calibration

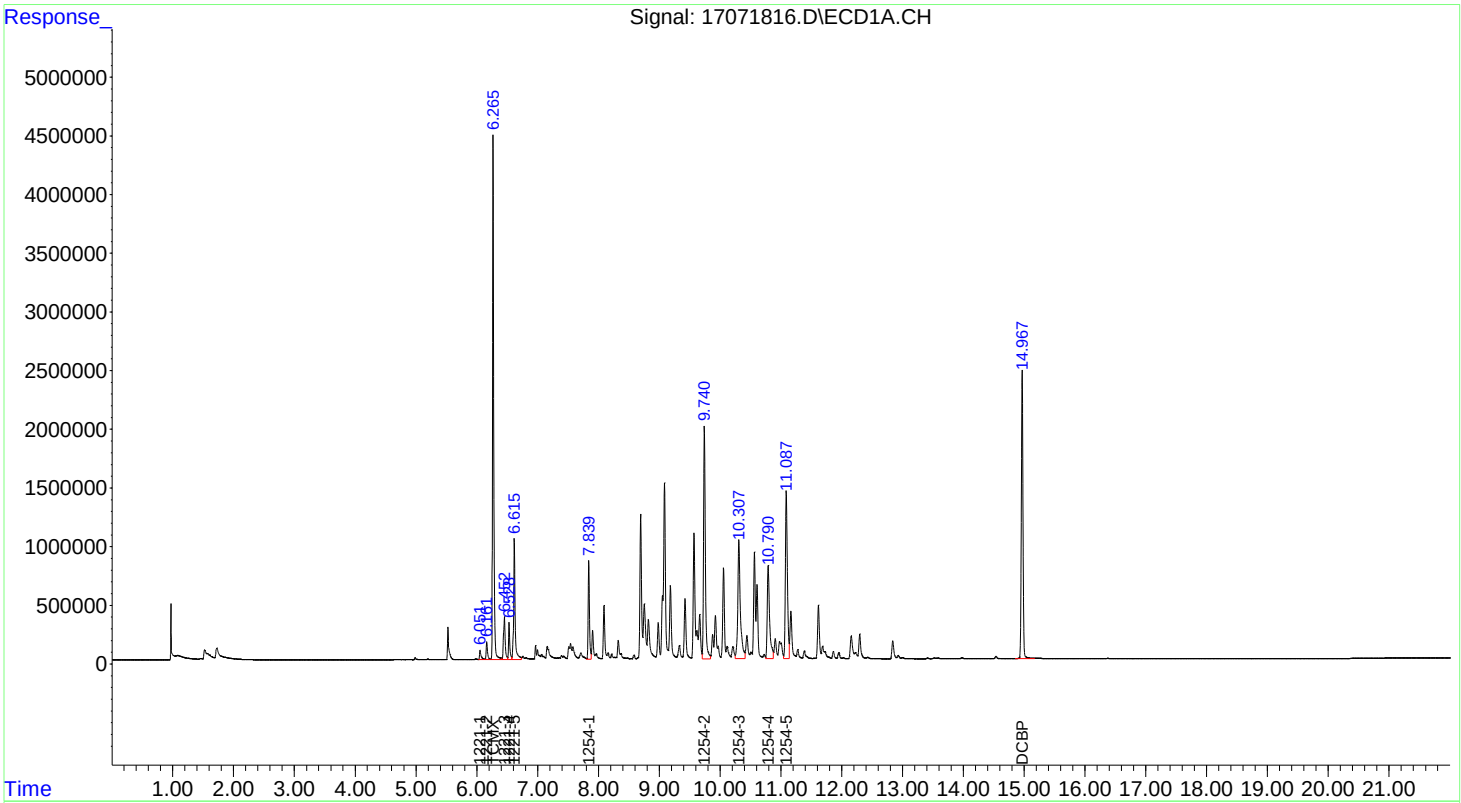
		Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
		System Monitoring Compounds						
1)	S	TCMX	6.265	6.242	5784922	5990636	201.582	207.256
14)	S	DCBP	14.967	15.691	4558775	4604956	187.344	205.857
		Target Compounds						
2)	L1	1221-1	6.051	5.847	135121	456886	1944.664	1983.687
3)	L1	1221-2	6.161	6.671	232839	781526	1911.988	2316.982
4)	L1	1221-3	6.452	6.810	694326	452959	2077.941	2330.823
5)	L1	1221-4	6.528	6.890	436094	1427279	2068.811	2297.635
6)	L1	1221-5	6.615	6.933	1675127	260757	1985.585	2259.984
7)	L1	1221-TOTAL	0.000	0.000	3173507	3379407	2008.751m	2256.638m
8)	L2	1254-1	7.839	8.163	1233766	1411638	1770.843	2036.643
9)	L2	1254-2	9.740	9.451	4043821	3171019	1819.698	2054.384
10)	L2	1254-3	10.307	10.381	2951301	4385313	1844.838	2063.680
11)	L2	1254-4	10.790	10.904	2151026	1773106	1946.642	2058.884
12)	L2	1254-5	11.087	11.464	3257943	3046643	1875.981	2063.498
13)	L2	1254-TOTAL	0.000	0.000	13637857	13787719	1852.875m	2058.132m

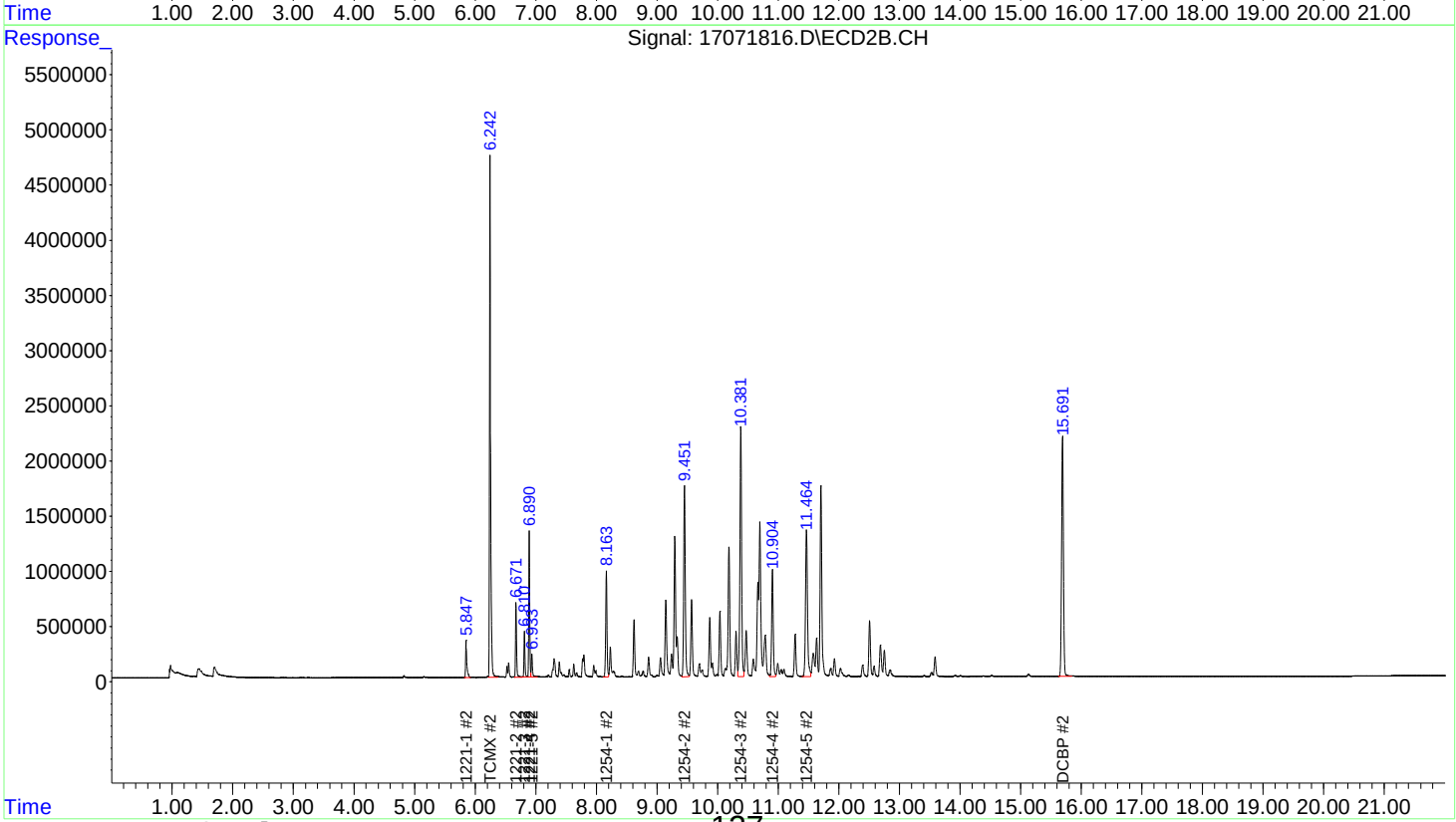
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071816.D
Acq On : 18 Jul 2017 9:52 pm
Operator :
Sample : 2154 SSCV 2000 PPB
Misc : ICV
ALS Vial : 0 (Sig #1); 16 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 19 11:01:15 2017
InstName : GC16
QLast Update : Wed Jul 19 10:24:26 2017
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071817.D
Acq On : 18 Jul 2017 10:17 pm
Operator :
Sample : 1232-1 50 PPB
Misc : CAL1
ALS Vial : 0 (Sig #1); 17 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 19 10:55:42 2017
InstName : GC16
QLast Update : Wed Jul 19 10:34:10 2017
Response via : Initial Calibration

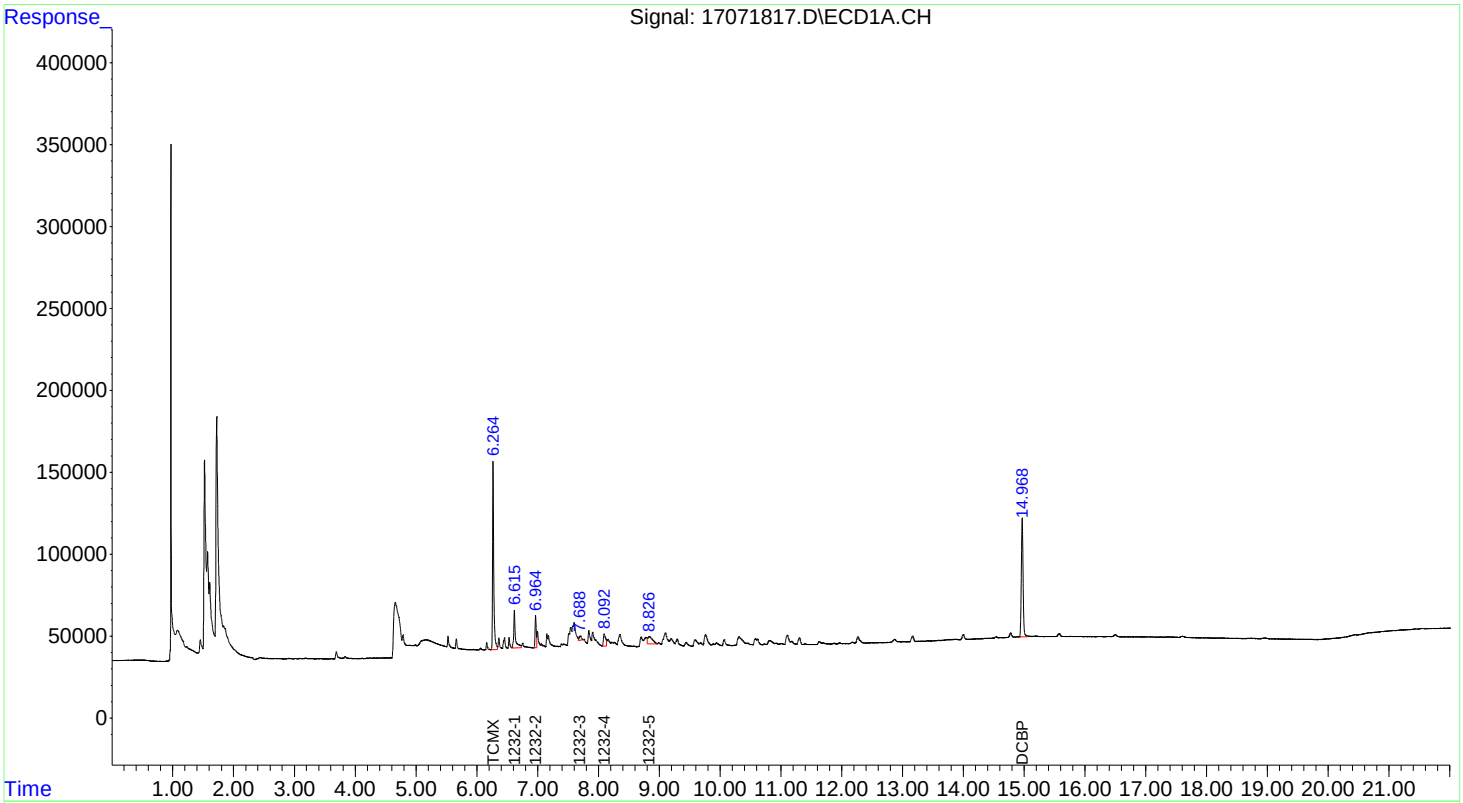
		Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
		System Monitoring Compounds						
1)	S	TCMX	6.264	6.242	151822	162724	4.568	4.670
8)	S	DCBP	14.968	15.691	143429	136045	4.510	4.729
		Target Compounds						
2)	L1	1232-1	6.615	6.889	43083	38344	43.189	43.263
3)	L1	1232-2	6.964	7.300	25343	36669	50.858	41.994
4)	L1	1232-3	7.688	8.162	6418	34740	55.620	45.170
5)	L1	1232-4	8.092	8.621	18488	21915	42.706	39.753
6)	L1	1232-5	8.826	9.145	23116	30797	43.667	53.040
7)	L1	1232-TOTAL	0.000	0.000	116448	162465	46.558m	44.562m

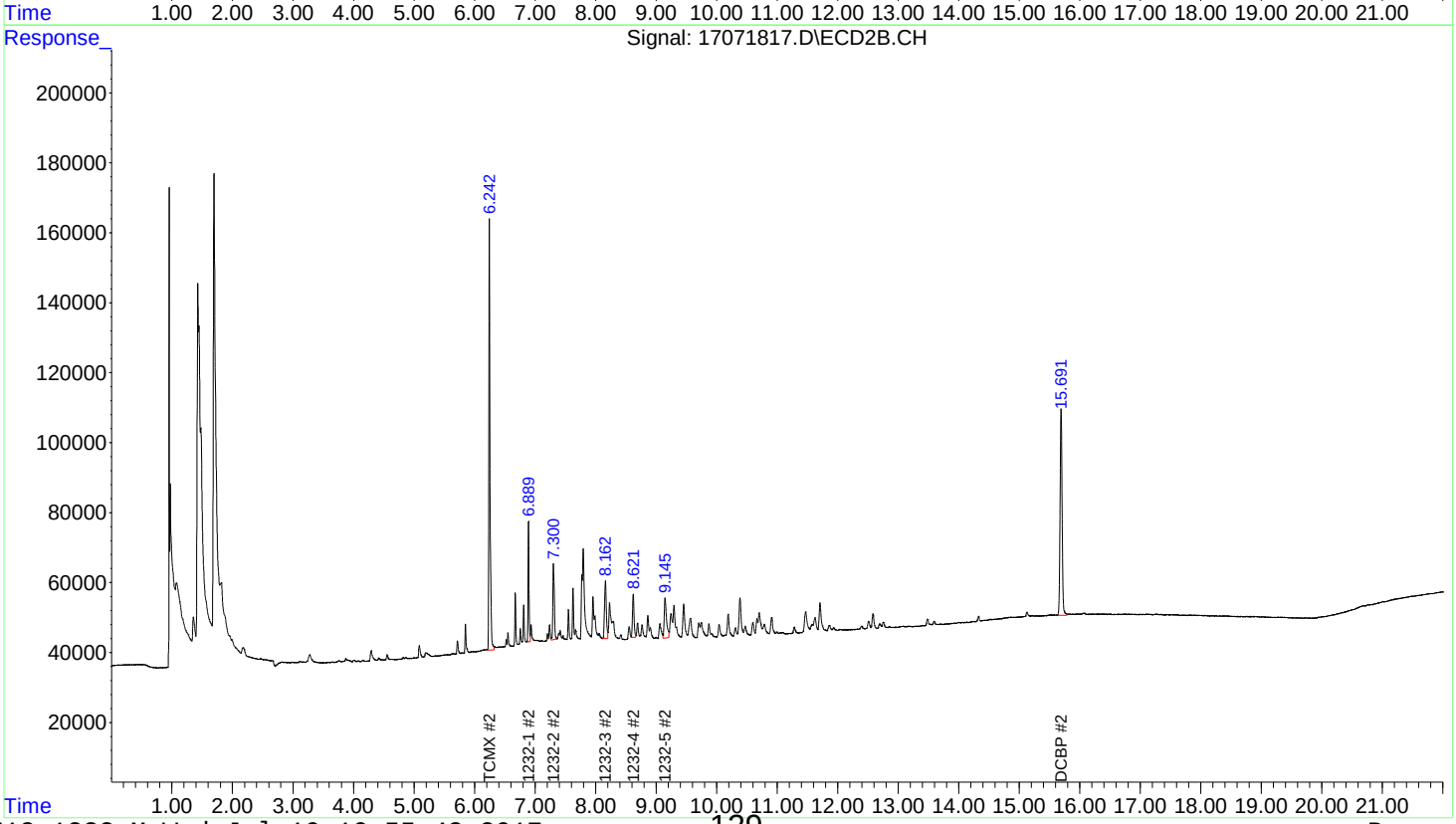
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071817.D
Acq On : 18 Jul 2017 10:17 pm
Operator :
Sample : 1232-1 50 PPB
Misc : CAL1
ALS Vial : 0 (Sig #1); 17 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 19 10:55:42 2017
InstName : GC16
QLast Update : Wed Jul 19 10:34:10 2017
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071818.D
Acq On : 18 Jul 2017 10:43 pm
Operator :
Sample : 1232-2 100 PPB
Misc : CAL
ALS Vial : 0 (Sig #1); 18 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 19 10:55:46 2017
InstName : GC16
QLast Update : Wed Jul 19 10:34:10 2017
Response via : Initial Calibration

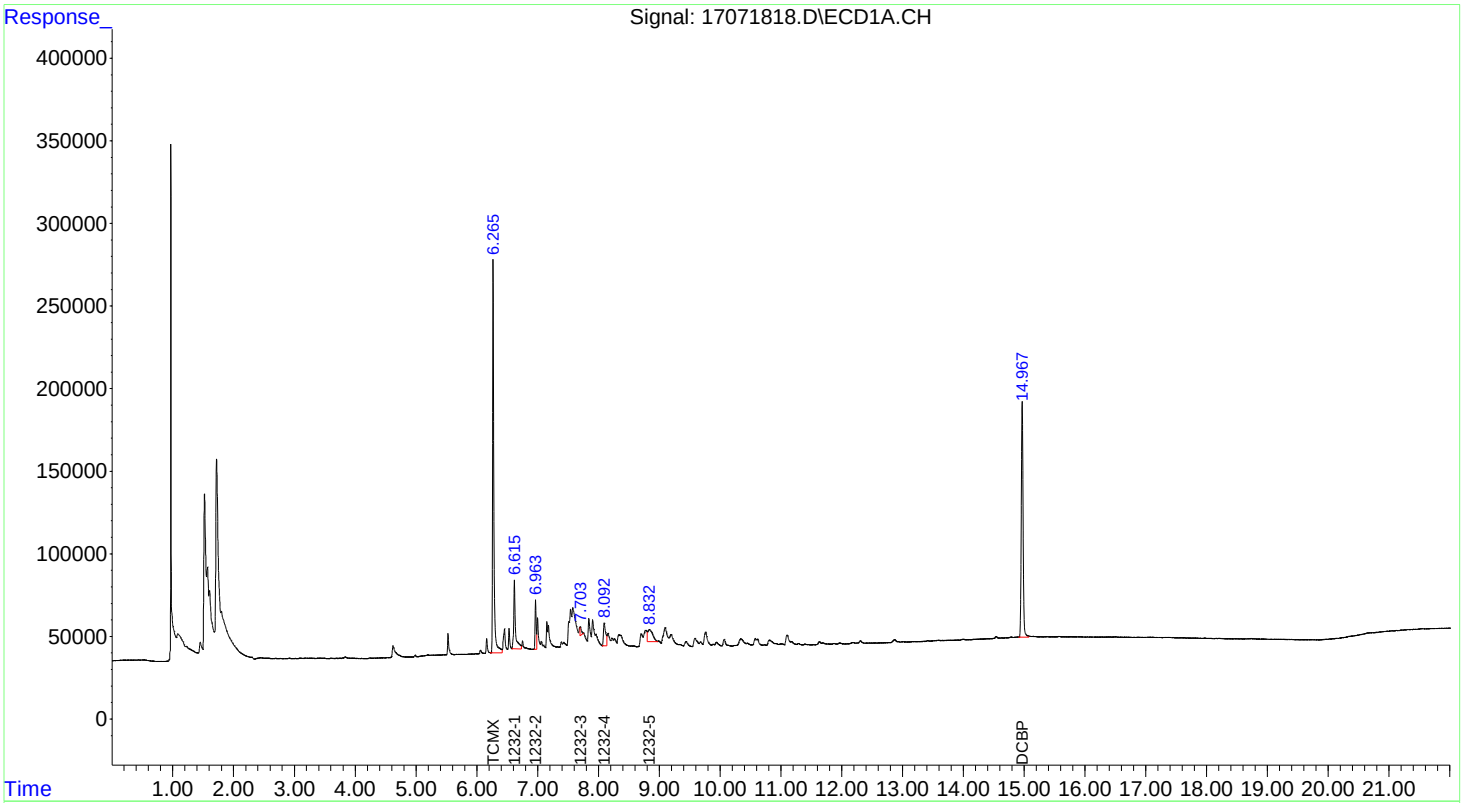
		Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
		System Monitoring Compounds						
1)	S	TCMX	6.265	6.242	331316	339762	10.425	10.322
8)	S	DCBP	14.967	15.692	291005	271696	10.373	10.190
		Target Compounds						
2)	L1	1232-1	6.615	6.890	79550	75696	97.156	107.637
3)	L1	1232-2	6.963	7.300	37040	74835	91.767	108.585
4)	L1	1232-3	7.703	8.160	6550	64499	55.982	104.772 #
5)	L1	1232-4	8.092	8.620	35801	46873	108.586	112.769
6)	L1	1232-5	8.832	9.147	40974	49089	85.223	96.491
7)	L1	1232-TOTAL	0.000	0.000	199915	310992	87.909m	106.053m

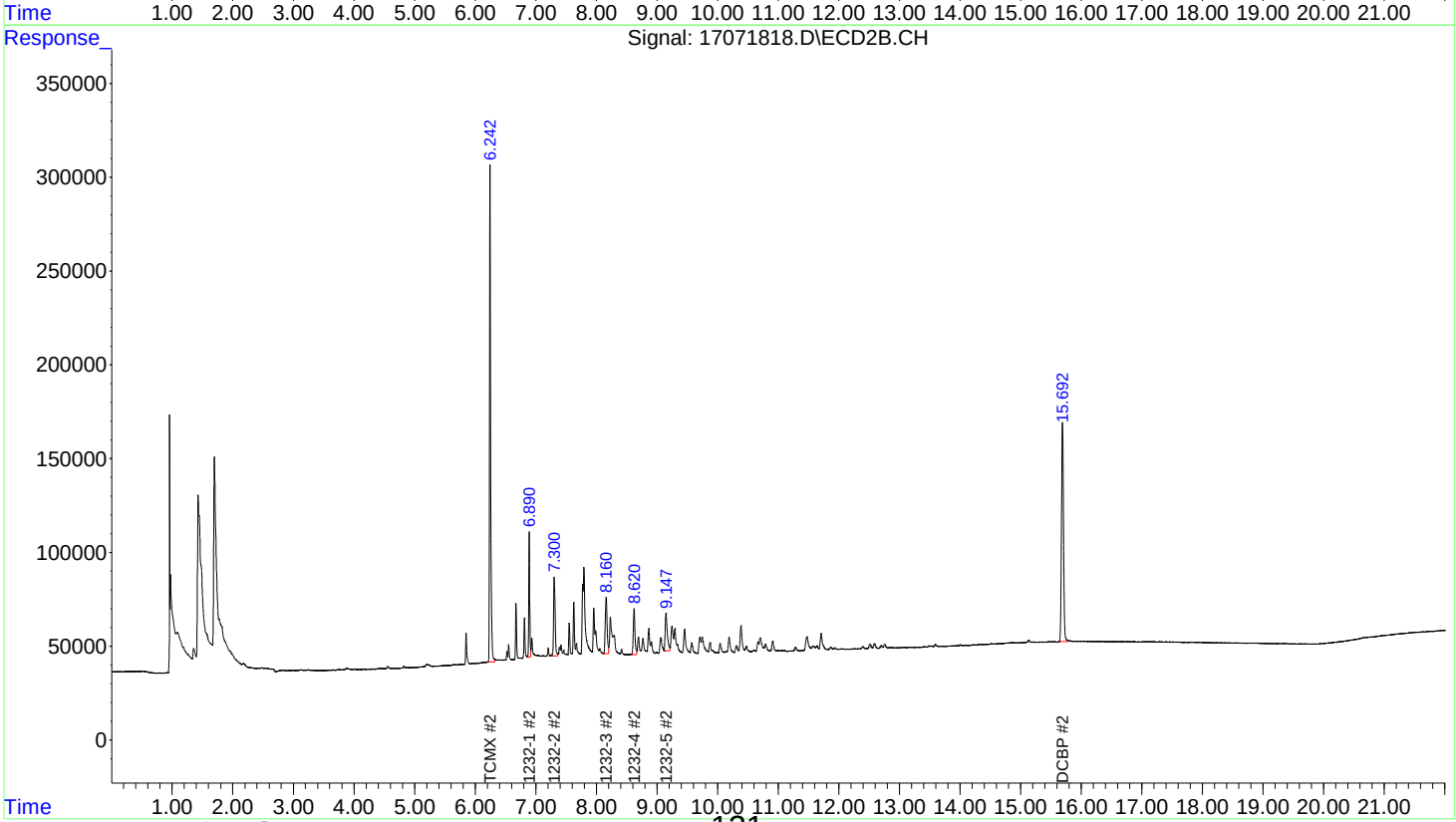
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071818.D
Acq On : 18 Jul 2017 10:43 pm
Operator :
Sample : 1232-2 100 PPB
Misc : CAL
ALS Vial : 0 (Sig #1); 18 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 19 10:55:46 2017
InstName : GC16
QLast Update : Wed Jul 19 10:34:10 2017
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071819.D
Acq On : 18 Jul 2017 11:08 pm
Operator :
Sample : 1232-3 200 PPB
Misc : CAL
ALS Vial : 0 (Sig #1); 19 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 19 10:55:50 2017
InstName : GC16
QLast Update : Wed Jul 19 10:34:10 2017
Response via : Initial Calibration

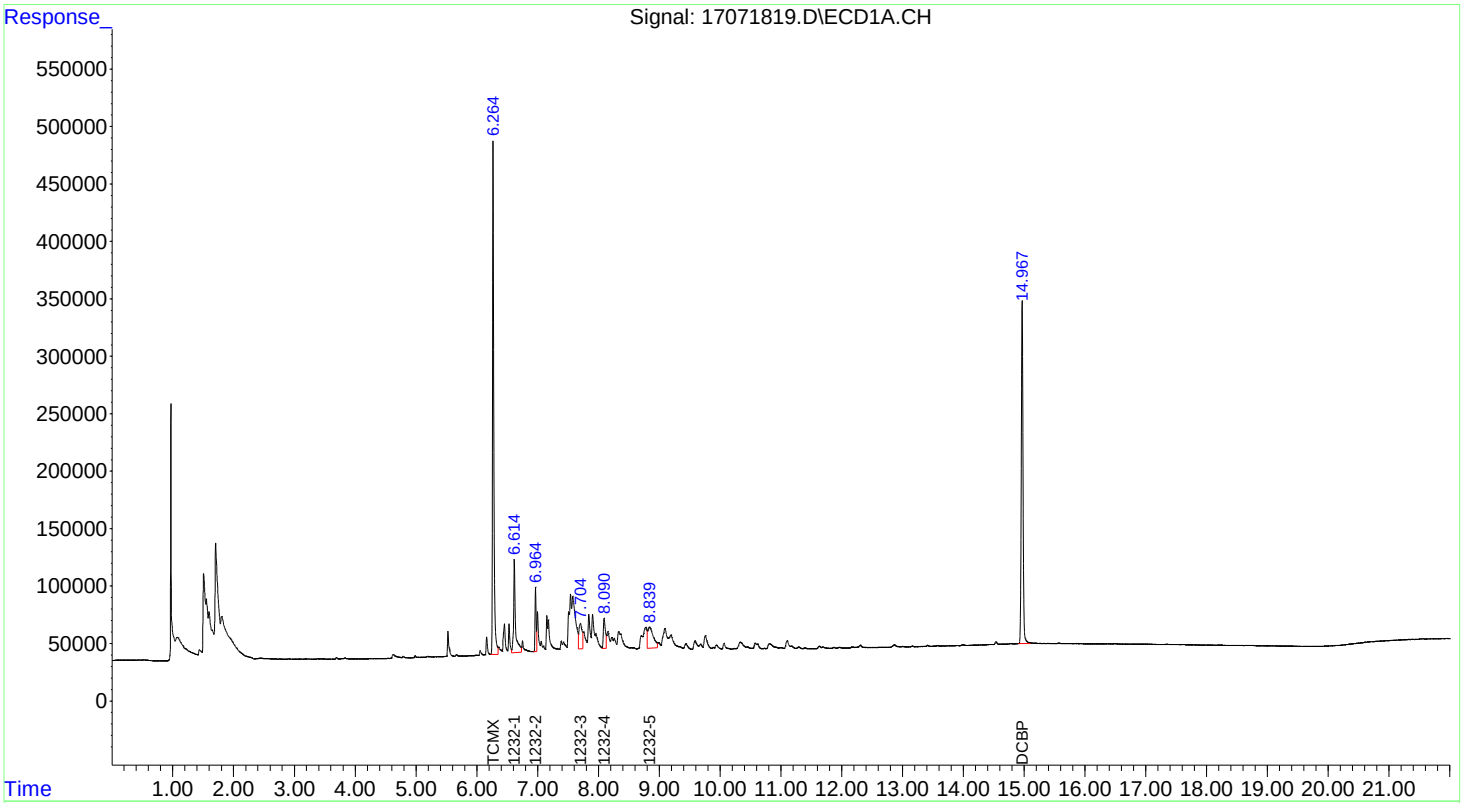
		Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
		System Monitoring Compounds						
1)	S	TCMX	6.264	6.241	640188	681015	20.495	21.265
8)	S	DCBP	14.967	15.690	585879	558703	22.111	21.803
		Target Compounds						
2)	L1	1232-1	6.614	6.889	168729	139376	229.461	218.057
3)	L1	1232-2	6.964	7.300	70907	138874	210.076	221.071
4)	L1	1232-3	7.704	8.159	82545	119699	266.162	215.895
5)	L1	1232-4	8.090	8.619	63360	84156	213.450	222.474
6)	L1	1232-5	8.839	9.144	116216	89379	262.615	192.614 #
7)	L1	1232-TOTAL	0.000	0.000	501757	571484	238.125m	214.509m

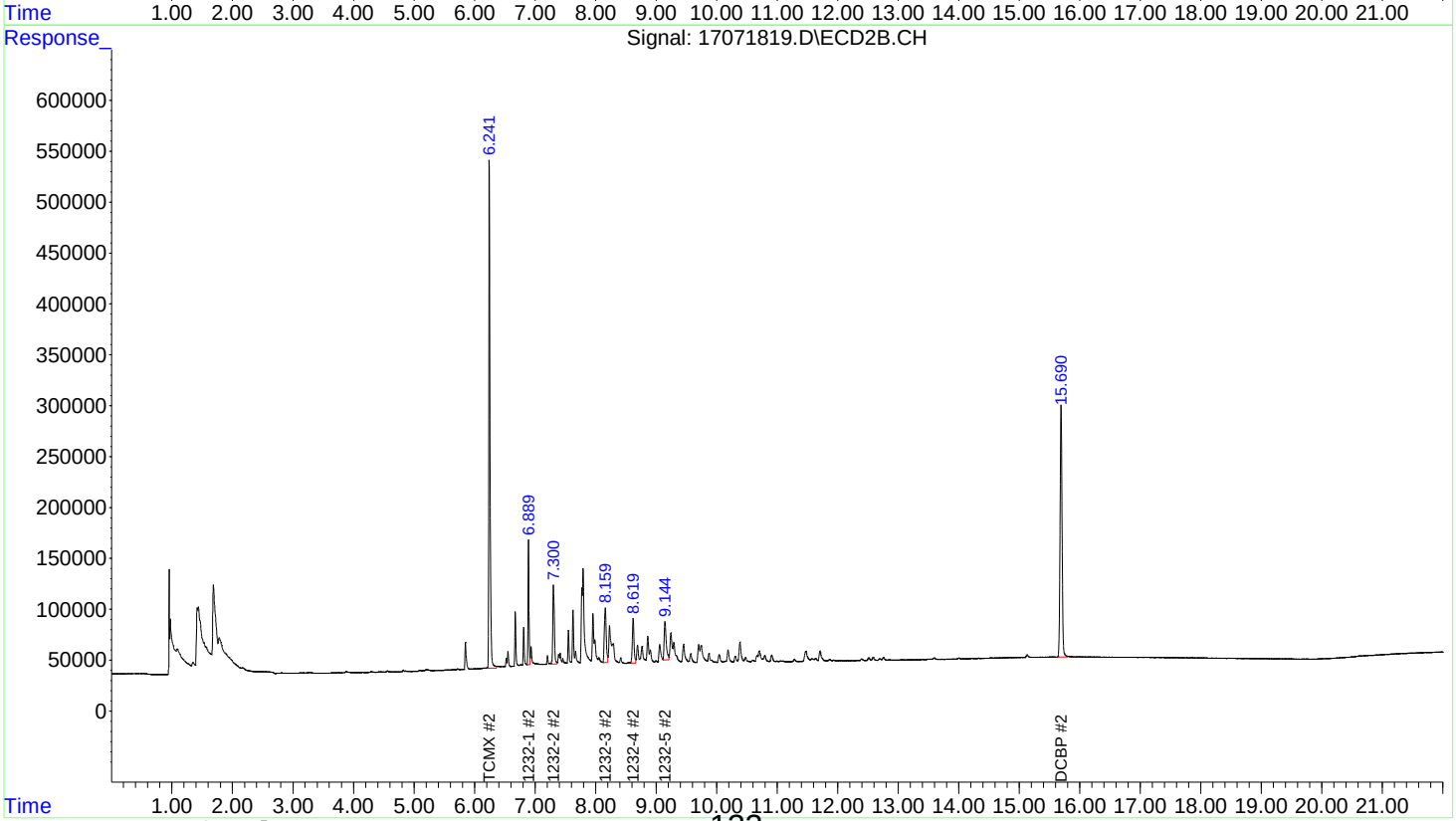
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071819.D
Acq On : 18 Jul 2017 11:08 pm
Operator :
Sample : 1232-3 200 PPB
Misc : CAL
ALS Vial : 0 (Sig #1); 19 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 19 10:55:50 2017
InstName : GC16
QLast Update : Wed Jul 19 10:34:10 2017
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071820.D
Acq On : 18 Jul 2017 11:34 pm
Operator :
Sample : 1232-4 500 PPB
Misc : CAL
ALS Vial : 0 (Sig #1); 20 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 19 10:55:53 2017
InstName : GC16
QLast Update : Wed Jul 19 10:34:10 2017
Response via : Initial Calibration

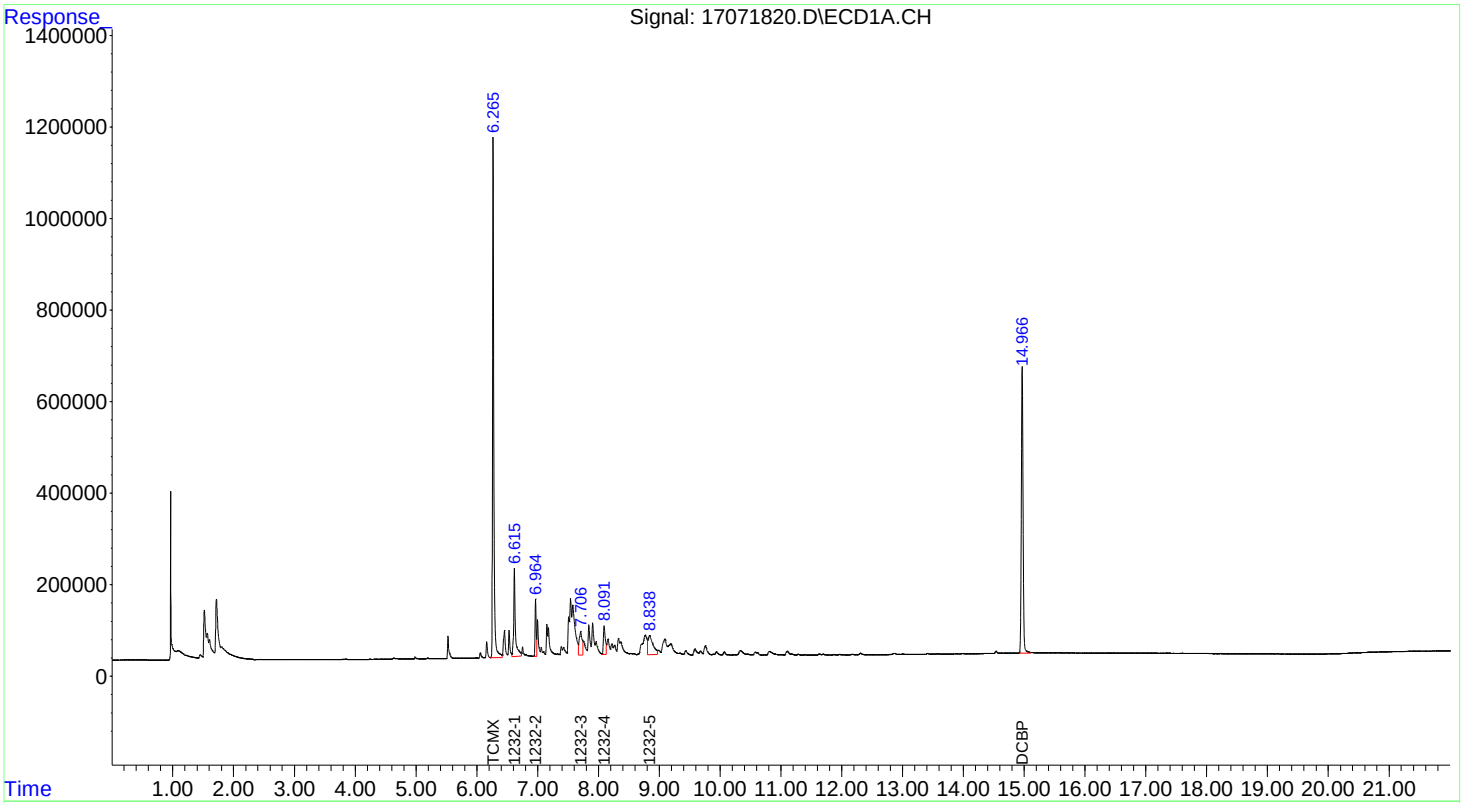
		Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
		System Monitoring Compounds						
1)	S	TCMX	6.265	6.242	1566623	1557071	50.617	49.640
8)	S	DCBP	14.966	15.691	1229172	1211412	47.837	48.517
		Target Compounds						
2)	L1	1232-1	6.615	6.890	361998	299403	517.813	499.389
3)	L1	1232-2	6.964	7.301	154794	296136	502.241	501.444
4)	L1	1232-3	7.706	8.159	175459	259192	528.317	500.080
5)	L1	1232-4	8.091	8.620	138990	177659	501.191	501.032
6)	L1	1232-5	8.838	9.145	238319	221859	558.929	512.833
7)	L1	1232-TOTAL	0.000	0.000	1069560	1254249	523.638m	502.598m

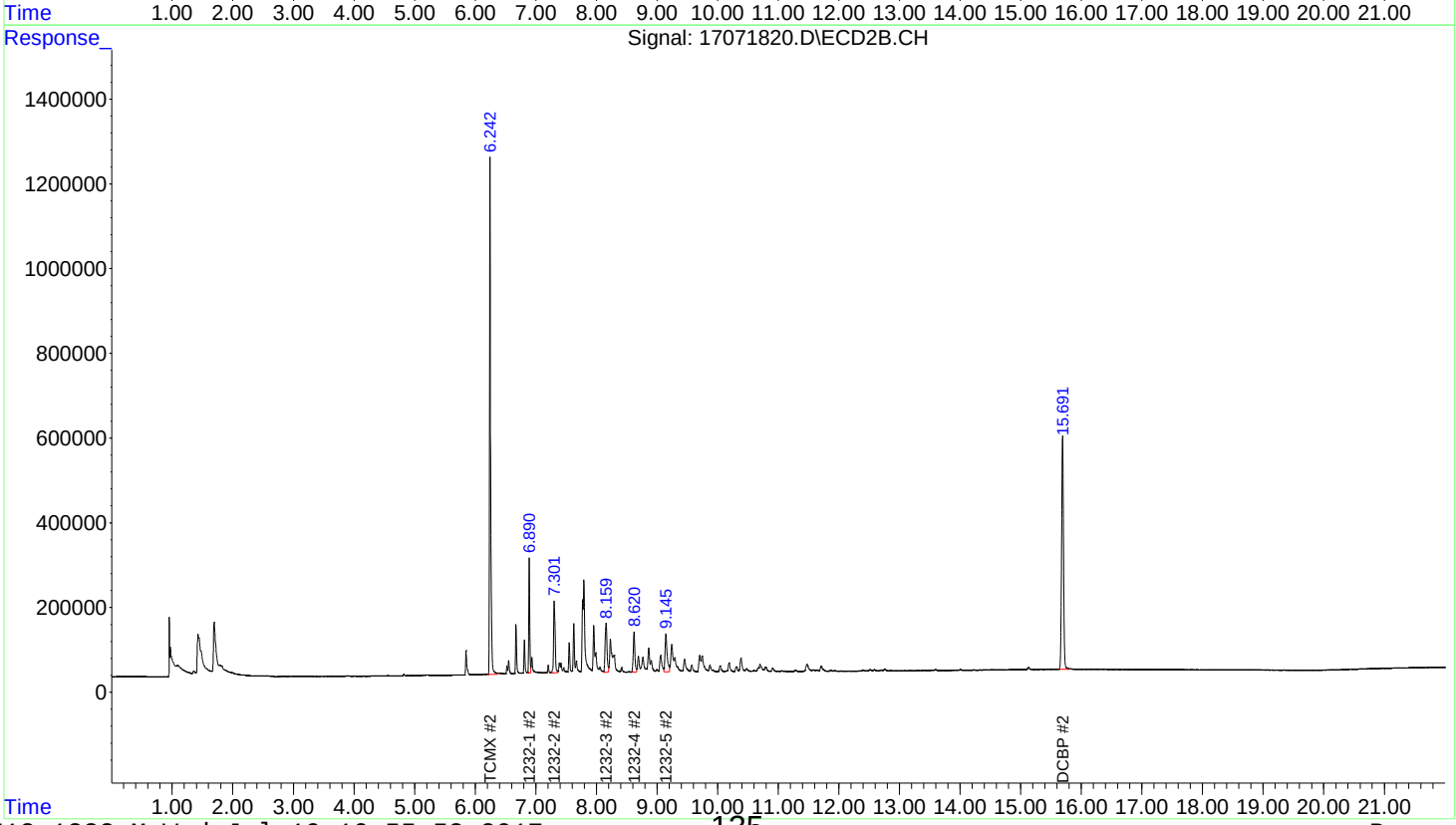
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071820.D
Acq On : 18 Jul 2017 11:34 pm
Operator :
Sample : 1232-4 500 PPB
Misc : CAL
ALS Vial : 0 (Sig #1); 20 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 19 10:55:53 2017
InstName : GC16
QLast Update : Wed Jul 19 10:34:10 2017
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071821.D
Acq On : 18 Jul 2017 11:59 pm
Operator :
Sample : 1232-5 1000 PPB
Misc : CAL
ALS Vial : 0 (Sig #1); 21 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 19 10:55:57 2017
InstName : GC16
QLast Update : Wed Jul 19 10:34:10 2017
Response via : Initial Calibration

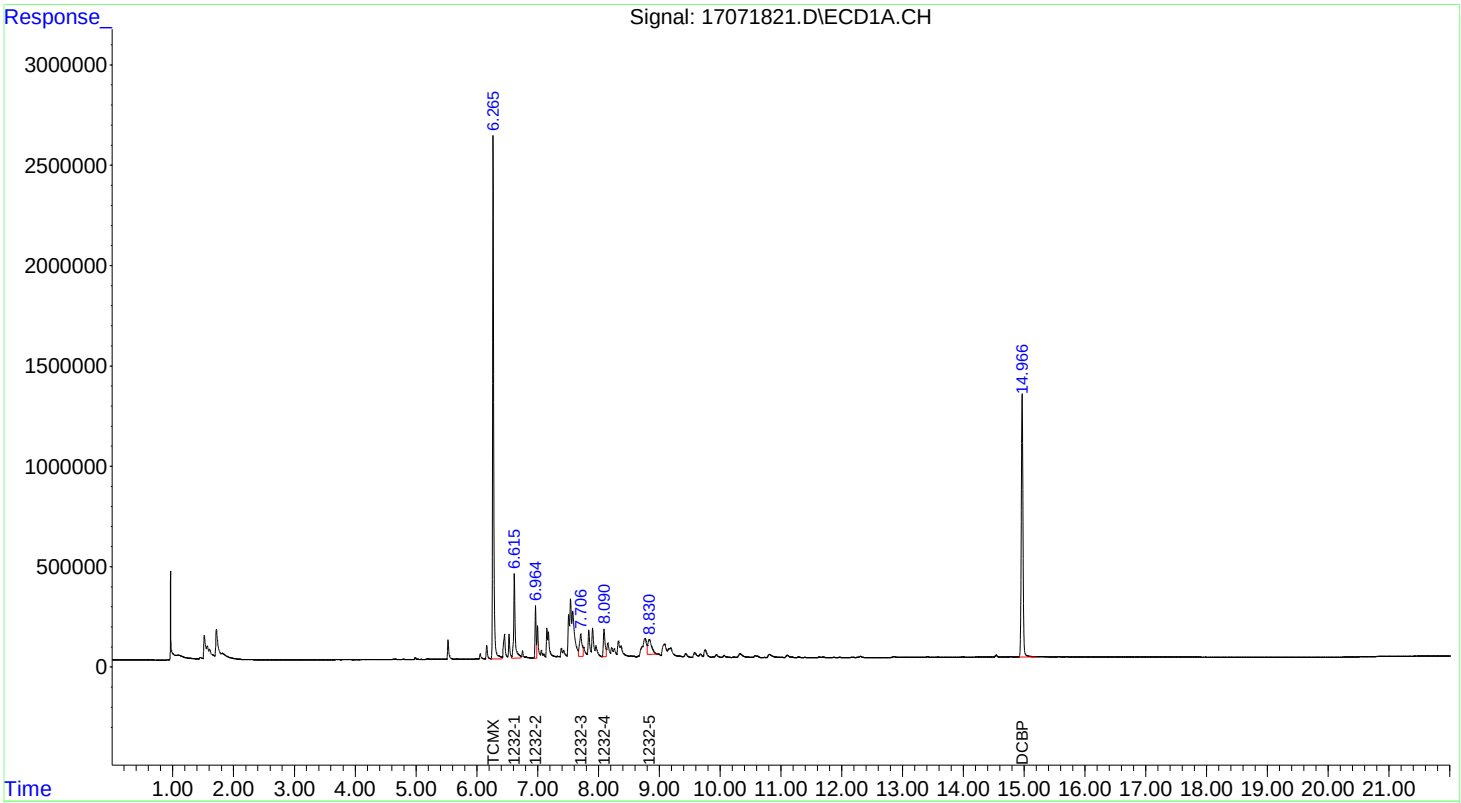
		Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
		System Monitoring Compounds						
1)	S	TCMX	6.265	6.243	3201072	2957550	103.469	95.894
8)	S	DCBP	14.966	15.692	2507914	2296390	99.466	93.909
		Target Compounds						
2)	L1	1232-1	6.614	6.890	694483	551437	1019.194	954.330
3)	L1	1232-2	6.964	7.300	308162	543310	1033.196	954.804
4)	L1	1232-3	7.706	8.158	321120	474777	951.689	949.297
5)	L1	1232-4	8.090	8.620	270890	325537	1002.885	952.138
6)	L1	1232-5	8.830	9.144	325107	406326	776.461	969.928
7)	L1	1232-TOTAL	0.000	0.000	1919762	2301387	958.632m	955.812m

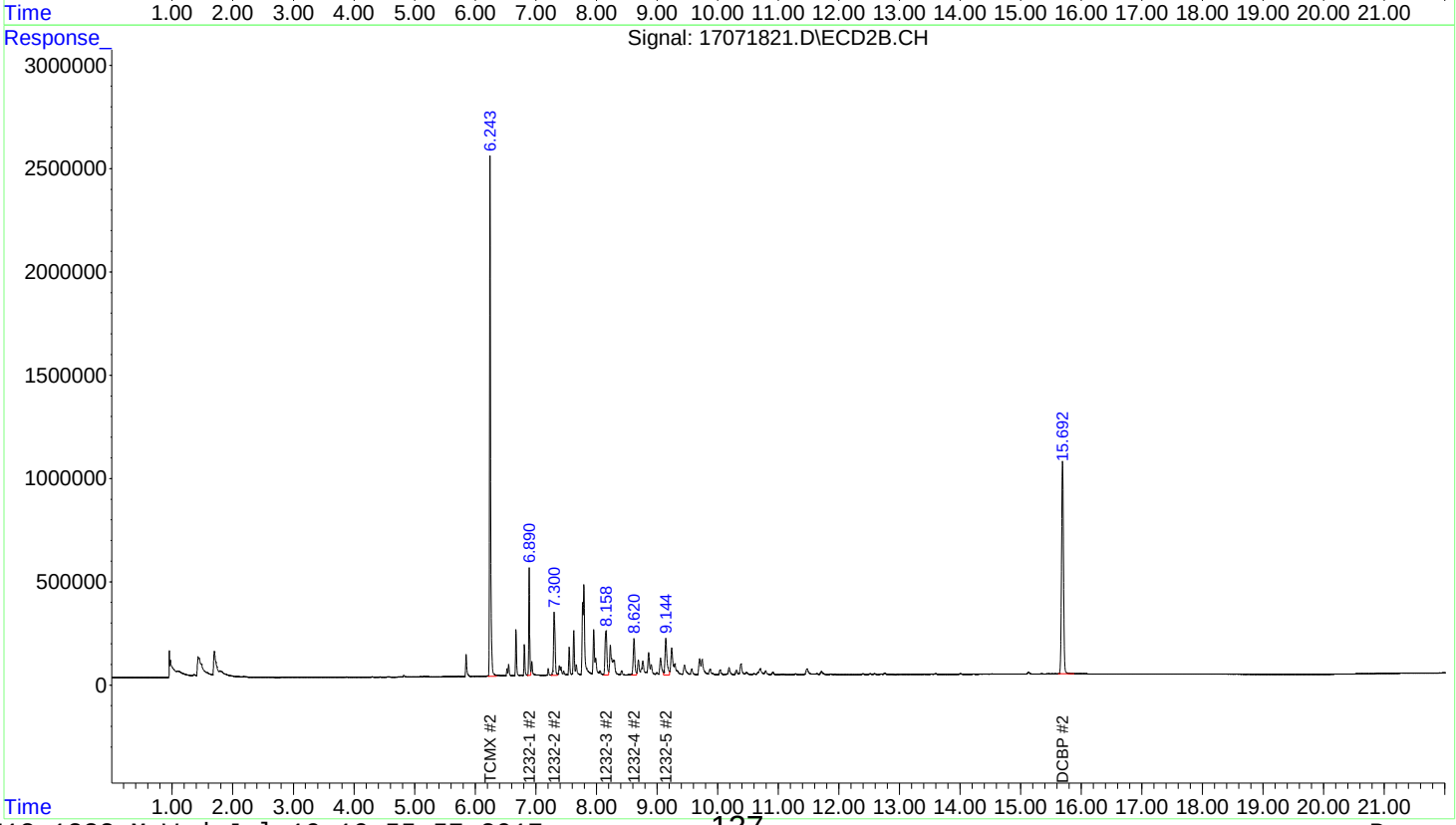
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071821.D
Acq On : 18 Jul 2017 11:59 pm
Operator :
Sample : 1232-5 1000 PPB
Misc : CAL
ALS Vial : 0 (Sig #1); 21 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 19 10:55:57 2017
InstName : GC16
QLast Update : Wed Jul 19 10:34:10 2017
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071822.D
Acq On : 19 Jul 2017 0:25 am
Operator :
Sample : 1232-6 2000 PPB
Misc : CAL
ALS Vial : 0 (Sig #1); 22 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 19 10:56:01 2017
InstName : GC16
QLast Update : Wed Jul 19 10:34:10 2017
Response via : Initial Calibration

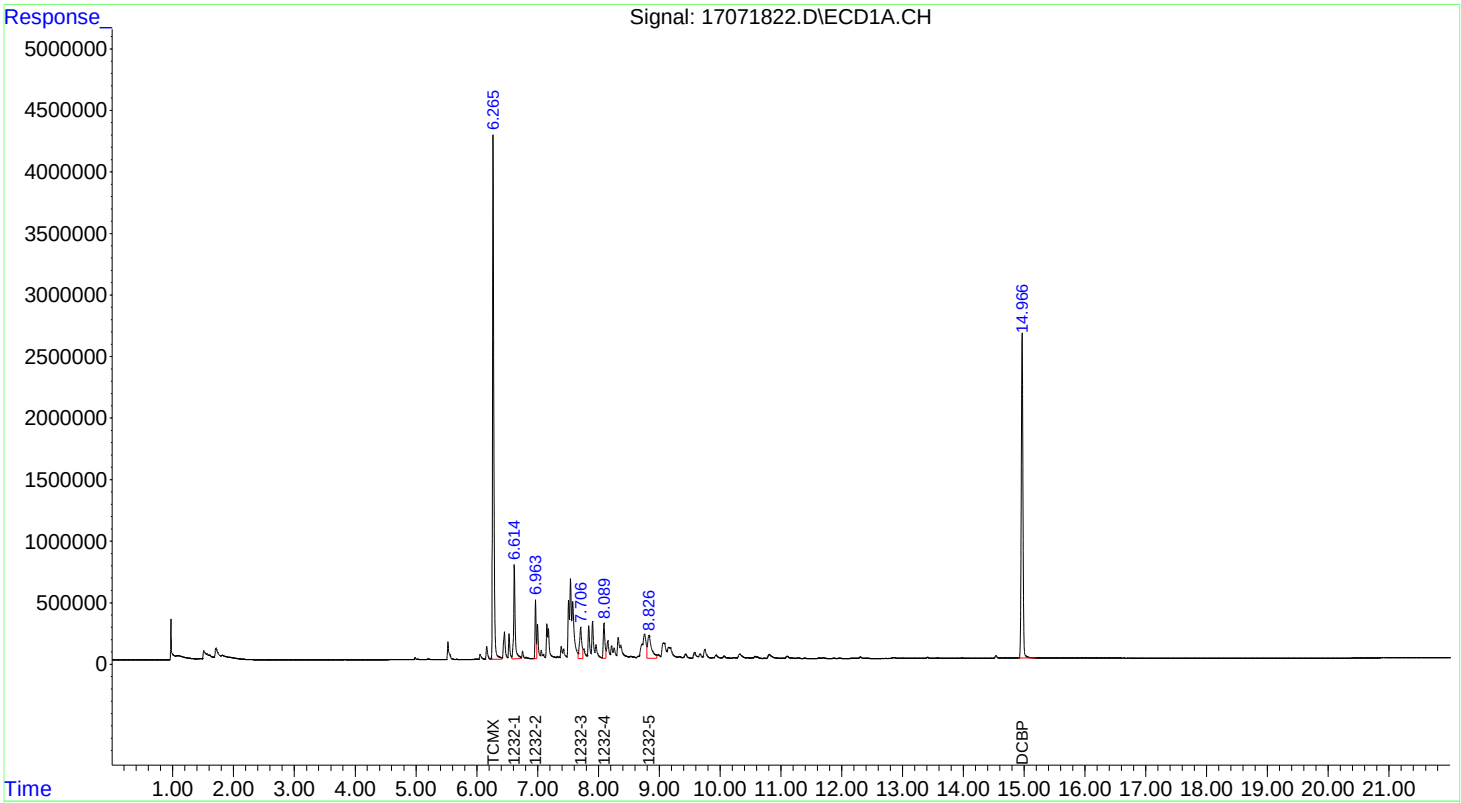
		Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
		System Monitoring Compounds						
1)	S	TCMX	6.265	6.242	6019858	6102517	193.767	204.174
8)	S	DCBP	14.966	15.691	4969702	4891171	200.777	208.077
		Target Compounds						
2)	L1	1232-1	6.614	6.890	1276100	1115400	1913.208	2032.403
3)	L1	1232-2	6.963	7.301	575497	1091094	1949.051	2023.356
4)	L1	1232-3	7.706	8.154	649992	974897	1972.406	2043.936
5)	L1	1232-4	8.089	8.618	525510	658677	1970.889	2021.825
6)	L1	1232-5	8.826	9.143	820596	815289	2160.001	2035.846
7)	L1	1232-TOTAL	0.000	0.000	3847695	4655357	1981.221m	2031.811m

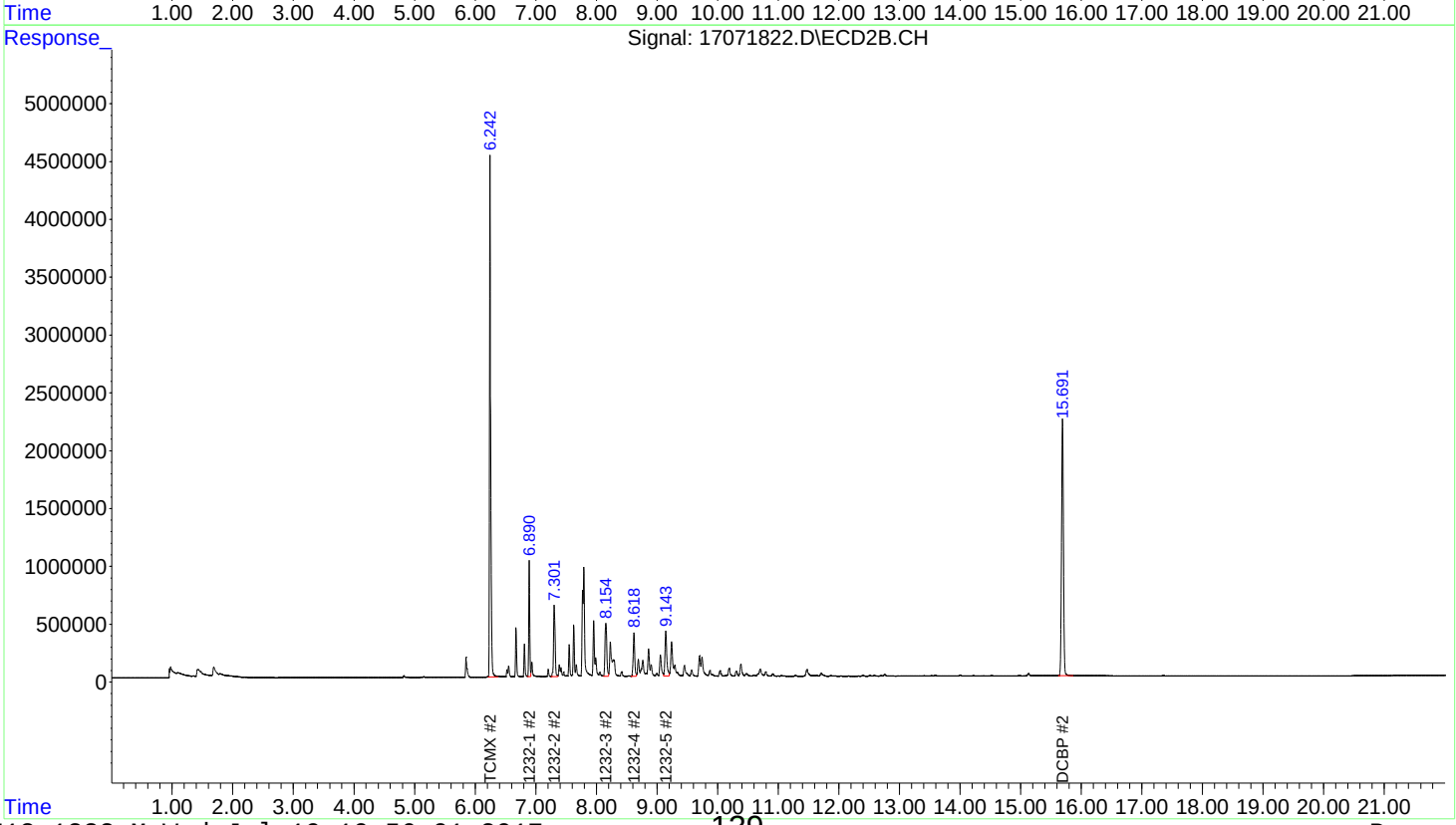
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071822.D
Acq On : 19 Jul 2017 0:25 am
Operator :
Sample : 1232-6 2000 PPB
Misc : CAL
ALS Vial : 0 (Sig #1); 22 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 19 10:56:01 2017
InstName : GC16
QLast Update : Wed Jul 19 10:34:10 2017
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071823.D
Acq On : 19 Jul 2017 0:50 am
Operator :
Sample : 1232-7 5000 PPB
Misc : CAL
ALS Vial : 0 (Sig #1); 23 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 19 10:56:04 2017
InstName : GC16
QLast Update : Wed Jul 19 10:34:10 2017
Response via : Initial Calibration

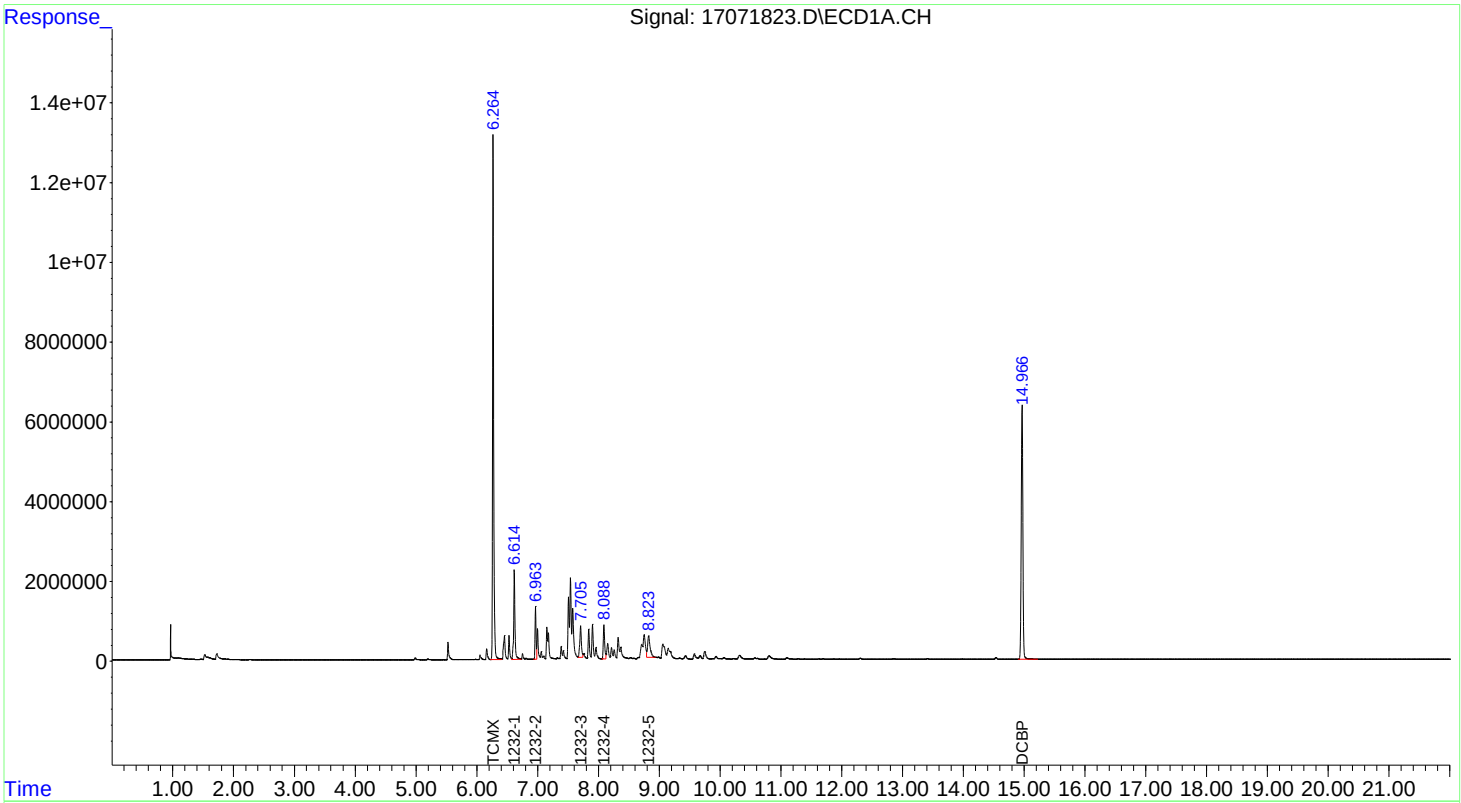
		Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
		System Monitoring Compounds						
1)	S	TCMX	6.264	6.243	15880854	13717723	501.658	499.014
8)	S	DCBP	14.966	15.691	11871488	10612759	499.927	497.702
		Target Compounds						
2)	L1	1232-1	6.614	6.889	3191422	2424069	5030.431	4994.845
3)	L1	1232-2	6.963	7.300	1495446	2359053	5012.815	4999.009
4)	L1	1232-3	7.705	8.151	1444990	2143536	5023.243	4990.624
5)	L1	1232-4	8.088	8.619	1326033	1456465	5010.292	5000.319
6)	L1	1232-5	8.823	9.143	1524872	1793227	4961.538	4988.699
7)	L1	1232-TOTAL	0.000	0.000	8982763	10176350	5014.587m	4994.546m

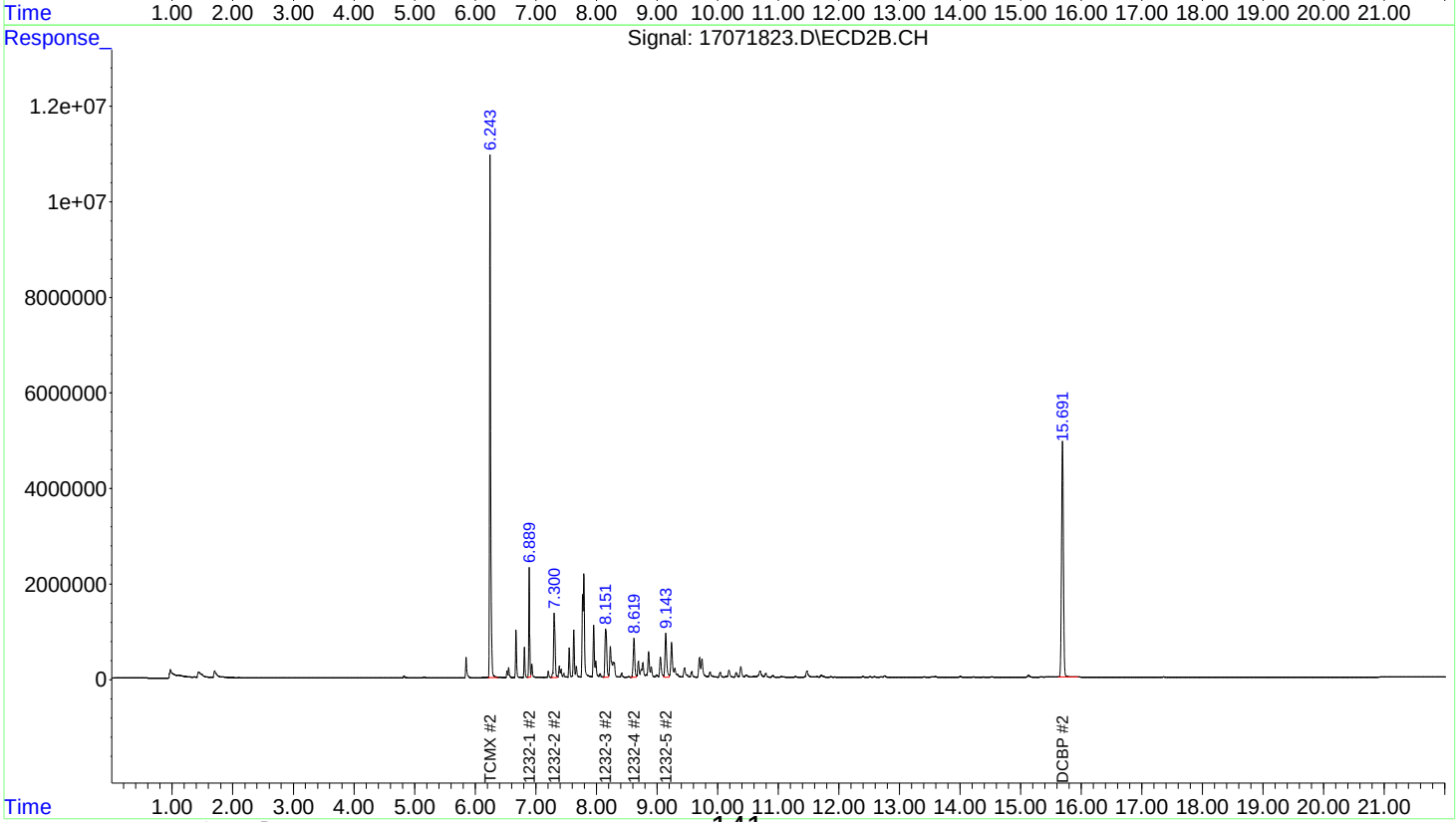
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071823.D
Acq On : 19 Jul 2017 0:50 am
Operator :
Sample : 1232-7 5000 PPB
Misc : CAL
ALS Vial : 0 (Sig #1); 23 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 19 10:56:04 2017
InstName : GC16
QLast Update : Wed Jul 19 10:34:10 2017
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071824.D
Acq On : 19 Jul 2017 1:15 am
Operator :
Sample : 1232 SSCV 2000 PPB
Misc : ICV
ALS Vial : 0 (Sig #1); 24 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 19 10:56:07 2017
InstName : GC16
QLast Update : Wed Jul 19 10:34:10 2017
Response via : Initial Calibration

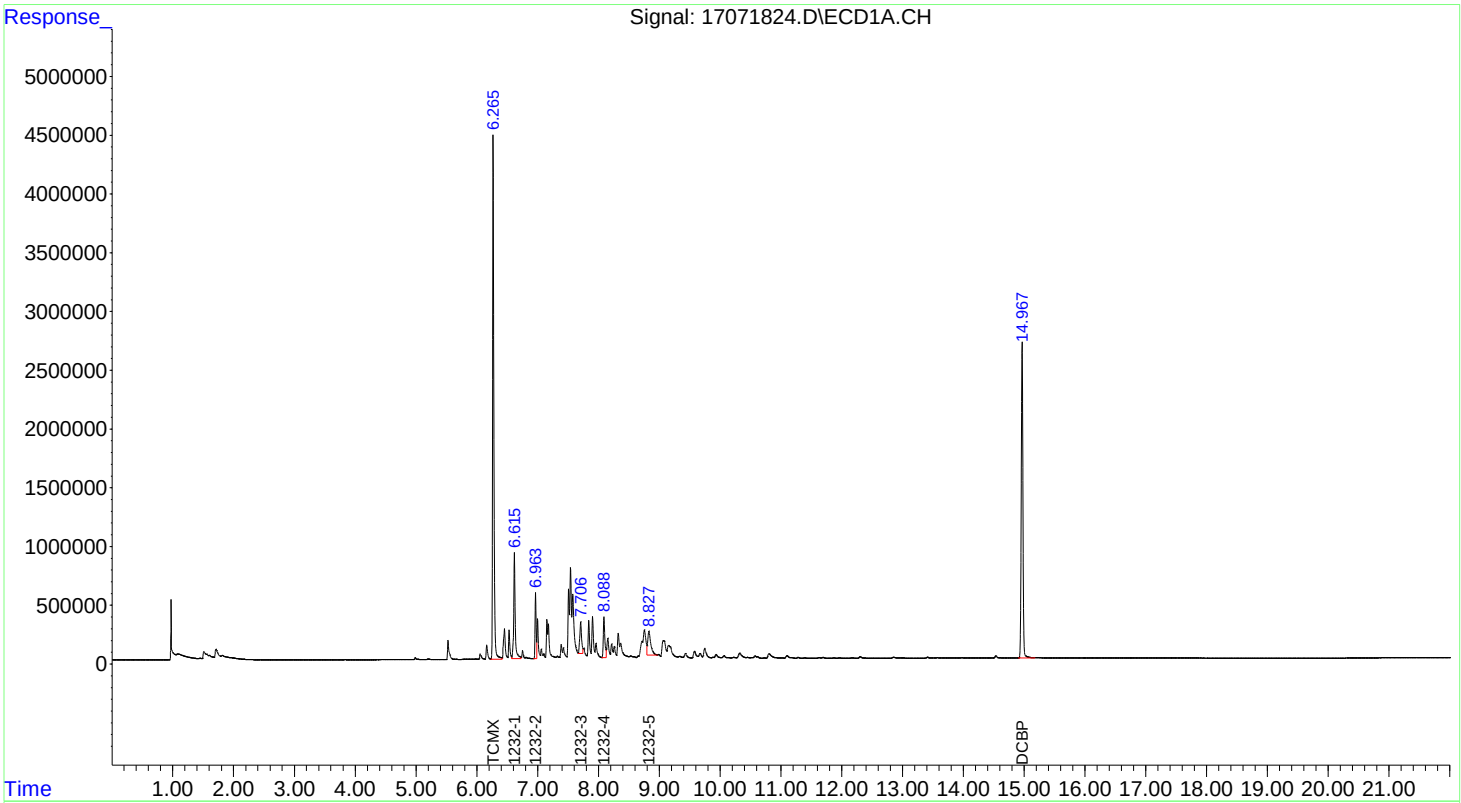
		Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb	
		System Monitoring Compounds							
1)	S	TCMX	6.265	6.243	6231464	6258267	200.503	209.709	
8)	S	DCBP	14.967	15.689	5070789	4879869	204.994	207.561	
		Target Compounds							
2)	L1	1232-1	6.615	6.889	1485018	1294512	2239.861	2394.896	
3)	L1	1232-2	6.963	7.301	674328	1262419	2284.607	2378.672	
4)	L1	1232-3	7.706	8.153	562953	1126123	1692.525	2391.286	#
5)	L1	1232-4	8.088	8.618	599539	758859	2252.215	2359.959	
6)	L1	1232-5	8.827	9.143	695272	937562	1783.039	2370.493	#
7)	L1	1232-TOTAL	0.000	0.000	4017110	5379475	2073.675m	2381.072m	

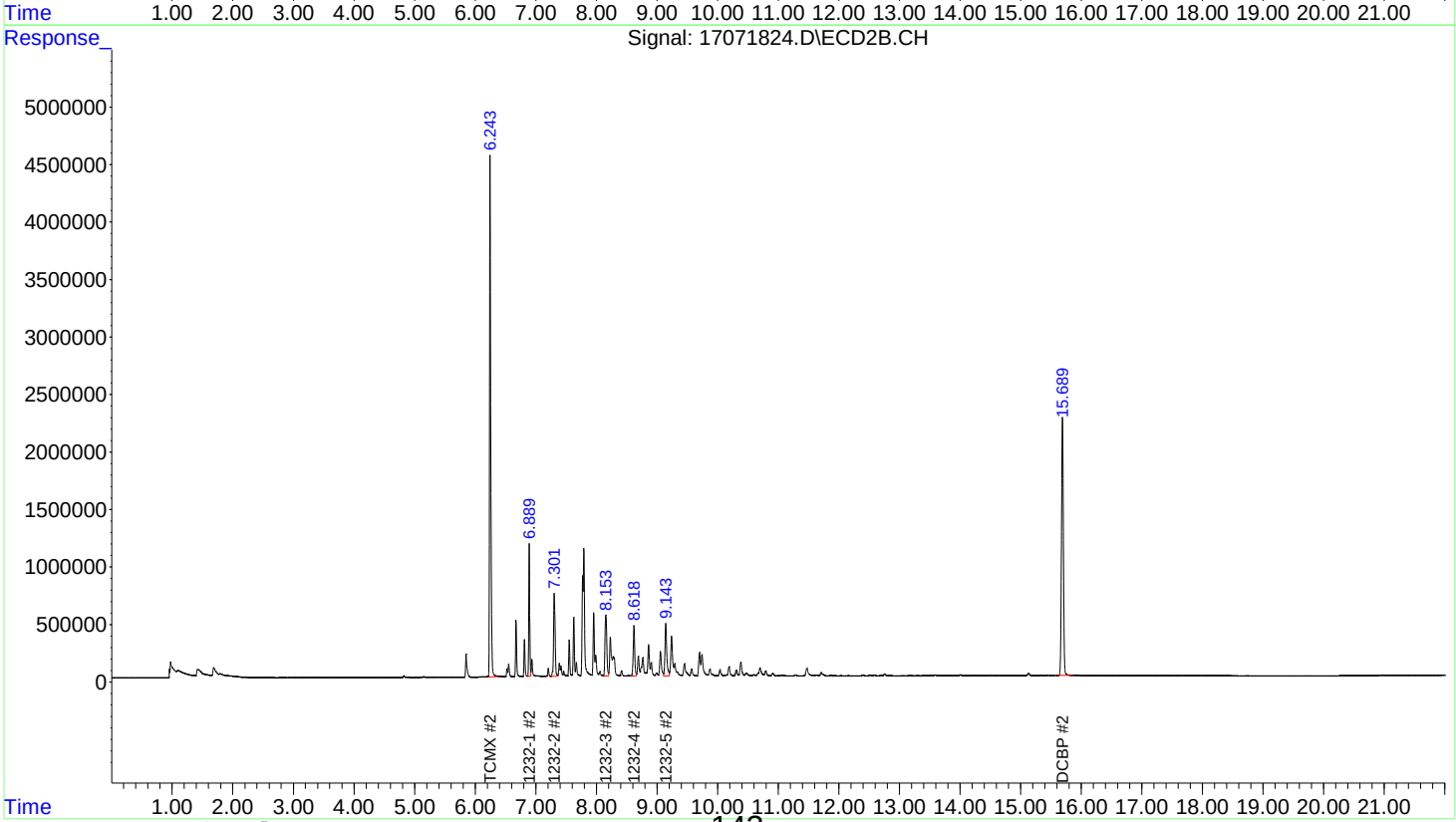
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071824.D
Acq On : 19 Jul 2017 1:15 am
Operator :
Sample : 1232 SSCV 2000 PPB
Misc : ICV
ALS Vial : 0 (Sig #1); 24 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 19 10:56:07 2017
InstName : GC16
QLast Update : Wed Jul 19 10:34:10 2017
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071829.D
Acq On : 19 Jul 2017 10:16 am
Operator :
Sample : 1242-2 100 PPB
Misc : CAL
ALS Vial : 0 (Sig #1); 26 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 20 11:58:33 2017
InstName : GC16
QLast Update : Thu Jul 20 11:42:25 2017
Response via : Initial Calibration

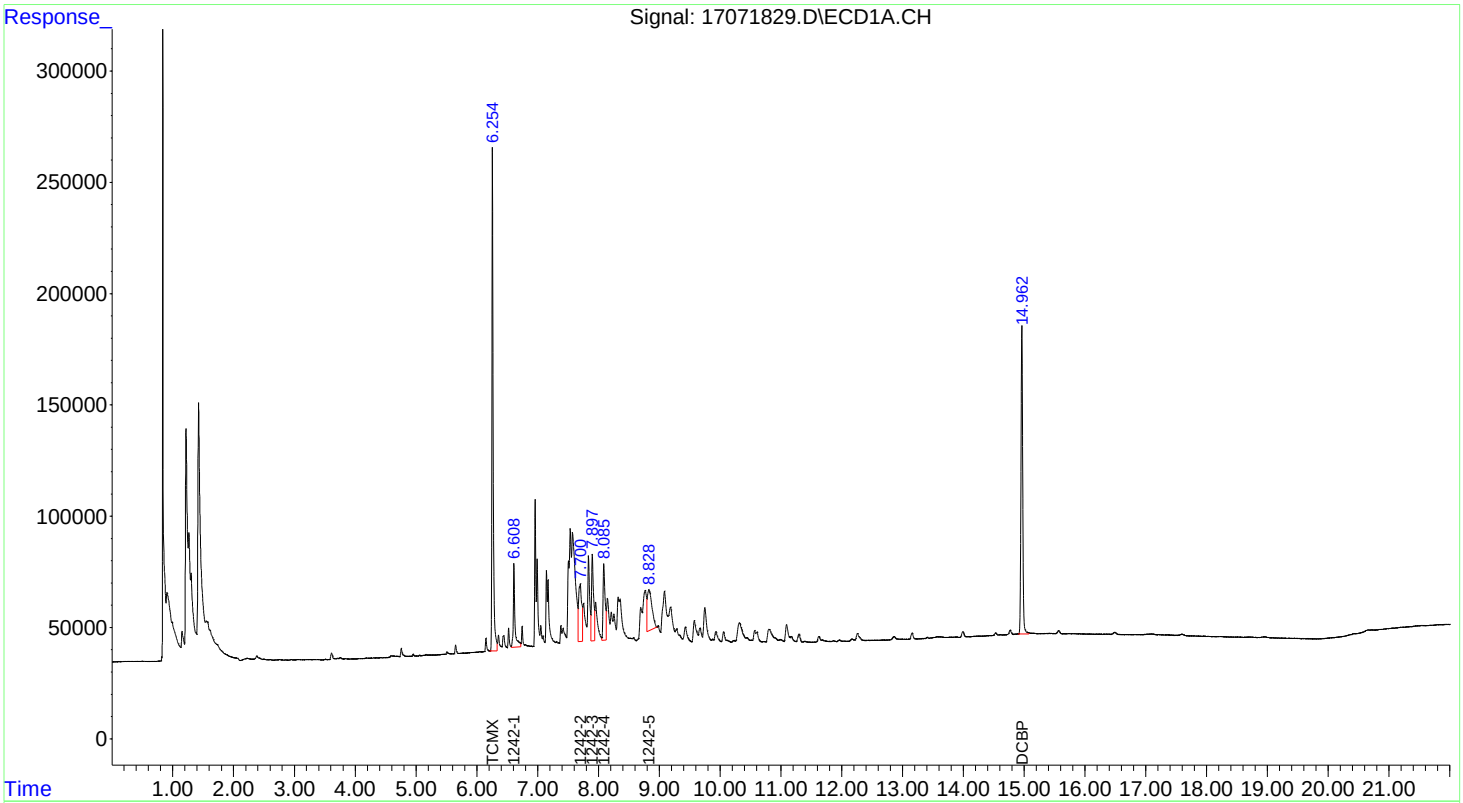
		Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
		System Monitoring Compounds						
1)	S	TCMX	6.254	6.231	319328	351043	9.980	10.468
8)	S	DCBP	14.962	15.687	274466	274034	9.966	10.109
		Target Compounds						
2)	L1	1242-1	6.608	6.884	68555	68435	101.830	108.235
3)	L1	1242-2	7.700	7.296	94796	150753	120.248	108.558
4)	L1	1242-3	7.897	8.158	90755	143626	101.352	107.772
5)	L1	1242-4	8.085	8.616	79523	105079	95.136	104.933
6)	L1	1242-5	8.828	9.142	94542	131361	70.354	104.216 #
7)	L1	1242-TOTAL	0.000	0.000	428171	599254	95.220m	106.739m

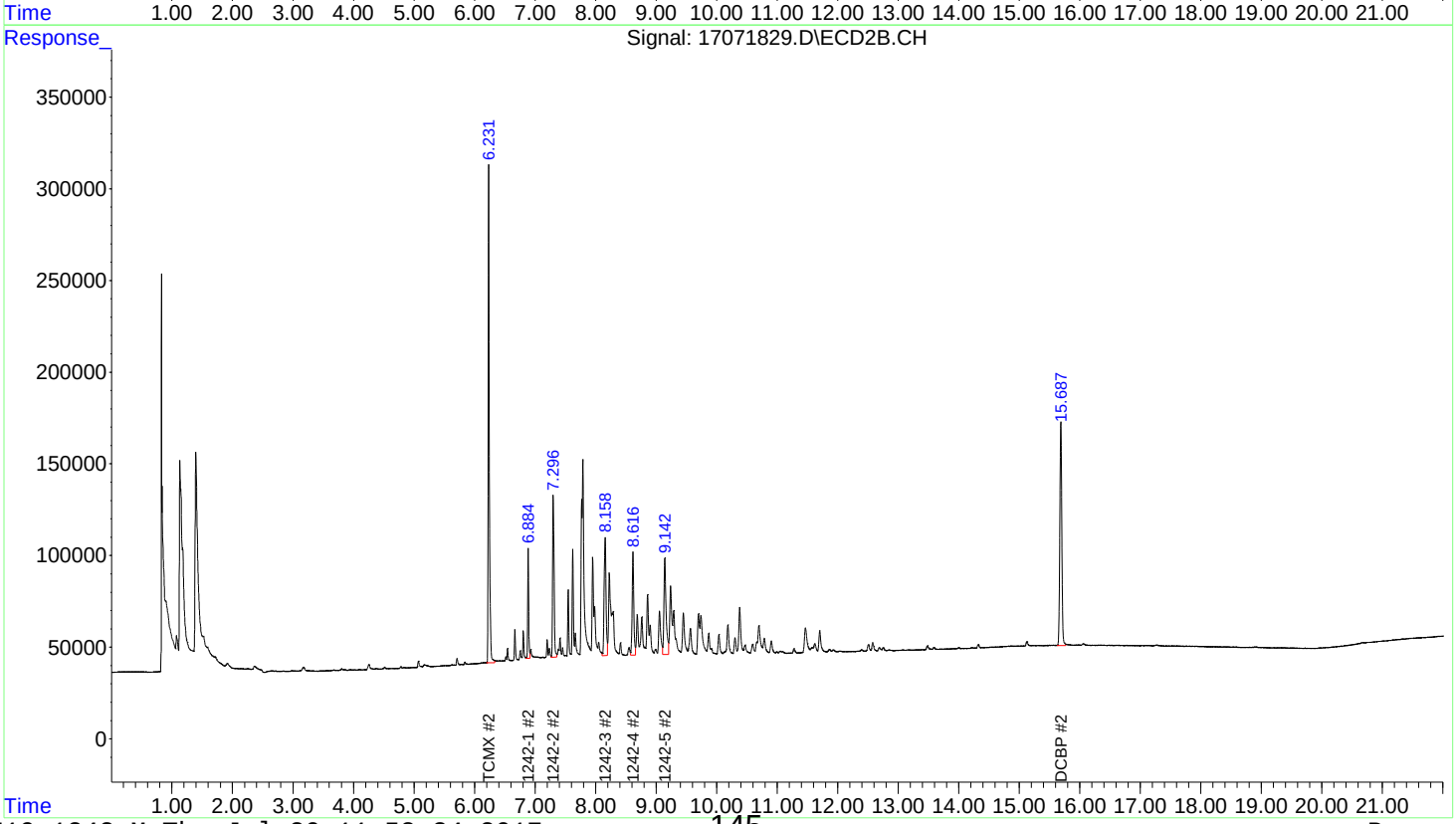
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071829.D
Acq On : 19 Jul 2017 10:16 am
Operator :
Sample : 1242-2 100 PPB
Misc : CAL
ALS Vial : 0 (Sig #1); 26 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 20 11:58:33 2017
InstName : GC16
QLast Update : Thu Jul 20 11:42:25 2017
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071830.D
Acq On : 19 Jul 2017 10:41 am
Operator :
Sample : 1242-3 200 PPB
Misc : CAL
ALS Vial : 0 (Sig #1); 27 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 20 11:58:37 2017
InstName : GC16
QLast Update : Thu Jul 20 11:42:25 2017
Response via : Initial Calibration

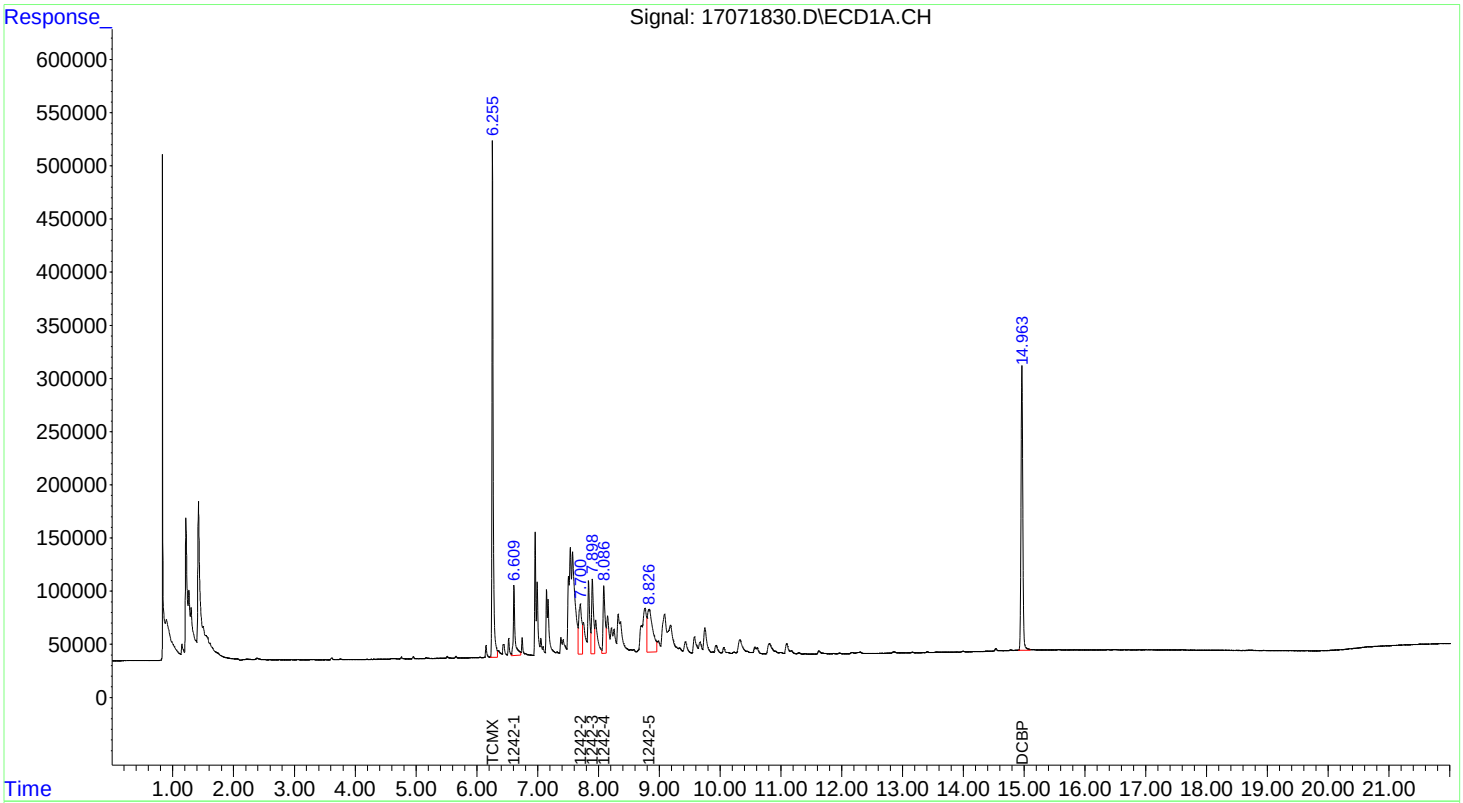
		Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
		System Monitoring Compounds						
1)	S	TCMX	6.255	6.231	653418	645468	20.422	20.317
8)	S	DCBP	14.963	15.687	541478	522471	20.851	20.922
		Target Compounds						
2)	L1	1242-1	6.609	6.884	125970	110505	217.994	212.814
3)	L1	1242-2	7.700	7.296	164188	245622	228.497	212.239
4)	L1	1242-3	7.898	8.156	158639	236244	219.442	211.298
5)	L1	1242-4	8.086	8.615	148648	173551	217.806	210.720
6)	L1	1242-5	8.826	9.141	244789	218701	235.051	213.173
7)	L1	1242-TOTAL	0.000	0.000	842234	984623	225.206m	212.008m

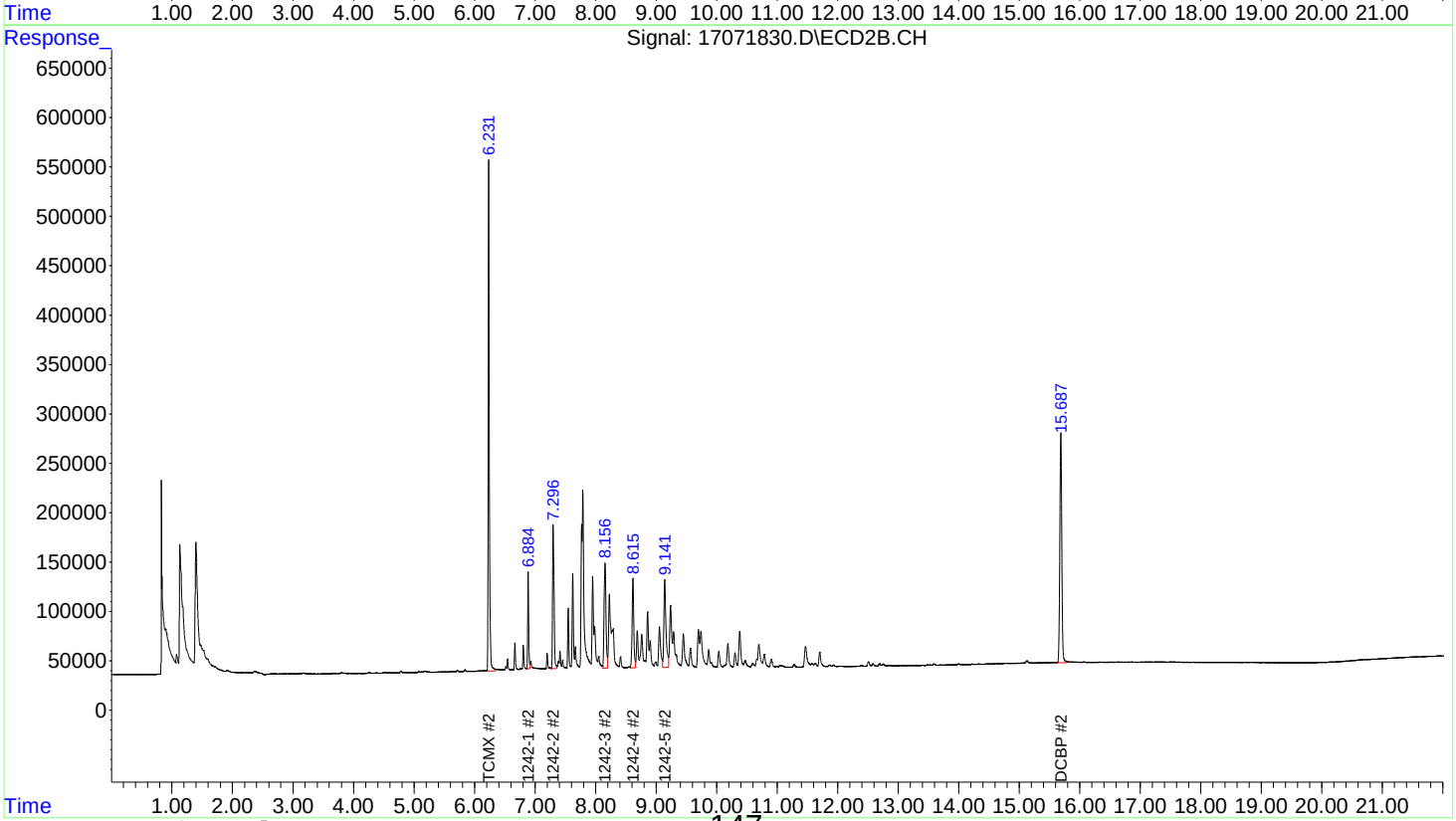
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071830.D
Acq On : 19 Jul 2017 10:41 am
Operator :
Sample : 1242-3 200 PPB
Misc : CAL
ALS Vial : 0 (Sig #1); 27 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 20 11:58:37 2017
InstName : GC16
QLast Update : Thu Jul 20 11:42:25 2017
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071831.D
Acq On : 19 Jul 2017 11:06 am
Operator :
Sample : 1242-4 500 PPB
Misc : CAL
ALS Vial : 0 (Sig #1); 28 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 20 11:58:41 2017
InstName : GC16
QLast Update : Thu Jul 20 11:42:25 2017
Response via : Initial Calibration

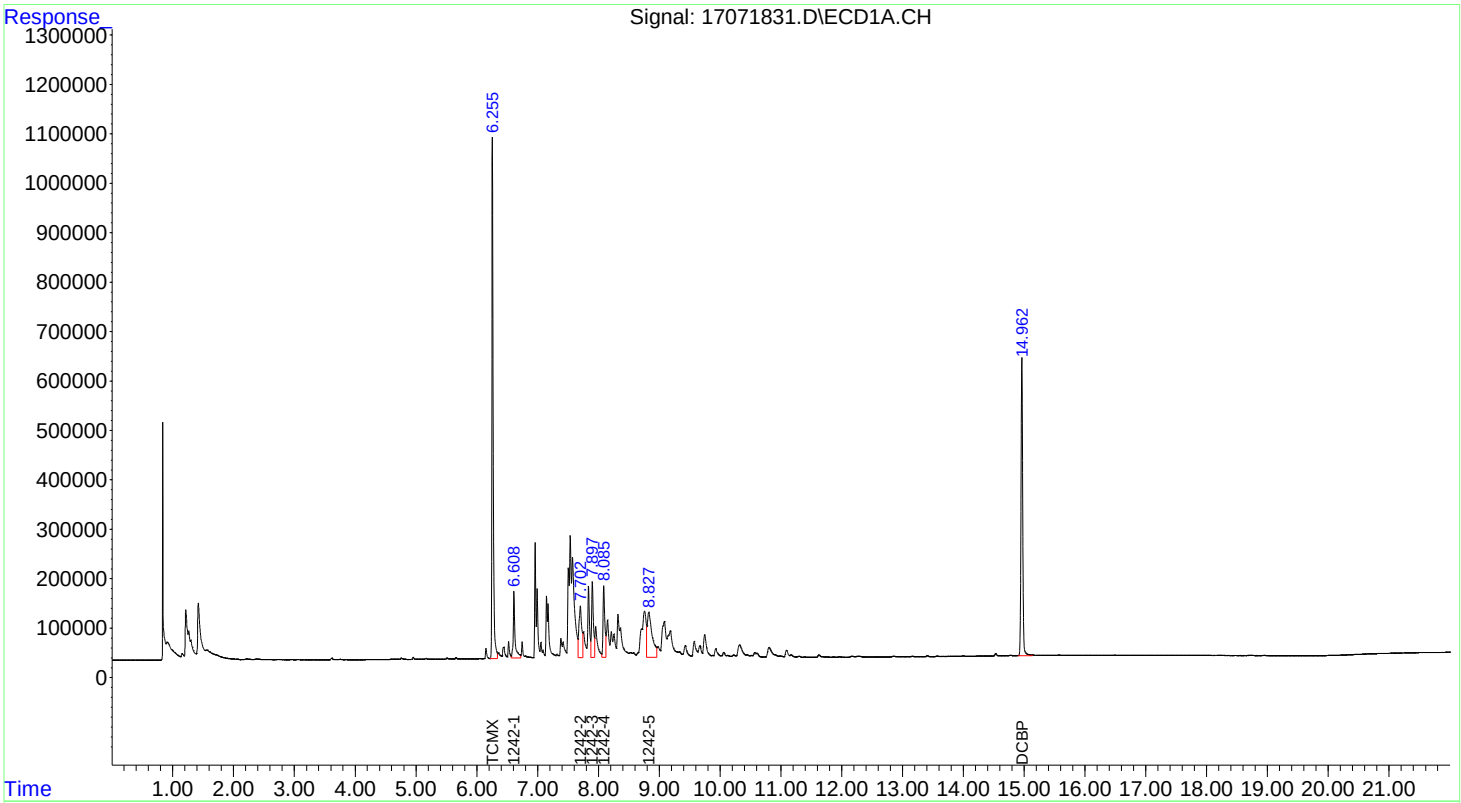
	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
1) S	TCMX	6.255	6.231	1472186	1545078	46.012	50.642
8) S	DCBP	14.962	15.686	1163282	1158957	46.131	48.743
	Target Compounds						
2) L1	1242-1	6.608	6.884	262168	230922	494.533	515.111
3) L1	1242-2	7.702	7.296	330620	521334	487.742	517.132
4) L1	1242-3	7.897	8.156	313726	500579	489.352	509.000
5) L1	1242-4	8.085	8.615	299070	366333	483.985	511.087
6) L1	1242-5	8.827	9.140	509321	455277	529.297	510.354
7) L1	1242-TOTAL	0.000	0.000	1714905	2074445	500.116m	512.360m

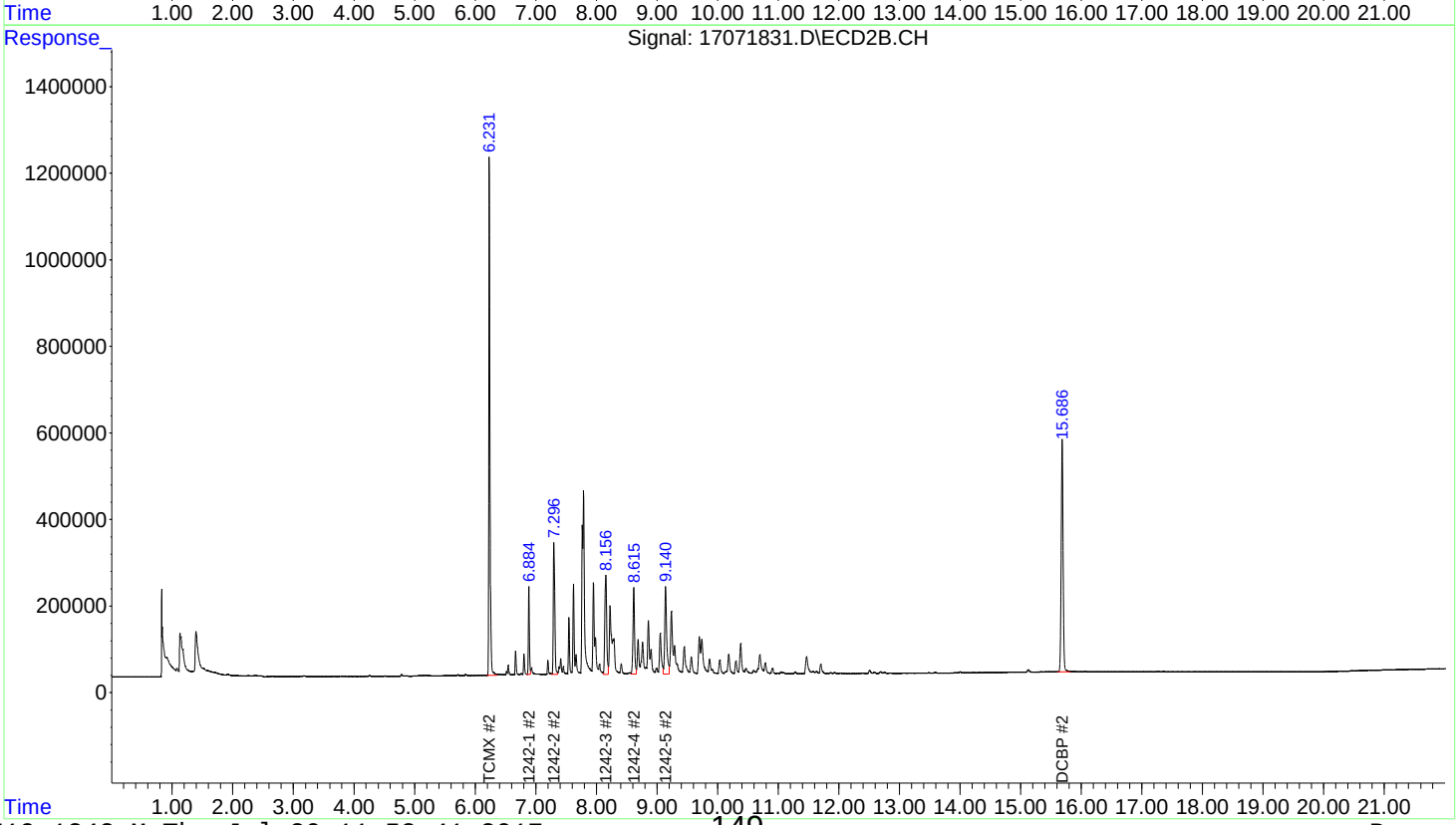
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071831.D
Acq On : 19 Jul 2017 11:06 am
Operator :
Sample : 1242-4 500 PPB
Misc : CAL
ALS Vial : 0 (Sig #1); 28 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 20 11:58:41 2017
InstName : GC16
QLast Update : Thu Jul 20 11:42:25 2017
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071832.D
Acq On : 19 Jul 2017 11:32 am
Operator :
Sample : 1242-5 1000 PPB
Misc : CAL
ALS Vial : 0 (Sig #1); 29 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 20 11:58:44 2017
InstName : GC16
QLast Update : Thu Jul 20 11:42:25 2017
Response via : Initial Calibration

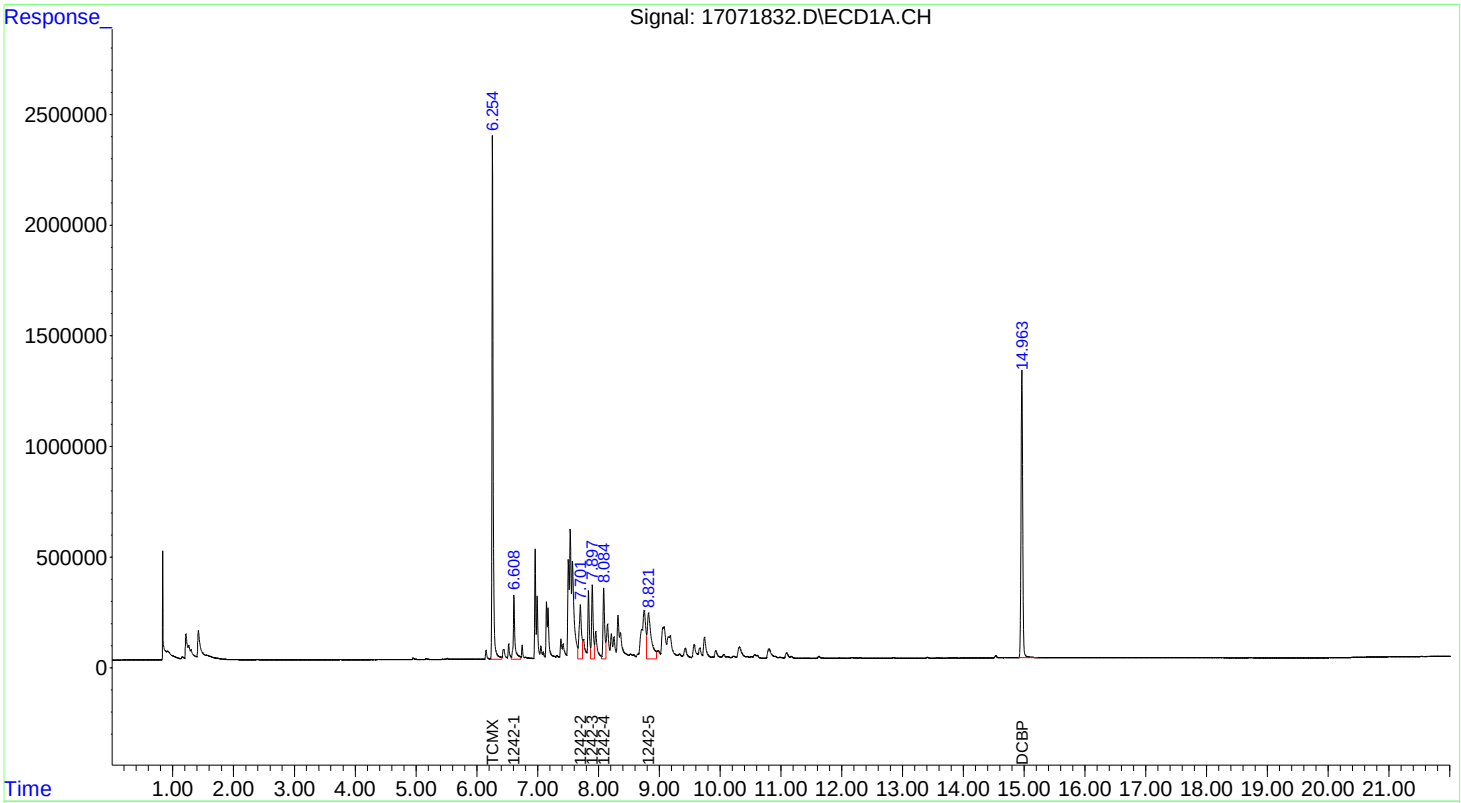
		Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
		System Monitoring Compounds						
1)	S	TCMX	6.254	6.230	3131430	3018558	97.870	101.092
8)	S	DCBP	14.963	15.684	2473135	2328943	99.080	100.343
		Target Compounds						
2)	L1	1242-1	6.608	6.883	521477	425380	1024.900	1012.961
3)	L1	1242-2	7.701	7.295	661598	959108	1001.697	1012.753
4)	L1	1242-3	7.897	8.153	612460	942489	1009.756	1014.344
5)	L1	1242-4	8.084	8.614	597769	685371	1009.504	1016.681
6)	L1	1242-5	8.821	9.139	949262	853644	1031.494	1017.762
7)	L1	1242-TOTAL	0.000	0.000	3342566	3865992	1016.372m	1014.968m

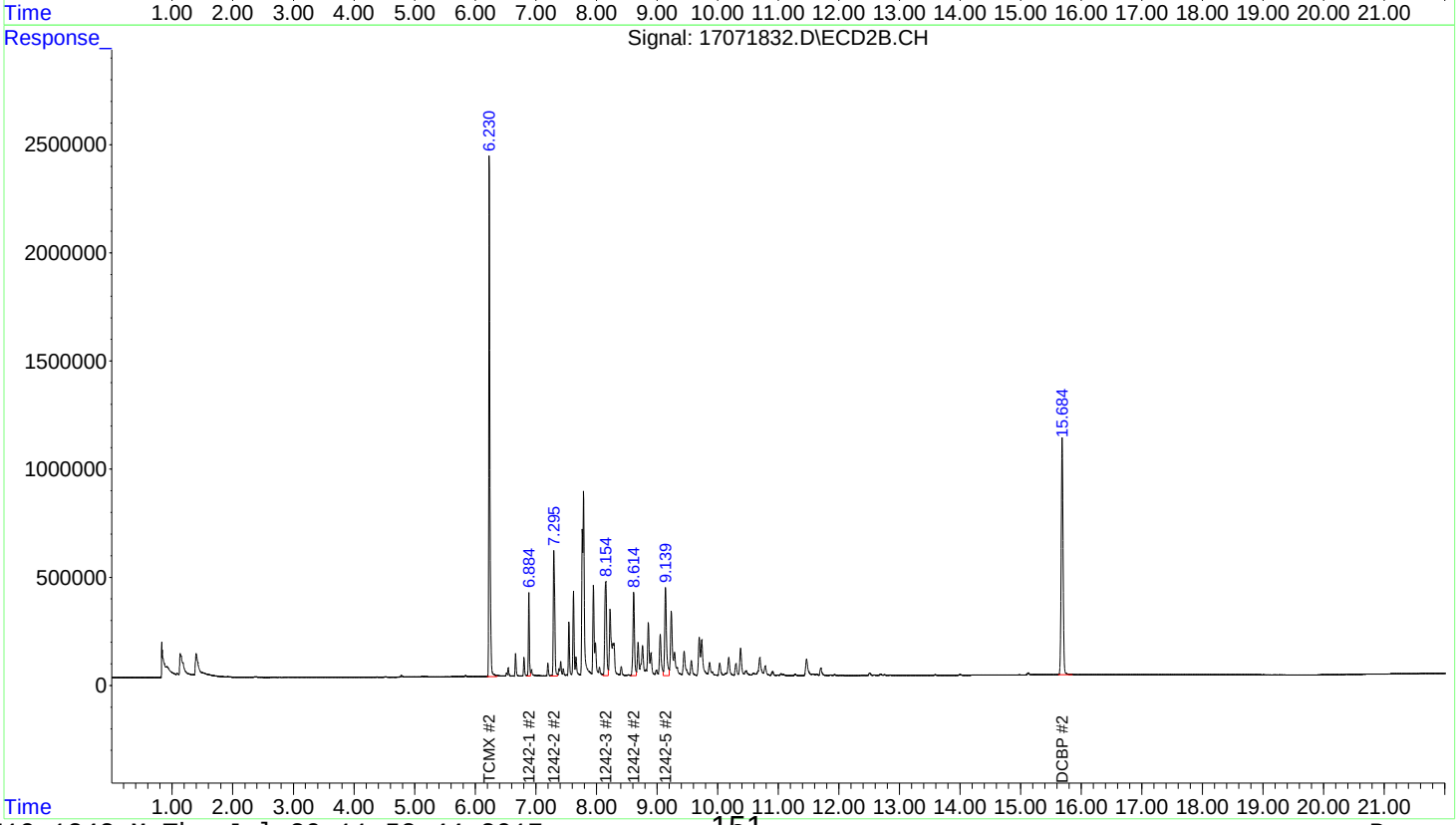
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071832.D
Acq On : 19 Jul 2017 11:32 am
Operator :
Sample : 1242-5 1000 PPB
Misc : CAL
ALS Vial : 0 (Sig #1); 29 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 20 11:58:44 2017
InstName : GC16
QLast Update : Thu Jul 20 11:42:25 2017
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071833.D
Acq On : 19 Jul 2017 11:57 am
Operator :
Sample : 1242-6 2000 PPB
Misc : CAL
ALS Vial : 0 (Sig #1); 30 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 20 11:58:47 2017
InstName : GC16
QLast Update : Thu Jul 20 11:42:25 2017
Response via : Initial Calibration

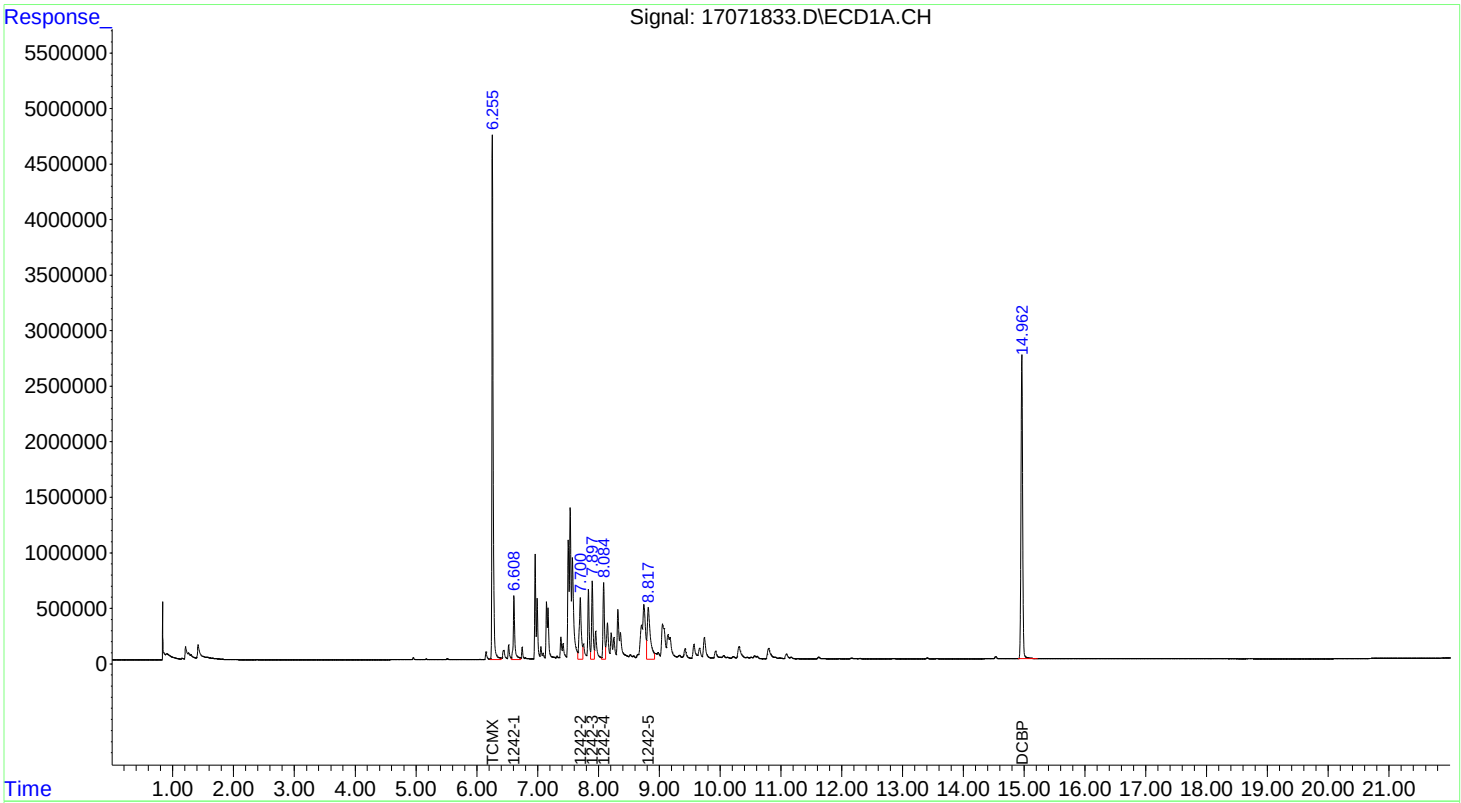
		Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
		System Monitoring Compounds						
1)	S	TCMX	6.255	6.231	6245800	5732890	195.206	196.741
8)	S	DCBP	14.962	15.685	5134701	4551463	205.423	200.067
		Target Compounds						
2)	L1	1242-1	6.608	6.883	967981	772841	1950.390	1934.966
3)	L1	1242-2	7.700	7.296	1284510	1736697	1963.295	1931.702
4)	L1	1242-3	7.897	8.150	1166667	1734416	1976.924	1945.556
5)	L1	1242-4	8.084	8.614	1162416	1251708	1992.134	1942.321
6)	L1	1242-5	8.817	9.137	1668711	1559734	1891.330	1940.005
7)	L1	1242-TOTAL	0.000	0.000	6250285	7055396	1950.350m	1939.219m

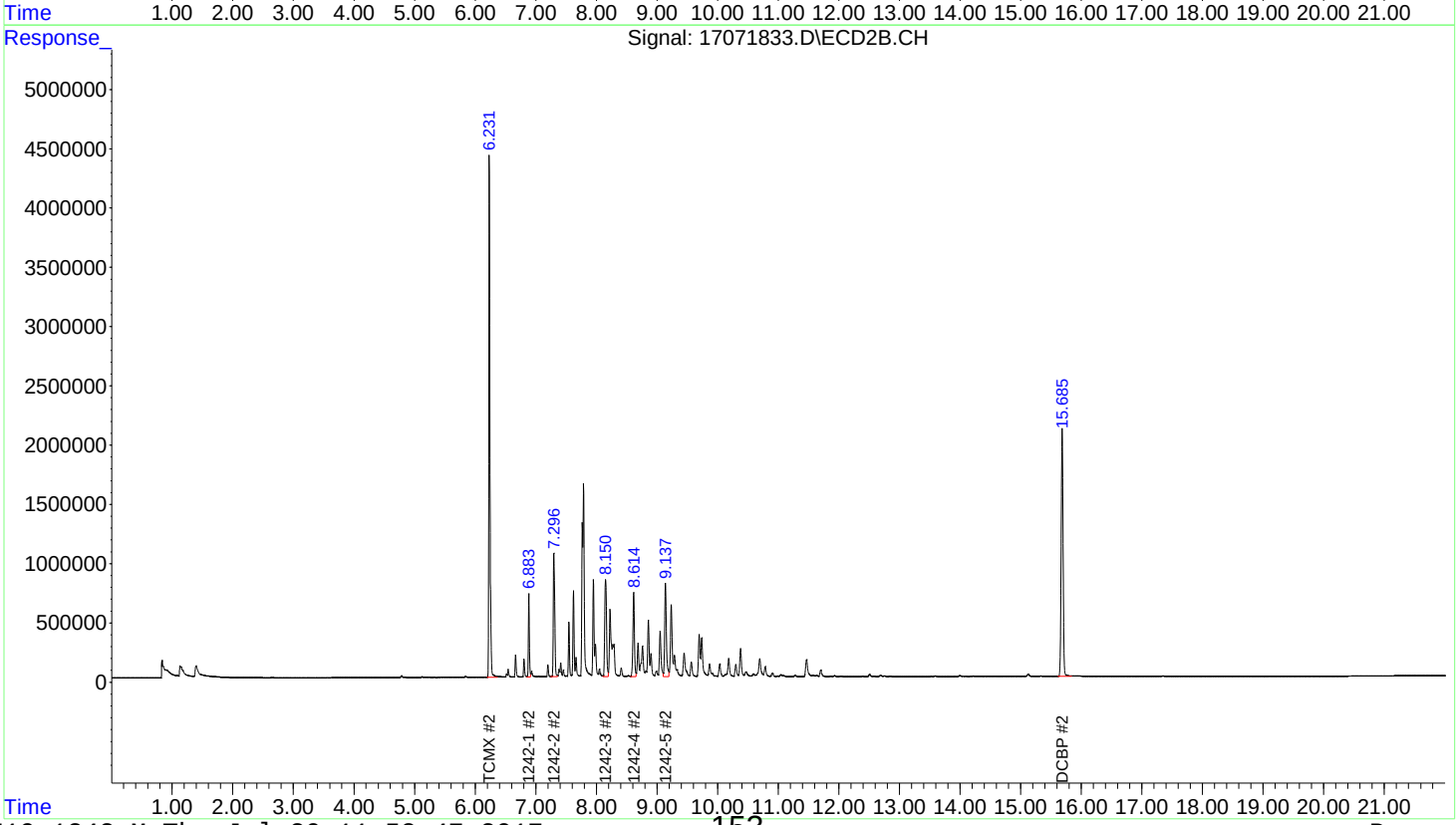
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071833.D
Acq On : 19 Jul 2017 11:57 am
Operator :
Sample : 1242-6 2000 PPB
Misc : CAL
ALS Vial : 0 (Sig #1); 30 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 20 11:58:47 2017
InstName : GC16
QLast Update : Thu Jul 20 11:42:25 2017
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071834.D
Acq On : 19 Jul 2017 12:23 pm
Operator :
Sample : 1242-7 5000 PPB (Sig #1); 1242-4 5000 PPB (Sig #2)
Misc : CAL
ALS Vial : 0 (Sig #1); 31 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 20 11:58:50 2017
InstName : GC16
QLast Update : Thu Jul 20 11:42:25 2017
Response via : Initial Calibration

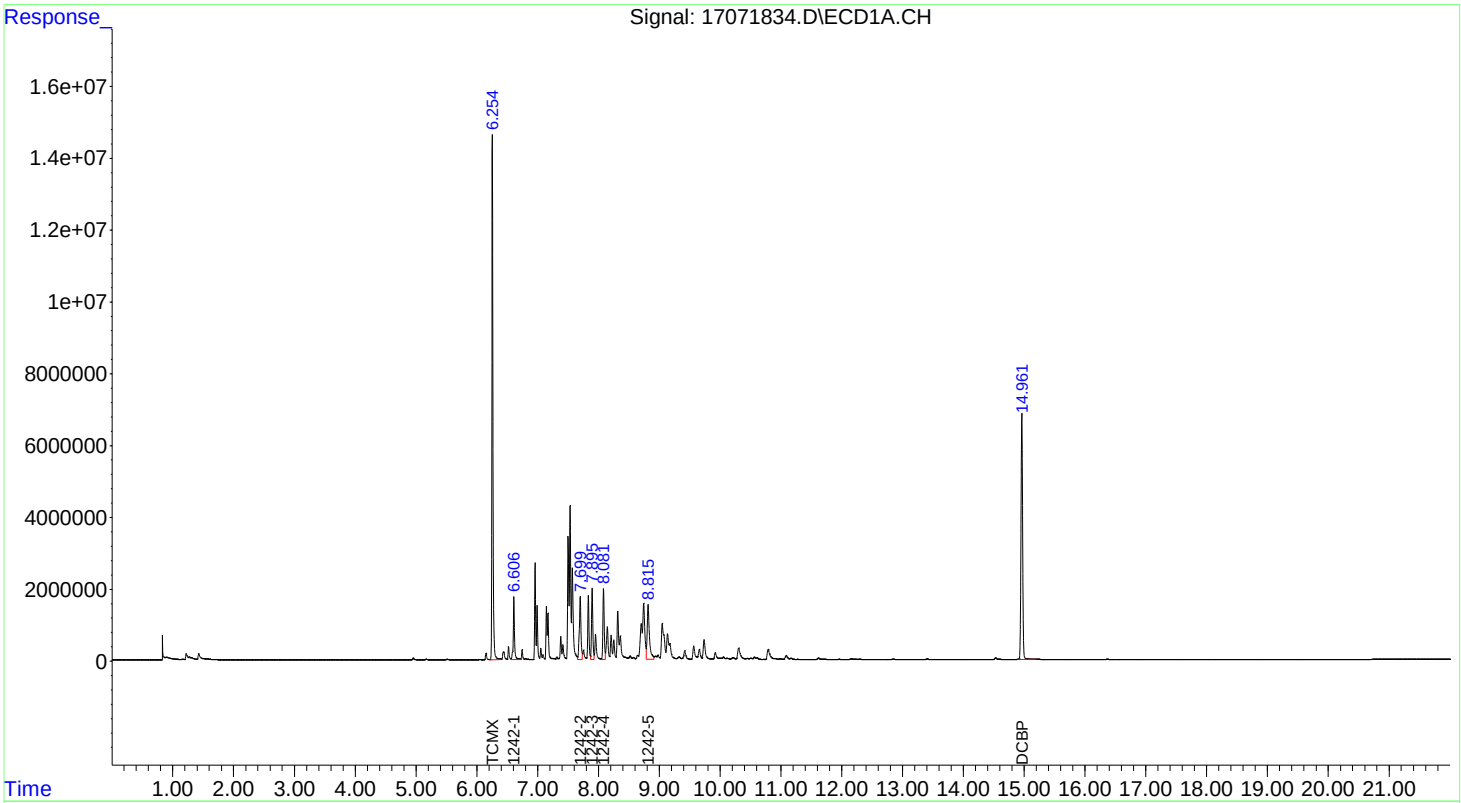
		Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
		System Monitoring Compounds						
1)	S	TCMX	6.254	6.230	16554891	13680042	517.407	501.128
8)	S	DCBP	14.961	15.685	12680887	10928972	498.424	499.994
		Target Compounds						
2)	L1	1242-1	6.606	6.883	2392370	1817348	5015.480	5025.027
3)	L1	1242-2	7.699	7.295	3292193	4030142	5013.852	5027.447
4)	L1	1242-3	7.895	8.145	2894994	4142600	5007.635	5019.669
5)	L1	1242-4	8.081	8.613	2941772	2969953	5002.155	5020.725
6)	L1	1242-5	8.815	9.136	3940161	3750524	5041.733	5020.954
7)	L1	1242-TOTAL	0.000	0.000	15461490	16710567	5016.499m	5022.506m

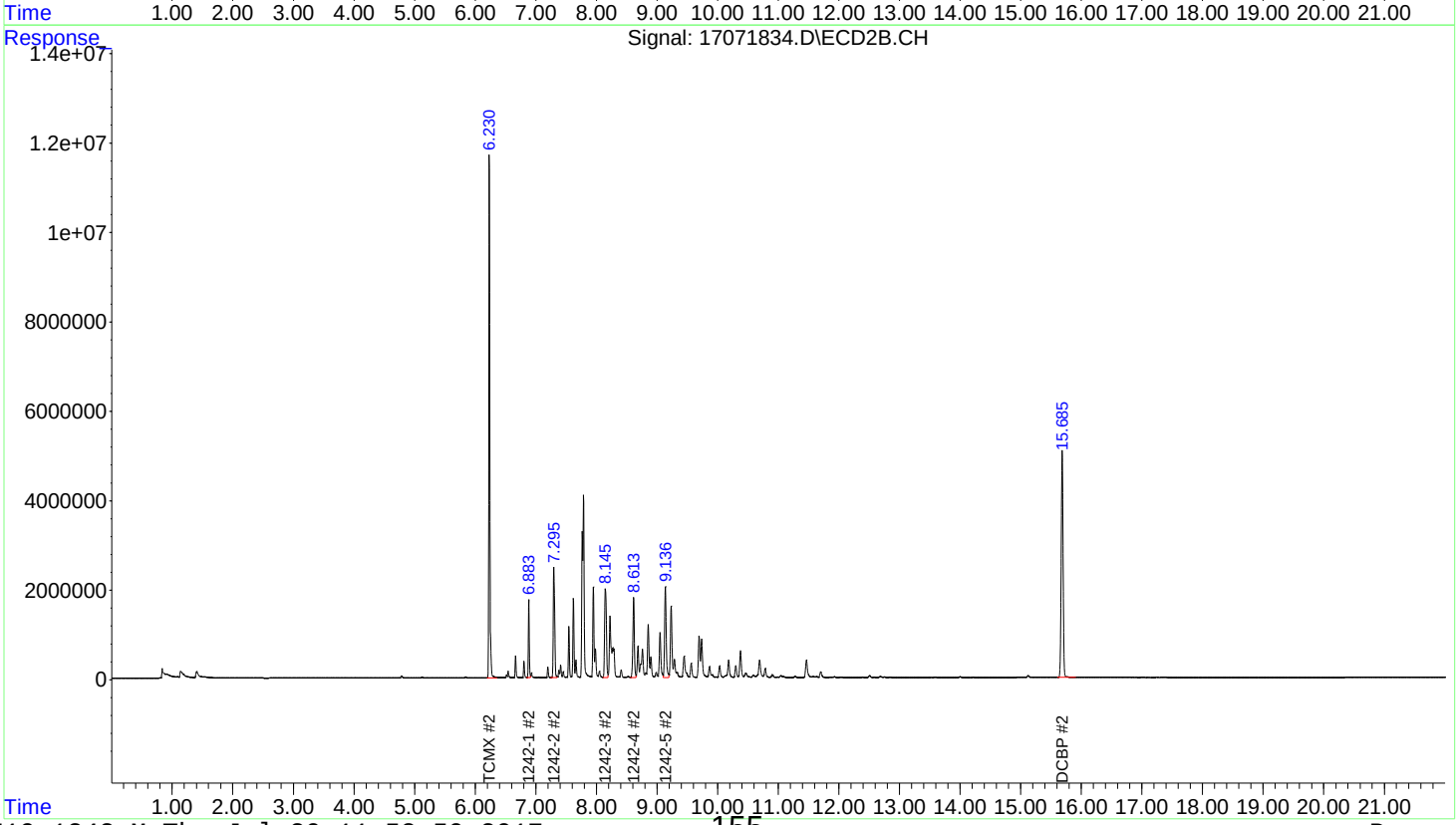
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071834.D
Acq On : 19 Jul 2017 12:23 pm
Operator :
Sample : 1242-7 5000 PPB (Sig #1); 1242-4 5000 PPB (Sig #2)
Misc : CAL
ALS Vial : 0 (Sig #1); 31 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 20 11:58:50 2017
InstName : GC16
QLast Update : Thu Jul 20 11:42:25 2017
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071835.D
Acq On : 19 Jul 2017 12:48 pm
Operator :
Sample : 1242 SSCV 2000 PPB
Misc : ICV
ALS Vial : 0 (Sig #1); 32 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 20 11:58:53 2017
InstName : GC16
QLast Update : Thu Jul 20 11:42:25 2017
Response via : Initial Calibration

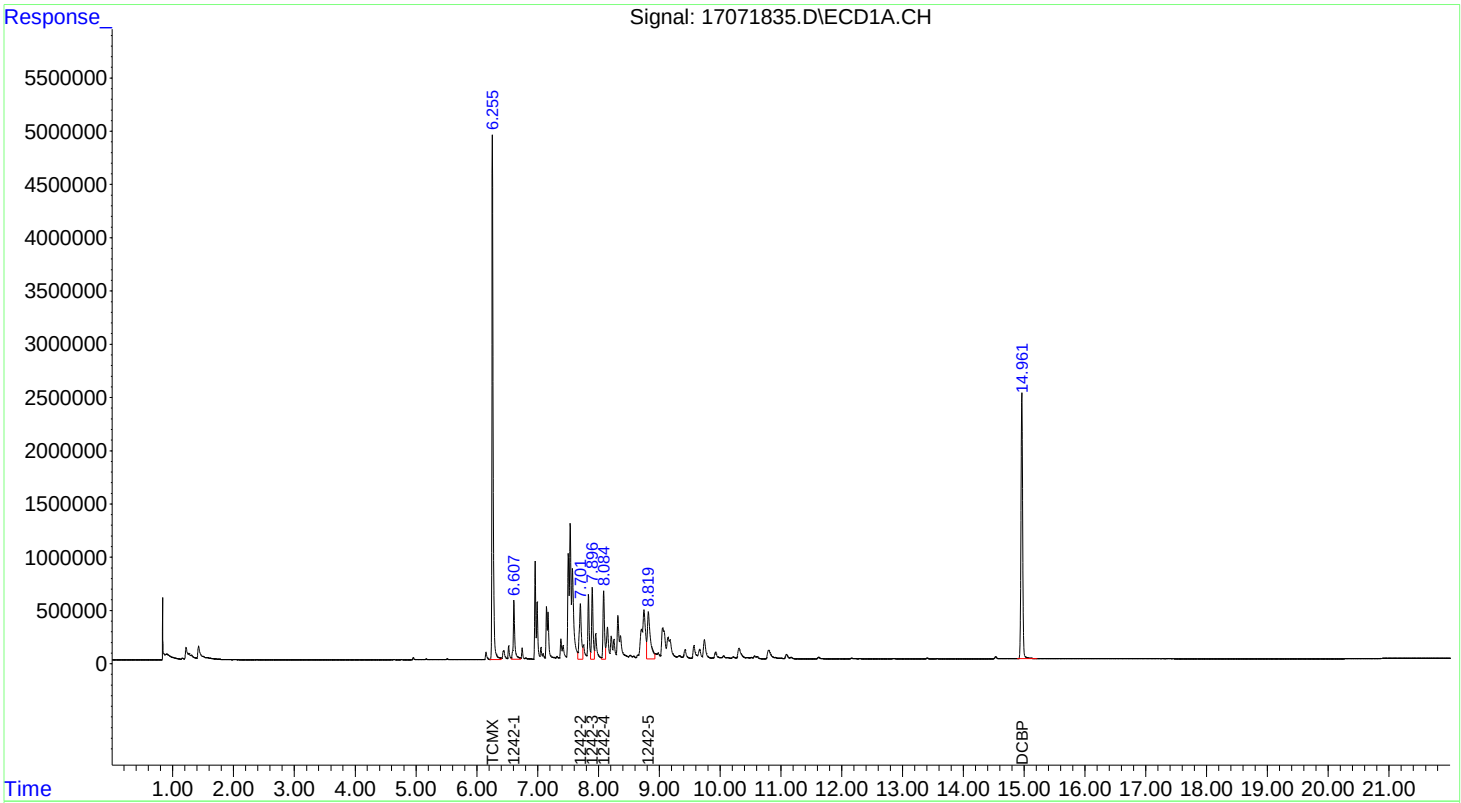
		Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
		System Monitoring Compounds						
1)	S	TCMX	6.255	6.231	6383117	6213033	199.498	214.051
8)	S	DCBP	14.961	15.685	4722766	4862248	189.071	214.197
		Target Compounds						
2)	L1	1242-1	6.607	6.883	925953	800976	1862.599	2011.589
3)	L1	1242-2	7.701	7.296	1215351	1791599	1856.896	1998.631
4)	L1	1242-3	7.896	8.150	1113554	1790719	1884.137	2013.090
5)	L1	1242-4	8.084	8.615	1101675	1293695	1887.092	2012.477
6)	L1	1242-5	8.819	9.139	1557659	1612811	1755.211	2010.577
7)	L1	1242-TOTAL	0.000	0.000	5914192	7289800	1841.609m	2008.742m

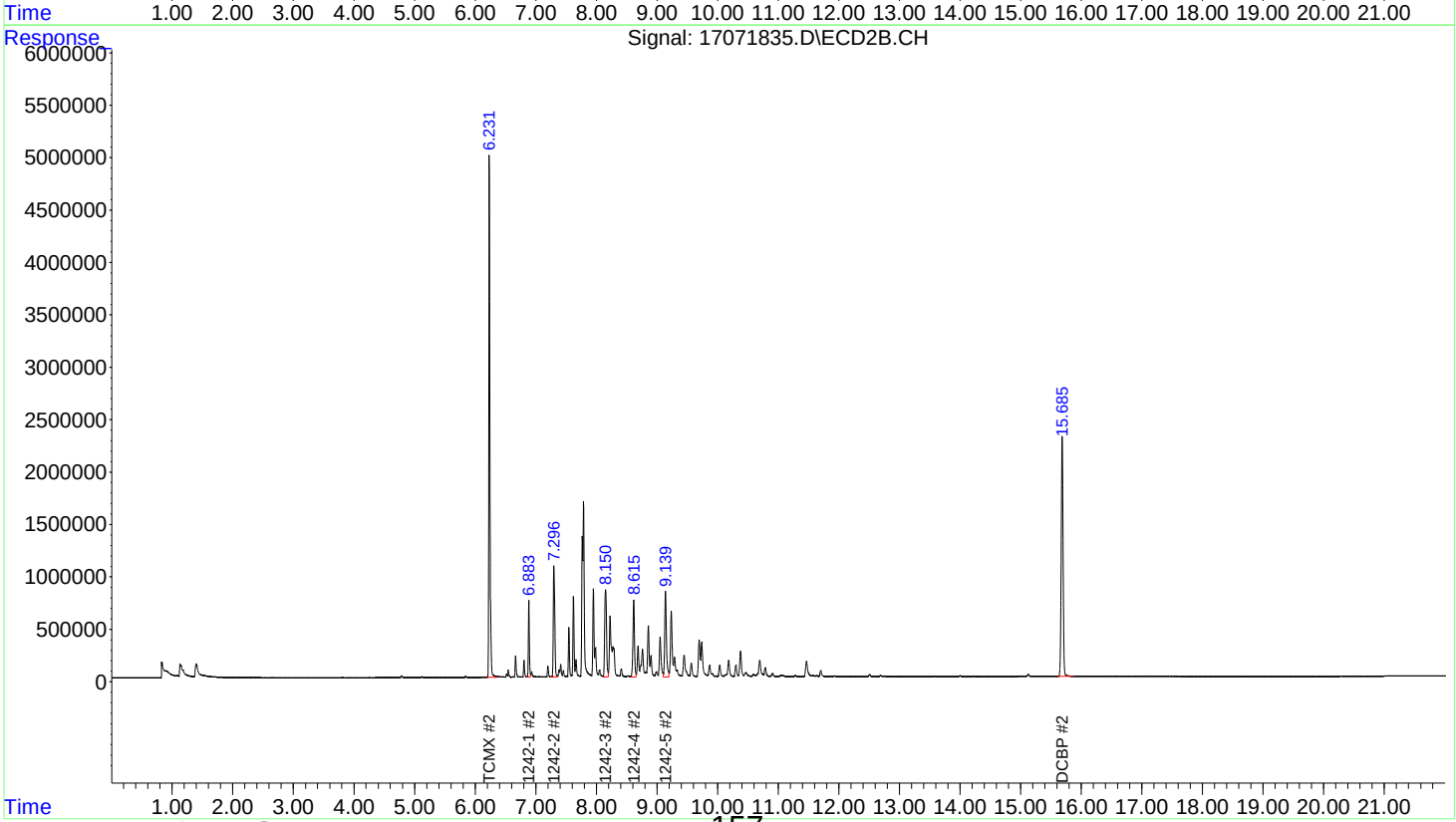
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071835.D
Acq On : 19 Jul 2017 12:48 pm
Operator :
Sample : 1242 SSCV 2000 PPB
Misc : ICV
ALS Vial : 0 (Sig #1); 32 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 20 11:58:53 2017
InstName : GC16
QLast Update : Thu Jul 20 11:42:25 2017
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071836.D
Acq On : 19 Jul 2017 1:14 pm
Operator :
Sample : 1248-1 50 PPB
Misc : CAL1
ALS Vial : 0 (Sig #1); 33 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 20 12:06:26 2017
InstName : GC16
QLast Update : Thu Jul 20 11:49:11 2017
Response via : Initial Calibration

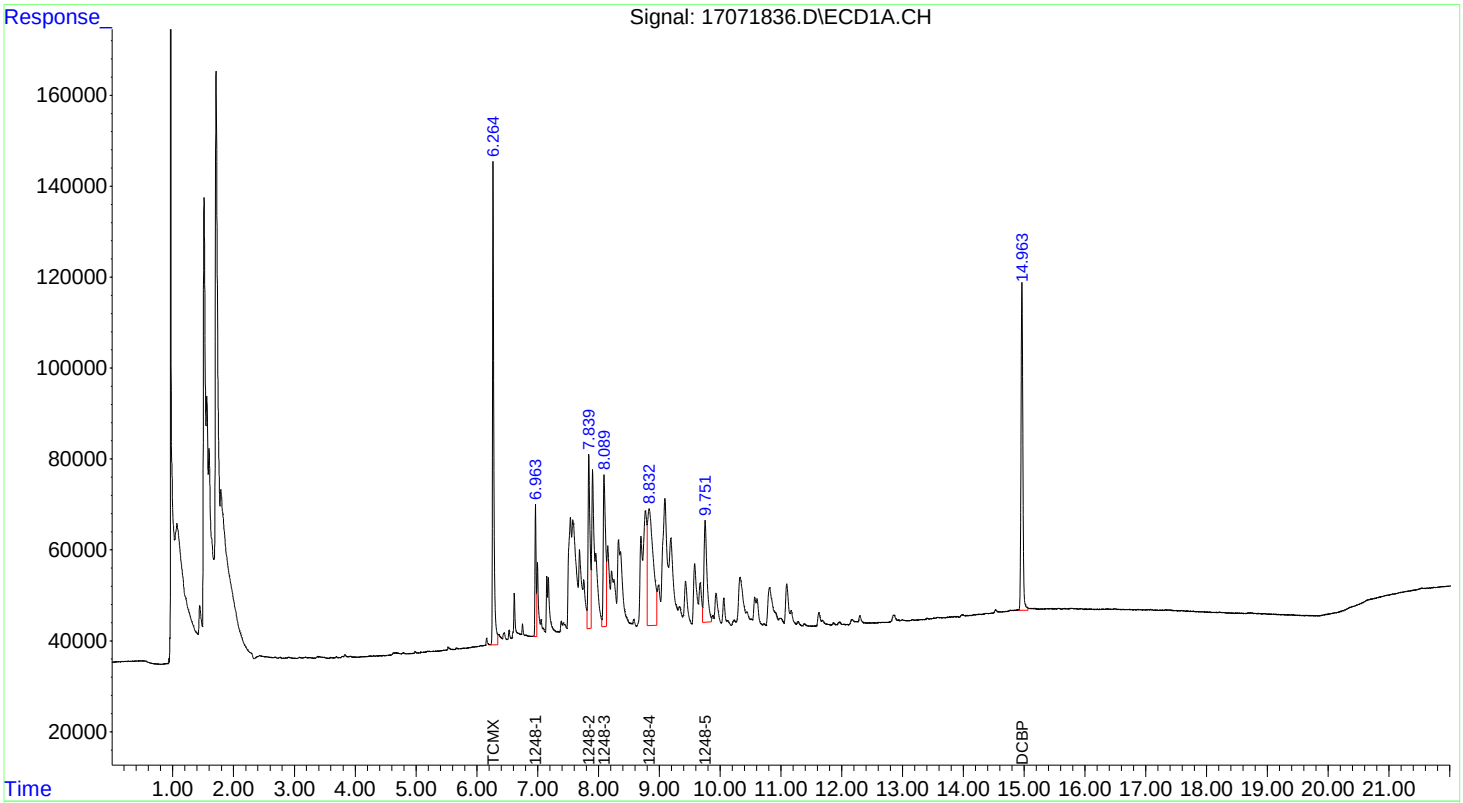
		Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
		System Monitoring Compounds						
1)	S	TCMX	6.264	6.240	154858	170388	4.784	4.744
8)	S	DCBP	14.963	15.685	150582	150919	5.690	4.511
		Target Compounds						
2)	L1	1248-1	6.963	7.298	37289	70214	48.549	48.106
3)	L1	1248-2	7.839	8.161	86528	119282	44.366	44.906
4)	L1	1248-3	8.089	8.618	91138	112311	45.371	44.046
5)	L1	1248-4	8.832	9.143	168475	138396	35.966	39.910
6)	L1	1248-5	9.751	10.380	78480	78034	37.441	38.268
7)	L1	1248-TOTAL	0.000	0.000	461910	518237	40.968m	42.571m

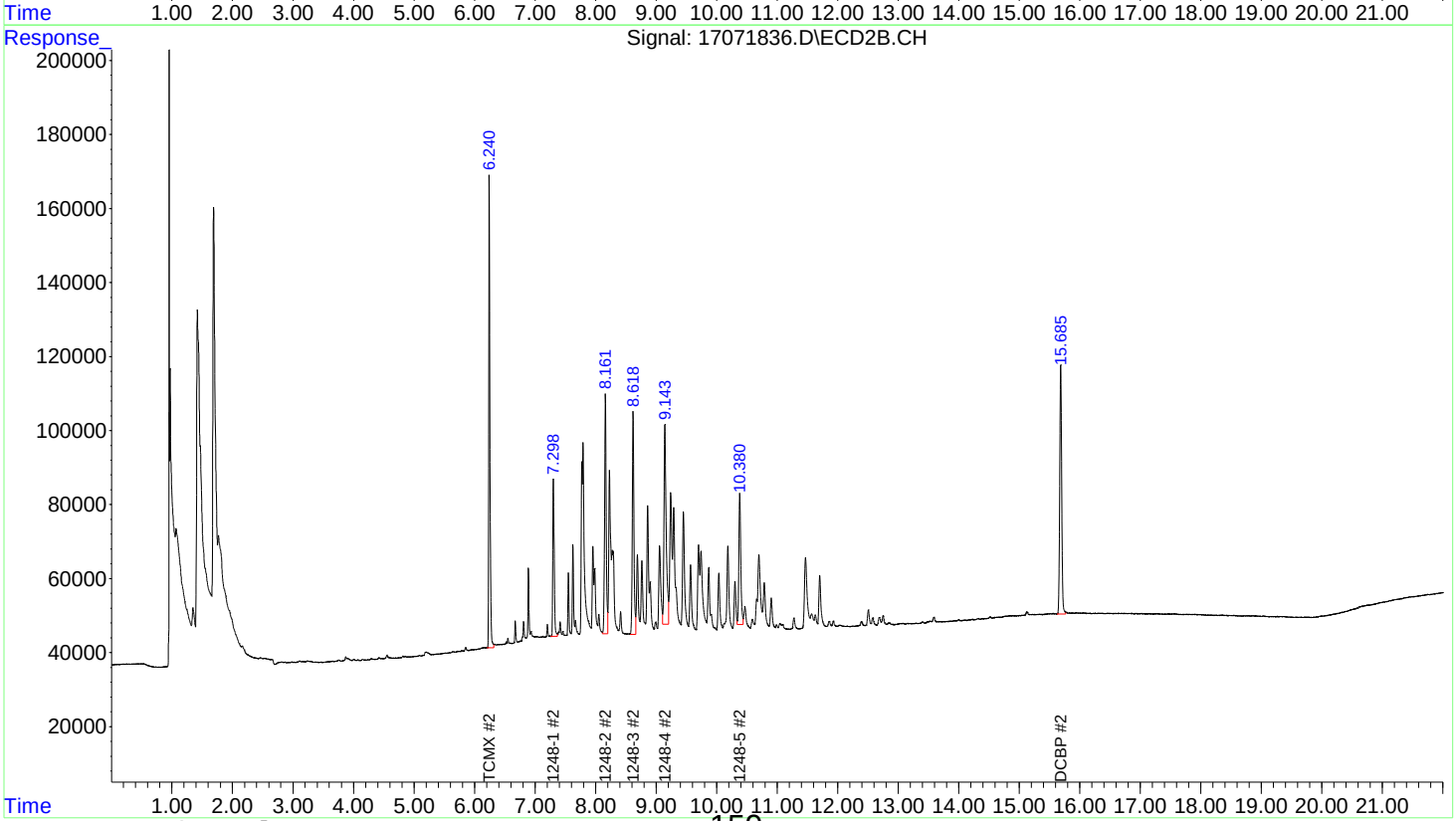
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071836.D
Acq On : 19 Jul 2017 1:14 pm
Operator :
Sample : 1248-1 50 PPB
Misc : CAL1
ALS Vial : 0 (Sig #1); 33 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 20 12:06:26 2017
InstName : GC16
QLast Update : Thu Jul 20 11:49:11 2017
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071837.D
Acq On : 19 Jul 2017 1:39 pm
Operator :
Sample : 1248-2 100 PPB
Misc : CAL
ALS Vial : 0 (Sig #1); 34 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 20 12:06:29 2017
InstName : GC16
QLast Update : Thu Jul 20 11:49:11 2017
Response via : Initial Calibration

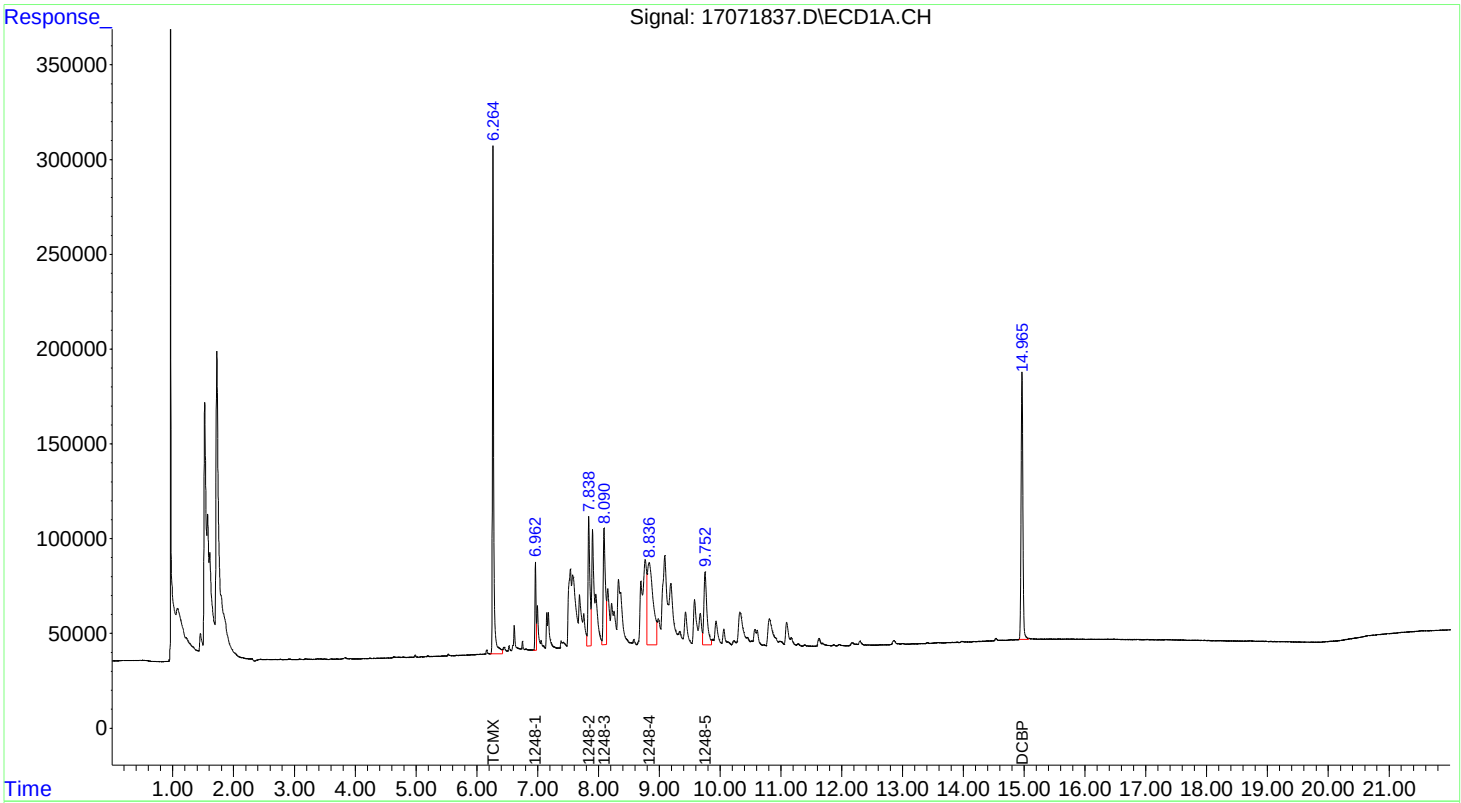
		Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
		System Monitoring Compounds						
1)	S	TCMX	6.264	6.241	352351	341107	10.886	10.298
8)	S	DCBP	14.965	15.684	287816	266858	10.875	9.588
		Target Compounds						
2)	L1	1248-1	6.962	7.298	56376	96087	105.866	101.628
3)	L1	1248-2	7.838	8.160	145031	178232	108.782	101.496
4)	L1	1248-3	8.090	8.617	153011	172571	106.282	101.253
5)	L1	1248-4	8.836	9.143	287870	230414	116.895	105.141
6)	L1	1248-5	9.752	10.381	135357	123559	111.759	105.460
7)	L1	1248-TOTAL	0.000	0.000	777645	800863	111.167m	103.133m

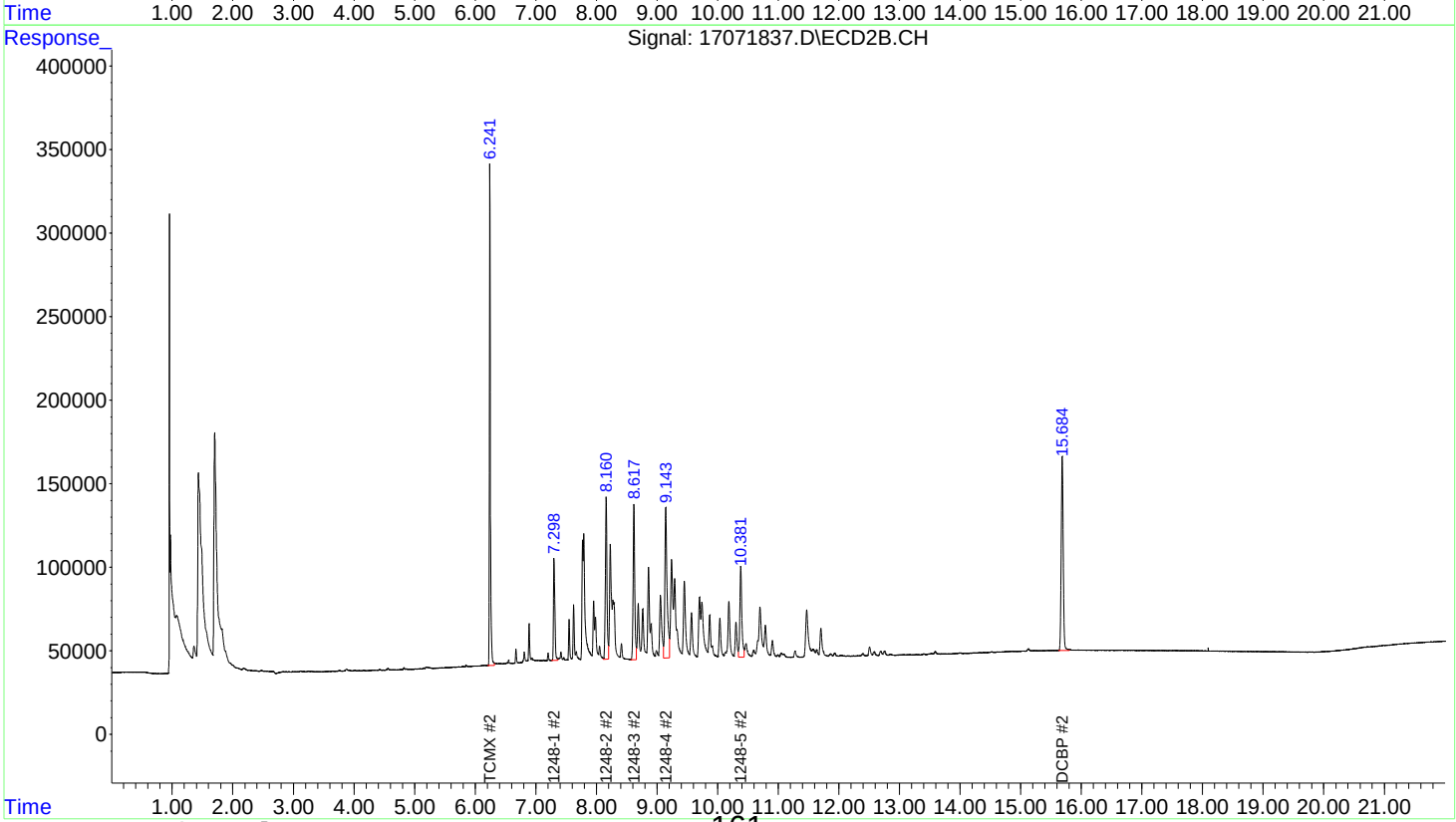
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071837.D
Acq On : 19 Jul 2017 1:39 pm
Operator :
Sample : 1248-2 100 PPB
Misc : CAL
ALS Vial : 0 (Sig #1); 34 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 20 12:06:29 2017
InstName : GC16
QLast Update : Thu Jul 20 11:49:11 2017
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071838.D
Acq On : 19 Jul 2017 2:05 pm
Operator :
Sample : 1248-3 200 PPB
Misc : CAL
ALS Vial : 0 (Sig #1); 35 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 20 12:06:32 2017
InstName : GC16
QLast Update : Thu Jul 20 11:49:11 2017
Response via : Initial Calibration

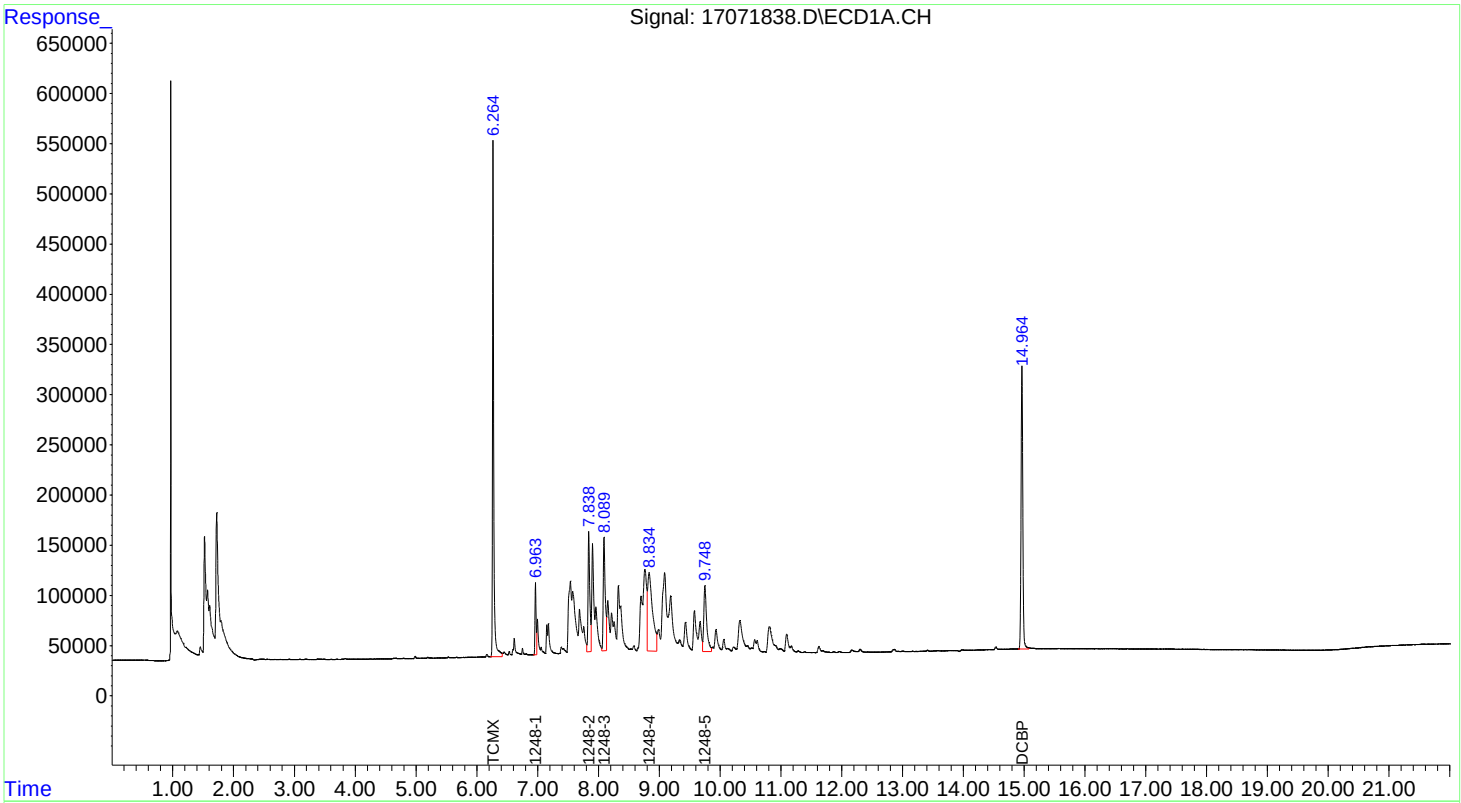
		Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
		System Monitoring Compounds						
1)	S	TCMX	6.264	6.240	679697	650871	21.000	20.393
8)	S	DCBP	14.964	15.687	560504	551508	21.178	22.055
		Target Compounds						
2)	L1	1248-1	6.963	7.299	90859	146286	209.814	205.901
3)	L1	1248-2	7.838	8.160	238552	292786	212.118	211.648
4)	L1	1248-3	8.089	8.618	259346	290347	211.213	213.220
5)	L1	1248-4	8.834	9.142	434341	387907	216.748	216.832
6)	L1	1248-5	9.748	10.380	220137	203262	222.764	222.970
7)	L1	1248-TOTAL	0.000	0.000	1243235	1320588	215.074m	214.629m

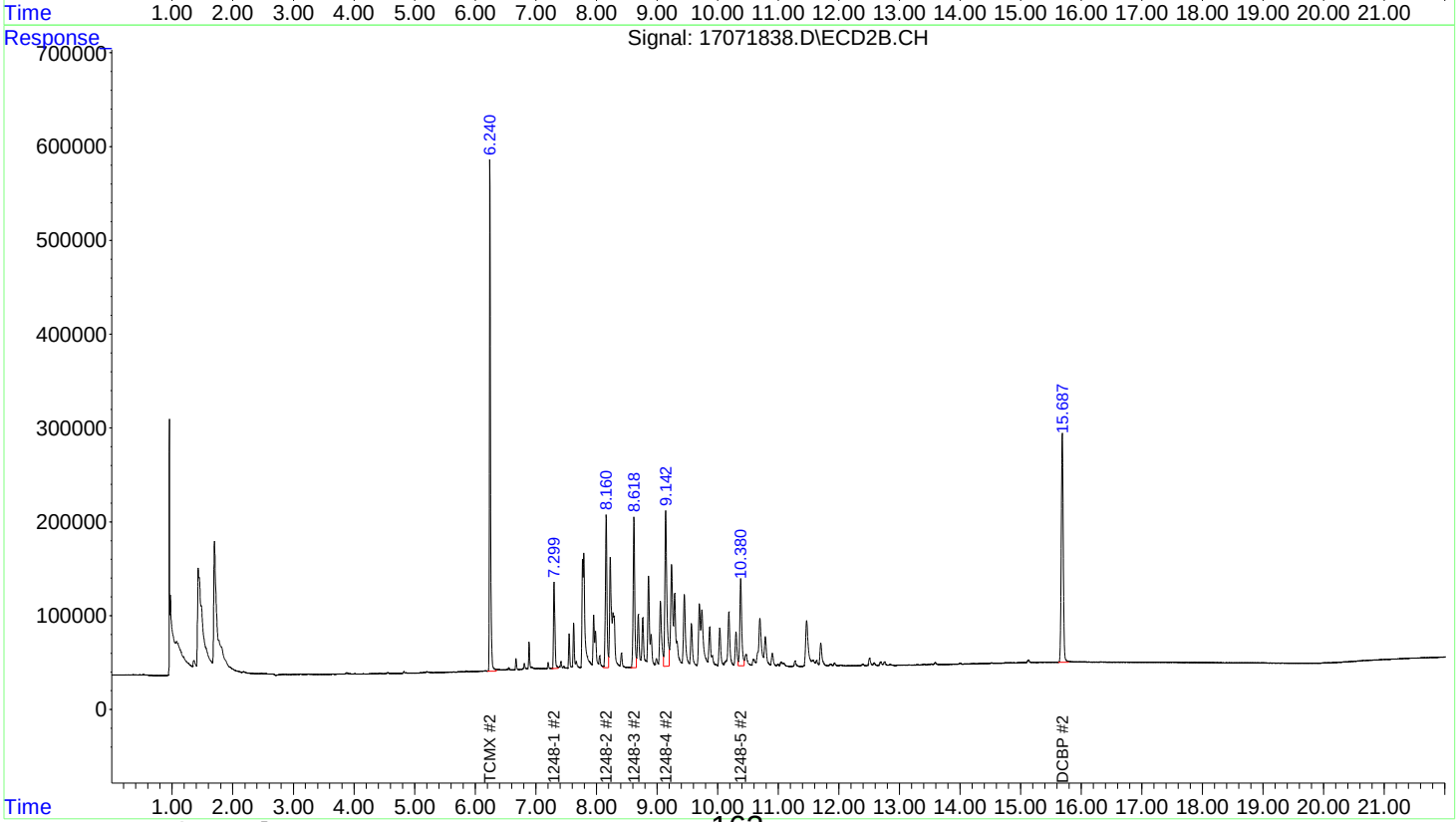
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071838.D
Acq On : 19 Jul 2017 2:05 pm
Operator :
Sample : 1248-3 200 PPB
Misc : CAL
ALS Vial : 0 (Sig #1); 35 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 20 12:06:32 2017
InstName : GC16
QLast Update : Thu Jul 20 11:49:11 2017
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071839.D
Acq On : 19 Jul 2017 2:30 pm
Operator :
Sample : 1248-4 500 PPB
Misc : CAL
ALS Vial : 0 (Sig #1); 36 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 20 12:06:35 2017
InstName : GC16
QLast Update : Thu Jul 20 11:49:11 2017
Response via : Initial Calibration

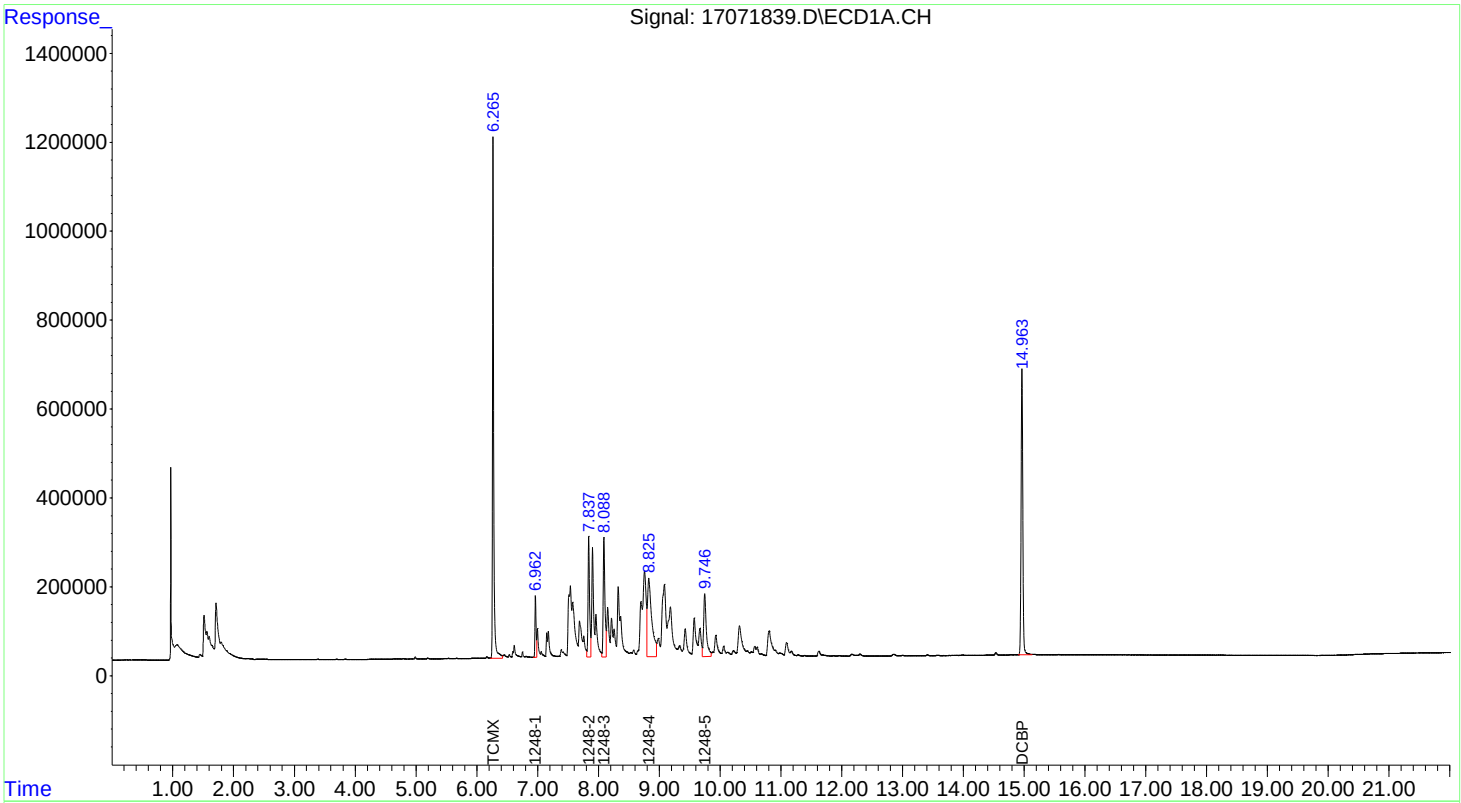
		Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
		System Monitoring Compounds						
1)	S	TCMX	6.265	6.240	1524251	1571476	47.093	50.537
8)	S	DCBP	14.963	15.686	1261219	1278628	47.654	53.921
		Target Compounds						
2)	L1	1248-1	6.962	7.299	172827	288784	458.997	505.054
3)	L1	1248-2	7.837	8.160	479150	613316	480.058	521.164
4)	L1	1248-3	8.088	8.617	536729	618859	486.438	526.639
5)	L1	1248-4	8.825	9.141	879907	846173	524.492	542.140
6)	L1	1248-5	9.746	10.380	442734	422093	515.530	544.773
7)	L1	1248-TOTAL	0.000	0.000	2511347	2789225	500.477m	530.590m

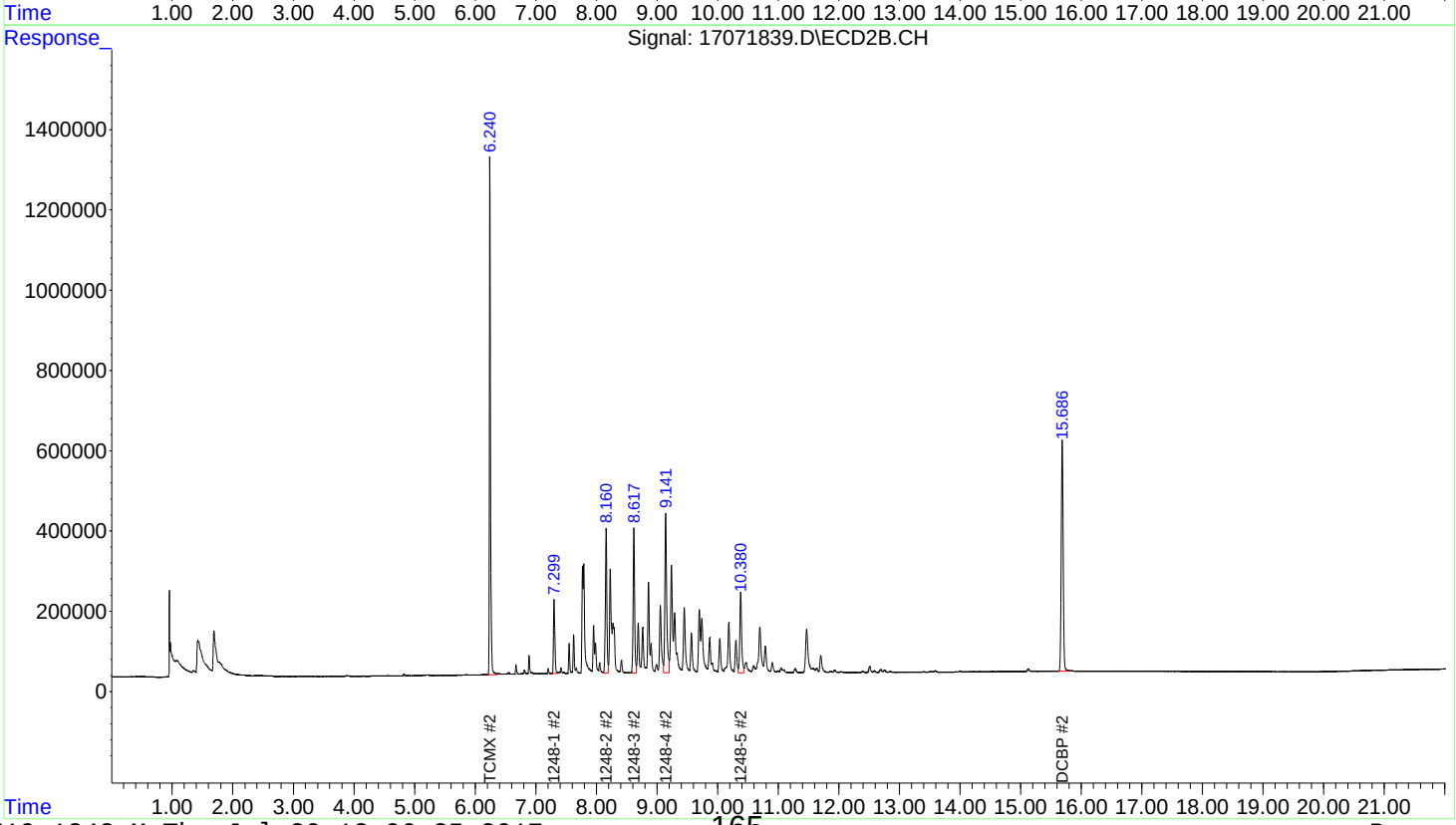
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071839.D
Acq On : 19 Jul 2017 2:30 pm
Operator :
Sample : 1248-4 500 PPB
Misc : CAL
ALS Vial : 0 (Sig #1); 36 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 20 12:06:35 2017
InstName : GC16
QLast Update : Thu Jul 20 11:49:11 2017
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071840.D
Acq On : 19 Jul 2017 2:55 pm
Operator :
Sample : 1248-5 1000 PPB
Misc : CAL
ALS Vial : 0 (Sig #1); 37 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 20 12:06:39 2017
InstName : GC16
QLast Update : Thu Jul 20 11:49:11 2017
Response via : Initial Calibration

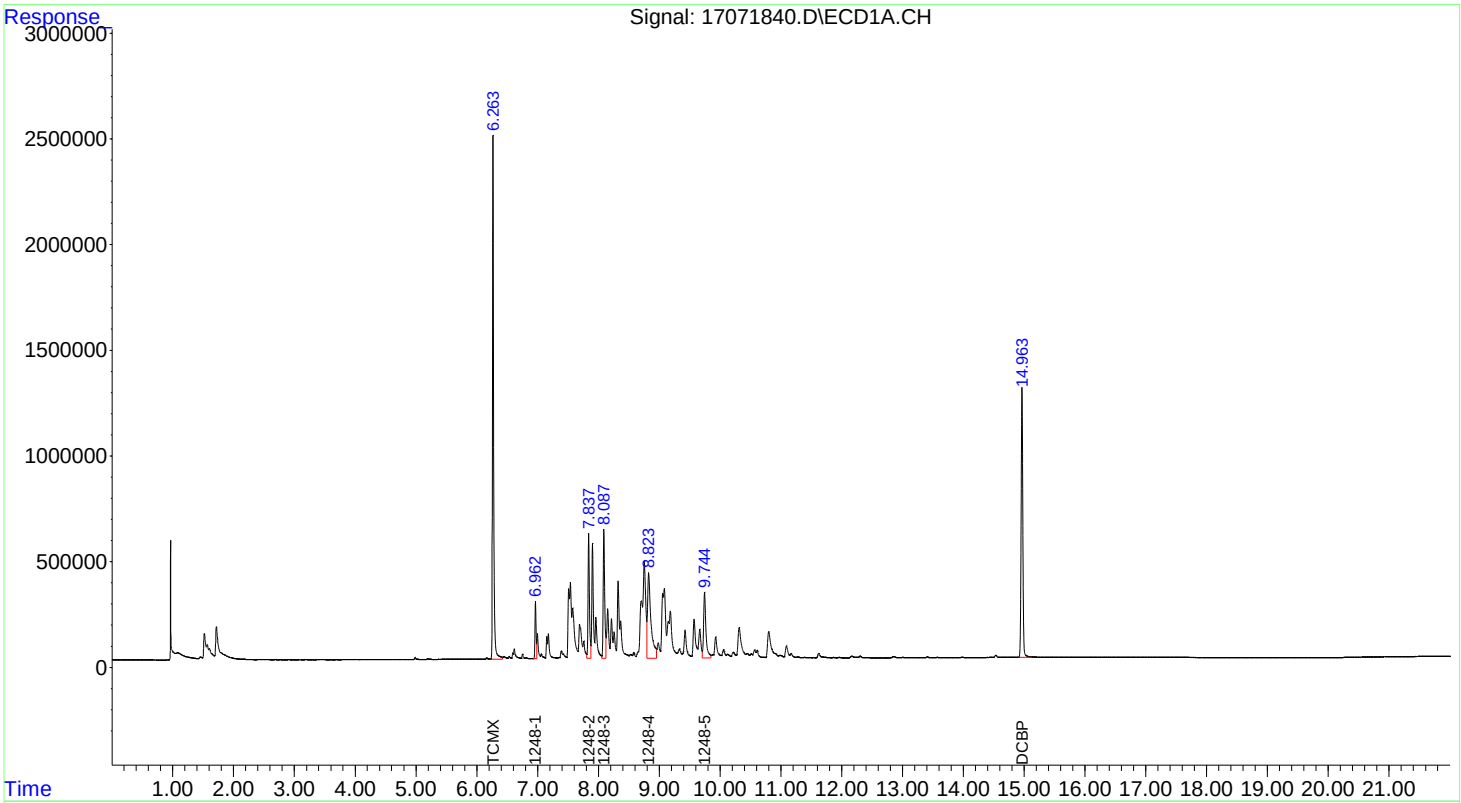
		Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
		System Monitoring Compounds						
1)	S	TCMX	6.263	6.241	3167441	3049641	97.860	99.385
8)	S	DCBP	14.963	15.686	2434710	2278852	91.994	97.804
		Target Compounds						
2)	L1	1248-1	6.962	7.299	335470	506884	962.532	972.394
3)	L1	1248-2	7.837	8.161	941908	1120778	1004.208	1015.183
4)	L1	1248-3	8.087	8.618	1050512	1139796	1002.118	1027.047
5)	L1	1248-4	8.823	9.142	1590157	1551815	1028.217	1043.978
6)	L1	1248-5	9.744	10.380	835445	759163	1036.767	1038.099
7)	L1	1248-TOTAL	0.000	0.000	4753492	5078436	1014.020m	1025.763m

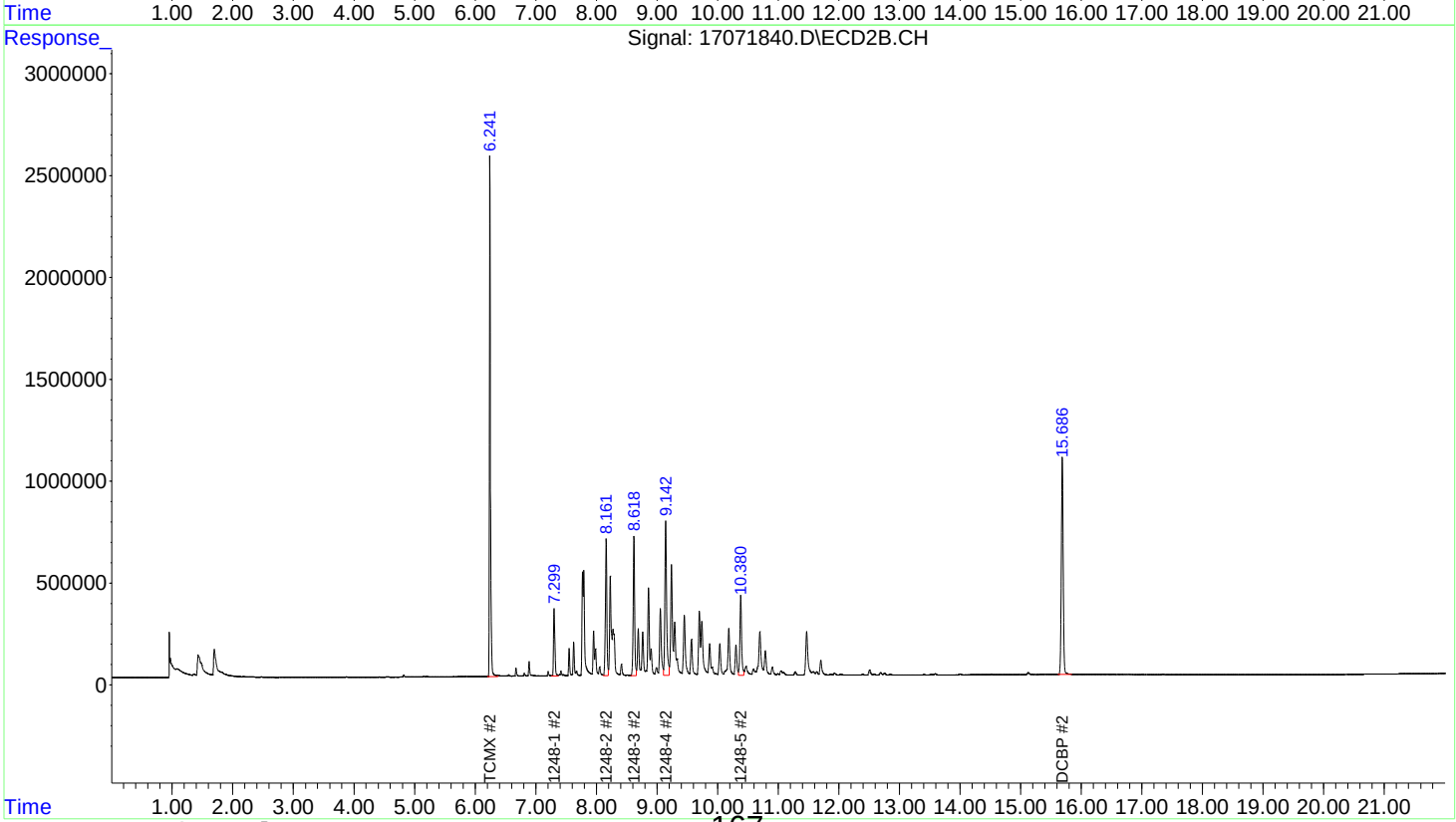
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071840.D
Acq On : 19 Jul 2017 2:55 pm
Operator :
Sample : 1248-5 1000 PPB
Misc : CAL
ALS Vial : 0 (Sig #1); 37 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 20 12:06:39 2017
InstName : GC16
QLast Update : Thu Jul 20 11:49:11 2017
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071841.D
Acq On : 19 Jul 2017 3:21 pm
Operator :
Sample : 1248-6 2000 PPB
Misc : CAL
ALS Vial : 0 (Sig #1); 38 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 20 12:06:42 2017
InstName : GC16
QLast Update : Thu Jul 20 11:49:11 2017
Response via : Initial Calibration

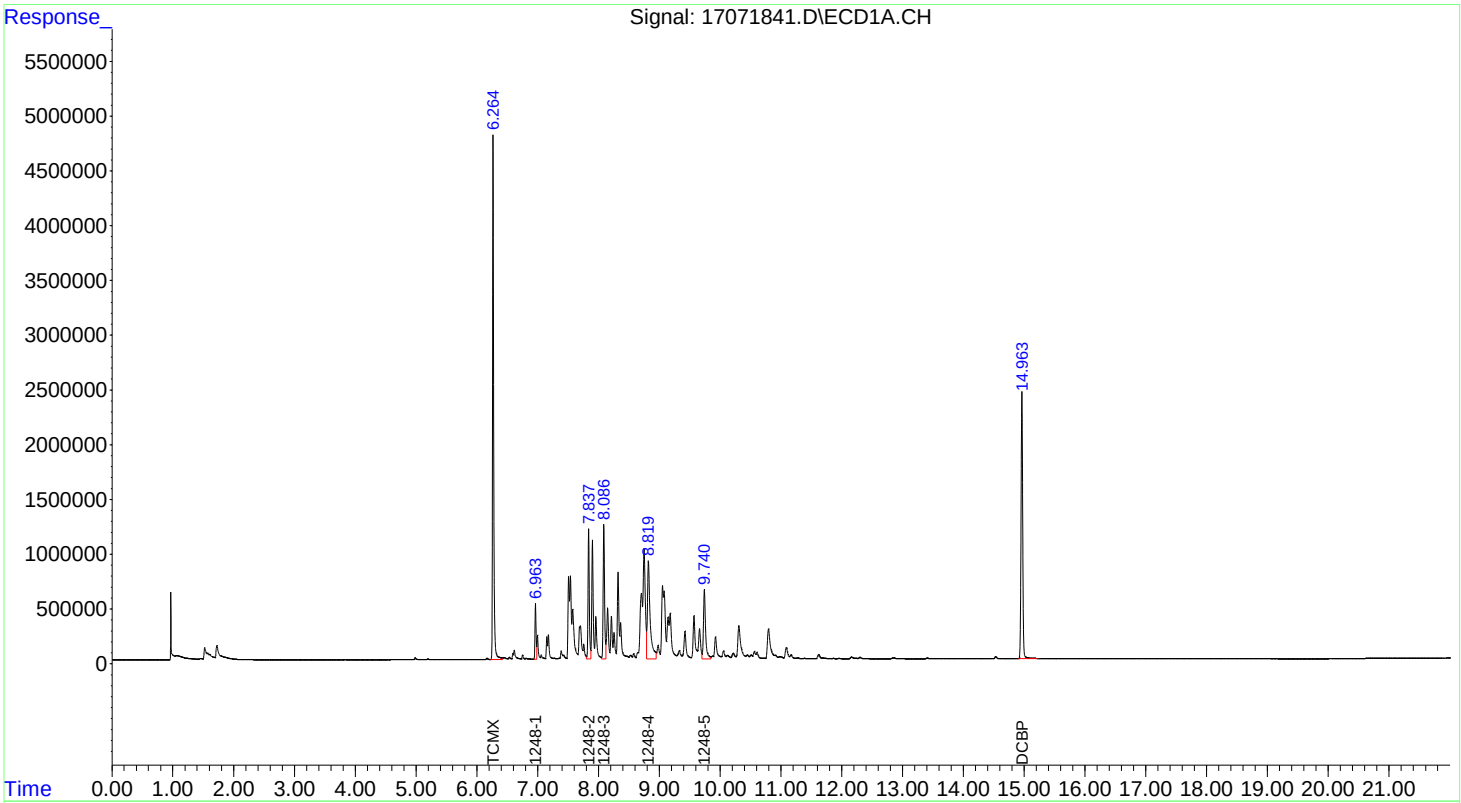
		Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
		System Monitoring Compounds						
1)	S	TCMX	6.264	6.241	6067929	6118149	187.472	202.630
8)	S	DCBP	14.963	15.685	4550842	4848487	171.951	210.793
		Target Compounds						
2)	L1	1248-1	6.963	7.298	617360	964611	1866.349	1994.281
3)	L1	1248-2	7.837	8.158	1730053	2196838	1925.633	2079.575
4)	L1	1248-3	8.086	8.617	1967146	2248720	1942.144	2106.623
5)	L1	1248-4	8.819	9.138	2840724	3099683	1959.355	2148.749
6)	L1	1248-5	9.740	10.378	1521842	1523565	1962.893	2146.508
7)	L1	1248-TOTAL	0.000	0.000	8677125	10033417	1942.318m	2109.003m

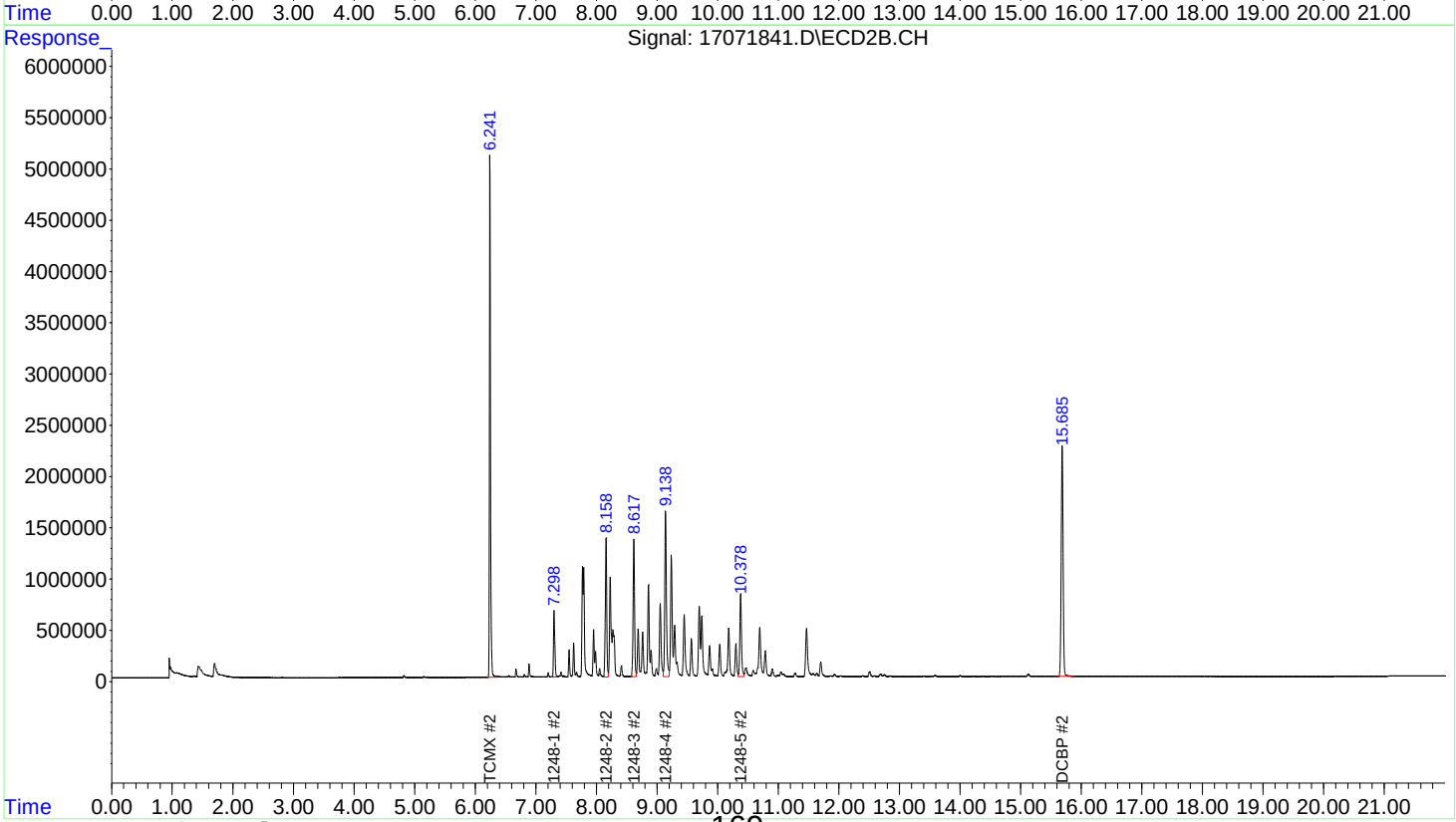
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071841.D
Acq On : 19 Jul 2017 3:21 pm
Operator :
Sample : 1248-6 2000 PPB
Misc : CAL
ALS Vial : 0 (Sig #1); 38 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 20 12:06:42 2017
InstName : GC16
QLast Update : Thu Jul 20 11:49:11 2017
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071842.D
Acq On : 19 Jul 2017 3:46 pm
Operator :
Sample : 1248-7 5000 PPB
Misc : CAL
ALS Vial : 0 (Sig #1); 39 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 20 12:06:45 2017
InstName : GC16
QLast Update : Thu Jul 20 11:49:11 2017
Response via : Initial Calibration

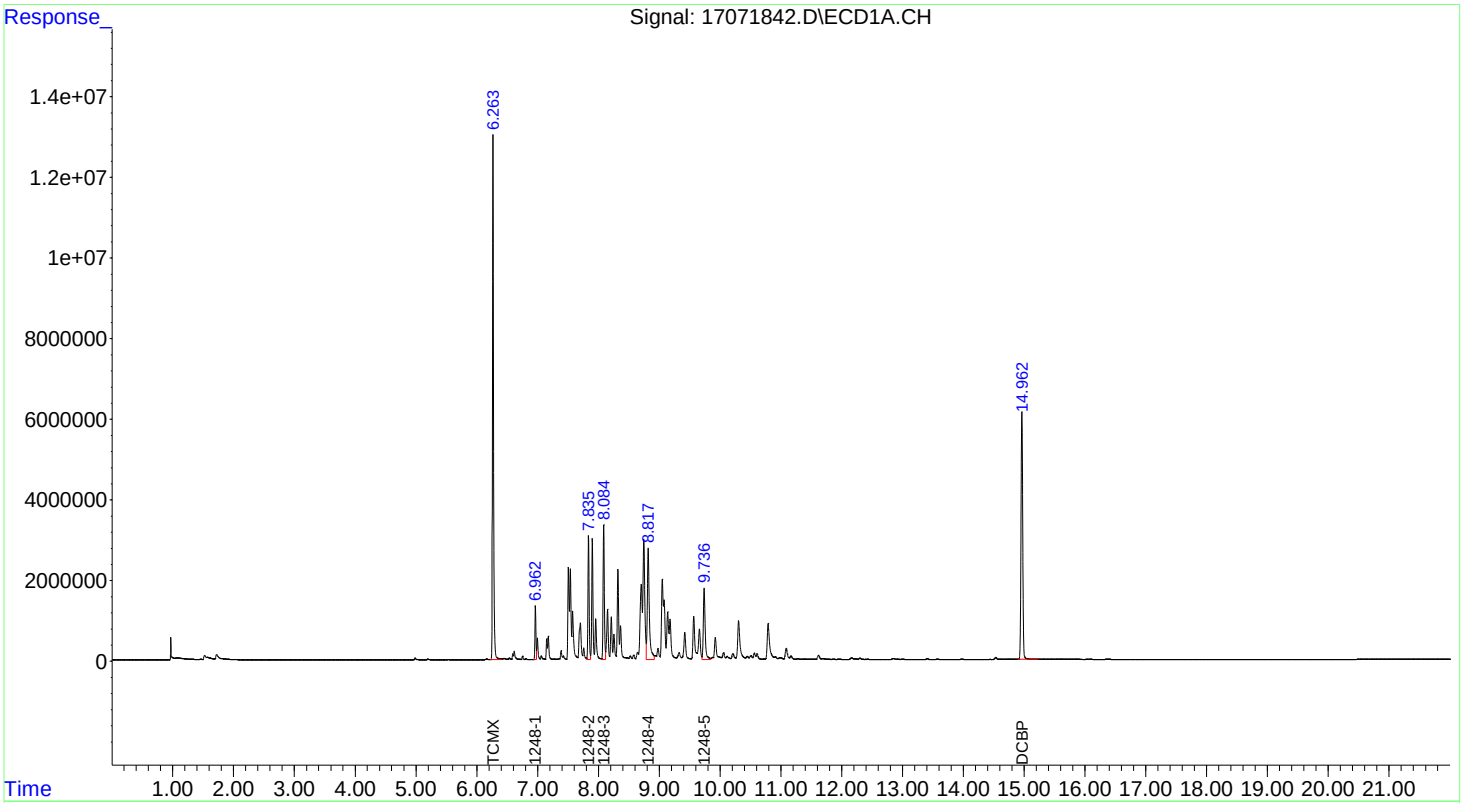
		Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
		System Monitoring Compounds						
1)	S	TCMX	6.263	6.240	15304244	14543423	472.833	500.364
8)	S	DCBP	14.962	15.686	11934116	11430978	450.924	501.908
		Target Compounds						
2)	L1	1248-1	6.962	7.297	1486988	2157005	4969.442	4995.991
3)	L1	1248-2	7.835	8.159	4126481	5048852	5000.845	5022.260
4)	L1	1248-3	8.084	8.616	4772502	5148420	5001.926	5029.344
5)	L1	1248-4	8.817	9.138	6408652	7118938	5046.948	5043.369
6)	L1	1248-5	9.736	10.377	3695660	3566940	5036.589	5042.513
7)	L1	1248-TOTAL	0.000	0.000	20490283	23040155	5018.906m	5031.677m

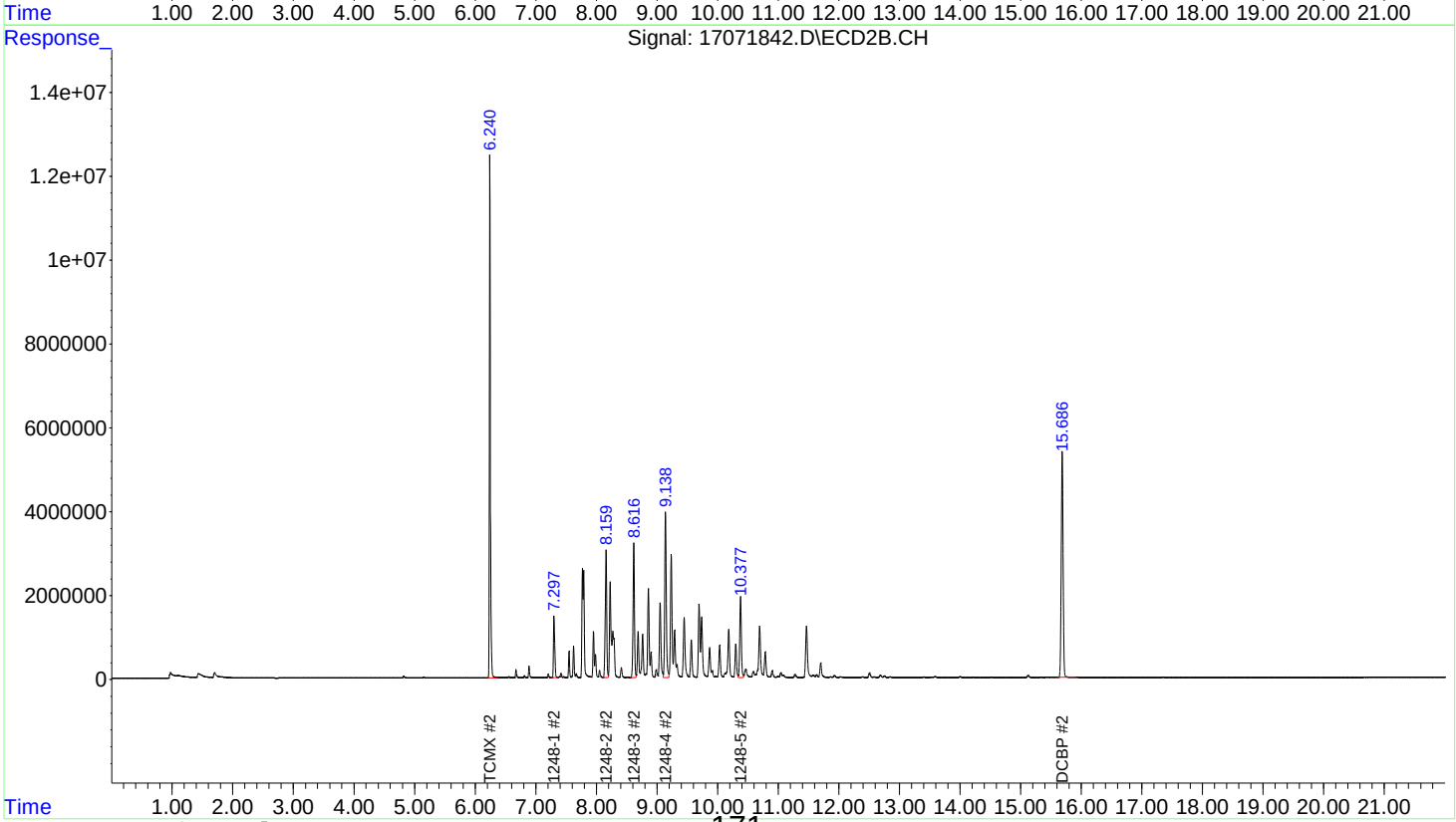
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071842.D
Acq On : 19 Jul 2017 3:46 pm
Operator :
Sample : 1248-7 5000 PPB
Misc : CAL
ALS Vial : 0 (Sig #1); 39 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 20 12:06:45 2017
InstName : GC16
QLast Update : Thu Jul 20 11:49:11 2017
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071843.D
Acq On : 19 Jul 2017 4:12 pm
Operator :
Sample : 1248 SSCV 2000 PPB
Misc : ICV
ALS Vial : 0 (Sig #1); 40 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 20 12:06:49 2017
InstName : GC16
QLast Update : Thu Jul 20 11:49:11 2017
Response via : Initial Calibration

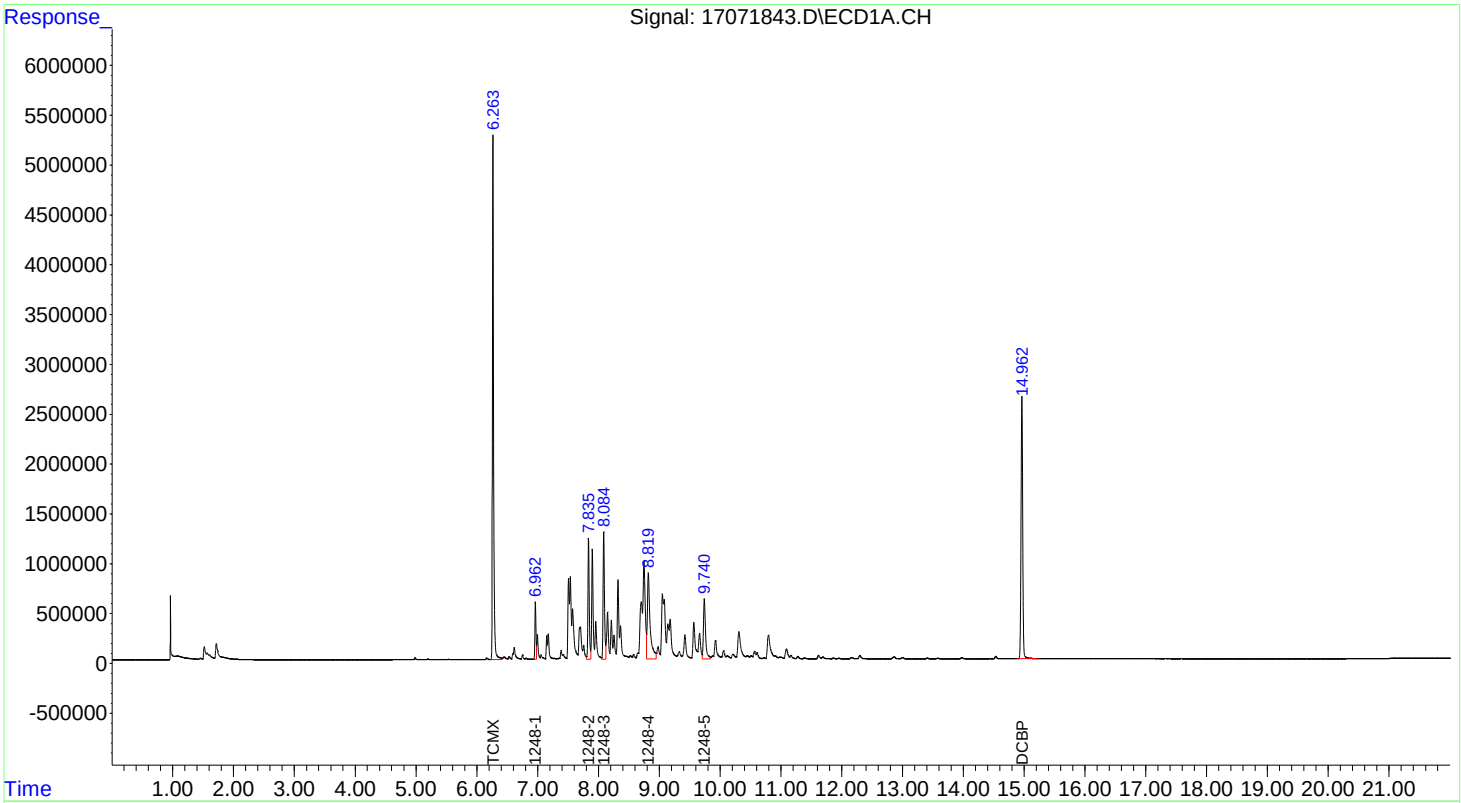
		Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
		System Monitoring Compounds						
1)	S	TCMX	6.263	6.240	6722118	6019804	207.683	199.281
8)	S	DCBP	14.962	15.686	4979732	4494721	188.156	195.216
		Target Compounds						
2)	L1	1248-1	6.962	7.298	686377	976159	2094.164	2020.846
3)	L1	1248-2	7.835	8.159	1791979	2050587	1999.671	1933.526
4)	L1	1248-3	8.084	8.616	2019540	2046899	1996.686	1908.655
5)	L1	1248-4	8.819	9.138	2742952	2694044	1884.325	1858.700
6)	L1	1248-5	9.740	10.377	1468040	1323547	1889.585	1857.841
7)	L1	1248-TOTAL	0.000	0.000	8708888	9091236	1949.997m	1901.799m

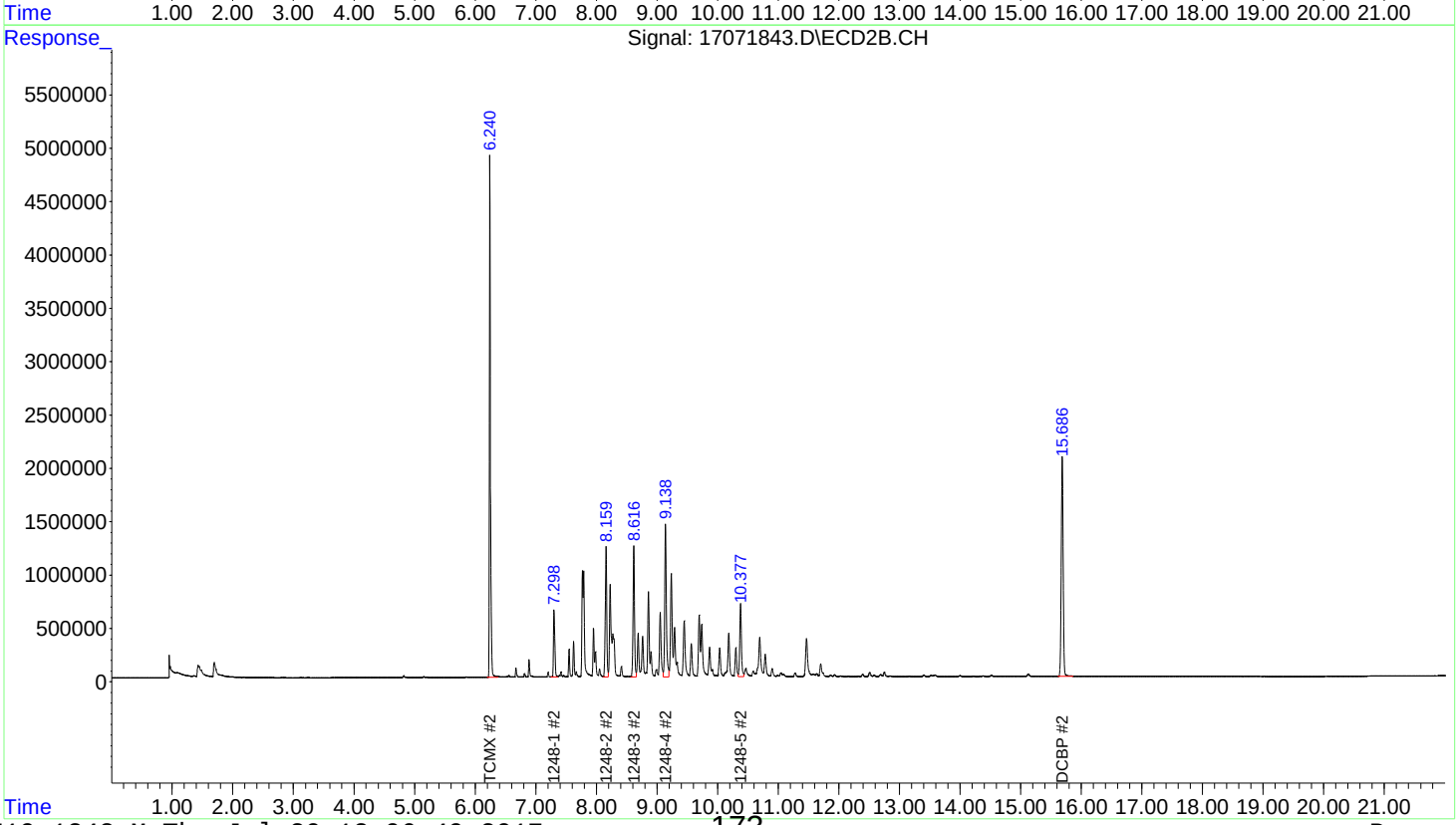
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071843.D
Acq On : 19 Jul 2017 4:12 pm
Operator :
Sample : 1248 SSCV 2000 PPB
Misc : ICV
ALS Vial : 0 (Sig #1); 40 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 20 12:06:49 2017
InstName : GC16
QLast Update : Thu Jul 20 11:49:11 2017
Response via : Initial Calibration





Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071844.D
Acq On : 19 Jul 2017 4:43 pm
Operator :
Sample : 1242-1 50 PPB
Misc : CAL1
ALS Vial : 0 (Sig #1); 41 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 20 11:58:57 2017
InstName : GC16
QLast Update : Thu Jul 20 11:42:25 2017
Response via : Initial Calibration

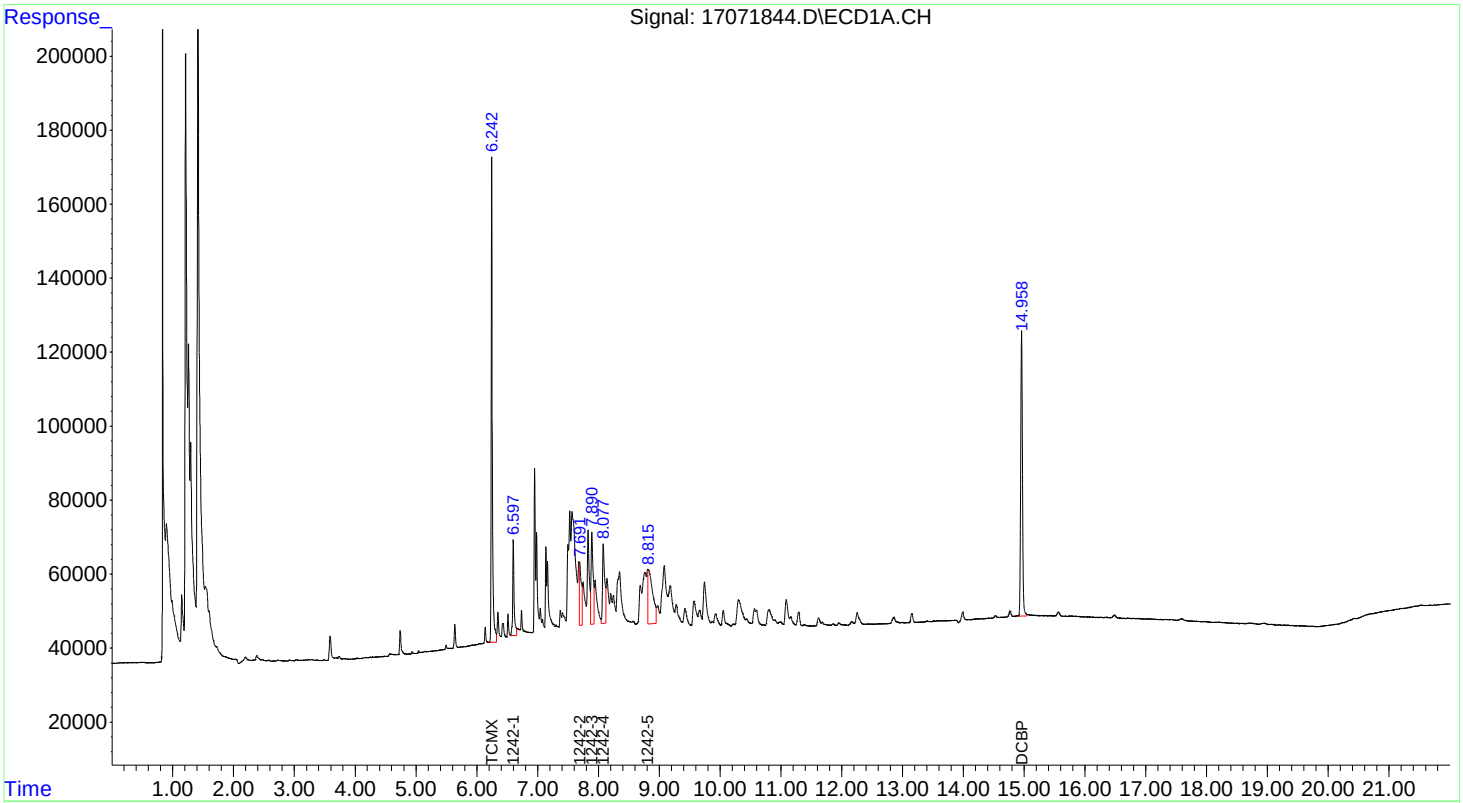
		Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
		System Monitoring Compounds						
1)	S	TCMX	6.242	6.227	171353	176264	5.355	4.638
8)	S	DCBP	14.958	15.686	155680	152340	5.117	4.822
		Target Compounds						
2)	L1	1242-1	6.597	6.881	40411	41642	44.976	41.905
3)	L1	1242-2	7.691	7.294	39979	89331	34.669	41.757
4)	L1	1242-3	7.890	8.156	58665	85354	45.541	42.842
5)	L1	1242-4	8.077	8.614	53715	65601	49.281	44.151
6)	L1	1242-5	8.815	9.140	79449	82929	53.903	43.970
7)	L1	1242-TOTAL	0.000	0.000	272219	364857	46.337m	42.945m

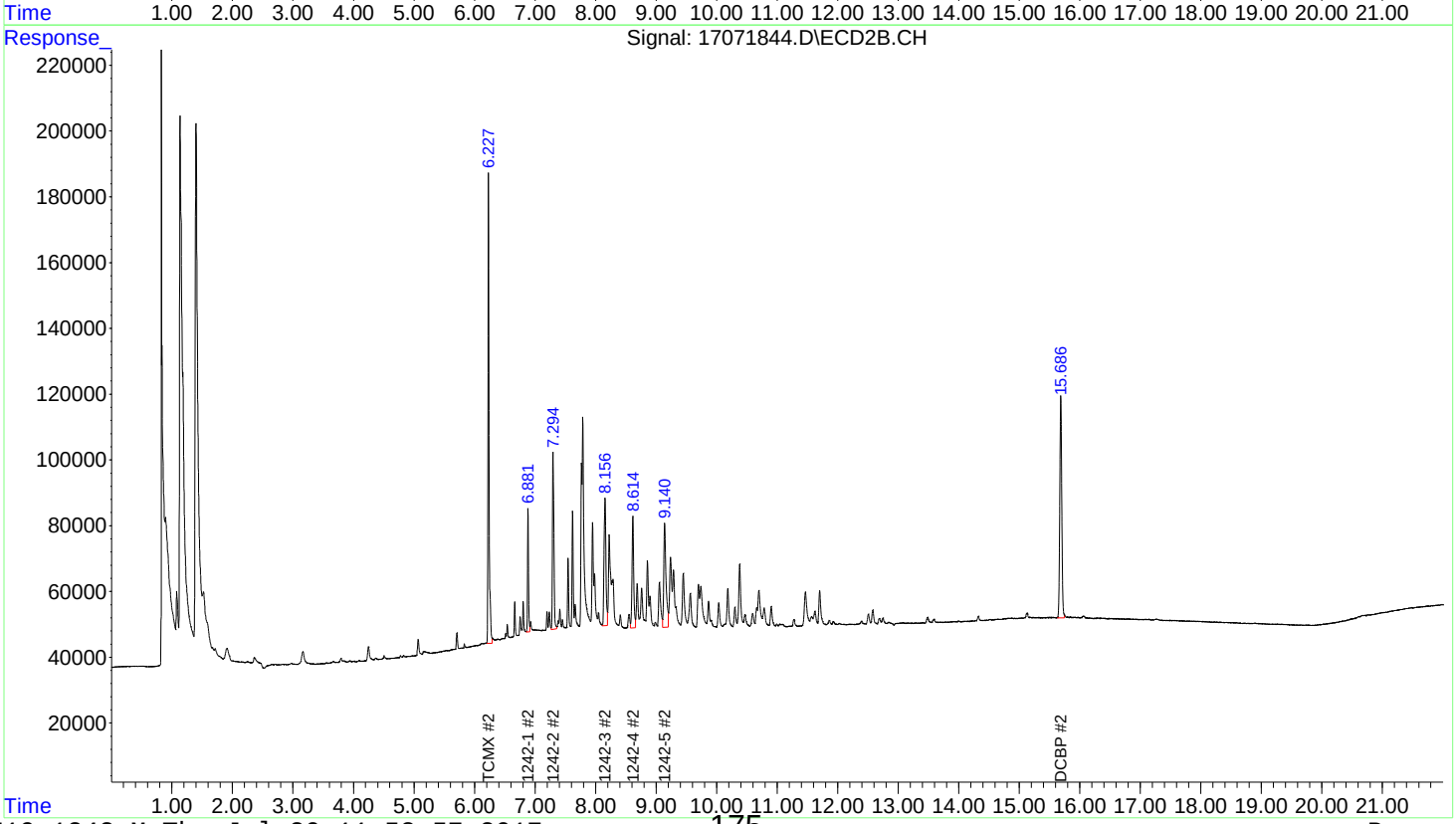
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\3\170718\
Data File : 17071844.D
Acq On : 19 Jul 2017 4:43 pm
Operator :
Sample : 1242-1 50 PPB
Misc : CAL1
ALS Vial : 0 (Sig #1); 41 (Sig #2) Sample Multiplier: 1
InstName : GC16

Quant Time: Jul 20 11:58:57 2017
InstName : GC16
QLast Update : Thu Jul 20 11:42:25 2017
Response via : Initial Calibration





ICP-MS4
For

DHL Work Order
1709085

ICP-MS4_170915A
For

DHL Work Order
1709085

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_170915A 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: 09/15/2017

Second-Level Review: Janice Whitt Date Stamp: 9/15/2017

REVIEWED BY
By Janice Whitt at 4:34:11 PM, 9/15/2017

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		---	09/15/2017	
MET CAL 2	L2-	170915	MET-L2CAL- 170802	09/15/2017	CAL2 - CAL6
MET CAL 3	L-	170915	MET-LCAL- 170802	09/15/2017	MADE FRESH DAILY
MET CAL 4	10X-	170915	MET-LCAL10X- 170802	09/15/2017	
MET CAL 5	5X-	170915	MET-LCAL5X- 170802	09/15/2017	
MET CAL 6	2X-	170915	MET-MCAL- 170802	09/15/2017	
MET CAL 7	H-	170915	MET-HCAL-170802	08/02/2017	
MET CAL 8	H2-	170915	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: 09/15/2017

Second-Level Review/Date: REVIEWED BY By Janice Whitt at 3:59:29 PM, 9/15/2017

DHL Analytical, Inc.

Run ID: ICP-MS4_170915A **Run No.:** 94175

Analytical Run Date: 9/15/2017 **InstrumentID:** ICP-MS4

Analyst: Ryan Oliver

SampID	DF	TestCode	SampType	Batch ID	Analysis Date/Time	Q	Comments
BLANK STD 1	1	6020A_W	CAL	R94175	9/15/2017 10:13:00 AM		
L2-170915	1	6020A_W	CAL	R94175	9/15/2017 10:15:00 AM		
L-170915	1	6020A_W	CAL	R94175	9/15/2017 10:17:00 AM		
10X-170915	1	6020A_W	CAL	R94175	9/15/2017 10:19:00 AM		
5X-170915	1	6020A_W	CAL	R94175	9/15/2017 10:21:00 AM		
2X-170915	1	6020A_W	CAL	R94175	9/15/2017 10:23:00 AM		
H-170915	1	6020A_W	CAL	R94175	9/15/2017 10:24:00 AM		
H2-170915	1	6020A_W	CAL	R94175	9/15/2017 10:26:00 AM		
ICSA-170915	1	6020A_W	ICSA	R94175	9/15/2017 10:32:00 AM		
ICSAB-170915	1	6020A_W	ICSB	R94175	9/15/2017 10:34:00 AM		
ICV-170915	1	6020A_W	ICV	R94175	9/15/2017 10:40:00 AM		
LCVL-170915	1	6020A_W	LCVL	R94175	9/15/2017 10:50:00 AM		
ICB-170915	1	6020A_W	ICB	R94175	9/15/2017 10:54:00 AM		
MB-82353	5	6020A_S	MBLK	82353	9/15/2017 10:56:00 AM		
LCS-82353	5	6020A_S	LCS	82353	9/15/2017 10:58:00 AM		
LCSD-82353	5	6020A_S	LCSD	82353	9/15/2017 11:00:00 AM		
1709034-02C	5	6020A_S	SAMP	82353	9/15/2017 11:04:00 AM		
1709034-02C SD	25	6020A_S	SD	82353	9/15/2017 11:05:00 AM		R-flag Se, Zn; PDS passes
1709083-02A	5	6020A_S	SAMP	82353	9/15/2017 11:07:00 AM		
1709085-02A	5	6020A_S	SAMP	82353	9/15/2017 11:09:00 AM		
1709098-01A	5	6020A_S	SAMP	82353	9/15/2017 11:11:00 AM		
1709108-04B	5	6020A_S	SAMP	82353	9/15/2017 11:13:00 AM		
1709034-04C	5	6020A_S	SAMP	82353	9/15/2017 11:15:00 AM		
1709034-06C	5	6020A_S	SAMP	82353	9/15/2017 11:17:00 AM		
1709034-08C	5	6020A_S	SAMP	82353	9/15/2017 11:19:00 AM		
1709034-10C	5	6020A_S	SAMP	82353	9/15/2017 11:20:00 AM		
1709092-01A	5	6020A_S	SAMP	82353	9/15/2017 11:22:00 AM		
1709034-02C PDS	5	6020A_S	PDS	82353	9/15/2017 11:24:00 AM		
1709034-02C MS	5	6020A_S	MS	82353	9/15/2017 11:26:00 AM		
1709034-02C MSD	5	6020A_S	MSD	82353	9/15/2017 11:28:00 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_170915A **Run No.:** 94175

CCV1-170915	1	6020A_W	CCV	R94175	9/15/2017 11:30:00 AM		
LCVL1-170915	1	6020A_W	LCVL	R94175	9/15/2017 11:35:00 AM		
CCB1-170915	1	6020A_W	CCB	R94175	9/15/2017 11:40:00 AM		
1709092-02A	5	6020A_S	SAMP	82353	9/15/2017 11:42:00 AM		
1709092-03A	5	6020A_S	SAMP	82353	9/15/2017 11:44:00 AM		
1709092-04A	5	6020A_S	SAMP	82353	9/15/2017 11:45:00 AM		
1709092-05A	5	6020A_S	SAMP	82353	9/15/2017 11:47:00 AM		
1709092-06A	5	6020A_S	SAMP	82353	9/15/2017 11:49:00 AM		
CCV2-170915	1	6020A_W	CCV	R94175	9/15/2017 11:51:00 AM		
LCVL2-170915	1	6020A_W	LCVL	R94175	9/15/2017 11:57:00 AM		
CCB2-170915	1	6020A_W	CCB	R94175	9/15/2017 12:03:00 PM		
CCV3-170915	1	6020A_W	CCV	R94175	9/15/2017 12:36:00 PM		
LCVL3-170915	1	6020A_W	LCVL	R94175	9/15/2017 12:42:00 PM		
CCB3-170915	1	6020A_W	CCB	R94175	9/15/2017 12:44:00 PM		
MB-82354	1	6020A_W	MBLK	82354	9/15/2017 12:46:00 PM		
LCS-82354	1	6020A_W	LCS	82354	9/15/2017 12:48:00 PM		
LCSD-82354	1	6020A_W	LCSD	82354	9/15/2017 12:50:00 PM		
1709087-01A	1	6020A_W	SAMP	82354	9/15/2017 12:54:00 PM		
1709087-01A SD	5	6020A_W	SD	82354	9/15/2017 12:56:00 PM		
1709083-01A	1	6020A_W	SAMP	82354	9/15/2017 12:58:00 PM		
1709084-01A	1	6020A_W	SAMP	82354	9/15/2017 1:00:00 PM		
1709085-01A	1	6020A_W	SAMP	82354	9/15/2017 1:02:00 PM		
1709099-01B	1	6020A_W	SAMP	82354	9/15/2017 1:04:00 PM		
1709100-01B	1	6020A_W	SAMP	82354	9/15/2017 1:05:00 PM		Int Std. Bi-low, does not effect reported
1709108-02B	1	6020A_W	SAMP	82354	9/15/2017 1:07:00 PM		compound. jw 9/15/2017
1709089-01B	1	6020A_W	SAMP	82354	9/15/2017 1:09:00 PM		DNR; Reran @ dilution
1709089-02B	1	6020A_W	SAMP	82354	9/15/2017 1:11:00 PM		DNR; Reran @ dilution
1709089-03B	1	6020A_W	SAMP	82354	9/15/2017 1:13:00 PM		DNR; Reran @ dilution
1709087-01A PDS	1	6020A_W	PDS	82354	9/15/2017 1:15:00 PM		
1709087-01A MS	1	6020A_W	MS	82354	9/15/2017 1:17:00 PM		S-flag Na- Low
1709087-01A MSD	1	6020A_W	MSD	82354	9/15/2017 1:19:00 PM		S-flag Na- Low
CCV4-170915	1	6020A_W	CCV	R94175	9/15/2017 1:24:00 PM		
LCVL4-170915	1	6020A_W	LCVL	R94175	9/15/2017 1:46:00 PM		S-flag Na; Associated samples are clsoer to CCV level; CCV/CCB pass
CCB4-170915	1	6020A_W	CCB	R94175	9/15/2017 1:48:00 PM		
1709087-01A	10	6020A_W	SAMP	82354	9/15/2017 1:50:00 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

DHL Analytical, Inc.

Run ID: ICP-MS4_170915A **Run No.:** 94175

1709087-01A SD	50	6020A_W	SD	82354	9/15/2017 1:52:00 PM		
1709087-01A PDS	10	6020A_W	PDS	82354	9/15/2017 1:54:00 PM		
1709089-01B	50	6020A_W	SAMP	82354	9/15/2017 1:56:00 PM		
1709089-02B	50	6020A_W	SAMP	82354	9/15/2017 1:58:00 PM		
1709089-03B	50	6020A_W	SAMP	82354	9/15/2017 2:00:00 PM		
1709087-02A	10	6020A_W	SAMP	82354	9/15/2017 2:02:00 PM		
1709087-03A	10	6020A_W	SAMP	82354	9/15/2017 2:04:00 PM		
1709087-02A	1	6020A_W	SAMP	82354	9/15/2017 2:06:00 PM		
1709087-03A	1	6020A_W	SAMP	82354	9/15/2017 2:08:00 PM		
CCV5-170915	1	6020A_W	CCV	R94175	9/15/2017 2:13:00 PM		
LCVL5-170915	1	6020A_W	LCVL	R94175	9/15/2017 2:18:00 PM		
CCB5-170915	1	6020A_W	CCB	R94175	9/15/2017 2:28:00 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\170915.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	L2-170915	CAL 6020A_W	2102	2	
11		CalStd	L-170915	CAL 6020A_W	2103	3	
12		CalStd	10X-170915	CAL 6020A_W	2104	4	
13		CalStd	5X-170915	CAL 6020A_W	2105	5	
14		CalStd	2X-170915	CAL 6020A_W	2106	6	
15		CalStd	H-170915	CAL 6020A_W	2107	7	
16		CalStd	H2-170915	CAL 6020A_W	2108	8	
17		ICB	BLANK	CCB 6020A_W	1101		
18		ICB	BLANK	CCB 6020A_W	1102		
19		ICSA	ICSA-170915	ICSA6020A_W	2109		
20		ICSB	ICSAB-170915	ICSB6020A_W	2110		
21		ICB	BLANK	CCB 6020A_W	1101		
22		ICB	BLANK	CCB 6020A_W	1102		
23		ICV	ICV-170915	ICV 6020A_W	2111		
24		ICB	ICB-170915	ICB 6020A_W	1101		
25		LLICV	LCVL-170915	LCVL6020A_W	2112		
26		ICB	ICB-170915	ICB 6020A_W	1102		
27		ICB	ICB-170915	ICB 6020A_W	1103		
28		PB	MB-82353	MBLK6020A_S	2201		5
29		LCS_S	LCS-82353	LCS 6020A_S	2202		5
30		LCS_S	LCSD-82353	LCSD6020A_S	2203		5
31		CCB	RINSE	CCB 6020A_W	1101		
32		AllRef	1709034-02C	SAMP6020A_S	2204		5
33		SD	1709034-02C SD	SD 6020A_S	2205		25
34		Sample	1709083-02A	SAMP6020A_S	2206		5
35		Sample	1709085-02A	SAMP6020A_S	2207		5
36		Sample	1709098-01A	SAMP6020A_S	2208		5
37		Sample	1709108-04B	SAMP6020A_S	2209		5
38		Sample	1709034-04C	SAMP6020A_S	2210		5
39		Sample	1709034-06C	SAMP6020A_S	2211		5
40		Sample	1709034-08C	SAMP6020A_S	2212		5
41		Sample	1709034-10C	SAMP6020A_S	2301		5
42		Sample	1709092-01A	SAMP6020A_S	2302		5
43		PDS	1709034-02C PDS	PDS 6020A_S	2303		5
44		MS_S	1709034-02C MS	MS 6020A_S	2304		5
45		MS_S	1709034-02C MSD	MSD 6020A_S	2305		5
46		CCV	CCV1-170915	CCV 6020A_W	1207		
47		CCB	CCB1-170915	CCB 6020A_W	1102		
48		LLCCV	LCVL1-170915	LCVL6020A_W	2112		

Sample List

49	CCB	CCB1-170915	CCB 6020A_W	1103	
50	Sample	1709092-02A	SAMP6020A_S	2306	5
51	Sample	1709092-03A	SAMP6020A_S	2307	5
52	Sample	1709092-04A	SAMP6020A_S	2308	5
53	Sample	1709092-05A	SAMP6020A_S	2309	5
54	Sample	1709092-06A	SAMP6020A_S	2310	5
55	CCV	CCV2-170915	CCV 6020A_W	1207	
56	CCB	CCB2-170915	CCB 6020A_W	1102	
57	LLCCV	LCVL2-170915	LCVL6020A_W	2112	
58	CCB	CCB2-170915	CCB 6020A_W	1103	
59	PB_W	MB-82355	MBLKTCLP_MET	3101	1
60	PB_W	MB-82348-TCLP	MBLKTCLP_MET	3102	1
61	LCS_W	LCS-82355	LCS TCLP_MET	3103	1
62	LCS_W	LCSD-82355	LCSDTCLP_MET	3104	1
63	CCB	RINSE	CCB 6020A_W	1101	
64	AllRef	1709077-02A	SAMPTCLP_MET	3105	1
65	SD	1709077-02A SD	SD TCLP_MET	3106	5
66	SAMP_W	1709093-01A	SAMPTCLP_MET	3107	1
67	SAMP_W	1709094-01A	SAMPTCLP_MET	3108	1
68	SAMP_W	1709077-01A	SAMPTCLP_MET	3109	1
69	SAMP_W	1709048-01A	SAMPTCLP_MET	3110	1
70	PDS	1709077-02A PDS	PDS TCLP_MET	3111	1
71	MS_W	1709077-02A MS	MS TCLP_MET	3112	1
72	MS_W	1709077-02A MSD	MSD TCLP_MET	3201	1
73	CCB	RINSE	CCB 6020A_W	1102	
74	CCB	RINSE	CCB 6020A_W	1103	
75	CCV	CCV3-170915	CCV 6020A_W	1207	
76	CCB	CCB3-170915	CCB 6020A_W	1102	
77	LLCCV	LCVL3-170915	LCVL6020A_W	2512	
78	CCB	CCB3-170915	CCB 6020A_W	1103	
79	PB_W	MB-82354	MBLK6020A_W	4101	1
80	LCS_W	LCS-82354	LCS 6020A_W	4102	1
81	LCS_W	LCSD-82354	LCSD6020A_W	4103	1
82	CCB	RINSE	CCB 6020A_W	1101	
83	AllRef	1709087-01A	SAMP6020A_W	4104	1
84	SD	1709087-01A SD	SD 6020A_W	4105	5
85	SAMP_W	1709083-01A	SAMP6020A_W	4106	1
86	SAMP_W	1709084-01A	SAMP6020A_W	4107	1
87	SAMP_W	1709085-01A	SAMP6020A_W	4108	1
88	SAMP_W	1709099-01B	SAMP6020A_W	4109	1
89	SAMP_W	1709100-01B	SAMP6020A_W	4110	1
90	SAMP_W	1709108-02B	SAMP6020A_W	4111	1
91	SAMP_W	1709089-01B	SAMP6020A_W	4112	1
92	SAMP_W	1709089-02B	SAMP6020A_W	4201	1
93	SAMP_W	1709089-03B	SAMP6020A_W	4202	1
94	PDS	1709087-01A PDS	PDS 6020A_W	4203	1
95	MS_W	1709087-01A MS	MS 6020A_W	4204	1
96	MS_W	1709087-01A MSD	MSD 6020A_W	4205	1
97	CCB	RINSE	CCB 6020A_W	1102	
98	CCB	RINSE	CCB 6020A_W	1103	
99	CCV	CCV4-170915	CCV 6020A_W	1207	
100	CCB	CCB4-170915	CCB 6020A_W	1102	
101	CCB	CCB4-170915	CCB 6020A_W	1102	
102	CCB	CCB4-170915	CCB 6020A_W	1103	
103	CCB	CCB4-170915	CCB 6020A_W	1103	
104	LLCCV	LCVL4-170915	LCVL6020A_W	2512	
105	CCB	CCB4-170915	CCB 6020A_W	1103	
106	AllRef	1709087-01A	SAMP6020A_W	4301	1
107	SD	1709087-01A SD	SD 6020A_W	4302	50

Sample List

108	PDS	1709087-01A PDS	PDS 6020A_W	4303	10
109	SAMP_W	1709089-01B	SAMP6020A_W	4304	50
110	SAMP_W	1709089-02B	SAMP6020A_W	4305	50
111	SAMP_W	1709089-03B	SAMP6020A_W	4306	50
112	SAMP_W	1709087-02A	SAMP6020A_W	4307	10
113	SAMP_W	1709087-03A	SAMP6020A_W	4308	10
114	SAMP_W	1709087-02A	SAMP6020A_W	4206	1
115	SAMP_W	1709087-03A	SAMP6020A_W	4207	1
116	CCB	RINSE	CCB 6020A_W	1102	
117	CCB	RINSE	CCB 6020A_W	1103	
118	CCV	CCV5-170915	CCV 6020A_W	1207	
119	CCB	CCB5-170915	CCB 6020A_W	1102	
120	LLCCV	LCVL5-170915	LCVL6020A_W	2511	
121	CCB	CCB5-170915	CCB 6020A_W	1102	
122	CCB	CCB5-170915	CCB 6020A_W	1102	
123	CCB	CCB5-170915	CCB 6020A_W	1102	
124	CCB	CCB5-170915	CCB 6020A_W	1103	
125	CCB	CCB5-170915	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: **9/14/2017 8:19:12 AM**
Digestion:
Prep End Date:

Prep Batch **82353** 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
1709034-02C MS/MSD	Soil		1.03	50	50.000	1 of 1		
1709034-04C	Soil		1.06	50	50.000	1 of 1		
1709034-06C	Soil		1.01	50	50.000	1 of 1		
1709034-08C	Soil		1.06	50	50.000	1 of 1		
1709034-10C	Soil		1.11	50	50.000	1 of 1		
1709083-02A	Soil		1.04	50	50.000	1 of 1		
1709085-02A	Soil		1.08	50	50.000	1 of 1		
1709092-01A	Soil		1.07	50	50.000	1 of 1		
1709092-02A	Soil		1.10	50	50.000	1 of 1		
1709092-03A	Soil		1.09	50	50.000	1 of 1		
1709092-04A	Soil		1.07	50	50.000	1 of 1		
1709092-05A	Soil		1.02	50	50.000	1 of 1		
1709092-06A	Soil		1.05	50	50.000	1 of 1		
1709098-01A	Soil		1.04	50	50.000	1 of 1		
LCS-82353	Soil		1	50	50.000	of		
LCSD-82353	Soil		1	50	50.000	of		
MB-82353	Soil		1	50	50.000	of		

1709034-02C MS 1.03
1709034-02C MSD 1.02

9/14/17
~~11:00~~ 11:30 - 11:40
11:40 - 13:40
13:50 - 15:50
16:00 - 16:15

1709108-04B 1.11

Sample added to batch

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
11490	Hydrochloric Acid (trace metal grade)	5	ml	12/15/2019
11594	Digestion Vessels	1	vessel	01/10/2018
11661	Nitric Acid (Trace Metal Grade)	10	ml	04/05/2019

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

9:30 - 9:40
9:45 - 11:45
12:00 - 14:00
14:15 - 14:30

REVIEWED BY
By Janice Whitt at 4:00:56 PM, 9/15/2017

9/14/17

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **9/14/2017 8:19:12 AM**
Digestion: **Start: 9/14/2017 9:30:00 AM / Stop: 9/14/2017 4:15:00 PM**
Prep End Date: **9/14/2017 4:42:20 PM**

Prep Batch **82353** 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
1709034-02C	Soil		1.03	50	48.544	1 of 1		
1709034-02C MS	Soil		1.03	50	48.544	of		
1709034-02C MSD	Soil		1.02	50	49.020	of		
1709034-02C PDS	Soil		1.03	50	48.544	of		
1709034-02C SD	Soil		1.03	50	48.544	of		
1709034-04C	Soil		1.06	50	47.170	1 of 1		
1709034-06C	Soil		1.01	50	49.505	1 of 1		
1709034-08C	Soil		1.06	50	47.170	1 of 1		
1709034-10C	Soil		1.11	50	45.045	1 of 1		
1709083-02A	Soil		1.04	50	48.077	1 of 1		
1709085-02A	Soil		1.08	50	46.296	1 of 1		
1709092-01A	Soil		1.07	50	46.729	1 of 1		
1709092-02A	Soil		1.1	50	45.455	1 of 1		
1709092-03A	Soil		1.09	50	45.872	1 of 1		
1709092-04A	Soil		1.07	50	46.729	1 of 1		
1709092-05A	Soil		1.02	50	49.020	1 of 1		
1709092-06A	Soil		1.05	50	47.619	1 of 1		
1709098-01A	Soil		1.04	50	48.077	1 of 1		
1709108-04B	Soil		1.11	50	45.045	1 of 1		
LCS-82353	Soil		1	50	50.000	of		
LCSD-82353	Soil		1	50	50.000	of		
MB-82353	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
11490	Hydrochloric Acid (trace metal grade)	5	ml	12/15/2019
11594	Digestion Vessels	1	vessel	01/10/2018
11661	Nitric Acid (Trace Metal Grade)	10	ml	04/05/2019

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

REVIEWED BY
By Janice Whitt at 4:00:59 PM, 9/15/2017

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **9/14/2017 8:20:55 AM**
Digestion:
Prep End Date:

Prep Batch **82354** 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
1709083-01A	Aqueous		50	50	1.000	1 of 1		
1709084-01A	Aqueous		50	50	1.000	1 of 1		
1709085-01A	Aqueous		50	50	1.000	1 of 1		
1709087-01A MS/MSD	Aqueous		50	50	1.000	1 of 1		
1709087-02A	Aqueous		50	50	1.000	1 of 1		
1709087-03A	Aqueous		50	50	1.000	1 of 1		
1709089-01B	Aqueous		50	50	1.000	1 of 1		
1709089-02B	Aqueous		50	50	1.000	1 of 1		
1709089-03B	Aqueous		50	50	1.000	1 of 1		
1709099-01B	Aqueous		50	50	1.000	1 of 1		
1709100-01B	Aqueous		50	50	1.000	1 of 1		
LCS-82354	Aqueous		50	50	1.000	of		
LCSD-82354	Aqueous		50	50	1.000	of		
MB-82354	Aqueous		50	50	1.000	of		
1709108-023			50	50				

Sample added to batch 11:30 - 16:30

Number	Reagent Name	Amt	Units	Exp. Da
11490	Hydrochloric Acid (trace metal grade)	1	ml	12/15/2019
11594	Digestion Vessels	1	ml	01/10/2018
11661	Nitric Acid (Trace Metal Grade)	1	ml	04/05/2019

8:45 - 13:45

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

REVIEWED BY
By Janice Whitt at 4:01:42 PM, 9/15/2017

9/14/17

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **9/14/2017 8:20:55 AM**
Digestion: **Start: 9/14/2017 8:45:00 AM / Stop: 9/14/2017 4:30:00 PM**
Prep End Date: **9/14/2017 4:40:01 PM**

Prep Batch **82354** 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
1709083-01A	Aqueous		50	50	1.000	1	of	1		
1709084-01A	Aqueous		50	50	1.000	1	of	1		
1709085-01A	Aqueous		50	50	1.000	1	of	1		
1709087-01A	Aqueous		50	50	1.000	1	of	1		
1709087-01A MS	Aqueous		50	50	1.000		of			
1709087-01A MSD	Aqueous		50	50	1.000		of			
1709087-01A PDS	Aqueous		50	50	1.000		of			
1709087-01A SD	Aqueous		50	50	1.000		of			
1709087-02A	Aqueous		50	50	1.000	1	of	1		
1709087-03A	Aqueous		50	50	1.000	1	of	1		
1709089-01B	Aqueous		50	50	1.000	1	of	1		
1709089-02B	Aqueous		50	50	1.000	1	of	1		
1709089-03B	Aqueous		50	50	1.000	1	of	1		
1709099-01B	Aqueous		50	50	1.000	1	of	1		
1709100-01B	Aqueous		50	50	1.000	1	of	1		
1709108-02B	Aqueous		50	50	1.000	1	of	1		
LCS-82354	Aqueous		50	50	1.000		of			
LCSD-82354	Aqueous		50	50	1.000		of			
MB-82354	Aqueous		50	50	1.000		of			

Number	Reagent Name	Amt	Units	Exp. Da
11490	Hydrochloric Acid (trace metal grade)	1	ml	12/15/2019
11594	Digestion Vessels	1	ml	01/10/2018
11661	Nitric Acid (Trace Metal Grade)	1	ml	04/05/2019

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

REVIEWED BY
By Janice Whitt at 4:01:45 PM, 9/15/2017

Calibration Summary Report

Date Acquired 9/15/2017 10:13
Data Batch 170915.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 + 7.3156E-005
Be	1.0000	y = 5.6311E-005 * x + 3.2017E-006
B	1.0000	y = 2.7014E-005 * x + 1.4393E-004
Na	1.0000	y = 8.8950E-004 * x + 0.0117
Mg	1.0000	y = 4.5827E-004 * x + 6.8230E-004
Al	1.0000	y = 1.6600E-004 * x + 0.0030
K	1.0000	y = 3.7298E-004 * x + 0.0219
Ca	0.9999	y = 2.2621E-005 * x + 2.1985E-004
Ti	1.0000	y = 1.5173E-004 * x + 5.3271E-006
V	1.0000	y = 0.0053 * x + 0.0015
Cr	1.0000	y = 0.0065 * x + 7.2060E-004
Mn	1.0000	y = 0.0036 * x + 2.4518E-004
Fe	1.0000	y = 0.0051 * x + 0.0122
Co	1.0000	y = 0.0157 * x + 3.1758E-004
Ni	1.0000	y = 0.0043 * x + 0.0092
Cu	1.0000	y = 0.0114 * x + 0.0011
Zn	1.0000	y = 0.0016 * x + 3.8393E-004
Se	1.0000	y = 7.8292E-005 * x + 2.3638E-005
Sr	0.9999	y = 6.4939E-004 * x + 4.4438E-005
Mo	0.9999	y = 6.6341E-004 * x + 1.1809E-005
Ag	1.0000	y = 0.0021 * x + 6.0912E-006
Cd	1.0000	y = 2.9286E-004 * x + 1.1432E-006
Sn	1.0000	y = 6.1354E-004 * x + 4.9535E-005
Sb	1.0000	y = 7.5183E-004 * x + 1.7406E-005
Tl	1.0000	y = 0.0018 * x + 1.4377E-005
Ba	1.0000	y = 2.7386E-004 * x + 7.7499E-006
Pb	1.0000	y = 0.0024 * x + 6.4623E-005

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By Janice Whitt at 4:01:48 PM, 9/15/2017

Calibration Summary Report

Level 7 Cal

Ele	Conc	Calc	%Rec
As	500	494.78	99
Be	500	505.93	101
B	500	503.17	101
Na	10000	10036.69	100
Mg	10000	10012.74	100
Al	10000	9968.45	100
K	10000	9907.37	99
Ca	10000	9782.04	98
Ti	500	491.45	98
V	500	489.06	98
Cr	500	495.28	99
Mn	500	493.63	99
Fe	10000	9982.26	100
Co	500	506.19	101
Ni	500	499.77	100
Cu	500	502.58	101
Zn	500	507.70	102
Se	500	497.43	99
Sr	500	477.89	96
Mo	500	481.75	96
Ag	500	499.29	100
Cd	500	502.13	100
Sn	500	485.73	97
Sb	500	500.64	100
Tl	500	501.65	100
Ba	500	496.16	99
Pb	500	498.72	100

Level 8 Cal

Ele	Conc	Calc	%Rec
As	2000	2001.25	100
Be	2000	1997.97	100
B	2000	1999.11	100
Na	25000	24974.86	100
Mg	25000	24984.29	100
K	25000	25036.65	100
Ca	25000	25115.64	100
Ti	2000	2002.20	100
V	2000	2003.48	100
Cr	2000	2001.33	100
Mn	2000	2001.89	100
Co	2000	1997.69	100
Ni	2000	1999.24	100
Cu	2000	1998.16	100
Zn	2000	1996.61	100
Se	2000	1999.72	100
Sr	2000	2007.46	100
Mo	2000	2006.30	100
Cd	2000	1999.36	100
Sn	2000	2004.80	100
Tl	2000	1999.89	100
Ba	2000	2001.66	100
Pb	2000	2000.81	100

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Current Signal

[Helium]

Mass	Range	Count	Avg. Count	RSD [%]
63	500	231	274.2	6.74
59	20000	15716	16054.3	1.85
89	20000	14380	14131.9	1.71
140	50000	40946	42132.3	1.44
205	50000	45304	44230.7	1.57
156/140	1	0.432 %	0.410 %	7.21
51	100	82	76.4	12.65
56	5000	2214	2292.1	2.90
75	20	3	1.8	103.19
78	20	3	2.9	66.36
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	-180.0	V	Cell Exit	-58	V
Omega Bias	-80	V	Deflect	0.8	V
Omega Lens	8.1	V	Plate Bias	-60	V

Cell Parameters

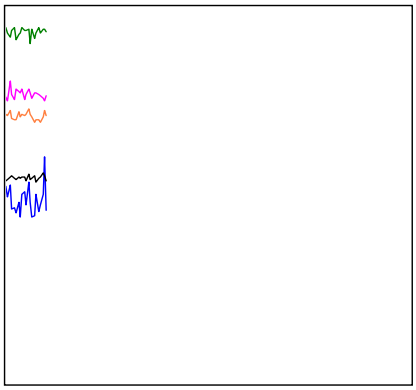
Use Gas	Yes		OctP RF	200	V
He Flow	5.0	mL/min	Energy Discrimination	3.0	V
OctP Bias	-19.0	V			

Meters

IF/BK Press	2.16E+2	Pa	Carrier Gas(BP)	3.06E+2	kPa	Forward Power	1549	W
Analyzer Press	1.57E-4	Pa	Reflected Power	6	W			

Current Signal

[No Gas]



Mass	Range	Count	Avg. Count	RSD [%]
63	500	229	243.4	7.83
59	20000	18686	18634.2	1.22
89	50000	35582	35446.6	1.42
140	50000	38148	38334.8	1.69
205	50000	26942	27267.5	1.19
156/140	2	1.694 %	1.684 %	7.11
51	20000	15615	15787.7	1.74
56	200000	187317	184571.7	1.09
75	2000	1344	1310.3	2.91
78	1000	766	747.7	5.12
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	-180.0	V	Cell Exit	-58	V
Omega Bias	-80	V	Deflect	1.4	V
Omega Lens	8.1	V	Plate Bias	-60	V

Cell Parameters

Use Gas	No		OctP RF	200	V
He Flow	5.0	mL/min	Energy Discrimination	3.0	V
OctP Bias	-19.0	V			

Meters

IF/BK Press	2.14E+2	Pa	Carrier Gas(BP)	3.07E+2	kPa	Forward Power	1550	W
Analyzer Press	9.16E-5	Pa	Reflected Power	6	W			

US EPA Tune Check Sample Report

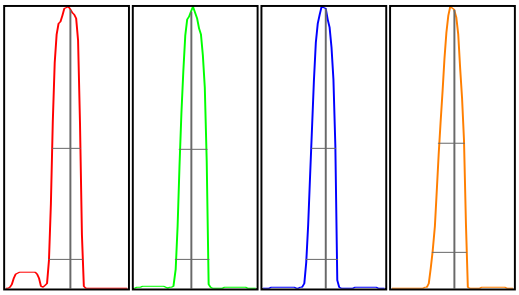
Batch Folder C:\Agilent\ICPMH\1\DATA\DHL Li+U TEMPLATE.b
Report Comment
Instrument Name ICPMS4 JP12361998

[No Gas]

Mass	Count (Mean)	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
7	61408	1.08	5.00	
59	99129	1.45	5.00	
115	171779	0.69	5.00	
205	152674	1.73	5.00	

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
7	60430	61091	61712	61654	62154
59	97394	98287	99038	99784	101144
115	170564	170724	171651	173266	172688
205	157175	152529	151506	151840	150320

Integration Time [sec] = 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	Width-X% (Flag)
7	92502	7.10	6.9 - 7.1		0.823	0.850	
59	164712	58.95	58.9 - 59.1		0.779	0.850	
115	310214	115.05	114.9 - 115.1		0.739	0.850	
205	268334	205.05	204.9 - 205.1		0.826	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	-180.0	V	Cell Exit	-58	V
Omega Bias	-80	V	Deflect	1.4	V
Omega Lens	8.1	V	Plate Bias	-60	V

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Cell Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit
Use Gas	No		OctP RF	200	V
He Flow	0.0	mL/min	Energy Discrimination	3.0	V
OctP Bias	-19.0	V			

P/A Factor Tuning Report

Current Sample

Sample Name: CCB5-170915
Data File: 125_CCB.d
Acquired: 9/15/2017 2:28:33 PM

Detector Parameters and P/A Factors

Discriminator: 4.5 mV
AnalogHV: 1749 V
PulseHV: 1599 V

Acquired: 9/15/2017 9:45:42 AM

Mass[u]	Element	P/A Factor
9	Be	0.113003
23	Na	0.122552
24	Mg	0.126948
27	Al	0.129958
39	K	0.129614
45	Sc	0.131300
47	Ti	0.131591
51	V	0.133373
52	Cr	0.136613
55	Mn	0.137790
56	Fe	0.127408
59	Co	0.140729
60	Ni	0.143352
63	Cu	0.143655
66	Zn	0.144294
72	Ge	0.143603
75	As	0.142607
88	Sr	0.143128
95	Mo	0.142943
111	Cd	0.148672
115	In	0.147425
118	Sn	0.147647
121	Sb	0.147920
137	Ba	0.147565
205	Tl	0.153376
206	[Pb]	0.154559
207	[Pb]	0.154913
208	Pb	0.153893
209	Bi	0.155715
238	U	0.153388
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: 9/15/2017 2:30:06 PM

REVIEWED BY
By Janice Whitt at 4:02:04 PM, 9/15/2017

Calibration Blank Report

Date Acquired	9/15/2017 10:13	Sample Name	BLANK STD 1
Data Batch	170915.b	Comment	CAL 6020A_W
Data File Name	009CALB.d	Dilution	1

Mass	Name	IS	CPS	%RSD
9	Be	45	4	66.14
11	B	45	180	16.04
23	Na	45	14654	2.14
24	Mg	45	853	0.78
27	Al	45	3716	4.31
39	K	45	27409	0.93
44	Ca	45	275	4.31
47	Ti	45	7	50.03
51	V	45	1868	5.16
52	Cr	45	901	7.35
55	Mn	45	307	9.96
56	Fe	45	15248	8.19
59	Co	72	277	6.26
60	Ni	72	7984	4.29
63	Cu	72	1000	3.33
66	Zn	72	334	14.52
75	As	72	64	36.17
78	Se	72	21	16.49
88	Sr	115	389	8.59
95	Mo	115	103	3.23
107	Ag	115	53	21.65
111	Cd	115	10	57.75
118	Sn	115	433	8.03
121	Sb	115	152	11.02
137	Ba	115	68	15.02
205	Tl	209	351	10.24
208	Pb	209	1578	3.58

QC ISTD Table

Mass	Name	CPS	%RSD
45	Sc	1250708	0.29
72	Ge	871265	0.22
115	In	8749493	0.75
209	Bi	24417425	0.76

Calibration Standard Report

Date Acquired	9/15/2017 10:15	Sample Name	L2-170915
Data Batch	170915.b	Comment	CAL 6020A_W
Data File Name	010CALS.d	Dilution	1

Mass	Name	IS	CPS	%RSD
9	Be	45	73	22.37
11	B	45	186	8.49
23	Na	45	35864	0.58
24	Mg	45	11593	2.99
27	Al	45	7190	1.98
39	K	45	36290	0.08
44	Ca	45	884	5.49
47	Ti	45	199	17.92
51	V	45	7978	2.62
52	Cr	45	8607	2.81
55	Mn	45	4218	1.12
56	Fe	45	144403	0.98
59	Co	72	13213	1.39
60	Ni	72	8887	4.46
63	Cu	72	10558	1.66
66	Zn	72	1781	2.68
75	As	72	901	3.99
78	Se	72	83	19.75
88	Sr	115	5270	0.16
95	Mo	115	5268	1.56
107	Ag	115	16455	0.22
111	Cd	115	2502	3.32
118	Sn	115	5282	2.08
121	Sb	115	6297	3.32
137	Ba	115	2338	3.19
205	Tl	209	39434	0.26
208	Pb	209	54048	0.82

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	Flag
45	Sc	1248235	0.18	1250708	99.80	70	120	
72	Ge	864404	0.44	871265	99.21	70	120	
115	In	8713584	0.55	8749493	99.59	70	120	
209	Bi	24339058	0.32	24417425	99.68	70	120	

Calibration Standard Report

Date Acquired	9/15/2017 10:17	Sample Name	L-170915
Data Batch	170915.b	Comment	CAL 6020A_W
Data File Name	011CALS.d	Dilution	1

Mass	Name	IS	CPS	%RSD
9	Be	45	650	4.44
11	B	45	476	20.03
23	Na	45	226118	0.49
24	Mg	45	109996	0.32
27	Al	45	42337	0.72
39	K	45	114328	0.59
44	Ca	45	5395	1.98
47	Ti	45	1833	7.41
51	V	45	62521	0.91
52	Cr	45	77210	0.94
55	Mn	45	41887	0.14
56	Fe	45	1328508	0.09
59	Co	72	131584	0.07
60	Ni	72	40690	0.75
63	Cu	72	98119	0.31
66	Zn	72	14224	1.79
75	As	72	8516	0.55
78	Se	72	655	3.38
88	Sr	115	50639	0.86
95	Mo	115	50614	2.00
107	Ag	115	169828	0.71
111	Cd	115	24136	1.95
118	Sn	115	48390	0.81
121	Sb	115	60762	0.73
137	Ba	115	22381	1.23
205	Tl	209	393373	0.23
208	Pb	209	524931	0.61

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	Flag
45	Sc	1237485	0.27	1250708	98.94	70	120	
72	Ge	860474	0.57	871265	98.76	70	120	
115	In	8627296	0.47	8749493	98.60	70	120	
209	Bi	24187184	0.80	24417425	99.06	70	120	

Calibration Standard Report

Date Acquired	9/15/2017 10:19	Sample Name	10X-170915
Data Batch	170915.b	Comment	CAL 6020A_W
Data File Name	012CALS.d	Dilution	1

Mass	Name	IS	CPS	%RSD
9	Be	45	3491	2.55
11	B	45	1841	5.77
23	Na	45	1118337	0.84
24	Mg	45	572829	0.41
27	Al	45	208673	0.50
39	K	45	485581	0.34
44	Ca	45	27584	2.72
47	Ti	45	9304	1.21
51	V	45	317374	0.39
52	Cr	45	400305	0.47
55	Mn	45	219702	0.47
56	Fe	45	6409706	0.69
59	Co	72	685961	0.62
60	Ni	72	191708	0.39
63	Cu	72	508461	0.22
66	Zn	72	72207	0.81
75	As	72	44447	0.26
78	Se	72	3421	1.86
88	Sr	115	263580	0.62
95	Mo	115	265182	0.51
107	Ag	115	880356	0.68
111	Cd	115	126267	0.34
118	Sn	115	252981	0.88
121	Sb	115	319158	0.46
137	Ba	115	114658	0.10
205	Tl	209	2084678	0.56
208	Pb	209	2756131	0.19

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	Flag
45	Sc	1223741	0.68	1250708	97.84	70	120	
72	Ge	849091	0.50	871265	97.46	70	120	
115	In	8506204	1.22	8749493	97.22	70	120	
209	Bi	23946791	1.12	24417425	98.07	70	120	

Calibration Standard Report

Date Acquired	9/15/2017 10:21	Sample Name	5X-170915
Data Batch	170915.b	Comment	CAL 6020A_W
Data File Name	013CALS.d	Dilution	1

Mass	Name	IS	CPS	%RSD
9	Be	45	6918	0.75
11	B	45	3554	5.29
23	Na	45	2191793	0.11
24	Mg	45	1121032	0.33
27	Al	45	407182	0.21
39	K	45	923703	0.47
44	Ca	45	53060	2.78
47	Ti	45	18012	0.09
51	V	45	627690	0.69
52	Cr	45	786770	0.25
55	Mn	45	429678	0.61
56	Fe	45	12507167	0.95
59	Co	72	1344490	0.28
60	Ni	72	371789	0.72
63	Cu	72	992761	0.33
66	Zn	72	142038	0.48
75	As	72	87259	0.29
78	Se	72	6684	1.88
88	Sr	115	515705	0.31
95	Mo	115	526333	0.29
107	Ag	115	1737639	0.30
111	Cd	115	247000	0.39
118	Sn	115	499348	0.10
121	Sb	115	625371	0.50
137	Ba	115	225420	1.07
205	Tl	209	4085072	0.57
208	Pb	209	5448691	0.42

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	Flag
45	Sc	1197123	0.47	1250708	95.72	70	120	
72	Ge	832821	0.38	871265	95.59	70	120	
115	In	8416150	0.74	8749493	96.19	70	120	
209	Bi	23429880	0.44	24417425	95.96	70	120	

Calibration Standard Report

Date Acquired	9/15/2017 10:23	Sample Name	2X-170915
Data Batch	170915.b	Comment	CAL 6020A_W
Data File Name	014CALS.d	Dilution	1

Mass	Name	IS	CPS	%RSD
9	Be	45	16952	0.53
11	B	45	8163	2.11
23	Na	45	5333260	0.55
24	Mg	45	2741822	0.30
27	Al	45	999732	0.25
39	K	45	2241310	0.48
44	Ca	45	131491	1.71
47	Ti	45	45057	1.70
51	V	45	1533676	0.62
52	Cr	45	1919519	0.74
55	Mn	45	1052050	0.69
56	Fe	45	30407258	0.48
59	Co	72	3266991	0.49
60	Ni	72	896477	0.62
63	Cu	72	2394772	0.60
66	Zn	72	344438	0.35
75	As	72	213423	0.42
78	Se	72	16444	0.47
88	Sr	115	1270621	0.46
95	Mo	115	1307427	0.61
107	Ag	115	4248217	0.45
111	Cd	115	605069	0.59
118	Sn	115	1223347	0.65
121	Sb	115	1544737	0.69
137	Ba	115	554290	0.23
205	Tl	209	10371279	1.18
208	Pb	209	13491778	0.68

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	Flag
45	Sc	1188502	0.13	1250708	95.03	70	120	
72	Ge	818511	0.11	871265	93.95	70	120	
115	In	8243314	0.85	8749493	94.21	70	120	
209	Bi	23189830	0.80	24417425	94.97	70	120	

Calibration Standard Report

Date Acquired	9/15/2017 10:24	Sample Name	H-170915
Data Batch	170915.b	Comment	CAL 6020A_W
Data File Name	015CALS.d	Dilution	1

Mass	Name	IS	CPS	%RSD
9	Be	45	33854	0.57
11	B	45	16321	1.10
23	Na	45	10621261	0.42
24	Mg	45	5452558	0.84
27	Al	45	1969665	0.29
39	K	45	4416485	0.41
44	Ca	45	263175	0.99
47	Ti	45	88605	1.21
51	V	45	3063489	0.33
52	Cr	45	3825343	0.11
55	Mn	45	2097540	0.09
56	Fe	45	60526866	0.55
59	Co	72	6536201	0.49
60	Ni	72	1759077	0.27
63	Cu	72	4709490	0.43
66	Zn	72	678440	0.21
75	As	72	424687	0.36
78	Se	72	32103	0.55
88	Sr	115	2535161	0.28
95	Mo	115	2610558	0.21
107	Ag	115	8369936	0.89
111	Cd	115	1201105	0.38
118	Sn	115	2434534	0.20
121	Sb	115	3074519	0.68
137	Ba	115	1109885	0.42
205	Tl	209	20580440	0.20
208	Pb	209	26849457	0.59

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	Flag
45	Sc	1188147	0.32	1250708	95.00	70	120	
72	Ge	823834	0.54	871265	94.56	70	120	
115	In	8167907	0.35	8749493	93.35	70	120	
209	Bi	22846020	0.64	24417425	93.56	70	120	

Calibration Standard Report

Date Acquired	9/15/2017 10:26	Sample Name	H2-170915
Data Batch	170915.b	Comment	CAL 6020A_W
Data File Name	016CALS.d	Dilution	1

Mass	Name	IS	CPS	%RSD
9	Be	45	131794	0.31
11	B	45	63428	1.40
23	Na	45	26036036	0.85
24	Mg	45	13412482	0.40
27	Al	45	5202	9.51
39	K	45	10964266	0.58
44	Ca	45	665769	0.96
47	Ti	45	355863	0.48
51	V	45	12367398	0.44
52	Cr	45	15237028	0.24
55	Mn	45	8385521	0.25
56	Fe	45	75523	21.20
59	Co	72	25423776	1.07
60	Ni	72	6913209	1.04
63	Cu	72	18451454	1.46
66	Zn	72	2628807	0.23
75	As	72	1692852	0.22
78	Se	72	127141	0.27
88	Sr	115	10444814	0.77
95	Mo	115	10663561	1.04
107	Ag	115	5937	26.92
111	Cd	115	4690982	0.30
118	Sn	115	9855174	0.62
121	Sb	115	4676	9.49
137	Ba	115	4391835	0.15
205	Tl	209	80414012	0.82
208	Pb	209	105568657	0.46

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	Flag
45	Sc	1171386	0.23	1250708	93.66	70	120	
72	Ge	811979	0.52	871265	93.20	70	120	
115	In	8012001	0.93	8749493	91.57	70	120	
209	Bi	22391125	0.08	24417425	91.70	70	120	

Interference Check Solution A (ICS-A) Report

Date Acquired	9/15/2017 10:32	Sample Name	ICSA-170915
Data Batch	170915.b	Comment	ICSA6020A_W
Data File Name	019ICSA.d	Dilution	1

Mass	Name	Conc	CPS	%RSD	MDL S	MDL Aq	QC Flag
9	Be	0.103	11	51.6	1.2	0.8	
11	B	5.452	344	20.4	30	30	
51	V	0.057	2123	3.0	10	10	
52	Cr	0.346	3510	4.9	8	5	
55	Mn	1.709	7517	1.4	8	10	
59	Co	0.463	6027	3.8	8	10	
60	Ni	0.725	9737	3.7	8	10	
63	Cu	0.549	5872	3.0	8	10	
66	Zn	2.505	3534	9.7	10	5	
75	As	0.212	233	11.0	4	5	
78	Se	0.465	48	20.6	2	5	
88	Sr	3.489	18109	0.6	10	10	
107	Ag	0.212	3460	8.8	0.8	2	
111	Cd	0.676	1561	4.2	1.2	1	
118	Sn	0.330	1975	4.9	10	10	
121	Sb	0.632	3861	3.6	4	2.5	
137	Ba	0.344	799	14.4	8	10	
205	Tl	0.244	9330	5.8	4	1.5	
208	Pb	0.353	18486	4.1	1.2	1	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1182895	0.34	1250708	94.58	70	120	
72	Ge	794987	0.20	871265	91.25	70	120	
115	In	7837889	0.38	8749493	89.58	70	120	
209	Bi	20597515	1.03	24417425	84.36	70	120	

Interference Check Solution AB (ICS-AB) Report

Date Acquired	9/15/2017 10:34	Sample Name	ICSAB-170915
Data Batch	170915.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	39.487	249612	1.00	40	98.7	80	120	
52	Cr	45	20.651	160726	0.75	20	103.3	80	120	
55	Mn	45	19.338	82660	0.83	20	96.7	80	120	
59	Co	72	40.625	510612	0.29	40	101.6	80	120	
60	Ni	72	37.701	135898	1.20	40	94.3	80	120	
63	Cu	72	20.631	188971	0.56	20	103.2	80	120	
66	Zn	72	20.487	26931	1.00	20	102.4	80	120	
75	As	72	20.902	17511	0.64	20	104.5	80	120	
78	Se	72	20.296	1293	2.56	20	101.5	80	120	
107	Ag	115	19.068	309683	0.22	20	95.3	80	120	
111	Cd	115	10.256	23771	1.13	10	102.6	80	120	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1191154	0.21	1250708	95.24	70	120	
72	Ge	801518	0.31	871265	91.99	70	120	
115	In	7912095	0.63	8749493	90.43	70	120	
209	Bi	20724579	1.21	24417425	84.88	70	120	

Initial Calibration Verification (ICV) Report

Date Acquired	9/15/2017 10:40	Sample Name	ICV-170915
Data Batch	170915.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	99.461	7045	0.97	100	99.5	90	110	
11	B	45	103.911	3709	5.90	100	103.9	90	110	
23	Na	45	2603.276	2925915	0.78	2500	104.1	90	110	
24	Mg	45	2587.464	1491541	0.73	2500	103.5	90	110	
27	Al	45	2457.935	516678	0.81	2500	98.3	90	110	
39	K	45	2563.114	1229390	0.42	2500	102.5	90	110	
44	Ca	45	2432.736	69460	0.99	2500	97.3	90	110	
47	Ti	45	100.611	19199	2.29	100	100.6	90	110	
51	V	45	100.390	666873	0.54	100	100.4	90	110	
52	Cr	45	103.457	846219	0.48	100	103.5	90	110	
55	Mn	45	99.882	449323	0.19	100	99.9	90	110	
56	Fe	45	2490.020	15987243	0.88	2500	99.6	90	110	
59	Co	72	104.153	1419082	0.30	100	104.2	90	110	
60	Ni	72	103.440	390428	0.86	100	103.4	90	110	
63	Cu	72	105.316	1041941	0.70	100	105.3	90	110	
66	Zn	72	105.420	148887	0.52	100	105.4	90	110	
75	As	72	101.811	92246	0.38	100	101.8	90	110	
78	Se	72	101.441	6923	2.00	100	101.4	90	110	
88	Sr	115	96.946	554931	0.27	100	96.9	90	110	
95	Mo	115	94.866	554463	0.59	100	94.9	90	110	
107	Ag	115	103.832	1877139	0.24	100	103.8	90	110	
111	Cd	115	101.056	260695	0.74	100	101.1	90	110	
118	Sn	115	99.307	537117	0.41	100	99.3	90	110	
121	Sb	115	102.973	682084	0.32	100	103.0	90	110	
137	Ba	115	99.526	240157	1.33	100	99.5	90	110	
205	Tl	209	96.720	4236581	0.20	100	96.7	90	110	
208	Pb	209	98.951	5688546	0.31	100	99.0	90	110	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1257207	0.74	1250708	100.52	70	120	
72	Ge	869141	0.23	871265	99.76	70	120	
115	In	8808371	0.34	8749493	100.67	70	120	
209	Bi	24390963	0.70	24417425	99.89	70	120	

Low Level Calibration Verification (LLCV) Report

Date Acquired	9/15/2017 10:50	Sample Name	LCVL-170915
Data Batch	170915.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	1.005	74	3.58	1	100.5	70	130	
11	B	45	18.202	787	5.87	20	91.0	70	130	
23	Na	45	93.470	117418	0.49	100	93.5	70	130	
24	Mg	45	91.384	52683	0.80	100	91.4	70	130	
27	Al	45	88.139	21790	2.15	100	88.1	70	130	
39	K	45	90.476	68900	1.53	100	90.5	70	130	
44	Ca	45	90.660	2811	1.56	100	90.7	70	130	
47	Ti	45	4.776	903	10.97	5	95.5	70	130	
51	V	45	0.916	7826	1.08	1	91.6	70	130	
52	Cr	45	4.744	39054	0.85	5	94.9	70	130	
55	Mn	45	4.789	21500	0.10	5	95.8	70	130	
56	Fe	45	102.763	664099	1.10	100	102.8	70	130	
59	Co	72	4.796	65517	0.55	5	95.9	70	130	
60	Ni	72	3.801	21987	1.91	5	76.0	70	130	
63	Cu	72	4.931	49662	1.43	5	98.6	70	130	
66	Zn	72	5.094	7502	2.84	5	101.9	70	130	
75	As	72	4.720	4331	2.06	5	94.4	70	130	
78	Se	72	4.887	353	4.73	5	97.7	70	130	
88	Sr	115	4.544	25947	2.13	5	90.9	70	130	
95	Mo	115	4.398	25376	0.76	5	88.0	70	130	
107	Ag	115	1.945	34639	2.15	2	97.3	70	130	
111	Cd	115	0.977	2488	5.15	1	97.7	70	130	
118	Sn	115	4.643	25106	2.22	5	92.9	70	130	
121	Sb	115	1.857	12247	2.41	2	92.9	70	130	
137	Ba	115	4.697	11210	1.13	5	93.9	70	130	
205	Tl	209	0.933	40844	1.16	1	93.3	70	130	
208	Pb	209	0.924	54162	0.20	1	92.4	70	130	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1237840	0.62	1250708	98.97	70	120	
72	Ge	867935	0.61	871265	99.62	70	120	
115	In	8662802	0.28	8749493	99.01	70	120	
209	Bi	24171187	0.59	24417425	98.99	70	120	

Initial Calibration Blank (ICB) Report

Date Acquired	9/15/2017 10:54	Sample Name	ICB-170915
Data Batch	170915.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	0.010	5	24.7	0.4	0.3	
11	B	45	1.206	218	3.2	10	10	
23	Na	45	1.741	16368	2.3	50	100	
24	Mg	45	-0.440	593	6.7	50	100	
27	Al	45	-4.780	2687	4.8	50	10	
39	K	45	-0.846	26653	1.6	50	100	
44	Ca	45	-1.225	237	11.9	50	100	
47	Ti	45	-0.005	6	124.9	4	3	
51	V	45	0.011	1911	2.2	4	3	
52	Cr	45	-0.043	542	6.1	2	2	
55	Mn	45	-0.023	200	12.0	2	3	
56	Fe	45	-0.666	10854	1.5	50	50	
59	Co	72	-0.008	160	8.3	2	3	
60	Ni	72	-0.719	5265	2.6	2	3	
63	Cu	72	-0.021	786	3.7	2	2	
66	Zn	72	0.258	691	4.3	4	2	
75	As	72	0.003	66	7.9	2	2	
78	Se	72	0.095	27	13.8	1	2	
88	Sr	115	0.001	392	14.5	4	3	
95	Mo	115	0.057	433	21.4	2	2	
107	Ag	115	0.003	108	48.1	0.4	1	
111	Cd	115	-0.002	6	34.7	0.4	0.3	
118	Sn	115	0.026	567	2.4	4	3	
121	Sb	115	-0.004	124	10.1	2	0.8	
137	Ba	115	0.009	89	24.1	2	3	
205	Tl	209	0.024	1399	7.2	2	0.5	
208	Pb	209	0.001	1602	5.4	0.4	0.3	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1233903	0.24	1250708	98.66	70	120	
72	Ge	862382	0.16	871265	98.98	70	120	
115	In	8674896	1.04	8749493	99.15	70	120	
209	Bi	24275692	0.93	24417425	99.42	70	120	

Method Blank Report

Date Acquired	9/15/17 10:56 AM	Sample Name	MB-82353
Data Batch	170915.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	-0.005	4	41.66		
11	B	45	-0.246	172	22.60		
23	Na	45	10.219	26094	2.31		
24	Mg	45	2.571	2334	3.98		
27	Al	45	-0.975	3524	6.16		
39	K	45	7.231	30867	2.35		
44	Ca	45	13.984	673	11.81		
47	Ti	45	0.035	13	25.01		
51	V	45	-0.012	1793	10.89		
52	Cr	45	0.048	1297	7.13		
55	Mn	45	0.029	439	10.99		
56	Fe	45	2.362	30405	1.66		
59	Co	72	-0.002	247	16.61		
60	Ni	72	-0.563	5878	1.67		
63	Cu	72	0.052	1513	11.66		
66	Zn	72	1.130	1925	3.52		
75	As	72	0.011	73	16.09		
78	Se	72	0.078	26	15.34		
88	Sr	115	0.031	573	10.29		
95	Mo	115	0.067	499	10.03		
107	Ag	115	0.002	82	10.20		
111	Cd	115	0.001	12	56.76		
118	Sn	115	4.709	26015	2.07		J
121	Sb	115	-0.002	139	43.62		
137	Ba	115	0.018	113	17.65		
205	Tl	209	0.030	1669	3.30		
208	Pb	209	0.017	2592	2.03		

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1254099	0.27	1250708	100.27	70	120	
72	Ge	868311	0.21	871265	99.66	70	120	
115	In	8853886	0.92	8749493	101.19	70	120	
209	Bi	24774282	0.19	24417425	101.46	70	120	

Laboratory Control Sample (LCS) Report

Date Acquired	9/15/2017 10:58	Sample Name	LCS-82353
Data Batch	170915.b	Comment	LCS 6020A_S
Data File Name	029_LS.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
9	Be	45	195.107	13795	0.82	200	97.6	80	120	
11	B	45	195.593	6814	3.35	200	97.8	80	120	
23	Na	45	4964.759	5557821	0.95	1000	496.5	80	120	Fail
24	Mg	45	4964.667	2856563	0.33	1000	496.5	80	120	Fail
27	Al	45	990.689	210162	0.53	1000	99.1	80	120	
39	K	45	5031.709	2383187	0.38	1000	503.2	80	120	Fail
44	Ca	45	4898.457	139364	0.79	1000	489.8	80	120	Fail
47	Ti	45	200.911	38268	1.22	200	100.5	80	120	
51	V	45	197.516	1308220	0.53	200	98.8	80	120	
52	Cr	45	201.396	1643782	0.62	200	100.7	80	120	
55	Mn	45	199.336	894972	0.57	200	99.7	80	120	
56	Fe	45	1012.338	6498315	0.31	1000	101.2	80	120	
59	Co	72	203.568	2758619	0.28	200	101.8	80	120	
60	Ni	72	204.485	759988	0.22	200	102.2	80	120	
63	Cu	72	205.995	2026267	0.15	200	103.0	80	120	
66	Zn	72	200.265	281052	0.66	200	100.1	80	120	
75	As	72	198.474	178816	0.28	200	99.2	80	120	
78	Se	72	195.728	13269	1.33	200	97.9	80	120	
88	Sr	115	196.344	1110387	0.58	200	98.2	80	120	
95	Mo	115	192.239	1110363	0.53	200	96.1	80	120	
107	Ag	115	205.885	3678665	0.28	200	102.9	80	120	
111	Cd	115	197.947	504669	0.62	200	99.0	80	120	
118	Sn	115	203.122	1085366	0.28	200	101.6	80	120	
121	Sb	115	203.201	1330133	0.02	200	101.6	80	120	
137	Ba	115	199.193	474966	0.47	200	99.6	80	120	
205	Tl	209	203.284	8786571	1.35	200	101.6	80	120	
208	Pb	209	199.995	11343287	0.49	200	100.0	80	120	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1255256	0.87	1250708	100.36	70	120	
72	Ge	864563	0.75	871265	99.23	70	120	
115	In	8705713	0.43	8749493	99.50	70	120	
209	Bi	24069973	1.29	24417425	98.58	70	120	

Laboratory Control Sample (LCS) Report

Date Acquired	9/15/2017 11:00	Sample Name	LCSD-82353
Data Batch	170915.b	Comment	LCSD6020A_S
Data File Name	030_LS.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
9	Be	45	194.752	13717	1.33	200	97.4	80	120	
11	B	45	205.179	7110	2.03	200	102.6	80	120	
23	Na	45	4979.729	5552998	0.66	1000	498.0	80	120	Fail
24	Mg	45	4968.420	2847681	0.07	1000	496.8	80	120	Fail
27	Al	45	982.942	207735	1.01	1000	98.3	80	120	
39	K	45	4986.069	2352612	0.08	1000	498.6	80	120	Fail
44	Ca	45	4876.066	138189	1.11	1000	487.6	80	120	Fail
47	Ti	45	198.582	37683	2.14	200	99.3	80	120	
51	V	45	195.493	1289781	0.23	200	97.7	80	120	
52	Cr	45	198.522	1614062	0.71	200	99.3	80	120	
55	Mn	45	197.453	883092	0.59	200	98.7	80	120	
56	Fe	45	1010.144	6459150	0.49	1000	101.0	80	120	
59	Co	72	204.364	2757055	0.28	200	102.2	80	120	
60	Ni	72	203.655	753557	0.19	200	101.8	80	120	
63	Cu	72	205.867	2015965	0.45	200	102.9	80	120	
66	Zn	72	200.429	280019	0.25	200	100.2	80	120	
75	As	72	198.070	177651	0.35	200	99.0	80	120	
78	Se	72	193.780	13078	0.48	200	96.9	80	120	
88	Sr	115	194.132	1097531	0.25	200	97.1	80	120	
95	Mo	115	189.549	1094454	0.15	200	94.8	80	120	
107	Ag	115	204.359	3650058	0.52	200	102.2	80	120	
111	Cd	115	196.210	500074	0.19	200	98.1	80	120	
118	Sn	115	200.304	1069958	0.21	200	100.2	80	120	
121	Sb	115	201.523	1318690	0.40	200	100.8	80	120	
137	Ba	115	196.328	467964	0.77	200	98.2	80	120	
205	Tl	209	201.957	8733914	0.73	200	101.0	80	120	
208	Pb	209	198.419	11261501	0.14	200	99.2	80	120	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1250354	0.61	1250708	99.97	70	120	
72	Ge	860685	0.51	871265	98.79	70	120	
115	In	8703210	0.92	8749493	99.47	70	120	
209	Bi	24083685	0.83	24417425	98.63	70	120	

Dilution Sample (Dil) Report

Date Acquired	9/15/2017 11:05	Sample Name	1709034-02C SD
Data Batch	170915.b	Comment	SD 6020A_S
Data File Name	033_SD.d	Dilution	25

Mass	Name	IS	Conc	CPS	%RSD	Ref Value	%Rec	Low	High	Flag
9	Be	45	0.277	23	8.70	1.1	126.7	110	90	
11	B	45	19.207	811	8.71	68.5	140.2	110	90	
23	Na	45	256.372	293429	1.22	1183.5	108.3	110	90	Good
24	Mg	45	2950.645	1655687	0.55	13629.0	108.2	110	90	Good
27	Al	45	5850.394	1192195	0.26	27779.0	105.3	110	90	Good
39	K	45	1614.391	763734	0.83	7911.1	102.0	110	90	Good
44	Ca	45	251064.983	6950742	0.61	1212835.5	103.5	110	90	Good
47	Ti	45	68.357	12699	2.45	324.9	105.2	110	90	Good
51	V	45	16.516	108328	0.40	78.4	105.3	110	90	Good
52	Cr	45	6.944	56110	1.40	32.4	107.0	110	90	Good
55	Mn	45	385.299	1686436	0.08	1842.5	104.6	110	90	Good
56	Fe	45	4315.787	26963050	0.59	19552.3	110.4	110	90	
59	Co	72	3.034	39152	1.42	14.6	104.1	110	90	Good
60	Ni	72	6.579	30383	0.61	33.5	98.2	110	90	Good
63	Cu	72	2.853	27472	0.51	13.0	109.5	110	90	Good
66	Zn	72	21.386	28671	1.18	93.1	114.8	110	90	
75	As	72	1.827	1616	2.63	8.9	102.7	110	90	Good
78	Se	72	0.795	70	3.22	3.3	122.2	110	90	
88	Sr	115	425.096	2313683	0.84	2239.2	94.9	110	90	Good
95	Mo	115	0.237	1417	8.09	0.9	132.4	110	90	
107	Ag	115	0.022	427	13.69	0.0	234.1	110	90	
111	Cd	115	0.113	288	5.71	0.5	114.4	110	90	
118	Sn	115	1.521	8238	4.04	7.2	104.9	110	90	Good
121	Sb	115	0.078	638	4.86	0.4	108.4	110	90	Good
137	Ba	115	14.386	33075	1.04	70.0	102.8	110	90	Good
205	Tl	209	0.096	4186	3.72	0.4	132.1	110	90	
208	Pb	209	1.724	92415	0.58	8.4	102.1	110	90	Good

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1223827	0.30	1250708	97.85	70	120	
72	Ge	817835	0.22	871265	93.87	70	120	
115	In	8380211	1.21	8749493	95.78	70	120	
209	Bi	22399159	0.34	24417425	91.73	70	120	

Sample Report

Date Acquired	9/15/17 11:09 AM	Sample Name	1709085-02A
Data Batch	170915.b	Comment	SAMP6020A_S
Data File Name	035SMPL.d	Dilution	5

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
9	Be	45	2.346	175	11.25	2000	>RL
11	B	45	31.753	1298	5.66	2000	>RL
23	Na	45	267.795	323796	0.41	25000	>RL
24	Mg	45	7686.408	4564600	0.72	25000	>RL
27	Al	45	66300.472	14264195	2.14	10000	OUTCAL
39	K	45	4116.466	2017676	1.21	25000	>RL
44	Ca	45	28392.538	832399	0.45	10000	OUTCAL
47	Ti	45	256.998	50527	0.30	2000	>RL
51	V	45	99.260	679558	0.68	2000	>RL
52	Cr	45	114.611	965998	0.41	2000	>RL
55	Mn	45	763.205	3536270	0.96	2000	>RL
56	Fe	45	61345.662	405530331	1.51	10000	OUTCAL
59	Co	72	19.570	264915	0.55	2000	>RL
60	Ni	72	142.554	531149	1.14	2000	>RL
63	Cu	72	388.935	3817210	1.02	2000	>RL
66	Zn	72	1788.706	2502475	0.51	2000	>RL
75	As	72	13.585	12274	2.02	2000	>RL
78	Se	72	6.211	440	4.81	2000	>RL
88	Sr	115	123.423	702007	0.52	2000	>RL
95	Mo	115	6.480	37731	0.47	2000	>RL
107	Ag	115	1.886	33932	1.06	500	>RL
111	Cd	115	4.070	10441	1.43	2000	>RL
118	Sn	115	26.579	143182	1.33	2000	>RL
121	Sb	115	4.578	30283	0.65	500	>RL
137	Ba	115	570.147	1366904	0.50	2000	>RL
205	Tl	209	0.588	25464	2.28	2000	
208	Pb	209	434.764	24389542	0.32	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1295667	1.11	1250708	103.59	70	120	
72	Ge	862783	0.38	871265	99.03	70	120	
115	In	8755067	1.72	8749493	100.06	70	120	
209	Bi	23807021	1.18	24417425	97.50	70	120	

Post Digestion Spike Sample (PDS) Report

Date Acquired	9/15/2017 11:24	Sample Name	1709034-02C PDS
Data Batch	170915.b	Comment	PDS 6020A_S
Data File Name	043_PDS.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Ref Conc	Spk Amt	%Rec	Low	High	Flag
9	Be	45	163.963	11422	1.87	1.1	200	81.4	75	125	
11	B	45	226.560	7746	4.45	68.5	200	79.0	75	125	
23	Na	45	6059.837	6680203	0.86	1183.5	5000	97.5	75	125	
24	Mg	45	17990.714	10196213	1.17	13629.0	5000	87.2	75	125	
27	Al	45	32808.248	6738601	1.28	27779.0	5000	100.6	75	125	
39	K	45	13144.823	6089870	0.62	7911.1	5000	104.7	75	125	
44	Ca	45	########	34650367	0.19	1212835.5	5000	517.2	75	125	Fail
47	Ti	45	528.489	99167	0.65	324.9	200	101.8	75	125	
51	V	45	269.808	1759870	0.33	78.4	200	95.7	75	125	
52	Cr	45	220.564	1773592	1.18	32.4	200	94.1	75	125	
55	Mn	45	2049.338	9062302	0.11	1842.5	200	103.4	75	125	
56	Fe	45	24207.850	152751683	0.90	19552.3	5000	93.1	75	125	
59	Co	72	206.972	2539148	0.47	14.6	200	96.2	75	125	
60	Ni	72	218.215	733724	0.11	33.5	200	92.4	75	125	
63	Cu	72	190.099	1692882	0.21	13.0	200	88.5	75	125	
66	Zn	72	268.159	340581	0.68	93.1	200	87.5	75	125	
75	As	72	212.233	173096	0.18	8.9	200	101.7	75	125	
78	Se	72	192.969	11843	3.45	3.3	200	94.9	75	125	
88	Sr	115	2514.933	12749326	0.30	2239.2	200	137.9	75	125	Fail
95	Mo	115	188.146	974461	0.28	0.9	200	93.6	75	125	
107	Ag	115	173.559	2780708	0.57	0.0	200	86.8	75	125	
111	Cd	115	179.106	409467	0.41	0.5	200	89.3	75	125	
118	Sn	115	200.111	958814	0.11	7.2	200	96.4	75	125	
121	Sb	115	190.892	1120488	0.34	0.4	200	95.3	75	125	
137	Ba	115	264.735	566023	0.40	70.0	200	97.4	75	125	
205	Tl	209	203.089	6761329	0.89	0.4	200	101.4	75	125	
208	Pb	209	204.749	8945946	0.13	8.4	200	98.2	75	125	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1236622	0.31	1250708	98.87	70	120	
72	Ge	782651	0.30	871265	89.83	70	120	
115	In	7806276	0.08	8749493	89.22	70	120	
209	Bi	18540726	0.93	24417425	75.93	70	120	

Matrix Spike Sample (MS) Report

Date Acquired	9/15/2017 11:26	Sample Name	1709034-02C MS
Data Batch	170915.b	Comment	MS 6020A_S
Data File Name	044_MSS.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Ref Conc	Spk Amt	%Rec	Low	High	Flag
9	Be	45	166.249	11538	0.39	1.1	200	82.6	80	120	
11	B	45	237.189	8072	1.61	68.5	200	84.3	80	120	
23	Na	45	6135.882	6738996	0.82	1183.5	1000	495.2	80	120	Fail
24	Mg	45	18657.700	10535266	0.39	13629.0	1000	502.9	80	120	Fail
27	Al	45	31997.574	6548084	0.54	27779.0	1000	421.9	80	120	Fail
39	K	45	13959.478	6441868	0.32	7911.1	1000	604.8	80	120	Fail
44	Ca	45	########	34131899	0.46	1212835.5	1000	1184.6	80	120	Fail
47	Ti	45	547.177	102293	1.15	324.9	200	111.1	80	120	
51	V	45	275.550	1790622	0.58	78.4	200	98.6	80	120	
52	Cr	45	220.388	1765581	0.53	32.4	200	94.0	80	120	
55	Mn	45	2043.888	9004945	0.44	1842.5	200	100.7	80	120	
56	Fe	45	22219.039	139685199	0.55	19552.3	1000	266.7	80	120	Fail
59	Co	72	208.275	2543270	0.41	14.6	200	96.8	80	120	
60	Ni	72	223.690	748460	0.34	33.5	200	95.1	80	120	
63	Cu	72	194.037	1719858	0.36	13.0	200	90.5	80	120	
66	Zn	72	274.978	347600	0.71	93.1	200	90.9	80	120	
75	As	72	214.910	174460	0.50	8.9	200	103.0	80	120	
78	Se	72	200.285	12234	1.26	3.3	200	98.5	80	120	
88	Sr	115	2450.323	12384473	0.12	2239.2	200	105.5	80	120	
95	Mo	115	190.072	981468	0.06	0.9	200	94.6	80	120	
107	Ag	115	177.700	2838494	0.47	0.0	200	88.8	80	120	
111	Cd	115	179.740	409669	0.75	0.5	200	89.6	80	120	
118	Sn	115	200.654	958524	0.15	7.2	200	96.7	80	120	
121	Sb	115	180.239	1054784	0.19	0.4	200	89.9	80	120	
137	Ba	115	269.743	574980	0.64	70.0	200	99.9	80	120	
205	Tl	209	210.471	6930874	0.53	0.4	200	105.1	80	120	
208	Pb	209	209.810	9067331	0.28	8.4	200	100.7	80	120	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1232081	0.53	1250708	98.51	70	120	
72	Ge	779033	0.73	871265	89.41	70	120	
115	In	7782930	0.53	8749493	88.95	70	120	
209	Bi	18338151	0.68	24417425	75.10	70	120	

Matrix Spike Sample (MS) Report

Date Acquired	9/15/2017 11:28	Sample Name	1709034-02C MSD
Data Batch	170915.b	Comment	MSD 6020A_S
Data File Name	045_MSS.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Ref Conc	Spk Amt	%Rec	Low	High	Flag
9	Be	45	164.842	11486	1.11	1.1	200	81.9	80	120	
11	B	45	236.262	8073	1.98	68.5	200	83.9	80	120	
23	Na	45	6134.995	6764831	1.17	1183.5	1000	495.2	80	120	Fail
24	Mg	45	18364.296	10411205	1.50	13629.0	1000	473.5	80	120	Fail
27	Al	45	28946.756	5947798	1.29	27779.0	1000	116.8	80	120	
39	K	45	13537.669	6272875	0.39	7911.1	1000	562.7	80	120	Fail
44	Ca	45	########	34740910	0.42	1212835.5	1000	2873.9	80	120	Fail
47	Ti	45	533.659	100165	0.54	324.9	200	104.4	80	120	
51	V	45	270.891	1767425	0.42	78.4	200	96.2	80	120	
52	Cr	45	219.453	1765119	0.47	32.4	200	93.5	80	120	
55	Mn	45	2057.132	9099331	0.78	1842.5	200	107.3	80	120	
56	Fe	45	21109.801	133240581	0.32	19552.3	1000	155.7	80	120	Fail
59	Co	72	210.632	2563493	0.44	14.6	200	98.0	80	120	
60	Ni	72	224.027	747090	0.26	33.5	200	95.3	80	120	
63	Cu	72	195.748	1729289	0.46	13.0	200	91.4	80	120	
66	Zn	72	274.345	345661	0.55	93.1	200	90.6	80	120	
75	As	72	217.814	176234	0.69	8.9	200	104.5	80	120	
78	Se	72	200.579	12211	0.10	3.3	200	98.7	80	120	
88	Sr	115	2503.531	12753276	0.72	2239.2	200	132.2	80	120	Fail
95	Mo	115	190.987	993959	0.19	0.9	200	95.0	80	120	
107	Ag	115	178.651	2876116	0.63	0.0	200	89.3	80	120	
111	Cd	115	180.434	414496	0.40	0.5	200	90.0	80	120	
118	Sn	115	201.034	967895	0.25	7.2	200	96.9	80	120	
121	Sb	115	182.268	1075055	0.30	0.4	200	91.0	80	120	
137	Ba	115	267.576	574866	0.33	70.0	200	98.8	80	120	
205	Tl	209	213.494	7052622	0.45	0.4	200	106.6	80	120	
208	Pb	209	211.281	9159553	0.12	8.4	200	101.4	80	120	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1236977	0.36	1250708	98.90	70	120	
72	Ge	776439	0.43	871265	89.12	70	120	
115	In	7844200	0.44	8749493	89.65	70	120	
209	Bi	18396212	0.75	24417425	75.34	70	120	

Continuing Calibration Verification (CCV) Report

Date Acquired	9/15/2017 11:30	Sample Name	CCV1-170915
Data Batch	170915.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	187.600	13092	1.01	200	93.8	90	110	
11	B	45	193.275	6647	1.86	200	96.6	90	110	
23	Na	45	4733.776	5231483	0.63	5000	94.7	90	110	
24	Mg	45	4707.853	2673896	0.33	5000	94.2	90	110	
27	Al	45	4969.232	1025722	0.35	5000	99.4	90	110	
39	K	45	4757.132	2225495	0.67	5000	95.1	90	110	
44	Ca	45	5266.015	147862	6.14	5000	105.3	90	110	
47	Ti	45	196.146	36879	0.86	200	98.1	90	110	
51	V	45	191.878	1254482	0.11	200	95.9	90	110	
52	Cr	45	195.076	1571710	0.24	200	97.5	90	110	
55	Mn	45	194.547	862215	0.56	200	97.3	90	110	
56	Fe	45	5008.406	31674118	0.97	5000	100.2	90	110	
59	Co	72	197.094	2643417	0.63	200	98.5	90	110	
60	Ni	72	198.056	728763	0.72	200	99.0	90	110	
63	Cu	72	200.484	1951768	0.20	200	100.2	90	110	
66	Zn	72	198.621	275867	0.63	200	99.3	90	110	
75	As	72	196.104	174858	0.53	200	98.1	90	110	
78	Se	72	196.336	13172	0.72	200	98.2	90	110	
88	Sr	115	190.649	1074051	0.27	200	95.3	90	110	
95	Mo	115	184.428	1061155	0.20	200	92.2	90	110	
107	Ag	115	199.599	3552639	0.39	200	99.8	90	110	
111	Cd	115	192.305	488406	0.40	200	96.2	90	110	
118	Sn	115	190.372	1013344	0.25	200	95.2	90	110	
121	Sb	115	198.083	1291666	0.67	200	99.0	90	110	
137	Ba	115	192.386	456986	0.69	200	96.2	90	110	
205	Tl	209	195.238	8381200	0.55	200	97.6	90	110	
208	Pb	209	191.741	10802279	0.09	200	95.9	90	110	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1238981	0.35	1250708	99.06	70	120	
72	Ge	855619	0.14	871265	98.20	70	120	
115	In	8672229	0.32	8749493	99.12	70	120	
209	Bi	23906243	0.84	24417425	97.91	70	120	

Low Level Calibration Verification (LLCV) Report

Date Acquired	9/15/2017 11:35	Sample Name	LCVL1-170915
Data Batch	170915.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	1.045	77	19.19	1	104.5	70	130	
11	B	45	21.687	910	3.26	20	108.4	70	130	
23	Na	45	96.188	121308	1.20	100	96.2	70	130	
24	Mg	45	91.142	52937	0.76	100	91.1	70	130	
27	Al	45	90.116	22361	0.37	100	90.1	70	130	
39	K	45	91.833	70043	0.41	100	91.8	70	130	
44	Ca	45	108.220	3327	5.39	100	108.2	70	130	
47	Ti	45	4.545	867	3.08	5	90.9	70	130	
51	V	45	0.928	7961	1.46	1	92.8	70	130	
52	Cr	45	4.739	39305	1.15	5	94.8	70	130	
55	Mn	45	4.750	21489	0.64	5	95.0	70	130	
56	Fe	45	102.820	669400	0.14	100	102.8	70	130	
59	Co	72	4.853	66316	0.39	5	97.1	70	130	
60	Ni	72	4.040	22879	1.68	5	80.8	70	130	
63	Cu	72	4.967	50045	0.92	5	99.3	70	130	
66	Zn	72	4.735	6999	2.22	5	94.7	70	130	
75	As	72	4.779	4386	1.49	5	95.6	70	130	
78	Se	72	4.931	356	6.47	5	98.6	70	130	
88	Sr	115	4.561	26363	1.48	5	91.2	70	130	
95	Mo	115	4.459	26044	0.48	5	89.2	70	130	
107	Ag	115	1.904	34312	0.59	2	95.2	70	130	
111	Cd	115	0.963	2482	2.41	1	96.3	70	130	
118	Sn	115	4.676	25589	0.68	5	93.5	70	130	
121	Sb	115	1.913	12764	1.14	2	95.7	70	130	
137	Ba	115	4.628	11182	1.93	5	92.6	70	130	
205	Tl	209	0.934	41134	1.65	1	93.4	70	130	
208	Pb	209	0.911	53775	0.76	1	91.1	70	130	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1247050	0.29	1250708	99.71	70	120	
72	Ge	868268	0.87	871265	99.66	70	120	
115	In	8768469	0.33	8749493	100.22	70	120	
209	Bi	24309971	0.85	24417425	99.56	70	120	

Continuing Calibration Blank (CCB) Report

Date Acquired	9/15/2017 11:40	Sample Name	CCB1-170915
Data Batch	170915.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	0.023	6	36.7	0.4	0.3	
11	B	45	1.189	221	13.9	10	10	
23	Na	45	4.755	20018	2.2	50	100	
24	Mg	45	-0.765	417	2.9	50	100	
27	Al	45	-3.144	3075	4.7	50	10	
39	K	45	0.314	27658	1.1	50	100	
44	Ca	45	4.599	407	4.8	50	100	
47	Ti	45	0.006	8	24.7	4	3	
51	V	45	0.023	2025	5.3	4	3	
52	Cr	45	-0.056	449	3.5	2	2	
55	Mn	45	-0.013	248	10.3	2	3	
56	Fe	45	-0.828	10003	2.7	50	50	
59	Co	72	-0.008	167	7.2	2	3	
60	Ni	72	-0.815	4917	2.3	2	3	
63	Cu	72	-0.020	797	5.5	2	2	
66	Zn	72	0.063	420	18.7	4	2	
75	As	72	0.009	71	4.8	2	2	
78	Se	72	0.128	29	25.8	1	2	
88	Sr	115	0.007	430	10.1	4	3	
95	Mo	115	0.026	256	6.4	2	2	
107	Ag	115	0.009	216	24.2	0.4	1	
111	Cd	115	-0.003	3	173.2	0.4	0.3	
118	Sn	115	0.022	557	5.8	4	3	
121	Sb	115	0.039	408	8.7	2	0.8	
137	Ba	115	0.005	81	17.1	2	3	
205	Tl	209	0.035	1885	6.1	2	0.5	
208	Pb	209	-0.002	1478	2.5	0.4	0.3	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1255377	0.46	1250708	100.37	70	120	
72	Ge	863247	0.08	871265	99.08	70	120	
115	In	8796854	1.21	8749493	100.54	70	120	
209	Bi	24298126	0.31	24417425	99.51	70	120	

Continuing Calibration Verification (CCV) Report

Date Acquired	9/15/2017 11:51	Sample Name	CCV2-170915
Data Batch	170915.b	Comment	CCV 6020A_W
Data File Name	055_CCV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
9	Be	45	181.438	12584	0.48	200	90.7	90	110	
11	B	45	187.902	6428	1.72	200	94.0	90	110	
23	Na	45	4636.826	5092901	0.18	5000	92.7	90	110	
24	Mg	45	4636.922	2617364	0.18	5000	92.7	90	110	
27	Al	45	4923.584	1010005	0.99	5000	98.5	90	110	
39	K	45	4740.362	2204007	0.42	5000	94.8	90	110	
44	Ca	45	5101.077	142319	5.05	5000	102.0	90	110	
47	Ti	45	196.959	36804	0.67	200	98.5	90	110	
51	V	45	190.271	1236344	0.92	200	95.1	90	110	
52	Cr	45	192.395	1540557	0.37	200	96.2	90	110	
55	Mn	45	191.958	845497	0.23	200	96.0	90	110	
56	Fe	45	5010.145	31490074	0.13	5000	100.2	90	110	
59	Co	72	196.011	2623858	0.21	200	98.0	90	110	
60	Ni	72	195.944	719700	0.89	200	98.0	90	110	
63	Cu	72	198.174	1925626	0.91	200	99.1	90	110	
66	Zn	72	197.094	273225	0.48	200	98.5	90	110	
75	As	72	194.546	173137	0.42	200	97.3	90	110	
78	Se	72	195.165	13069	1.06	200	97.6	90	110	
88	Sr	115	189.830	1062559	0.06	200	94.9	90	110	
95	Mo	115	183.414	1048554	0.26	200	91.7	90	110	
107	Ag	115	197.285	3488890	0.20	200	98.6	90	110	
111	Cd	115	190.862	481633	0.74	200	95.4	90	110	
118	Sn	115	189.581	1002685	0.57	200	94.8	90	110	
121	Sb	115	196.232	1271388	0.47	200	98.1	90	110	
137	Ba	115	191.999	453121	0.30	200	96.0	90	110	
205	Tl	209	195.722	8202532	0.52	200	97.9	90	110	
208	Pb	209	191.594	10537657	0.21	200	95.8	90	110	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1231366	0.74	1250708	98.45	70	120	
72	Ge	853985	0.18	871265	98.02	70	120	
115	In	8616986	1.00	8749493	98.49	70	120	
209	Bi	23340146	1.32	24417425	95.59	70	120	

Low Level Calibration Verification (LLCV) Report

Date Acquired	9/15/2017 11:57	Sample Name	LCVL2-170915
Data Batch	170915.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	0.828	62	9.12	1	82.8	70	130	
11	B	45	18.219	796	13.00	20	91.1	70	130	
23	Na	45	94.857	120206	1.19	100	94.9	70	130	
24	Mg	45	89.276	52034	0.89	100	89.3	70	130	
27	Al	45	91.219	22660	1.10	100	91.2	70	130	
39	K	45	93.080	70845	1.15	100	93.1	70	130	
44	Ca	45	95.599	2980	6.07	100	95.6	70	130	
47	Ti	45	5.116	978	5.46	5	102.3	70	130	
51	V	45	0.957	8174	0.97	1	95.7	70	130	
52	Cr	45	4.653	38731	1.31	5	93.1	70	130	
55	Mn	45	4.712	21386	1.23	5	94.2	70	130	
56	Fe	45	102.598	670086	0.59	100	102.6	70	130	
59	Co	72	4.871	66355	1.33	5	97.4	70	130	
60	Ni	72	3.994	22640	2.49	5	79.9	70	130	
63	Cu	72	4.936	49582	1.22	5	98.7	70	130	
66	Zn	72	4.699	6927	2.28	5	94.0	70	130	
75	As	72	4.804	4395	1.22	5	96.1	70	130	
78	Se	72	4.795	345	1.80	5	95.9	70	130	
88	Sr	115	4.564	26508	1.19	5	91.3	70	130	
95	Mo	115	4.360	25594	0.62	5	87.2	70	130	
107	Ag	115	1.908	34566	2.59	2	95.4	70	130	
111	Cd	115	0.943	2445	2.52	1	94.3	70	130	
118	Sn	115	4.578	25185	1.07	5	91.6	70	130	
121	Sb	115	1.841	12353	0.34	2	92.1	70	130	
137	Ba	115	4.667	11332	0.55	5	93.3	70	130	
205	Tl	209	0.928	40239	0.79	1	92.8	70	130	
208	Pb	209	0.904	52536	1.24	1	90.4	70	130	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1250971	0.26	1250708	100.02	70	120	
72	Ge	865646	0.45	871265	99.36	70	120	
115	In	8812559	0.79	8749493	100.72	70	120	
209	Bi	23933410	1.39	24417425	98.02	70	120	

Continuing Calibration Blank (CCB) Report

Date Acquired	9/15/2017 12:03	Sample Name	CCB2-170915
Data Batch	170915.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	-0.023	2	137.8	0.4	0.3	
11	B	45	1.076	216	9.9	10	10	
23	Na	45	4.021	19061	1.7	50	100	
24	Mg	45	-0.847	367	9.2	50	100	
27	Al	45	-3.081	3066	4.7	50	10	
39	K	45	1.143	27846	1.3	50	100	
44	Ca	45	4.190	392	20.3	50	100	
47	Ti	45	-0.017	3	100.1	4	3	
51	V	45	0.032	2070	3.4	4	3	
52	Cr	45	-0.063	388	3.9	2	2	
55	Mn	45	-0.022	206	8.3	2	3	
56	Fe	45	-0.769	10307	2.1	50	50	
59	Co	72	-0.011	132	8.1	2	3	
60	Ni	72	-0.843	4837	0.8	2	3	
63	Cu	72	-0.035	649	8.4	2	2	
66	Zn	72	0.033	380	3.8	4	2	
75	As	72	-0.004	60	2.8	2	2	
78	Se	72	0.092	27	30.7	1	2	
88	Sr	115	0.004	414	14.7	4	3	
95	Mo	115	0.010	160	13.0	2	2	
107	Ag	115	0.006	154	15.2	0.4	1	
111	Cd	115	-0.002	4	43.4	0.4	0.3	
118	Sn	115	-0.007	397	23.4	4	3	
121	Sb	115	0.004	181	4.2	2	0.8	
137	Ba	115	-0.005	57	27.0	2	3	
205	Tl	209	0.022	1298	12.5	2	0.5	
208	Pb	209	-0.012	894	2.7	0.4	0.3	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1246401	0.52	1250708	99.66	70	120	
72	Ge	867599	0.34	871265	99.58	70	120	
115	In	8751818	0.07	8749493	100.03	70	120	
209	Bi	24080146	0.62	24417425	98.62	70	120	

Continuing Calibration Verification (CCV) Report

Date Acquired	9/15/2017 12:36	Sample Name	CCV3-170915
Data Batch	170915.b	Comment	CCV 6020A_W
Data File Name	075_CCV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
9	Be	45	184.206	12950	1.04	200	92.1	90	110	
11	B	45	191.785	6646	2.67	200	95.9	90	110	
23	Na	45	4773.292	5313747	0.60	5000	95.5	90	110	
24	Mg	45	4663.307	2668058	0.35	5000	93.3	90	110	
27	Al	45	4949.428	1029164	0.90	5000	99.0	90	110	
39	K	45	4788.420	2256407	0.75	5000	95.8	90	110	
44	Ca	45	4605.168	130289	0.40	5000	92.1	90	110	
47	Ti	45	195.588	37045	0.26	200	97.8	90	110	
51	V	45	191.205	1259267	0.32	200	95.6	90	110	
52	Cr	45	193.089	1567128	0.15	200	96.5	90	110	
55	Mn	45	194.174	866886	0.11	200	97.1	90	110	
56	Fe	45	5061.680	32246631	0.63	5000	101.2	90	110	
59	Co	72	198.509	2672300	0.41	200	99.3	90	110	
60	Ni	72	197.971	731176	0.37	200	99.0	90	110	
63	Cu	72	198.652	1941212	0.48	200	99.3	90	110	
66	Zn	72	198.802	277154	0.53	200	99.4	90	110	
75	As	72	195.695	175140	0.50	200	97.8	90	110	
78	Se	72	198.552	13371	1.18	200	99.3	90	110	
88	Sr	115	188.365	1075737	0.21	200	94.2	90	110	
95	Mo	115	181.255	1057171	0.69	200	90.6	90	110	
107	Ag	115	196.085	3537905	0.42	200	98.0	90	110	
111	Cd	115	190.052	489310	0.51	200	95.0	90	110	
118	Sn	115	187.776	1013255	0.41	200	93.9	90	110	
121	Sb	115	194.667	1286798	0.21	200	97.3	90	110	
137	Ba	115	190.479	458655	0.48	200	95.2	90	110	
205	Tl	209	193.953	8353146	0.38	200	97.0	90	110	
208	Pb	209	189.995	10739586	0.68	200	95.0	90	110	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1248080	0.24	1250708	99.79	70	120	
72	Ge	858855	0.83	871265	98.58	70	120	
115	In	8791246	0.57	8749493	100.48	70	120	
209	Bi	23986312	1.41	24417425	98.23	70	120	

Low Level Calibration Verification (LLCV) Report

Date Acquired	9/15/2017 12:42	Sample Name	LCVL3-170915
Data Batch	170915.b	Comment	LCVL6020A_W
Data File Name	077LCCV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
9	Be	45	0.970	73	7.51	1	97.0	70	130	
11	B	45	17.750	791	6.55	20	88.8	70	130	
23	Na	45	119.013	149203	0.70	100	119.0	70	130	
24	Mg	45	89.942	53170	1.08	100	89.9	70	130	
27	Al	45	90.070	22743	1.67	100	90.1	70	130	
39	K	45	93.306	71971	0.61	100	93.3	70	130	
44	Ca	45	91.113	2894	7.13	100	91.1	70	130	
47	Ti	45	4.841	939	1.82	5	96.8	70	130	
51	V	45	0.981	8452	3.00	1	98.1	70	130	
52	Cr	45	4.654	39293	2.03	5	93.1	70	130	
55	Mn	45	4.678	21539	1.46	5	93.6	70	130	
56	Fe	45	101.709	673968	1.16	100	101.7	70	130	
59	Co	72	4.840	66938	0.46	5	96.8	70	130	
60	Ni	72	4.074	23282	0.84	5	81.5	70	130	
63	Cu	72	4.954	50510	0.98	5	99.1	70	130	
66	Zn	72	4.982	7433	3.59	5	99.6	70	130	
75	As	72	4.777	4437	0.58	5	95.5	70	130	
78	Se	72	5.318	387	3.71	5	106.4	70	130	
88	Sr	115	4.563	27050	0.54	5	91.3	70	130	
95	Mo	115	4.341	26009	1.78	5	86.8	70	130	
107	Ag	115	1.874	34654	0.19	2	93.7	70	130	
111	Cd	115	0.910	2407	1.57	1	91.0	70	130	
118	Sn	115	4.597	25818	1.35	5	91.9	70	130	
121	Sb	115	1.857	12713	2.65	2	92.9	70	130	
137	Ba	115	4.555	11290	0.63	5	91.1	70	130	
205	Tl	209	0.926	41041	1.13	1	92.6	70	130	
208	Pb	209	0.897	53313	0.96	1	89.7	70	130	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1268963	0.23	1250708	101.46	70	120	
72	Ge	878724	0.95	871265	100.86	70	120	
115	In	8995132	0.82	8749493	102.81	70	120	
209	Bi	24478912	1.11	24417425	100.25	70	120	

Continuing Calibration Blank (CCB) Report

Date Acquired	9/15/2017 12:44	Sample Name	CCB3-170915
Data Batch	170915.b	Comment	CCB 6020A_W
Data File Name	078_CCB.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	MDL S	MDL Aq	QC Flag
9	Be	45	0.003	4	35.3	0.4	0.3	
11	B	45	1.250	228	10.8	10	10	
23	Na	45	25.789	44412	0.3	50	100	
24	Mg	45	-0.912	339	7.9	50	100	
27	Al	45	-3.629	3036	3.4	50	10	
39	K	45	0.566	28354	1.9	50	100	
44	Ca	45	-0.808	258	7.6	50	100	
47	Ti	45	-0.035	0	#DIV/0!	4	3	
51	V	45	0.022	2061	4.3	4	3	
52	Cr	45	-0.056	459	14.8	2	2	
55	Mn	45	-0.020	222	7.7	2	3	
56	Fe	45	-1.022	8941	1.5	50	50	
59	Co	72	-0.003	234	12.9	2	3	
60	Ni	72	-0.886	4777	3.4	2	3	
63	Cu	72	-0.023	782	4.1	2	2	
66	Zn	72	0.060	427	12.3	4	2	
75	As	72	0.014	78	16.4	2	2	
78	Se	72	0.085	27	2.1	1	2	
88	Sr	115	-0.003	387	13.3	4	3	
95	Mo	115	0.021	234	21.3	2	2	
107	Ag	115	0.011	251	23.8	0.4	1	
111	Cd	115	-0.001	9	78.1	0.4	0.3	
118	Sn	115	0.001	453	6.0	4	3	
121	Sb	115	0.025	324	10.0	2	0.8	
137	Ba	115	0.000	71	13.5	2	3	
205	Tl	209	0.030	1667	3.1	2	0.5	
208	Pb	209	-0.013	866	5.3	0.4	0.3	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1281510	0.27	1250708	102.46	70	120	
72	Ge	885633	0.56	871265	101.65	70	120	
115	In	9038963	0.15	8749493	103.31	70	120	
209	Bi	24649887	0.19	24417425	100.95	70	120	

Method Blank Report

Date Acquired	9/15/17 12:46 PM	Sample Name	MB-82354
Data Batch	170915.b	Comment	MBLK6020A_W
Data File Name	079_LRB.d	Dilution	1

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
9	Be	45	0.003	4	93.26		
11	B	45	3.904	320	16.17		
23	Na	45	29.317	48517	0.13		
24	Mg	45	1.410	1706	6.09		
27	Al	45	6.411	5180	4.90		
39	K	45	2.024	29102	0.76		
44	Ca	45	22.828	945	3.78		
47	Ti	45	0.033	13	25.01		
51	V	45	0.048	2241	7.67		
52	Cr	45	-0.041	579	10.87		
55	Mn	45	-0.004	294	7.19		
56	Fe	45	-0.199	14350	1.17		
59	Co	72	-0.005	216	3.89		
60	Ni	72	-0.841	4943	5.22		
63	Cu	72	-0.003	989	7.15		
66	Zn	72	1.284	2181	5.04		
75	As	72	0.010	74	9.56		
78	Se	72	0.019	22	35.64		
88	Sr	115	0.124	1142	2.36		
95	Mo	115	0.024	256	7.18		
107	Ag	115	0.012	278	12.02		
111	Cd	115	-0.002	6	91.64		
118	Sn	115	0.013	523	15.46		
121	Sb	115	0.028	352	4.86		
137	Ba	115	0.024	131	7.34		
205	Tl	209	0.024	1445	2.24		
208	Pb	209	-0.009	1110	12.30		

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1283712	0.37	1250708	102.64	70	120	
72	Ge	884718	0.44	871265	101.54	70	120	
115	In	9128722	0.74	8749493	104.33	70	120	
209	Bi	25067441	1.07	24417425	102.66	70	120	

Laboratory Control Sample (LCS) Report

Date Acquired	9/15/2017 12:48	Sample Name	LCS-82354
Data Batch	170915.b	Comment	LCS 6020A_W
Data File Name	080_LFB.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
9	Be	45	190.452	13336	1.46	200	95.2	80	120	
11	B	45	195.319	6738	3.14	200	97.7	80	120	
23	Na	45	4658.033	5165137	1.47	5000	93.2	80	120	
24	Mg	45	4596.806	2619537	0.71	5000	91.9	80	120	
27	Al	45	4983.419	1032071	0.70	5000	99.7	80	120	
39	K	45	4655.975	2186003	0.90	5000	93.1	80	120	
44	Ca	45	4564.881	128638	0.60	5000	91.3	80	120	
47	Ti	45	197.297	37220	1.19	200	98.6	80	120	
51	V	45	192.996	1265980	0.26	200	96.5	80	120	
52	Cr	45	195.103	1577150	0.43	200	97.6	80	120	
55	Mn	45	194.787	866142	0.82	200	97.4	80	120	
56	Fe	45	5055.539	32078908	0.40	5000	101.1	80	120	
59	Co	72	201.845	2688611	0.27	200	100.9	80	120	
60	Ni	72	200.694	733309	0.40	200	100.3	80	120	
63	Cu	72	203.399	1966594	0.15	200	101.7	80	120	
66	Zn	72	201.978	278606	0.45	200	101.0	80	120	
75	As	72	199.249	176445	0.56	200	99.6	80	120	
78	Se	72	198.817	13248	1.08	200	99.4	80	120	
88	Sr	115	191.472	1083657	0.68	200	95.7	80	120	
95	Mo	115	184.231	1064909	0.63	200	92.1	80	120	
107	Ag	115	198.467	3548722	0.53	200	99.2	80	120	
111	Cd	115	193.834	494549	0.61	200	96.9	80	120	
118	Sn	115	190.286	1017552	0.12	200	95.1	80	120	
121	Sb	115	196.596	1287866	0.11	200	98.3	80	120	
137	Ba	115	193.061	460694	0.10	200	96.5	80	120	
205	Tl	209	195.903	8460312	0.26	200	98.0	80	120	
208	Pb	209	191.307	10842401	0.52	200	95.7	80	120	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1243105	0.35	1250708	99.39	70	120	
72	Ge	849771	0.25	871265	97.53	70	120	
115	In	8712117	0.23	8749493	99.57	70	120	
209	Bi	24048774	0.72	24417425	98.49	70	120	

Laboratory Control Sample (LCS) Report

Date Acquired	9/15/2017 12:50	Sample Name	LCSD-82354
Data Batch	170915.b	Comment	LCSD6020A_W
Data File Name	081_LFB.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
9	Be	45	187.231	13196	0.94	200	93.6	80	120	
11	B	45	196.409	6819	1.47	200	98.2	80	120	
23	Na	45	4840.461	5401999	0.59	5000	96.8	80	120	
24	Mg	45	4765.561	2733496	0.11	5000	95.3	80	120	
27	Al	45	4929.519	1027673	0.90	5000	98.6	80	120	
39	K	45	4844.718	2288499	0.68	5000	96.9	80	120	
44	Ca	45	4679.556	132734	1.38	5000	93.6	80	120	
47	Ti	45	191.778	36418	0.89	200	95.9	80	120	
51	V	45	188.837	1246871	0.56	200	94.4	80	120	
52	Cr	45	191.389	1557300	0.14	200	95.7	80	120	
55	Mn	45	191.375	856565	0.38	200	95.7	80	120	
56	Fe	45	4979.224	31803532	0.59	5000	99.6	80	120	
59	Co	72	198.819	2652355	0.12	200	99.4	80	120	
60	Ni	72	198.969	728168	0.78	200	99.5	80	120	
63	Cu	72	200.901	1945398	0.77	200	100.5	80	120	
66	Zn	72	200.937	277595	0.48	200	100.5	80	120	
75	As	72	196.164	173985	0.58	200	98.1	80	120	
78	Se	72	199.058	13284	0.44	200	99.5	80	120	
88	Sr	115	186.890	1068449	0.98	200	93.4	80	120	
95	Mo	115	180.508	1053974	0.07	200	90.3	80	120	
107	Ag	115	195.805	3536654	0.31	200	97.9	80	120	
111	Cd	115	190.323	490523	0.65	200	95.2	80	120	
118	Sn	115	186.602	1007981	0.25	200	93.3	80	120	
121	Sb	115	192.918	1276593	0.47	200	96.5	80	120	
137	Ba	115	188.184	453616	0.28	200	94.1	80	120	
205	Tl	209	196.210	8450736	0.55	200	98.1	80	120	
208	Pb	209	189.085	10687596	0.32	200	94.5	80	120	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1251318	0.79	1250708	100.05	70	120	
72	Ge	851096	0.66	871265	97.69	70	120	
115	In	8800537	0.29	8749493	100.58	70	120	
209	Bi	23983768	0.56	24417425	98.22	70	120	

Dilution Sample (Dil) Report

Date Acquired	9/15/2017 12:56	Sample Name	1709087-01A SD
Data Batch	170915.b	Comment	SD 6020A_W
Data File Name	084_SD.d	Dilution	5

Mass	Name	IS	Conc	CPS	%RSD	Ref Value	%Rec	Low	High	Flag
9	Be	45	0.003	4	81.04	0.0	180.6	110	90	
11	B	45	397.465	13922	0.62	1864.4	106.6	110	90	Good
23	Na	45	14288.360	16277084	0.45	69006.5	103.5	110	90	Good
24	Mg	45	7582.302	4446825	0.35	36709.5	103.3	110	90	Good
27	Al	45	33.774	10976	3.30	168.0	100.5	110	90	Good
39	K	45	1790.636	882584	0.28	8709.6	102.8	110	90	Good
44	Ca	45	21680.417	627793	0.52	105556.6	102.7	110	90	Good
47	Ti	45	0.222	50	53.34	1.3	86.2	110	90	
51	V	45	0.338	4191	1.40	1.3	131.7	110	90	
52	Cr	45	-0.012	821	10.47	0.1	-54.2	110	90	
55	Mn	45	2.405	11317	1.05	11.7	102.8	110	90	Good
56	Fe	45	10.454	83849	1.21	53.7	97.4	110	90	Good
59	Co	72	0.023	599	6.96	0.2	74.8	110	90	
60	Ni	72	-0.085	7780	2.75	3.0	-14.1	110	90	
63	Cu	72	0.116	2178	3.10	0.6	93.0	110	90	Good
66	Zn	72	0.916	1652	6.05	3.7	123.1	110	90	
75	As	72	0.196	245	5.98	1.0	94.9	110	90	Good
78	Se	72	0.095	27	34.06	0.8	59.6	110	90	
88	Sr	115	282.352	1650917	0.39	1455.7	97.0	110	90	Good
95	Mo	115	0.573	3528	0.38	2.8	102.8	110	90	Good
107	Ag	115	0.020	424	8.83	0.0	245.4	110	90	
111	Cd	115	0.010	37	47.23	0.0	184.5	110	90	
118	Sn	115	0.012	514	8.10	0.1	47.8	110	90	
121	Sb	115	0.067	608	4.79	0.3	131.3	110	90	
137	Ba	115	9.675	23922	0.67	47.8	101.1	110	90	Good
205	Tl	209	0.042	2162	6.80	0.1	241.9	110	90	
208	Pb	209	0.205	13110	0.68	1.0	98.4	110	90	Good

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1279526	0.46	1250708	102.30	70	120	
72	Ge	883830	0.40	871265	101.44	70	120	
115	In	9001719	0.41	8749493	102.88	70	120	
209	Bi	23918638	0.57	24417425	97.96	70	120	

Sample Report

Date Acquired	9/15/17 1:02 PM	Sample Name	1709085-01A
Data Batch	170915.b	Comment	SAMP6020A_W
Data File Name	087_WS.d	Dilution	1

Mass	Name	IS	Conc (ppb)	CPS	%RSD	High Limit	Flag
9	Be	45	0.031	6	83.33	2000	
11	B	45	181.611	6102	1.93	2000	>RL
23	Na	45	138289.458	148643465	1.20	25000	OUTCAL
24	Mg	45	32565.829	18034200	1.04	25000	OUTCAL
27	Al	45	110.260	25713	1.33	10000	>RL
39	K	45	1073.988	510644	1.59	25000	>RL
44	Ca	45	86747.868	2372010	1.55	10000	OUTCAL
47	Ti	45	0.490	97	51.50	2000	
51	V	45	2.531	17920	2.19	2000	
52	Cr	45	0.344	3575	0.75	2000	
55	Mn	45	367.129	1586951	1.24	2000	>RL
56	Fe	45	58.438	375084	1.05	10000	J
59	Co	72	2.807	36836	0.85	2000	
60	Ni	72	0.116	8025	0.76	2000	
63	Cu	72	2.111	20912	0.97	2000	J
66	Zn	72	3.861	5522	4.19	2000	J
75	As	72	0.507	500	5.79	2000	
78	Se	72	0.176	31	35.21	2000	
88	Sr	115	638.549	3487611	1.41	2000	>RL
95	Mo	115	0.868	4943	0.72	2000	
107	Ag	115	0.020	402	1.73	500	
111	Cd	115	0.014	43	40.71	2000	
118	Sn	115	0.042	633	10.08	2000	
121	Sb	115	0.183	1303	4.86	500	
137	Ba	115	202.643	466768	1.19	2000	>RL
205	Tl	209	0.023	1238	5.28	2000	
208	Pb	209	1.145	61586	0.99	2000	>RL

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1208672	1.69	1250708	96.64	70	120	
72	Ge	831165	0.65	871265	95.40	70	120	
115	In	8409506	0.66	8749493	96.11	70	120	
209	Bi	22300613	1.18	24417425	91.33	70	120	

Post Digestion Spike Sample (PDS) Report

Date Acquired	9/15/2017 13:15	Sample Name	1709087-01A PDS
Data Batch	170915.b	Comment	PDS 6020A_W
Data File Name	094_PDS.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Ref Conc	Spk Amt	%Rec	Low	High	Flag
9	Be	45	177.283	12002	1.00	0.0	200	88.6	75	125	
11	B	45	1987.245	64698	0.41	1864.4	200	61.4	75	125	Fail
23	Na	45	69313.152	74120388	0.86	69006.5	5000	6.1	75	125	Fail
24	Mg	45	39000.831	21482935	1.07	36709.5	5000	45.8	75	125	Fail
27	Al	45	4833.891	968096	0.82	168.0	5000	93.3	75	125	
39	K	45	13347.249	6009959	0.45	8709.6	5000	92.8	75	125	
44	Ca	45	########	2830753	0.21	105556.6	5000	-29.0	75	125	Fail
47	Ti	45	195.634	35684	0.15	1.3	200	97.2	75	125	
51	V	45	195.449	1239605	0.56	1.3	200	97.1	75	125	
52	Cr	45	194.768	1522348	0.65	0.1	200	97.3	75	125	
55	Mn	45	201.813	867669	0.59	11.7	200	95.1	75	125	
56	Fe	45	4810.934	29518449	1.09	53.7	5000	95.1	75	125	
59	Co	72	197.578	2496244	0.54	0.2	200	98.7	75	125	
60	Ni	72	195.810	678797	0.45	3.0	200	96.4	75	125	
63	Cu	72	191.315	1754543	0.58	0.6	200	95.3	75	125	
66	Zn	72	194.459	254422	0.33	3.7	200	95.4	75	125	
75	As	72	203.213	170684	0.24	1.0	200	101.1	75	125	
78	Se	72	205.103	12962	2.38	0.8	200	102.2	75	125	
88	Sr	115	1598.153	8699415	1.34	1455.7	200	71.2	75	125	Fail
95	Mo	115	186.920	1039517	0.54	2.8	200	92.1	75	125	
107	Ag	115	185.856	3197319	0.29	0.0	200	92.9	75	125	
111	Cd	115	186.882	458750	0.21	0.0	200	93.4	75	125	
118	Sn	115	192.924	992574	0.46	0.1	200	96.4	75	125	
121	Sb	115	185.794	1171005	0.89	0.3	200	92.8	75	125	
137	Ba	115	238.000	546399	0.75	47.8	200	95.1	75	125	
205	Tl	209	197.908	7898996	0.44	0.1	200	98.9	75	125	
208	Pb	209	191.394	10025283	0.57	1.0	200	95.2	75	125	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1201989	0.79	1250708	96.10	70	120	
72	Ge	806009	0.64	871265	92.51	70	120	
115	In	8382044	0.41	8749493	95.80	70	120	
209	Bi	22226565	0.97	24417425	91.03	70	120	

Matrix Spike Sample (MS) Report

Date Acquired	9/15/2017 13:17	Sample Name	1709087-01A MS
Data Batch	170915.b	Comment	MS 6020A_W
Data File Name	095_MSW.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Ref Conc	Spk Amt	%Rec	Low	High	Flag
9	Be	45	177.009	11891	1.67	0.0	200	88.5	80	120	
11	B	45	2035.512	65748	0.46	1864.4	200	85.6	80	120	
23	Na	45	72003.630	76399079	0.61	69006.5	5000	59.9	80	120	Fail
24	Mg	45	40902.892	22355338	1.19	36709.5	5000	83.9	80	120	
27	Al	45	4874.998	968676	0.68	168.0	5000	94.1	80	120	
39	K	45	13871.231	6196657	1.99	8709.6	5000	103.2	80	120	
44	Ca	45	########	2963028	0.41	105556.6	5000	85.3	80	120	
47	Ti	45	199.479	36106	1.64	1.3	200	99.1	80	120	
51	V	45	193.525	1217922	0.79	1.3	200	96.1	80	120	
52	Cr	45	190.144	1474738	0.92	0.1	200	95.0	80	120	
55	Mn	45	202.479	863814	0.77	11.7	200	95.4	80	120	
56	Fe	45	4977.826	30303548	0.27	53.7	5000	98.5	80	120	
59	Co	72	196.836	2471885	0.21	0.2	200	98.3	80	120	
60	Ni	72	197.840	681628	0.24	3.0	200	97.4	80	120	
63	Cu	72	192.856	1758016	0.32	0.6	200	96.1	80	120	
66	Zn	72	192.934	250917	0.70	3.7	200	94.6	80	120	
75	As	72	203.791	170142	0.44	1.0	200	101.4	80	120	
78	Se	72	205.627	12917	0.68	0.8	200	102.4	80	120	
88	Sr	115	1666.840	9022461	1.04	1455.7	200	105.6	80	120	
95	Mo	115	188.485	1042336	0.33	2.8	200	92.8	80	120	
107	Ag	115	186.523	3190830	0.32	0.0	200	93.2	80	120	
111	Cd	115	186.566	455409	0.94	0.0	200	93.3	80	120	
118	Sn	115	190.320	973684	0.53	0.1	200	95.1	80	120	
121	Sb	115	198.973	1247017	0.41	0.3	200	99.4	80	120	
137	Ba	115	239.259	546208	0.33	47.8	200	95.7	80	120	
205	Tl	209	200.924	7991407	1.25	0.1	200	100.4	80	120	
208	Pb	209	193.476	10098521	0.14	1.0	200	96.2	80	120	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1192665	0.85	1250708	95.36	70	120	
72	Ge	801150	0.02	871265	91.95	70	120	
115	In	8335006	0.12	8749493	95.26	70	120	
209	Bi	22148302	0.89	24417425	90.71	70	120	

Matrix Spike Sample (MS) Report

Date Acquired	9/15/2017 13:19	Sample Name	1709087-01A MSD
Data Batch	170915.b	Comment	MSD 6020A_W
Data File Name	096_MSW.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Ref Conc	Spk Amt	%Rec	Low	High	Flag
9	Be	45	178.188	11749	0.43	0.0	200	89.1	80	120	
11	B	45	2032.110	64424	0.51	1864.4	200	83.9	80	120	
23	Na	45	72627.548	75631073	1.20	69006.5	5000	72.4	80	120	Fail
24	Mg	45	41133.859	22066160	1.18	36709.5	5000	88.5	80	120	
27	Al	45	4948.637	965065	1.03	168.0	5000	95.6	80	120	
39	K	45	13797.233	6049446	1.35	8709.6	5000	101.8	80	120	
44	Ca	45	########	2902522	0.91	105556.6	5000	81.0	80	120	
47	Ti	45	201.062	35716	1.35	1.3	200	99.9	80	120	
51	V	45	195.828	1209543	0.75	1.3	200	97.3	80	120	
52	Cr	45	191.343	1456467	0.52	0.1	200	95.6	80	120	
55	Mn	45	204.613	856693	0.45	11.7	200	96.5	80	120	
56	Fe	45	5038.206	30103004	1.31	53.7	5000	99.7	80	120	
59	Co	72	197.855	2454915	0.68	0.2	200	98.9	80	120	
60	Ni	72	197.957	673857	0.05	3.0	200	97.5	80	120	
63	Cu	72	192.912	1737458	0.13	0.6	200	96.1	80	120	
66	Zn	72	194.697	250175	1.03	3.7	200	95.5	80	120	
75	As	72	204.967	169074	0.19	1.0	200	102.0	80	120	
78	Se	72	203.504	12630	1.29	0.8	200	101.4	80	120	
88	Sr	115	1673.634	8845706	0.76	1455.7	200	109.0	80	120	
95	Mo	115	192.069	1037123	0.81	2.8	200	94.6	80	120	
107	Ag	115	191.004	3190496	0.56	0.0	200	95.5	80	120	
111	Cd	115	189.881	452576	1.41	0.0	200	94.9	80	120	
118	Sn	115	193.270	965470	0.21	0.1	200	96.6	80	120	
121	Sb	115	199.926	1223461	0.37	0.3	200	99.8	80	120	
137	Ba	115	242.541	540650	0.64	47.8	200	97.3	80	120	
205	Tl	209	202.527	7946969	0.60	0.1	200	101.2	80	120	
208	Pb	209	194.433	10012463	0.21	1.0	200	96.7	80	120	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1170531	0.69	1250708	93.59	70	120	
72	Ge	791565	0.48	871265	90.85	70	120	
115	In	8138614	0.18	8749493	93.02	70	120	
209	Bi	21850720	0.41	24417425	89.49	70	120	

Continuing Calibration Verification (CCV) Report

Date Acquired	9/15/2017 13:24	Sample Name	CCV4-170915
Data Batch	170915.b	Comment	CCV 6020A_W
Data File Name	099_CCV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
9	Be	45	183.346	12204	0.67	200	91.7	90	110	
11	B	45	208.019	6810	2.83	200	104.0	90	110	
23	Na	45	4764.114	5021300	0.22	5000	95.3	90	110	
24	Mg	45	4617.933	2501487	0.19	5000	92.4	90	110	
27	Al	45	4932.059	970977	0.59	5000	98.6	90	110	
39	K	45	4761.149	2124287	0.78	5000	95.2	90	110	
44	Ca	45	4611.525	123525	0.80	5000	92.2	90	110	
47	Ti	45	195.031	34974	0.21	200	97.5	90	110	
51	V	45	189.288	1180319	0.47	200	94.6	90	110	
52	Cr	45	192.261	1477377	0.32	200	96.1	90	110	
55	Mn	45	193.587	818274	0.66	200	96.8	90	110	
56	Fe	45	5063.581	30542191	1.05	5000	101.3	90	110	
59	Co	72	196.675	2522209	0.40	200	98.3	90	110	
60	Ni	72	197.062	693367	0.28	200	98.5	90	110	
63	Cu	72	197.644	1839825	0.43	200	98.8	90	110	
66	Zn	72	197.602	262430	0.82	200	98.8	90	110	
75	As	72	194.749	166044	0.96	200	97.4	90	110	
78	Se	72	198.853	12756	1.57	200	99.4	90	110	
88	Sr	115	186.834	1037079	0.25	200	93.4	90	110	
95	Mo	115	179.402	1017045	0.81	200	89.7	90	110	Fail
107	Ag	115	195.193	3423088	0.49	200	97.6	90	110	
111	Cd	115	190.845	477570	0.42	200	95.4	90	110	
118	Sn	115	187.494	983352	0.26	200	93.7	90	110	
121	Sb	115	194.054	1246778	0.17	200	97.0	90	110	
137	Ba	115	189.550	443621	0.22	200	94.8	90	110	
205	Tl	209	194.381	8316027	1.37	200	97.2	90	110	
208	Pb	209	188.186	10566685	0.26	200	94.1	90	110	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1181655	0.07	1250708	94.48	70	120	
72	Ge	818136	0.39	871265	93.90	70	120	
115	In	8544640	0.27	8749493	97.66	70	120	
209	Bi	23826392	0.91	24417425	97.58	70	120	

Low Level Calibration Verification (LLCV) Report

Date Acquired	9/15/2017 13:46	Sample Name	LCVL4-170915
Data Batch	170915.b	Comment	LCVL6020A_W
Data File Name	104LCCV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
9	Be	45	0.847	59	1.69	1	84.7	70	130	
11	B	45	27.132	1017	6.94	20	135.7	70	130	Fail
23	Na	45	138.439	156375	0.46	100	138.4	70	130	Fail
24	Mg	45	90.443	48851	0.72	100	90.4	70	130	
27	Al	45	90.597	20884	1.78	100	90.6	70	130	
39	K	45	88.932	63873	1.40	100	88.9	70	130	
44	Ca	45	88.800	2584	4.37	100	88.8	70	130	
47	Ti	45	4.923	872	7.31	5	98.5	70	130	
51	V	45	0.942	7485	2.82	1	94.2	70	130	
52	Cr	45	4.731	36491	1.52	5	94.6	70	130	
55	Mn	45	4.772	20070	1.62	5	95.4	70	130	
56	Fe	45	102.077	618040	0.49	100	102.1	70	130	
59	Co	72	4.769	60890	1.37	5	95.4	70	130	
60	Ni	72	3.910	20926	0.91	5	78.2	70	130	
63	Cu	72	4.824	45431	1.95	5	96.5	70	130	
66	Zn	72	4.876	6725	3.39	5	97.5	70	130	
75	As	72	4.668	4004	1.07	5	93.4	70	130	
78	Se	72	4.803	324	0.76	5	96.1	70	130	
88	Sr	115	4.404	24651	1.75	5	88.1	70	130	
95	Mo	115	4.339	24535	0.81	5	86.8	70	130	
107	Ag	115	1.864	32523	1.36	2	93.2	70	130	
111	Cd	115	0.924	2306	6.10	1	92.4	70	130	
118	Sn	115	4.537	24049	2.34	5	90.7	70	130	
121	Sb	115	1.827	11808	2.98	2	91.4	70	130	
137	Ba	115	4.559	10663	1.58	5	91.2	70	130	
205	Tl	209	0.889	39082	0.83	1	88.9	70	130	
208	Pb	209	0.876	51657	0.47	1	87.6	70	130	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1159557	0.21	1250708	92.71	70	120	
72	Ge	811154	0.28	871265	93.10	70	120	
115	In	8488328	0.80	8749493	97.02	70	120	
209	Bi	24256758	0.74	24417425	99.34	70	120	

Continuing Calibration Blank (CCB) Report

Date Acquired	9/15/2017 13:48	Sample Name	CCB4-170915
Data Batch	170915.b	Comment	CCB 6020A_W
Data File Name	105_CCB.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	MDL S	MDL Aq	QC Flag
9	Be	45	-0.036	1	86.6	0.4	0.3	
11	B	45	7.018	386	2.8	10	10	
23	Na	45	47.633	62526	0.5	50	100	
24	Mg	45	-0.625	458	13.0	50	100	
27	Al	45	-3.335	2795	3.3	50	10	
39	K	45	-0.872	24959	1.2	50	100	
44	Ca	45	0.786	275	9.7	50	100	
47	Ti	45	-0.035	0	#DIV/0!	4	3	
51	V	45	0.067	2132	4.9	4	3	
52	Cr	45	-0.055	420	8.4	2	2	
55	Mn	45	-0.022	193	7.5	2	3	
56	Fe	45	-0.963	8418	3.9	50	50	
59	Co	72	-0.009	140	31.0	2	3	
60	Ni	72	-0.904	4309	3.7	2	3	
63	Cu	72	-0.029	662	6.7	2	2	
66	Zn	72	0.031	352	8.3	4	2	
75	As	72	-0.010	51	13.2	2	2	
78	Se	72	0.063	23	38.3	1	2	
88	Sr	115	0.005	408	5.3	4	3	
95	Mo	115	0.008	146	26.3	2	2	
107	Ag	115	0.007	179	8.6	0.4	1	
111	Cd	115	-0.003	3	100.1	0.4	0.3	
118	Sn	115	-0.025	292	6.3	4	3	
121	Sb	115	0.005	178	5.7	2	0.8	
137	Ba	115	0.001	68	17.3	2	3	
205	Tl	209	0.009	752	5.9	2	0.5	
208	Pb	209	-0.019	500	15.1	0.4	0.3	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1156037	0.18	1250708	92.43	70	120	
72	Ge	810543	0.70	871265	93.03	70	120	
115	In	8499538	0.29	8749493	97.14	70	120	
209	Bi	24261741	0.59	24417425	99.36	70	120	

Dilution Sample (Dil) Report

Date Acquired	9/15/2017 13:52	Sample Name	1709087-01A SD
Data Batch	170915.b	Comment	SD 6020A_W
Data File Name	107_SD.d	Dilution	50

Mass	Name	IS	Conc	CPS	%RSD	Ref Value	%Rec	Low	High	Flag
9	Be	45	-0.027	2	100.00	0.0	368.5	110	90	
11	B	45	47.042	1655	11.20	197.0	119.4	110	90	
23	Na	45	1455.989	1528121	1.03	7165.2	101.6	110	90	Good
24	Mg	45	765.327	410901	0.63	3796.8	100.8	110	90	Good
27	Al	45	0.724	3615	4.39	15.9	22.8	110	90	
39	K	45	183.760	105767	0.34	897.1	102.4	110	90	Good
44	Ca	45	2183.887	58023	1.80	10781.6	101.3	110	90	Good
47	Ti	45	0.040	13	90.16	0.1	188.1	110	90	
51	V	45	0.096	2336	4.80	0.2	261.9	110	90	
52	Cr	45	-0.054	431	3.81	0.0	598.5	110	90	
55	Mn	45	0.240	1292	9.99	1.2	98.1	110	90	Good
56	Fe	45	0.082	14747	2.06	4.9	8.3	110	90	
59	Co	72	-0.010	138	8.50	0.0	-694.1	110	90	
60	Ni	72	-0.800	4735	1.22	-0.5	836.0	110	90	
63	Cu	72	-0.005	893	6.11	0.0	-55.3	110	90	
66	Zn	72	0.295	709	5.49	0.6	259.7	110	90	
75	As	72	0.015	73	3.88	0.1	78.4	110	90	
78	Se	72	-0.069	15	35.94	0.1	-467.7	110	90	
88	Sr	115	27.865	155755	0.96	137.9	101.0	110	90	Good
95	Mo	115	0.058	431	2.36	0.3	106.1	110	90	Good
107	Ag	115	0.006	166	16.15	0.0	508.2	110	90	
111	Cd	115	-0.002	6	69.34	0.0	-792.2	110	90	
118	Sn	115	-0.024	298	10.58	0.0	608.0	110	90	
121	Sb	115	0.010	216	10.30	0.0	211.7	110	90	
137	Ba	115	0.953	2308	2.24	4.9	98.3	110	90	Good
205	Tl	209	0.007	657	4.34	0.0	525.6	110	90	
208	Pb	209	0.005	1885	1.77	0.1	30.2	110	90	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1169334	0.52	1250708	93.49	70	120	
72	Ge	822245	0.28	871265	94.37	70	120	
115	In	8586508	1.00	8749493	98.14	70	120	
209	Bi	24351121	0.39	24417425	99.73	70	120	

Post Digestion Spike Sample (PDS) Report

Date Acquired	9/15/2017 13:54	Sample Name	1709087-01A PDS
Data Batch	170915.b	Comment	PDS 6020A_W
Data File Name	108_PDS.d	Dilution	10

Mass	Name	IS	Conc	CPS	%RSD	Ref Conc	Spk Amt	%Rec	Low	High	Flag
9	Be	45	190.769	12174	0.86	0.0	200	95.4	75	125	
11	B	45	398.173	12349	3.56	197.0	200	100.6	75	125	
23	Na	45	12089.547	12196816	1.24	7165.2	5000	98.5	75	125	
24	Mg	45	8542.240	4435882	0.32	3796.8	5000	94.9	75	125	
27	Al	45	4915.006	927753	0.34	15.9	5000	98.0	75	125	
39	K	45	5851.540	2497505	0.27	897.1	5000	99.1	75	125	
44	Ca	45	15840.230	406207	0.18	10781.6	5000	101.2	75	125	
47	Ti	45	203.538	34995	0.70	0.1	200	101.7	75	125	
51	V	45	202.362	1209716	0.25	0.2	200	101.1	75	125	
52	Cr	45	205.341	1512789	0.64	0.0	200	102.7	75	125	
55	Mn	45	201.550	816815	0.77	1.2	200	100.2	75	125	
56	Fe	45	5046.572	29185344	1.39	4.9	5000	100.8	75	125	
59	Co	72	203.907	2502776	1.18	0.0	200	102.0	75	125	
60	Ni	72	201.851	679586	0.65	-0.5	200	101.2	75	125	
63	Cu	72	201.607	1796220	0.50	0.0	200	100.8	75	125	
66	Zn	72	206.682	262696	0.95	0.6	200	103.1	75	125	
75	As	72	205.232	167475	0.56	0.1	200	102.6	75	125	
78	Se	72	208.065	12774	1.15	0.1	200	104.0	75	125	
88	Sr	115	333.737	1788227	0.83	137.9	200	97.9	75	125	
95	Mo	115	185.776	1016800	0.48	0.3	200	92.8	75	125	
107	Ag	115	199.637	3379973	0.20	0.0	200	99.8	75	125	
111	Cd	115	197.074	476120	0.80	0.0	200	98.5	75	125	
118	Sn	115	199.966	1012473	0.19	0.0	200	100.0	75	125	
121	Sb	115	187.192	1161127	0.71	0.0	200	93.6	75	125	
137	Ba	115	202.967	458601	0.41	4.9	200	99.1	75	125	
205	Tl	209	199.250	8363421	0.58	0.0	200	99.6	75	125	
208	Pb	209	194.477	10712650	0.50	0.1	200	97.2	75	125	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1132957	0.16	1250708	90.59	70	120	
72	Ge	783051	0.32	871265	89.88	70	120	
115	In	8249466	0.72	8749493	94.29	70	120	
209	Bi	23374227	1.07	24417425	95.73	70	120	

Continuing Calibration Verification (CCV) Report

Date Acquired	9/15/2017 14:13	Sample Name	CCV5-170915
Data Batch	170915.b	Comment	CCV 6020A_W
Data File Name	118_CCV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
9	Be	45	184.956	11901	0.59	200	92.5	90	110	
11	B	45	199.211	6312	2.40	200	99.6	90	110	
23	Na	45	4710.855	4800377	1.77	5000	94.2	90	110	
24	Mg	45	4648.570	2434426	1.74	5000	93.0	90	110	
27	Al	45	4897.825	932243	2.20	5000	98.0	90	110	
39	K	45	4683.122	2020473	1.91	5000	93.7	90	110	
44	Ca	45	4512.325	116861	2.26	5000	90.2	90	110	
47	Ti	45	195.829	33945	1.78	200	97.9	90	110	
51	V	45	191.772	1155909	1.21	200	95.9	90	110	
52	Cr	45	194.039	1441333	0.95	200	97.0	90	110	
55	Mn	45	194.600	795158	0.82	200	97.3	90	110	
56	Fe	45	5101.926	29749150	0.50	5000	102.0	90	110	
59	Co	72	195.509	2448677	0.45	200	97.8	90	110	
60	Ni	72	195.709	672609	0.33	200	97.9	90	110	
63	Cu	72	198.174	1801831	0.75	200	99.1	90	110	
66	Zn	72	199.028	258179	1.27	200	99.5	90	110	
75	As	72	192.162	160021	0.78	200	96.1	90	110	
78	Se	72	197.523	12375	0.39	200	98.8	90	110	
88	Sr	115	182.083	1001904	0.59	200	91.0	90	110	
95	Mo	115	176.514	991983	0.32	200	88.3	90	110	Fail
107	Ag	115	194.305	3378068	0.45	200	97.2	90	110	
111	Cd	115	189.118	469175	1.05	200	94.6	90	110	
118	Sn	115	186.637	970406	0.78	200	93.3	90	110	
121	Sb	115	191.305	1218475	0.38	200	95.7	90	110	
137	Ba	115	188.379	437071	0.54	200	94.2	90	110	
205	Tl	209	192.855	8404695	0.69	200	96.4	90	110	
208	Pb	209	186.654	10675665	0.58	200	93.3	90	110	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1142345	0.65	1250708	91.34	70	120	
72	Ge	799139	1.35	871265	91.72	70	120	
115	In	8471318	1.21	8749493	96.82	70	120	
209	Bi	24269017	0.68	24417425	99.39	70	120	

Low Level Calibration Verification (LLCV) Report

Date Acquired	9/15/2017 14:18	Sample Name	LCVL5-170915
Data Batch	170915.b	Comment	LCVL6020A_W
Data File Name	120LCCV.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	Exp	%Rec	Low	High	Flag
9	Be	45	0.852	59	19.16	1	85.2	70	130	
11	B	45	24.858	934	6.38	20	124.3	70	130	
23	Na	45	123.877	139691	0.79	100	123.9	70	130	
24	Mg	45	91.793	48986	0.92	100	91.8	70	130	
27	Al	45	90.883	20693	1.11	100	90.9	70	130	
39	K	45	88.704	63025	0.77	100	88.7	70	130	
44	Ca	45	90.772	2605	6.30	100	90.8	70	130	
47	Ti	45	4.495	788	13.38	5	89.9	70	130	
51	V	45	0.994	7715	2.70	1	99.4	70	130	
52	Cr	45	4.640	35384	2.33	5	92.8	70	130	
55	Mn	45	4.797	19936	0.16	5	95.9	70	130	
56	Fe	45	103.146	617011	0.24	100	103.1	70	130	
59	Co	72	4.866	62159	0.75	5	97.3	70	130	
60	Ni	72	4.057	21443	0.79	5	81.1	70	130	
63	Cu	72	4.879	45964	0.27	5	97.6	70	130	
66	Zn	72	4.872	6723	3.30	5	97.4	70	130	
75	As	72	4.796	4114	1.37	5	95.9	70	130	
78	Se	72	4.764	322	8.88	5	95.3	70	130	
88	Sr	115	4.472	25279	0.49	5	89.4	70	130	
95	Mo	115	4.338	24773	0.47	5	86.8	70	130	
107	Ag	115	1.879	33127	1.81	2	94.0	70	130	
111	Cd	115	0.944	2379	2.19	1	94.4	70	130	
118	Sn	115	4.593	24584	2.12	5	91.9	70	130	
121	Sb	115	1.863	12156	2.64	2	93.1	70	130	
137	Ba	115	4.589	10841	2.42	5	91.8	70	130	
205	Tl	209	0.912	40742	1.34	1	91.2	70	130	
208	Pb	209	0.888	53229	0.87	1	88.8	70	130	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1145903	0.24	1250708	91.62	70	120	
72	Ge	811588	0.40	871265	93.15	70	120	
115	In	8573990	0.87	8749493	97.99	70	120	
209	Bi	24668915	0.72	24417425	101.03	70	120	

Continuing Calibration Blank (CCB) Report

Date Acquired	9/15/2017 14:28	Sample Name	CCB5-170915
Data Batch	170915.b	Comment	CCB 6020A_W
Data File Name	125_CCB.d	Dilution	1

Mass	Name	IS	Conc	CPS	%RSD	MDL S	MDL Aq	QC Flag
9	Be	45	-0.047	1	173.2	0.4	0.3	
11	B	45	7.314	390	3.4	10	10	
23	Na	45	29.301	43148	1.2	50	100	
24	Mg	45	-0.620	454	9.6	50	100	
27	Al	45	-3.288	2770	3.1	50	10	
39	K	45	-1.192	24520	1.6	50	100	
44	Ca	45	-0.730	232	25.6	50	100	
47	Ti	45	-0.022	2	86.6	4	3	
51	V	45	0.071	2135	1.6	4	3	
52	Cr	45	-0.058	389	12.5	2	2	
55	Mn	45	-0.015	219	16.0	2	3	
56	Fe	45	-1.045	7835	1.2	50	50	
59	Co	72	-0.011	116	10.9	2	3	
60	Ni	72	-0.868	4397	2.9	2	3	
63	Cu	72	-0.036	591	15.9	2	2	
66	Zn	72	0.045	367	4.2	4	2	
75	As	72	-0.012	49	9.2	2	2	
78	Se	72	-0.006	19	36.5	1	2	
88	Sr	115	-0.004	354	13.9	4	3	
95	Mo	115	0.004	124	10.8	2	2	
107	Ag	115	0.005	146	16.2	0.4	1	
111	Cd	115	-0.003	3	0.0	0.4	0.3	
118	Sn	115	-0.026	287	13.7	4	3	
121	Sb	115	0.013	229	3.7	2	0.8	
137	Ba	115	0.016	104	15.1	2	3	
205	Tl	209	0.008	698	8.2	2	0.5	
208	Pb	209	-0.019	516	12.2	0.4	0.3	

QC ISTD Table

Mass	Name	CPS	%RSD	Ref CPS	%Rec	Low	High	QC Flag
45	Sc	1142082	0.41	1250708	91.31	70	120	
72	Ge	803815	0.09	871265	92.26	70	120	
115	In	8531749	0.83	8749493	97.51	70	120	
209	Bi	24844603	0.71	24417425	101.75	70	120	

Pmoist
For

DHL Work Order
1709085

PMOIST_170913A
For

DHL Work Order
1709085

DHL Analytical, Inc.

Run ID: **PMOIST_170913A** **Run No.:** 94148

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

Analyst: Vikki Adler

SampID	DF	TestCode	SampType	Batch ID	Analysis Date/Time	Q	Comments
1709062-01A	1	PMOIST	SAMP	82351	9/14/2017 8:40:00 AM		
1709062-01A-DUP	1	PMOIST	DUP	82351	9/14/2017 8:40:00 AM		
1709062-02A	1	PMOIST	SAMP	82351	9/14/2017 8:40:00 AM		
1709062-03A	1	PMOIST	SAMP	82351	9/14/2017 8:40:00 AM		
1709070-01A	1	PMOIST	SAMP	82351	9/14/2017 8:40:00 AM		
1709070-02A	1	PMOIST	SAMP	82351	9/14/2017 8:40:00 AM		
1709070-03A	1	PMOIST	SAMP	82351	9/14/2017 8:40:00 AM		
1709070-04A	1	PMOIST	SAMP	82351	9/14/2017 8:40:00 AM		
1709070-05A	1	PMOIST	SAMP	82351	9/14/2017 8:40:00 AM		
1709070-06A	1	PMOIST	SAMP	82351	9/14/2017 8:40:00 AM		
1709080-01A	1	PMOIST	SAMP	82351	9/14/2017 8:40:00 AM		
1709083-02A	1	PMOIST	SAMP	82351	9/14/2017 8:40:00 AM		
1709085-02A	1	PMOIST	SAMP	82351	9/14/2017 8:40:00 AM		
1709092-01A	1	PMOIST	SAMP	82351	9/14/2017 8:40:00 AM		
1709092-02A	1	PMOIST	SAMP	82351	9/14/2017 8:40:00 AM		
1709092-03A	1	PMOIST	SAMP	82351	9/14/2017 8:40:00 AM		
1709092-04A	1	PMOIST	SAMP	82351	9/14/2017 8:40:00 AM		
1709092-05A	1	PMOIST	SAMP	82351	9/14/2017 8:40:00 AM		
1709092-06A	1	PMOIST	SAMP	82351	9/14/2017 8:40:00 AM		

DHL Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **9/13/2017 2:36:57 PM**
Digestion: **Start: 9/13/2017 4:00:00 PM / Stop: 9/14/2017 8:40:00 AM**
Prep End Date: **9/14/2017 10:54:35 AM**

Prep Batch **82351** Prep Code: **PMOIST_PREP** Technician: **Vikki Adler**

Prep Factor Units: **mL/g**

Equipment List

Oven #2
Balance #20
Thermometer # 81

Sample ID	Matrix	pH	SampAmt	Fin Vol	Factor	Bottle #	Vessel	Cleanup
1709062-01A	Sediment		10	10	1.000	1 of 1		
	Need DCS in each batch.							
1709062-01A-DUP	Sediment		10	10	1.000	of		
1709062-02A	Sediment		10	10	1.000	1 of 1		
	chlordane reported if a-g pres							
1709062-03A	Sediment		10	10	1.000	1 of 1		
1709070-01A	Soil		10	10	1.000	1 of 1		
1709070-02A	Soil		10	10	1.000	1 of 1		
1709070-03A	Soil		10	10	1.000	1 of 1		
1709070-04A	Soil		10	10	1.000	1 of 1		
1709070-05A	Soil		10	10	1.000	1 of 1		
1709070-06A	Soil		10	10	1.000	1 of 1		
1709080-01A	Soil		10	10	1.000	1 of 1		
1709083-02A	Soil		10	10	1.000	1 of 1		
1709085-02A	Soil		10	10	1.000	1 of 1		
1709092-01A	Soil		10	10	1.000	1 of 1		
1709092-02A	Soil		10	10	1.000	1 of 1		
1709092-03A	Soil		10	10	1.000	1 of 1		
1709092-04A	Soil		10	10	1.000	1 of 1		
1709092-05A	Soil		10	10	1.000	1 of 1		
1709092-06A	Soil		10	10	1.000	1 of 1		

REVIEWED BY
By Janice Whitt at 11:02:18 AM, 9/14/2017

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 ± 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_170913A				
Date Started:	9/13/17	Date Ended:	9/14/17	Date Ended:	
Time Started:	16:00	Time Ended:	8:40	Time Ended:	
Analyst Start:	VA	Analyst End:	VA	Analyst End:	
Balance #	20	Balance #	20	Balance #	
Oven #	FISHER-2	Thermometer # / Correction Factor	81 (08/22/17) / 0.0	Dry Time >12hrs	
Initial Temperature	111.4	Final Temperature	111.0	2nd Weighing - if 1st dry is <12 hrs	

Sample ID	Tare Wt (g)	Tare + Sample (g)	Final Wt (g)	2nd Weight	<0.1% (Y/N)
SampID					
1709062-01A	1.04	11.35	3.56		
1709062-01A-DUP	1.04	11.98	3.85		
1709062-02A	1.02	11.29	4.37		
1709062-03A	1.05	14.77	4.90		
1709070-01A	1.04	11.73	9.80		
1709070-02A	1.02	11.58	10.16		
1709070-03A	1.02	11.51	10.27		
1709070-04A	1.03	13.98	12.80		
1709070-05A	1.02	12.10	10.90		
1709070-06A	1.03	12.62	11.50		
1709080-01A	1.01	11.10	8.27		
1709083-02A	1.01	13.71	12.51		
1709085-02A	1.01	11.89	10.88		
1709092-01A	1.00	14.14	12.43		
1709092-02A	1.04	12.87	11.44		
1709092-03A	1.07	16.04	14.25		
1709092-04A	1.07	12.53	11.06		
1709092-05A	1.04	12.16	10.84		
1709092-06A	1.04	12.00	10.55		

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: [signature] Date: 9.14.17

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

REVIEWED BY
By Janice Whitt at 11:05:33 AM, 9/14/2017